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# Employee financial participation and corporate social and environmental performance: Evidence from European panel data

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**Abstract**

Compensation and benefit practices are mainly considered as instruments to align employee behaviour to an organization's strategic goals, such as economic outcomes. Going beyond this economic focus, this study examines whether and how employee financial participation, may drive corporate sustainability performance (CSP; i.e. social and environmental performance). We investigate the relationship between employee share ownership, stock option and profit-sharing plans, on the one hand, and CSP, on the other hand. In addition, we investigate the relationship between narrow-based employee share ownership plans (only eligible for top management) and broad-based employee share ownership plans (all employees eligible), on the one side, and CSP, on the other side. Using a unique European panel dataset, the results indicate that companies with (broad-based) employee share ownership plans portray higher CSP, while companies with profit-sharing plans exhibit lower CSP when there is no share ownership plan present. Also, the positive effect of broad-based

employee share ownership plans on CSP is magnified when the employees own a larger stake in the company. The results indicate that employee share ownership increases stakeholder orientation, strengthening the mutual interests of the organization and employees to long-term investments in terms of CSP, at the same time broadening their orientation to long-term external stakeholders' interests.

## 1 | INTRODUCTION

Compensation and benefit practices are considered instrumental in aligning employee behaviour to an organization's performance. While the majority of studies in this field have focused on economic organizational outcomes, such as profit or productivity (e.g. Prince et al., 2020), there is a call for a broader operationalization of performance in research on the human resource management (HRM) practices–performance relationship. Such research would include the triple bottom line of social, environmental and economic performance (Al-Swidi et al., 2021; Stahl et al., 2020). Earlier research concentrated mainly on the impact of chief executive officers' (CEOs') and top management's long- and short-term incentives of shares, stock option and profit-sharing on corporate sustainability performance (CSP, i.e. social and environmental performance) (e.g. Jouber, 2019; Velte, 2020). This earlier research focused less on the impact of these incentives policies for the workforce at large. However, scholarly literature in this field increasingly stresses the importance of explicitly recognizing the key role of employees as internal stakeholders and drivers for CSP (Al-Swidi et al., 2021; Park & Ghauri, 2015; Tran & Adomako, 2021).

In this study, we examine how the specific practice of employee financial participation (EFP), covering employee share ownership, stock option and profit-sharing plans, may be associated with social and environmental performance. We explore the relationship between different (combinations of) EFP plans and CSP. Regarding employee share ownership, we distinguish between two types of share ownership plans: narrow- (eligibility of share ownership for a limited group, mostly management only) and broad-based employee share ownership plans (all employees are eligible to participate). Next to eligibility, we also analyse the influence of stake of employee ownership held by employees in the case of broad-based ownership plans.

We contribute to the literature in five ways. First, we elaborate on the theoretical underpinnings of EFP practices. EFP practices are considered to be incentive practices to align the interests of employees with the interests of their company, especially concerning economic performance. These practices would suggest a negative contribution to social and environmental performance. However, EFP theories offer insights that may prove otherwise. We advance the literature on the relationship between HRM incentive practices and CSP by examining how EFP plans, through mechanisms, such as psychological ownership and long-term stakeholder orientation, may explain variation in CSP (i.e. social and environmental performance).

Second, companies are not restricted to implement only one type of EFP plan, and therefore, in reality, different types of these plans are combined. Different EFP plans differ in their effects on employee attitudes and behaviour regarding CSP. We investigate whether and how the different

EFP plans, and combinations of these plans, may have different associations with CSP and its components of social and environmental performance.

Third, this article builds on a seminal review of studies that has shown that employees as a group of internal stakeholder equity owners is included in a limited way in empirical work so far. This study reflects an acknowledgement of the importance of employees as internal stakeholders for effective stakeholder engagement (Faller & zu Knyphausen-Aufseß, 2018; Jouber, 2019; Park & Ghauri, 2015; Velte, 2020). To investigate the impact of EFP on CSP for the workforce at large, we incorporate broad-based employee share ownership plans, over and above focusing on share ownership plans for CEOs or top management only. In addition, we analyse the influence of stake of employee ownership in terms of the percentage of shares of the company held by employees.

Fourth, many previous studies on CSP used a compound measure, covering both social and environmental performance, or were directed to a limited number of indicators, either pertaining to social performance or to environmental performance. Following a call from Velte (2020), who conducted a seminal literature study, in this empirical work, we investigate the relationship between EFP, on the one hand, and social performance and environmental performance, on the other hand, separately, next to the relationship between EFP and the compound measure of CSP.

Finally, following a call for research based on merging larger corporate social responsibility (CSR)-related databases to move CSR research forward (Pisani et al., 2017), we analyse the relationships using a unique panel dataset of 6712 yearly observations of European firms across a considerable time span (2006–2017). In this study, we merged data from multiple databases: data regarding the use of EFP plans from the database from the European Federation of Employee Share Ownership; nonfinancial data provided by Eikon-Thomson Reuters ASSET4 (currently called Refinitiv EGS data); and financial information was extracted from the database DataStream. With our empirical contribution, we directly respond to the call for more international and longitudinal empirical research in the domain of CSP (Stahl et al., 2020).

## 2 | THEORETICAL FRAMEWORK AND HYPOTHESES

### 2.1 | Performance outcomes

CSP implies doing no harm or doing good regarding the outcomes of organizations in terms of social, environmental and economic performance (the triple P) (Jamali, 2006). The existing literature shows tensions in achieving these targets together and points to possible trade-offs (De Wildt-Liesveld et al., 2013). Social and environmental investments can be considered as costs that do not match shareholder corporate governance logic. However, previous literature also argues that, in the long run, investments in all three domains pay off because of important synergies (Haffar & Searcy, 2019; Halpern et al., 2013).

One approach to the argument of synergy is legitimacy and corporate reputation theory (Bebbington et al., 2008). Investments to improve social and environmental performance increase corporate reputation, which increases the commitment and loyalty of both external stakeholders and internal stakeholders (employees), and positively affects corporate legitimacy, with the final result of better economic performance. Empirical research supports this claim (Brammer et al., 2007). Among others, research by Carmeli et al. (2007), found, compared with employees who perceived their firms to have a strong financial performance reputation, a stronger positive relationship between organizational identification and performance on the part of employees who perceived their firms to have a strong CSR reputation.

Another approach to the triple P synergy is to try to integrate sustainability targets in managerial practice, such as targets related to executive compensation, sustainability standards in performance management systems and organizational support for employees to achieve sustainability targets (Haugh & Talwar, 2010). Research has identified that CEO pay is related to the environmental and social performance of the organization (Berrone & Gomez-Mejia, 2009). Long-term incentives, such as shares and stock option, direct the attention of CEOs to factors associated with the improvement of sustainability performance (Mahoney & Thorne, 2005). While the research regarding the association between top managers' incentives and CSP is expanding, so far, empirical research has infrequently considered how incentive systems may influence sustainability efforts at the non-executive management level (Merriman et al., 2016). EFP practices, when offered to all employees, are incentive practices to align the interests of employees with those of the company, especially concerning profit maximizing and shareholder value creation. This emphasis would suggest a negative contribution to CSP, more specifically to its components of social and environmental performance. Arguments for the predictive value of EFP in the light of economic performance are usually related to traditional agency theory (Jensen & Meckling, 1976). The prevailing assumption in this theory is that financial participation has the capacity to lower agency costs where contracts are incomplete. Since workers have the discretionary capacity to behave opportunistically, following their own interest, firms face costs arising from moral hazard and adverse selection. EFP is considered to be an incentive to prevent opportunistic behaviour and is aimed at aligning employee interests with the interests of the company and its management. The focus is on incentives that align profit maximizing and strive for an increase in share value. In general, this implies that EFP's main focus is on the collective orientation of employees towards economic performance, and not on social and environmental performance.

However, the three forms of EFP schemes may differ in their effects on the collective orientation of employees, especially when comparing profit-sharing arrangements and employee share ownership-related schemes. Compared with share ownership arrangements, profit-sharing plans comprise short-term profit and are easier to allocate in cash, which makes their incentive effects on economic performance more direct and stronger, while the longer-term oriented employee share ownership and stock option plans are riskier for employees because of their delayed effects. In addition, employee share ownership schemes are, more than profit-sharing, related to ownership, stakeholder orientation and governance, which may influence the relationship with CSP.

## 2.2 | Associations of employee share ownership plans with CSP

When introducing equity ownership for employees, the latter have voting rights in the general shareholders' meeting and will receive a share in the operating results through dividend-payments or increase in value of the shares held.

