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EMPLOYEE SHARE OWNERSHIP IN THE CONTEMPORARY BUSINESS ENVIRONMENT

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Abstract. In the contemporary business environment, human capital is decisive for the accomplishment of companies' performance objectives. In the relevant literature, there are studies that present mixed results, regarding the relationship between employee share ownership and company performance. This research investigates the relationship between employee share ownership and company market value, by using a cross-sectional data set of French companies listed on the Euronext Paris Stock Exchange. The results show that the status of employees as shareholders is positively related to the company market value in intermediate-sized enterprises, these results being inconsistent for small and medium enterprises along with large enterprises. These findings extend the literature on shareholder theory by a complementary approach, showing that company size plays an important role in the relationship between companies and their employees through the perspective of shareholder position.

Keywords: employee share ownership, shareholder theory, Ohlson model, company size, French companies, Euronext Paris Stock Exchange.

JEL Classification: G32, M52, O15, O16.

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1. Introduction

Based on the current business environment realities, the present research analyses the employee share ownership role for business success. The principal objective of this research is to check if the company size is associated with the strategies used by companies to motivate the employees by providing them with shares of the company. In order to retain employees, the intrinsic motivation by employee share ownership can be chosen in practice by making the employees be part of the organizational culture and the company's efforts to achieve its strategic objectives.

Starting from the fact that market values represent performance criteria often used in the financial analysis of modern businesses, this research paper investigates the relationships between companies' share price and the role of employees share ownership played by the companies' human capital. The employees, as shareholders, will be interested in increasing the company's value, which produces the necessary synergy to achieve superior financial performance for the companies that focus attention on their own employees.

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At this point, in order to avoid terminological confusion, it is necessary to specify the meaning of the term that is going to be used. As it is addressed by Kaarsemaker and Poutsma (2006), the concept of employee share ownership refers to the participation of employees in the company's capital. It is possible for the employees to receive or to hold equity shares through direct purchase or through the loyalty policy, as a result of equity compensation, for which all or most of the company's employees are eligible. In literature it is known by the name of broad-based equity compensation, since equity share, share certificates, convertibles or share options are all forms of equity. In this study, the employee share ownership was measured by the percentage of shares held by the employees in the companies' capital, without distinguishing between the different forms of equity capital.

There are studies that present divergence results, regarding the relationship between employee share ownership and company market financial performance. In the specialized literature, the companies' size criteria are not taken into consideration in the characterization of this relationship. It is the first time, at least according to the authors knowledge, when a clear distinction is offered on the role that the company size has in the explanation of the relationship between employee share ownership and company market performance. The results obtained by using cross-sectional data of French companies, listed on Paris Stock Exchange, for the financial year 2022, indicate that the market value of intermediate-sized enterprises is positively associated with the role of employee share ownership. Regarding this relationship, the results obtained are not consistent for the association of the market value with the role of employee share ownership in the case of small and medium enterprises along with large enterprises.

The present study contributes in several ways to the specialised literature focused on employees' roles in companies. First of all, the obtained results, strengthened by robustness tests, confirm the explanatory power of the Ohlson model which was used to verify the relationship between the market value of companies and the status of employees share ownership. These results are confirmed both for 2022, the year of returning to normal activity in the business environment after the COVID-19 crisis, and for 2019, the year considered to have normal pre-crisis activity and especially for 2020–2021, a period experiencing the crisis, when the business environment was characterised by different positions of companies in relation to their stakeholders, implicitly to employees and shareholders.

A second perspective is given by different results obtained in the case of small and medium enterprises, along with large enterprises, where employee share ownership is not significant in terms of the market value of their own companies. The results obtained in the case of large enterprises, where the relationship between employee shares ownership and company market performance is not statistically verified, offer a new perspective, completely different from the image and understandings regarding these big and important actors for capital markets so far, often associated with concerns for holding the company shares by employees.

The third perspective of the present study, which focuses on French companies listed on Euronext Paris Stock Exchange, deviates from the usual patterns of studies in this field, where the focus is on companies from the USA and the UK. It is a choice, or rather a direction towards the continental European accounting model, a model promoted by French

companies, to the detriment of Anglo-Saxon model, which is specific to American and British companies. Beyond the standardisation that is specific to listed companies which report according to International Financial Reporting Standards, the European accounting system brings complementary information correctly received by all those interested in the original form of companies' behaviours, this being primarily associated with the specific culture of the accounting area cultivated by the country of origin.

Finally, the construction of the article allows the anchor of the financial-accounting vision, highlighted in the present study by the use of the Ohlson model, in the field of human resources management, reflected by the employee share ownership. This study is a proof of the interdisciplinary approach in the current scientific research, a tool of knowledge in management science and a way to follow towards performance in the contemporary business environment. It is a living proof of the possibilities to interpret a certain context from the perspective of different scientific disciplines, which proves one of the research directions proposed by Cooke (2018) in the field of human resources management. The present study contributes to the confirmation of the existence of causal links between organizational behaviour measured by market values and human resources management practices measured by employee share ownership.

The present paper is structured on components that reflect the vision of the authors on the research issue. The paper presents the state of knowledge from the relevant literature, followed by the description of the research methodology which introduces the research hypothesis, then by the description of data and by the presentation of the results and robustness tests, succeeded by a discussion section; finally, the conclusions are highlighted, the limitations are shown and the perspectives for future research are communicated.

2. Literature review

The relationship between different types of ownership and company performance has been very often put into discussion in the specialized literature in various forms, such as executive ownership (Core & Larcker, 2002), institutional ownership (Velury & Jenkins, 2006), family ownership (Silva & Majluf, 2008), venture capital ownership (Fitza et al., 2009), government ownership (Xia & Walker, 2015). Each of these relationships has specified the importance of company strategies and behaviour in order to achieve its performance objectives, which has expanded the field of strategic management and consistently fed, from the knowledge point of view, all interested parties. The current research revealed very small levels of influence regarding the effect of employee ownership to the company performance (Doucouliagos, 1995; O'Boyle et al., 2016) or inconsistent results of this influence, such as Robinson and Wilson (2006) who found a positive effect of employee ownership on firm performance or Blasi et al. (1996) who found an insignificant or negative effect of this influence. These divergence results require the development of these approaches. Regarding the influence of different forms of ownership on companies' results, the specialised literature is configured on two major currents of research, one of which is dedicated to top management, and the other one to all company's employees. The present study focuses on the role of the employees as shareholders, which allows the verification of the link between company market value and employee share ownership.

At the base of such relationships and manifestations, with a clear objective to achieve financial performance for listed companies, we can place the specific arguments of the agency and incentives approach developed by Jensen and Meckling (1976) who cultivate the ideas expressed by Milton Friedman in the article "The social responsibility of business is to increase its profits", published by The New York Times on 19 September 1970. Along with these central theories, which support research for more than half a century in the field of company's financial performance, this research also brings into discussion the expectancy-value theory (Vroom, 1964, cited by Eerde & Thierry, 1996), in order to support the idea that employees are willing to make extra effort because they expect extra reward, such as the increase in value of the shares that are held. Through the lens of roles assigned to employees, this relationship confirms the agency theory, the employees being the agents of the shareholders' well-being, shareholders among whom they are also a part. Moreover, based upon strategic human capital theory, because the employees act under the extrinsic motivation of salary, the characteristic of company size can influence the relationship between employee ownership and company performance. The literature review emphasises the arguments derived from these theories, which explain the relationship between the behaviour and attitude of employees in relation to the results obtained by their organisations.

It is worth mentioning the three models proposed by Klein (1987) related to the impact of employees' attitude and behaviour to the organisation results. The first model was referring to the impact of extrinsic motivation, based on which employees make an extra effort because they expect extra benefits. This is a model very close to what the agency theory represents, but it can also be applied from the perspective of the expectancy theory that justifies the extra effort of the employees, by informing them in advance about the objectives to be achieved, objectives that once achieved will allow the granting of extra benefits. These organisation results are also sustained by Kim et al. (2025) who found that companies using employee share options plan (ESOP) are positively associated with higher work effort and salaries rewards. Moreover, Makridis (2025) demonstrated that sharing the company's profit with employees is associated with increases in job satisfaction and with declines in employee's turnover. The second model, known as instrumental effect, highlights the fact that, by participating in the business financing, both the employees and the company assume the risks to which the organisation is exposed and therefore they act on the basis of a common interest. The same assertions are supported by Sun et al. (2025) who affirmed that employee shareholders foster shared ownership, align interests with corporate goals, and promote collaboration and innovation. Moreover, Li et al. (2025) demonstrated a more fairy income distribution in companies with a higher proportion of production workers, higher levels of human capital, lower market share, and more concentrated supply chains. Thus, common interests gather and concentrate the attitudes and behaviours of employees, who are interested in taking part in the strategic decision-making process and in achieving performance indicators at the company level. The third model offers the perspective of intrinsic motivation on those who hold shares in the company's capital, advancing the idea that, along with the right of shareholders, at the level of employees, the feeling of co-ownership develops and, consequently, they will act accordingly. Furthermore, in addition to these theoretical foundations, previously presented, this paper is well worth the instrumental stakeholder theory

(Freeman, 1984; Donaldson & Preston, 1995) in order to emphasise the role of employees in generating the resources necessary to achieve financial performance by companies. All these theories, presented above, fully support the thesis that was fixed for this research paper. The relationship between the companies' market value and the employees who hold the role of shareholders can be based on intrinsic motivations, instrumental effect theory, expectancy theory, agency theory, and also on interested parties' theory.

The practice of using the intrinsic motivation of employees, by offering them parts of the company's capital, is internationally widespread. All over the world, the national economies have created frameworks to sustain the employee share ownership, seeing this as a useful instrument to maintain the prosperous businesses. The USA excels in this chapter, almost 7,000 American companies having an employee share options plan comprising a number of 11 million people which represent 9% of the entire workforce in the USA private sector (Case, 2017). By 2022, 59% of all American adult workers had one or other form of equity shares, alone or in combination, in the companies where they worked (Blasi & Michie, 2025). If in the American economy, the employee is stimulated through these capital participation schemes, providing him with an alternative to pension plans or other forms of savings, in Europe, at least in the recent years, we are witnessing a decrease in the percentage of employees who own shares, where, on average, one in five employees owns shares (Mathieu, 2023). The same source mentions that the more drastic decrease is revealed in France, where the proportion of employee share ownership in the total number of employees of the largest French listed companies decreases from 42% in 2010 to 32% in 2023. This situation is also reinforced by the proportion of employee share ownership in the large European companies which dropped at 3.01% in 2023, compared with 3.10% in 2013. The French business law demands to the listed companies where employees represent more than 3% of share capital, that the employees to be represented on the board of directors or the supervisory board (Cardoni & Poulain-Rehm, 2023), while for the private companies, the employee share ownership is a business practice that significantly raises productivity (Fakhfakh & FitzRoy, 2025). The employee share ownership is also actively promoted by the Korean regulations, where 20% of shares in listed companies have to be reserved for employee associations (Shin & Park, 2025). Similar practices exist in China, where through the Guiding Opinions on the Pilot Implementation of Employee Stock Ownership Plans by Listed Companies, employees can hold shares in their own companies for a percentage of maximum 10% and a minimum period of one year. However, most employees engaged in Chinese ESOPs choose to sell their shares within two years (Zhang et al., 2025).

