Sustainable or not Sustainable? The role of the board of directors
IQS School of Management, Universitat Ramon Llull, Barcelona-Spain
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VI. References
Concerns about social, ethical, and environmental performance are continuously rising in the corporate world (Temminck et al., 2015).

Governmental and communal pressure triggers CG and BODs to engage in wider corporate affairs such as sustainability performance. (Eesley et al., 2016; Goranova and Ryan, 2013)

Organizational shift toward sustainability adoption:

1- At departmental level: firms are developing new missions/agendas and have been “reconceptualized” to fulfill the new sustainable objectives (Chams and García-Blandón, 2019).

2- At managerial level: multi-dimensional transformation to acknowledge wider spectrum of responsibilities from: BODs, CEOs, HR managers, and employees (Borghesi et al., 2014; Chin et al., 2013).
BOD structure and composition as key catalyst to social and ecological achievements influencing both financial and non-financial objectives

Prior Studies
Lau et al., (2016); Ntim and Soobaroyen (2013); Post et al., (2011); Zhang et al., (2012);

BOD Size
Gender diverse BOD

Independent Directors
Western EU Education

SUSTAINABLE PERFORMANCE
Theoretical Frameworks

**Agency Theory**
BOD mechanism structured and designed → to implement social and ethical performances, only when the latter guarantees efficient financial promising returns (McWilliams and Siegel, 2000).

**Neo-institutional Theory**
BOD managerial behavior → acknowledge the combined social and economic comportments based on country specific organizations and regulatory institutions (Meyer and Rowan, 1977).

**RD Theory**
BOD functions and capabilities → improve firm’s performance through effective allocation of resources enabling managers to acquire pro-sustainable behaviors (Granovetter, 1985).

**Legitimacy Theory**
BOD involvement in sustainable performance → competitive advantage to gain credibility from both market and societal perspectives and originate a reputable public image (Oliver, 1991).
Theoretical Frameworks

We develop our study under the scope of ...

**Stakeholder Theory**

Embeddedness of stakeholders network → Detect firm’s financial and social responsibilities

BOD acknowledgement of economic, legal, and philanthropic duties, not only toward shareholders, but also toward stakeholders

(Freeman, 1984)
Research Gaps

**Gap 1:** Little is known about which BOD’s specific characteristics **facilitate or deter** the implementation of sustainable practice

**Gap 2:** Few empirical studies address the impact of BOD’s determinants on sustainability performance **at cross-country and multi-industry levels**

**Gap 3:** Lack of quantitative analysis at **global level**, assessing the distinctive determinants of BODs on sustainable performance between EU and Non-EU firms

Therefore, we address the following research questions ...
Research Questions

1- Which characteristics of BOD and what structure and composition of BOD are identified as qualifiers to classify a firm as a sustainable organism?

2- Investigate if the “green” BOD attributes are similar or different between EU and non-EU countries
Hypotheses

†Note: The dashed line represents a negative relationship between the latent variable and SUSTPERF

Independent Variables

<table>
<thead>
<tr>
<th>BOD Determinants</th>
<th>BODSIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Size</td>
<td>EXTBOD</td>
</tr>
<tr>
<td>External Directors on Board</td>
<td>CEODUAL</td>
</tr>
<tr>
<td>CEO Duality</td>
<td>NUMCOM</td>
</tr>
<tr>
<td>Number of Committees on Board</td>
<td>SUSCOM</td>
</tr>
<tr>
<td>Presence of Sustainable Committee</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>BOD Demographics</th>
<th>AVAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age of directors</td>
<td>AVAGESQ</td>
</tr>
<tr>
<td>Gender Diversity</td>
<td>GENDIV</td>
</tr>
<tr>
<td>Advanced Education</td>
<td>ADVEDU</td>
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<table>
<thead>
<tr>
<th>Control variables</th>
<th>ROA</th>
</tr>
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<tbody>
<tr>
<td>Return on Assets</td>
<td>PBV</td>
</tr>
<tr>
<td>Price to Book Value</td>
<td>LEV</td>
</tr>
<tr>
<td>Leverage</td>
<td>BETA</td>
</tr>
<tr>
<td>Firm’s Beta</td>
<td>R&amp;D</td>
</tr>
<tr>
<td>Research &amp; Development Expenditure</td>
<td>BUSSEG</td>
</tr>
<tr>
<td>Number of Business Segments</td>
<td>ANACOV</td>
</tr>
<tr>
<td>Analyst Coverage</td>
<td></td>
</tr>
</tbody>
</table>
**Hypotheses Formulation**

