

The circular path of social sustainability: An empirical analysis

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ABSTRACT

The sustainable human resource management literature provides arguments linking the social sustainability dimensions of business and society, suggesting a circular or two-way relationship between them. The norm of reciprocity builds social sustainability by increasing trust and cooperation in any group of people and explains this complex relationship. In this study, we test the connection between society—poverty and inequality—and business—human resource investment strategy—using a large longitudinal data set with six time points. Findings showed that past poverty negatively contributes to a later human resource investment strategy and vice versa. This mutual relationship configures a positive feedback loop where environmental social sustainability and organizational social sustainability enhance each other. Results also show that a human resource investment strategy negatively affects income inequality, revealing that corporate decisions on social sustainability can affect social sustainability in society.

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1. Introduction

Reducing countries' poverty and income inequality are two of the priority objectives of the 2030 Agenda for Sustainable Development, approved on September 25, 2015 by the General Assembly of the United Nations (UN). Poverty refers to the deprivation or shortage of resources that jeopardizes individuals' well-being (Bourguignon, 2004; Cobb, 2016). Poverty is manifested as the denial of the most fundamental opportunities and options for human development. Inequality refers to the disparity in the distribution of income among members of a society, which allows one group certain opportunities for human development while denying them to another (Cobb, 2016). Although the two concepts represent different and pernicious facets of the human or social dimension of a society's sustainable development (Florea et al., 2013; Hutchins and Sutherland, 2008; Rogers et al., 2012; Sharma and Ruud, 2003), they have received scarce attention in the sustainability literature, which mainly focuses on examining the physical or ecological dimensions of sustainability (Ajmal et al., 2018; Athanasopoulou and Selsky, 2015; Hughes et al., 2017; Pfeffer, 2010; Sharma and Ruud, 2003).

Despite the positive proposals from the UN, poverty and income inequality in developed countries, particularly among their different regions, have increased in recent years due to the

economic crisis that began in 2008 (Cobb and Stevens, 2017; Jiang and Probst, 2017; Piacentini, 2014). The level and disparity of the income of the population in the geographic area in which an organization is located provides the context for the processes of social exchange between people. This circumstance therefore affects the organizational behavior of the companies located in that area and, at the same time, because employees and the organizations interact with other people and agents in that territory, organizational behavior can contribute to the socio-economic development of that region (Leana and Meuris, 2015). In other words, there is a bilateral or two-way relationship between society and business. Consequently, organizational research is needed to introduce the environment's socio-economic characteristics into the management debate (Bapuji, 2015; Cobb, 2016; Cobb and Stevens, 2017; Leana and Meuris, 2015), especially in the area of human resources management, which represents the social dimension of organizational sustainability (Hughes et al., 2017; Pfeffer, 2010).

The marginalization and interpretative flexibility of social sustainability means that there is still no clear definition of this concept and its components, which suggests it should be understood as a framework that can be used to communicate, make decisions, and assess progress (Boström, 2012; Broman and Robèrt, 2017; Peterson, 2016). This frame can be dynamic over time and encompass a variety of elements in different areas and identify how they can mutually influence one other (Peterson, 2016), including clearly defined ideas about what kinds of social values to promote (Boström, 2012). A common denominator of many investigations

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has been to highlight some essential ethical values, such as equity, trust, cooperation, justice, and fairness, as the heart of social sustainability (e.g., Ajmal et al., 2018; Boström, 2012; Čiegis et al., 2008; Jabbour and de Sousa Jabbour, 2016; Peterson, 2016). In this regard, a group of researchers working within the project “Framework for Strategic Sustainable Development” (Broman and Robèrt, 2017; Missimer et al., 2017a, 2017b) identify trust as the central ethical value of social sustainability, and therefore, understanding how trust is built is key to maintaining social sustainability. To this end it is necessary to examine the mechanisms that hinder (or favor) social sustainability and the possible interrelationship between them over time. Given that social sustainability has normally been examined at the societal and organizational levels (e.g., Ajmal et al., 2018; Missimer et al., 2017b), it is especially important to study the potential mutual effect between elements located in these two areas.

The sustainable human resource management (HRM) literature explicitly recognizes this relationship of interdependence between society and companies' human resource strategies (e.g., Ehnert et al., 2014, 2016; Jabbour and Santos, 2008; Kramar, 2014; Renwick et al., 2013). From this perspective, it is argued that the social dimension of society and the social dimension of the company influence and support each other, forming a circular relationship between them. However, most of the previous research is of a conceptual or merely exploratory nature (Ehnert et al., 2016; Macke and Genari, 2019) and this link has been recognized only at a theoretical level, thus creating a need for empirical studies to corroborate its existence (Ehnert et al., 2016; Mariappanadar, 2014; Renwick et al., 2013). The purpose of this study is to contribute to bridging this gap by focusing on the social dimension of sustainability and analyzing the potential existence of a bidirectional relationship between poverty and income inequality in a society, and the human resources strategy of the companies located in that society. In the societal setting, poverty and income inequality are related to lack of trust, and in the organizational sphere investment in human resources is associated with trust. Only through a better understanding of this relationship between business and society can we make progress on the path toward social sustainability (Hutchins and Sutherland, 2008). The empirical corroboration of this relationship would therefore represent a significant advance in the field of sustainable HRM.

