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Differences of Corporate Environmental Responsibility in Small and Medium Enterprises: Spain and Norway

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Abstract: The purpose of this paper is to analyze the factors that are related to Small and Medium Enterprises' (SMEs') environmental attitude. We focus on Spain and Norway—two contrasting countries in this regard. Drawing on evidence from the Flash Eurobarometer 381 Survey: SMEs, Resource Efficiency and Green Markets, the results show that there is a significant difference on environmental commitment in favor of Norway. Our estimation results show that firms' structural characteristics are strong factors influencing attitudes towards environmental responsibility, but even after controlling for such firm-specific differences, Norwegian firms still show a higher probability for a pro-environmental attitude. Moreover, our estimation results also show that the drivers for firms to go beyond environmental legislation are not the same in the two countries. Norwegian firms are more market-driven than Spanish firms in their pro-environmental attitude.

Keywords: SMEs; environmental corporate responsibility; drivers; Spain; Norway

1. Introduction

The purpose of this paper is to analyze the factors that are related to Small and Medium Enterprises' (SMEs') environmental attitude both in Spain and Norway, and to analyze the differences observed between these two countries.

There have been several programmes and initiatives to help SMEs to improve their environmental performance, such as the Environmental Compliance Assistance Programme for SMEs (ECAP) or the Green Action Plan (GAP), given that SMEs seem to have more difficulties to understand and implement environmental regulation [1].The aim of such programs is to turn what SMEs perceive as environmental challenges into business opportunities, supporting green-business development, investment in resource efficiency, as well as access to finance resource-related improvements. The European Commission is committed to monitor and follow the results obtained by the firms that have implemented any of the programmes or either taken action towards an environmentally friendly business [2].

We measure environmental attitude with Corporate Environmental Responsibility (CER). CER together with Corporate Social Responsibility (CSR) (Corporate Environmental Responsibility is considered a part of Corporate Social Responsibility) are the main strategies of firms to integrate environmental concerns in their business operations and activities.

Following the definition provided by the World Business Council for Sustainable Development, CER is the set of practices carried out by the firms that benefit or mitigate the adverse impact of business on the environment, and that go beyond the minimum that companies are legally obliged

to do. Besides the implementation of the programmes launched by the European Union, there are significant differences between European Member States and the implementation of CER, which influence SMEs' behaviour, as they do not necessarily act under the same circumstances within countries [3].

So, even though Europe is one of the most advanced regions when it comes to CER, there are important national differences within Europe that are related to different cultural traditions and the differences on the social and economic backgrounds among the great diversity of European countries. This results in different state environmental regulations which also bear an influence on firms' environmental attitude [4].

We decided to focus on the differences between Spain and Norway, as according to the European Commission, Norway tops the European list of CSR in SMEs, making Norway's SMEs one of the most socially responsible in Europe, in a context of long-standing tradition of global commitments. On the other hand, Spain has not had a significant commitment to environmental concerns; such concern towards CER has appeared in the early 21st century, only when Europe started taking care of CSR. Accordingly, the Spanish rules concerning environmental matters are not so rigid [5]. Norway and Spain also contrast in terms of corporate social responsibility. In a study on 15 countries, the most philanthropic companies have been found in Norway and the least philanthropic ones have been found in Spain [6]. Thus, Spain and Norway can be regarded as two countries with very distinct settings. Our research hypothesis is that there are significant differences towards CER among SMEs of these two countries.

Our results show that there are indeed significant differences in environmental commitment in favor of Norway. Even though firms' structural characteristics are strong factors influencing attitudes towards environmental responsibility, Norwegian firms still show a higher probability for a pro-environmental attitude even after controlling for such firm-specific differences. Moreover, our estimation results also show that the drivers for firms to go beyond environmental legislation are not the same in the two countries. Norwegian firms are more market-driven than Spanish firms in their pro-environmental attitude.

The structure of the paper is as follows; in Section 2 we provide a review of the relevant literature that forms the theoretical background for our empirical analysis and we expose the hypothesis to be tested. In Section 3 we present the data, some first descriptive information and our estimation approach. In Section 4 we proceed to comment and explain the results obtained. Section 5 concludes.

2. Literature Review

As CER is a relatively new term, there is not an extended variety of literature addressing this issue. Nevertheless, there is a growing body of relevant papers in which environmental attitude has been studied at the European level as well as for some individual countries.

The most closely related paper to our analysis is Sáez-Martinez et al. [7]. In this paper, the authors test the drivers of CER among SMEs in 38 European countries, analyzing their compliance with environmental legislation and how factors such as environmental regulation, or corporate values and image, influence environmental orientation among SMEs. The authors include country dummies for the 38 countries, but do not focus specifically on country differences. Moreover, their results show that CER has a positive effect on sales growth.

On the other hand, Hoogendoorn et al. [8] distinguish between environmental practices related to green production process and practices related to green products and services so as to analyze the drivers of SMEs to engage in such environmental practices from a stakeholder perspective. Results show that the drivers differ between types of practice, between different environmental legislations, and between firms of different size and sector.

González-Moreno et al. [9] analyze the possible effect of adopting an environmentally responsible attitude of SMEs operating in the Hospitality sector in Spain, as well as which specific environmental

practices have a higher effect on performance. The results show that having an environmental responsibility attitude has a positive and significant effect on sales growth in this industry.