A first theory that explains the relationship between employee share ownership and CSP is the theory of psychological ownership, which focuses on organizational identification and loyalty (Pierce & Rogers, 2004). Psychological ownership is defined by Pierce and others as 'a state in which individuals feel as though the target of ownership is theirs' (Pierce et al., 2001, p. 299). In a recent meta-analysis, Zhang et al. (2021) have shown that psychological ownership is positively related to attitudinal and performance outcomes. Researchers have found that employee owners are more likely to identify with their firm, are more motivated to perform well and are more likely to remain with the firm for a longer time (Pendleton et al., 1998). In such psychologically

experienced states of ownership, employees have the feeling of possessing a 'certain ownership' over the firm. These feelings are considered to cause an individual to protect the firm, to take care of the firm and to seek more information about the firm (Pierce et al., 2003; Van Dyne & Pierce, 2004). Employees with psychological ownership also try to protect 'their' firm from threats to reputation, in terms of social and environmental performance. Mi et al. (2019) found that employees who have psychological ownership are more proactively engaged in behaviour to improve environmental organizational performance.

In addition, employees may assess the sustainability performance of their employer before they will invest in share ownership with their employer. Recently, Bonelli et al. (2022) found strong support for this line of argumentation. Together with the long-term commitment focus of allocating shares to employees, psychological ownership implies a strong foothold for internal stakeholder orientation.

Taking this perspective of long-term stakeholder orientation, the involvement of employees in decision-making, referring to the possible voice element attached to being a shareholder, may be directed more towards social and environmental performance than to economic performance only. Such a long-term stakeholder orientation can also spill over to social and environmental sustainability practices, and express itself in more attention for CSP, increasing again the commitment of employees (Blasi et al., 2018; Farooq et al., 2019; Winkler et al., 2019).

A second set of arguments supporting the relationship between employee share ownership plans and CSP is found in stakeholder management and governance theories. The offering of shares to employees is, in itself, already an indication of adopting a stakeholder orientation by the company, where internal stakeholders are offered a role in corporate governance, broadening the narrow view on the interests of external shareholders only. Employees may be a key factor in effective stakeholder management (Freeman et al., 2010), since they are, as internal stakeholders, considered to be essential to a firm's success. Considering the interests and role of employees as internal equity stakeholders may be an important aspect of a firm's overall CSP strategy (Morgeson et al., 2013). Employee share ownership is associated with a longer-term view of the firm and an awareness of the importance of sustainable performance to the survival of the firm. As such, employee ownership reflects the importance of 'patient capital, which refers to investments made by stakeholders who are willing to take a long-term view' (Winkler et al., 2019, p. 917). Employees, as owners, are tied to the firm with their employment and do not have the same transactional short-term connection external shareholders may have (Freeman & Evan, 1990). Therefore, the company and its employee shareholders may have more attention for the external stakeholders that are relevant for the firm's survival. This appreciation can be translated into more effective engagement with internal and external stakeholders and may enhance social and environmental performance.

Employee share ownership introduces a type of corporate governance logic (Martin et al., 2016), where companies aim at 'balancing the long-term interests of diverse stakeholders by allowing employees to participate in financial and socio-psychological ownership' (p. 29). Employee ownership introduces a mode of governance, characterized by employee involvement. Involvement and funding from employees are directed to longer-term perspectives (Lampel et al., 2014). Research shows that employee ownership also involves greater adoption of high-commitment HRM practices, such as employer-provided training and development, more communication between management and employees, protection of employment levels and employee involvement in quality circles and teams (Kaarsemaker et al., 2010; Pendleton & Robinson, 2011).

The above account of the literature in this field is limited with regard to making a distinction between social and environmental performance. However, the two types of investments in

social and environmental performance differ regarding the extent to which they match economic logic. Social performance indicators comprise employee-directed and community-focused social investments. Social investments directed to employees such as employment quality, training and development, improving health and safety are considered part of a high-performance bundle that can directly contribute to economic performance by improving employee skills and commitment. These social performance investments are beneficial for employees but not necessarily for the broader society, although social performance investments, such as community and product responsibility policies, do appear as a reaction to institutional pressures from the broader society. In contrast, environmental investments may not have a direct link to economic performance, although, more recently, due to regulations (carbon emissions) and stakeholder pressures, environmental investments increasingly become part of economic logic too (Busch et al., 2022; Matsumura et al., 2014). Environmental investments may increase employee and stakeholder engagement, regulatory compliance and investor confidence, and, through this, improve corporate reputation, thus contributing to competitive advantage and economic performance (Bassetti et al., 2021). Recently, Bonelli et al. (2022) found that French employees have a stronger preference for share ownership in their firm in case the firm exhibits positive social performance that affects their well-being than in case the firm exhibits positive environmental performance. Given the hypothesized more direct economic logic, as well as closer matching with the interests of employees, we expect that employee share ownership has a stronger positive relationship with social performance than with environmental performance. This leads us to formulate our first set of hypotheses:

**Hypothesis 1a**. Companies with share ownership plans exhibit higher CSP (social and environmental performance) in comparison with companies with no share ownership plans.

**Hypothesis 1b**. Companies with share ownership plans exhibit a stronger association with social performance than with environmental performance.

## 2.3 | Associations of broad-based versus narrow-based share ownership plans with CSP

The dataset that we used in this empirical work enabled us to make a further distinction between broad-based share ownership plans, targeted at all employees, and narrow-based share ownership plans, targeted at management only, allowing us to analyse the differences in relation to CSP. The dataset also includes the coverage of the plan among employees measured as a percentage of the shares of the company (stake) held by its employees. Compared to non-management personnel, top management is directly involved with investments to be made for economic as well as for CSP performance. The literature on the relationship between narrow-based share ownership and CSP presents conflicting propositions, and review studies on this topic show mixed results (Faller & zu Knyphausen-Aufseß, 2018; Velte, 2020). Important is whether CSP efforts affect corporate share value, and to what extent this is visible to shareholders. On the one hand, if no effect of either social or environmental investments on share value is apparent, the costs of CSP efforts may discourage CEOs from taking actions. Considering the equity managers and CEOs hold, and their firm-specific experience, significant proportions of their wealth are closely tied to the firm, and these managers and CEOs, therefore, focus on the financial survival of the firms. As a consequence, management will aim at financial outcomes and, correspondingly, narrow-based

share ownership can be expected to reduce CSP engagement and the associated costs, in order to avoid reductions in share value. On the other hand, when the effects of social and environmental investments are visible to shareholders and seen as value-enhancing, then CEOs share ownership should provide a strong incentive for CSP efforts. Managers and CEOs holding equity as part of their total rewards may have incentives to focus on the longer-term sustainability of the firm and increase CSP engagement, as they can achieve greater benefits from a good corporate reputation. In addition, managers and CEOs may increase CSP engagement reacting to pressures from investors and from regulatory bodies. However, narrow-based executive compensation plans have been shown to only lead to symbolic improvement of processes to reduce an organization's carbon performance but not to actual improvement of carbon performance (Hague & Ntim, 2020).

We expect that agency incentive thinking is largely the basis for executive remuneration (Jensen & Meckling, 1976) and is also strongly oriented on economic performance. In comparison with narrow-based plans, we expect that broad-based share plans and higher coverage of ownership by employees more strongly reflect an orientation on longer-term sustainability. Following our theoretical arguments for the relationship between employee share ownership and CSP in Section 2.2, high coverage and broad-based plans suggest a stronger and broader collective, longer-term, stakeholder orientation and organizational identification with the company, leading to behaviour that is directed more towards social performance (employment and working conditions) and environmental performance (corporate responsibility, preventing reputation damage) for a broader set of actors than only top management. In addition, the influence of broad-based share ownership plans might be stronger if its coverage is broader relative to the influence in companies with a narrower coverage of share ownership plans. Thus, we hypothesize:

**Hypothesis 2a**. Among the companies that have share ownership plans, companies with broad-based share ownership plans exhibit a higher CSP than companies with narrow-based share ownership plans.

**Hypothesis 2b**. Among the companies that have share ownership plans, compared to companies with narrow-based share ownership plans, the positive relationship between broad-based share ownership and CSP is stronger for firms with a larger coverage of share ownership.

## 2.4 | Associations of stock option and profit-sharing plans with CSP

The other forms of EFP, stock option and profit-sharing plans theoretically exhibit less ownership and governance connotations with CSP than employee share ownership plans. Offering stock option and profit-sharing plans to employees may express internal stakeholder orientation by the company, and hence more attention for social performance. Also, empirical research suggests organizational commitment effects from these plans (Coyle-Shapiro et al., 2002; Kruse et al., 2010), although the results of that research are inconclusive (Bayo-Moriones and Larraza-Kintana, 2009; Selvarajan et al., 2006).

With stock option plans, employees receive a right to buy company shares, in a given period and for a certain price. In general, options are granted, and they offer employees a chance to gain when options expire. Options can ultimately lead to shareholding, but unlike employee share ownership plans, stock option plans may not lead to the ownership of shares in the company especially when employees cash in when the period expires. In this way, stock option plans may produce similar outcomes as profit-sharing plans (Braam & Poutsma, 2015; Pendleton, 2005) and

employees do not immediately experience feelings of ownership. In addition, the time window on these options is relevant. If the time window is short, (granted) options may function like a profit-share, whereas with longer periods, they may function as employee shareholding causing a long-term orientation. Indeed, research on the impact of CEO compensation shows that compared to stock and vested short-period options, unvested options (restricted stock) are more effective in enhancing the CSR practices of the firm (Jouber, 2019). Unfortunately, our data do not include time windows of options so we are not able to explore this phenomenon further.

