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DOES DIVERSITY DRIVE NON-FINANCIAL REPORTING: EVIDENCE FROM THE BALTIC STATES

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Abstract. *More and more companies worldwide choose to perform environmental, social, and governance (ESG) disclosures to improve their financial and reputational performance. Several recent studies suggest that board diversity can have a material role in explaining the ESG disclosure differences. This article aims to evaluate the relationship between board diversity and the ESG disclosures for companies listed on the NASDAQ OMX Baltic Stock exchange.*

First, the board diversity metrics of the public companies in Lithuania, Latvia, and Estonia are derived and compared to a sample of listed companies in other European countries to provide a relative comparison of the current degree of board diversity. Next, by performing content analysis of the non-financial reports and statistical analysis of the retrieved data, ESG disclosure scores are obtained. Finally, a correlation and independent t-test analysis is performed to evaluate the board diversity's influence on the ESG disclosure scores.

The results show that companies with larger boards and companies having female representatives on their supervisory boards have on average higher non-financial disclosures scores. No statistically significant results are found for gender diversity on the management boards.

The results shed a light on the current stance of the board diversity of the listed Baltic companies as well as contribute to the growing academic literature trying to derive the sustainability drivers in the corporate set-up.

Keywords: *Diversity, Environmental, social and governance (ESG), Non-financial disclosure*

JEL Codes: *G30, G32, Q56*

1. Introduction

Sustainable investing strategies consider environmental, social, and governance (ESG) factors during the investment screening process. These factors are used to supplement the traditional finance considerations with a potentially wider assessment of risks and opportunities, in order to ensure that in addition to earning a sound return, the investments flow into companies demonstrating high corporate social responsibility (CSR). The three pillars of ESG may include varying dimensions, however mostly the environmental pillar includes such topics as climate change, use of natural resources and waste management, the social pillar talks about human capital, employee treatment, and contributions to the society, all while the governance factor comprises corporate governance aspects, management and corporate strategy set-up (Global Reporting Initiative, 2019). As the investors' interest for sustainable investments increase, more companies choose to disclose their ESG performance. Even though the reasons for the disclosure vary, improved financial performance, positive share price effects and better reputation are among the most cited benefits achieved of the companies having a good ESG performance (Margolis et al., 2009).

As unified regulations and guidelines for the non-financial reporting are still lacking, the degree of the non-financial disclosures varies greatly across countries, companies, and sectors. As suggested by Bassen & Kovác (2008), investors still struggle to convert the ESG information into real investment decisions based on differences and subjectivity in the reporting standards. While for the more liquid markets, the global scoring agencies attempt to solve this issue by consolidating the ESG information and translating it into a comparable score, the companies operating in less liquid markets such as the Central and Eastern European (CEE) countries, including the three Baltic countries – Estonia, Latvia and Lithuania, are hardly rated. The lack of ratings creates not only an additional burden for financial investors interested in sustainable investment opportunities, but also for academic research, which cannot rely on externally provided datasets for the unrated companies (Dorfleitner et al., 2015). There are, however, several attempts to bridge the gap in the literature and to provide evidence on the unrated companies in the CEE region. In the previous research Zumente et al. (2020) employed an accessible methodology to estimate the non-financial disclosure degree of the companies listed on the NASDAQ Baltic stock exchange. Similarl to other markets, the level of ESG disclosure among the listed Baltic companies was found to be highly diverse. The differences in the ESG transparency scores, as summarized by the research, presented a wide range of results from 8% to 67%, with an average disclosure score of 41%.

This article aims to provide further research on the subject and examine the potential determinants of the differences in the non-financial transparency of the companies. Several recent studies suggest that factors such as company size and financial strength have a material role in explaining ESG disclosure differences (Baldini et al., 2018). In addition, board composition is discussed in the academic research as a factor impacting the quality of the non-financial disclosures (Rao & Tilt, 2016). To determine whether this academic evidence also holds true for the Baltic companies, this study provides descriptive

evidence on the board diversity composition of the companies listed on the NASDAQ OMX Baltic Stock Exchange. In addition, it sets forth to evaluate the relationship between the board diversity and the ESG disclosures of the public Baltic companies by exploring the following hypotheses:

(1) H1: Companies having more board members will engage in more extensive non-financial information disclosure.
(2) H2: Companies having female management board members will have higher ESG disclosure scores than the companies which do not.
(3) H3: Companies having female supervisory board members will have higher ESG disclosure scores than the companies which do not.