Some other studies have investigated CER. Gunningham [10] argues on the need of corporate regulation towards the environment. Scherer and Palazzo [11] focus on the consequences of globalization on CSR and on the importance that large corporations play in environmental and social responsibility. On the other hand, Iraldo et al. [12] attempt to identify solutions for SMEs towards their difficulty to implement environmentally friendly measures into their core activities.

A related strand of literature has analyzed what makes firms engage in eco-innovations. Triguero et al. [13] explore the drivers of three different dimensions of eco-innovation in European SMEs, by classifying the determinants of innovation by supply-side, demand-side and environmental policy. The authors find that both demand- and supply-side factors influence eco-innovation, whose intensity may vary depending on the different eco-innovation dimensions.

Triguero et al. [14] explore the differences between the factors influencing eco-innovation, based on the innovation triangle of Dijken et al. [15] (business competences, environmental orientation and network relations). They also group eco-innovators into four categories based on their eco-investment effort (laggards, loungers, followers and leaders). The results show that almost all SMEs implement some eco-innovation, but with different levels of engagement, depending on firm size, the increase of demand, lack of financial resources or the technological opportunities related to each sector. Following this line of research, Triguero et al. [16] focus as well on drivers (and differences) of eco-innovation in European SMEs, but more specifically on those drivers explaining recycling and purchase and development of cleaner technologies. The results show that there are existing differences between the drivers of recycling and cleaner technology adoption (make and buy), but demand of green products and firm size are always significant factors explaining eco-innovation.

Marin et al. [17] analyze the engagement on eco-innovation investment through different firm profiles taking into account the investment effort of each firm in eco-innovative activities, plus their perception of barriers to engage in eco-innovation. The authors show that there are significant differences between firm-specific attitudes towards eco-innovation investment and how barriers to eco-innovation are faced. Sáez-Martínez et al. [18] analyze the role of university collaboration on the level of eco-innovation adopted by small and medium enterprises, based on evidence from 'The Eurobarometer 315 Survey on Attitudes of European Entrepreneurs towards Eco -Innovation'. While the results do not show a significant impact of regulation on eco-innovation among SMEs, there is a negative and significant relation between the size of the firm and an eco-innovation behavior, and the cooperation of the firm with universities and research institutions turns out to be a key factor when it comes to adopting eco-innovation.

Del Rio et al. [19] provide a recent extensive literature review regarding studies analysing the firm-level determinants of eco-innovation. They point out that there has been a lack of theoretical roots in most of the papers, an unsettled influence of demand-pull and cost-savings factors, as well as other factors which have not been considered, such as international factors. Very few papers have analysed eco-innovation drivers against regular innovation drivers, nor have used an alternative econometric model (other than probit or logit). Moreover, a great majority of the analysed literature have focused on Western-European countries. Lastly, the authors conclude that the degree of eco-innovation might depend as well on sectoral and regional features, which have not been sufficiently considered among eco-innovative econometric studies.

There is also relevant literature that focuses not only on SMEs at a European level, but has carried out research at a national level. For example, Jansson et al. [20] analyse the determinants of green curtailment behavior (referring to behaviors that reduce resource use) and willingness to adopt eco-innovations. The authors carry out their research on Sweden focusing specifically on the alternative fuel vehicles (AFV) market, basing their research in the values, beliefs and norms theory (VBN). Results show that values, beliefs, norms and habits contribute to explaining both curtailment behavior and eco-innovation, as do biospheric values, showing that personal norms are a great driver when it comes

to green behavior. Paraschiv et al. [21] explore the main trends of eco-innovation in the Romanian construction sector. Using the Flash Eurobarometer survey 315 [22] as their main source of data, this paper finds that even though Romania is significantly under the EU average when it comes to eco-innovation adoption, there is an increasing interest on eco-innovative activities, due to the changes in demand towards green products/services both in multinationals or SMEs. Del Rio et al. [23] analyse the main determinants influencing SMEs' environmental innovators compared to general innovators in Spain, as it has a weaker green innovation system than in other European countries (e.g., Germany). Using annual data obtained from the Spanish Technological Innovation Panel database (PITEC) 2009, and similarly to other countries, results show that Spanish environmental innovators respond to demand-pull and technology push factors, mainly in high-polluting sectors.

Horbach and Rammer [24] are one of the few authors that focus on SMEs' regional differences of environmental measures and legislation in Germany. This paper tries to assess the reasons for regional differences in the diffusion of renewable energy innovations, despite acting in similar regulation conditions. The analysis shows that green orientation and the existing capacities of renewables (solar, wind, water etc.) on a region determine and affect the adoption of green energy, which confirms the significant regional differences. This suggests that the strengthening of regulation and green movements at a smaller level (not only at country or EU level) might increase the adoption of greener technologies, more specifically for renewable energy sources.

Iatridis and Kesidou [25] analyze the factors that drive a substantial or symbolical adoption of ISO 14001 in the context of an economic crisis. They compare internal and external factors and their interplay as drivers of the adoption of ISO 14001, either symbolically or substantially. The results of this study show that even if external pressures (such as government plans) are weak, if there is a strong internal motivation, the engagement with ISO 14001 can be substantial. Nevertheless, when there is a lack of internal motivation and weak external pressures, firms may adopt ISO 14001 with legitimacy purposes only.

