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DIVERSITY, SOCIAL INCLUSION AND HUMAN CAPITAL DEVELOPMENT AS FUNDAMENTALS OF FINANCIAL PERFORMANCE AND RISK MITIGATION

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Abstract
The objective of the research undertaken in this paper is to highlight the importance of gender and cultural diversity, social inclusion and both personal and professional development of the employees, in order to mitigate the risks faced by companies, such as to improve the profitability and, correspondingly, to increase their financial performance. The research methodology is based on two modern analysis procedures, namely: multifactorial econometric models, processed by robust regression with Huber and biweight iterations, alongside with structural equation models, configured to highlight global influences in a pre-settled frame of interdependencies among variables. The analysis is performed for a number of 1722 companies with the headquarters in Europe, using data extracted from the Thomson Reuters Eikon (2020) database. The results obtained highlight significant direct influences, both favorable and unfavorable, on the financial performance of European companies, generated by incorporating the fundamental elements and processes of human capital management, diversity and inclusion. At the same time, the empirical analysis reveals that there are risks related to the sustainability of the financial performance of the European companies, whose mitigation requires the adoption of complex strategies to reconsider the efforts of inclusion, but also of those dedicated to reduce the controversies regarding the diversity of personnel, wages, promotion and working conditions.

Keywords: Gender and cultural diversity, inclusion, human capital, financial performance, risks, econometric procedures, strategies

JEL Classification: C30, D22, G30, J24

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Introduction

The importance of including *the Environmental, Social and Governance dimensions (ESG)* for measuring, monitoring and controlling the risk of their business has received a recognition from managers in order to design long-term investment strategies (Thomson Reuters, 2017). *Diversity and inclusion (D&I)* at the workplace have become distinct components within the ESG dimensions, within numerous studies and methodologies developed in the literature, mostly by focusing on their measurement (Thomson Reuters, 2017), but also on illustrating their implications on the financial performance and, correspondingly, on the risks associated with specific activities of organizations (Choi and Rainey, 2010; Sabharwal, 2014).

A deep examination of the implications of diversity and inclusion on the financial performance and risk of organizations has led to the deployment of strategies, such as: offering alternative working programs for employees, namely flexible programs, mentoring activities and "*telework*" (Sabharwal, 2014, p. 202). The diversity (gender and cultural) and inclusion at the workplace have led to high performances for managers, through the competitive advantage that they have created and exploited, namely, the enhancement of their skills and job satisfaction (Sabharwal, 2014; Cho, et al., 2017). However, there are studies that, on the contrary, acknowledge that diversity may lead to the reduction of financial performance through the increasing risk associated with the major differences between distinct categories of employees or management, due to their conflicting ideas (Choi and Rainey, 2010). As such, there is a tendency for those categories of vulnerable persons (with disabilities or incurable diseases, women, ethnic minorities, different sexual orientation) to be excluded from the decision-making and/or implementation process.

Based on these controversial findings in the scientific literature, the main objective of this paper is to assess the impact of the diversity and inclusion dimensions, supplemented by other economic indicators, on the financial performance sustainability of the companies and their risk management, in order to adopt specific strategic measures. The analysis was undertaken on companies from Europe, using data extracted from *the Thomson Reuters Eikon* (2020) database for 1722 companies. The research methodology consisted of applying two techniques/procedures, namely, *multifactorial econometric models* (to measure the direct impact of the D&I pillars on financial performance and their associated risks), and, correspondingly, *the structural equation models (SEM),* in order to capture the global influences and interdependencies among selected variables.

The paper is structured as follows. After a brief introduction, there are briefly presented the corresponding terminology of the analyzed dimensions and, respectively, the literature review on the implications of the ESG dimensions related to diversity and inclusion on the financial performance of organizations and associated risks. The data are afterwards introduced, the sample extracted from *the Thomson Reuters Eikon database,* and the indicators used in the empirical analysis, together with the research methodology, based on *two modern econometric procedures (multifactorial models, processed by robust regression, and SEM models, estimated using the maximum likelihood method*). It follows further a brief presentation of the results obtained for each econometric procedure, associated with each research hypothesis, accompanied by discussions. The conclusions and a series of additional information are included in the Annexes, encompassed at the end of the paper.

1.1. Review of the scientific literature

1.1. The specific terminology of the analyzed dimensions

In order to quantify the risks associated with the sustainability of the companies' performance, which could occur due to the social, economic and environmental dimensions, *Thomson Reuters (2017)* has entailed the assessment of *the corporate social responsibility (CSR*), analyzed separately on each of its three dimensions, namely Environmental, Social and Governance (*ESG pillars*). Among them, the dimensions of *diversity and inclusion in the workplace* (*D&I*) include four components (Thomson Reuters, 2017): *the gender and cultural diversity* of both management (board), and employees; *the inclusion* at the workplace of particular categories of persons (such as, persons with disabilities or those affected by incurable diseases), the implementation of flexible working programs and healthcare services; *professional development of employees*, by providing training services, skills training and assessing their satisfaction; the *controversies* follow-up within the companies, regarding the three previous components.

In order to measure *the financial performance of organizations*, acknowledged as value creators, the literature outlines a number of indicators, such as (Pirtea, et al., 2014; Galant and Cadez, 2017): *Return On Assets (ROA); Return On Equity (ROE); Earnings Per Share (EPS); profit under its multiple facets, economic or accounting profit, Earnings Before Interests and Taxes (EBIT) or Earnings Before Interests, Taxes, Depreciation and Amortization (EBITDA)*; labor productivity; profit rate.