This paper provides multiple contributions to the academic literature. Firstly, it contributes to the existing volume of the academic research, which aims at understanding the board diversity's importance on company level outcomes; in this case the quality and volume of the non-financial information's disclosure. Secondly, to the best of the authors' knowledge, there is limited evidence on the ESG disclosure patterns for the Latvian, Lithuanian and Estonian companies, despite the growing volume of the general ESG disclosures, especially for the stock listed companies, which this research aims to address.

2. Literature review and hypothesis development

2.1. Diversity and its impact on ESG disclosures

One of the primary company determinants, which has been studied to affect the ESG disclosure in addition to companies' size and financial performance, is the company's leadership (Baldini et al., 2018). While historically, primary focus was put on the board's diversity impact to firm's financial performance (Reguera-Alvarado et al., 2017), with the rise of the CSR dedication, however, the academic literature has also started to investigate the diversity's impact on the non-financial performance. Board diversity is likewise one of the reporting segments which is required under the Directive 2014/95/EU for large European public-interest companies (European Commission, n.d.), thus it makes sense to explore its impact as one of the ESG determinants.

The importance of board diversity historically has been attributed to the Resource Dependence Theory developed by (Pfeffer & Salancik, 1978). The theory suggests that companies operating in the same external environments are interdependent, thus fighting for the same resources. In order to increase the chances for survival in the operating environment, the company should establish links with other players operating in the same environment and thus increase the chances for obtaining the necessary resources. The board of directors or the management are the primary actors that can establish these links, therefore, companies having management with a diverse set of skills, connections, and relations have a better chance in obtaining the resources vital for the survival of the company. The key gains ensured by the board member linkages are the (1) advice and guidance, (2) legitimacy, (3) access to information and (4) access to resources and support from the other actors in the environment. All of these gains are amplified given a

higher diversity among the board members. Companies with a better board diversity benefitting from increased guidance (1) and legitimacy (2) are argued to engage in more extensive disclosure of non-financial information. Several authors e.g. Hillman et al. (2000) have connected board composition to the Resource Dependence Theory suggesting that firm's board members can have a significant impact on the benefits the company is gaining from its leadership.

A relatively less known theory explaining the importance of company's leadership is the Upper Echelon Theory developed by Hambrick & Mason (1984). The theory states that organizational decisions and ultimate outcomes largely depend on the managerial background attributes, and therefore their characteristics directly influence the performance and strategic decisions taken by companies. Upper Echelon Theory and Resource dependence view both provide a theoretical baseline for explaining ESG disclosure volume based on a company's board characteristics.

The diversity as defined by Williams & O'Reilly (1998) refers to any attributes that individuals use in order to differentiate themselves from other people. According to diversity researchers, the general term can be divided into two parts – the observable diversity as race, age, gender and the non-observable diversity as educational background, expertise, professional characteristics etc. (Milliken & Martins, 1996). The typical characteristics studied in the academic literature include both diversity dimensions - gender (Hillman et al., 2007), age, nationality as well as functional dimensions including occupational background, tenure and education (Knippenberg et al., 2004). Recently, by improving corporate governance standards, the independence of the directors has also been used as a differentiator in the academic papers (Kang et al., 2007).

As the company's board of directors is one of the main stakeholders accountable for the company's ESG choices, it also holds a significant power in influencing the extent and quality of the company's non-financial disclosures and performance. Next to individual characteristics of the board members, in particular, the diversity of the board has been proven to influence the scope of the ESG disclosure. The academic literature connecting board diversity to the sustainability domain mostly offers national level evidence. Moreover, the results are not unanimous, and no consensus has been reached in the literature so far.

Rao & Tilt (2016) has performed an extensive overview of the academic literature on the subject. Their research largely supports the hypothesis that board composition has strong impact on the CSR performance and CSR reporting level of the companies. While generally suggesting that more qualitative exploration via interviews would benefit a deeper understanding of the subject, they also conclude that particularly gender diversity is not studied enough so far to draw meaningful conclusions about the gender impact on the CSR reporting outcomes.