The aim of our research is to compare the differences on environmental attitude between Spanish and Norwegian SMEs. Our research is aimed to shed further light on internal as well as external determinants of environmental responsibility. The formal hypothesis to be tested is the following:

Hypothesis 1 (H1). *Norwegian and Spanish SMEs present significant differences towards CER.*

Unlike large corporations, SMEs' engagement on CER usually reflect the values of the owners and the community where their activities are developed [26], so by testing this hypothesis we expect to find a bigger commitment in Norwegian SMEs than among the Spanish ones, given the historical context and culture of sustainable development and social responsibility of Norway, against a relatively new concept of CSR for the Spanish firms and society profits [5]. Following the line of state regulation and its influence, Demirel et al. [4] study how the state determines voluntary environmental self-regulation, finding a positive relation between direct regulation and stringency with in-house environmental adoption. This result reinforces our expectations of a higher commitment among Norwegian SMEs due to the country's environmental regulation.

3. Materials and Methods

3.1. Data

The dataset to be used in our analysis is the Flash Eurobarometer 381 Survey: SMEs, Resource Efficiency and Green Markets, wave 2, conducted in 2013 by the European Commission. Following the previous definition of SMEs, the survey collects information for 38 countries, obtaining a nationally representative sample of operating SMEs in such countries (28 Members of the European Union, Macedonia, Norway and the United States among others). A total number of 13,509 SMEs from the service, manufacturing and industry sector are included in the sample, from which 11,207 firms belong to the EU.

The focus in our analysis is on SMEs. As outlined in Sáez-Martinez et al. [7] and according to the European Commission, SMEs comprise up to 99.8% of all enterprises on the European Union, and 66.8% of total employment [27]. Whilst the environmental impact of each SME is very small compared to large companies, the cumulative impact of the sector is considerably significant, producing up to 64% of the industrial pollution in Europe [7,8].

The definition of micro-, small- and medium-sized enterprises given by the European Commission [28] categorizes firms taking into account their number of employees: The SMEs category is made up of enterprises which employ fewer than 250 persons; within this category, a small enterprise is defined as a firm with less than 50 employees, and a microenterprise will be a firm which employs fewer than 10 persons (Note that Spain has a particularly small firm structure and SMEs are also often defined as those with up to 200 employees.).

After restricting our sample to SMEs in Norway and Spain, our data set for the empirical analysis consists of 800 SMEs: 500 Spanish SMEs and 300 Norwegian SMEs.

In our analysis, we focus on the information provided in the Flash Eurobarometer Survey No. 381 regarding firms' answers to the survey question Q1 (Table 1) which asks about the environmental attitude of the firms.

Table 1. Flash Eurobarometer 381, question Q1.

Q1. Among These Statements, Which One Applies the Best to Your Company? Your Company Is ...	
... is complying with environmental legislation but does not wish to go beyond these requirements	1
... is complying with environmental legislation and is contemplating doing more.	2
... is going beyond the requirements of the environmental legislation but environmental concerns are not one of its priorities.	3
... is going beyond the requirements of the environmental legislation and environmental concerns are one of its priorities.	4
... has difficulties in complying with environmental legislation.	5

3.2. Methodology

We first provide an exploratory analysis of the survey question Q1 with the aim to show differences in answers between firms in Spain and Norway. This exploratory analysis is followed by a series of Probit regressions regarding firms' probability of not wishing to go beyond environmental legislation (response 1) where we focus again on difference between Spain and Norway and how different potential drivers of CER work out in the two country contexts.

We represent the decision of not wishing to go beyond environmental legislation $CERmin_i$ by firm i = 1, 2, etc. by a binary choice model where the latent variable $CERmin_i$*, which represents firm i's underlying propensity of not going beyond legal requirements in terms of environmental actions and activities, is a function of observable firm-specific characteristics c_i and a set of motivations related to the development of environmental practices m_i.

$$CERmin_i^* = c_i\beta_1 + m_i\beta_2 + v_i$$

The term v_i captures the effects of unobserved factors and is assumed to be *independent and identically distributed* normal.

Our explanatory variables can be grouped into two categories. First, variables that describe firms' structural characteristics. As pointed out in Hoogendoorn et al. [8], firm level characteristics are relevant for explaining environmental behavior of SMEs. We control for firm size, firm age and the sector in which the company is operating. Such differences in structural characteristics may influence a firm's environmental attitude. For example, previous research has shown that firm size is an important determinant of environmental attitude [7,8] as smaller firms may lack the necessary resources to invest in environmental activities, which matches the negative and significant relation

obtained by Sáez-Martínez et al. [18] between firm size (small firms) and the propensity to develop an eco-innovative behavior.

Different sectors have different environmental challenges; thus, the environmental behavior of firms is likely to depend also on the sector they operate in. Moreover, younger firms could be more susceptible to environmental issues and thus show a more positive attitude [8]. On the other hand, considering firm age from a different perspective, if an older firm is considered more efficient, it seems reasonable to think that age has a positive impact on their environmental behavior [29].

Second, we further test for several motivations that inspire CER. Following Sáez-Martínez et al. [7], we test for the role of market characteristics and the role of public policy. The Flash Eurobarometer Survey No. 381 offers information on a set of main reasons why companies have taken actions to be more resource efficient. As in [7], we create dummy variables regarding client demand, business opportunity, competitors, and public policies as main reasons for engaging in environmental practices.

The dependent variable together with the set of explanatory variables are described in Table 2.

Table 2. Variable definition.