**H1:** Positive association between BOD size and SUSTPERF

**H2:** Positive association between external directors and SUSTPERF

**H3:** Negative association between CEO duality and SUSTPERF

**H4a:** Positive association between number of committees and SUSTPERF  
**H4b:** Positive association between presence of sustainable committees and SUSTPERF

**H5a:** Positive association between directors with advanced educational degree (master degree or above) and SUSTPERF  
**H5b:** Negative association between directors with MBA and SUSTPERF  
**H5c:** Positive association between directors with engineering degrees and SUSTPERF  
**H5d:** Positive association between directors with western EU education and SUSTPERF

**H6:** Curvilinear relationship between average age of director and SUSTPERF; positive association between both old and young director with SUSTPERF

**H7:** Positive association between female directors and SUSTPERF
We propose a **logistic regression model** to assess the association between being considered a sustainable company (DJSI) and BOD’s determinants

**Empirical Model:**

\[
\text{SUSTPERF} = \beta_0 + \beta_1 \text{BODSIZE} + \beta_2 \text{EXTBOD} + \beta_3 \text{CEODUAL} + \beta_4 \text{NUMCOM} + \beta_5 \text{SUSCOM} + \beta_6 \text{AVAGE} + \beta_7 \text{AVAGESQ} + \beta_8 \text{GENDIV} + \beta_9 \text{ADVEDU} + \beta_{10} \text{PhD} + \beta_{11} \text{MBA} + \beta_{12} \text{ENGIN} + \beta_{13} \text{BUS} + \beta_{14} \text{WEUEDU} + \beta_{15} \text{CONTROLS} + \varepsilon
\]

**Post et al.’s Sample design:**

- 1 Country coverage: US companies
- 2 Industries: Electronics and Chemical
- 78 Companies
- Year 2007 (pre-financial crisis)

**DV: **Continuous measure as the natural environmental ratings provided by Kinder Lyedenberg Domini KLD)

**Sample design of this study:**

- 28 Countries: EU, US, UK, Canada, Australia, South Africa, South America, Asia
- 11 Industries
- 478 Companies
- Year 2017

**DV: **Dichotomous measure, as it is the inclusion in the 2017 DJSI report (top 10% sustainable firms)

**Matching firms** are selected from the Global BMI index (country, size, industry, sector & market capital)
Methodological Framework: Research Design

DJSI indicators and sub-indicators of SUSTPERF measurement

- Corporate governance
- Diversity Policy
- Board Effectiveness
- Average Tenure
- Board Industry Experience
- Executive Compensation
- Management Ownership
- Government Ownership
- Family Ownership
- Dual Class Shares
- Compensation of Employees & CEO
- Risk & Crisis Management
- Codes of Business Conduct
- Customer Relationship Management
- Policy Influence
- Brand Management
- Tax Strategy: Reporting & Effective Tax Rate
- Information Security & Cybersecurity
- Privacy Protection

- Environmental Reporting: Coverage, Assurance, Key Performance Indicators (KPIs)
- Environmental Policy & Management Systems: Coverage of Corporate Requirements / Guidelines, Environmental Management System EMS: Certification/Audit/Verification
- Climate Strategy: Management Incentives for climate change issue, Climate-Related Targets

- Social Reporting: Coverage, Assurance, social Key Performance Indicators (KPIs)
- Labor Practice Indicators: Diversity, Equal Remuneration, Freedom of Association
- Human Rights: Commitment, Due Diligence Process, Assessment, Disclosure
- Human Capital Development
- Talent Attraction & Retention
- Corporate Citizenship and Philanthropy: Group-wide Strategy, Type of Philanthropic Activities, Input
- Occupational Health and Safety: Absentee Rate, Health, Safety & Well-being
• No serious multi-collinearity, as the highest Pearson correlation coefficient is 0.45.