Several Europe based studies have been performed recently, mostly however, covering Western European countries and so far, providing no evidence on the CEE countries. German and Austrian companies are analysed by Velte (2016), who finds that female presence on the management board of companies increases the ESG performance, as measured by Asset4 Thomson Reuters ESG scores. Yaseen et al. (2019) conclude similar results about the positive gender diversity to ESG (measured by CSRHub aggregate

scores) relationship as it relates to French companies. Further European evidence includes Cucari et al. (2018) examining a sample of 54 Italian listed companies. The results show that ESG rating (as per Bloomberg) is positively associated with a higher percentage of independent directors on the board, as well as the existence of a dedicated CSR committee. Contrary to other studies, gender diversity is found to be negatively correlated with the ESG score, while the average age of the board does not bear significant relationship. Bravo & Reguera-Alvarado (2019) has examined the Spanish evidence and based on a sample of Spanish listed companies conclude a positive relationship between gender diversity in the audit committees of the company and ESG disclosure. The disclosure level is measured as the completeness, relevance and accessibility of the ESG information on the websites of companies and regulatory filings. Finally, Dienes & Velte (2016) has explored the specificities of the board impact on CSR results for companies, which have a two-tier corporate governance structure, namely having an executive management board as well as supervisory board. Their results, based on a German sample of 34 companies, show that companies with a higher proportion of women on a supervisory board have a higher CSR reporting intensity. They failed to achieve significant results with respect to the board size, expertise, and frequency of the board meetings.

Other studies examining non-European countries include M. Harjoto et al. (2015). A broad spectre of board diversity characteristics is tested on a sample of U.S. listed companies in the time frame from 1998 to 2001. The diversity measures included are gender, race, age, number of outside directorship positions, tenure, power (measured as whether the director was appointed before or after the CEO) and expertise across five categories such as research, technology, etc. Authors find that diversity in gender, tenure, and expertise are the main drivers for improved ESG scores. A follow up study by Harjoto et al. (2018), supplemented the factors examined with nationality and educational background diversity of the board of directors. Both diversity measures were concluded to be positively associated with the ESG score (measured as MSCI ESG score). Fernandez-Feijoo et al. (2012) sampled companies from 22 countries included in the International KPMG CSR report and compare the CSR results of the companies with the proportion of women on board for the companies. Authors find that companies having a board with three or more women show higher CSR disclosure. Finally, Bakar et al. (2019) tested the extent and the quality of sustainability reporting among Malaysian stock listed companies in dependence of their board characteristics. The authors use content analysis and t-tests to find that companies having female board members show improved sustainability scores. Contrarily, authors find no evidence linking age or ethnic diversity of the board members to sustainability reporting.

While the amount of the diversity literature is growing, currently there seems to be no consensus on its impact towards non-financial disclosure quality. Largely, the academic literature seems to accept the view that female board members can have a positive impact on company's CSR activities, however the evidence on other board diversity measures is still conflicting.

2.2. Regional background

The academic research on the non-financial disclosures strongly relies on the available data. As such, only very few companies operating in the CEE have external ESG scoring data available, thus leading to a situation where this information is lacking not only for the potential investors seeking responsible investment opportunities, but also for academics. A recent study by Iamandi et al. (2019) used a data set comprised of all European companies, which had an ESG rating from Thomson Reuters EIKON data base as of January 2019. From the total sample of 1165 companies, 32 originated from Poland, 4 from Czech Republic and 4 companies from Hungary, while no other CEE countries were represented in the sample at all, highlighting the largely missing data inputs for the CEE region companies.