In order to achieve financial performance, for the intrinsic motivation of employees' behaviour and attitudes, there are many pursuits mirrored in the profile literature, the employees acting coherently and concentrated, together with the other levels of decision and action, such as company management. Companies with employee shareholders involve them in decision-making process, which in accordance with Birkhead et al. (2024) leads to higher levels of trust between management and employees. In this context, based on the entire theoretical framework presented above, we consider employees as the driving wheel that, once started, engages all the company's systems and processes, by training them to achieve and obtain financial performance by the company. To a certain extent, by supporting the

motivational models, in accordance with the situation that led to the emergence and formulation of the agency theory over time, the labour legislation, as the Codetermination Act and the Act on Board Representation for Employees of the Swedish Parliament offered to private sector employees, through trade unions, the opportunity to be present in the management of the company in order to provide information about the company policies and to have greater influence on the company activities (Levinson, 2000). From the perspective of participating in the decision-making process, the employee becomes a resource of the company, which contributes with the values such as trust, new ideas and legitimacy to the company's effort to achieve financial performance. It is a vision highlighted also by Aoki (1980) whose cooperative game theory focuses attention on the fact that everyone's involvement in a common decision can lead to effective solutions. Rose (2025) goes further in strengthening the role of the employee share ownership, proposing a meta-economics concept in which the businesses should consider ethics and human values, by postulating that "employee ownership dissolves the neo-liberal concepts of labour as a cost to be reduced, and that labour and management are in opposition, replacing them with the people working together for mutual benefit".

The benefits of employee share ownership are both financial and social. Employee share ownership leads to the growth of financial transparency (Birkhead, 2023), influencing corporate financial decisions. Recent studies highlight the companies' business practice to use ESOPs with the aim of reducing corporate income tax burden (Li et al., 2026). Therefore, companies with higher employee ownership have effectively internal controls that prevent and detect corporate financial fraud (Wu et al., 2023) and experience a decrease in the frequency of non-financial misconduct by managers (Nguyen et al., 2024). Companies that implement ESOPs create long-term value, by having a positive impact on corporate ESG performance (Zeng, 2024). Berry (2025) developed the social enterprise concept in the US, considering that the ESOP business fills any part of the societal need for the social enterprise. Companies granting ESOPs promote also greater corporate ecological engagement, especially within companies operating in highly risky industries, having greater media exposure, or being in an intense labour market competition (Kong et al., 2024). The employees in their quality of company's owners adopt a more favourable attitude than the company's CEO toward beneficial outcomes for corporate environmental performance (Lee et al., 2025), companies investing in green innovation having better environmental performance after adopting ESOPs (Liu et al., 2024).

Considering both the environment experienced by French listed companies in particular, and also by European companies in general, along with the role types attributable to employees, the present research proves to be a requirement to strengthen the relations between companies and their employees, through the action assignment as internal motivation and its role in generating and manifesting the synergy that leads to superior financial performances.

3. Research methodology

The employees who own shares in the company where they are employed are more motivated at work. This creates a favourable environment inside and outside the company which should be perceived favourably by the capital market. The company's market value expressed

by the share price, which must increase in the short term to meet shareholders' expectations (Fligstein & Shin, 2005; Zuckerman, 2000), is considered to be one of the most important indicators of the company's financial performance and of the company's economic health (Zorn et al., 2004).

3.1. Research hypothesis

From the perspective of recent research, there are many positions in the literature regarding the context in which companies are very attentive to aspects related to the financial performance, and also to the role that employees have in this field, the social-responsible behaviour of companies being very often investigated (Liao et al., 2018). If it is considered that employees support all the development activities that increase the company's financial performance, the responsibility of companies towards their own employees will appear as normal (Urban, 2025; Abriata & Delautre, 2020; Shen & Benson, 2016). In order to attract, motivate and retain the employees, companies use the employee stock options, a tool that increasingly becomes prominent in the contemporary business environment (Martin et al., 2016). In the 1980s, under the influence of the agency and incentives approach, this tool was intended almost exclusively for top executives. As time goes by the advancement of corporate governance in the contemporary business environment, an extension of the use of this tool to the company employees appears. The access of employees to the shares of their own companies, either entirely or in a majority proportion, is defined in the literature as a broad-based stock option plan. The employees who reach the position of shareholders, known as employee share ownership, are associated with intrinsic behaviours and attitudes which creates a competitive advantage over the other companies. The employee involvement in the company life, not only as employees, but also as shareholders, offers confidence to the capital market. This should positively influence the company's development and, implicitly, the company's market value, for which reason the following hypothesis was formulated:

H: *There is a positive relationship between the company's market value and employee share ownership.*

In this research, different from what exists in the relevant literature, we chose to verify if the ownership of shares by employees will positively be associated with the company market value, regardless of the employees' proportion in the capital of the companies they belong to.

3.2. Econometrical model

In order to test if the capital market perceives favourably the presence of employee as shareholders in the company, the main empirical analysis is conducted using cross-sectional OLS regressions based on the Ohlson model (1995). This model is used in many studies that aim to identify the factors which significantly influence the company value, of which equity and net income are the most important (Jianu & Jianu, 2018; Istrate et al., 2015). The specific variables of the Ohlson model are represented by unit values. The dependent variable PRICE, which is the company share price, is expressed as a logarithm, in order to decrease the data variability. The specific explanatory variables are EQUITY, which is the book value of equity per share expressing the shareholders' funds per share, and EPS, which represents the earnings

per share calculated dividing the net income minus preferred dividends per weighted average of ordinary shares outstanding. Sesil et al. (2007) defines the employee share ownership only when more than half of company's employees have the status of shareholders, the return on asset being smaller for these companies than those companies without employee motivation schemes. In order to eliminate this bias, in the present research, the employee share ownership is defined by a dummy variable that takes the value 1 for companies where employees own minimum 0.1% of company's share capital and 0 otherwise. The percentage of shares owned by employees who have the status of shareholders in their own companies (SH_HOLD) is represented by "Shareholder – direct %" published in the Orbis database. Employee share ownership appears in the Orbis database at the category "Shareholder – Type" with the name of "Employees, managers, directors" and at the subcategory "Shareholder Name" with various names as "Salaries", "Salaries du groupe", "Personnel de", "Employees of", "Fonds – salaries", "Fonds commun de placement des salaries", "Mandataires sociaux et salaries", "Salaries et anciens salaries". In order to test if the market perceives favourably the implication of employees as shareholders, the explanatory variable DUMMY_SH is introduced in the Ohlson model, this variable will be taking the value 1 if the employees are shareholders in their own company or 0, otherwise. In addition to the interest variables, the debts ratio DTS that shows the degree of indebtedness of the company was introduced as a control variable (Lennox et al., 2012). In the robustness tests made to analyse the variation of the model, in addition to the variables already mentioned above, it was used the control variable GEARING, which expresses the ratio of non-current liabilities plus loans divided by shareholders' funds. The developed Ohlson model used in this study is presented below.

$$\text{PRICE}_{i,t} = \beta_0 + \beta_1 \text{EQUITY}_{i,t} + \beta_2 \text{EPS}_{i,t} + \beta_3 \text{DUMMY_SH}_{i,t} + \beta_4 \text{DTS}_{i,t} + \varepsilon_{i,t},$$

where $\text{PRICE}_{i,t}$ – natural logarithm of share price of the company i for the year t; $\text{EQUITY}_{i,t}$ – book value of equity per share of the company i for the year t; $\text{EPS}_{i,t}$ – annual earnings per share of the company i for the year t; $\text{DUMMY_SH}_{i,t}$ – status of employees as shareholders in the company i for the year t; $\text{DTS}_{i,t}$ – debts ratio of the company i for the year t.

The β_3 coefficient of the explicative variable DUMMY_SH was analysed to test the hypothesis. In order to demonstrate that the employee share ownership is positively associated with the share price, it is expected that the β_3 coefficient sign to be positive and the β_3 coefficient value to be significant. The detailed description of the variables used in the model is presented in the Appendix A.

3.3. Data collection

The present study was conducted by using the French companies listed on Euronext Paris Stock Exchange. On the date of data collection, 26 October 2023, a number of 853 companies were listed. On the same date, a number of 70 companies did not appear in the Orbis database. For the present study, only French companies were used due to their culture to involve employees in the company life, as shareholders. Therefore, a number of 89 non-French companies listed on Euronext Paris Stock Exchange were eliminated. The hypothesis testing was made by using the financial information disclosed by French listed companies in the year

2022. In order to test if the hypothesis is valid regardless of the economic context, in the robustness tests that were applied, data for the period 2019–2022 were analysed. A number of 227 companies were eliminated due to null values or missing financial information for total assets, total liabilities, total equity, operating revenue, net profit, price, earnings per share, price to book value, gearing, and shares outstanding for every year of the period 2019–2022. A number of 97 companies were also eliminated because the information about employees, such as the number of employees, average cost of employee, operating revenue per employee, payroll to revenue ratio, was not presented. The companies with a negative value of equity have an unfavourable financial situation. These companies generally do not have any possibility to continue their activity. They fight to survive having a different business behaviour. For this reason, a number of 23 companies with a negative value of equity were eliminated. Finally, a number of 347 companies were analysed.

Taking into consideration the fact that the capital market reacts differently depending on the companies' size, the present study classifies the companies in clusters based on the size criteria used in France to classify the companies. In France, the decree no 2008–1354 issued on 18 December 2008 classifies companies in four categories: microenterprises, abbreviated to TPE (Très Petites Entreprises), small and medium enterprises, abbreviated to PME (Petites et Moyennes Entreprises), intermediate-sized enterprises, abbreviated to ETI (Entreprises de Taille Intermédiaire), and large enterprises, abbreviated to GE (Grandes Entreprises). In order to classify a company in one of these four categories, three size criteria are used: number of employees, turnover and total assets. A microenterprise is a company that has less than 10 employees and a turnover or total asset which does not exceed 2 million euros. A small and medium enterprise is a company that has less than 250 employees and a turnover or total asset which does not exceed 50 million euros or 43 million euros respectively. An intermediate-sized enterprise is a company that has less than 5,000 employees and a turnover or total asset which does not exceed 1.5 billion euros or 2 billion euros respectively. A large enterprise is a company that generally has more than 5,000 employees and a turnover or total asset which exceeds 1.5 billion euros or 2 billion euros respectively. The number of companies used in this study are presented in Table 1.

Table 1. Cluster of companies

Categories of companies	No of companies classified by the no of employees	No of companies transferred in the next category	No of companies transferred two categories	No of companies received from the other categories	Clusters
0	1	2	3	4	5 = 1 – 2 – 3 + 4
TPE	8	5	1		2
PME	94	21		5	78
ETI	148	7		22	163
GE	97			7	104
Total	347	33	1	34	347

By taking into account the number of employees, most of the companies are classified in one of the three categories: small and medium enterprises, intermediate-sized enterprises, and large enterprises. When the size criteria regarding the number of employees are met, but the criteria regarding turnover or total assets are not, the companies will migrate to the next category. A number of 33 companies migrated in the next category (5 companies from TPE to PME, 21 companies from PME to ETI, and 7 companies from ETI to GE) and one company migrated above two categories (from TPE to ETI). The small number of microenterprises, respectively two companies, did not allow the formation of a large enough cluster to perform the econometric analysis. Therefore, in the present study, the analysis is performed based on three clusters: small and medium enterprises (78 companies), intermediate-sized enterprises (163 companies), and large enterprises (104 companies).

4. Data description

4.1. Outlier analysis

Because the variables used in the Ohlson model have very high values for a certain number of companies, it was proceeded at the removal of outliers with the highest and lowest scores, in a percentage of 2% of data of each variable specific to the Ohlson model, respectively PRICE, EQUITY and EPS. As it follows from Table 2, a number of 2 microenterprises, 12 small and medium enterprises, 18 intermediate-sized enterprises, and 12 large enterprises were removed from the data. The removal of outliers was realised depending on the specific values of the year 2022. A detailed description of outliers is presented in the Appendix B.