• As anticipated for the BOD composition → preliminary support for the BODSIZE (H1), NUMCOM (H4a), SUSCOM (H4b), and GENDIV (H7).

• Control variables, SUSTPERF is (+) and significantly associated with R&D, BUSSEG, and ANACOV and (-) and slightly significant correlated with LEV.
Results: Univariate regression

General analysis: Sustainable and non-Sustainable firms

<table>
<thead>
<tr>
<th></th>
<th>BODSIZE</th>
<th>EXTBOD</th>
<th>GENDIV</th>
<th>NUMCOM</th>
<th>SUSCOM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Total Sample</td>
<td>13.090</td>
<td>12</td>
<td>0.820</td>
<td>0.867</td>
<td>0.216</td>
</tr>
<tr>
<td>DJSI = 0</td>
<td>12.324</td>
<td>11</td>
<td>0.816</td>
<td>0.862</td>
<td>0.203</td>
</tr>
<tr>
<td>DJSI = 1</td>
<td>13.853</td>
<td>13</td>
<td>0.823</td>
<td>0.867</td>
<td>0.228</td>
</tr>
<tr>
<td>Sig. t-test</td>
<td>0.0011</td>
<td>0.5893</td>
<td>0.0344</td>
<td>0.0002</td>
<td>0.0572</td>
</tr>
<tr>
<td>Sig. MW</td>
<td>0.0004</td>
<td>0.5176</td>
<td>0.0303</td>
<td>0.0002</td>
<td>0.0573</td>
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<table>
<thead>
<tr>
<th></th>
<th>AVAGE</th>
<th>ADVEDU</th>
<th>MBA</th>
<th>ENGIN</th>
<th>WEUEDU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Total Sample</td>
<td>57.901</td>
<td>57.560</td>
<td>0.375</td>
<td>0.350</td>
<td>0.168</td>
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<td>DJSI = 0</td>
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<td>57.700</td>
<td>0.376</td>
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<td>0.171</td>
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<td>DJSI = 1</td>
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<td>57.440</td>
<td>0.374</td>
<td>0.360</td>
<td>0.164</td>
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<tr>
<td>Sig. t-test</td>
<td>0.5101</td>
<td>0.9107</td>
<td>0.5741</td>
<td>0.3505</td>
<td>0.0978</td>
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<tr>
<td>Sig. MW</td>
<td>0.9082</td>
<td>0.9080</td>
<td>0.9486</td>
<td>0.1024</td>
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</tr>
</tbody>
</table>

Similar to Liao et al.’s (2015) findings, firms with larger BOD size, higher number of committees and presence of female directors on board tend to have better sustainable performance.

SUSTPERF

- Significant and (+) with BODSIZE, NUMCOM (p-value < 0.01) and GENDIV (p-value < 0.05)
- Significant and (+) with SUSCOM (p-value < 0.10)
- Edge of significance with ENGIN (p-value = 0.102)

→ Preliminary support for hypotheses H1, H4a,b, and H7.
→ Consistent results with the correlation matrix
Results: Multivariate regression