1.2. Implications of the D&I dimensions on the financial performance of organizations and associated risks

The specialists' investigations of the diversity and inclusion implications on the financial performance of organizations was undertaken, in the most part, only for the diversity component or, in some cases, together with the inclusion at the workplace, D&I. The favorable influence of diversity on the organizations' performance has emerged from the studies of many specialists (Richard, et al., 2004; Sacco and Schmitt, 2005; Pitts, 2009; Choi and Rainey, 2010; Müller, et al., 2014; Cho, et al., 2017). Thus, the diversity of employees and managers, analyzed from the perspective of "*diversity in gender, race/ethnicity, education, and sexual orientation*", has allowed the illustration a significant favorable impact on the organizations' performance in the United States of America (USA), due to management diversity, respectively of its interest and ability to apply long-term strategies (Cho, et al., 2017). The favorable relationship between diversity and the organization performance is disclosed by the fact that, through the diversity of the personnel, the company benefits by competences and ideas, which generate varied solutions to solve problems (Choi and Rainey, 2010; Mamman, et al., 2012; Müller, et al., 2014). For appraisal the relationship between diversity (appreciated by ethnicity and gender) and organizations performance (valued by ROE and productivity), Richard, et al. (2004) deemed two scenarios: *one for the degree of innovation of the organizations*, and *the other for the degree of risk taking*. The results showed the following: the more innovative the company and the greater the racial diversity, the productivity of the organization increases, and vice versa; the more the willingness of the company to take risks and the greater the diversity of gender, the curve reflecting the dynamics of productivity is *U-reversed shaped*, and vice versa.

On the other hand, the relationship between diversity and the organization performance may be unfavorable, determined by the conflicts that can arise between the created groups, but also within them (Ely, 2004; Mamman, et al., 2012). By including only the controversy component within the ESG dimensions, Rodríguez-Fernández, et al. (2019) highlighted the existence of a favorable influence on the financial performance (measured by ROA and ROE) of tourism companies (data extracted from the Thomson Reuters database in 2017).

Studying the implications for different types/groups that compile the diversity of the organization's staff (racial diversity, age and gender), Choi and Rainey (2010) highlighted their positive influences on the organizations performance, only when their management administrates them properly. When employees are feeling important through their perception on the interest given by the management of the organization in their needs, "diversity can be a source of growth, learning, and intuition, thus enhancing organizational performance" (Choi and Rainey, 2010, p.116). Assuming that diversity and the ensuring of an inclusive environment for particular groups of employees are a whole, these cannot be treated separately and might lead to the increase of public companies' performance only when the management diversity is considered (Sabharwal, 2014). For the inclusion of individuals to be considered as a competitive advantage for organizations, they have to be committed in this direction, proving to have the ability to take proactive decisions, and to apply a fair treatment to all employees. A key strategy in sustainability of the increasing financial performance and risk mitigation is when "*diversity management is coupled with support from leaders and when employees are empowered in making decisions*" (Sabharwal, 2014, p. 212).

Making a review of the main results obtained in the literature in the field (a number of 96 investigated articles, of which 30 articles met the processing criteria), Mor Barak et al. (2016) showed that, when diversity is apart analyzed, both positive and negative influences on the organizations' results might be obtained, while the efforts orientation of a heterogeneous/diverse management for the inclusion of particular employees' categories might lead to positive organization' outputs. These results support the approach specific to the "*social identity theory*", developed by Tajfel (1982), who considers that each person refers to and adheres to the group/persons with which he/she has identified similar characteristics. Thus, people from certain groups respond to the directions/strategies drawn up by the managers from the same category with them, leading to the tasks performance, with a higher efficiency as in the case of the ordinary groups. The limitations of the research undertaken by specialists consist in either including only one D&I dimension (Ely, 2004; Choi and Rainey, 2010; Mamman, et al., 2012; Müller, et al., 2014; Cho, et al., 2017; Rodríguez-Fernández, et al., 2019), either in the shortcomings of the research method, by the subjectivism of the answers received in interviews (Cho, et al., 2017) or questionnaires (Choi and Rainey, 2010), with a low response rate (Sabharwal, 2014) or possible measurement errors (Galant and Cadez, 2017).

Within the relevant literature, the following variables/dimensions were considered to assess the financial performance of organizations: employees' perception of the organization's financial performance, measured by applying a scale based on the answers received to the questionnaires (Choi and Rainey, 2010; Sabharwal, 2014); a performance score, assessed by new sales, customer satisfaction and sales productivity (Ely, 2004); labor productivity and *Return On Equity (ROE)* (Richard, et al., 2004; Rodríguez-Fernández, et al., 2019); turnover and profit rate (Sacco and Schmitt, 2005); *Return On Assets (ROA)* (Müller, et al., 2014; Rodríguez-Fernández, et al., 2019).

2. Research methodology

2.1. Data, panel/sample, indicators

Specific data used in the empirical analysis were extracted from *the Thomson Reuters Eikon (2020)* database, targeting CSR indicators, *environmental, social and governance dimension*s (TR ESG), *Gender Diversity* section, report on *Diversity and Inclusion (D&I). Thomson Reuters Eikon (2020) ESG* universe database covers over 6,000 companies. The *sample examined in our research* comprises companies with the headquarters in Europe, with data for the last fiscal year (FY0) and updated for the next fiscal year (FY1), including ESG period reporting last updates from February 2020 (base year, FYO).