From a methodological point of view, as a dynamic approach is necessary to examine the interdependence between society and business (Ehnert et al., 2014), we designed a longitudinal structural equation model that is capable of adequately representing a bidirectional causal relationship between two variables at different points in time (Little, 2013). More methodical and empirical efforts are required to further understanding of the cause-and-effect relationships between various social sustainability elements over time (Mesmer-Magnus et al., 2012; Rogers et al., 2012). Our empirical study is developed in the European context, specifically in Spain. As the European Commission underlines in its “ImPRovE” project,¹ sponsored by the European program “Horizon 2020”, Europe has not yet recovered from the economic crisis, which is generating high poverty and inequality in the populations of certain regions, and thus considerably increasing the disparities between different geographical areas (Kis and Gábos, 2015; Piacentini, 2014). Spain is an illustrative example of this circumstance, since the disparity between Spanish regions in terms of poverty and inequality is much greater than before the recent crisis

(Ayala and Jurado, 2015; Llano, 2017). This high divergence is a necessary condition in selecting a country as a territorial framework with the objective of examining the interrelation between society and business (Cobb and Stevens, 2017).

2. Theoretical framework

2.1. Social sustainability

In 1987, the UN World Commission on Environment and Development produced the Brundtland Report, which defined sustainability as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. In this report, sustainability refers to the ability to sustain three basic dimensions of a human system over time, namely, protection of the environment, economic growth, and social inclusion. These three pillars are generally assumed to be compatible and mutually supportive (Boström, 2012). Much of the debate on sustainability has been dominated by ecological and economic factors, so when the question of sustainable development is raised, the social dimension attracts less attention and, as a result, it is the least conceptually developed of the three pillars, because it is difficult to define and operationalize (Ajmal et al., 2018; Boström, 2012; Missimer et al., 2017a; Staniškieñė and Stankevičiūtė, 2018). This ambiguity is reflected in the wide range of definitions of social sustainability in the literature (Ajmal et al., 2018). Many of these definitions concur that social sustainability is a quality of a human system based on a series of values or essential ethical principles (e.g., fairness, trust, equity, justice, cooperation, engagement) that foster lasting conditions for human well-being, particularly for the most vulnerable individuals or groups (e.g., Ajmal et al., 2018; Boström, 2012; Hollander et al., 2016; Sharma and Ruud, 2003). In this sense, social sustainability is not about ensuring a comfortable life, but about satisfying the basic conditions necessary to prevent the human system from systematic degradation (Missimer et al., 2017a).

Missimer et al. (2017a, 2017b) observe social sustainability from the perspective of a social system and identify trust as the overriding value in a vital human system. “Trust is defined as an attitude that enables an agent to cope with situations of uncertainty and lack of control, by making themselves vulnerable based on positive expectations towards another agent, derived from the assessment of the trustworthiness of the trusted agent” (Missimer et al., 2017b, p. 46). As with all living systems, human social systems can be understood as complex adaptive systems, and trust is seen as a quality of the connections required to deal with the risk and uncertainty inherent in this complexity. Trust also allows the system to coordinate its adaptation, and generates collective action. It is not easy to conceive a sustainable social system without trust relationships, which are the basis of cooperative behavior and the ‘glue’ that connects the members of a social system, thus holding the system together. Social sustainability is about eliminating mechanisms that systematically degrade social trust (Missimer et al., 2017a, 2017b). Following this perspective in the societal context, some definitions of social sustainability propose eliminating these mechanisms. Thus, for example, the 2030 Agenda for Sustainable Development states that the eradication of poverty is an indispensable condition for achieving sustainable development, such that inclusive and equitable economic growth must be promoted to reduce inequalities between people. Impoverished and unequal societies are related to an absence of social trust (Haushofer and Fehr, 2014; Missimer et al., 2017b; Wilkinson and Pickett, 2010, 2017).

Within the business context, social trust is related to job security, health and safety, training and learning, wages that allow for a basic decent living, and professional growth (Missimer et al.,

¹ “Poverty Reduction in Europe: Social Policy and Innovation” (ImPRovE) is an international research project that brings together a broad network of researchers in a concerted effort to study poverty and social policy in Europe.

2017b). These core human resource management practices are in line with employee cooperation and involvement (Jabbour and de Sousa Jabbour, 2016) and with social exchange theory (Awan et al., 2018), which are extensively underlined in the social sustainability literature. Social exchange theory adheres to the rules of mutual commitment between members in an organization and is grounded in the cultural values of trust and fairness that support cooperative behavior, in such a way that the granting of a benefit creates the obligation to reciprocate (Cropanzano and Mitchell, 2005; Gouldner, 1960). Employee cooperation is a key component of social sustainability and helps to achieve the synergy effect of sharing experiences with colleagues, leading to members' involvement (Staniškienė and Stankevičiūtė, 2018). Grounded in social exchange theory and in the supply chain context, Awan et al.'s (2018) study suggests that social trust and cooperation are the basis for a relational governance in the buyer-supplier relationship, which is regulated by shared norms of reciprocity that give rise to obligations to promote mutual adjustment and joint action.