General analysis: Sustainable and non-Sustainable firms

<table>
<thead>
<tr>
<th>Variables</th>
<th>BASE-Model</th>
<th>Model1</th>
<th>Model2: MBA</th>
<th>Model3: PhD</th>
<th>Model4: ENG</th>
<th>Model5: BUS</th>
</tr>
</thead>
<tbody>
<tr>
<td># Obs.</td>
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<td>478</td>
<td>478</td>
<td>478</td>
<td>478</td>
<td>478</td>
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<tr>
<td>Wald-Chi2</td>
<td>50.92</td>
<td>71.31</td>
<td>70.93</td>
<td>72.64</td>
<td>70.37</td>
<td>71.93</td>
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<tr>
<td>Prob&gt;Chi2</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>Pseudo R2</td>
<td>0.0878</td>
<td>0.1439</td>
<td>0.1432</td>
<td>0.1451</td>
<td>0.1433</td>
<td>0.1435</td>
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<tr>
<td>Class.Abil.</td>
<td>63.90%</td>
<td>68.41%</td>
<td>68.43%</td>
<td>68.35%</td>
<td>68.43%</td>
<td>68.46%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>62.34%</td>
<td>68.35%</td>
<td>68.43%</td>
<td>68.35%</td>
<td>68.43%</td>
<td>68.46%</td>
</tr>
<tr>
<td>Specificity</td>
<td>65.43%</td>
<td>68.46%</td>
<td>68.43%</td>
<td>68.35%</td>
<td>68.43%</td>
<td>68.46%</td>
</tr>
</tbody>
</table>

- Six different estimations have been performed.
- BASE-Model: includes only the coefficients of the control variables.
- Model1: includes all the variables of interest with the exception of MBA (Model 2), PhD (Model 3), ENGIN (Model 4) and BUS (Model 5).
- For robustness check, the values of the independent variables are computed for the year 2016 and for 2015 in all the models \(\rightarrow\) Similar significant results are revealed

Global significance = 99% in all the 6 models
### General analysis: Sustainable and non-Sustainable firms

#### Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>BASE-Model</th>
<th>Model1</th>
<th>Model2: MBA</th>
<th>Model3: PhD</th>
<th>Model4: ENG</th>
<th>Model5: BUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUSTPERF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU</td>
<td>-0.061</td>
<td>0.851</td>
<td>0.029</td>
<td>0.952</td>
<td>0.022</td>
<td>0.962</td>
</tr>
<tr>
<td>UK</td>
<td>0.081</td>
<td>0.853</td>
<td>-0.197</td>
<td>0.694</td>
<td>-0.215</td>
<td>0.668</td>
</tr>
<tr>
<td>Canada</td>
<td>0.493</td>
<td>0.397</td>
<td>0.470</td>
<td>0.487</td>
<td>0.494</td>
<td>0.462</td>
</tr>
<tr>
<td>Asia</td>
<td>0.240</td>
<td>0.506</td>
<td>1.547</td>
<td>0.009</td>
<td>1.533</td>
<td>0.010</td>
</tr>
<tr>
<td>Australia</td>
<td>0.691</td>
<td>0.293</td>
<td>1.173</td>
<td>0.091</td>
<td>1.156</td>
<td>0.098</td>
</tr>
<tr>
<td>South America</td>
<td>0.658</td>
<td>0.372</td>
<td>1.906</td>
<td>0.011</td>
<td>1.983</td>
<td>0.008</td>
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<tr>
<td>ROA</td>
<td>+</td>
<td>0.035</td>
<td>0.415</td>