The initial sample was configured according to the availability of information in the Thomson Reuters Eikon database, on the criteria of the organization's headquarters in Europe, following the selection resulting in a number of 1,744 companies with data available for analysis, distributed geographically as follows: the Netherlands (68), the United Kingdom (442), Jersey-UK (8), Belgium (49), the Czech Republic (5), Denmark (43), Finland (37), France (152), Switzerland (134), Germany (176), Guernsey (20), Luxembourg (25), Greece (26), Hungary (5), Ireland (45), Italy (95), Austria (34), Norway (53), Poland (42), Portugal (15), Russia (45), Slovenia (1), Spain (70), Sweden (132), Liechtenstein (1), Gibraltar (1), Malta (4), Romania (2), Ukraine (1), Cyprus (5), Faroe Islands (1), Monaco (4), Isle of Man (3). The latter set of companies from Liechtenstein, Gibraltar, Malta, Romania, Ukraine, Cyprus, Faroe Islands, Monaco and Isle of Man were eliminated from the sample due to numerous missing values for main ESG diversity and inclusion indicators. The final dataset used for econometric modelling comprised 1,722 companies from various sectors.

The indicators selected for the empirical analysis cover the following categories:

- *Diversity and Inclusion indicators*, which are scores (with values ranging from 0 to 100) attributed to the following dimensions: *gender diversity (ESG_Diversity)*; *inclusion (ESG_Inclusion)*; *human capital development (ESG_People_D)*; respectively *news and controversies (ESG_Controv)*; another important indicator calculated by *Thomson Reuters* in this respect is *ESG_Rep_Scope*, which entails the reporting purpose and degree of the elements related to gender diversity, inclusion and professional development of employees.

- *Human capital and other economic credentials:* employee satisfaction, as percentage reported by the company in the basic year of the analysis (FY0 – prior fiscal year) (*Empl_satisf*); salary gap from the basic year (FY0) (*Salary_gap*); net employment creation from the basic year (FY0) (*Empl_create*); number of employees from CSR reporting (FY0) (*No_empl_CSR*); turnover of employees (FY0) (*Turnov_empl*);

- *Financial performance, profitability and risk associated indicators:* earnings before interest and taxes *(EBIT)* (mean FY1, USD); earnings before interest, tax, depreciation and amortization (*EBITDA*) (mean of FY1, USD); return on assets (*ROA*) (mean of FY1, %,); return on equity (*ROE*) (mean of FY1, %).

The *dimensions of diversity and inclusion indicators*, as core elements of our research, comprise, for each component, the following coordinates: *the diversity pillar* (*ESG_Diversity*), which encompasses board gender diversity (%), board member cultural diversity (%), women employees (%), new women employees (%), women executive

employees (%), women managers (%), diversity process (expressed by Yes/No, Y/N), diversity objectives (True/False, T/N); the *inclusion pillar* (*ESG_Inclusion*), which comprises flexible working hours (Yes/No, Y/N), day care services, nursery and kindergarten (Yes/No, Y/N), employees with disabilities (Yes/No, Y/N), the human rights campaign (HRC) for corporate equality index (numeric), HIV/AIDS (Yes/No, Y/N); *people capital development pillar (ESG_People_D*), which appends internal promotion (Yes/No, Y/N), average training hours (numeric), management training (Yes/No, Y/N), career development processes (Yes/No, Y/N), employee satisfaction (%), skills training of employees (Yes/No, Y/N), training costs per employee (USD); and *news and controversies pillar (ESG_Controv)*, which includes diversity and opportunity controversies (numeric), along with wages or working conditions controversies (numeric).

Descriptive statistics of the variables configured for the 1,722 companies with the headquarters in Europe, deployed in empirical analysis, are synthesized in table no. 1.

Table no. 1. Descriptive statistics of the variables used in the econometric analysis

Variables	N	Mean	Standard deviation	Minimum	Maximum
ESG_Diversity	1660	32.28072	14.81929	0	77
ESG_Inclusion	1660	15.75602	20.49258	0	94
ESG_People_D	1660	40.88253	21.90282	0	90
ESG_Controv	1660	99.01566	5.08953	44	100
ESG_Rep_Scope	1371	91.06484	20.67952	1	100
Empl_satisf	281	75.81068	10.59586	3.9	96
Salary_gap	1224	129.284	1745.076	.07	54279.35
Empl_create	1617	8.15295	28.85968	-81.9	509.76
No_empl_CSR	1271	28773.5	63539.02	0	664496
Turnov_empl	789	13.66901	10.30692	0	95.54
EBIT	1593	1040000000	2670000000	-595000000	34900000000
EBITDA	1474	1390000000	3810000000	-462000000	59700000000
ROA	1722	4.182091	10.07174	-171.2	240.27
ROE	1722	12.84436	44.47888	-572.65	1028.29
N total	1722				

Note: N = number of observations

Source: authors' contribution in Stata 16, based on Thomson Reuters Eikon (2020) data.

Taking a first look at the data presented in table no. 1, we could notice that, as regards the *diversity and inclusion dimensions (ESG)*, the central tendency indicator (mean) accounts values with ranges very close to the maximum value (100) only for the *news and controversies* component *(ESG_Controv)*, while, for the other pillars, the mean is closer to the minimum values, particularly for the *inclusion component* (*ESG_Inclusion*). This situation reveals that there is a keen need to redesign strategies and policies dedicated to increase the diversity in organizations, with decision-makers giving importance to the inclusion of people in particular situations, as well as human capital development and reducing controversy (related to staff diversity, salaries, working conditions, promotion and harassment).

The variables considered as proxies for human capital, economic dimensions and financial performance have been subject to the logarithm procedure in order to cope with the non-stationarity issue, but also to provide common groundings for the analysis and interpretation of the results (elasticity coefficients), by acknowledging the differentials in measurement units for these indicators.