CERmin	Dummy variable that takes the value 1 when the firm indicates that it is complying with environmental legislation but does not wish to go beyond the legal requirements
FIRM STRUCTURAL CHARACTERISTCS: c_i	
Micro-firms	Dummy variable that takes the value 1 when the firm has less than 10 employees, and 0 otherwise
Small-firms	Dummy variable that takes the value 1 when the firm has from 10 to 49 employees, and 0 otherwise
Medium-firms	Dummy variable that takes the value 1 when the firm has from 50 to 249 employees, and 0 otherwise (control group)
Age40	Dummy variable that takes the value 1 when the firm has been in business for less than 40 years and 0 otherwise
Manufacturing	Dummy variable that takes the value 1 when the firm belongs to the manufacturing sector (NACE category C) (***N****omenclature statistique des* ***a****ctivités économiques dans la* ***C****ommunauté européenne*)
Retail	Dummy variable that takes the value 1 when the firm belongs to the retail sector (NACE category G)
Service	Dummy variable that takes the value 1 when the firm belongs to the service sector (NACE category I/J/K/H/L/M) (control group)
Industry	Dummy variable that takes the value 1 when the firm belongs to the industry sector (NACE categories B/D/E/F)
MOTIVATIONS—MARKET PULL AND PUBLIC SUPPORT: m_i	
Clients' demands	Dummy variable that takes the value 1 when the firm indicates that demand from customers or providers has been a main reason to take actions to be more resource efficient, 0 otherwise
Business opportunity	Dummy variable that takes the value 1 when the firm indicates that the creation of competitive advantage/business opportunity has been a main reason to take actions to be more resource efficient, 0 otherwise
Competitors	Dummy variable that takes the value 1 when the firm indicates that catching up with main competitors who have already taken action has been a main reason to take actions to be more resource efficient, 0 otherwise
Public support	Dummy variable that takes the value 1 when the firm indicates that financial and fiscal incentives or other forms of public support have been a main reason to take actions to be more resource efficient, 0 otherwise

4. Results

4.1. Exploratory Analysis

Figure 1 provides a first exploratory analysis regarding differences among Spanish and Norwegian firms in their answers to the survey question Q1. It can be observed that the largest difference remains

between the firms that claim that they are able to comply with environmental legislation but are not willing to go beyond the minimum required. In Spain, this proportion is of 57% of the firms, while in Norway only 41% of the firms state that they do not wish to go beyond the legal requirements concerning the environment. The second remarkable difference between the firms in Spain and Norway is about the percentage of firms that are contemplating to do more. In Norway this reaches about 29% of the SMEs while in Spain just 17% of firms state that they are contemplating doing more.

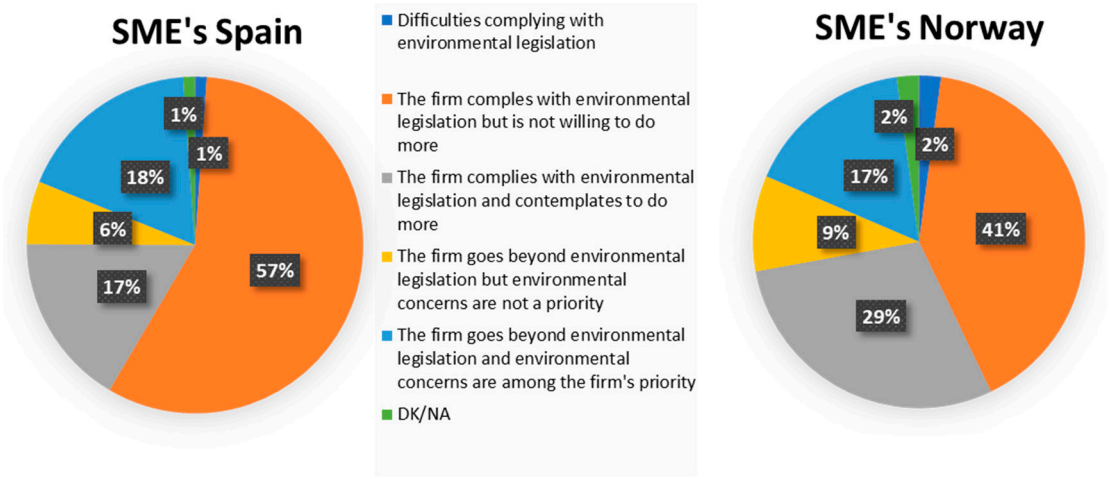

Figure 1. Corporate Environmental Responsibility in Norwegian and Spanish SMEs.

On the other hand, the difference between the firms that claim to have difficulties complying with environmental law is very small, but the number of firms that are not able to comply with the legislation is 1% larger in Norway, which might be surprising at first, as is the opposite of the expected result. Such results can be explained by the risk of comparing responses across counties, when the context for business operations are not the same between them.

As argued before, the environmental context in Spain and in Norway is quite different, and this is indeed a very important factor when it comes to complying or not complying with environmental law. The reason why Norway has more SMEs that claim that they have difficulties complying with the law might be correlated to the fact that Norwegian regulation is stricter than the Spanish environmental law, making it more difficult to some Norwegian firms to reach the minimum threshold.

Enforcement is also an important factor of the game, as it ensures that the laws are being correctly implemented and followed by the companies involved. It might be the case that in Spain environmental regulations are established but there is not such a strong enforcement procedure, while in Norway the law is much stricter and, moreover, there is a procedure to check if the requirements of environmental performance of Norwegian enterprises are being fulfilled.

Then, as Norwegian and Spanish enterprises do not act under the same conditions, it might be easier for Spanish SMEs to comply with the law, or as in Spain the environmental problem is not taken as seriously as in Norway—when it comes to environmental law enforcement—there might be an incentive within Spanish enterprises that do not comply with the law, to not recognize such difficulty on the answered survey of the Questionnaire.

