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Which country characteristics support corporate social performance?

Abstract: As a growing number of firms is investing in social and environmental sustainability, academics and practitioners are increasingly becoming concerned with studying the factors that drive firms to achieve higher corporate social performance (CSP). This paper aims to contribute to the literature investigating country-level characteristics that influence the magnitude of firm CSP based on the framework of the antecedents of green innovation. By conducting a cross lagged analysis of more than 370 European B Corps – a growing form of social enterprise this paper investigates how firm CSP is impacted by regulatory framework, the technological capacity and the demand pressures of the country in which it is embedded. Our findings support that the presence of technological and innovation capacities and of demanding, conscious customers are the two most important country-level factors impacting CSP. Results bespoke of the importance to develop a policy approach that support the development of technological skills at the firms level, and the awareness at the demand level, rather than emphasizing a stricter regulation.

Keywords: B Corp; Corporate Social Performance; Sustainable Development Goals (SDGs); Social Enterprise; Sustainability

1. Introduction

Firm investment strategies towards social and environmental sustainability are becoming increasingly widespread (Aguinis & Glavas, 2012; Pinelli & Maiolini, 2017). Firms may decide to design their strategies to transform environmental and social constraints into new sources of competitive advantage, thus enhancing their reputation in the market, transforming their offering and business models, and improving their cost structure (Orsato, 2009). However, the approaches firms take to invest in sustainability might range considerably, from a risk mitigation approach, focused on meeting standards to avoid risks for the company, to a more holistic approach, aimed at achieving the highest sustainability performance within the firm's activities (Baumgartner & Ebner, 2010).

In this regard, what drives firms to achieve a higher corporate social performance (CSP) is a key research and policy question. From the viewpoint of sustainability, adopting voluntary Corporate Social Responsibility (CSR) strategies and actions is the result of a complex set of drivers, where the variety of results and behavior is influenced by the context in which the firm is embedded (Jackson & Apostolakou, 2010). Within CSR literature, several authors suggest that country-level factors, other than firm-level factors, should be considered to understand firm's social performance outcome (Duarte, Mouro, & Das Neves, 2010; Golob, Turkel, Kronegger, & Uzunoglu, 2018; Orlitzky, Louche, Gond, & Chapple, 2017); the influence of the environment where the firm is embedded is important to understand firm's behavior (Fernando & Lawrence, 2014), yet very often neglected. In this line, the institution-based view of strategy paradigm (Peng, Sun, Pinkham, & Chen, 2009) emphasizes the impact that firm's location has on firm strategy. This view is based on the Institutional Theories from economic (North, 1990), sociological (Powell & DiMaggio, 1991) and organizational (Scott, 1995) perspectives. Accordingly, the nexus of formal and informal rules (North, 1990) – i.e. from laws to professional groups – generates pressures on the firms in adopting explicit behaviors (Powell & DiMaggio, 1991), through pro-active to more imitative dynamics, so that firms embedded in one country tend to follow similar behaviors. Indeed, several theoretical and empirical studies highlight how formal

and informal institutions may have a direct effect on the way in which firms define their goals and act within the market and the society at large (Brammer, Jackson, & Matten, 2012).

Studies exploring the relationship between the country factors and corporate sustainability adopt different approaches. Some scholars approach the national institutional framework by looking at the variety of capitalisms to grasp differences across countries (Carbone, Moatti, & Vinzi, 2012). Other studies have either taken a very general approach, distinguishing countries based on different income levels (Luxmore, Hull, & Tang, 2018), or focused on specific elements, such as the role of market-supporting institutions (El Ghoul, Guedhami, & Kim, 2017). In this paper we aim to understand this relationships adopting the framework on determinants of green innovation (Rennings, 2000), which is increasingly adopted in several academic literatures to understand the antecedents of firm's behavior toward the greening of industries (Kawai, Strange, & Zucchella, 2018). Accordingly, we consider the three following dimensions: the regulatory environment, the innovation capacity and the demand factor. Using Benefit Corporations (B Corps) as the context of the analysis, this research explores how these three country characteristics impacts firms' CSP. Being an increasingly diffused form of firms, in which the social and environmental goals are driving the firm behavior and strategic choices (Stubbs, 2017a, 2017c) so that they can be seen as economic actors that further enhance the achievement of public goals (Vaughan & Arsneault, 2018), they represent an exceptional setting for our analysis. Indeed, while all B Corps are oriented towards sustainability, they do achieve different levels of sustainability performance, which is measured through a comprehensive indicator that is testified by B Lab, a non-profit organization based in the United States aimed at supporting business to become 'a force for good'[1]. Indeed, rather than the propensity of firms to embrace sustainability, in this paper we are interested in understanding what drives higher sustainability performance (CSP), given that the company decides to invest to improve its social and environmental impacts.

Empirical analyses are based on an original dataset of data on CSP gathered from more than 380 European firms that became B Corps between 2013 and 2018, merged with country-level

[1] See https://bcorporation.net/

information obtained from the World Economic Forum's and the Organisation for Economic Co-operation and Development's databases.

We contribute to the emerging literature on CSP in several ways. First, we disentangle the relevance of different country-level characteristics for CSP (Orlitzky et al., 2017) and tackle 'unobserved factors that shape the strength of country-level institutions' (El Ghoul et al., 2017), which have not yet been considered in the extant literature. Additionally, to overcome the limitation of most existing studies on country-level drivers of CSP which focus on large, listed firms, our empirical setting enlarges the picture to include small and private firms (El Ghoul et al., 2017; Ioannou & Serafeim, 2012; Luxmore et al., 2018; Orlitzky et al., 2017). In this respect, we provide additional elements to understand which country factors affect the growing number of firms that are behaving in a responsible way. Those firms, which represent a large portion of the firm population in different countries, can be important players policymakers should address in order to improve social and environmental achievements.

The remainder of the paper is structured as follows. Section two develops the theoretical framework and introduces the hypotheses. Section three presents the sample, variables and research method and section four explains and discusses the results. The conclusive section offers theoretical, managerial insights and policy implications, and suggests further research activities.