2.2 Hypotheses and research methods

To achieve the research objective and in line with other similar studies identified within the literature review, we target the following work hypotheses (H) to be tested:

- **H_1**: There are significant direct influences induced through the incorporation of the fundamental diversity and inclusion (D&I) elements and processes by the European companies on the financial risks and financial performance, both separately ($H_{1.0}$), as well as jointly with the human capital development efforts ($H_{1.1}$);

- **H_2**: There are significant global influences (direct, indirect, total) of D&I pillars on the financial performance of European companies and associated risks, together with the human capital development indicators and other economic dimensions.

The **research methodology** consists in applying two econometric procedures, namely: *(i) multifactorial models of robust regression (with Huber and biweight iterations)*, patterned to measure the direct impact of D&I pillars on the financial performance and associated risks, together with several human capital development indicators and other economic dimensions; and *(ii) structural equation models (SEM)*, designed to encompass the global influences (total, direct and indirect) between all considered variables on the financial performance of European companies and associated risks.

The general configuration of the *multifactorial models* was deployed to analyze, on the one hand, the direct implications of considered ESG pillars on the financial performance (***equation 1***), and, on the other hand, of the efforts made by the European companies for human capital development, jointly with other economic dimensions and the ESG components (***equation 2***). The models configured to capture the effects induced through the incorporation of fundamental aspects and processes of D&I by the European companies, along with the professional development at the workplace, on their financial risks and financial performance, are presented in *equations 1 and 2*.

$$ROA/ROE/EBIT/EBITDA = \delta + \beta_1 ESG\_Diversity + \beta_2 ESG\_Inclusion + \\ + \beta_3 ESG\_People\_D + \beta_4 ESG\_Controv + \beta_5 ESG\_Rep\_scope + \theta_i + \lambda_t + \varepsilon \quad (1)$$

$$ROA/ROE/EBIT/EBITDA = \delta + \beta_1 ESG\_Diversity + \beta_2 ESG\_Inclusion + \\ + \beta_3 ESG\_People\_D + \beta_4 ESG\_Controv + \beta_5 ESG\_Rep\_scope + \beta_6 No\_empl\_CSR + \\ + \beta_7 Empl\_create + \beta_8 Turnov\_empl + \beta_9 Empl\_satisf + \beta_{10} Salary\_gap + \theta_i + \lambda_t + \varepsilon \quad (2)$$

where:

δ and β – parameters that need to be estimated;
ε – stochastic element;
θ_i and λ_t – variables accounting for spatial and time effects.

SEM models are designed according to *the equation system 3*.

$$\begin{cases} b_{11}y_{2t} + \ldots + b_{1m}y_{mt} + c_{11}x_{1t} + \ldots + c_{1n}x_{nt} = \varepsilon_{1t} \\ b_{21}y_{2t} + \ldots + b_{2m}y_{mt} + c_{21}x_{1t} + \ldots + c_{2n}x_{nt} = \varepsilon_{2t} \\ \ldots\ldots\ldots\text{--} \\ b_{m1}y_{mt} + \ldots + b_{mm}y_{mt} + c_{m1}x_{nt} + \ldots + c_{mn}x_{nt} = \varepsilon_{mt} \end{cases} \quad (3)$$

where:

t – number of observed time periods;

b_{ij} – parameters of the endogenous variable, y_{ij}, $i=1, \ldots, m, j=1, \ldots, n;$

c_{ij} – parameters of the exogenous variable x_{ij}, $i=1, \ldots, m, j=1, \ldots, n;$

ε – error term (residuals).

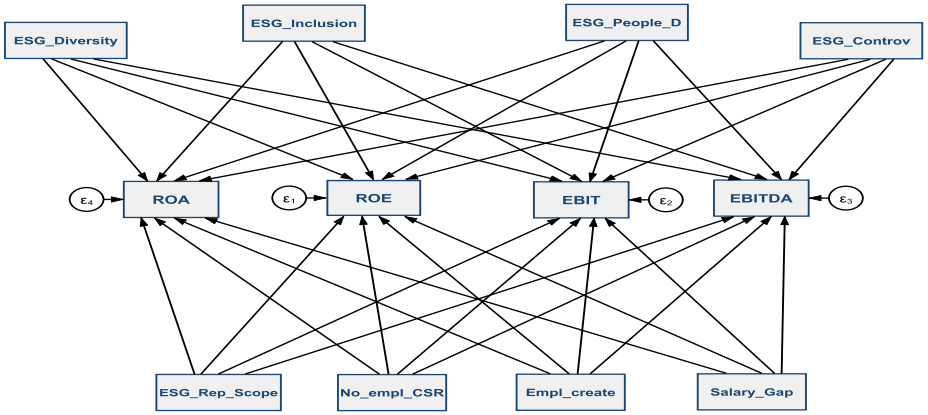

Figure no. 1. General pattern of SEM-1 designed to measure the interdependencies between the D&I coordinates and the financial performance of organizations
Source: authors' conception in Stata 16.

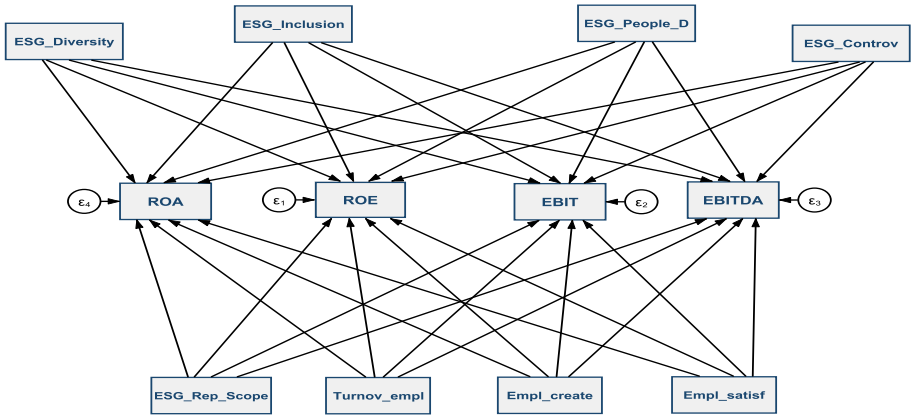

Figure no. 2. General pattern of SEM-2 designed to measure the interdependencies between the D&I coordinates and the financial performance of organizations
Source: authors' conception in Stata 16.