This relates to the fact that the Flash Eurobarometer Survey data provides self-reported attitudes towards CER. The Questionnaire about the firm's activity is responded to by the own firm, making the answers related to the self-perception of the company, which does not guarantee a fully objective or realistic answer. The way a firm perceives itself has very much to do with the context and the demands where their activities are developed; as regulation improves and enforcement expectations rise, it becomes more difficult for the companies to dismiss compulsory reporting as well as to avoid transparency on their environmental performance [30].

Regulation and expectation are related to each country's context, culture and tradition. As seen before, CSR in Norway has always been deeply embedded in society and political tradition, which nowadays means that both demand and market competition are very strong when it comes to sustainable development and green attitude among firms, while traditionally in Spain, the firm's main focus was to increase profits [5]. So, going back to self-perception, it is reasonable to think that if one firm in Spain takes some action towards CER—even small—this could be seen like a big improvement by the own firm, while if this happens the same way in Norway, it might not be good enough, as the expectations regarding social responsibility are not set at the same point.

In order to address this problem, we focus our estimations specifically on the group of enterprises who state that they are not willing to go further than what the law obliges. In this case, the problem mentioned before will be reduced, and focusing only on the answer to the question regarding companies' non-willingness to go beyond legal requirements will improve interpretability.

4.2. Estimation Results

Table 3 shows the results from our probit estimations with *CERmin* as the dependent variable. Table 4 shows the corresponding marginal effects. Overall, the explanatory power of our models is very similar to the one obtained in related studies (e.g., Sáez-Martínez et al. [7]; and even somewhat higher than in Hoogendoorn et al. [8]).

Table 3. Estimation results.

	Pooled			**Spain**		**Norway**	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Norway dummy	−0.314 *** (0.092)	−0.330 *** (0.097)	−0.395 *** (0.101)				
Firms' structural controls							
Small		−0.442 *** (0.103)	−0.398 *** (0.106)	−0.287 ** (0.133)	−0.273 ** (0.136)	−0.669 *** (0.169)	−0.610 *** (0.176)
Medium		−1.101 *** (0.140)	−1.033 *** (0.146)	−1.085 *** (0.175)	−1.063 *** (0.181)	−1.162 *** (0.239)	−1.033 *** (0.255)
Age40		0.028 (0.003)	0.047 (0.125)	0.394 ** (0.167)	0.398 ** (0.167)	−0.380 ** (0.189)	−0.306 (0.196)
Retail		0.271 ** (0.120)	0.266 ** (0.122)	0.365 ** (0.156)	0.336 ** (0.157)	0.110 (0.193)	0.166 (0.201)
Manufacturing		0.008 (0.137)	0.063 (0.141)	0.028 (0.171)	0.049 (0.174)	−0.035 (0.234)	0.027 (0.247)
Industry		0.010 (0.137)	0.047 (0.142)	−0.015 (0.176)	−0.023 (0.178)	0.051 (0.219)	0.145 (0.239)
Motivations: Market controls and public policy							
Client demand			−0.195 * (0.105)		−0.034 (0.131)		−0.411 ** (0.188)
Business opportunity			−0.338 *** (0.115)		−0.257 * (0.142)		−0.532 *** (0.207)
Competition			−0.020 (0.126)		−0.053 (0.145)		0.015 (0.262)
Public policy			0.287 ** (0.121)		0.125 (0.162)		0.421 ** (0.185)
Observations	800	784	769	485	481	299	288
Pseudo R2	0.01	0.09	0.11	0.11	0.11	0.09	0.13

Notes: All estimations include a constant. ***, **, and * indicate significance at the 1%, 5% and 10% level, respectively. Robust standard errors reported in parenthesis.

In column 1 we regress our dependent variable only on the Norway dummy. The coefficient for Norway is negative and statistically significant, Spain being the control group, and being the model binary, its interpretation would be that in Norway, there is around a 13% lower probability than in Spain that a company indicates that they do not want to go further than the law requires with their pro-environmentally activities.

Next, we add controls for firms' structural characteristics (column 2). Size seems to be a crucial factor on the firm's attitude towards environmental responsibility, as small- and medium-sized firms show a greater level of commitment to CER compared to micro-sized firms, and both coefficients are statistically significant. This is similar to the results reported in Sáez-Martínez et al. [7] and Hoogendoorn et al. [8]. However, as in Hoogendoorn et al. [8] in the pooled sample we do not observe a significant relation between environmental attitude and the age of a company. Regarding our sector controls, only the retail sector variable is significant and indicates that retail firms show a significantly higher probability of not wishing to go beyond legal requirements compared to service sector firms. However, manufacturing and industry firms do not show a significantly different probability from service sector firms.

Even after controlling for differences in firm size, age and sector, our results still show a significantly higher probability of Norwegian firms wishing to go beyond legal requirements for environmental activities.

Table 4. Estimation results—marginal effects.