2. Literature review and research hypotheses

2.1. *Corporate Social Performance*

Starting in the 1990s, many studies spanning the CSR literature focused on CSP, which can be defined as 'the measurement of organizational outcomes in the environmental, social and governance (ESG) domains, with respect to multiple stakeholders, such as employees, local communities or share-holders' (Orlitzky et al., 2017). CSP, which measures the performance outcome of companies in terms of their stewardship toward society and the environment, is useful for identifying socially responsible firms and ranking them based on the CSR activities they have implemented. According to Clarkson (1995), CSP is an attempt to evaluate corporate success not

only for one stakeholder – the shareholder – but also for other stakeholders that influence a firm's activities and provide pressure for CSR implementation, especially when primary stakeholders are involved (Helmig, Spraul, & Ingenhoff, 2016). Considering the difficulties involved in capturing the qualitative nature of CSP, researchers and practitioners have proposed several metrics to capture CSP, which rely mostly on 'soft' indicators (Chen & Delmas, 2011); common to those metrics is their multidimensional nature, which includes various elements regarding environmental, social and governance issues.

These different metrics and rankings have highlighted the wide variation in CSP across organizations and countries (Ioannou & Serafeim, 2012). Several empirical analyses have highlighted that systematic differences across countries exist not only in the meaning associated with CSR and but also in terms of CSP. The umbrella term CSR includes quite different activities among countries, leading to the acknowledgement that CSR is a socially constructed concept (Dahlsrud, 2008) that cannot be separated from the contextual factors of the countries where it is implemented (Gjølberg, 2009b). The concept of CSR also differs widely among developed and emerging countries (Jamali & Karam, 2018; Jamali, Karam, Yin, & Soundararajan, 2017; Shah, Arjoon, & Rambocas, 2016; Zott & Amit, 2010), and important differences exist in meaning, focus and disclosure of CSR among Western (Freeman & Hasnaoui, 2011; Maignan & Ralston, 2002) and Eastern countries (such as the seven Asian countries analyzed in Chapple & Moon, 2005). Similarly, wide differences emerge in terms of CSP levels. For example, Jackson & Apostolakou (2010) reported that clear differences exist in the CSP levels among liberal Anglo-Saxon countries and the Continental Europe coordinated market economies, differences mainly focuses in the strategic coordination amongst corporate stakeholders.

2.2. Country-level drivers of CSP

From the perspective of institutional theory, CSR is time and context-based; that is firms respond to external pressures – from regulation to social and market forces – to adopt CSR practices, within a dynamic of progressive legitimization of CSR goals and behavior from peripheral to accepted standard procedures (Rivoli & Waddock, 2011). In this view, many factors

might explain the variations in CSP among countries. While considerable empirical literature has addressed the drivers CSR might differ across countries, only a handful of papers have examined specific characteristics of countries or national business systems that might determine differences in CSP (El Ghoul et al., 2017; Ioannou & Serafeim, 2012; Luxmore et al., 2018; Orlitzky et al., 2017). Most of those studies adopted the institutional framework as a lens of analysis, and took into account the market sphere (i.e. stock market, access to credit), the legal institutional systems (i.e. management of legal procedure), and/ or the differences in the forms of capitalisms (i.e. market-based economies, Asian capitalism, etc.). Considering that to achieve higher CSP firms need to modify their activities – products, processes, business models – so that CSR can be approached as an innovative practice (Brugmann & Prahalad, 2007), in this paper we propose to understand how country level factors might affect CSP using the framework of the determinants of green innovations as a lens of analysis. Spanning from the Economics of Innovation and the Environmental Economics literatures, such a framework developed specifically to understand why firms take the risk to innovate to reduce environmental impacts, despite they might not appropriate all the positive benefit emerging from the introduction of that innovation considering for its environmental externalities. Starting from the seminal contribution by Rennings (2000) and based on vast empirical evidence (see e.g., Maignan & Ralston, 2002; Stubbs, 2017a), such literature identified three main drivers for firms to change their activities with the purpose to reduce impacts on the environment:

(i) the regulatory environment, which both constrains and stimulates a firm's activities (named the *'regulatory push/pull'*);

(ii) the technological trajectories or innovation capabilities, which allow realizing a more sustainable production process or for product features to enter the market *('technology push'*);

(iii) the market pressures, which includes any request coming from the customers or other stakeholders that might 'pull' companies toward sustainability *('market pull'*).

So far, this framework has been used only to investigate environmental innovation determinants. While CSP includes social and governance related elements as well, we believe that such an established framework might be a valuable guide to identify the key drivers that motivate

firms to achieve any type of non-financial outcomes. This approach is further supported by the evidence that firms that are investing the most in green innovations are also those with the highest focus on socially- oriented investments (Ferri & Pini, 2019). Such a framework seems particularly useful in order to assess the drivers for firms to achieve higher CSP, as it allows a comprehensive investigation of the mechanisms driving heterogeneity in CSP. Indeed, while it focuses on elements that are partially overlapping with those investigated from the institutional perspective, we believe the adoption of such a framework might represent an important contribution to the literature. In particular, it allows to capture the specific role of the government and regulation, which the literature typically treats as part of the broader group of influencing actors (stakeholders) (Jackson & Apostolakou, 2010) despite its peculiar incentives and instruments with respect to other stakeholders such as NGOs and industry groups. Furthermore, it allows capturing the technological capacity characterizing a country as well as other innovation-related (formal and informal) institutions (i.e. property rights protection, public or private investments for innovation, etc.), which might have a determinant impact on the CSP yet have been barely investigated in the literature. In the following each of the three drivers is presented in detail.

2.2.1. Sustainability and the role of regulation

The role of the government can be crucial for orienting firms towards sustainability (Berrone, Fosfuri, Gelabert, & Gomez-Mejia, 2013), especially considering the market failures connected with environmental (and social) externalities (Jaffe, Newell, & Stavins, 2005). Policy might influence firms' activities by punishing non-sustainable behaviors or by creating incentives (i.e. fiscal incentives) to lead sustainability and stimulate innovation. The majority of studies focusing on country-level differences in CSR and CSP have focused on differences in the roles of governments (North, 1990; Stubbs, 2017a). The findings indicate that weak formal regulatory institutions tend to reduce incentives for firms to develop social and environmental actions and create space for elusion (Brunnermeier & Levinson, 2004; Copeland & Taylor, 2003; Madsen, 2009). In particular, the higher the government efficiency and bureaucracy, the higher the corruption levels related to the implementation of regulation, and the lower the probability that

firms will be able to implement socially and environmental responsible activities (Ioannou & Serafeim, 2012). However, the presence of 'institutional voids' also represents an opportunity for firms to exceed local standards in search of differentiation spaces and opportunities to create social and environmental upgrading (El Ghoul et al., 2017), especially in the case of firms that are operating in more than one country, where each country is characterized by diverse pressures for sustainability (Christmann & Taylor, 2001). Considering the above discussion, while acknowledging the diverse perspectives on this issue, we test the following hypothesis:

Hypothesis 1 – Firms located in a country characterised by stronger regulatory environment are more likely to have a higher CSP.