The general arrangement of the SEM models follows two scenarios: *(1)* global implications of D&I pillars as comprised by the ESG report, along with other representative human capital indicators on the financial performance (SEM-1), on one hand (figure no. 1); respectively *(2)* global influences of D&I coordinates as embedded in ESG, together with

specific people development and other economic indicators on the financial performance (SEM-2), on the other hand (figure no. 2).

3. Results and discussion

3.1. Multifactorial models

The results of the multifactorial models (table no. 2) highlight that all considered dimensions of the financial performance of European companies are favorably influenced by board and employees' (gender and cultural) diversity (*ESG_Diversity*).

The human capital development efforts (*ESG_People_D*) (positive and statistically significant coefficients) also have a favorable influence. These results are similar with the ones of Müller et al. (2014, p. 510), which have entailed that one of the strongest influence on ROA was identified under the „*share of female managers*", being consistent also with the results of Cho et al. (2017), Park (2020), Pitts (2009), Richard et al. (2004), Sacco and Schmitt (2005). Instead, the inclusion efforts of particular persons (*ESG_Inclusion*) have induced positive implications only upon the earnings before interest and taxes (*EBIT*) (*model 3*) and earnings before interest, tax, depreciation and amortization (*EBITDA*) (*model 4*), while in terms of return on assets (*ROA*) and return on equity (*ROE*) (*models 1 and 2*), the impacts were unfavorable (statistically significant coefficients). The results are contrary to those of Mor Barak et al. (2016), which have grasped the preponderance of the existence in the literature of favorable influences on financial performance for the components of diversity and inclusion. Adversely, the controversies related to employees' diversity, salaries and working conditions (*ESG_Controv*) have had unfavorable implications on *EBIT* and *EBITDA* and positive ones for return on assets (*ROA*) and return on equity (*ROE*) (statistically significant coefficients). In the case of ROA and ROE, the results are similar to those obtained by Rodríguez-Fernández et al. (2019), which analyzed, however, only the implications of controversies on financial performance.

Table no. 2. Results of econometric models (Thomson Reuters scores), robust regression

Variables	(1)	(2)	(3)	(4)
	log_ROA	log_ROE	log_EBIT	log_EBITDA
ESG_Diversity	0.00144	0.00439**	0.0269***	0.0237***
	(0.00241)	(0.00154)	(0.00303)	(0.00301)
ESG_Inclusion	-0.00641***	-0.00257**	0.0216***	0.0204***
	(0.00147)	(0.000939)	(0.00187)	(0.00193)
ESG_People_D	0.00739***	0.00371**	0.0119***	0.0150***
	(0.00192)	(0.00119)	(0.00233)	(0.00228)
ESG_Controv	0.0119*	0.00823*	-0.0368***	-0.0447***
	(0.00497)	(0.00329)	(0.00655)	(0.00645)
ESG_Rep_Scope	-0.0389	0.0243	-0.127	-0.141
	(0.0610)	(0.0388)	(0.0779)	(0.0770)
_cons	0.313	1.327***	21.97***	23.08***
	(0.581)	(0.378)	(0.754)	(0.741)
N	964	1186	1257	1176
R^2	0.038	0.026	0.277	0.295

Note: N = number of observations; R^2 = coefficient of determination; * = statistical significance; standard errors in parentheses: *p<0.05, **p<0.01, ***p<0.001; p = probability.
Sursa: contribuția autorilor în Stata 16.

The results show that *there are significant direct influences on the financial performance and financial risks of European companies induced by the incorporation of fundamental elements and processes of diversity and inclusion D&I ($H_{1.0}$)*, both favorable and disadvantageous. These results imply tailored strategies targeted to overcome the associated risks.

When we have considered also the efforts made by the European companies for human capital development, along with the fundamental D&I processes (table no. 3), we could observe that the latter lose part of the statistical significance. Favorable influences are accounted in terms of management and employees' diversity (*ESG_Diversity*), and also as regards the inclusion efforts of particular persons (*ESG_Inclusion*), but only for *EBIT* (positive and statistically significant estimated coefficient).

Unfavorable influences are registered on *ROA*, as regards the inclusion dimension (negative and statistically significant coefficient). *ROE* is positively and statistically significant influenced by the employment creation in prior fiscal year (*Empl_create*). Besides the employee diversity and the inclusion efforts, *EBIT* (*model 3*) and *EBITDA* (*model 4*), are positively influenced (statistically significant coefficients) by the number of employees (*No_empl_CSR*) and the employment satisfaction (*Empl_satisf*), but they are affected by the turnover of employees (*Turnov_empl*) (negative and statistically significant coefficient). Therefore, *there are significant direct effects on the financial performance and financial risks of European companies induced by the incorporation of fundamental elements and processes of diversity and inclusion D&I, jointly with the human capital development efforts ($H_{1.1}$).*

Table no. 3. Results of econometric models (Thomson Reuters indices, together with other socio-economic variables), robust regression