	Pooled			**Spain**		**Norway**	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Norway dummy	−0.125 *** (0.036)	−0.131 *** (0.038)	−0.156 *** (0.039)				
Firms' structural controls							
Small		−0.175 *** (0.040)	−0.157 *** (0.041)	−0.114 ** (0.052)	−0.108 ** (0.054)	−0.249 *** (0.059)	−0.225 *** (0.062)
Medium		−0.397 *** (0.041)	−0.376 *** (0.044)	−0.404 *** (0.055)	−0.397 *** (0.058)	−0.382 *** (0.060)	−0.343 *** (0.066)
Age40		0.011 (0.049)	0.019 (0.050)	0.156 ** (0.065)	0.158 ** (0.065)	−0.149 ** (0.074)	−0.119 (0.077)
Retail		0.108 ** (0.047)	0.106 ** (0.048)	0.142 ** (0.060)	0.131 ** (0.060)	0.043 (0.076)	0.064 (0.078)
Manufacturing		0.003 (0.055)	0.025 (0.056)	0.011 (0.068)	0.019 (0.069)	−0.013 (0.091)	0.010 (0.096)
Industry		0.004 (0.055)	0.019 (0.057)	−0.006 (0.070)	−0.009 (0.071)	0.020 (0.086)	0.057 (0.094)
Motivations: Market controls and public policy							
Client demand			−0.078 * (0.041)		−0.013 (0.052)		−0.153 ** (0.067)
Business opportunity			−0.133 *** (0.045)		−0.102 * (0.056)		−0.193 *** (0.069)
Competition			−0.008 (0.050)		−0.021 (0.057)		0.006 (0.101)
Public policy			0.114 ** (0.047)		0.049 (0.064)		0.165 ** (0.072)
Observations	800	784	769	485	481	299	288

Notes: All estimations include a constant. dy/dx is for discrete change of dummy variable from 0 to 1. ***, **, and * indicate significance at the 1%, 5% and 10% level respectively.

Next, we add the further controls that capture the motivations behind the adoption of environmental practices such as the influence of the market environment in which firms operate

and public policy (column 3). The regression shows that the possibility of creating a competitive advantage of a business opportunity has a significant positive effect towards the firms' environmental behavior. Public policy and client demand influence environmental behavior as well, but their effect is not as significant, which matches the line of research of Triguero et al. [13] who argue that the actual eco-regulation has no significant influence on the decision to eco-innovate.

Lastly, the variable controlling for the will to catch up with other competitors that have already adopted environmental practices has no significant effect.

If anything, after adding all the controls to our estimations, the marginal effect of our Norway dummy even slightly increases, indicating a 15% lower probability for the Norwegian firms to respond that they do not wish to go beyond legal requirements. Therefore, our regression analysis confirms the hypothesis for significant differences between SMEs in Spain and Norway regarding their environmental attitude, as the probability of not considering going beyond regulation is significantly lower in Norway. This suggests that Norwegian firms choose between the rest of the given options, which are all about the wish of going beyond the minimum required, or even making CER one of the top priorities of the enterprise.

There is a higher probability that a firm has no wish to go beyond environmental regulation in Spain than in Norway, even when the environmental law in Norway is more demanding than in Spain. This indicates that Norwegian SMEs have CER commitment included into the core company values and has important relevance for the enterprises, which influences Norwegian firms to acquire a positive attitude towards environmental responsibility, whereas in Spain these values are not as embedded among the SMEs, so even if the environmental regulation is not very strict, there is no strong motivation within the enterprises to try to go further from the obliged, as the commitment to the environment might not be as spread as in Norway.

In order to investigate if there are also differences in the drivers of corporate environmental responsibility between firms in Spain and Norway, we carry out separate probit estimations for the sample of Spanish firms and the sample of Norwegian firms. Columns 4 and 5 show the corresponding results for Spain and column 6 and 7 show the corresponding results for Norway.

As we can see in the results, the size of the firm has a significant effect in both samples. Age shows a different impact in Spain and Norway. The age variable shows a positive and significant coefficient for Spain. In contrast, for Norwegian firms, the coefficient is negative and only significant without additional controls. This means that in Spain, the older firms show a lower will to go beyond environmental legislation. The sector in which the firms develop their activity is only significant in Spain, and indicates a lower willingness for the retail sector. Market demand and business opportunity, the market control variables, are only significant in the case of Norway, which leads us to the conclusion that the environmental attitude in Norway is more market-driven than in Spain. Lastly, the public policy variable is only significant in Norway, but it shows a positive coefficient. This indicates that firms that responded to the questionnaire that financial and fiscal incentives or other forms of public policy support have been a reason for the development of environmental practices, actually have a higher probability of not wanting to go beyond legal requirements.

5. Discussion and Conclusions

As environmental concerns are on the rise, Corporate Environmental Responsibility has also attracted increasing attention both from policy makers as well as in the academic literature. However, there are still relatively few empirical studies that have analyzed the drivers of CER, and especially what drives SMEs to become more environmentally responsible. In this paper, we have focused on the factors that are related to SMEs' environmental attitude both in Spain and Norway. The aim of this paper was to test whether there are significant differences between Norwegian and Spanish SMEs towards environmental attitudes—CER—and whether CER in SMEs is driven by different factors.

Our research contributes to a better understanding about what drives SMEs to become more environmentally responsible. To the best of our knowledge, this paper is the first to provide a

cross-national comparative study of CER in SMEs in Spain and Norway. The results show that there are indeed very significant differences between these two countries, presenting a considerably higher Corporate Environmental Responsibility in Norway. Spanish firms, in contrast, show a higher probability of not wishing to go beyond environmental regulations.