2.2.2. Innovation and technological capacity

Another important element supporting the development of actions with important social and environmental implications comes from technological advancements and innovation, especially when considering strategic CSR – the aim of which is to consider jointly doing good for society and accomplishing business goals (Blättel-Mink, 1998; Lantos, 2001). Especially in the realm of environmental improvements, reducing pollution and other negative impacts on the environment related to the production or use of the firm's product necessarily implies modifying the core activities of the company, either the processes needed to realise the product/service or the features of the product/service itself. Examples of common CSR activities that can complement and enhance the innovative effort of the firm include adopting recycled or bio-compatible materials, implementing energy-efficient systems and reducing waste produced (De Marchi, 2012). Previous literature has shown that comparing the efficiency of different countries with different technology levels is essential because it can affect the behaviours and results of firms and agents in the country in different ways (Lozano & Gutiérrez, 2008; Thiam, Bravo-Ureta, & Rivas, 2001). Considering that not all countries are characterised by the same level of innovation infrastructure and technological capacities (Acs, Audretsch, Lehmann, & Licht, 2017), we expect the following hypothesis:

Hypothesis 2: Firms embedded in countries with higher innovation capacities are more likely to have a higher CSP.

2.2.3. Market pressures

Attention toward social and environmental sustainability is focusing increasingly on the consumption sphere, where green consumers are influenced by a large number of factors (i.e. (Miniero, Codini, Bonera, Corvi, & Bertoli, 2014). Especially when it comes to reducing the environmental impacts of products – rather than the processes (Cleff & Rennings, 1999) – consumers' environmental and social consciousness might be an important determinant for firms to embrace CSR initiatives (Yang & Rivers, 2009). The presence of a market niche of consumers driven by ethical motives can strongly support firms' willingness to develop their sustainability features (Orsato, 2006). Similarly, increasing the CSR performance of branded corporations might be a strategy to reduce reputational risks, avoid boycotting and reducing the perception of the product (and firm) value (Nadvi, 2008). Consumerism associations might also put pressure on firms to adopt a social and environmentally sustainable strategy. Despite the consumer orientation towards conscious purchasing behaviour and product use, consumers' activities might not always be in line with their intentions (Auger, Burke, Devinney, & Louviere, 2003; Timothy,b Devinney, Pat, & Eckhardt, 2012). In this respect, while green consumption might represent an important factor shaping the firm's strategy, the ambiguity between consumer intention and action might reduce managers' perceptions of consumers as the key driver for corporate environmentalism (Sandhu, Ozanne, Smallman, & Cullen, 2010), thus opening space for multiple firm behaviour and results. When considering the different market characteristics that firms face (domestically and internationally) (Leonidou, Katsikeas, Fotiadis, & Christodoulides, 2013), evidence suggests that firms engaging with higher-income markets are more likely to have a higher environmental performance (Luxmore et al., 2018). We therefore posit the following hypothesis:

Hypothesis 3: Firms embedded in countries characterised by higher market pressures towards sustainability are more likely to have a higher CSP.

3. Sample, variables and methods

3.1. Sample

To explore the abovementioned hypotheses, we propose a quantitative analysis using performance indicators of B Corps as a proxy for firms' CSP (Chen & Roberts, 2013; Chen & Kelly, 2015; Parker, Gamble, Moroz, & Branzei, 2018). The database used for the analysis contains data from 420 firms certificated as B Corps in Europe between 2013 and 2018. Although B Corps are diffused across the world, we purposefully focused on EU countries, in order to make comparison across coherent - similar levels of economic development and social structures – yet heterogeneous set of countries. Leveraging on existing literature, we may indeed assume that the European context is still far from being homogeneous in the institutional characteristics of its countries, as mentioned in other studies (Barbosa & Faria, 2011; Gjølberg, 2009a; Steurer, Martinuzzi, & Margula, 2012).

To perform meaningful empirical analyses, we excluded all EU countries (eight countries) with fewer than 10 firms certificated as B Corps. To avoid having data missing from our estimates, we also omitted those firms for which information on one or more of the variables used was unavailable, so that for some countries we have been left with less than 10 firms. The final sample consisted on 371 firms. Data were collected from the database compiled by B Lab (https://bcorporation.net/). B Lab is a non-profit organisation that audits and certifies B Corps across a wide range of social and environmental measures. To achieve certification, each company is scored according to its performance in social, environmental, governance and community terms via the B Corps Impact Assessment (BIA). Scores range from 80 to 200 and are considered a sound measure for CSP: indeed, such a measure is developed considering for industry specificities and is a 'moving average' – to reach the minimum score i.e. to get certified, firms have to perform higher than the industry-as-usual-average, which is updated to account for technological improvements in the industry. Additionally, to evaluate the country-level characteristics that might impact a firm's CSP, i.e. to explore the research hypotheses postulated, we collected information from the 'Global Competitiveness Index' and the 'Better Life index' for the

independent and control variables as we specified below, in line with existing literature on the topic (El Ghoul et al., 2017; Ioannou & Serafeim, 2012).