Table 2. Outliers removal

Categories of companies	TPE	PME	ETI	GE	Total
Number of companies before outliers removal	2	78	163	104	347
(–) Number of companies considered outliers	(2)	(12)	(18)	(12)	(44)
= Number of companies after outliers removal	0	66	145	92	303

From the initial number of 347 companies selected, a number of two companies were represented by microenterprises with less than 10 employees and a turnover which does not exceed 2 million euros. The operating revenue per employee for these companies is very high, with more than 139 thousand euros per year. One of the two companies rewards its employees with an average salary bigger than 10 thousand euros per month. At this company, 92.6% of turnover goes back to employees as salaries. None of the employees of these two companies has the status of shareholder. Being considered very small enterprises, the market is not willing to pay for these companies a price bigger than the book value of their assets, Tobin's Q ratio having a value less than one. The status of microenterprises does not offer a wide access to external financing, debts ratio having a percentage less than 31%, thus permitting companies to carry out their activities in conditions of financial stability. The small number of these companies does not offer the possibility to create a cluster in order to realise a detailed analysis (Appendix B, Table B1).

A number of 12 small and medium enterprises were considered outliers, having less than 250 employees and a turnover which does not exceed 50 million euros. The annual operating revenue per employee varies significantly within these companies, from 87.5 thousand euros per year to more than 600 thousand euros per year. With the exception of one company where the average monthly salary is roughly 13.7 thousand euros, at none of the other 11 companies it does not exceed 6.7 thousand euros, the minimum salary being 2.4 thousand euros per month. The percentage of turnover that goes back to employees as salaries varies between 5.6% and 42.8%, with the exception of one company where this percentage is 90.6%. The employees have the status of shareholder within three small and medium enterprises considered outliers. These companies do not offer enough confidence to investors to pay for the company a price bigger than the book value of total assets, Tobin's Q ratio having a value less than one for 10 small and medium companies. Debts ratio for the small and medium companies has a percentage which varies significantly, from 16.1% to 91% (Appendix B, Table B2).

A number of 18 intermediate-sized enterprises were considered outliers, having less than 2,200 employees and a turnover or total asset which does not exceed 2 billion euros. The average operating revenue per employee is high for these companies, varying significantly between 120–8,035.5 thousand euros per year, with the exception of one company whose operating revenue per employee is 44.4 thousand euros per year. The remuneration of monthly labour varies significantly within these companies, from 575 euros per employee to huge amounts of 40,000 euros per employee. In none of these companies, the salary expenses do not represent more than 50% of turnover. The employees have the status of shareholders within six intermediate-sized enterprises considered outliers. Although the companies included in this category tend to become large enterprises, the market does not perceive them as having the perspective of future development, only at 3 from 18 companies the Tobin's Q ratio having a value bigger than one. This fact is also reflected by the small degree of external financing necessary for development, debt ratio having a percentage of less than 50% for all intermediate-sized enterprises considered outliers (Appendix B, Table B3).

A number of 12 large enterprises considered outliers has either the number of employees bigger than 5,000, or the turnover or total assets exceeding the value of 2 billion euros. The annual operating revenue per employee for large enterprises does not exceed that of intermediate-sized enterprises, the average monthly salary varying between the minimum of 1,000 euros to the maximum of 10,700 euros. The percentage of turnover that goes back to employees as salaries does not exceed 70%, the minimum being 6.7%. The employees have the status of shareholders within 5 large enterprises considered outliers. Although they are large enterprises, only for 4 companies the market is willing to pay a higher price than the book value of total assets. With the exception of two companies, where the debts ratio is less than 40%, for all the other companies the degree of indebtedness is high, reaching in the case of one company the percentage of 97.1% (Appendix B, Table B4).

4.2. Descriptive statistics

The descriptive statistics for the year 2022 are presented in Table 3 for small and medium enterprises, in Table 4 for intermediate-sized enterprises, and in Table 5 for large enterprises.

A small and medium enterprise is a company that has a number of employees between 10 and 250, and a turnover or total asset of less than 50 million euros, respectively 43 million euros, and also companies with less than 10 employees but a turnover or total asset bigger than 2 million euros, reason for which they cannot be classified as microenterprises. A number of 66 companies were included in the cluster of small and medium enterprises, the average number of employees for this cluster being 79, with a minimum of one employee and a maximum of 250. By analysing the turnover of these companies, the average value is roughly 18.6 million euros, with a minimum of 0.5 million euros and a maximum of 56 million euros. The value of total assets varies significantly between companies, from a minimum of 1.7 million euros to a maximum of 890.9 million euros. The average of total assets is 61.4 million euros and the median is 25.2 million euros. The Q3 value of 46.9 million euros for total assets reflects that 25% from the small and medium enterprises exceed the limit value of 43 million euros. The share price varies between the minimum of 0.13 euros and maximum of 56.60 euros. Small values of Q1 and Q3 for the share price signifies that it has low values, the median being of 3.92 euros. The same tendency is maintained in the case of equity per share, where values vary between the minimum of 0.1 euros and maximum of 92.96 euros, the median having the value of 1.88 euros. A percentage of 38% of the small and medium enterprises recorded losses, the average earnings per share having the value of 0.36 euros. The employees own shares at a number of 18 companies from the total of 66, the lowest percentage of the employee share ownership being 0.2% and the highest 8.5%, with an average of 2.4%. In the small and medium enterprises employees have a significant role in the good running of the business, on average, roughly 32.1% of turnover being used by companies to remunerate their employees. For these companies, the operating revenue per employee is high, respectively 427 thousand euros per year while the annual salary per employee is roughly 77.9 thousand euros, which means an average monthly salary of 6.5 thousand euros per employee. Regarding the development perspectives of the small and medium enterprises, for more than 50% of them the market capitalization does not exceed the book value of total assets, the Tobin's Q ratio having a value less than one. The average of debts ratio is 53.1%, with a minimum of 6.4% and a maximum of 95.7%, which means that small and medium enterprises carry out their activities both in conditions of financial stability, with Q1 of 34.3%, and in conditions of financial risk, with Q3 of 69.4%.

An intermediate-sized enterprise is a company that has a number of employees between 250 and 5,000, and a turnover or total asset of less than 500 million euros, respectively 2 billion euros. In this category companies with less than 250 employees but a turnover or total asset bigger than specific size criteria to be classified as small and medium enterprises are also included. A number of 145 companies were included in the cluster of intermediate-sized enterprises, the median being of 770 employees. The average turnover for these companies is roughly 350 million euros, half of them having a turnover bigger than 237 million euros. While analysing the value of total assets, it is revealed that the average is roughly 940 million euros with a standard deviation of more than 2 billion euros. The share price varies significantly between companies, the minimum value is 0.61 euros and maximum 168 euros, 75% of the intermediate-sized companies having a share price lower than 35.4 euros. The same tendency is maintained in the case of equity per share, where values vary between the minimum

Table 3. Descriptive statistics for small and medium enterprises

	Mean	St. Dev.	Minimum	Q1	Median	Q3	Maximum
PME: 66 companies							
No employees (persons)	79	63	1	32	61	127	250
Turnover (million EUR)	18.6	13.1	0.5	8.1	15.6	27.7	56.0
Total assets (million EUR)	61.4	151.1	1.7	12.2	25.2	46.9	890.9
PRICE (EUR/share)	7.37	10.68	0.13	1.45	3.92	7.78	56.60
EQUITY (EUR/share)	6.04	13.22	0.10	0.97	1.88	6.19	92.96
EPS (EUR/share)	0.36	1.16	–1.26	–0.10	0.07	0.63	6.51
DUMMY_SH (1 or 0)	0	0.5	0	0	0	1	1
DTS (%)	53.1%	21.1%	6.4%	34.3%	52.8%	69.4%	95.7%
GEARING (%)	86.6%	107.4%	0.03%	15.7%	59.4%	109.0%	668.1%
TOBIN (units)	0.8	0.5	0.1	0.4	0.6	1.1	2.1
ORE (th EUR/emp)	427.0	570.7	55.9	141.5	206.8	525.8	3,305.3
ACE (th EUR/emp)	77.9	55.5	23.3	45.2	69.8	88.2	411.0
PRR (%)	32.1%	18.8%	2.5%	17.8%	32.0%	42.0%	87.7%
SH_HOLD (%)	2.4%	2.4%	0.2%	0.7%	1.4%	4.0%	8.5%

Note: This table presents the descriptive statistics of small and medium enterprises for the year 2022, disclosing the values of criteria used in France to classify the companies, such as the number of employees, turnover, total assets; the value of variables used in the Ohlson developed model, such as share price (PRICE), value of equity per share (EQUITY), earnings per share (EPS), status of employees as shareholders in the company (DUMMY_SH); control variables such as debts ratio (DTS) and gearing ratio (GEARING); market capitalization by total assets (TOBIN); other information about employees, such as the operating revenue per employee (ORE), average cost of employee (ACE), payroll to revenue ratio (PRR) and the percentage of shares owned by employees (SH_HOLD). For a relevant presentation, the amounts are rounded to one decimal, with the exception of the number of employees and DUMMY variable, which are integers, and the Ohlson's specific variables, which are rounded to two decimals.

of 0.73 euros and maximum of 166.8 euros, the median having the value of 12.24 euros. A percentage of 17% of the intermediate-sized enterprises recorded losses, the median of earnings per share having the value of 0.99 euros. The employees own shares at a number of 55 companies from the total of 145, the lowest percentage of the employee share ownership being 0.02% and the highest 12.83%, with an average of 1.8%. In intermediate-sized enterprises the percentage of turnover which is going back to the employees as salaries is roughly 25.2%. The operating revenue per employee is 570.55 thousand euros per year while the annual salary per employee is roughly 72.91 thousand euros, which means an average monthly salary of 6.1 thousand euros per employee. Regarding the development perspectives of the intermediate-sized enterprises, for more than 75% of them the market capitalization does not exceed the book value of total assets, the Q3 value for Tobin's Q ratio having a value less than 1. The average debt ratio is 59.1%, with a minimum of 15% and a maximum of 91.7%, which means that intermediate-sized enterprises carry out their activities both in conditions of financial stability, with Q1 less than 50%, and in conditions of financial risk, with Q3 of 71.4%.

Table 4. Descriptive statistics for intermediate-sized enterprises

	Mean	St. Dev.	Minimum	Q1	Median	Q3	Maximum
ETI: 145 companies							
No employees (persons)	1.128	1.036	7	350	770	1,491	4,406
Turnover (million EUR)	350.39	360.86	26.08	119.69	237.67	476.48	2,688.83
Total assets (million EUR)	940.49	2,176.60	23.02	156.17	347.66	697.84	20,677.86
PRICE (EUR/share)	27.87	32.71	0.61	5.31	16.72	35.40	168.00
EQUITY (EUR/share)	20.01	25.33	0.73	5.42	12.24	24.18	166.80
EPS (EUR/share)	1.62	2.21	–3.25	0.15	0.99	2.89	9.36
DUMMY_SH (1 or 0)	0	0.5	0	0	0	1	1
DTS (%)	59.1%	16.6%	15.0%	46.4%	59.0%	71.4%	91.7%
GEARING (%)	110.7%	113.2%	1.3%	39.4%	83.7%	145.3%	817.9%
TOBIN (units)	0.8	1.0	0.1	0.2	0.4	0.89	7.6
ORE (th EUR/emp)	570.55	962.71	53.17	169.23	264.58	526.02	8,242.29
ACE (th EUR/emp)	72.91	41.93	2.45	50.49	61.93	84.67	320.03
PRR (%)	25.2%	16.7%	0.7%	11.8%	21.8%	33.2%	73.0%
SH_HOLD (%)	1.8%	2.3%	0.02%	0.2%	0.8%	3.0%	12.8%

Note: This table presents the descriptive statistics of intermediate-sized enterprises for the year 2022, disclosing the values of criteria used in France to classify the companies, such as the number of employees, turnover, total assets; the value of variables used in the Ohlson developed model, such as share price (PRICE), value of equity per share (EQUITY), earnings per share (EPS), status of employees as shareholders in the company (DUMMY_SH); control variables such as debts ratio (DTS) and gearing ratio (GEARING); market capitalization by total assets (TOBIN); other information about employees, such as the operating revenue per employee (ORE), average cost of employee (ACE), payroll to revenue ratio (PRR) and the percentage of shares owned by employees (SH_HOLD). For a relevant presentation, the amounts are rounded to one decimal, with the exception of the number of employees and DUMMY variable, which are integers, and the Ohlson's specific variables, which are rounded to two decimals.