Profit-sharing may be directed to short-term profit and is also easier to allocate in cash, which makes the incentive effect on economic performance more direct than in the case of share ownership. This may result in a stronger collective orientation on economic performance than on CSP. However, recent research by Fakhfakh and Fitzroy (2018) has suggested a positive relationship between profit-sharing plans and the environmental performance of French companies. Their interpretation of the unexpected result is that profit-sharing plans may be associated with involvement in decision-making, supporting environmental improvements with, in the end, higher collective benefits. Nevertheless, we posit that agency reasoning is towards a more collective orientation on economic performance. This leads to the next set of hypotheses:

**Hypothesis 3**. Companies with only stock option plans (and no profit-sharing or share ownership plans) exhibit lower CSP in comparison with companies with no stock option plans.

**Hypothesis 4**. Companies with only profit-sharing plans (and no share ownership and stock option plans) exhibit lower CSP in comparison with companies with no profit-sharing plans.

## 2.5 | Combinations of EFP schemes

A question remains as to what the association is with CSP when the different EFP plans are combined. We posit that the EFP plans differ in how they activate orientations relevant for CSP, and that combining them may unleash the performance potential of each plan or compensate for possible disadvantages of the plans (Braam & Poutsma, 2015; Van der Laan et al., 2010).

In the case of a combination of employee shares and stock option plans, the argument is straightforward. Stock options may act as a vehicle for more employee share ownership. In a combination of employee share ownership and profit-sharing plans, the argument is that profit-sharing can act as a resource for funding employee shares. Profit-sharing plans typically activate extrinsic motivation, whereas share ownership plans activate intrinsic commitment and ownership feelings. Their combination may lead to a stronger focus of employees on ownership of the company, following the logic regarding the relationship with CSP presented earlier. Profit-sharing may strengthen the collective orientation on ownership since it provides a more direct incentive from the very fact of collective ownership. In addition, increased financial profitability, as indicated by the profit share, may positively affect a firm's CSP-related choices (e.g. Clarkson et al., 2011). However, a combination of profit-sharing and employee share ownership plans may also support a stronger orientation on economic performance in the longer term, since this combination aligns the collective interest in both profit and shareholder value. We posit that the psychological ownership effect of having shares may temper the focus on short-term gain in profit-sharing plans. Finally, we propose that a combination of profit-sharing and stock option plans (and thus no employee share ownership plans) can be considered to result in a

stronger orientation on economic performance. Hence, we expect a negative association with CSP.

We formulate the following hypotheses regarding the combination of EFP plans:

**H5a**. Companies that combine share ownership with profit-sharing plans exhibit higher CSP than companies with no such plans.

**H5b**. Companies that combine share ownership with stock option plans exhibit higher CSP than companies with no such plans.

**H5c**. Companies that combine profit-sharing plans with stock option plans exhibit lower CSP than companies with no such plans.

In the analysis, we will test the relationships in two ways. First, we test the hypotheses using the whole sample, and second, we use the subsample of firms with share ownership plans, distinguishing between broad-based eligibility of share ownership and broad-based coverage of ownership versus narrow-based share ownership plans.

## 3 | RESEARCH METHOD

### 3.1 | Sample

To test our hypotheses, we gathered data from multiple databases. We first used the database from the European Federation of Employee Share Ownership (EFES, 2018) (www.efesonline.org) in order to obtain the data regarding the use of EFP plans. The EFES database is one of the few sources that contain information about financial participation for many firms in an international setting for a sufficient number of consecutive years. For all in Europe-listed companies whose stock market capitalization was 200 million euro and more in May of the years 2006–2017 (excluding asset management, investment funds and real estate funds), the EFES database provides quantitative and qualitative panel data about financial participation plans which is based on the information disclosed in companies' annual reports. We then merged these data with non-financial data provided by Eikon-Thomson Reuters ASSET4 (currently called Refinitiv EGS data) to obtain our measures of corporate social and environmental performance. Eikon-Thomson Reuters ASSET4 is specialized in providing objective, verifiable and comparable environmental, social and corporate governance data with global coverage. The financial information was extracted from DataStream, which is also included in Refinitiv and contains historical financial data from annual reports of publicly traded companies around the world. Our final dataset contains 6712 firm-year observations in 761 unique firms across 20 European countries in the period 2006–2017. Table 1 presents the descriptive statistics for these firms. Panel A reports the distribution of the sample firms across countries and industries. Panel A shows that the United Kingdom and France are highly represented in our dataset with 2224 (33 per cent) and 782 (12 per cent) observations, respectively, while some country samples are very small, containing two to four firms. This country variance in distribution in our sample reflects the distribution of listed firms in stock exchanges across countries; higher in the United Kingdom and France and low in most other countries in Europe (European Commission, 2020). Among the industry groups, manufacturing, transportation, communication and public utilities and finance are well represented, with 36 per cent, 16 per cent and 18 per cent of the observations, respectively. Panel B presents the distribution of EFP plans across industries and shows that the extent of employee share ownership plans, particularly broad-based ownership, is high with 6206 firm-year observations.[1]

**TABLE 1** Descriptive statistics for sample firms (2006–2017).

| Panel A. Country distribution across industry | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Industry[a] | | | | | | | | |
| Country | Manufacturing | Transportation, Communication & Public Utilities | Trade | Services | Finance | Construction, Mining & Agriculture | Total | (%) | Total number of unique firms per country |
| Austria | 52 | 30 | 0 | 0 | 30 | 10 | 122 | (1.82) | 12 |
| Belgium | 52 | 50 | 21 | 6 | 20 | 0 | 149 | (2.22) | 18 |
| Switzerland | 245 | 20 | 18 | 55 | 128 | 0 | 466 | (6.94) | 50 |
| Czech Republic | 0 | 19 | 0 | 0 | 10 | 0 | 29 | (0.43) | 4 |
| Germany | 102 | 42 | 0 | 23 | 33 | 0 | 200 | (2.98) | 21 |
| Denmark | 361 | 111 | 60 | 51 | 84 | 30 | 697 | (10.38) | 77 |
| Spain | 66 | 112 | 6 | 28 | 71 | 47 | 330 | (4.92) | 36 |
| Finland | 134 | 21 | 21 | 21 | 10 | 11 | 218 | (3.25) | 22 |
| France | 275 | 130 | 60 | 136 | 102 | 79 | 782 | (11.65) | 86 |
| Greece | 29 | 30 | 5 | 20 | 10 | 10 | 104 | (1.55) | 11 |
| Hungary | 0 | 8 | 0 | 0 | 9 | 0 | 17 | (0.25) | 2 |
| Ireland | 72 | 0 | 25 | 0 | 0 | 0 | 97 | (1.45) | 11 |
| Italy | 78 | 102 | 20 | 0 | 88 | 10 | 298 | (4.44) | 34 |
| Luxembourg | 6 | 0 | 3 | 0 | 0 | 0 | 9 | (0.13) | 2 |
| the Netherlands | 102 | 32 | 3 | 41 | 17 | 30 | 225 | (3.35) | 29 |
| Norway | 60 | 32 | 0 | 20 | 29 | 53 | 194 | (2.89) | 21 |
| Poland | 25 | 53 | 7 | 7 | 74 | 24 | 190 | (2.83) | 27 |
| Portugal | 11 | 30 | 20 | 0 | 10 | 0 | 71 | (1.06) | 8 |
| Sweden | 147 | 10 | 14 | 19 | 68 | 32 | 290 | (4.32) | 39 |
| United Kingdom | 609 | 274 | 361 | 319 | 391 | 270 | 2224 | (33.13) | 251 |
| Total | 2426 | 1106 | 644 | 746 | 1184 | 606 | 6712 | (100.00) | 761 |
| (%) | (36.14%) | (16.48%) | (9.59%) | (11.11%) | (17.64%) | (9.03%) | (100.00) | | |

(Continues)

**TABLE 1** (Continued)

| Panel B. Distribution of EFP plans across industries | | | | | | | |
|---|---|---|---|---|---|---|---|
| | No. of firms | | No. of firms with share ownership plans | | | | |
| **Industry**[a] | ***n*** | **(%)** | **Broad-based share plans** | **Narrow-based share plans** | **Total** | **No. of firms with stock option plans**[b] | **No. of firms with profit-sharing plans**[b] |
| Manufacturing | 2426 | (36.14) | 1405 | 853 | 2258 | 2063 | 231 |
| Transportation, Communication & Public Utilities | 1106 | (16.48) | 695 | 283 | 978 | 866 | 92 |
| Trade | 644 | (9.59) | 485 | 139 | 624 | 552 | 63 |
| Services | 746 | (11.11) | 419 | 297 | 716 | 708 | 83 |
| Finance | 1184 | (17.64) | 812 | 282 | 1094 | 902 | 98 |
| Construction, Mining & Agriculture | 606 | (9.21) | 367 | 169 | 536 | 1252 | 45 |
| Total | 6712 | (100.00) | 4183 | 2023 | 6206 | 5612 | 567 |

*Note*: All EFP plans are defined in Table 2.