3.2. Measurement of variables

3.2.1. Dependent variable

The BIA score indicates how well the day-to-day operations of a company create a positive impact based on five dimensions: the company's workers, community, customers, environment and governance, which involves assessing information from the supply chain and the materials assigned to charitable giving and employee benefits. This indicator, which has been used and tested in previous studies (André, 2012; Moroz, Parker, & Gamble, 2018; Parker et al., 2018), offers a 'distinct' form of social result that resolves many of the issues of relativity, identifiability and values used to validate and contrast social outcome (Moroz et al., 2018). B Corps certification proves that the business is meeting the highest standards of verified performance. A positive impact is supported by transparency and accountability requirements. B Corps certification not only shows where the company currently excels, but it also commits to the impact on the stakeholder long term by building it into the company's legal structure. Additionally, companies can earn further Impact Business Model points if their overall business model can be shown to create a positive social and environmental impact. To become B Corp, all companies must achieve a minimum verified score of 80 points on the BIA out of a maximum 200 points. B Lab provides a database for this indicator by firm and year (see (Moroz et al., 2018) for a review). The CSP variable is continuous and measures performance along diverse dimensions, making it a credible score (Chen & Roberts, 2013; Chen & Kelly, 2015; Parker et al., 2018). Table 1 shows the distribution of firms and the average CSP by country. As shown, the Netherlands has a higher average CSP and Italy, where the firms are certificated as a B Corps, obtain the lowest punctuation in average terms. Table 2 lists the distribution of firms based on the sector classification provided by B Lab. While several firms are engaging in more than one sector at once, food and Beverage

and Management and Financial Consulting are by far the sectors where B Corps are the most diffused.

Insert table 1 and 2 about here

3.2.2. Independent variables

To empirically test the hypotheses proposed, we consider three groups of independent variables at country level. Specifically, the determinant factors at the country level on the implication of firm sustainability were: (1) government and regulation factors, (2) technological and innovation factors, and (3) market pressure.

Government and regulation factors (*Regulation*)

To capture the government's role in influencing firms' CSP, we use the variable *government efficiency*, which has previously been adopted by several publications aiming at evaluating the impact of government and environmental regulations (Mohamadi, Peltonen, & Wincent, 2017; Schwab & Sala-i-Martin, 2014). This measure, which was collected from the Global Competitiveness Index database, comprises four indicators that measure different aspects of the government and its regulations using a seven-point Likert scale (1 lower – 7 higher). The four indicators are (1) wastefulness of government spending, which captures whether the government invests their resources in a correct way; (2) burden of government regulations, which depends on the quality of the regulations; (3) efficiency of the legal framework in settling disputes proxies for the legal infrastructure and legitimacy; and (4) transparency of government policymaking, which covers the level of corruption of the region. The World Economic Forum aggregates these components in a composite measure to provide a comprehensive view of how governments employ their resources or place burdensome and ambiguous regulations on institutions, organisations and individuals in a country (Schwab & Sala-i-Martin, 2014).

Technological and innovation factors (*technology*)

Two variables related to the level of technology and the innovation capacity of the country were considered as proxies for a firm's innovation capacity (Wu, Chen, & Liou, 2013), which were both collected from the Global Competitiveness Index database. The first variable,

technological readiness (Son & Han, 2011), is composed of the average score given to the following three indicators that are measured using a seven-point Likert scale (1-7): (i) Technological adoption measured as a firm-level technology absorption; (ii) foreign direct investment (FDI) and technology transfer; and (iii) the firm's information and communication technology (ICT) use. The second variable, *innovation*, is the average score for the following seven indicators, which are also measured using a seven-point Likert scale (1 to 7): (i) the capacity for innovation, (ii) the quality of scientific research institutions, (iii) the companies' expenditures on R&D, (iv) the intensity of university-industry collaboration, (v) the importance of government procurement of advanced technology products, (vi) the availability of scientists and engineers and (vii) patent applications. The two variables included in the analysis are developed by the World Economic Forum as a summary of the variables mentioned (most of which are measured as a seven-point Likert scale), and as continuous variables in a range (1-7).

Market pressures (*marketpressure*)

To capture the effect of market pressures, we consider the variables *prosperity* and *ethics*, following previous literature (Megyesiova, Lieskovska, Megyesiova, & Lieskovska, 2018). One way to proxy for consumers' attitudes towards ethical consumption is to use income levels because responsible products often entail higher prices. High-income nations exert higher pressure on firms to enact a higher CSP (Luxmore et al., 2018). While it is true that a large share of the customers of a firm might be in foreign countries where sustainability awareness might differ, home-country impact seems to be highest in most advanced countries (Luxmore et al., 2018), which is also true of our sample. The variable *prosperity* is a continuous variable measured as the maximum amount that a household can afford to consume without having to reduce its assets or increase its liabilities (in US dollars at current purchasing power parity [PPP] per capita) (Megyesiova et al., 2018). This amount is obtained by adding people's gross income (e.g. earnings, self-employment and capital income, as well as current monetary transfers received from other sectors) to the social transfers in-kind that households receive from governments (e.g. education and health care services), and then subtracting the taxes for income and wealth, the social security contributions paid by households and the depreciation of capital goods consumed

by households. Available data refer to the sum of households and non-profit institution serving households.

To consider different attitudes towards ethical and responsible consumptions, the variable *ethics* was included (Brenes, Ciravegna, & Pichardo, 2018) and was obtained from the Global Competitiveness Index database. This variable comprises three indicators: (i) diversion of publics funds, (ii) public trust in politicians and (iii) irregular payments and bribes. As all the indicators are measured on a seven-point Likert scale, the variable *ethics* is a continuous variable based on a simple average of the indicators described above. Variables measuring corruption are widespread in this literature stream and are often adopted to control for the effectiveness of a government (Ioannou & Serafeim, 2012; Jamali et al., 2017).

3.2.3. Control variables

We consider several variables that might affect CSP as control variables, regarding both the firm level and the country level.

At the firm level, we consider five variables. Firstly, we include the natural logarithm of the total number of employees of the firm (*size)*, as for the year of certification. This variable was built using data collected in the balance sheet of the firms or, in case those information was not available, within other documents produced by the companies (e.g., their sustainability report, or the website of the firm) or, eventually, contacting directly the companies. This variable allows controlling for differences in firms' resources and capabilities, and is a widely adopted control variable in (environmental) innovation studies (see e.g., De Marchi, 2012). Additionally, we consider four control variables at the firm's level, that report what is the key focus of the firm, as for different CSR dimensions: (i) environment, (ii) workers, (iii) community and (iv) governance. It is widely accepted that firm' social initiatives indeed influence their ability to achieve high sustainability performance (Clarkson, 1995; Greening & Turban, 2000). As suggested by previous literature (Aguinis & Glavas, 2012 for a review), firm' initiatives related with different aspects (internal stakeholders, mostly workers and their managers, or external ones, mainly the environment and local community) might drive different results in terms of overall CSP.