Large enterprises are those that generally have a number of employees more than 5,000, and a turnover or total asset more than 500 million euros, respectively 2 billion euros, and also companies with less than 5,000 employees and a turnover or total asset bigger than specific size criteria to be included in the other categories of companies. Among the 92 companies included in this category, half of them have more than 25,000 employees, 25% of these companies have more than 80,000 employees, the maximum number of employees being 421,991. The median of turnover for large enterprises is 5 billion euros, with a maximum value of 247 billion euros. The same tendency is maintained for total assets, where more than half of large enterprises have total assets higher than 7 billion euros, with a maximum value of 285 billion euros. The share price varies significantly between companies, the minimum value is 3.65 euros and the maximum value is 681 euros, the median value being 36.44 euros. In the case of equity per share, values vary between the minimum of 4.26 euros and maximum of 300.9 euros, with a median of 32.47 euros. A percentage of 17% of the large enterprises recorded losses, the median of earnings per share having the value of 2.92 euros. The employees own shares at a number of 57 companies from the total of 92, the lowest percentage of the employee share ownership being 0.1% and the highest 27.4%. In the large

enterprises the percentage of turnover that is going back to the employees as salaries is roughly 29.8%. The operating revenue per employee is 303 thousand euros per year while the annual salary per employee is 56.4 thousand euros, which means an average monthly salary of 4.7 thousand euros per employee. Regarding the development perspectives of the large enterprises, for less than 25% of them the market capitalization exceeds the book value of total assets, the Q3 value for Tobin's Q ratio having a value less than 1. The average debt ratio is roughly 61.6%, with a minimum of 29.8% and a maximum of 88.5%, roughly 75% of the large enterprises being indebted for more than 50% of total assets.

When comparing the companies included in the three clusters, such as small and medium enterprises, intermediate-sized enterprises and large enterprises, it was revealed that employees represent a valuable resource for the companies. Most of the turnover is going back to employees as salaries, the percentage varying from 25.2% for intermediate-sized enterprises to 29.8% for large enterprises and 32.1% for small and medium enterprises. Regarding the remuneration of employees, the average monthly salary varies from 4.7 thousand euros for large enterprises to roughly 6.1 thousand euros for intermediate-sized companies and 6.5 thousand euros for small and medium enterprises. The operating revenue per employee is 302.9 thousand euros per year for large enterprises, 427 thousand euros per year for

Table 5. Descriptive statistics for large enterprises

	Mean	St. Dev.	Minimum	Q1	Median	Q3	Maximum
GE: 92 companies							
No employees (persons)	66,692	92,833	1,072	9,010	25,641	81,988	421,991
Turnover (million EUR)	16,701.0	31,773.6	198.0	2,001.0	5,328.6	20,135.8	247,080.6
Total assets (million EUR)	26,320.0	46,279.0	112.2	2,345.3	7,230.6	33,510.4	284,890.4
PRICE (EUR/share)	81.62	119.84	3.65	16.55	36.44	92.95	681.00
EQUITY (EUR/share)	43.77	42.40	4.26	16.45	32.47	56.99	300.90
EPS (EUR/share)	5.13	6.79	–3.94	1.06	2.92	6.69	32.12
DUMMY_SH (1 or 0)	1	0.5	0	0	1	1	1
DTS (%)	61.6%	13.8%	29.8%	50.8%	61.0%	73.4%	88.5%
GEARING (%)	108.0%	85.1%	420.6%	48.3%	87.3%	132.9%	3.5%
TOBIN (units)	0.7	0.8	0.1	0.3	0.5	0.7	5.5
ORE (th EUR/emp)	302.9	334.4	14.5	123.5	239.8	313,8	2,439.6
ACE (th EUR/emp)	56.4	23.6	7.2	41.7	54.2	65.7	149.2
PRR (%)	29.8%	19.4%	3.3%	16.3%	22.3%	36.2%	90.2%
SH_HOLD (%)	2.8%	3.9%	0.1%	0.9%	1.7%	3.3%	27.4%

Note: This table presents the descriptive statistics of large enterprises for the year 2022, disclosing the values of criteria used in France to classify the companies, such as the number of employees, turnover, total assets; the value of variables used in the Ohlson developed model, such as share price (PRICE), value of equity per share (EQUITY), earnings per share (EPS), status of employees as shareholders in the company (DUMMY_SH); control variables such as debts ratio (DTS) and gearing ratio (GEARING); market capitalization by total assets (TOBIN); other information about employees, such as the operating revenue per employee (ORE), average cost of employee (ACE), payroll to revenue ratio (PRR) and the percentage of shares owned by employees (SH_HOLD). For a relevant presentation, the amounts are rounded to one decimal, with the exception of the number of employees and DUMMY variable, which are integers, and the Ohlson's specific variables, which are rounded to two decimals.

small and medium enterprises and 570.6 thousand euros per year for intermediate-sized enterprises. The average percentage of the employee share ownership is 2.5%, its maximum value being 8.5% for small and medium enterprises, 12.8% for intermediate-sized enterprises and 27.4% for large enterprises. For every of the three clusters, such as small and medium enterprises, intermediate-sized enterprises and large enterprises, losses were recorded for a percentage between 25–50% of the companies. Regarding the financial risk, large enterprises are the most indebted, with an average debt ratio of 61.6%.

4.3. Correlation analysis

The Pearson bivariate correlation coefficients are presented in Table 6 for the developed Ohlson model. These results highlight the moderate positive correlation between the dependent variable PRICE and the explanatory variables EQUITY for large enterprises and EPS for intermediate-sized enterprises and large enterprises, on the one hand, and between explanatory variables EQUITY and EPS for small and medium enterprises along with large enterprises, on the other hand. For small and medium enterprises along with intermediate-sized enterprises, there is a weak positive correlation between the dependent variable PRICE and the explanatory variable EQUITY, and also between the dependent variable PRICE and the explanatory variable EPS, but only for small and medium enterprises. Besides, for intermediate-sized enterprises there is a weak positive correlation between the explanatory variables EQUITY and EPS. For the same companies, a scant but significant positive correlation exists between the dependent variable PRICE and the explanatory variable DUMMY_SH, on one the hand, and a scant but significant negative correlation exists between the dependent variable PRICE and the explanatory variable DTS, on the other hand. At the same time, a scant but significant negative correlation exists between the explanatory variables EQUITY and DTS for small and medium enterprises along with intermediate-sized enterprises.

Table 6. Pearson coefficient correlation for the variables of the developed Ohlson model

	PRICE	EQUITY	EPS	DUMMY_SH	DTS
PRICE	1				
EQUITY (PME) (ETI) (GE)	0.51*** 0.55*** 0.69***	1			
EPS (PME) (ETI) (GE)	0.46*** 0.65*** 0.76***	0.71*** 0.55*** 0.82***	1		
DUMMY_SH (PME) (ETI) (GE)	0.06 0.20* –0.04	–0.13 0.07 –0.10	–0.08 0.09 –0.14	1	
DTS (PME) (ETI) (GE)	0.05 –0.19* –0.15	–0.27* –0.17* –0.15	–0.17 –0.09 –0.16	0.22 –0.03 0.02	1

Note: This table presents the values of Pearson bivariate correlation coefficients for the variables used in the developed Ohlson model for the companies included in the tree clusters: PME, ETI, GE. PRICE is the natural logarithm of the share price, EQUITY is the book value of equity per share, EPS is the annual earnings per share, DUMMY_SH expresses the status of employees as shareholders, and DTS is the debts ratio; *** statistically significant at 0.1% level and * statistically significant at 5% level.

5. Results

5.1. Employee share ownership

The estimates of the developed Ohlson model by ordinary least square using EViews 10 are disclosed in Table 7. The slope coefficients, the related t-statistics (in parentheses), the adjusted R square, Breusch-Pagan-Godfrey test, Jaraque-Bera test, Durbin-Watson test, and Variance-Influence-Factor test are presented in Table 7, for each of the three clusters: small and medium enterprises, intermediate-sized enterprises, and large enterprises. The variables used in the developed Ohlson model, such as book value of equity per share, earnings per share, employee share ownership, and debts ratio explain the share price variation in a proportion of 28.03% for small and medium enterprises, 49.53% for intermediate-sized enterprises, and 59.21% for large enterprises. The adjusted R-square is significant at the 0.001 level for all three categories of companies. Breusch-Pagan-Godfrey test validates the assumption of homoscedasticity for the Ohlson developed model, prob. chi-square having the value of 0.5042 for small and medium enterprises, 0.2880 for medium-sized enterprises, and 0.1308 for large enterprises. The residuals are normally distributed, for all three clusters, the values of Jaraque-Bera test having the values of 3.8924 for small and medium enterprises, 3.6001 for intermediate-sized enterprises, and 0.1983 for large enterprises. Besides, the residuals are not correlated, the values of Durbin-Watson test exceeding the critical values of 1.577 for small and medium enterprises, 1.679 for intermediate-sized enterprises, and 1.618 for large enterprises. Because different thresholds for acceptable VIF values exist in the literature, Giacalone et al. (2018) considered that it is necessary to check for the degree of multicollinearity. In the present study, the VIF values present low values which are typically associated with negligible efficiency losses in OLS estimation. Taking into consideration that the developed Ohlson model respects all the assumptions of the multiple regression model for the data used in the three clusters of companies, the results generated by the OLS regression model are reliable and accurate.

The result of the present study is an appropriate response for those who see as an "Achilles heel" the fact that employees own shares in the company where they work (Blasi et al., 2008). Our results reveal clearly and prove statistically that the significance of the relationship between the market performance and employee share ownership depends on the company size. The employee share ownership is associated with the market performance only in the case of intermediate-sized enterprises, while in the case of large enterprises, along with the small and medium enterprises, this relationship is not statistically significant. The small and medium enterprises are very important in France. They generate revenues of about 1.3 trillion euros, which means a third of the total turnover of the French companies. The French intermediate-sized enterprises are generally manufacturing companies that export between 30–40% of their turnover, while all the companies included in the CAC 40 (Cotation Assistée en Continu 40, which is the principle French capital market index) are large enterprises that have numerous branches spread throughout the country (Bourgoin, 2024). The intermediate-sized enterprises and large enterprises listed on Euronext Paris Stock Exchange give confidence to investors by their mere presence on the capital market. This fact is confirmed by the high value of the intercept with a *p*-value significant at 0.001 which determines to set the share price from a minimum of 9.7 euros for intermediate-sized enterprises and 19.2 euros for large enterprises.

Table 7. Results of the developed Ohlson model

	PME	ETI	GE
No of companies	*66*	*145*	*92*
Intercept	0.1354 (*0.7530*)	2.2722*** (*0.0000*)	2.9568*** (*0.0000*)
EQUITY	0.0461** (*0.0054*)	0.0126*** (*0.0006*)	0.0048 (*0.1413*)
EPS	0.2163 (*0.2283*)	0.2830*** (*0.0000*)	0.1060*** (*0.0000*)
DUMMY_SH	0.2971 (*0.3780*)	0.3541* (*0.0239*)	0.1628 (*0.3184*)
DTS	1.1637 (*0.1142*)	–0.7772 (*0.0914*)	–0.1542 (*0.7879*)
Adjusted R square	28.03%	49.53%	58.21%
F-statistic	7.3299***	36.3344***	32.6871***
Breusch-Pagan-Godfrey test	0.5042$^{\surd}$	0.2880$^{\surd}$	0.1308$^{\surd}$
Jaraque-Bera test	3.8924$^{\surd}$ (*0.1428*)	3.6001$^{\surd}$ (*0.1653*)	0.1983$^{\surd}$ (*0.9056*)
Durbin-Watson test	2.2079$^{\surd}$	2.0321$^{\surd}$	1.9944$^{\surd}$
Variance-Inflation-Factor test	1.1178$^{\surd}$	1.3503$^{\surd}$	1.5638$^{\surd}$

Note: This table presents the results of the developed Ohlson model for all three clusters analysed in the year 2022: small and medium enterprises (PME), intermediate-sized enterprises (ETI), and large enterprises (GE). The results present the values of the slope coefficients for the intercept and each explicative variable, the related t-statistics (in parentheses), the adjusted R square, the F-statistic and the values of testing the assumptions of the OLS multiple regression model. The explanatory variables are: equity per share (EQUITY), earnings per share (EPS), status of employees as shareholders in the company (DUMMY_SH), and debts ratio (DTS);
*, **, *** denote significance levels of 0.05, 0.01, and 0.001 respectively;
$^{\surd}$ the model passes the assumptions of the OLS multiple regression model.