[a]Our sample is composed of 6712 firm-year observations in 761 unique firms in 59 industries based on the two-digit Standard Industrial Classification (SIC) codes, which we reclassified in six main industry groups for presentation purposes.

[b]Due to data limitations, for stock option and profit-sharing plans, a further differentiation between broad-based and narrow-based plans was not possible.

## 3.2 | Variables

### 3.2.1 | CSP

Consistent with previous studies (Ioannou & Serafeim, 2012; Luo et al., 2015; Reimsbach & Braam, 2023) that measured corporate social and environmental performance, we used the relative scores for social and environmental performance provided by the Eikon-Thomson Reuters ASSET4 database, which covers a broad set of indicators of social and environmental performance (Luo et al., 2015; Qiu et al., 2016). The social score includes measures of product responsibility, customer health and safety, community policies and practices, human rights, employment quality, training and development, and workforce health and safety. The environmental score comprises measures of greenhouse gas emissions, waste production, energy and water consumption, the amount of investment in innovations benefiting the environment, and so on. The social and environmental scores per company are industry-based relative performance measures, which are calculated as the sum of weighted normalized scores for all underlying data points. These scores thus benchmark a company's performance scores against the other companies in the same industry group. Following previous research (Ioannou & Serafeim, 2012; Luo et al., 2015; Reimsbach & Braam, 2023), for each sample firm per year, we also calculated the CSP as the sum of the scores for social performance (SOCP) and environmental performance (CEP) dimensions divided by two (Waddock & Graves, 1997). Higher scores on CSP indicate higher CSP.

### 3.2.2 | EFP plans

To capture the presence of different types of EFP plans, that is share ownership plans (SP), stock option plans (OP), profit-sharing plans (PS), narrow-based share ownership plans (NBSP) and broad-based share ownership plans (BBSP), we used dummy variables taking a value of 1 if a particular plan is present, and a value of 0 otherwise, for each company per year. In addition, we used employees' stake in ownership structure (STAKE), measured as the percentage of the shares of the company held by employees, to assess the coverage of share ownership plans.[2]

### 3.2.3 | Control variables

At the firm level, we included the natural logarithm of total assets (LNASSETS) and the natural logarithm of total employees (LNEMPLOYEES) to control for size effects, since larger firms on average have more resources to invest in sustainability initiatives and are generally considered to be under greater scrutiny as regards their CSR activities, which may affect their CSP (Casey & Grenier, 2015; Simnett et al., 2009). In addition, the 1-year lagged effect of return on assets (ROA) was added since (short-term) financial performance has long been documented to affect a firm's investments in CSP (e.g. Clarkson et al., 2011). We also added leverage (LEVERAGE) defined as the total debt over total assets to control for the influence of the firm's financial capital providers (Artiach et al., 2010). R&D (Research & Development), defined as the expenses in research and development divided by the total sales (Martínez-Ferrero et al., 2021), was added as a proxy for a firm's innovation ability which may positively affect CSP (King & Lenox, 2002; McWilliams & Siegel, 2000).

To control for country-level effects, we distinguished between companies that were classified as a stakeholder-oriented or a shareholder-oriented country. In the stakeholder-oriented countries, organizations are more likely to be managed in the interests of all their constituents (Braam & Peeters, 2018; Freeman, 1984), and not only in the interest of external shareholders (Kolk & Perego, 2010; Simnett et al., 2009; Van der Laan Smith et al., 2010). In addition, in our panel data analyses, we included random effects at the firm and country levels to control for cross–firm and cross–country variation. Finally, we included year fixed effects to control for time effects. Table 2 summarizes the definitions of the dependent, independent, and control variables employed in our analyses. Table 3 reports summary statistics for these variables.

## 3.3 | Research models

We tested our hypotheses using multilevel mixed-effects linear panel data regression analyses because our panel dataset has a multilevel structure with repeated measurements at the firm level that are nested within countries and to account for this structure and the risk of heteroscedasticity (Lindner et al., 2021). To test Hypotheses 1 and 3–5, we estimated the following panel data regression model:

$$\begin{aligned} SOCP_{it}/CEP_{it}/CSP_{it} = {} & \beta_0 + \beta_1 SP_{it-1} + \beta_2 OP_{it-1} + \beta_3 PS_{it-1} + \beta_4 SP_{it-1} * PS_{it-1} \\ & + \beta_5 SP_{it-1} * OP_{it-1} + \beta_6 PS_{it-1} * OP_{it-1} + \beta_7 Firm_{CONTROL\,it} \\ & + \beta_8 COUNTRY_{CONTROL\,i} + \beta_9 YEAR_{CONTROL\,t} + \varepsilon_{it} \end{aligned}$$

where $SOCP_{it}$ / $CEP_{it}$ / $CSP_{it}$ represent the empirical measures for CSP for firm *i* in year *t* as discussed earlier; the independent variables, that is the employee share ownership plans ($SP_{it-1}$), stock option plans ($OP_{it-1}$), profit-sharing plans ($PS_{it-1}$) or broad-based share ownership plans ($BBSP_{it-1}$) and narrow-based share ownership plans ($NBSP_{it-1}$), explain variation in CSP while controlling for the other variables in our model. In addition, we used 1-year lagged effects for the EFP plans to approach causality. To address the fact that the lagged effects of the financial participation plans on CSP may differ depending on the existence of other participation plans (Hypothesis 5), we also analysed the interaction effects between different financial participation plans. For this reason, we estimated the models including the direct lagged effects of the participation plans along with their interactions.

To test Hypothesis 2, we used the following model for the subsample of firms with share ownership plans:

$$\begin{aligned} SOCP_{it}/CEP_{it}/CSP_{it} = {} & \beta_0 + \beta_1 BBSP_{it-1} + \beta_2 STAKE_{it-1} \\ & + \beta_3 OP_{it-1} + \beta_4 PS_{it-1} + \beta_5 BBSP_{it-1} * STAKE_{it-1} + \beta_6 STAKE_{it-1} * OP_{it-1} \\ & + \beta_7 PSTAKE_{it-1} * PS_{it-1} + \beta_8 BBSP_{it-1} * OP_{it-1} + \beta_9 BBSP_{it-1} * PS_{it-1} \\ & + \beta_{10} PS_{it-1} * OP_{it-1} + \beta_{11} BBSP_{it-1} * STAKE_{it-1} * OP_{it-1} \\ & + \beta_{12} BBSP_{it-1} * STAKE_{it-1} * PS_{it-1} + \beta_{13} Firm_{CONTROL\,it} \\ & + \beta_{14} COUNTRY_{CONTROL\,i} + \beta_{15} YEAR_{CONTROL\,t} + \varepsilon_{i,t} \end{aligned}$$

To compute the interaction terms, for STAKE we used the centred version of this variable. The main effect can be interpreted as the average effect. Finally, the Pearson's *r* correlations shown in Panel B of Table 3 as well as the variance inflation factors (unreported) suggest no multicollinearity.

**TABLE 2** Variable definitions.

| | |
|---|---|
| ***Dependent variables*** | |
| $SOCP_{it}$ | Relative Corporate SOCial Performance score for the social dimension from Eikon-Thomson Reuters ASSET4's database for firm *i* in year *t*. |
| $CEP_{it}$ | Relative Corporate Environmental performance score for the environmental dimension from Eikon-Thomson Reuters ASSET4's database for firm *i* in year *t*. |
| $CSP_{it}$ | Corporate Sustainability Performance, which is calculated as the sum of the scores on $CEP_{it}$ and $SOCP_{it}$ for firm *i* in year *t* from Eikon-Thomson Reuters Asset4's database. |
| ***Independent variables*** | |
| $SP_{it}$ | Dummy variable coded as 1 if share ownership plans are in place for firm *i* in year *t*, and 0 otherwise. |
| $BBSP_{it}$ | Dummy variable coded as 1 if broad-based share ownership plans (share ownership plans open to all employees) are in place for firm *i* in year *t*, and 0 otherwise. |
| $NBSP_{it}$ | Dummy variable coded as 1 if narrow-based share ownership plans (eligibility of share ownership for a limited group, mostly management only) are in place for firm *i* in year *t*, and 0 otherwise. |
| $OP_{it}$ | Dummy variable coded as 1 if stock option plans are in place for firm *i* in year *t*, and 0 otherwise. |
| $PS_{it}$ | Dummy variable coded as 1 if profit-sharing plans are in place for firm *i* in year *t*, and 0 otherwise. |
| $STAKE_{it}$ | Employees' stake in ownership, measured as shares held by employees divided by total shares of firm *i* in year *t*. |
| ***Control variables at firm and country level*** | |
| $LNASSETS_{it}$ | Natural logarithm of the company *i*'s year-end total assets. |
| $LNEMPLOYEES_{it}$ | Natural logarithm of the company *i*'s year-end total employees. |
| $ROA_{i,t-1}$ | Return on assets for firm *i* in year *t*−1, measured as net income divided by total assets. |
| $LEVERAGE_{it}$ | Total debt for firm *i* in year *t*, measured as a percentage of total assets. |
| $R\&D_{it}$ | Proxy for innovation for firm *i* in year *t*, measured as the expenses in research and development divided by the total assets. |
| STAKEHOLDER ORIENTATION$_i$ | Dummy variable coded as 1 if a company *i* is headquartered in a stakeholder-oriented country, and 0 if a company *i* is headquartered in a shareholder-oriented country. |