Accordingly, we built four dummy variables, assigning a value of 1 if firms reported a better BIA outcome than the average score of firms of the same sector for the period 2013-2018 considering for:

- environmental products, environmental practices, land office plant, energy water materials, emission water waste, and suppliers and transportation (dummy *Environmental focus);*
- compensation benefits and training, worker ownership and work environment (dummy *Workers' focus);*
- community practices, suppliers and distributors, local, diversity, job creation, civic engagement and giving (dummy *Community focus);*
- accountability and transparency (dummy *Governance focus).*

At the country level, we consider three variables that can affect the level of firms' CSP, all obtained from the Better Life Index, again considering the period 2013-2018. First, we control for the level of education in the country – the presence of highly skilled workers in a country 'mitigates the need for higher CSP in order to attract and retain them' (Ioannou & Serafeim, 2012). Specifically, the continuous variable *education* considers the number of adults aged 25 to 64 holding at least an upper secondary degree over the population of the same age, as defined by the OECD-ISCED (see also Rosati & Faria, 2019). Second, we control for the level of pollution in the country; in more polluted countries, the awareness of the population about the importance of tackling sustainability might be higher (Jiménez-Parra, Alonso-Martínez, & Godos-Díez, 2018). The indicator adopted (*pollution)* is urban-population weighted average of annual concentrations of particulate matters less than 10 microns in diameter (PM10) in the air in residential areas of cities with more than 100,000 residents. Third, *social interaction* was considered to capture the influence of social support (Khalil, 2012; Kumar, Calvo, Avendano, Sivaramakrishnan, & Berkman, 2012). This variable is a measure of perceived social network support; sometimes this social support exerts a complementary or substitutive effect on sustainability problems. This indicator is based on the question 'If you are in trouble, do you have relatives or friends you can count on to help you whenever you need them?' and it considers the

respondents who respond positively. Data were obtained from the 'Better life Index' for the period 2013-2018. Finally, to control for possible endogeneity, all the explanatory variables (independents and control variables) were lagged by one year.

Table 3 shows the descriptive statistics of the variables included in the analysis and Table 4 lists the correlation coefficients of the variables considered. According to the sample considered (all developed countries), the values for all the independent variables, measured on a Likert scale ranging from 1 to 7, were higher than 4. Several correlation coefficients show statistically significant correlations. However, considering the empirical rule given in (Kleinbaum, Kupper, Nizam, & Rosenberg, 2013), an analysis of the Variance Inflation Factors (VIF) indicated that multicollinearity was not evident because in all cases VIF < 10, with a mean value less than 1, indicating that multicollinearity is not a concern for our analysis.

Insert table 3 and 4 about here

3.3. Methods

To test the hypotheses presented in the theoretical background, Tobit method was considered the best one to be adopted. Specifically, due to the fact that we have a cross section sample and a double censored dependent variable, regressions were applied at the firm level using the STATA15 program.

The Tobit model adopted herein can be summarised as follows:

$$CSP_i = Regulation_1 + Technology_1 + marketpressure_1 + Controlvariables_1 + \varepsilon_1$$

Before performing the Tobit regressions, and to validate the variables considered in the model, we used the stepwise regression using the STATA15 program (Shacham & Brauner, 2014; Sharma & Yu, 2015). By exploiting the stepwise construction of the program, we implicitly controlled for some relevant unobservable effects. Stepwise regression provides a new method to obtain fit regressions models in which the choice of predictive variables is carried out by an automatic procedure (Hocking, 1976). In each step, a variable is considered for adding to or subtracting from the set of explanatory variables based on some pre-specified criterion. After applying this method, some independent and control variables were dropped automatically by the

program because they have multicollinearity problems. Particularly *innovation* and *prosperity* among the independent variables and *environment focus* and *education* from the controls were dropped. Additionally, Wald tests were carried out to analyse the explanatory power of the variables considered in each model. Moreover, as a robustness check we also consider three different methods. Specifically, we transformed our dependent variable as a dummy and we employ Logit and Probit methods. In addition, as we have variables from different levels of analysis (country and firm) we added a multilevel method to reinforce our results (see paragraph 4.1).

4. Results

Table 5 summarises the results of the OLS regressions. The first model (M1) presents the influence of the first group of control variables considered. In particular, we considered all the firm control variables. Our results show that three of five variables included in the study exerted a positive and significant influence on CSP. The second model (M2) includes the control variables at country level. In this case, just social interaction is positive and significant. Thirdly, the model (M3) summarises the results of the OLS regression using all independent and control variables. According to these results, we can confirm the negative and significant influence of regulation on CSP (β = -15.719, $p < .01$). Based on this result, we cannot support our first hypothesis. Indeed, the results support that high bureaucracy and regulatory pressure (*regulation)* negatively affect a firm's sustainability outcome. That is, a strong regulation and a more bureaucratic approach to enforce it might dissuade firms to do social and environmental activities, thus obtaining less social outcome or CSP. With respect to the debate exploring to what extent legislation may guide or obstacle CSR activities, this evidence is consistent with the view that institutional voids and corporate social performance might be positive related (El Ghoul et al., 2017). While this results contradicts the majority of literature that focused on environmental innovation (del Río, Peñasco, & Romero-Jordán, 2016; see e.g. the results of the reviewes by Ghisetti & Pontoni, 2015; Pacheco et al., 2017) it is important to notice that those studies focused on specific forms of regulation or subsidies, which focused just on the environmental pillar of sustainability, whereas our analysis

investigate a more holistic approach to sustainability and focuses on the effectiveness of the regulatory system rather than on some of its specific measures.