For small and medium enterprises, the book value of equity is significantly associated with the share price, the equity coefficient being positive and statistically significant at 0.01 level. An increase with one euro of the equity per share leads to an increase of roughly 5% in the share price. Instead, for these companies, the investors are not influenced by the company performance, the EPS coefficient being insignificant. For intermediate-sized enterprises, the values of equity per share and earnings per share are significantly associated with the share price, the coefficients being positive and statistically significant at 0.001 level. An increase with one euro of the equity per share leads to an increase of roughly 1% of the share price, while for an increase with one euro of earnings per share, the share price increases significantly with roughly 33%. The market value of large enterprises is very much influenced by their goodwill and development perspectives but not by the company book value, this fact being revealed by the insignificant value of the equity coefficient. However, for these companies, the performance is correlated with the share price, the EPS coefficient being significant at 0.001. An increase with one euro of earnings per share leads to an increase of roughly 11% of the share price. Regarding the company level of indebtedness, this does not influence the investors' decisions on the capital market, irrespective of the company's size.

Generally, in order to secure his job, the employee who is part of the stakeholder category is interested in the good running of the business. However, when the employee is part of the shareholder's category, being one of the company owners, the signal sent to the capital market should be a positive one, because, in this case, the employee is interested not only in the stability of the business but also in the increase of the company's value. Following the regression analysis, the results reveal that it is important for the employees to be shareholders in the intermediate-sized enterprises, the coefficient of the DUMMY_SH explanatory variable being positive and statistically significant at the level of 0.05. Although the employee's motivation is essential for small and medium enterprises because they are in the process of intensive expansion, the results of the regression analysis reveals that the employee share ownership is not associated with the share price, the DUMMY_SH coefficient for these companies being insignificant at a *p*-value of 0.3780. The fact that the research hypothesis for small and medium enterprises is not verified, somehow it comes to explain an obvious reality, namely that employees cannot be decisive regarding the company market value. Considering the fact that investors do not expect big returns from the holding of shares in small and medium enterprises, this result is explainable. Investors follow to obtain the satisfaction sought at the time of the decision of investment, even if the companies develop and grow. The same results were obtained in the case of large enterprises, the employee share ownership is not associated with the company share price, the *p*-value of 0.3184 for the DUMMY_SH variable coefficient being insignificant. As previous studies expose, other factors such as dividend policy (Baker et al., 2001), value of intangibles (Edmans, 2011) or corporate social responsibility (Grosu & Almăşan, 2013) influence the share price of large enterprises. The results obtained in the case of large enterprises, where the relationship between employee shares ownership and company market performance is not statistically verified, offer a new perspective regarding these big and important actors on capital market which are associated with the holding of shares by their own employees, perspective which is totally different from the image and understandings so far. The reality of financial markets is the one that dictates the market value at the level of large enterprises and, therefore, the holding of small parts of company capital by employees cannot affect the market value.

5.2. Robustness testing

The stability of the model was tested by using a structured permutation test, by eliminating data from the middle of each cluster type: small and medium enterprises, intermediate-sized enterprises, and large enterprises. The data were included in the clusters in descending order by turnover. The results after applying the structured permutation test are presented in the Table 8, for adjusted R square, the slope coefficients of the employee share ownership (DUMMY_SH), and the *p*-value of Welch's T-test for DUMMY_SH variable. In the case of the developed Ohlson model, there is no significant difference between the initial values and those obtained after applying the structured permutation test for the adjusted R square. The Welch's T-test values suggest that no statistically significant difference exists between slope coefficients of the explanatory variable DUMMY_SH after applying the structured permutation test. The same results were obtained for all other variables. Therefore, the employee share ownership is important for investors in case of intermediate-sized companies, at a significance level of 0.05.

Table 8. Results of the structured permutation test for the developed Ohlson model

Company type	PME		ETI		GE	
No. of companies	66	65	145	144	92	91
Adjusted R square	28.03%	27.82%	49.53%	49.50%	58.21%	58.25%
DUMMY_SH	0.2971 (*0.3780*)	0.2918 (*0.3923*)	0.3541* (*0.0239*)	0.3472* (*0.0281*)	0.1628 (*0.3184*)	0.1691 (*0.3039*)
Welch's T-test	0.9722		0.9643		0.9970	

Note: This table presents, for the year 2022, the results of the adjusted R square, the slope coefficients and its related t-statistics (in parentheses) for the status of employees as shareholders in the company (DUMMY_SH) which is the principle explanatory variable in the developed Ohlson model, and the *p*-value of Welch's T-test, for all three clusters: small and medium enterprises (PME), intermediate-sized enterprises (ETI), and large enterprises (GE);
* denotes significance levels of 0.05.

The limit robustness test was used in order to validate the reliability of the data used in the model. Data for a fictive company was introduced in each cluster of small and medium enterprises, intermediate-sized enterprises and large enterprises. The value of new data introduced in the models was three times bigger than the maximum value of each variable, with the exception of the variables that have value limits, in which case the maximum value was used. The results are presented in Table 9 for the adjusted R square, before and after the application of the limit robustness test. In the case of the developed Ohlson model, after applying the limit robustness test, the model significance decreases with approximately 8% for each cluster of small and medium enterprises, intermediate-sized enterprises and large enterprises. The significant changes of the adjusted R square, after the introduction of fictive data that exceeds normal values, confirm that the data used in the present research are reliable.

We test the model variation replacing the DTS control variable, which expresses the degree of indebtedness, calculated as a ratio between total liabilities and total assets, with another variable which has the same significance, named GEARING, calculated as a ratio between the non-current liabilities plus loans and total shareholder's funds. The results of the tests for explicative variables which present interest for the present research are disclosed in Table 10, showing that, even if the coefficients values of the explicative variables are different, there are no significant changes of the slope coefficients for explanatory variable DUMMY_SH, the level of significance being unchanged. This test confirms the importance of employee share ownership for intermediate-sized enterprises' investors at 0.05 significance level. The model variation robustness test proves how powerful the developed Ohlson model is, the adjusted R square not changing significantly for any type of companies.

Table 9. Results of the limit robustness test for developed Ohlson model

Company type	PME		ETI		GE	
No. of companies	*66*	*67*	*145*	*146*	*92*	*93*
Adjusted R square	28.03%	19.90%	49.53%	41.20%	58.21%	50.77%

Note: This table presents, for the year 2022, the results of the adjusted R square of the developed Ohlson model for all three clusters: small and medium enterprises (PME), intermediate-sized enterprises (ETI), and large enterprises (GE).

Table 10. Results of the developed Ohlson model variation

Company type	PME		ETI		GE	
Control variables	*DTS*	*GEARING*	*DTS*	*GEARING*	*DTS*	*GEARING*
Adjusted R square	28.03%	25.34%	49.53%	49.04%	58.21%	58.18%
DUMMY_SH	0.2971 (*0.3780*)	0.3727 (*0.2750*)	0.3541* (*0.0239*)	0.3506* (*0.0261*)	0.1628 (*0.3184*)	0.1619 (*0.3222*)
Control variable	1.1637 (*0.1142*)	0.0743 (*0.6003*)	–0.7772 (*0.0914*)	–0.0829 (*0.2225*)	–0.1542 (*0.7879*)	–0.0072 (*0.9386*)

Note: This table presents, for the year 2022, the results of the adjusted R square, the slope coefficients and the related t-statistics (in parentheses) for the status of employees as shareholders in the company (DUMMY_SH) which is the principle explanatory variable in the developed Ohlson model, and the control variables DTS and GEARING which express the degree of indebtedness of the companies included in the three clusters: small and medium enterprises (PME), intermediate-sized enterprises (ETI), and large enterprises (GE);
* denotes significance levels of 0.05.

The results of the present research reveal the importance of employee share ownership for intermediate-sized enterprises' investors for the year 2022. As 2022 was the first year of normality for the business environment, after the COVID-19 crisis, it was tested to what extent the results of the present study will be confirmed for the year 2019, which is the pre-crisis year, also characterised by normality in the business environment. The model was also tested for the period 2020–2021, in order to verify if the results are still valid in the COVID-19 crisis period, when most companies had to restrict their activity or even to suspend it, the health measures imposed by the governments of many countries putting pressure on the companies' employees to comply with some rules that exceeded the normal with which they were accustomed. The results of the tests for the explanatory variable that presents interest for the present study are disclosed in Table 11.

Table 11. Results of the explanatory variable DUMMY_SH model for 2019–2022

Company type	PME	ETI	GE
DUMMY_SH 2019	0.4685 (*0.0996*)	0.3882* (*0.0210*)	0.1267 (*0.4294*)
DUMMY_SH 2020	0.4420 (*0.1452*)	0.5054** (*0.0030*)	0.0631 (*0.7264*)
DUMMY_SH 2021	0.4729 (*0.1354*)	0.4657** (*0.0071*)	0.0608 (*0.7385*)
DUMMY_SH 2022	0.2971 (*0.3780*)	0.3541* (*0.0239*)	0.1628 (*0.3184*)

Note: This table presents, for the period 2019–2022, the results of the slope coefficients and the related t-statistics (in parentheses) for the status of employees as shareholders in the company (DUMMY_SH) which is the principle explanatory variable in the developed Ohlson model, for all three clusters: small and medium enterprises (PME), intermediate-sized enterprises (ETI), and large enterprises (GE);
*, ** denote significance levels of 0.05 and 0.01, respectively.

The employee share ownership is positively associated with the share price of intermediate-sized enterprises, both in normal business conditions specific to the years 2019 and 2022, the coefficient of the explanatory variable DUMMY_SH being significant at 0.05 level, and especially in crisis conditions, when the coefficient is significant at 0.01 level. On the contrary, in the case of small and medium enterprises along with large enterprises, the status of employees as shareholders is not important for investors. On the grounds that holding of shares by employees of large enterprises cannot influence the company market value, neither in periods of crisis, as it happened, for example, with Lehman Brothers, which collapsed at Great Recession of 2008, nor in periods of pre or ante crisis, the result of this robustness test will be a warning signal if we refer to the analysed period 2019–2022.

6. Discussions

The employee share ownership is a modern form of ownership structure where employees own shares at their employer company. In this context, the employees, through their control rights as owners, become attentive to their companies' policy and strategies. Moreover, the role of employee shareholder is associated with business continuity, development of local communities, attractive salaries, labour productivity and environment protection. In this way, the employee share ownership limits the possible conflicts that can appear between capital and labour. It becomes a practice for companies to stimulate the employees through the award of shares, this practice being a key of the business success.