**TABLE 3** Summary statistics.

| **Panel A. Descriptive statistics** | | | | | | |
|---|---|---|---|---|---|---|
| **Variable** | **Obs** | **Mean** | **Median** | **Std. dev.** | **Min** | **Max** |
| SOCP | 6712 | 61.39 | 64.23 | 25.66 | 2.08 | 99.47 |
| CEP | 6712 | 61.99 | 62.85 | 23.65 | 6.02 | 97.35 |
| CSP | 6712 | 61.32 | 62.22 | 24.33 | 4.27 | 98.32 |
| SP | 6712 | 0.879 | 1 | 0.326 | 0 | 1 |
| BBSP | 6712 | 0.623 | 1 | 0.484 | 0 | 1 |
| NBSP | 6712 | 0.301 | 0 | 0.458 | 0 | 1 |
| STAKE | 6712 | 0.064 | 0.052 | 0.088 | 0 | 0.73 |
| OP | 6712 | 0.836 | 1 | 0.370 | 0 | 1 |
| PS | 6712 | 0.199 | 0 | 0.399 | 0 | 1 |
| LNASSETS | 6712 | 15.828 | 15.59 | 1.993 | 5.99 | 23.14 |
| LNEMPLOYEES | 6712 | 9.431 | 9.604 | 1.675 | 4.61 | 13.38 |
| ROA | 6712 | 0.062 | 0.054 | 0.106 | −0.57 | 2.69 |
| LEVERAGE | 6712 | 0.248 | 0.247 | 0.124 | 0.00 | 1.97 |
| R&D | 6712 | 0.019 | 0.012 | 0.068 | 0.00 | 0.55 |
| STAKEHOLDER ORIENTATION | 6712 | 0.658 | 1 | 0.474 | 0 | 1 |

| **Panel B. Pearson's *r* correlations** | **1.** | **2.** | **3.** | **4.** | **5.** | **6.** | **7.** | **8.** |
|---|---|---|---|---|---|---|---|---|
| 1. SOCP | 1.000 | | | | | | | |
| 2. CEP | **0.851** | 1.000 | | | | | | |
| 3. CSP | **0.965** | **0.959** | 1.000 | | | | | |
| 4. STAKE | **0.058** | **0.149** | **0.106** | 1.000 | | | | |
| 5. LNSIZE | **0.452** | **0.506** | **0.497** | **0.305** | 1.000 | | | |
| 6. LNEMPLOYEES | **0.399** | **0.416** | **0.423** | 0.011 | **0.475** | 1.000 | | |
| 7. ROA | **−0.053** | **−0.060** | **−0.059** | −0.015 | **−0.219** | **−0.027** | 1.000 | |
| 8. LEVERAGE | **0.058** | **0.055** | **0.059** | **−0.038** | **0.068** | **0.038** | **−0.062** | 1.000 |
| 9. R&D | 0.002 | −0.005 | −0.001 | **−0.092** | **0.085** | **0.056** | **0.026** | −0.014 |

*Note*: Table 2 shows the definitions of the variables. Correlations that are significant at a level below 5 per cent (two-tailed) are in bold.

## 4 | RESULTS

Table 4 depicts the results of testing our hypotheses related to the relationships between lagged EFP plans and SOCP and CEP, and CSP. Table 4 consistently shows significant and positive relationships between the lagged effects of SP and SOCP, CEP and CSP. These results provide strong support for Hypothesis 1a, indicating that companies with share ownership plans indeed exhibit higher sustainability performance than companies without these plans. In addition, when comparing the coefficients of $SP_{it-1}$ in Models 1 and 3, and 2 and 4, their magnitudes also indicate that the lagged effects of SP on SOCP are stronger than the effects on CEP, herewith suggesting that companies with share ownership plans exhibit a stronger association with social performance than with environmental performance. To further test whether companies with share ownership plans exhibit a stronger association with social performance than with environmental performance, we ran a paired *t*-test. The results of this test show a statistically significant mean

**TABLE 4** Regression analysis of 1-year lagged effects of EFP plans on CSP, SOCP and CEP.

| | | $SOCP_{it}$ | | $CEP_{it}$ | | $CSP_{it}$ | |
|---|---|---|---|---|---|---|---|
| | **Expected sign** | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| **H1a/H1b**: $SP_{it-1}$ | + | 5.454*** | 4.818*** | 4.614*** | 3.982*** | 5.162*** | 4.511*** |
| | | (1.277) | (1.381) | (1.125) | (1.216) | (1.165) | (1.259) |
| **H3**: $OP_{it-1}$ | − | 2.031** | −5.762 | 3.908*** | −10.291** | 3.044*** | −8.233* |
| | | (0.962) | (6.801) | (0.848) | (5.990) | (0.877) | (6.201) |
| **H4**: $PS_{it-1}$ | − | −0.661 | −9.643** | −0.562 | −10.823*** | −0.636 | −10.494*** |
| | | (0.979) | (3.978) | (0.864) | (3.504) | (0.894) | (3.627) |
| **H5a**: $SP_{it-1} \times Ps_{it-1}$ | + | | 8.285** | | 7.939** | | 8.316** |
| | | | (4.599) | | (4.050) | | (4.193) |
| **H5b**: $SP_{it-1} \times OP_{it-1}$ | + | | 7.669 | | 13.834** | | 11.027** |
| | | | (6.881) | | (6.060) | | (6.274) |
| **H5c**: $Ps_{it-1} \times OP_{it-1}$ | − | | 1.334 | | 3.290* | | 2.364 |
| | | | (2.468) | | (2.174) | | (2.251) |
| $LNSIZE_{it}$ | | 4.766*** | 4.752*** | 4.820*** | 4.801*** | 4.917*** | 4.900*** |
| | | (0.186) | (0.186) | (0.164) | (0.164) | (0.169) | (0.169) |
| $LNEMPLOYEES_{it}$ | | 2.837*** | 2.844*** | 2.357*** | 2.374*** | 2.660*** | 2.672*** |
| | | (0.188) | (0.188) | (0.166) | (0.166) | (0.171) | (0.171) |
| $ROA_{it-1}$ | | 1.861*** | 1.859*** | 1.547*** | 1.549*** | 1.749*** | 1.749*** |
| | | (0.337) | (0.337) | (0.297) | (0.297) | (0.307) | (0.307) |
| $LEVERAGE_{it}$ | | 2.508 | 2.502 | 1.965 | 1.905 | 2.284 | 2.251 |
| | | (2.104) | (2.104) | (1.854) | (1.853) | (1.919) | (1.918) |
| $R\&D_{it}$ | | 4.493 | 5.415 | 6.850** | 7.896** | 5.814 | 6.823* |
| | | (3.876) | (3.895) | (3.416) | (3.431) | (3.535) | (3.552) |
| $STAKEHOLDER\ ORIENTATION_i$ | | 3.007 | 2.950 | 0.842 | 0.755 | 1.966 | 1.891 |
| | | (3.644) | (3.642) | (3.278) | (3.274) | (3.381) | (3.377) |
| Year fixed effects | | Included | Included | Included | Included | Included | Included |
| Random country effects | | Included | Included | Included | Included | Included | Included |
| Random firm effects | | Included | Included | Included | Included | Included | Included |
| Constant | | −60.194*** | −59.312*** | −53.607*** | −52.497*** | −60.287*** | −59.265*** |
| | | (5.109) | (5.116) | (4.692) | (4.694) | (4.818) | (4.822) |
| Observations | | 6712 | 6712 | 6712 | 6712 | 6712 | 6712 |
| $Wald\_Chi^2$ | | 1894.62*** | 1903.42*** | 2279.07*** | 2301.43*** | 2309.49*** | 2325.61*** |

*Note*: Table 2 shows the definitions of the variables.
***$p < 0.01$; **$p < 0.05$; *$p < 0.1$ (Standard errors in parentheses).

difference between SOCP compared to CEP ($t = 3.593$, $p < 0.01$, df = 6711). Together, these results provide support for Hypothesis 1b, indicating that the impact of share ownership plans on social performance is more pronounced than on environmental performance.

Table 4 also shows the results to test Hypotheses 3–5. Hypothesis 3 predicts that companies with only stock option plans exhibit lower CSP than companies with no such plans. Models 4 and 6 show that the lagged effects of OP are significantly negatively related to CEP and CSP, respectively, while Models 1, 3 and 5 show positive and significant associations between the lagged effects of OP and SOCP, CEP and CSP, respectively, and with these outcomes, we do not find support for Hypothesis 3.