Structural characteristics as well as industry structures matter. Indeed, in line with previous studies such as Sáez-Martínez et al. [18] or Demirel et al. [4], we find that firm size has a significant effect, as the propensity to adopt a pro-environmental behavior among entrepreneurs' increases with the firm size. The firms' age and the firms' sector influence environmental attitude as well,

However, our separate estimations for Spain and Norway also show that the drivers of CER are not the same in the two countries. Moreover, while market pull has often been found to play a limited role in encouraging CER, our results show that in the case of Norway, market pull significantly influences CER. In this respect, our results provide novel evidence that Norwegian firms are more market-driven in their environmental attitude compared to Spanish firms.

Even after controlling for structural and sectoral differences and different motivations, we still find a significantly higher probability of Norwegian firms wishing to go beyond legal requirements.

The results are consistent with the broad tradition of Norwegian Corporate Social Responsibility and the embedded values of environmentally friendly activities and sustainable development, both within firms and the Norwegian society itself. Moreover, it also matches the findings of Iatridis and Kesidou [25] or Demirel et al. [4], who suggest that poor motivation and lack of external pressure might negatively influence the adoption of an environmentally friendly behavior, and argue that a proper regulation combined with self-regulation might result in a higher environmental commitment.

This paper may have several implications for managers and policy-makers, specifically for Europe and Spain. First, as mentioned before, Norway is one of the most socially responsible countries in Europe, and following the results of this research, this success on CER is in part due to the culture and values of the country. Thus, from a policy point of view, education plays a crucial role for countries that are falling behind when it comes to CSR, as informing and training managers and owners may actually change the way that SMEs perform their business activities.

Second, such differences in cultures and values also reflect differences in consumers' interest in green products and the business opportunities that firms may derive from pursuing a pro-environmental corporate strategy. This is likely also related to the standard of living of the society under question and credit options for ecological investment. This can also explain the greater relevance of market factors in determining environmental attitude in Norway compared to Spain.

Third, besides the importance of promoting environmental and social responsibility education, it could also be useful to try to equalize national environmental law within European countries, and mostly control for the enforcement of such regulation. When the firms are required to reach a certain level of environmental commitment, and there is also an efficient way to check that these requirements are indeed being fulfilled, a higher number of SMEs will be actually complying with the legal requirements, which is also the case of Norway, where the law and the enforcement of such laws are stricter than the regulation in Spain. As Horbach and Rammer [24] suggest in their study, the strengthening of regulation and green movements at a smaller level might increase the adoption of greener technologies among SMEs.

According to existing literature, educating society (such as consumers) and firm owners is as important as implementing effective (which does not necessarily mean strict) environmental regulation, as motivation and self-regulation combined with external pressure can maximize environmental protection in a globalized and neo-liberal world in which the government itself cannot fully regulate the market [25]. Norway is a good example of the latter, while the Spanish case shows a weak external pressure combined with a lack of environmental self-adoption and motivation towards green actions.

This study is not without limitations. First, there is a problem of subjectivity in the answers collected by the Flash Eurobarometer Survey, as the firms answer based on self-perception, which might not be entirely reliable results due to the possible lack of objectivity. Second, the firms in Spain

and in Norway do not act under the same legislation, so the minimum required by the law is not the same for the firms that answered the Questionnaire, nor do we have quantifiable data on differences in cultures and values, making it difficult to perform a fair cross-country comparison. Future lines of research could focus on the specific activities carried out by Spanish and Norwegian SMEs towards environmental responsibility, as well as to compare the differences on legislation, in order to obtain a wider knowledge about the significant differences of performance between these two countries, with the purpose of being able to find a way to diminish this difference and to grow towards a more sustainable and respectful business environment.

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References

1. Miller, K.; Neubauer, A.; Varma, A.; Willians, E. *First Assessment of the Environmental Assistance Programme for SMEs (ECAP)*; DG Environmental and Climate Action: London, UK, 2011; Available online: http://ec.europa.eu/environment/archives/sme/pdf/First%20assessemnt%20of%20the%20ECAP%20for%20SMEs.pdf (accessed on 5 April 2018).
2. European Commission. *Green Action Plan for SMEs. Enabling SMEs to turn Environmental Challenges into Business Opportunities*; European Commission: Brussels, Belgium, 2014; Available online: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0440&from=EN (accessed on 9 June 2017).
3. European Commission. *CSR Compendium 2014*; National Public Policies in the European Union; European Union: Luxembourg, 2014.
4. Demirel, P.; Iatridis, K.; Kesidou, E. The Impact of Regulatory Complexity upon Self-Regulation: Evidence from the Adoption and Certification of Environmental Management Systems. *J. Environ. Manag.* **2017**, *207*, 80–91. [CrossRef] [PubMed]
5. Habisch, A.; Jonker, J.; Wegner, M.; Schmidpeter, R. *Corporate Social Responsibility across Europe*; Springer: Berlin, Germany, 2005.
6. Welford, R. Corporate Social Responsibility in Europe, North America and Asia. *J. Corp. Citizensh.* **2005**, *2005*, 33–52. [CrossRef]
7. Sáez-Martínez, F.; Díaz-García, C.; González-Moreno, Á. Factors Promoting Environmental Responsibility in European SMEs: The Effect on Performance. *Sustainability* **2016**, *8*, 898. [CrossRef]
8. Hoogendoorn, B.; Guerra, D.; van der Zwan, P. What Drives Environmental Practices of SMEs? *Small Bus. Econ.* **2014**, *44*, 759–781. [CrossRef]
9. González-Moreno, Á.; Díaz-García, M.; Saez-Martinez, F. Environmental Responsibility Among SMEs in the Hospitality Industry: Performance Implications. *Environ. Eng. Manag. J.* **2016**, *15*, 1527–1532.
10. Gunningham, N. Shaping Corporate Environmental Performance: A Review. *Environ. Policy Gov.* **2009**, *19*, 215–231. [CrossRef]
11. Georg, S.A.; Guido, P. Globalization and Corporate Social Responsibility. In *The Oxford Handbook of Corporate Social Responsibility*; Crane, A., McWilliams, A., Matten, D., Moon, J., Siegel, D., Eds.; Oxford University Press: Oxford, UK, 2008; pp. 413–431.
12. Iraldo, F.; Testa, F.; Frey, M. Environmental Management System and SMEs: EU Experience, Barriers and Perspectives. *Environ. Manag.* **2010**. Available online: http://cdn.intechopen.com/pdfs/11842/InTechEnvironmental_management_system_and_smes_eu_experience_barriers_and_perspectives.pdf (accessed on 4 June 2018).
13. Triguero, A.; Moreno-Mondéjar, L.; Davia, M. Drivers of Different Types of Eco-Innovation in European SMEs. *Ecol. Econ.* **2013**, *92*, 25–33. [CrossRef]
14. Triguero, A.; Moreno-Mondéjar, L.; Davia, M. Leaders and Laggards in Environmental Innovation: An Empirical Analysis of SMEs in Europe. *Bus. Strategy Environ.* **2014**, *25*, 28–39. [CrossRef]