Regarding the existing research trends of employee ownership topic, the present study belongs to the literature after 2001, that is, the empirical employee share ownership literature which answers to the seminal questions using econometric analyses; and not to the one before 2001, which was in accordance with Mirabel (2021) dominated by comparative economics and behavioural testing propositions of macroeconomic labour-managed firm theory. It is a living proof of the possibilities to interpret a certain context from the perspective of different scientific disciplines, which proves one of the research directions proposed by Cooke (2018) in the field of strategic management. At the level of knowledge in the field of employee share ownership, the results obtained could be considered an advantage by the fact that the market value of intermediate-sized enterprises is positively associated with the employee share ownership, while this association is not verified in case of small and medium enterprises along with large enterprises. To address the link between market performance and employee share ownership using different size criteria, it is a new approach in the specialised literature, representing both a source and a tool that are very useful for understanding the reality within companies operating in the business environment.

In accordance with the proposed research objective, through the results obtained, it was established that employee share ownership is a factor that can be linked to companies' market performance, practically that it represents a very useful tool through which it can be achieved the employees' motivation, their determination to participate in achieving the company's objectives and implicitly their retention in the company. A key point of this research is represented by employee motivation strategies, where among the alternatives to wage-based compensation, firm-level profit sharing or team-level gain sharing, there is also

the share-based employee ownership. Through the concerted action of employees, sharing ownership allows the combination of internal and external motivational factors (Ryan & Deci, 2000). Therefore, in the present research, the agency approach, specific to extrinsic motivation because it uses rewards to gain the alignment of employees to organizational objectives, is cointegrated with the stewardship approach which is related to intrinsic motivation that uses self-determination to gain the alignment of the individual to the organizational objectives. The achievement of these organizational objectives confirms the importance of employees' motivation, emphasized by Yukl and Becker (2006) in human resources management.

In most cases, the employees do not know how much their share is worth and consider that their actions have little effect on the share price. This was also revealed by Ratcliffe and Taylor (2015) study which demonstrated that higher share prices are associated with greater individual wellbeing, while greater volatility in share prices reduces wellbeing. Share prices act as a barometer for changing the value of an individual's share portfolio, therefore it can affect the individual's wellbeing via the link between workers' compensation and firm performance. During the Great Recession, people are faced with concerns about the growing disparity of wealth and ownership crises. The results of the present research, obtained in robustness tests made on data during COVID-19 crisis, demonstrate that, through the employee share ownership, these concerns can be avoided. Within the agency and shareholder theories, the employee share ownership can be considered an asset through which the companies protect their shareholders and avoid losses.

Furthermore, the stakeholder theory has extremely beneficial advantages for all those whose interests represent, such as shareholders, managers, employees, State, clients, suppliers, community, environment. Therefore, as Lee et al. (2025) stated, the employee share ownership can be defined as a mode of shared capitalism and a channel for corporate governance. The importance of employee share ownership for company's market value leads to the establishment of the connection between company and its clients, the latter emphasizing that an employee-owned certification label could be for companies an instrument to segment consumer demand, differentiate products and potentially realize a competitive advantage (Mellizo, 2018). Therefore, the employee share ownership gains an important role in policymaking.

The research in the specialized literature suggests empirical evidence that employee ownership constitutes an efficient mean to secure jobs, increase productivity, reduce inequality, or create more harmonious workplaces (Blasi et al., 2018). The employee, in his position as shareholder, can simultaneously fulfil the role of the owner, principal and agent, which, in accordance with Van Doel and Howell (2022) causes difficulty in assessing which of the agency theory and stewardship theory has a greater explanatory power. In order to obtain results that satisfy certain levels of expectation, this interpretation may constitute a possible future research in the specialised literature.

The lack of a sample consisting of companies that do not have employees among their own shareholders can be considered a shortcoming of this study, and also a possible future direction of research. Such a discussion would have highlighted the advantages that companies with the presence of employee shareholders have over conventional companies and it would have promoted the results obtained much more adequately. The theoretical

contribution of this study was the expansion of the stakeholder theory, from the traditional area of employees as workers to other roles and functions of employees within companies, among which the employee share ownership proved to have an important role in the financial market performance. The practical value of this study is the understanding of the efficiency effects of different forms of compensation, which should give managers a deeper understanding of their options in their compensation strategies, allowing them to use those strategies in the most efficient manners for their organizations.

7. Conclusions

This study analysed the relationship between the employee share ownership and company market value, by using a set of cross-sectional data consisting of French companies listed on the Euronext Paris Stock Exchange. The analysis was performed by using three different clusters of companies: small and medium enterprises, intermediate-sized enterprises and large enterprises. The construction of the article allows the anchor of the financial-accounting vision, highlighted in the present study by the new variable used in the Ohlson model, in the field of strategic management, highlighted in the present study by the employee share ownership, being a proof of the interdisciplinary approach in the current scientific research and a way to follow towards performance in the contemporary business environment.

The results of the present research reveal a positive relation between the employee share ownership and company market value in the case of intermediate-sized enterprises, but not in the case of small and medium enterprises or large enterprises. These findings suggest the important role exercised by employees as shareholders in increasing the companies' performance. Through the lens of roles assigned to employees, this relationship confirms the agency theory, the employees being the agents of the shareholders' well-being, shareholders among whom they are also part. The results of the present research prove, contrary to the percentage decrease of the employee share ownership at the French companies, that the role of employees as shareholders is important for the intermediate-sized companies. These results can be used in the decision-making process by sustaining the intrinsic motivation of employees in achieving the financial performance of listed companies. The intrinsic motivation realised by the employee share ownership manifests the mobility of employees towards higher support which generates performance without affecting the financial statements of the companies. The evidence that the intrinsic motivation of employees is positively associated with the financial performance can have a major impact in the process of adopting different employee's strategies and policies, all in order to use the synergy effects in achieving the development objectives of the companies.

A limitation of the present study is the fact that it used dummy variables to define the employee share ownership, in the absence of detailed information on how they acquired the respective shares. The following research should include a more detailed information that allows a differentiated analysis which could highlight and underline both the possibilities to assign an employee stock options plan by the company management, and also the possibilities to acquire shares directly from the capital market. Another limitation of the present study is the lack of the analysis of the effects of other types of additional employee compensations

which have gained much more importance in European companies, such as performance bonuses, retirement benefits, profit-sharing.

The implications of the present study are beneficial for employers, as it suggests to take into consideration the rewarding with the company's shares, not only the top management, but also the employees. The big number of French companies listed on Euronext Stock Exchange permitted their classification by clusters which allows us to perform statistical inference with findings that emphasize strong statistical associations between employee share ownership and share price for intermediate-sized enterprises. Other studies should be performed on the other markets with thousands of listed companies, such as the New York Stock Exchange or Tokyo Stock Exchange. Usual patterns of studies in this field are focused on companies from the USA and the UK. Future research should extend the analysis to other European countries or with different cultural behaviours, such as Asian or African counties.

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References

Abriata, B. D., & Delautre, G. (2020). What drives CSR? *An empirical analysis on the labour dimensions of CSR* (ILO Working Paper No. 7). International Labour Organization. https://www.econstor.eu/bitstream/10419/263074/1/ilo-wp07.pdf

Aoki, M. (1980). A model of the firm as a stockholder-employee cooperative game. *The American Economic Review*, *70*(4), 600–610. https://www.jstor.org/stable/1803558

Baker, H. K., Veit, E. T., & Powell, G. E. (2001). Factors influencing dividend policy decisions of NASDAQ firms. *The Financial Review*, *36*(3), 19–38. https://doi.org/10.1111/j.1540-6288.2001.tb00018.x

Berry, D. (2025). Employee Stock Ownership Plans (ESOPs) as social enterprise. *International Review of Applied Economics*, *39*(2–3), 379–395. https://doi.org/10.1080/02692171.2024.2410220

Birkhead, C. (2023). Keeping them honest? Broad-Based employee ownership and earnings management. *Corporate Governance an International Review*, *32*(3), 500–521. https://doi.org/10.1111/corg.12554

Birkhead, C., Gibson, N., & Hand, M. C. (2024). Where employee ownership works best. *International Review of Applied Economics*, *39*(2–3), 1–13. https://doi.org/10.1080/02692171.2024.2410227

Blasi, J. R., Conte, M., & Kruse, D. L. (1996). Employee stock ownership and corporate performance among public companies. *Industrial & Labor Relations Review*, *50*(1), 60–79. https://doi.org/10.1177/001979399605000104

Blasi, J., Kruse, D., & Freeman, R. B. (2018). Broad-based employee stock ownership and profit sharing: History, evidence, and policy implications. *Journal of Participation and Employee Ownership*, *1*(1), 38–60. https://doi.org/10.1108/JPEO-02-2018-0001

Blasi, J. R., Kruse, D. L., & Markowitz, H. M. (2008). Risk and lack of diversification under employee ownership and shared capitalism. In D. L. Kruse, R. B. Freeman, & J. R. Blasi (Eds.), *Shared capitalism at work*: *Employee ownership*, *profit and gain sharing*, *and broad-based stock options* (pp. 105–136). National Bureau of Economic Research. https://www.nber.org/system/files/chapters/c8088/c8088.pdf

Blasi, J., & Michie, J. (2025). The theory and practice of employee ownership. *International Review of Applied Economics*, *39*(2–3), 165–174. https://doi.org/10.1080/02692171.2025.2491926

Bourgoin, Y. (2024). Taille d'entreprise: Les catégories à connaître pour segmenter ses ventes [Company size: The categories to know to segment your sales]. *Hubspot*. https://blog.hubspot.fr/sales/taille-entreprise-classification

Case, J. (2017). *Employee ownership*: *Building a better American economy*, *national centre for employee ownership*. https://www.nceo.org/Employee-Ownership-Building-Better-American-Economy/pub.php/id/937

Cooke, F. L. (2018). Concepts, contexts, and mindsets: Putting human resource management research in perspectives. *Human Resource Management Journal*, *28*(1), 1–13. https://doi.org/10.1111/1748-8583.12163

Cardoni, H., & Poulain-Rehm, T. (2023). The impact of employee shareholding on corporate governance: The employee shareholder director in France. *Journal of Management and Governance*, *27*, 1073–1114. https://doi.org/10.1007/s10997-022-09634-9

Core, J. E., & Larcker, D. F. (2002). Performance consequences of mandatory increases in executive stock ownership. *Journal of Financial Economics*, *64*, 317–340. https://doi.org/10.1016/S0304-405X(02)00127-7

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, *20*(1), 65–91. https://doi.org/10.2307/258887

Doucouliagos, C. (1995). Worker participation and productivity in labor-managed and participatory capitalist firms: A meta-analysis. *Industrial & Labor Relations Review*, *49*(1), 58–77. https://doi.org/10.1177/001979399504900104

Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics*, *101*(3), 621–640. https://doi.org/10.1016/j.jfineco.2011.03.021

Eerde, W. V., & Thierry, H. (1996). Vroom's expectancy models and work-related criteria: A meta-analysis. *Journal of Applied Psychology*, *81*(5), 575–586. https://doi.org/10.1037/0021-9010.81.5.575

Fakhfakh, F., & FitzRoy, F. (2025). Financial participation, productivity and conflict in French firms. *International Review of Applied Economics*, *39*(4–5), 657–668. https://doi.org/10.1080/02692171.2024.2416200

Fitza, M., Matusik, S. F., & Mosakowski, E. (2009). Do VCs matter? The importance of owners on performance variance in start-up firms. *Strategic Management Journal*, *30*, 387–404. https://doi.org/10.1002/smj.748

Fligstein, N., & Shin, T.-J. (2005). *Shareholder value and changes in American industries*, *1984-2000*. Institute for Research on Labor and Employment. https://sociology.berkeley.edu/sites/default/files/faculty/fligstein/Transformation6_edit_tshin.pdf

Freeman, R. E. (1984). *Strategic management*: *A stakeholder approach*. Pitman Publishing.