<td>0.028</td>
<td>0.574</td>
<td>0.028</td>
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<tr>
<td>PBV</td>
<td>+</td>
<td>-0.055</td>
<td>0.257</td>
<td>-0.030</td>
<td>0.535</td>
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<tr>
<td>R&amp;D</td>
<td>+</td>
<td>0.110</td>
<td>0.003</td>
<td>0.131</td>
<td>0.001</td>
<td>0.131</td>
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<tr>
<td>LEV</td>
<td>-</td>
<td>-0.862</td>
<td>0.168</td>
<td>-0.368</td>
<td>0.601</td>
<td>-0.387</td>
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<tr>
<td>BETA</td>
<td>-</td>
<td>-0.092</td>
<td>0.710</td>
<td>-0.177</td>
<td>0.542</td>
<td>-0.218</td>
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<tr>
<td>BUSSEG</td>
<td>+</td>
<td>0.131</td>
<td>0.000</td>
<td>0.120</td>
<td>0.000</td>
<td>0.121</td>
</tr>
<tr>
<td>ANACOV</td>
<td>+</td>
<td>0.085</td>
<td>0.000</td>
<td>0.057</td>
<td>0.000</td>
<td>0.056</td>
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<tr>
<td>CEOEDUAL</td>
<td>-</td>
<td>-0.370</td>
<td>0.129</td>
<td>-0.365</td>
<td>0.132</td>
<td>-0.387</td>
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<tr>
<td>EXTBOD</td>
<td>+</td>
<td>-0.150</td>
<td>0.875</td>
<td>-0.013</td>
<td>0.989</td>
<td>-0.247</td>
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<tr>
<td>GENDIV</td>
<td>+</td>
<td>2.490</td>
<td>0.042</td>
<td>2.456</td>
<td>0.046</td>
<td>2.603</td>
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<tr>
<td>BODSIZE</td>
<td>+</td>
<td>0.072</td>
<td>0.009</td>
<td>0.064</td>
<td>0.015</td>
<td>0.069</td>
</tr>
<tr>
<td>NUMCOM</td>
<td>+</td>
<td>0.113</td>
<td>0.042</td>
<td>0.119</td>
<td>0.032</td>
<td>0.115</td>
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<tr>
<td>SESCOM</td>
<td>+</td>
<td>0.128</td>
<td>0.624</td>
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<tr>
<td>AVAGE</td>
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<td>0.971</td>
<td>0.010</td>
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<tr>
<td>AVAGESQ</td>
<td>+</td>
<td>-0.008</td>
<td>0.011</td>
<td>-0.008</td>
<td>0.008</td>
<td>-0.008</td>
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<tr>
<td>ADVEDU</td>
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<td>PhD</td>
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<td>0.739</td>
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<tr>
<td>ENGIN</td>
<td>+</td>
<td>0.926</td>
<td>0.187</td>
<td>1.899</td>
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<td>BUS</td>
<td>+</td>
<td>0.329</td>
<td>0.628</td>
<td>0.187</td>
<td>1.899</td>
<td>0.120</td>
</tr>
<tr>
<td>WUEDEU</td>
<td>+</td>
<td>0.926</td>
<td>0.187</td>
<td>1.899</td>
<td>0.120</td>
<td>0.923</td>
</tr>
<tr>
<td>Cons.</td>
<td>-1.620</td>
<td>0.009</td>
<td>-33.782</td>
<td>0.003</td>
<td>-34.549</td>
<td>0.002</td>
</tr>
</tbody>
</table>