As regards the relationship between profit-sharing plans and CSP, Models 2, 4 and 6 consistently show significantly negative coefficients for the lagged effects of PS. These results provide support for Hypothesis 4, indicating that companies with profit-sharing plans exhibit lower CSP in comparison to companies with no profit-sharing plans when there is no share ownership or stock option plan present.

Hypotheses 5a–c predict that the lagged effects of EFP plans may differ depending on the presence of other participation plans. Models 2, 4 and 6 of Table 4 show that the interactions between the lagged effects of SP and PS are significantly and positively associated with SOCP, CEP and CSP, respectively, indicating that the lagged effects of employee share ownership plans are more prominent among the firms that also have profit-sharing plans. These results provide support for Hypothesis 5a, indicating that companies that combine share ownership plans with profit-sharing plans exhibit higher CSP than companies with no such plans. The results in Models 4 and 6 also show partial support for Hypothesis 5b, which predicts that companies that combine share ownership plans with stock option plans exhibit higher environmental performance than companies without these combined plans. The interaction between 1-year lagged effects of SP and OP is positive and significantly associated with CEP and CSP. However, the coefficients are not significant in case SOCP is the dependent variable. In addition, Models 2 and 6 also show that the interactions between 1-year lagged effect of PS and OP are not significantly associated with CSP. These results show a lack of support for Hypothesis 5c.

Tables 5 and 6 summarize the main results of testing the hypotheses related to broad-based and narrow-based share ownership plans (Hypotheses H2a, 2b, 3, 4, 5a, 5b and 5c). Table 5 distinguishes between 1-year lagged effects of broad-based, narrow-based (and no) employee share ownership plans, stock option plans and profit-sharing plans, with no EFP plans (including no share ownership plans) as the reference group. Table 6 shows the regression results for the subsample of firms with share ownership plans, with the narrow-based share ownership plans as the reference group.

Table 5 consistently shows significant and positive relationships between the lagged effects of BBSP and SOCP, CEP and CSP. Models 2, 4 and 6 also show statistically significant positive relationships between the lagged effects of NBSP and SOCP, CEP and CSP. These results provide additional support for Hypothesis 1a, indicating that companies with both broad-based and narrow-based share ownership plans exhibit higher sustainability performance than companies with no share plans. In addition, because for the broad-based share ownership plans, the interactions with $STAKE_{it-1}$ are also significant and positive, the results indicate that the lagged effects of BBSP on sustainability performance are magnified when the employees own a larger stake of the company. As regards the relationship between profit-sharing plans and CSP, Table 5 consistently shows significantly negative coefficients for the lagged effects of PS. These results provide additional support for Hypothesis 4. In addition, for broad-based share ownership plans, the significant positive associations between interactions between lagged effects of BBSP and PS and CEP and CSP in Models 4 and 6 provide partial additional support for Hypothesis 5a, indicating that companies that combine broad-based share ownership plans with profit-sharing plans exhibit higher CSP than companies with no such plans. When adding the SP main effect, the results indicate that when SP and PS are put together, the overall effect is positive. The results in Models 2, 4 and 6 also show significant positive associations between interactions between lagged effects of BBSP and OP and SOCP, CEP and CSP. These results provide additional support for Hypothesis 5b, suggesting that companies that combine broad-based share ownership plans and stock option plans exhibit higher CSP than companies without these combined plans.

**TABLE 5** Regression analysis of 1-year lagged effects of EFP plans on CSP, SOCP and CEP, distinguishing between 1-year lagged effects of broad-based and narrow-based share ownership plans.

| | | $SOCP_{it}$ | | $CEP_{it}$ | | $CSP_{it}$ | |
|---|---|---|---|---|---|---|---|
| | **Expected sign** | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| **H1a/H1b**: $BBSP_{it-1}$ | + | 9.039*** | 6.802*** | 8.900*** | 6.113*** | 9.194*** | 6.623*** |
| | | (1.300) | (1.855) | (1.142) | (1.623) | (1.182) | (1.683) |
| **H1a/H1b**: $NBSP_{it-1}$ | + | 0.490 | 6.139*** | 0.088 | 6.271*** | 0.301 | 6.362*** |
| | | (1.309) | (2.025) | (1.149) | (1.771) | (1.190) | (1.837) |
| $STAKE_{it-1}$ | | 10.243*** | −14.132 | 2.923 | −31.369** | 6.748** | −23.359* |
| | | (3.088) | (17.326) | (2.712) | (15.159) | (2.808) | (15.721) |
| **H3**: $OP_{it-1}$ | − | 3.341*** | −0.962 | 5.176*** | −6.792* | 4.364*** | −3.977 |
| | | (0.952) | (5.724) | (0.836) | (5.007) | (0.866) | (5.193) |
| **H4**: $PS_{it-1}$ | − | −1.839** | −4.698* | −1.734** | −6.883** | −1.838** | −5.939** |
| | | (0.971) | (3.539) | (0.853) | (3.359) | (0.883) | (3.483) |
| **H2b**: $BBSP_{it-1} \times STAKE_{it-1}$ | | | 33.218** | | 26.205* | | 30.491** |
| | | | (19.328) | | (16.910) | | (17.536) |
| $NBSP_{it-1} \times STAKE_{it-1}$ | | | 6.045 | | −2.092 | | 2.068 |
| | | | (19.284) | | (16.872) | | (17.497) |
| $STAKE_{it-1} \times OP_{it-1}$ | | | 6.723 | | 25.783*** | | 16.657** |
| | | | (10.697) | | (9.357) | | (9.704) |
| $STAKE_{it-1} \times Ps_{it-1}$ | | | 5.274 | | 7.503 | | 6.561 |
| | | | (7.367) | | (6.445) | | (6.684) |
| **H5a**: $BBSP_{it-1} \times Ps_{it-1}$ | + | | 3.860 | | 5.979* | | 5.042* |
| | | | (4.430) | | (3.875) | | (3.949) |
| $NBSP_{it-1} \times Ps_{it-1}$ | | | 2.617 | | 5.023 | | 3.907 |
| | + | | (4.695) | | (4.107) | | (4.259) |
| **H5b**: $BBSP_{it-1} \times OP_{it-1}$ | | | 7.880* | | 16.376*** | | 12.430** |
| | | | (5.839) | | (5.108) | | (5.297) |
| $NBSP_{it-1} \times OP_{it-1}$ | + | | −0.832 | | 6.373 | | 2.847 |
| | | | (5.914) | | (5.174) | | (5.365) |
| **H5c**: $Ps_{it-1} \times OP_{it-1}$ | − | | −0.390 | | −0.026 | | −0.214 |
| | | | (2.493) | | (2.181) | | (2.261) |
| $LNSIZE_{it}$ | | 4.392*** | 4.396*** | 4.391*** | 4.386*** | 4.505*** | 4.504*** |
| | | (0.187) | (0.186) | (0.164) | (0.163) | (0.170) | (0.169) |
| $LNEMPLOYEES_{it}$ | | 2.775*** | 2.818*** | 2.309*** | 2.363*** | 2.604*** | 2.654*** |
| | | (0.185) | (0.185) | (0.163) | (0.162) | (0.169) | (0.168) |
| $ROA_{it-1}$ | | 1.857*** | 1.785*** | 1.557*** | 1.477*** | 1.752*** | 1.674*** |
| | | (0.333) | (0.332) | (0.292) | (0.290) | (0.302) | (0.301) |
| $LEVERAGE_{it}$ | | 3.291 | 3.229 | 2.700 | 2.555 | 3.061 | 2.956 |
| | | (2.078) | (2.074) | (1.825) | (1.814) | (1.890) | (1.882) |
| $R\&D_{it}$ | | 3.291 | 3.680 | 6.085* | 6.716** | 4.806 | 5.328 |
| | | (3.832) | (3.846) | (3.365) | (3.365) | (3.484) | (3.489) |
| $STAKEHOLDER\ ORIENTATION_i$ | | 6.897* | 7.511** | 5.233 | 5.764* | 6.207* | 6.799** |
| | | (3.581) | (3.573) | (3.204) | (3.183) | (3.310) | (3.294) |

(Continues)

**TABLE 5** (Continued)

| | | $SOCP_{it}$ | | $CEP_{it}$ | | $CSP_{it}$ | |
|---|---|---|---|---|---|---|---|
| | **Expected sign** | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| Year fixed effects | | Included | Included | Included | Included | Included | Included |
| Random country effects | | Included | Included | Included | Included | Included | Included |
| Random firm effects | | Included | Included | Included | Included | Included | Included |
| Constant | | −57.555*** | −57.734*** | −50.768*** | −50.317*** | −57.474*** | −57.338*** |
| | | (4.967) | (4.961) | (4.510) | (4.477) | (4.648) | (4.626) |
| Observations | | 6712 | 6712 | 6712 | 6712 | 6712 | 6712 |
| Wald_Chi$^2$ | | 2117.49*** | 2183.69*** | 2582.09*** | 2722.64*** | 2604.27*** | 2714.31*** |

*Note*: Table 2 shows the definitions of the variables.
***$p < 0.01$; **$p < 0.05$; *$p < 0.1$ (Standard errors in parentheses).