Friedman, M. (1970, September 19). The social responsibility of business is to increase its profits. *The New York Times*. https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html

Giacalone, M., Panarello, D., & Mattera, R. (2018). Multicollinearity in regression: An efficiency comparison between L_p-norm and least squares estimators. *Quality* & *Quantity*, *52*(4), 1831–1859. https://doi.org/10.1007/s11135-017-0571-y

Grosu, C., & Almăşan, A. (2013). Management control: Between global performance and social responsibility. In *Proceedings of the 8th International Conference "Accounting and Management Information Systems AMIS 2013"* (pp. 320–331), Bucharest.

Istrate, C., Georgescu, I. E., Carp, M., Robu, I. B., & Pavaloaia, L. (2015). Accruals earnings management in emerging markets under the transition to IFRS: The case of Romanian listed companies. *Transformations in Business* & *Economics*, *14*(2A), 393–411.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Jianu, I., & Jianu, I. (2018). The share price and investment: Current footprints for future oil and gas industry performance. *Energies*, *11*(2), Article 448. https://doi.org/10.3390/en11020448

Kaarsemaker, E. C. A., & Poutsma, E. (2006). The fit of employee ownership with other human resource management practices: Theoretical and empirical suggestions regarding the existence of an ownership high-performance work system. *Economic and Industrial Democracy*, *27*(24), 669–685. https://doi.org/10.1177/0143831X06069009

Kim, K. Y., Patel, P. C., & Devaraj, S. (2025). Sorting, incentive, and investment effects of employee stock ownership. *Journal of Business Research*, *191*, Article 115277. https://doi.org/10.1016/j.jbusres.2025.115277

Klein, K. (1987). Employee stock ownership and employee attitudes: A test of three models. *Journal of Applied Psychology*, *72*(2), 319–332. https://doi.org/10.1037/0021-9010.72.2.319

Kong, D., Liu, J., Wang, Y., & Zhu, L. (2024). Employee stock ownership plans and corporate environmental engagement. *Journal of Business Ethics*, *189*(1), 177–199. https://doi.org/10.1007/s10551-023-05334-y

Lee, J., Kruse, D. L., & Blasi, J. R. (2025). Shared capitalism and corporate sustainability: Broad-based employee share ownership, CEO ownership, and corporate environmental performance. *Business* & *Society*, *64*(1), 163–208. https://doi.org/10.1177/00076503241254532

Lennox, C. S., Francis, J. R., & Wang, Z. (2012). Selection models in accounting research. *The Accounting Review*, *87*(2), 589–616. https://doi.org/10.2308/accr-10195

Levinson, K. (2000). Codetermination in Sweden: Myth and reality. *Economic and Industrial Democracy*, *21*(4), 457–473. https://doi.org/10.1177/0143831X00214003

Li, B., Li, H-X., Xue, J., & Shahab, Y. (2026) Employee stock ownership plans and corporate income tax burden: New evidence from an emerging market. *International Journal of Emerging Markets*, *21*(13), 1–17. https://doi.org/10.1108/IJOEM-10-2024-1734

Li, X., Zheng, H., & Jiang, Y. (2025) An efficient allocation or financial distortion: Can employee stock ownership promote common prosperity within enterprises? *International Review of Economics and Finance*, *98*, Article 103905. https://doi.org/10.1016/j.iref.2025.103905

Liao, P. C., Shih, Y. N., Wu, C. L., Zhang, X. L., & Wang, Y. (2018). Does corporate social performance pay back quickly? A longitudinal content analysis on international contractors. *Journal of Cleaner Production*, *170*, 1328–1337. https://doi.org/10.1016/j.jclepro.2017.09.230

Liu, W., He, Q., Cao, J., & Kamar, A. (2024). Exploring the catalysts of eco-innovation: Employee ownership and sustainable practices. *Technological Forecasting* & *Social Change*, *207*, Article 123629. https://doi.org/10.1016/j.techfore.2024.123629

Makridis, C. A. (2025). Profit sharing in practice: Its prevalence and influence on job satisfaction controlling for workplace amenities. *International Review of Applied Economics*, *39*(2–3), 277–292. https://doi.org/10.1080/02692171.2024.2433456

Martin, G., Farndale, E., Paauwe, J., & Stiles, P. G. (2016). Corporate governance and strategic human resource management: Four archetypes and proposals for a new approach to corporate sustainability. *European Management Journal*, *34*(1), 22–35. https://doi.org/10.1016/j.emj.2016.01.002

Mathieu, M. (2023). *Annual economic survey of employee share ownership in European countries*. European Federation of Employee Share Ownership. https://www.efesonline.org/Annual%20Economic%20Survey/2023/Survey%202023.pdf

Mellizo, P. P. (2018). Do consumers value employee ownership? Evidence from an experimental auction. *Journal of Participation and Employee Ownership*, *1*(2/3), 162–190. https://doi.org/10.1108/JPEO-10-2017-0001

Mirabel, T. (2021). Past, present and future of empirical research on employee-owned firms: A structured literature review over 1970–2019. *Journal of Participation and Employee Ownership*, *4*(1), 1–25. https://doi.org/10.1108/JPEO-07-2020-0018

Nguyen, T. H., (Marty) Pham, M. D., & Xiao, Y. (2024). How well is employee ownership working? Evidence from non-financial misconduct. *Finance Research Letters*, *65*, Article 105638. https://doi.org/10.1016/j.frl.2024.105638

O'Boyle, E., Patel, P., & Gonzalez-Mulé, E. (2016). Employee ownership and firm performance: A meta-analysis. *Human Resource Management Journal*, *26*(4), 425–448. https://doi.org/10.1111/1748-8583.12115

Ohlson, J. A. (1995). Earnings, book values and dividends in security valuation. *Contemporary Accounting Research*, *11*, 161–182. https://doi.org/10.1111/j.1911-3846.1995.tb00461.x

Ratcliffe, A., & Taylor, K. (2015). Who cares about stock market booms and busts? Evidence from data on mental health. *Oxford Economic Papers*, *67*(3), 826–845. https://doi.org/10.1093/oep/gpv030

Robinson, A. M., & Wilson, N. (2006). Employee financial participation and productivity: An empirical reappraisal. *British Journal of Industrial Relations*, *44*(1), 31–50. https://doi.org/10.1111/j.1467-8543.2006.00486.x

Rose, J. F. P. (2025). Meta economics: Generating moral economies. *International Review of Applied Economics*, *39*(2–3), 175–180. https://doi.org/10.1080/02692171.2025.2473911

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*(1), 54–67. https://doi.org/10.1006/ceps.1999.1020

Sesil, J. C., Kroumova, M. K., Kruse, D. L., & Blasi, J. R. (2007). Broad-based employee stock options in the US-company performance and characteristics. *Management Revue*, *18*(1), 5–22. https://doi.org/10.5771/0935-9915-2007-1-5

Shen, J., & Benson, J. (2016). When CSR is a social norm: How socially responsible human resource management affects employee work behavior. *Journal of Management*, *42*(6), 1723–1746. https://doi.org/10.1177/0149206314522300

Shin, H., & Park, S. (2025). Exploring the impact of employee stock ownership on earnings informativeness in the Korean Market. *Finance Research Letters*, *86*, Article 108847. https://doi.org/10.1016/j.frl.2025.108847

Silva, F., & Majluf, N. (2008). Does family ownership shape performance outcomes? *Journal of Business Research*, *61*, 609–614. https://doi.org/10.1016/j.jbusres.2007.06.035

Sun, X., Lu, Y., & Tian, S. (2025). The effect of employee stock ownership plans on enhancing corporate innovation. *Finance Research Letters*, *79*, Article 107233. https://doi.org/10.1016/j.frl.2025.107233

Urban, W. (2025). Unveiling the impact of improvement methodologies on employee engagement: Insights from central European companies. *Technological and Economic Development of Economy*, *31*(3), 749–767. https://doi.org/10.3846/tede.2024.22317

Van Doel, R. M., & Howell, G. (2022). Governance and culture within employee-owned companies. *Journal of Participation and Employee Ownership*, *5*(1), 32–55. https://doi.org/10.1108/JPEO-09-2020-0026

Velury, U., & Jenkins, D. S. (2006). Institutional ownership and the quality of earnings. *Journal of Business Research*, *59*, 1043–1051. https://doi.org/10.1016/j.jbusres.2006.05.001

Wu, F., Cao, J., & Zhang, X. (2023). Do non-executive employees matter in curbing corporate financial fraud? *Journal of Business Research*, *163*, Article 113922. https://doi.org/10.1016/j.jbusres.2023.113922

Xia, F., & Walker, G. (2015). How much does owner type matter for firm performance? Manufacturing firms in China 1998–2007. *Strategic Management Journal*, *36*, 576–585. https://doi.org/10.1002/smj.2233

Yukl, G. A., & Becker, W. S. (2006). Effective empowerment in organizations. *Organization Management Journal*, *3*(3), 210–231. https://doi.org/10.1057/omj.2006.20

Zeng, X. (2024). Employee stock ownership plans and corporate environmental, social, and governance performance: Evidence from China. *Review of Managerial Science*. https://doi.org/10.1007/s11846-024-00817-2

Zhang, X., Wu, J., Yao, J., & Yu, C. (2025). Employee incentive and stock liquidity: Evidence from a quasi-natural experiment in China. *International Review of Economics and Finance*, *104*, Article 104674. https://doi.org/10.1016/j.iref.2025.104674

Zorn, D., Dobbin, F., Dierkes, J., & Kwok, M. S. (2004). Managing investors: How financial markets reshaped the American firm. In K. Knorr Cetina & A. Preda (Eds.), *The sociology of financial markets*, (pp. 269–289). Oxford University Press. https://doi.org/10.1093/oso/9780199275595.003.0014

Zuckerman, E. W. (2000). Focusing the corporate product: Securities analysts and de-diversification. *Administrative Science Quarterly*, *45*(3), 591–619. https://doi.org/10.2307/2667110

APPENDIX

Appendix A

Variables disclosure

Table A1. Description of variables

Variable	Expected sign	Unity of measure	Orbis database	Significance	Method of calculation
PRICE		Log EUR	Market Price – Year end	*Price* is the share price, representing the value at which a share is traded on the capital market at the Balance Sheet date	It is determined based on the trading price on the capital market
EQUITY	+	EUR	Total shareholders' equity Shares outstanding	*Equity* is the value per share of the residual interest in the company assets after subtracting all liabilities	It is determined by dividing total shareholders' equity by total shares outstanding
EPS	+	EUR	Earnings per share	*Earnings per share* reveals how much earnings belong to a shareholder for each share owned	It is determined by dividing net income minus preferred dividends by the weighted average of ordinary shares outstanding
DUMMY_SH	+	1 or 0	Shareholder – Type: *Employees*, *managers*, *directors*. Shareholder Name: *Salaries*, *Salaries du groupe*, *Personnel de*, *Employees of*, *Fonds – salaries*, *Fonds commun de placement des salaries*, *Mandataires sociaux et salaries or Salaries et anciens salaries*	*DUMMY variable* which exposes whether or not the employees have the status of shareholders in the company	It has the value of 1 if the employees have the status of shareholders, or 0, otherwise
DTS	–	%	Total liabilities Total assets	*Debts ratio* shows the proportion in which the company assets are financed by its liabilities	It is determined by the ratio between total assets and total liabilities

End of Table A1

Variable	Expected sign	Unity of measure	Orbis database	Significance	Method of calculation
GEARING	–	%	Gearing	*Gearing ratio* shows the measure in which the company is financed by loans or by its own funds	It is determined by the ration between non-current liabilities plus loans and shareholders' funds
SH_HOLD	+	%	Shareholder – direct %	*Employee share ownership* represents the percentage of shares owned by employees in the total number of company's shares	It is determined as a ratio between the number of shares owned by the employees and total number of shares outstanding

Appendix B

Outliers description

Table B1. Outliers of TPE

TPE	No employees	Turnover (mil EUR)	Total assets (mil EUR)	Trade description (from the Orbis database)					
TPE_565	7	1.0	28.7	Design, construction and installation of railroad materials and equipment					
TPE_570	2	0.4	2.5	Production, operation and broadcast of Vivolta TV channel for seniors					
TPE	PRICE (EUR)	EQUITY (EUR)	EPS (EUR)	DUMMY_SH	ORE (th EUR/ employee)	ACE (th EUR/ employee)	TOBIN (units)	DTS %	PRR %
TPE_565	655.00	740.58	15.93	0	139.0	128.7	0.6	29.1	92.6
TPE_570	2.98	2.59	0.08	0	201.0	48.5	0.8	30.7	24.1

Note: This table presents the descriptive statistics for TPE in the year 2022, disclosing the number of employees, turnover, and total assets; the value of variables used in the Ohlson developed model, such as share price (PRICE), value of equity per share (EQUITY), earnings per share (EPS), and status of employees as shareholders in the company (DUMMY_SH); the control variable such as debts ratio (DTS); the market capitalization by total assets (TOBIN); the values of other information about employees, such as operating revenue per employee (ORE), average cost of employee (ACE), payroll to revenue ratio (PRR). Number of companies in the first column is the number attributed to companies at the initial step of the research, in order to identify the company's name at each moment.