By contrast, the results confirm the positive and significant influence of innovation capacities (*technology*) ($\beta = 3.952$, $p < .1$) and market pressure (*ethics*) ($\beta = 12.272$, $p < .01$), as posited in hypotheses 2 and 3, respectively. Such results are in line with the literature focusing on the impacts of such variables on environmental innovation (EI) propensity and performance at the firms' level. Indeed, the meta-analysis of the empirical literature by Zubeltzu-Jaka, Erauskin-Tolosa, & Heras-Saizarbitoria (2018) reports that the "technology push" and "market pull" factor have the strongest positive effect on EI activities at the firms level, among the three considered in Rennings (2000) model. Advanced technological environments favour firms to implement sustainability-related initiatives and provide a better context for socially committed firms, in line with (Lozano & Gutiérrez, 2008; Thiam et al., 2001). Having the intention to provide a positive impact on society is not enough; having the capabilities needed to change the firm's processes and products accordingly is necessary to have it realized. Being located in a country where important innovation capabilities are present – in terms of presence of innovative firms but also of institutions which might support firm's innovation – represent indeed an additional significant element, with respect to what has been investigated in the literature of CSP. Such a result is particularly significant also considering recent result comparing country characteristics and CSR reporting (Rosati & Faria, 2019), where such a relationship has been found to be non-significant – technological orientation of the country might not impact the higher probability of reporting on CSR but is indeed reporting on the ability to modify products and processes so to achieve higher CSP.

The positive influence of *market pressure* (ethics) on CSP suggest that consumers and society at large might encourage firms to be more social, thus increasing their CSP. This confirms previous studies considering the role of demand and more in general of social pressures to the firm's behaviour (Berrone et al., 2013). Following Kammerer (2009), we might expect such role to play particularly strong for firms on which customers might expect direct and largest private social or environmental benefits (e.g., cost savings, better health conditions,….). Furthermore,

the geography of markets might be important to consider too. While firms might be active in more than one market, pressures from their home-markets plays a key role, especially if based in a developed country setting – an evidence which recalls results achieved at the firm level by Chiarvesio, De Marchi, & Di Maria (2015).

The analysis of the firm-level control variables supports that focusing on community (*community focus*) ($\beta = 6.785$, $p < .01$) is associated with higher levels of CSP. Additionally, having a stronger-than-the-industry-average focus on workers, in terms of activities aimed at improving their wellbeing (*worker focus*) ($\beta = 3.371$, $p < .05$) and in terms of accountability and transparency (*governance focus*) ($\beta = 3.231$, $p < .05$) are positively and significantly connected with higher level of CSP. Social initiatives developed by the firms with employees and governance usually increase social performance due to the level of direct engagement of workers. Interestingly, this is not the case, however, when it comes to having important results regarding environmental sustainability. Finally, the variable *size*, being a proxy for the resources and capabilities firms can devote to develop actions to achieve higher CSP is not significant, neither in model M3 neither in model M4. While the majority of studies expect size to have a positive impact, the non-significance of this proxy is not an exception in the empirical literature, as emerges from the literature review on the determinants of environmental innovations by del Río, Peñasco, & Romero-Jordán (2016). While a larger availability of resources is supportive of higher (environmental) innovation performance, there is quite some evidence on small and medium sized firms being champions of sustainability (Noci & Verganti, 1999; Pacheco et al., 2017). We therefore interpret the non-significance of this coefficient with the fact that strategy, rather than structural characteristics, might be effective in explaining the effort of the firm toward the achievement of sustainable development goals, in line with (Chiarvesio et al., 2015).

As for the country level controls, our findings show the positive and significant influence of *pollution* ($\beta = 0.325$, $p < .01$). From this viewpoint, the highest pollution levels in a country, the stronger the interest for firms to pursue highest CSP, in an effort to compensate the bad local conditions. If we assume that higher pollution drivers higher awareness about sustainability in a country, this might indeed support both entrepreneurs to feel more pressure to increase their CSP

and local stakeholder to exert additional pressure to firms to reduce such problematic, a view that is coherent with the results by Huang, Wu, & Gaya (2017).

Additionally, *social interactions* ($\beta = 1.213$, $p < .01$) has a positive and significant influence on CSP. Countries where the population perceive a higher sense of community are more likely to have greater CSP performance; we interpret this result as the evidence that firms working in those contexts might share the same community-oriented approach or might experience a higher appreciation for the sustainable effort implemented.

Insert table 5 about here

4.1. Robustness analyses

We controlled for the robustness of our results in several ways. First, we used another proxy for our firm-control variable. We considered four firm-control dummy variables as previously (section 3.2.3. Firm control variables) but computed in a different way. In this sense, we consider that these outcomes take into account the focus outcome of the other firms from all the certificated B Corps firms for the period 2013-2018. Our results confirm all the main effects with similar same coefficients and significance. Second, we used a different specification of the industry classification in order to identify the firm's level control variables reporting the *environmental, workers, community* and *governance focus.* In particular, we split the group 'multiple sector', i.e. companies that are engaging in different sectors, assigning them to the prevalent sector (as for our understanding, based on the information of the company that are public). Again, results were consistent with those reported.

Third, we repeated our estimations using logit and probit method (Table 6). To use these types of method, we divided our sample in two parts to generate a dummy dependent variable. Our new dependent variable took a value of 1 when the firm has a BIA greater than the mean of the sample and '0' otherwise. The results obtained confirm the same relationships for all the independent variables. The regulations also have a negative and significant influence on CSP for logit (*CSP*) ($\beta = -0.666$, $p < .01$) and for probit ($\beta = -0.666$, $p < .01$); innovation capacity (*technology*) exerts a greater influence on CSP according to logit ($\beta = 0.223$, $p < .01$) and probit

(β = 0.228, $p < .01$) method than with the OLS method; and market pressure (*ethics*) has a positive and significant influence on CSP according to logit (β = 0.439, $p < .01$; β = 0.042, $p < .01$) and probit method (β = 0.435, $p < .01$; β = 0.042, $p < .05$). According to our control variables, we confirm the influence of two control variables at the firms' level (*workers focus* and *community focus*) and two control variables at the country level (*pollution* and *social interactions*).

Insert table 6 about here

Fourth, due to the fact that in the study we considered some variables at firm and at country level, multilevel model can be another appropriate method. Specifically, we used the same main dependent variable than in the OLS Tobit method (Table 5) but in this case we repeated our estimations using a multilevel tobit method (Table 7), using the Stata 15.0 program. This method allows considering the variance at more than one level. Moreover, it enables the measurement of the overall explanatory power of country level-parameters in comparison to the firm-level (Grauel & Gotthardt, 2016; Hox, 2010)). In Table 7 we perform the same analysis provided with the Tobit model (Table 5) but using this new method. The falling values for Log Likelihood, Akaike (AIC) and the Bayesian Information Criteria (BIC) indicate that model fit increases significantly as new variables on both levels are entered. Also, although the coefficients of all the variables considered in the study have changed, we confirm the same relationships proposed in the hypotheses above. Overall, this analysis supports that the evidence discussed in the text are robust even if considering for different methods.