2.2. Sustainable HRM

As we explained above, the analysis of social sustainability leads us to observe society and organizations as intrinsically human entities, in which the attitudes and values that guide people's behavior drive the social transformations necessary to ensure human well-being. Some studies on sustainable HRM have dealt with the link between human resource management and the social dimension of sustainability, especially with regard to organizational social responsibility; therefore, the principles of social sustainability are embedded in sustainable HRM (Macke and Genari, 2019). Sustainable HRM implies social norms that contemplate the ethical principles of loyalty, trust, mutual commitment and equity in labor relations and, therefore, stimulate sustainable individual and organizational behavior (Athanasopoulou and Selsky, 2015; Gollan, 2005; Jabbour and Santos, 2008). In this regard, authors such as Florea et al. (2013), Hutchins and Sutherland (2008) and Renwick et al. (2013) agree that the social dimension of organizational sustainability is based on the “norm of reciprocity” (Gouldner, 1960), which holds that people should help those who helped them and, thus, those you have helped have an obligation to help you. According to Gouldner (1960), this moral principle contributes to the long-term maintenance of any stable social group. The social norm of reciprocity is therefore associated with the universal ethical values of trust and cooperation, embedded in the definition of sustainable development, and applicable both in the sphere of organizations and in society as a whole.

In a poor and unequal society, the values of cooperation and trust on which reciprocal behavior is based are weakened (Jiang and Probst, 2017; Leana and Meuris, 2015; Pitesa et al., 2017; Wilkinson and Pickett, 2010, 2017). Income inequality creates a more competitive and less cohesive social environment, and displaces us from social behavior characterized, at one extreme, by exchange and reciprocity, to social behavior characterized by individual interest and the dominant hierarchy. People are much more likely to feel that they can trust others in more equitable societies (Leana and Meuris, 2015). Similar to inequality, poverty is a precursor to the lack of trust among the members of a society (Pitesa et al., 2017). Those with scarce material resources (e.g., people who earn a minimum wage) and who may be below the poverty line established in a society have a lower capacity for trust, which in turn reduces reciprocity between members of a society. This decreased cooperation can cause social division, contribute to social stratification and reduce socio-economic opportunities for people of all social groups (Pitesa et al., 2017). In short, the social values of trust and inclusion integrated

into the concept of sustainable development are undermined in poor and unequal societies (Missimer et al., 2017b; Rogers et al., 2012; Sharma and Ruud, 2003).

In the organizational sphere, the norm of reciprocity is reflected in the implementation of a human resource (HR) investment strategy. Although the specific HR practices to be considered as part of such a strategy vary among studies, many researchers agree that three main HR practices reflect firms' investments in their employees, namely, competitive remuneration, training, and job security (e.g., Batt and Colvin, 2011; Miller and Lee, 2001; Roca-Puig et al., 2012, 2018; Roh and Kim, 2016; Subramony et al., 2008). These HR investments can be considered as inducements offered by the firm to its employees and are intended to send signals about high levels of employer commitment to all employees. Investing in employees is repaid in the form of employee commitment to the organization, and committed employees are more likely to engage in positive employee attitudes and extra-role behaviors (e.g., cooperation, trust, and organizational citizenship behaviors), creating what Mesmer-Magnus et al. (2012) term “a culture of citizenship and ethicality” (Miller and Lee, 2001; Subramony et al., 2008). HR investments contribute to more positive attitudes among employees in light of the norm of reciprocity premise. Authors such as Florea et al. (2013), Gollan (2005), Kramar (2014) and Zink (2014) recognize that sustainable HRM overlaps with a socially responsible human resource management in which the company's investments in improving its employees' well-being will be matched in the form of greater effort and motivation in their workplace, generating a social climate of trust and collaboration between the organization and employees that is sustainable in the long term. Sustainable organizations act in the expectation of receiving the benefit of taking employee well-being into consideration (Kobayashi et al., 2018).

The social context within which the norm of reciprocity develops is too complex to be contained in only one of these two spheres, thus further evidencing the integration of society and business. The sustainability values of trust and cooperation inherent in the norm of reciprocity that shape the social climate among a group of people, both a society and an organization, allow a connection between the environment and the business strategy, thus regulating the mutual influence between poverty and inequality, and HR investments. Athanasopoulou and Selsky (2015) explain that people are immersed simultaneously in two basic social contexts, namely, the organization in which they work and the society in which they live, and find it difficult to demarcate the two realities. For this reason, when a person develops an attitude of trust or a cooperative behavior in one of these two spheres, it inevitably transfers to the other. The respective social norms or ethical values developed in one area influences the other, tending in the long term to a significant correspondence. In other words, the values and behaviors of employees are shared by society and by the business.

Therefore, if employees are immersed in an impoverished and/or unequal socio-economic environment, they transfer the values of lack of confidence and reduced cooperation to their own work, limiting their involvement with the organization and hindering a social climate of collaboration in the company. Obviously, this anti-cooperative behavior makes it difficult to implement an HR investment strategy that promotes the development of ethical or positive values at the organizational level. In this sense, authors such as Bapuji (2015) and Leana and Meuris (2015) indicate that the community around an organization can influence the behavior of people within it and organizations might engage in less socially responsible behavior when they are located in a poor and/or unequal socio-economic environment.

In the reverse direction, the impact of HR practices on the social dimension of the environment is one of the basic points of the

sustainable HRM perspective (Ehnert et al., 2014; Mariappanadar, 2014). As Zink (2014) states, because people spend most of their time at work, this is the most appropriate place to learn and apply sustainability. Why should people act sustainably as citizens if they have never had the opportunity to do so as employees? Only people who work sustainably are able to prioritize and move toward social sustainability in society as a whole (Pfeffer, 2010). The development of positive values and attitudes in people increasingly depends on how they are treated as relevant and valued human resources at work. The HR investment strategy allows this set of human capacities, created in the workplace, to be externalized to the society in which the organization operates, thus counteracting the non-cooperative values generated by poverty and income inequality. Positive reciprocity between an organization and employees improves the organizational social climate and, ultimately, affects the welfare of society (Hutchins and Sutherland, 2008).