### Significant association

- Between SUSTPERF and R&D, BUSSEG and ANACOV (p-value < 0.01)
- Between SUSTPERF and GENDIV (p-value < 0.01)

### Support

- H1, H4a, H7
- Partial support for H6

### Results: Multivariate regression
### Additional analysis: EU vs. non-EU firms

Dissimilarities in the CG systems in both financial and sustainable practices between European and Anglo-Saxon countries

(Aguilera, 2005; Becic, 2011)

### BOD in EU firms
- Stakeholder-oriented system
- Seek alignment between firm’s stakeholders
- Accomplish a mutual organization-agents benefit.

(Martynova & Renneboog, 2011)

### BOD in non-EU firms
- Shareholder-oriented system
- Prioritize: capital market, shareholder’s value and wealth maximization

(Rubach & Sebora, 1998)

### BOD determinants: Similar or different vis-à-vis sustainability?

- Two sub-samples: EU and non-EU (i.e., UK, US, Asia, South Africa, Australia, Canada, and South America)
- Regression analysis (E1) for 4 models: BASE: EU, Model1: EU, BASE: non-EU, and Model2: non-EU
**Results:** Multivariate regression

### Additional analysis: EU vs. non-EU firms

<table>
<thead>
<tr>
<th>Variables</th>
<th>BASE: EU</th>
<th>Model1: EU</th>
<th>BASE: non-EU</th>
<th>Model2: non-EU</th>
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</thead>
<tbody>
<tr>
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<td>185</td>
<td>184</td>
<td>297</td>
<td>294</td>
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<tr>
<td>Wald-Chi²</td>
<td>42.09</td>
<td>56.09</td>
<td>21.14</td>
<td>37.62</td>
</tr>
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<td>Prob&gt;Chi²</td>
<td>0.000</td>
<td>0.000</td>
<td>0.070</td>
<td>0.050</td>
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<tr>
<td>Pseudo R²</td>
<td>0.1995</td>
<td>0.2747</td>
<td>0.056</td>
<td>0.119</td>
</tr>
<tr>
<td>Class.Abil.</td>
<td>68.65%</td>
<td>73.37%</td>
<td>60.61%</td>
<td>65.65%</td>
</tr>
</tbody>
</table>

Global significance of EU model: 99%

> Model1: EU (PseudoR²=27.5%)

% of variation in **SUSTPERF**: 15.5%

Global significance of non-EU model: 95%

> Model2: non-EU (PseudoR²=11.9%)

**Fixed Effect**

**INDUSTRY COUNTRY**

**Robust Check**

| 2016 | 2015 |

**OECD Principles and Action Plan of CG and Company law**

1999 and 2004

(Aguilera, 2005)

≠ Political Agenda

→ Disseminated into ≠ at company/CG level

(Hartmann and Uhlenbruck 2015)

1- Social & Democratic regimes

2- CG: Civil Law

1- Capitalistic economy & regimes

2- CG: Common Law
## Results: Multivariate regression

### Additional analysis: EU vs. non-EU firms

<table>
<thead>
<tr>
<th>Variables</th>
<th>BASE: EU</th>
<th>Model1: EU</th>
<th>BASE: non-EU</th>
<th>Model2: non-EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUSTPERF</td>
<td>Sign</td>
<td>Coef.</td>
<td>P-Value</td>
<td>Coef.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>+</td>
<td>0.071</td>
<td>0.398</td>
<td>0.084</td>
</tr>
<tr>
<td>PBV</td>
<td>-</td>
<td>-0.037</td>
<td>0.744</td>
<td>0.014</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>+</td>
<td>0.116</td>
<td>0.065</td>
<td>0.692</td>
</tr>
<tr>
<td>LEV</td>
<td>-</td>
<td>-1.625</td>
<td>0.207</td>
<td>-0.839</td>
</tr>
<tr>
<td>BETA</td>
<td>-</td>
<td>-0.906</td>
<td>0.087</td>
<td>-0.909</td>
</tr>
<tr>
<td>BUSSEG</td>
<td>+</td>
<td>0.116</td>
<td>0.025</td>
<td><strong>0.114</strong></td>
</tr>
<tr>
<td>ANACOV</td>
<td>+</td>
<td>0.126</td>
<td>0.000</td>
<td><strong>0.133</strong></td>
</tr>
<tr>
<td>CEO DUAL</td>
<td>-</td>
<td>-0.514</td>
<td>0.199</td>
<td>-0.181</td>
</tr>
<tr>
<td>EXT BOD</td>
<td>+</td>
<td>-0.341</td>
<td>0.859</td>
<td>-0.021</td>
</tr>
<tr>
<td>GENDIV</td>
<td>+</td>
<td><strong>3.500</strong></td>
<td>0.094</td>
<td>2.364</td>
</tr>
<tr>
<td>BOD SIZE</td>
<td>+</td>
<td>0.057</td>
<td>0.132</td>
<td><strong>0.089</strong></td>
</tr>
<tr>
<td>NUM COM</td>
<td>+</td>
<td>0.078</td>
<td>0.524</td>
<td><strong>0.138</strong></td>
</tr>
<tr>
<td>SUS COM</td>
<td>+</td>
<td>0.092</td>
<td>0.848</td>
<td>0.227</td>
</tr>
<tr>
<td>AVAGE</td>
<td>+</td>
<td><strong>4.529</strong></td>
<td>0.009</td>
<td>0.575</td>
</tr>
<tr>
<td>AVAGE SQ</td>
<td>+</td>
<td><strong>-0.039</strong></td>
<td><strong>0.011</strong></td>
<td><strong>-0.005</strong></td>
</tr>
<tr>
<td>AD VEDU</td>
<td>+</td>
<td>0.173</td>
<td>0.887</td>
<td>0.638</td>
</tr>
<tr>
<td>WE VEDU</td>
<td>+</td>
<td>1.204</td>
<td>0.288</td>
<td>0.150</td>
</tr>
<tr>
<td>Cons.</td>
<td>-2.608</td>
<td>0.006</td>
<td><strong>-137.294</strong></td>
<td>0.006</td>
</tr>
</tbody>
</table>