Table 6 shows the results to test Hypothesis 2a, which predicts that, among the companies that have share ownership plans, companies with broad-based share ownership plans exhibit higher sustainability performance than companies with narrow-based share ownership plans. Models 1–6 in Table 6 consistently show positive and statistically significant associations between the lagged effects of BBSP and SOCP, CEP and CSP, respectively, thus providing support for Hypothesis 2a. In addition, the results of additional paired *t*-tests also show statistically significant mean differences for SOCP, CEP and CSP between companies with broad-based share ownership plans compared to companies with narrow-based share ownership plans ($t = 13.088$, $p < 0.01$; $t = 13.347$, $p < 0.01$; $t = 13.738$, $p < 0.01$, respectively; df = 6204), indicating that the influence on CSP is more pronounced for the companies with the broad-based share ownership plans. Together, these results provide strong support for Hypothesis 2a. Hypothesis 2b predicts that, among the companies that have share ownership plans, compared to companies with narrow-based share ownership plans, companies with a larger coverage of broad-based share ownership exhibit a higher CSP. Models 4 and 6 in Table 6 show significantly negative associations between the lagged effects of STAKE and CEP and CSP, respectively. These results indicate that, when compared with companies with broad-based share ownership plans, for the companies with only narrow-based share plans (and no stock option and profit-sharing plans), a larger narrow-based stake in ownership is negatively related with sustainability performance. In addition, Models 2, 4 and 6 of Table 6 show significant and positive relationships between the lagged interaction effects of BBSP and STAKE on CSP, SOCP and CEP, respectively. These results suggest that companies with a larger coverage of broad-based share ownership exhibit a higher CSP when compared to those with narrow-based share plans. In addition, these effects are more prominent among the firms that also have profit-sharing plans. Together, these results provide strong support for H2b. Finally, Models 2, 4 and 6 of Table 6 also show that the interactions between the lagged effects of BBSP and PS are significantly positively related with CEP and CSP, while the interactions between the lagged effects of BBSP and OP are significantly positively related with SOCP, CEP and CSP, respectively. These results indicate that, compared to firms with broad-based share ownership plans, the relationship between broad-based share ownership plans and CSP is stronger for those companies that combine broad-based share ownership plans with profit-sharing and stock option plans.

**TABLE 6** Regression analysis for the subsample of firms with share ownership plans, distinguishing between effects of broad-based and narrow-based share ownership plans.

| | | $SOCP_{it}$ | | $CEP_{it}$ | | $CSP_{it}$ | |
|---|---|---|---|---|---|---|---|
| | **Expected sign** | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** | **Model 6** |
| **H2a**: $BBSP_{it-1}$ | + | 8.268*** | 2.861* | 8.516*** | 2.155* | 8.598*** | 2.577* |
| | | (0.660) | (1.753) | (0.584) | (1.548) | (0.602) | (1.597) |
| $STAKE_{it-1}$ | | 10.409*** | −9.878 | 3.073 | −33.664*** | 6.911** | −22.311** |
| | | (3.072) | (9.747) | (2.720) | (8.609) | (2.802) | (8.879) |
| **H3**: $OP_{it-1}$ | − | 3.817*** | 0.722 | 5.945*** | 2.225** | 5.003*** | 1.518 |
| | | (0.907) | (1.396) | (0.803) | (1.233) | (0.827) | (1.272) |
| **H4**: $PS_{it-1}$ | − | −1.762** | −1.850 | −1.440** | −1.657 | −1.649** | −1.812 |
| | | (0.983) | (2.638) | (0.871) | (2.330) | (0.897) | (2.403) |
| **H2b**: $BBSP_{it-1} \times STAKE_{it-1}$ | | | 28.341*** | | 28.726*** | | 29.244*** |
| | | | (6.297) | | (5.562) | | (5.736) |
| $STAKE_{it-1} \times OP_{it-1}$ | | | 7.340 | | 25.353*** | | 16.749** |
| | | | (9.867) | | (8.715) | | (8.988) |
| $STAKE_{it-1} \times Ps_{it-1}$ | | | 6.182 | | 7.530 | | 7.037 |
| | | | (7.315) | | (6.462) | | (6.664) |
| **H5a**: $BBSP_{it-1} \times Ps_{it-1}$ | + | | 1.644 | | 1.284 | | 1.509 |
| | | | (1.880) | | (1.661) | | (1.713) |
| **H5b**: $BBSP_{it-1} \times OP_{it-1}$ | | | 6.033*** | | 7.238*** | | 6.788*** |
| | | | (1.878) | | (1.659) | | (1.711) |
| **H5c**: $Ps_{it-1} \times OP_{it-1}$ | − | | −1.135 | | −0.547 | | −0.862 |
| | | | (2.375) | | (2.098) | | (2.164) |
| $LNSIZE_{it}$ | | 4.343*** | 4.345*** | 4.421*** | 4.420*** | 4.495*** | 4.495*** |
| | | (0.189) | (0.188) | (0.167) | (0.166) | (0.172) | (0.171) |
| $LNEMPLOYEES_{it}$ | | 2.942*** | 2.987*** | 2.349*** | 2.407*** | 2.710*** | 2.762*** |
| | | (0.189) | (0.188) | (0.167) | (0.166) | (0.172) | (0.172) |
| $ROA_{it-1}$ | | 1.695*** | 1.618*** | 1.520*** | 1.438*** | 1.649*** | 1.568*** |
| | | (0.342) | (0.342) | (0.303) | (0.302) | (0.312) | (0.311) |
| $LEVERAGE_{it}$ | | 2.611 | 2.521 | 1.870 | 1.625 | 2.289 | 2.118 |
| | | (2.182) | (2.179) | (1.932) | (1.925) | (1.991) | (1.985) |
| $R\&D_{it}$ | | 5.752 | 5.791 | 8.394** | 8.462** | 7.248** | 7.302** |
| | | (3.980) | (3.972) | (3.524) | (3.508) | (3.631) | (3.618) |
| $STAKEHOLDER\ ORIENTATION_i$ | | 6.576* | 7.204** | 4.796 | 5.381*** | 5.830* | 6.458** |
| | | (3.558) | (3.549) | (3.214) | (3.194) | (3.302) | (3.286) |
| Random country effects | | Included | Included | Included | Included | Included | Included |
| Random firm effects | | Included | Included | Included | Included | Included | Included |
| Constant | | −58.349*** | −55.102*** | −52.637*** | −47.800*** | −58.840*** | −54.708*** |
| | | (5.015) | (5.061) | (4.604) | (4.615) | (4.716) | (4.739) |
| Observations | | 6206 | 6206 | 6206 | 6206 | 6206 | 6206 |
| $Wald\_Chi^2$ | | 1994.08*** | 2047.72*** | 2362.71*** | 2461.74*** | 2419.91*** | 2502.82*** |

*Note*: Table 2 shows the definitions of the variables.
***$p < 0.01$; **$p < 0.05$; *$p < 0.1$ (Standard errors in parentheses).

## 5 | ROBUSTNESS

Since the effects of EFP plans on CSP could be longer-term effects, we also re-ran our regressions with 2- and 3-year lagged effects of EFP plans. The findings of the additional analyses (not tabulated) show that the different lagged effects of the EFP plans do not change our results qualitatively, suggesting that the results are robust to different time frames. We also investigated the extent to which cross-country variation measures may affect the results. For this reason, we estimated Ordinary Least Square regressions with country, industry and year fixed effects and firm-level clustered and heteroscedasticity-adjusted standard errors. The findings of these robustness tests were consistent with the main results in Tables 4–6, indicating that the results are robust to the different measures of country effects. In addition, to safely conclude that our results are not influenced by the inclusion (or exclusion) of the samples from the United Kingdom or France, or by the country samples which were very small, as additional robustness tests, we recursively repeated our main analyses after, eliminating the United Kingdom, France, one at a time, or the small country samples from the analysis. The results of these additional analyses (not tabulated) are consistent with the main results in Table 4, indicating that the results are robust to the inclusion or exclusion of specific countries with the larger or smaller country samples.

Finally, it is possible that our analyses are subject to endogeneity issues because of omitted variables, in particular certain firm-specific characteristics which may influence the company's choices for (combinations of) EFP plans but also for CSP (cf. Lahouel et al., 2019; Wooldridge, 2015). To address potential endogeneity concerns, we used a two-stage least squares approach with the two-digit Standard Industrial Classification industry medians of EFP plans as the instrumental variable (e.g. Germann et al., 2015). We chose these instrumental variables, since industry peer pressure can force firms to adopt the CSR practices of their industry peers. We also estimated our main model using system Generalized Methods of Moments (GMM) (Arellano & Bond, 1991; Arellano & Bover, 1995; Blundell & Bond, 1998). The results of the additional tests (un-tabulated) indicate that our findings are not an artifact of endogeneity.