In addition, sustainable HRM adopts the general systems theory (Kast and Rosenzweig, 1972) and maintains that an organization is an open system in constant interaction with its environment, receiving its inputs from and returning its outputs to the environment (Athanasopoulou and Selsky, 2015; Jabbour and Santos, 2008; Kramar, 2014; Renwick et al., 2013). It is therefore a continuous flow of inputs and outputs that forms a feedback loop between the environment and the business that contributes to achieving a stable state of dynamic equilibrium between both spheres in the long term. This interactive process implies the recognition that society and business are interdependent (Ehnert et al., 2016; Kramar, 2014). If we apply this systemic approach to social sustainability, then ethical values and positive employee behaviors become the product (input/output) that flows between business and society. The features of society (i.e., poverty and inequality) and business (i.e., HR investment strategy) contribute to improve (or deteriorate) that product. While the HR investment strategy “produces” ethical values in organizations, poverty and income inequality “produce” unethical values in society. This input-output representation helps describe the social flow to/from business in response to changes in society (Hutchins and Sutherland, 2008).

In this way, a positive feedback process is set up between the social sustainability of society and business, where the greater the implementation of the HR investment strategy in organizations, the lower the poverty and income inequality of society, and vice versa. This circular relationship between society and business means that sustainable HRM develops mutually beneficial relationships for both entities and that, in turn, they regenerate over time (Ehnert et al., 2016). Thus, there is a positive two-way relationship between the social sustainability of society and the social sustainability of the organizations located within that society. This positive interdependence is expressed in our study in a negative sense, since we examine two characteristics that are contrary to a society's social sustainability—poverty and inequality—thus leading us to propose the following two hypotheses:

H1. There is a negative two-way relationship between the poverty in society and businesses' HR investment strategy

H2. There is a negative two-way relationship between the inequality in society and businesses' HR investment strategy

3. Methodology

3.1. Information sources and measures

To test the above hypotheses, data from two basic public information sources in Spain were used: 1) the Survey on Business Strategies (Encuesta sobre Estrategias Empresariales, ESEE)

prepared by the SEPI (Sociedad Estatal de Participaciones Industriales) Foundation, attached to the Ministry of Industry; and 2) the Living Conditions Survey (Encuesta de Condiciones de Vida, ECV), from which the National Institute of Statistics (Instituto Nacional de Estadística, INE) calculates the AROPE (At Risk of Poverty and/or Exclusion) index and the Gini coefficient for Spanish regions (i.e., autonomous communities). Spain is a quasi-federal country with extensively decentralized basic public services (health, education and social protection) in its 17 autonomous communities, corresponding to NUTS 2 level regions in Europe (Eurostat, 2015).²

The ESEE is an annual survey whose statistical population is the Spanish industrial firms with 10 or more workers. Firms are selected on the basis of a combination of exhaustiveness and random sampling criteria by the SEPI Foundation. The ESEE is a high-quality database representative of the Spanish context that provides information based on panel data, and sustains broad empirical economic research carried out by both the internal services of the Ministry of Industry and a growing number of researchers who request such data from the SEPI Foundation (SEPI Foundation, 2018). The SEPI Foundation is responsible for the survey's design and administration, and all information contained in the ESEE is subjected to quality controls and logical consistence.

The ECV is an annual survey whose statistical population is Spanish households. In the ECV, the incomes used to calculate the AROPE index and the Gini coefficient correspond to the previous year. Both indicators are used by the European Commission to measure, respectively, the degree of poverty and inequality of the regions in Europe (Kis and Gábor, 2015; Piacentini, 2014). We use the ECV data for the 2011–2016 period. These six years were selected mainly because in Europe (Piacentini, 2014), and particularly in Spain (Llano, 2017), the diversity of the regions in terms of poverty and inequality is greater during this period than before the crisis. Fig. 1 shows that there is no pattern of common evolution between Spanish regions. In addition, similarly to Cobb and Steven's (2017) analysis of the states in the USA, we chose the autonomous communities in Spain because the annual historical data of poverty and inequality for other subnational entities (e.g., provinces) are not available in the ECV.

We combine the annual data from the ECV and the ESEE in such a way that the unit of analysis is the company. This fusion entails identifying the region in which a firm performs its productive activity in order to assign it the corresponding AROPE and Gini indices for each of the six years analyzed. To do this, we only selected those companies located in a single autonomous community and that did not change their location during the period analyzed. Moreover, there is a time lag of one year between the ECV and the ESEE databases that must be adjusted. As noted above, income in the ECV data always corresponds to the previous year, while this is not the case for the ESEE, in which the annual data collected actually correspond to the year indicated. Therefore, for the data to be temporally consistent, we use the ESEE data corresponding to the 2010–2015 period and the ECV data for the years 2011–2016.

From the original ESEE sample for the 2010–2015 period, we removed firms with industrial premises located in more than one region and those that moved from one region to another during the period studied (184 firms). Additionally, as the SEPI Foundation (2018) suggests, we eliminated firms affected by takeovers, divisions or mergers (206 firms), all of which prevent data being

² Eurostat identifies the cities of Ceuta and Melilla as NUTS 2 territories, extending the Spanish regions to 19. However, the INE does not calculate the Gini coefficient for these two territories given the limited sample of population. Likewise, neither does ESEE include these two territories in its scope of study. Our study is therefore limited to analyzing organizations in the 17 autonomous communities.