5. Conclusions

This paper presents an original analysis of the effect of country-level drivers on CSP, supporting the literature claiming that the CSP of a company is influenced by the environment in which it is embedded (Jackson & Apostolakou, 2010; Luxmore et al., 2018; Orlitzky et al., 2017). Adopting the framework on antecedents of environmental innovations (Rennings, 2000) to the country level, we explored how regulation, innovation capacity and market pressure shapes a firm's CSP on the grounds of B Corps. This analysis is particularly relevant in light of the fact

that our sample includes also small and private firms, other than the large public companies investigated in previous literature (El Ghoul et al., 2017; Ioannou & Serafeim, 2012; Luxmore et al., 2018; Orlitzky et al., 2017). Our empirical results report that specifically the presence of technological and innovation capacities and of demanding, conscious customers are important country-level factors supporting higher sustainability performance at the corporate level. This result highlights that CSR strategy and firm' social behaviours benefit from vibrant technological environments (Thiam et al., 2001), an element that the literature exploring country determinants of firms' CSP has not yet investigated. The effort towards the society and the environment is coupled with firm innovation paths and should not be considered independent from profit goals and a firm's value or how a firm relies on innovation in the more established perspective (Luo & Bhattacharya, 2006). This result reporting the significant influence of market pressure is consistent with studies affirming a positive impact of market and customers on the eco-innovation processes (Berrone et al., 2013) and supports previous results claiming that firms engaging in higher-income markets – those connected to higher ethical consumerisms – have a higher CSP (Leonidou et al., 2013; Luxmore et al., 2018). In the case of B Corps, being embedded in a context favouring higher CSR achievements, the focus of B Corps on the community as drivers for a higher CSP additionally confirm the importance of the firm's connection with the external environment.

From a policymaker's perspective, the results suggest adopting a broader view of the impacts of policy activity on firms' CSP. Indeed, regulation has a negative impact on CSP, suggesting that it has a detrimental role in supporting firms to achieve higher results in terms of CSP. However, this result should not be interpreted as evidence that the diffusion of B Corps is not supported by policy actions because we focus on performance rather than diffusion. Rather, our results support that a higher focus on CSR elements – that is a higher CSP – might counterbalance the weak regulatory environment in which they are embedded. Such results support studies that suggest a potential complementarity between the role of the firms and that of the government in achieving social and environmental goals, where the former can achieve public goals in cases of 'institutional voids' (El Ghoul et al., 2017; Jackson & Apostolakou, 2010). Such evidence opens

relevant issues from a policymaking viewpoint, because it suggests that a stronger (public) regulatory environment might reduce the (private) incentive for firms to boost their CSR activities. If willing to achieve the highest environmental and social results, having a larger number of companies leading in terms of CSP, policymakers should reflect thoroughly on which forms of policies and interventions might be apt to avoid this 'substitution' effect from taking place. From a policy viewpoint, results on the importance of the technological capabilities are also very relevant as they suggest that actions oriented to increase social performance of companies should not focus (just) on improving regulation specifically aimed at improving environmental and social conditions. Policies aimed at improving the innovation capacity of a country, might have a double outcome to support the economic development but also to become a powerful stimulus for higher social and environmental results. Such policies might include also the support toward universities, so that they can represent a stimulus for local innovation; in the realm of environmental innovation in particular, collaboration with universities proved to be particularly important and effective (Cuerva, Triguero-Cano, & Córcoles, 2014; De Marchi & Grandinetti, 2013).

Results entails also important managerial implications. Firms interested in achieving a higher CSP – to increase benefits for the society and the environment – should carefully evaluate where to locate, to ensure local conditions can support its CSP. For practitioners the implications of our study are linked to the identification of the main institutional constraints and leverages that lead to a high CSP, to consequently develop organizational solutions and strategies to overcome country limitations and exploit positive institutional factors, managing to take advantage of the knowledge or technological spillovers which might be present in the country. In this respect, firms in developed, advanced countries – especially European countries – are favoured over firms in countries with lower technological capacity, despite internal differences. Second, ethical consumption and market pressure at the country of origin push firms to strongly commit toward improving their performance. Through its behaviour and offering, the firm has not only to conceive and manage its products to cope with market requests, but it also has to better serve the society and the environment in which those customers are located.

As for the theoretical implications, our research further expands the literature on CSR and on CSP in particular by explicitly including the innovation perspective to explore sustainability and its drivers, besides the institutional framework. Our results support that the framework of the antecedents of environmental innovation might be an effective lens to understand country-level factors that support firm's CSP. The consideration of the innovation and technological capabilities, which follow the recognition that CSR can be approached as an innovative practice (Brugmann & Prahalad, 2007), is a particular important theoretical contribution to the literature on institutional dynamics and their relationships with sustainability performance. Moreover, the study enhances the emerging literature on B Corps (Honeyman, 2014; Stubbs, 2017b), considering country-level factors that might support them to achieve higher performance. Owing to their role of promotion of shared goals and public benefit, B Corps are interpreted as hybrid or grey sector organizations (André, 2012), economic actors that further enhance the achievement of public goals (Vaughan & Arsneault, 2018) or even solve the limits of the institutional setting with their specific actions (Jackson & Apostolakou, 2010). The empirical research presented in this paper might provide interesting insight to such an emerging literature, suggesting the importance to consider for the country-setting.

As the focus of this study on European countries could be seen as a limitation of the study, further research should address more specifically the international dimensions of the drivers considered, taking into account countries beyond Europe. Also, based on the relevance of B Corps in USA, it could be interesting to compare European and American firms. Further investigation is needed also in relation to the influence of being B Corps and practice CSR strategies, in general, to other firms in the same country, to better explore imitation or mimic processes. Finally, limitations of the study refer to the measure of CSP adopted in B Corps and the lack of information about the corporate governance of B Corps which sometimes prioritise profit strategies over other types of social initiatives and the lack of economic and financial information hamper to analyse the impact on CSP. More in general, focusing on B Corps can capture the phenomenon investigated within a specific groups of firms that adopt a voluntary certification, while further research should also consider other measures of sustainability internationally adopted by firms

(i.e. GRI Standards) , to include in the analysis alternative strategies to seize and communicate sustainability results.