## 6 | DISCUSSION

### 6.1 | Conclusion

The results of our study indicate that EFP plays a significant role in explaining the variation in CSP of firms in Europe. We found that combinations of different forms of EFP, through the mechanisms of attitudes and behaviour, and stakeholder orientation, may have synergistic impacts on CSP, lending support for the theoretical explanations of agency, psychological ownership and stakeholder orientation. Our findings show positive and significant lagged effects of share ownership plans on CSP. The findings also show that the positive effect of broad-based employee share ownership on CSP is magnified when the employees own a larger stake of the company, indicating that employee share ownership increases a company's orientation on long-term sustainable value creation. Consistent with prior literature (Kaarsemaker et al., 2010; Lampel et al., 2014; Pendleton & Robinson, 2011), these findings suggest that formal co-ownership may create collective feelings of longer-term psychological ownership and commitment (Pierce & Rogers, 2004; Pierce et al., 2003; Van Dyne & Pierce, 2004). The resulting stronger involvement of employees strengthens their interests to protect the firm from threats to reputation in terms of CSP. Our findings suggest

also that employee share ownership increases a company's long-term internal stakeholder orientation with an impact on outcomes, over and above economic performance only (cf. Martin et al., 2016). The findings of additional analysis indicate that, on average, employee share ownership is more strongly associated with improvement of social performance, such as better employment and working conditions (Lampel et al., 2014), than with improving environmental performance, suggesting that the influence of employee share ownership plans is stronger on social performance than on environmental performance.

Second, the results show that, when compared with companies with narrow-based share ownership plans, broad-based employee ownership implies a stronger movement towards the adoption of social performance practices, such as better working conditions, employer-provided training and development, workforce health and safety, inclusive protection of employment levels. This conclusion is also supported by earlier EFP research where an association was found between broad-based employee ownership and commitment-enhancing practices, such as more involvement in decision-making, more information-sharing, better job security and more employer-provided training (Blasi et al., 2016; Kruse et al., 2010; Pendleton & Robinson, 2011).

Third, the outcomes of this research indicate a negative relationship between profit-sharing plans and CSP. These findings suggest that profit-sharing plans are an instrument that may help to align employee interests with (managerial) company and shareholders' interests. Profit-sharing plans may help to reinforce the collective focus of employees towards economic performance, profit maximizing and shareholder value creation, but not to social and environmental performance.

Finally, the results show that combinations of financial participation plans may have synergistic impacts on CSP. The significant and positive interactions between share ownership plans and profit-sharing plans suggest important synergies between these plans. These outcomes indicate that profit-sharing plans enhance the effects of share ownership plans, in terms of a stronger effect on CSP in the longer-term when compared with single plans.

## 6.2 | Reflection on our outcomes

This study indicates the importance of focusing on management practices targeted at employees in a firm when implementing corporate sustainability strategies and emphasizes the importance of investigating the role of employees in reaching sustainability targets (cf. De Roeck et al., 2016; Jones et al., 2017: Merriman et al., 2016; Portocarrero et al., 2023). Organizations may gain better social and environmental performance by connecting CSP targets to specific HRM practices and shape the practices in a way that leads to higher CSP (Orlitzky et al., 2011). Future research could focus on the role of different types of HRM practices in reaching a broader variety of CSP targets.

The results of this research also confirm the importance of employee commitment and organizational identification in understanding CSP as suggested by recent research in this area. For instance, Kim et al.'s study (2010) has found that organizational identification was a mediating factor in the relationship between employee involvement in CSP and different organizational outcomes. In addition, Glavas and Godwin (2013) have reported that employees positively perceived that an organization's CSP strengthens their organizational identification and shows the importance of employees' involvement in CSP strategies and practices. Future research would benefit from considering the perspective of employees' commitment and organizational identification when addressing research on the relationship between management practices and CSP.

Previous research has mainly focused on the impact of CEOs and top management's long- and short-term incentives for profit-sharing, stock option and share plans in relation to CSP (Jouber, 2019; Velte, 2020). This study reveals the importance of incentive policies for the workforce at large in reaching CSP targets. The latter has only recently been taken up in scholarly work in this field. For instance, Merriman et al. (2016) have provided support for this perspective in an experimental study. It is interesting to note that these authors have also found that the incentive effect for enhanced environmental performance is moderated by complementary benefits for financial objectives. This may also relate to our study from which we conclude that the long-term incentive of EFP may foster CSP outcomes.

## 6.3 | Limitations and recommendations for future research

Our study has some limitations as well. Due to limitations regarding data availability, we tested our hypotheses using a European panel dataset. The European Union (EU) is a relevant geographical area because of its international orientation and CSR leadership role. With the European Green Deal, a set of policy measures intended to combat the climate crisis, the EU has a leading role which may impact CSR worldwide. Further research could benefit from examining the relationship between EFP and CSP by using additional international panel data samples including other developed market economies, such as the North American countries or emerging economies.

From the controls at the country level, Tables 4–6 show that stakeholder orientation is positive but not significant in all regressions, while country (level 2) is significant in all the multi-level regressions (not reported in Tables 4–6 for parsimony). This suggests that there is country variation in the level of CSP due to institutional and cultural country indicators, as is found in research (Ali et al., 2017; Ghoul et al., 2017). Also, earlier studies indicated that country-specific EFP regulations and tax exemptions in certain countries may affect the nature and working of EFP plans with the possibility of a country-diverse impact on social and environmental performance (Ligthart et al., 2018). Country differences in CSR regulations may influence companies' CSP strategies and, in addition, institutional and cultural factors may influence variance in companies' reactions to the collective orientation of internal and external stakeholders, and on the outcomes of the three pillars (Baldini et al., 2018; Ehnert et al., 2016). An interesting venue for further research is to what extent country indicators moderate the relationship between EFP and social and environmental outcomes, as is found for the relationship between EFP and economic outcomes (Williams, 2016).

In our sample of large listed European companies, the percentage of broad-based employee share ownership is high. This high percentage suggests a possible sample bias, that is the firms that are identified in our sample may not be representative of all European firms as regards the relationship between EFP plans, on the one hand, and corporate social and environmental performance, on the other hand. It must be noted that our definition of only eligibility for broad-based share ownership instead of real participation rate partly accounts for this high percentage. Also, the selection of large, listed companies accounts for this high percentage since the presence of broad-based plans is highly related to the size and listing of the firm (Ligthart et al., 2022). Nevertheless, future research would benefit from a broader European sample base including small- and medium-sized and non-listed firms.

Furthermore, a variety in definitions for measures of CSP negatively affects the comparability of companies' environmental and social performance measurements and reporting (Dragomir,

2018). Disclosure practices for CSP may be selective and self-serving. Companies may prefer to signal good CSP rather than disclose bad CSP. Future research could benefit from more mandatory regulation on CSP disclosure and legal enforcement, resulting in improved data comparability and reliability (Hahn et al., 2015).

Another limitation is related to the use of the EFES database. It provides information on the presence and coverage of share ownership plans, but for stock option and profit-sharing plans only captures the presence of these financial participation schemes. Especially with stock option plans, the coverage in our dataset is most probably mainly narrow-based plans. This has an impact on the interpretation of the combinations of plans. Combinations of broad-based share plans with narrow-based option or profit-sharing plans may have differential effects on CSP compared with the situation of broad-based share plans combined with broad-based option or broad-based profit-sharing plans. Combinations with narrow-based plans may limit the collective orientation on sustainability outcomes by employees knowing that they are exempted from having options. Therefore, an inherent limitation is that we do not have detailed knowledge of coverage, such as the participation rate and the value covered by these schemes (except for share plans). Further empirical work should benefit from including coverage dimensions since previous research has shown that the positive impact of EFP on several organizational outcomes is higher if the coverage is broader and more substantial.

Finally, we examine variation in CSP given the existence of (combinations of) EFP plans. An important assumption is that we believe that changes in attitudes and behaviours of employees towards CSP, when adopting EFP, underlay the pattern of relationships, next to changes in stakeholder orientation of business strategies towards CSP. Future research could benefit from multi-level studies that include the measurement of changes in behaviour at both employee and organizational levels.

Although we are confident that we have provided robust evidence of the role that financial participation plans play in influencing CSP, our findings signal a need for more research on both the antecedents and outcomes of EFP to advance our understanding of conditions that facilitate or inhibit the development of socially and environmentally responsible business practices in different national and international settings.

## 6.4 | Practical implications

The findings of our research have important implications for corporate practice. The outcomes of our study imply that managers may consider the impact of different types of EFP schemes on CSP. In particular, broad-based employee share ownership and high coverage appears to be a possible driver for targeting triple P. It is important to include different compensation elements, such as share ownership plans, stock options and profit-sharing plans, since a portfolio of incentives may better drive CSP. Our findings suggest that employers should consider the use of EFP schemes for all their staff members instead of only for top management when targeting certain CSP outcomes.

### DATA AVAILABILITY STATEMENT

Data are not publicly available.

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## ENDNOTES

[1] In the Robustness section, we investigate the extent to which cross-country variation — and the risk of sample bias — might have affected our results. The results of the robustness tests show that the findings are robust to the inclusion or exclusion of specific countries.

[2] Unfortunately, due to data limitations, a further differentiation between broad-based and narrow-based share ownership plans was not possible for stock option and profit-sharing plans.

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