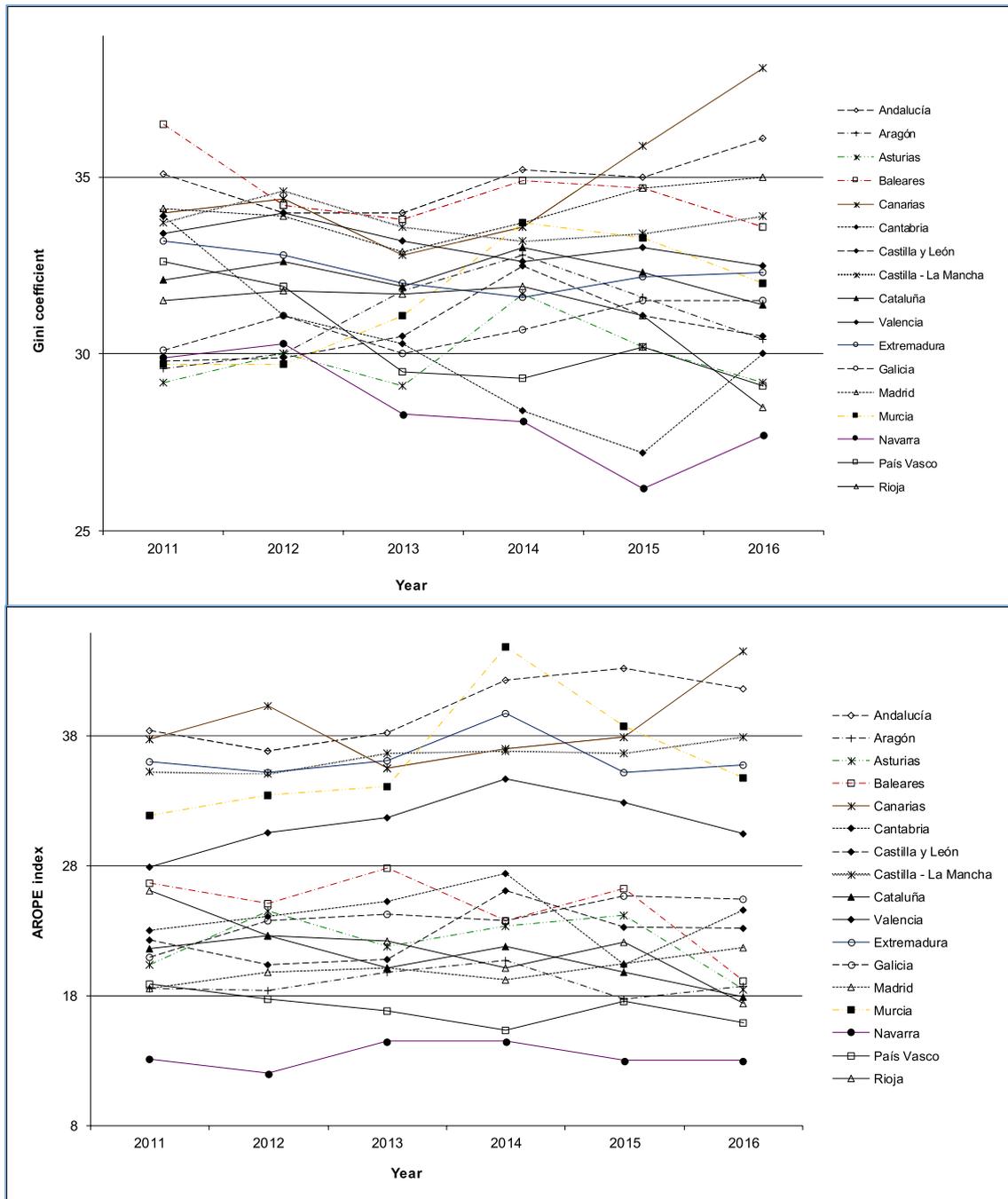


Fig. 1. Evolution of income inequality and poverty by autonomous communities. Source: INE

compared over time. The final sample (N) contained 2052 firms; their distribution by region is shown in Table 1. The cases eliminated in this debugging process are usually large companies, so the average organizational size of the original sample (185.38 employees) during the six-year period is reduced in the final sample to 112.80 employees.

With regard to the organizational variables, we use the measure devised by Roca-Puig et al. (2012, 2018), extracted from the ESEE, which comprises three of the HR practices (i.e., compensation level, training, and permanent work contracts) commonly used in previous studies to measure an HR investment strategy (e.g., Batt and Colvin, 2011; Roh and Kim, 2016; Subramony et al., 2008), and which are a manifestation of organizational commitment to

employees (Miller and Lee, 2001). An HR investment strategy is calculated as the arithmetic mean of the standardized values of employee compensation, training expenses and permanent contracts. The remuneration is calculated as the ratio between the labor cost and the total number of employees. In Spain, labor costs include wages and salaries, compensation fees, national insurance contributions, pension scheme payments and other social expenditures. The investment in training is calculated as the ratio between the training expense and the company's total number of employees. The proportion of permanent contracts is calculated as the percentage of employees with a fixed contract with respect to the total number of employees. In Spain, temporary work contracts are characterized by higher job insecurity and poorer working

Table 1
Distribution of the number of firms by autonomous communities.