Variables	(1)	(2)	(3)	(4)
	log_ROA	log_ROE	log_EBIT	log_EBITDA
ESG_Diversity	0.00461	0.000810	0.0230*	0.0143
	(0.00926)	(0.00513)	(0.0107)	(0.0111)
ESG_Inclusion	-0.0148**	-0.00467	0.0140*	0.0109
	(0.00505)	(0.00289)	(0.00584)	(0.00595)
ESG_People_D	0.0120	0.00444	-0.0129	-0.00404
	(0.00753)	(0.00431)	(0.00876)	(0.00785)
ESG_Controv	-0.00323	0.0103	0.0197	0.00152
	(0.0144)	(0.00821)	(0.0173)	(0.0153)
ESG_Rep_Scope	-0.245	-0.0627	0.248	0.194
	(0.211)	(0.118)	(0.248)	(0.214)
log_No_empl_CSR	-0.0466	-0.00198	0.378***	0.431***
	(0.0781)	(0.0422)	(0.0876)	(0.0791)
log_Empl_create	0.120	0.104*	-0.0862	-0.0373
	(0.0826)	(0.0452)	(0.0947)	(0.0866)
log_Turnov_empl	-0.0955	-0.00220	-0.563*	-0.594**
	(0.212)	(0.118)	(0.244)	(0.213)
log_Empl_satisf	0.747	-0.298	2.423*	2.202*
	(0.417)	(0.536)	(1.001)	(0.866)
log_Salary_gap	0.0651	0.0427	0.156	0.172
	(0.0936)	(0.0600)	(0.111)	(0.0981)
_cons	-0.533	2.661	3.679	6.287
	(1.970)	(2.510)	(4.859)	(4.204)
N	82	84	88	78
R^2	0.242	0.194	0.520	0.601

Note: N = number of observations; R^2 = coefficient of determination; * = statistical significance; standard errors in parentheses: *p<0.05, **p<0.01, ***p<0.001; p = probability.
Source: authors' contribution in Stata 16.

The results obtained after testing the H_1 hypothesis (distinctively for $H_{1.0}$ and $H_{1.1}$) reveal that there are risks associated with the sustainability of the financial performance of European companies induced by the inclusion efforts (flexible working programs, employees with disabilities, HIV/AIDS, HRC index) ($H_{1.0}$ and $H_{1.1}$), by the controversies related to employees' diversity, wages, working conditions ($H_{1.0}$), as well as by the turnover of employees ($H_{1.1}$). All these issues show the keen need to reconfigure new tailored strategies.

3.2. Models based on structural equations (SEM)

In order to establish to what extent there are global interlinkages between the D&I pillars on the financial performance and their associated risks of the European companies, jointly with the human capital development indicators and other economic dimensions (*H_2 hypothesis*), we have assessed two basic scenarios associated with it (SEM-1, figure no. 3, and SEM-2, figure no. 4).

SEM models are processed using *the Maximum Likelihood Estimator (MLE) method* with missing values, whereas some variables do not present all values. To validate the SEM results, we have firstly applied a series of specific tests, such as *Cronbach's Alpha*, to assay the SEM reliability (appendix, table no. A1), *the Wald test* for each equation (appendix, table no. A2), and the *Goodness-of-fit tests* (annex, table no. A3), which confirmed the validation and reliability of the two scenarios. According to *the Goodness-of-fit tests* (appendix, table no. A3), the coefficient of determination (CD) shows that, in a conclusive proportion of 76.8%, respectively 94.6%, the variables included into the model influence the financial performance, appreciated by *ROA*, *ROE*, *EBIT* and *EBITDA*.

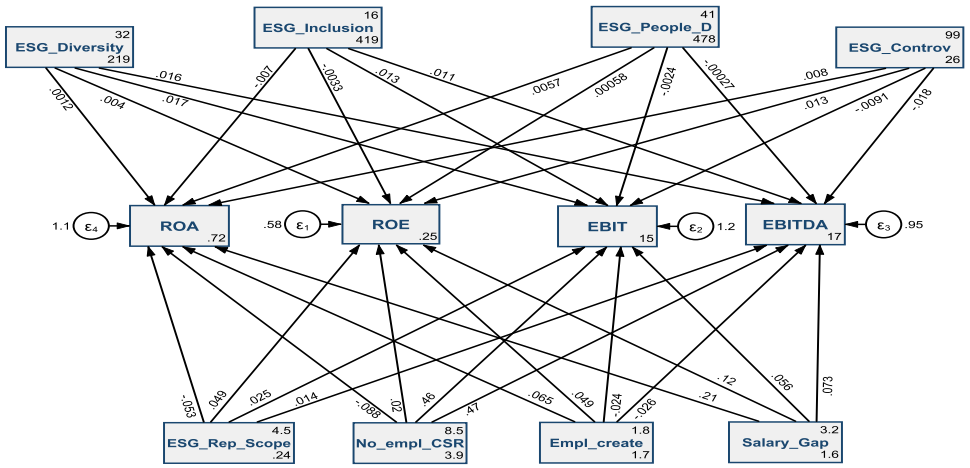

Figure no. 3. Results of SEM-1 designed to measure the interdependencies between the D&I pillars and the financial performance of organizations

Source: authors' contribution in Stata 16.