Table B2. Outliers of PME

PME	No employees	Turnover (mil EUR)	Total assets (mil EUR)	Trade description (from the Orbis database)
PME_341	168	38.4	86.4	Design, production and marketing of electronic and systems
PME_370	233	41.4	228.2	Owning and managing business real estate
PME_374	85	20.6	27.9	Design, production and marketing of women's clothing
PME_385	42	19.0	64.0	Storage and transport of petroleum products
PME_400	21	12.2	11.9	Designing and marketing of IT peripheral devices
PME_411	205	17.9	208.8	Manufacturing and marketing of hydrogen production and storage equip
PME_432	23	7.1	6.8	Designing and marketing kitchen tools
PME_467	22	5.5	22.5	Internet distribution of investment real estate assets
PME_480	44	14.0	24.4	Design, assembly, marketing of remote-controlled terrestrial and aerial drones
PME_498	99	10.5	24.8	Designing and manufacturing energy supplying units for public places
PME_531	16	1.5	23.8	Leisure group
PME_533	4	2.5	28.8	Operations of electrical installations and hydroelectric facilities

PME	PRICE (EUR)	EQUITY (EUR)	EPS (EUR)	DUMMY_SH	ORE (th EUR/ employee)	ACE (th EUR/ employee)	TOBIN (units)	DTS %	PRR %
PME_341	80.00	65.88	2.12	0	228.5	74.0	1.0	16.1	32.4
PME_370	66.00	95.64	2.67	0	486.5	164.5	0.4	36.7	33.8
PME_374	13.10	41.98	15.38	0	120.0	41.0	0.1	55.0	34.2
PME_385	474,00	136.92	43.23	0	453.4	76.2	0.7	79.1	16.8
PME_400	0.06	0.03	–0.02	0	581.7	66.5	0.6	61.9	11.4
PME_411	12.21	4.83	–1.37	1	87.5	79.3	1.6	35.4	90.6
PME_432	0.15	0.06	–0.06	0	306.8	69.8	0.4	83.8	22.7
PME_467	36.00	2,127.75	–420.51	1	248.1	76.2	0.01	26.5	30.7
PME_480	0.01	0.03	–0.05	1	317.5	43.8	0.2	35.1	13.8
PME_498	0.01	0.05	–0.03	0	106.1	45.4	0.1	56.6	42.8
PME_531	9.00	9.92	6.92	0	94.8	29.3	0.7	20.2	30.9
PME_533	149.00	21.15	–1.63	0	629.3	35.5	0.6	91.0	5.6

Note: This table presents the descriptive statistics for PME in the year 2022, disclosing the number of employees, turnover, and total assets; the value of variables used in the Ohlson developed model, such as share price (PRICE), value of equity per share (EQUITY), earnings per share (EPS), and status of employees as shareholders in the company (DUMMY_SH); the control variable such as debts ratio (DTS); the market capitalization by total assets (TOBIN); the values of other information about employees, such as operating revenue per employee (ORE), average cost of employee (ACE), payroll to revenue ratio (PRR). Number of companies in the first column is the number attributed to companies at the initial step of the research, in order to identify the company's name at each moment.

Table B3. Outliers of ETI

ETI	No employees	Turnover (mil EUR)	Total assets (mil EUR)	Trade description (from the Orbis database)
ETI_122	2,145	1,068.2	738.6	Builder of individual homes in various areas
ETI_144	40	321.4	7,455.1	Listed company controlled by the Peugeot family Group
ETI_147	2,163	707.7	847.2	Design, production, and marketing of aromatic products
ETI_156	809	473.6	270.1	Developing and publishing of personal and professional communication
ETI_193	237	250.5	470.6	Production and distribution of cinematographic films and TV programs
ETI_223	414	307.9	996.0	Production and sale of medium and top of the range champagne
ETI_253	699	149.1	1,949.4	Manufactures and markets specialized terminals
ETI_265	570	163.5	157.2	Design and the distribution of aluminium sections and accessories
ETI_269	686	142.1	308.5	Design, manufacturing and marketing of extruded and machined steel parts
ETI_272	572	114.0	437.9	Concession operation of ski slope facilities and tourist sites
ETI_278	805	102.6	88.0	Design, manufacture, installation and maintenance of sign equipment
ETI_283	738	150.7	501.3	Specializes in the operation of two casinos and two hotels
ETI_284	467	110.1	86.2	Design and publication of software platforms for professional applications
ETI_311	615	27.3	36.4	Production of cereals and oilseeds
ETI_312	352	56.9	54.3	Electronic subcontracting services
ETI_316	278	36.7	27.9	Manufactures electronic packaging in glass-to-metal or ceramic
ETI_319	324	58.3	86.2	Designing, manufacturing and marketing of industrial and port trailers
ETI_361	211	57.9	207.9	R&D of immunological-based drugs for cancers and infectious diseases

ETI	PRICE (EUR)	EQUITY (EUR)	EPS (EUR)	DUMMY_SH	ORE (th EUR/ employee)	ACE (th EUR/ employee)	TOBIN (units)	DTS %	PRR %
ETI_122	18.60	26.32	–4,74	0	498.0	70.2	0.2	75.3	14.1
ETI_144	89.00	219.73	9.52	0	8,035.5	482.9	0.3	26.5	6.0
ETI_147	837.00	191.16	34.95	1	327.2	69.0	2.1	50.9	21.1
ETI_156	3.49	0.04	–0.23	0	585.4	87.5	0.6	99.3	14.9
ETI_193	106.00	63.12	–3.94	0	1,056.8	222.4	0.7	58.2	21.0
ETI_223	119.00	92.20	9.84	1	743.7	104.4	0.7	45.0	14.0
ETI_253	4,760.00	6,951.53	78.49	0	213.3	71.6	0.7	5.1	33.6
ETI_265	360.00	387.97	23.04	0	286.8	45.4	0.7	29.6	15.8
ETI_269	185.00	280.03	10.60	0	207.2	62.3	0.5	31.1	30.0

End of Table B3

ETI	No employees	Turnover (mil EUR)	Total assets (mil EUR)	Trade description (from the Orbis database)					
ETI_272	118.00	204.51	16.77	1	199.3	65.9	0.2	57.8	33.0
ETI_278	12.50	49.90	–3.54	0	127.5	40.8	0.1	41.5	32.0
ETI_283	1,280.00	1,727.91	154.83	0	204.2	61.3	0.4	39.6	30.0
ETI_284	0.22	0.34	0.01	1	235.7	85.5	0.2	63.9	36.3
ETI_311	0.08	0.06	–0.14	0	44.4	6.9	0.5	61.6	15.5
ETI_312	324.00	675.86	18.62	0	161.5	36.8	0.2	51.8	22.8
ETI_316	0.54	0.63	–0.54	0	132.0	55.3	0.2	76.7	41.9
ETI_319	3.23	0.18	–1.04	1	180.1	54.3	1.07	94.0	30.1
ETI_361	3.29	0.68	–0.72	1	274.4	126.1	1.27	73.9	46.0

Note: This table presents the descriptive statistics for ETI in the year 2022, disclosing the number of employees, turnover, and total assets; the value of variables used in the Ohlson developed model, such as share price (PRICE), value of equity per share (EQUITY), earnings per share (EPS), and status of employees as shareholders in the company (DUMMY_SH); the control variable such as debts ratio (DTS); the market capitalization by total assets (TOBIN); the values of other information about employees, such as operating revenue per employee (ORE), average cost of employee (ACE), payroll to revenue ratio (PRR). Number of companies in the first column is the number attributed to companies at the initial step of the research, in order to identify the company's name at each moment.

Table B4. Outliers of GE

GE	No employees	Turnover (mil EUR)	Total assets (mil EUR)	Trade description (from the Orbis database)
GE_25	76,385	24,426.2	54,005.6	Transport, tobacco, energy, films and specialist paper
GE_34	83,276	20,738.0	46,828.0	Supplier of systems and equipment in aerospace, defence and security
GE_40	110,797	11,341.0	16,394.0	Provides IT services
GE_45	19,686	11,651.0	17,459.0	Designing, manufacturing, and marketing of luxury products
GE_51	34,461	8,564.3	7,769.1	Body parts and modules, automotive fuel systems, and waste containers
GE_53	412,742	8,164.0	8,864.0	Telemarketing and tele-services
GE_71	96,912	4,451.0	3,299.0	Contract catering
GE_76	10,747	3,596.0	4,076.3	Production and distribution of cheese and other dairy products
GE_81	1,552	2,966.6	4,277.7	Production of cheese and other dairy products
GE_85	5,322	4,106.0	2,343.0	Products, services and technologies for content creators and distributors
GE_140	10,970	1,026.2	673	Consulting and engineering services
GE_164	5,918	559.1	742.5	Manufacturing and marketing of structures for the aeronautics sector

GE	PRICE (EUR)	EQUITY (EUR)	EPS (EUR)	DUMMY_SH	ORE (th EUR/ employee)	ACE (th EUR/ employee)	TOBIN (units)	DTS %	PRR %
GE_25	1,390.00	5,001.74	289.10	0	319.8	50.55	0.2	39.0	15.8
GE_34	116.92	25.43	–5.76	1	249.03	67.70	1.1	76.8	27.2
GE_40	9.01	34.24	–9.12	1	102.36	51.37	0.1	76.8	50.2
GE_45	1,445.00	118.00	31.89	0	591.84	89.66	8.7	28.6	15.1
GE_51	473.00	1,287.82	71.79	0	248.52	40.43	0.1	70.9	16.3
GE_53	222.70	62.11	10.91	0	19.78	13.21	1.5	58.6	66.8
GE_71	1.89	4.24	–2.48	1	45.93	24.27	0.1	77.8	52.8
GE_76	990.00	582.51	30.17	0	334.61	65.49	0.6	66.8	19.6
GE_81	625.00	654.10	42.50	0	1,911.47	128.80	0.3	73.2	6.7
GE_85	0.21	0.90	0.43	0	771.51	59.38	0.03	86.3	7.7
GE_140	50.20	0.64	0.19	1	93.55	50.01	31.1	60.4	53.5
GE_164	3.28	0.40	–2.37	1	94.48	33.04	0.2	97.1	35.0

Note: This table presents the descriptive statistics for GE in the year 2022, disclosing the number of employees, turnover, and total assets; the value of variables used in the Ohlson developed model, such as share price (PRICE), value of equity per share (EQUITY), earnings per share (EPS), and status of employees as shareholders in the company (DUMMY_SH); the control variable such as debts ratio (DTS); the market capitalization by total assets (TOBIN); the values of other information about employees, such as operating revenue per employee (ORE), average cost of employee (ACE), payroll to revenue ratio (PRR). Number of companies in the first column is the number attributed to companies at the initial step of the research, in order to identify the company's name at each moment.