Andalucía	197	9.6%
Aragón	69	3.4%
Asturias, Principado de	50	2.4%
Balears, Illes	27	1.3%
Canarias	29	1.4%
Cantabria	25	1.2%
Castilla y León	117	5.7%
Castilla - La Mancha	108	5.3%
Cataluña	450	21.9%
Comunitat Valenciana	290	14.1%
Extremadura	35	1.7%
Galicia	135	6.6%
Madrid, Comunidad de	209	10.2%
Murcia, Región de	65	3.2%
Navarra, Comunidad Foral de	69	3.4%
País Vasco	145	7.1%
Rioja, La	32	1.6%
Total	2052	100%

conditions than those of permanent work contracts. Finally, we introduce the organizational size and the capital intensity of the company as control variables that can affect the HR investment strategy. Following Huselid (1995), the organizational size is measured by the logarithm of the company's total number of employees, and the capital intensity is calculated as the logarithm of the ratio between the net fixed assets and the total number of employees.

3.2. Statistical procedure

Following Little (2013), we estimate a cross-lagged panel model using longitudinal structural equation modeling. Fig. 2 shows the autoregressive effects (causal relationships between the same variable over time) and the cross-effects (causal relationships between different variables over time) typical of this kind of longitudinal model. We propose a time lag of one year in these cross-lagged effects and, to ensure greater parsimony of the model, the magnitude of all these effects was constrained to be equal over

time. In longitudinal analysis, researchers often specify such constraints to facilitate interpretation of the results (Cole and Maxwell, 2003). We estimate one model for poverty and another similar model for inequality, since the complexity in the design of longitudinal analysis suggests their separate study. In addition, for various reasons, each year some firms disappear from the ESEE database and new firms are included, so during the six-year period analyzed there are incomplete cases. This situation is typical of longitudinal analysis, and as a result, the full-information maximum likelihood (FIML) procedure is recommended for estimating the parameters of the model, in order to take advantage of all the available information and to avoid bias in the estimated parameters that the elimination of incomplete cases (i.e., listwise deletion) could imply (Little, 2013). The two cross-lagged panel models (poverty and inequality) were estimated using FIML with EQS software (Bentler, 2006). In addition, robust standard errors were used to protect inferences from non-normality of the data (Shin et al., 2009). To assess fit of the model to the data, for each model we report the Yuan-Bentler scaled chi-square statistic (χ^2), the Bentler-Bonett non-normed fit index (BBNFI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR).

4. Results

With missing data, the FIML method computes the “imputed estimates of means and sample covariance matrix based on the structured model” and this can be used as matrix input to obtain the final structural model parameter estimates (Bentler, 2006). The appendix (Tables 1 and 2) shows these two matrices of data used to analyze the inequality and poverty models. Table 2 shows the non-standardized estimated parameters of the inequality and poverty models. Both models present an acceptable fit to the data, as attested by the goodness-of-fit indices (*Income inequality*: scaled $\chi^2_{(216)} = 2345.731$ $p = 0.000$; BBNFI = 0.939; CFI = 0.952; RMSEA = 0.069; SRMR = 0.038; *Poverty*: scaled $\chi^2_{(216)} = 1886.187$ $p = 0.000$; BBNFI = 0.958; CFI = 0.967; RMSEA = 0.061; SRMR = 0.028). As we can see, hypothesis 1 is confirmed since a

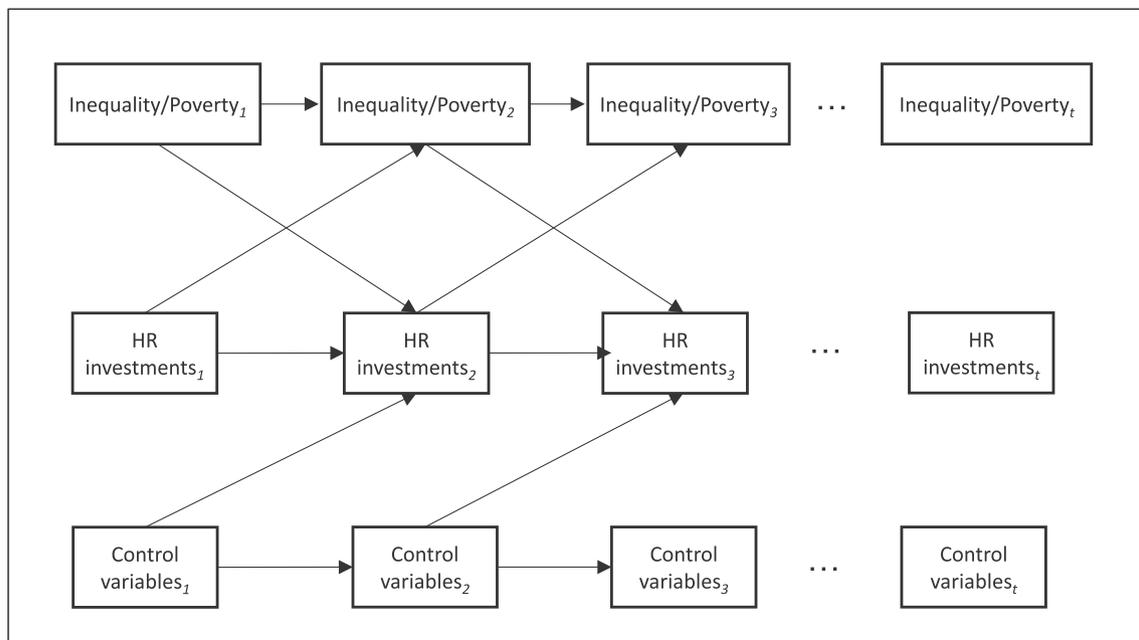


Fig. 2. Longitudinal structural equation model (t = 6).