6. References

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Table 1. Country-Firm distribution and B Impact Assessment (CSP)

Country	Firms	B Impact Assessment
France	52	93,50
Germany	21	93,09
Italy	66	90,58
Netherlands	47	97,13
Portugal	9	91,11
Spain	34	92,32
Switzerland	17	94,17
United Kingdom	141	92,63
Total	387	92,97

Table 2. Sector-Firm distribution

Sector	Firms	Sector	Firms
Multi-sector	55	Equity investor developed markets	7
Food & beverage	38	Agricultural services	7
Management and financial consulting	33	Machinery & equipment	7
Sustainability consulting	29	Architecture/design/planning	6
IT software & services/web design	26	Industrial manufacturing	6
Marketing & communications services	21	Research & design	6
Education & training services	18	Hospitality	5
Home & personal care	16	Credit provider	4
Renewable energy generation & install	15	Legal	4
Nonprofit consulting & fundraising	14	Electronics	4
Investment advisor	9	Film & music production	4
Office products & printing	9	Online community	4
Apparel footwear & accessories	8	Growers	3
Healthcare providers	8	Real estate development	3
Insurance	8	Pharmaceuticals & supplies	2
HR consulting & recruiting	7	Rental services	1

Table 3. Summary statistics

Variable	N	Mean	Standard Deviation	Min.	Max.
Dependent variable					
CSP	387	92,97	13,51	80	149
Independent variables					
Regulation	387	4,05	1,03	2,12	5,47
Technology	387	5,58	0,95	3,50	6,41
Innovation	387	4,72	0,62	3,69	5,80
Ethics	387	4,68	1,08	2,77	5,96
Prosperity	387	26541,17	2624,80	18806	35952
Control variables (firm's level)					
Size	371	2.79	1.39	0	10.88
Environmental focus	387	0,42	0,49	0	1
Workers focus	387	0,43	0,49	0	1
Community focus	387	0,41	0,49	0	1
Governance focus	387	0,43	0,49	0	1
Control variables (country's level)					
Education	387	70,49	11,16	32	88
Pollution	387	17,03	5,76	10	30
Social interactions	387	92,07	2,49	85	96

Table 4. Correlation matrix[a]

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	CSP	1													
2	Regulation	0,08	1												
3	Technology	0,06	0,09**	1											
4	Innovation	0,07	0,09***	0,78***	1										
5	Ethics	0,09*	0,09***	0,08**	0,94***	1									
6	Prosperity	0,001	0,50***	0,38***	0,74***	0,54***	1								
7	Size	0.05	0.14***	0.16***	0.11**	0.14***	0.03	1							
8	Environmental focus	0,01	-0,01	-0,01	0,02	0,00	0,04	0.06	1						
9	Workers focus	0,08	-0,02	0,00	0,01	-0,01	0,11**	0.21***	-0,07	1					
10	Community focus	0,26***	-0,02	-0,03	0,01	-0,00	0,00	-0.15***	-0,02	-0,03	1				
11	Governance focus	0,134***	0,03	0,03	-0,03	0,00	-0,01	0.02	0,02	-0,08	-0,14***	1			
12	Education	0,05	0,84***	0,71***	0,91***	0,83***	0,80***	0.05	0,09*	0,02	0,08*	0,08*	1		
13	Pollution	0,07	-0,23***	-0,35***	-0,18***	-0,22***	-0,26***	0.07	0,37***	0,02	0,06	-0,01	-0,01	1	
14	Social interactions	0,16***	0,36***	0,32***	0,20***	0,28***	0,11**	0.01	-0,06	-0,08	-0,17**	0,08*	-0,00	-0,36***	1

[a]n=387. *** p<0.01, ** p<0.05, * p<0.1

Table 5. Results of OLS regression[a]

Variable	M1	M2	M3
Regulation			-15.719***
Technology			3.952*
Ethics			12.272***
Size	0.655		0.263
Environmental focus	0.855		1.239
Workers focus	3.111**		3.371**
Community focus	7.729***		6.785***
Governance focus	3.222**		3.232**
Pollution		0.184	0.326**
Social interactions		0.904***	1.213***
Observations (firms)	371	387	371
F	8.72***	6.44***	6.80***
R^2	0.11	0.03	0.16
Wald test	7.42***	6.40***	6.47***

[a]n=387. DV: CSP. *** p<0.01, ** p<0.05, * p<0.1

Table 6. Main results with Logit and Probit[a]

Variables	M4. Logit	M5. Marginal effects	M6. Probit	M7. Marginal effects
Regulations	-3.547***	-0.707***	-2.136***	-0.708***
Technology	1.121***	0.240***	0.741***	0.246***
Ethics	2.343***	0.467***	1.397***	0.463***
Size	-0.045	-0.009	-0.027	-0.009
Environmental focus	0.319	0.063	0.193	0.064
Workers focus	0.843***	0.168***	0.508***	0.168***
Community focus	1.062***	0.212***	0.650***	0.215***
Governance focus	0.351	0.069	0.198	0.066
Pollution	0.050**	0.009**	0.031**	0.010**
Social interactions	0.216***	0.043***	0.129***	0.043**
Observations/Firms	371		371	
LR chi2	56.66***		56.74***	
R2	0.12		0.12	

[a]n=387. DV: CSP, a dummy variable that takes 1 when B Impact Assessment is greater than the mean and 0 on the contrary. *** p<0.01, ** p<0.05, * p<0.1

Table 7. Results of Tobit Multilevel model[a]

Variable	M1	M2	M3
Regulation			-16.455***
Technology			4.517*
Ethics			12.615***
Size	0.641		0.203
Environmental focus	0.847		1.263
Workers focus	3.229**		3.499**
Community focus	8.052***		7.077***
Governance focus	3.532**		3.232**
Pollution		0.167	0.331**
Social interactions		1.053***	1.278***
Observations (firms)	371	387	371
Log Likelihoood	-1405.295	-1477.526	-1394.679
AIC	2824.591	2965.052	2813.358
BIC	2852.005	2984.844	2860.352
Wald test	42.42***	10.73***	66.75***

[a]n=387. DV: CSP. *** p<0.01, ** p<0.05, * p<0.1