*** p <0.01; ** p <0.05; * p <0.1

![1970's in EU](Galtung, 1986; Vlasblom & Schippers, 2004)

- Green movement (environmentalism)
- Women movement (feminism)

1970’s in EU

![BOD STRUCTURE](BOD STRUCTURE)

- SUSTPERF in non-EU Firms
- SUSTPERF in EU Firms

![BOD DEMOGRAPHICS](BOD DEMOGRAPHICS)

- 4.529***
- 0.039**
- 4.529***

- SUSTPERF in non-EU Firms
- SUSTPERF in EU Firms

- 3.500
- 0.138
- 0.089

- SUSTPERF in non-EU Firms
Conclusion

Theoretical and Practical Implication

Nature of the BOD is perceived as an “enhancer” of sustainable performance

Results conform prior research: Bear et al., 2010; Frias-Aceituno et al., 2013; Ntim & Soobaryen, 2013; Post et al., 2011

The Cross-national analysis reveals:

- EU → the Demographic criteria of the BOD have higher effect on sustainability
- Non-EU → the Structural and Composition criteria of the BOD are the leading factors of sustainability

Theoretical Implication

Practice Implication

STAKEHOLDER PARADIGM

Descriptive | Normative | Instrumental

Beside the maximization of shareholder value, businesses have been committing to a wider spectrum of responsibilities to sustain superior corporate performance (Fontaine et al., 2006)

BOD of SUSTAINABLE FIRMS

<table>
<thead>
<tr>
<th>Gender Diverse</th>
<th># Committees</th>
<th>BOD Size and Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Female directors: responsiveness to social and ecological concerns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Committees: for consistent disclosure of both financial and non-financial activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3- Increase the size of the board, predominantly by appointing middle age directors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Presence of Sustainability Committee

No significant effects on SUSTPERF

Truly and actively seeking to implement sustainable practices OR Promoting a “good” firm’s public image and reputation.
Conclusion

Limitations and Future research direction

**Extrapolation** of the results: DJSI index is a clear-cut measure (i.e., dichotomous variable) of sustainable measurement, However ...

1. Several indices and metrics such as ESI Environmental Sustainability Index, GRI Sustainability Report Index, and MSCI KLD 400 Social Index, ISO certification, etc.
2. No consensus and agreement among scholars on a specific indicator of sustainability.

**Generalizability:** findings are only applicable and relevant for large corporations. Family businesses and SMEs indicate different implications of BOD characteristics on sustainability and environmental performance (El-Kassar et al., 2018; Samara et al., 2018).

**Insights for Future Research**

Replicate the study with different research methods: surveys, quasi-experiments, and case studies. Experimental design to mitigate the endogeneity problem and enhance the internal validity → Causal relationship between BOD indicators and sustainable performance.

Identify the distinctive characteristics of BOD that maximize each performance: 1- **Financial**; 2- **Environmental**; 3- **Social**; 4- **Innovation**

Investigate CEO determinants and identify the different profiles of CEO to attain: 1- “best” **sustainable** performance; 2- “best” **financial** performance
References


References


Sustainable or not Sustainable? The role of the board of directors
Chams, N. and García-Blandón, J. (2019). *Journal of Cleaner Production, 226*(20), 1067-1081. IQS School of Management, Universitat Ramon Llull, Barcelona-Spain