Table 2
Results of longitudinal models¹.

Causal relationships	Parameter estimates
HR investment strategy $t \rightarrow$ Income inequality $t+1$	-0.068***
Income inequality $t \rightarrow$ HR investment strategy $t+1$	-0.002
Organizational size $t \rightarrow$ HR investment strategy $t+1$	0.068***
Capital intensity $t \rightarrow$ HR investment strategy $t+1$	0.025***
Income inequality $t \rightarrow$ Income inequality $t+1$	(0.783–1.065)***
HR investment strategy $t \rightarrow$ HR investment strategy $t+1$	(0.639–0.887)***
Organizational size $t \rightarrow$ Organizational size $t+1$	(1.002–1.012)***
Capital intensity $t \rightarrow$ Capital intensity $t+1$	(0.934–0.980)***
HR investment strategy $t \rightarrow$ Poverty $t+1$	-0.185***
Poverty $t \rightarrow$ HR investment strategy $t+1$	-0.005***
Organizational size $t \rightarrow$ HR investment strategy $t+1$	0.066***
Capital intensity $t \rightarrow$ HR investment strategy $t+1$	0.035***
Poverty $t \rightarrow$ Poverty $t+1$	(0.933–1.164)***
HR investment strategy $t \rightarrow$ HR investment strategy $t+1$	(0.623–0.873)***
Organizational size $t \rightarrow$ Organizational size $t+1$	(1.002–1.011)***
Capital intensity $t \rightarrow$ Capital intensity $t+1$	(0.933–0.980)***

¹ **Note.** Autoregression coefficients are not equal over time and therefore the range of variation (minimum - maximum) reached during the six-year period is shown in parenthesis. $N = 2052$. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

negative two-way causal relationship between poverty and the HR investment strategy is manifested over time (Poverty $_t \rightarrow$ HR investment strategy $t+1$: -0,005; HR investment strategy $_t \rightarrow$ Poverty $t+1$: -0,185). In contrast, the results do not support hypothesis 2. Although it is evident that HR investment strategy has a negative and significant impact on inequality during the analyzed period (HR investment strategy $_t \rightarrow$ Income inequality $t+1$: -0,068), the reverse negative effect is not significant (Income inequality $_t \rightarrow$ HR investment strategy $t+1$: -0,002). Therefore, only one unidirectional causal relationship appears between these two variables.

5. Discussion and conclusions

Hutchins and Sutherland (2008) posit that indicators on the economic resources available to a family (i.e., poverty and inequality) may be linked to firm actions (i.e., HR investment strategy). The sustainable HRM approach emphasizes and develops this idea by defending a mutual influence between these two dimensions of social sustainability. From this theoretical approach, we empirically analyzed the presence of a negative two-way relationship between them over time. Our results partially support this proposition. We find that poverty and HR investment strategy influence each other, such that one of them is the cause and effect of the other at different moments of time, establishing a circular relationship. In contrast, the HR investment strategy is identified as a cause of income inequality, but income inequality is not confirmed as an explanatory factor of the HR investment strategy. These results validate the important role of companies, particularly their human resource management strategy, in achieving sustainable development of society, given that the HR investment strategy reduces both poverty and inequality in society. Therefore, as Cobb (2016) and Pfeffer (2010) postulate, in addition to the macroeconomic characteristics (e.g., technological progress, globalization) that have usually been identified as causing society to develop sustainably, human resource management emerges as another significant explanatory factor at the microeconomic level. Individual corporate decisions on social sustainability can affect the social sustainability of society (Hutchins and Sutherland, 2008).

5.1. Theoretical and practical implications

Authors such as Mesmer-Magnus et al. (2012), Rogers et al. (2012) and Athanopoulou and Selsky (2015) claim that social

sustainability is immersed in different areas of analysis (i.e., society and business), and that they are inherently associated. We recognize the norm of reciprocity, which regulates socio-economic exchanges and collaborative behavior among members of a group, as a basic value of social sustainability that acts as an underlying driver of social sustainability which can bridge the gap between organizational sustainability and environmental sustainability and explain a circular relationship between society and business (Florea et al., 2013; Mesmer-Magnus et al., 2012). Any variation in the degree of implementation of this social principle in either of these two areas will produce a significant variation in the same direction in the other.

This circular relationship draws a positive feedback loop that reinforces itself over time, where inputs produce more outputs, which in turn produce more inputs. The presence of a feedback loop constitutes a distinctive feature of the general system theory, adopted by the sustainable HRM literature (e.g., Kramar, 2014). Organizational social sustainability and societal social sustainability are mutually reinforcing (weakening) through this dynamic process. An improvement (decline) of the societal social sustainability at a moment in time (t) will produce an increase (reduction) in the organizational social sustainability in the future ($t + 1$), which in turn will subsequently ($t + 2$) cause an improvement (decline) in societal social sustainability. A similar feedback loop will occur if the organizational social sustainability is improved (deteriorated) at a moment of time (t). Therefore, this “spiral of social sustainability” can lead to a virtuous (vicious) circle that is not easily modified because it is consolidated over time. Recently, poverty and inequality have increased considerably in most developed countries (Cobb, 2016; Piacentini, 2014), particularly in Spain (Llano, 2017). We may therefore be witnessing the birth of a vicious circle between society (i.e., poverty) and business (i.e., HR investment strategy) in the Spanish context. It will take a powerful external force to alter the direction of this interactive process.