ROA is favorably influenced by the human capital development component (*ESG_People_D*), for both scenarios (figures no. 3 and 4) ($p<0.01$), and by salary differences (*Salary_gap*) ($p<0.001$) (figure no. 3), but also by the net employment creation

(*Empl_create*) (p<0.05) (figure no. 4) and turnover of employees (*Turnov_empl*) (p<0.001) (figure no. 4). Unfavorable influences are manifested by the inclusion efforts made by European companies (*ESG_Inclusion*), for both scenarios (figures no. 3 and 4) (p<0.001), but also by the number of employees in the CSR report (*No_empl_CSR*) (p<0.001) (figure no. 3). The results are opposite to those obtained by Mor Barak, et al. (2016). Regarding *ROE*, this is favorably influenced by the gender and cultural diversity component (*ESG_Diversity*), for both scenarios (figures no. 3 and 4) (p<0.05, respectively p<0.001) (opposite results to those obtained by Ely (2004), Mamman, et al. (2012) and Choi and Rainey (2010), but also by the news and controversy component, *ESG_Controv*) (positive coefficient and statistically significant, 0.013, p<0.001, respectively 0.012, p<0.01).

Also, salary differences (*Salary_gap*), net employment creation (*Empl_create*) positively influence *ROE* (p<0.001, respectively p<0.05) (figure no. 3), along with the turnover of employees (*Turnov_empl*) and employee satisfaction (*Empl_satisf*) (p<0.05, respectively p<0.001) (figure no. 4). These coordinates can thus be enhanced in companies' strategies to increase profitability. Unfavorable influences on *ROE*, as in the case of *ROA*, are manifested by the low inclusion efforts made by the analyzed companies (*ESG_Inclusion*) (p<0.01) (figure no. 3), being necessary a reconfiguration of the policies and measures adopted in this regard.

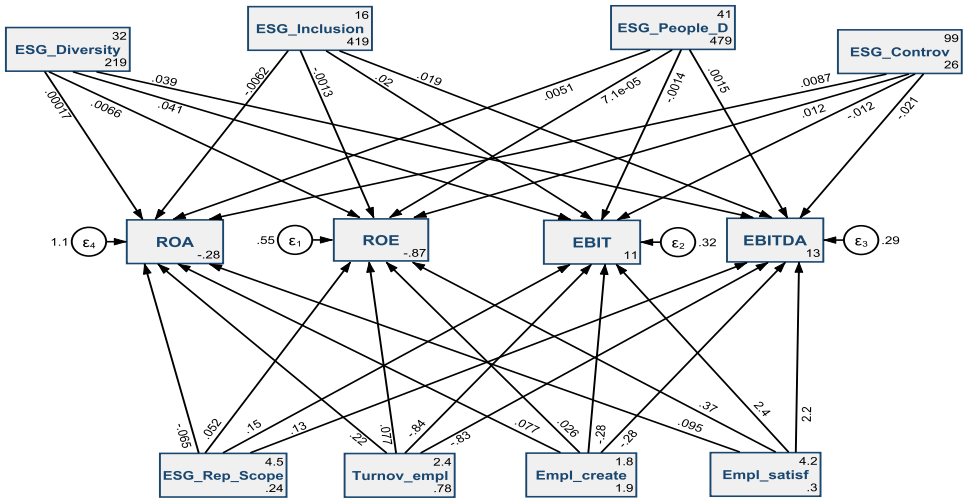

Figure no. 4. Results of SEM-2 to measure the interdependencies between the D&I pillars and the financial performance of organizations

Source: authors' contribution in Stata 16.

EBIT and *EBITDA* are favorably and statistically significant influenced (p<0.001) by the gender and cultural diversity component (*ESG_Diversity*), for both scenarios, but also by the inclusion efforts made by the companies (*ESG_Inclusion*) (figures no. 3 and 4). Overall, *ESG_Rep_Scope* positively and statistically significant influences (p<0.05) *EBIT* and *EBITDA*, alongside with the salary differences (*Salary_gap*) (figure no. 3).

We noticed that the employee satisfaction (*Empl_satisf*) strongly influences *EBIT* and *EBITDA* (positive coefficients, 2.37, respectively 2.202, p<0.001) (figure no. 4), but also

the other dimensions of financial performance, being similar to the results obtained by Park (2020), which demonstrated that employee satisfaction leads to superior results of organizations listed on the Korean stock exchange. Unfavorable implications on *EBIT* and *EBITDA* are manifested by the news and controversy component (*ESG_Controv*), in both scenarios (figures no. 3 and 4). Also, net employment creation (*Empl_create*) and turnover of employees (*Turnov_empl*) negatively and statistically significant influence ($p<0.001$) *EBIT* and *EBITDA* (figure no. 4). *There are significant global (direct, indirect, total) influences of the D&I dimensions on the financial performance and their risks, accompanied by indicators of human capital development and other economic dimensions (Hypothesis H_2)*, in both considered scenarios (SEM-1, SEM-2), which is why specific strategies associated with them are recommended. In terms of global interdependencies, for the analyzed companies, there are risks related to the sustainability of the financial performance of the companies, determined by: the inclusion efforts made through flexible programs, employees with disabilities, with HIV/AIDS, HRC index (for *ROA* and *ROE*); the controversies regarding the diversity of personnel, salaries and working conditions, but also by the net employment creation and turnover of employees, for the absolute values of financial performance (for *EBIT* and *EBITDA*); as well as by the number of employees in the CSR report (for *ROA*).

Conclusions

We consider that, through the main objective of our research and the importance assigned to the CSR implications on the sustainability of the companies' activity, their profitability and risks mitigation, this study upholds the debates development in the literature, especially through the advanced results in the field and new empirical evidence enhanced from the research conducted at the level of European companies. The research endeavour reiterates, through an original, innovative approach, the decisive importance of human capital for the company, respectively the diversity, professional development and inclusion of employees to reduce risks and improve the financial performance of companies. The added value generated by the employees of the companies with headquarters in Europe (employee turnover), salary incentives, flexible work programs, employee satisfaction, gender and cultural diversity are key factors, highlighted by this research, with a significant positive impact on the financial performance of companies.