15. Dijken, K.; Prince, Y.; Wolters, T.; Frey, M.; Mussati, G.; Kalff, P.; Hansen, O.; Kerndrup, S.; Sondergard, B.; Rodrigues, E.L.; et al. *Adoption of Environmental Innovations*; Kluwer: Dordrecht, The Netherland, 1999.
16. Triguero, A.; Moreno-Mondéjar, L.; Davia, M. Eco-Innovation by Small and Medium-Sized Firms in Europe: From End-Of-Pipe to Cleaner Technologies. *Innovation* **2015**, *17*, 24–40. [CrossRef]
17. Marin, G.; Marzucchi, A.; Zoboli, R. SMEs and Barriers to Eco-Innovation in the EU: Exploring Different Firm Profiles. *J. Evol. Econ.* **2015**, *25*, 671–705. [CrossRef]
18. Sáez-Martínez, F.; González-Moreno, A.; Hogan, T. The Role of University in Eco-Entrepreneurship: Evidence from the Eurobarometer Survey on Attitudes of European Entrepreneurs towards Eco-Innovation. *Environ. Eng. Manag. J.* **2014**, *10*, 2541–2549.
19. Del Rio, P.; Peñasco, C.; Romero-Jordán, D. What Drives Eco-Innovators? A Critical Review of the Empirical Literature Based on Econometric Methods. *J. Clean. Prod.* **2016**, *112*, 2158–2170. [CrossRef]
20. Jansson, J.; Marell, A.; Nordlund, A. Green Consumer Behavior: Determinants of Curtailment and Eco-Innovation Adoption. *J. Consum. Mark.* **2010**, *27*, 358–370. [CrossRef]
21. Paraschiv, D.; Langă, E.; Olaru, C. Exploring Eco-innovation Trends in the European Construction Sector. Focus on Romania. *Rom. Econ. J.* **2011**, *11*, 69–89.
22. The Gallup Organization. *Attitudes of European Entrepreneurs towards Eco-Innovation*; Analytical Report; European Commission: Brussels, Belgium, 2011; Available online: http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_315_en.pdf (accessed on 21 January 2018).
23. Del Río, P.; Peñasco, C.; Romero-Jordán, D. Distinctive Features of Environmental Innovators: An Econometric Analysis. *Bus. Strategy Environ.* **2013**, *24*, 361–385. [CrossRef]
24. Horbach, J.; Rammer, C. Energy Transition in Germany and Regional Spillovers: What Triggers the Diffusion of Renewable Energy in Firms? *SSRN Electron. J.* **2017**. [CrossRef]
25. Iatridis, K.; Kesidou, E. What Drives Substantive versus Symbolic Implementation of ISO 14001 in a Time of Economic Crisis? Insights from Greek Manufacturing Companies. *J. Bus. Ethics* **2016**, *148*, 859–877. [CrossRef]
26. Panwar, R.; Nybakk, E.; Hansen, E.; Pinkse, J. The Effect of Small Firms' Competitive Strategies on Their Community and Environmental Engagement. *J. Clean. Prod.* **2016**, *129*, 578–585. [CrossRef]
27. Muller, P.; Devnani, S.; Julius, J.; Gagliardi, D.; Marzocchi, C. *Annual Report on European SMEs 2015/2016*; SME Recovery Continues; European Commission: Brussels, Belgium, 2016.
28. Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (Text with EEA relevance) (notified under document number C (2003) 1422). (2003). *Off. J. Eur. Union* **2013**, *46*, 36–41. Available online: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32003H0361&from=EN (accessed on 14 April 2018).
29. Pinget, A.; Bocquet, R.; Mothe, C. Barriers to Environmental Innovation in SMEs: Empirical Evidence from French Firms. *M@n@gement* **2015**, *18*, 132–155. [CrossRef]
30. Criado-Jiménez, I.; Fernández-Chulián, M.; Larrinaga-González, C.; Husillos-Carqués, F. Compliance with Mandatory Environmental Reporting in Financial Statements: The Case of Spain (2001–2003). *J. Bus. Ethics* **2007**, *79*, 245–262. [CrossRef]