Public institutions, especially regional governments, could be this external agent, given that they have sufficient capacity to significantly influence social sustainability. In the societal sphere, they can encourage social assistance to reduce poverty and inequality. In the field of the business, they can promote the HR investment strategy in firms, through reforms in labor legislation or the creation of tax reductions and advantages when public administrations contract firms that implement and improve this HR strategy. As Sharma and Ruud (2003) argue, promoting sustainable development requires governments to incorporate the social principles of trust, justice and cooperation into the design of public policies that encourage companies to develop more sustainable strategies.

Likewise, organizations must assume their social responsibility in the form of greater investment in employees, since if the company does not accept this role it will harm society, which in turn will incur a social cost in terms of less social inclusion (Cobb, 2016; Cobb and Stevens, 2017; Pfeffer, 2010). Our results provide empirical evidence to corroborate this statement. Few studies have examined the broader impact of employers' choices about how to structure employment relations (Cobb and Stevens, 2017). An HR investment strategy that offers workers a competitive remuneration, stable employment with low turnover (i.e., permanent contracts) and that uses training extensively, reflects the organization's commitment to its workforce and contributes to generate an employment relationship of social exchange between employers and employees, building networks of trust and long-term collaboration between them (Batt and Colvin, 2011; Roca-Puig et al., 2018; Subramony et al., 2008). According to Cobb (2016), in regions where a higher proportion of employment is found in firms using this type of employment relationship, which he calls “organizational orientation”, income inequality will be lower. For example, because

many temporary work contracts are involuntary and often limit the number of hours employees can work, total labor income inequality is likely to increase as a result of these arrangements. In line with Cobb (2016), our results confirm that an organizational orientation of firms has a negative impact on societal rates of income inequality.

Moreover, due to the feedback loop between poverty and HR investment strategy, employers should be aware that this social cost, initially borne by society, will have a negative impact on the companies themselves in the long term, causing a “boomerang effect” in the form of less reciprocity and lack of trust among citizens, who will bring these negative attitudes and values to their own job, thus hindering the creation of a social climate of trust and cooperation in the company that, according to authors such as Subramony et al. (2008), Miller and Lee (2001), and Mesmer-Magnus et al. (2012), is a source of sustainable competitive advantage for companies. According to the 2030 Agenda for Sustainable Development, public institutions and private companies are all responsible for promoting social sustainability in their respective fields of action, given that their interdependence makes it necessary to work together toward the common goal of improving individuals’ well-being (Rogers et al., 2012).

Today the impact of business on the environment is more apparent and companies must address moral and social obligations effectively to protect both their interests and those of the environment. As our research shows, HRM practices are a key part of this process (Siyambalapatiya et al., 2018). Furthermore, the social sustainability dimension plays a significant role in the uptake of cleaner production. As Stone states (2000), cleaner production is not only about changing raw materials, processes and products, but also about changing corporate culture and people’s attitudes. In this sense, authors such as Jabbour et al. (2015), Jabbour and de Sousa Jabbour (2016), and Missimer et al. (2017a, 2017b) point out that HRM practices and social aspects are critical in creating a sustainable organizational culture, based on trust and cooperative values, which can help usher in more advanced environmental practices, such as green supply chains (Awan et al., 2018), sustainable product development (Gould et al., 2017), and the implementation of environmental management systems (Jabbour et al., 2015).

5.2. Limitations and future research

As noted at the start of this paper, the concept of social sustainability, and the indicators and tools used to measure it, are still unclear and underdeveloped (Ajmal et al., 2018; Staniškiene and Stankeviciute, 2018). We followed Hutchins and Sutherland’s (2008) approach to operationalize organizational social sustainability through a few representative and quantifiable indicators available from consistent public corporate databases (i.e., ESEE). In our case, these indicators operationalized an HR investment strategy, which promotes trust, employee cooperation and, ultimately, employee well-being. They provide a starting point to empirically examine the path of social sustainability between business and society over time. As longitudinal studies are complex and scarce in the HRM sustainability literature, our methodology may be a useful reference point for future research. The proposed model could be extended to compare regions in terms of their degree of industrialization or competitiveness to examine whether the circular social path works in the same way or reveals differences. The small number of regions in Spain precludes such a segmentation, which requires a larger number of regions for analysis, for example, by considering the geographical area of Europe and introducing multiple regions in different countries.

While much research has focused on sustainability to examine the ecological impact of business activity (e.g., consumption of

natural resources and energy) or to analyze the impact of sustainability practices on a company’s balance sheet, few studies have reflected on what sustainability means when dealing with people. The relevance of human resource management in developing a sustainable organization has often been marginalized. However, taking sustainability seriously as a business strategy soon or later leads us to human resource management (Ehnert et al., 2014). To redress this imbalance, we examined the social dimension rather than ecological and economic facets of sustainability. Future research could incorporate these dimensions to form a comprehensive sustainability framework (Peterson, 2016). For example, Liu et al. (2018) confirm the link between income inequality and environmental degradation; by introducing their environmental variable in our model, we could examine the indirect relationship, via income inequality, between HR investment and environmental pollution. Likewise, Rao et al. (2017) argue that climate change and climate policies influence poverty and income inequality in societies; in this case our model could be used to examine the indirect effect on companies of these ecological sustainable indicators through social sustainable indicators. The opportunities and challenges that the climate presents to organizations and how they respond to it have also recently been studied by Seles et al. (2018). In short, putting social sustainability at the center of the inquiry will undoubtedly enrich the sustainability literature.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jclepro.2018.12.078>.

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