The multifactorial models based on the robust regression have led to the assessment of the hypothesis that there are significant direct influences, both favorable and unfavorable, on the financial performance and their associated risks, engendered by the inclusion by the European companies of the fundamental elements and processes of D&I ($H_{1.0}$). However, by including in the same time of the direct influences associated with human capital development efforts, the influences have not been entirely verified ($H_{1.1}$). *The SEM models*, aimed at assessing the global (direct, indirect, total) interdependencies between the efforts undertaken by the European companies to include the D&I dimensions, associated with indicators of human capital development and other economic dimensions, and the financial performance, in order to identify the associated risks, have attested the existence of these keen interdependencies.

The results of the two econometric procedures reveal that there are risks related to the sustainability of the financial performance of the European companies that need strategies

and policies aimed primarily at: rethink the inclusion efforts through flexible programs, diversifying the inclusion of employees with disabilities or affected by HIV/AIDS, by redesigning the jobs for their skills/competences, but also appropriate insertions for equal human rights (HRC equality index), engendered both in their direct influence on financial performance (*hypothesis H_1*) and cumulatively, as a whole (*hypothesis H_2*), but only for the financial performance in relative size (*ROA* and *ROE*); alleviation and analysis of controversies regarding the diversity of staff, salaries and working conditions, but also those of adapting employment creation and, implicitly, the contribution of the turnover of employees to the financial performance sustainability (with implications on performance in absolute values *(EBIT* and *EBITDA*), both in the case of direct links (H_1) and global connections (H_2)); a special attention must also be paid to correlating the number of employees in the CSR reports, due to the unfavorable influences on the financial performance associated with the assets (*ROA*) (*hypothesis H_2*).

We consider that the empirical evidence revealed by our study contributes to the decision-making process regarding the investments made by companies. Emphasis is placed on the importance of the social dimension (with an accent on the diversity and inclusion component) and, respectively, on corporate governance in improving the financial performance of European-based companies. Thus, integrating investment on the ESG component, dedicated to diversity and inclusion, into companies' long-term strategy becomes essential to ensure a sound financial performance. Other policy implications, which can be taken into account by decision-makers to increase the diversity and inclusion of the employees in companies, with positive spillover effects on the financial performance, include: active recruitment of minorities to apply for job vacancies; mandatory/optional professional training sessions/programs for employees; mentoring programs developed especially for employees that are under-represented within the company, for career guidance and promotion; clear identification of barriers that diminish the manifestation of diversity and inclusion of employees, through coherent policies and diversity offices/committees with a special configuration within the organization in this regard, and concerted efforts to remove them.

However, our research has its own limitations, mainly residing on the missing data in CSR specific reports, but also to the degree of relevance of binary data. For future studies and research, we aim to address, separately, the structural influences of each dimension of CSR, environmental, social and governance, on the financial performance, accompanied by other economic and social factors, but also other dimensions of financial performance of companies.

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Appendix

Table no. A1: Alpha Cronbach for the SEM models

	SEM-1		SEM-2	
Variable	**Item-test correlation**	**Alpha**	**Item-test correlation**	**Alpha**
Log_ROE	0.3493	0.7611	0.2713	0.6823
Log_EBIT	0.7675	0.6979	0.6971	0.5758
Log_EBITDA	0.8113	0.6918	0.7395	0.5720
Log_ROA	0.2606	0.7652	0.4302	0.6481
ESG_Diversity	0.6305	0.7244	0.6303	0.6003
ESG_Rep_Scope	0.2673	0.7705	0.1742	0.6987
Log_No_empl_CSR/ Log_Turnov_Empl	0.7460	0.7101	0.3115	0.6622
ESG_Inclusion	0.5548	0.7323	0.5963	0.5967
Log_Empl_create	0.4246	0.7509	0.4817	0.6386
Log_Salary_Gap/ Log_Empl_satisf	0.5974	0.7283	0.1407	0.6494
ESG_People_D	0.6614	0.7224	0.6275	0.6138
ESG_Controv	0.3203	0.7652	0.3622	0.6556
Total scale		**0.7535**		**0.6567**

Source: authors' research in Stata 16.

Table no. A2: Wald tests for the equations associated with the SEM models

	SEM 1			SEM 2		
Variable	**Chi²**	**df**	***p*-value**	**Chi²**	**df**	***p*-value**
Log_ROE	73.36	8	0.0000	100.92	8	0.0000
Log_EBIT	1514.82	8	0.0000	1981.75	8	0.0000
Log_EBITDA	1853.10	8	0.0000	2101.64	8	0.0000
Log_ROA	77.25	8	0.0000	68.41	8	0.0000
„H_0: All coefficients except for the intercept are equal to 0". We can thus reject the null hypothesis (H_0) for each equation.						

Note: Chi² = Chi test; df = degree of freedeom; *p* = significance.
Source: authors' research in Stata 16.

Table no. A3: Goodness-of-fit tests for the SEM models

	SEM 1	SEM 2
Likelihood ratio		
Model vs. saturated chi²_ms (6)	3809.958	2931.437
p > chi²	0.000	0.000
Baseline vs. saturated chi²_bs (38)	6035.670	5397.022
p > chi²	0.000	0.000
Information criteria		
AIC (Akaike's information criterion)	82224.238	75404.047
BIC (Bayesian information criterion)	82681.996	75861.658
Baseline comparison		
CFI (Comparative fit index)	0.367	0.454
TLI (Tucker–Lewis index)	-3.017	-2.457
Size of residuals		
CD (Coefficient of determination)	0.768	0.946

Source: authors' research in Stata 16.