The existing evidence about non-financial disclosure for the CEE companies, therefore, is quite fragmented. Horváth et al (2017) has performed a CEE wide study to examine sustainability disclosure patterns across 50 of the largest companies in ten CEE countries. The respective national co-authors analysed the annual reports and web-page disclosures of both public and private companies with the largest revenue per country. While the preliminary conclusions revealed that Polish and Romanian companies had the largest share of dedicated non-financial reports available, the authors failed to come up with any CEE wide patterns with respect to cultural, economic, or historical factors explaining the differences in the reporting volume. Lapinskienė & Tvaronavičienė (2012) has performed a study measuring the percentage of stock listed companies, which disclose ESG information in their annual disclosures. Authors generally find that across 15 countries (Nordic countries, large Western European countries, small Western European countries, and the Baltic countries) in their sample, the disclosure levels cluster around specific industries. With respect to the Baltic countries, it is found that Estonian companies disclose comparably higher volume on non-financial information, while Latvia and Lithuania rank among the lowest in their sample. According to their regression analysis, authors also find that the country effects for the Baltics and Poland, has a negative relationship to ESG disclosure. Finally, Zumente et al. (2020) in a previous paper has gathered the evidence on the ESG disclosure level across the Baltic stock listed companies, finding a wide range (8% to 67%) ESG transparency scores with an average of 41%. In aggregate, governance and social dimensions are reported better (49% and 44%) than environmental (24%), indicating that the Baltic companies lag behind in revealing sufficient information on their environmental impacts.

The regional evidence on the board compositions has been gathered mostly by the local stock exchange – the NASDAQ OMX Baltic. Firstly, with respect to the corporate governance system it has to be said that the majority of companies in the Baltics follow a two-tier corporate governance structure, having a management board and a supervisory board in place. The two-tier system, similar as the one mostly used in Germany, foresees that the executive decision-making power is in the hands of the management board, while the supervisory board appoints, monitors, and consults the members of the management (Calkoen, 2012). The governance structure in Lithuania, however, is slightly

different from Latvia and Estonia, implying that it is mandatory, according to the Law on Companies of the Republic of Lithuania, to have at least one collegial body, namely either the supervisory board or the management board for a public listed company, so companies can also choose to operate according to a one-tier system (Nasdaq Vilnius, 2019). According to the Review of corporate governance practices in the Baltics performed by Nasdaq OMX Baltics in 2015, 17 of the 31 Lithuanian listed companies in 2015 did not have a supervisory board. With respect to board diversity, the number of members in the supervisory boards varied from 3 to 11, while the size of the management boards ranged from 1 to 8 members. The proportion of female members across both collegial bodies, was on average 19% (NASDAQ Baltics OMX, 2015). While the recommendations and corporate governance codes applicable to the Baltic companies speak of equality and the importance of gender diversity, there are no regulations or women quota in place like it in the case of Norway for example.

Based on the Resource Dependence Theory, academic evidence leaning towards identifying the importance of diversity in leadership of companies and regional background knowledge, the following hypotheses were created to be tested for Estonian, Latvian and Lithuanian companies:

(1) H1: Companies having more board members will engage in more extensive non-financial information disclosure.
(2) H2: Companies having female managed board memberships will have higher ESG disclosure scores than the companies which do not.
(3) H3: Companies having female supervisory board members will have higher ESG disclosure scores than companies which do not.

3. Data and methodology

3.1. Sample

The sample includes 43 companies listed on the NASDAQ Baltic stock exchange as of October 2020 – thereof all (32) companies listed on the prime list, as well as 11 additional companies which have chosen to include non-financial or ESG reports as part of their stock exchange disclosures. As there are no specific requirements with regards to the form of the reporting, the reports analysed include ESG reports, non-financial statements, sustainability reports, and similar non-financial disclosures published on the webpage of the stock exchange. Most disclosure documents screened were for the latest financial year, except for 2 ESG reports for year 2017 and 2018 belonging to companies, who do this disclosure bi-annually. Reports and information available on the company websites, but not submitted to the stock exchange were not included in the analysis. The final sample includes 19 companies from Lithuania, 16 companies from Estonia and 8 Latvian companies. The sector representation is shown in the table below.

Table 1. *Sample breakdown by industry. Source: created by authors.*

Industry	Companies
Technology	2
Financials (incl. RE funds)	6
Consumer goods (excluding food)	7
Consumer goods (food & drinks)	8
Consumer services	5
Industrials	7
Health care	2
Utilities	6
Total	**43**

3.2. Variables and calculations

As there are no external ESG disclosure or performance scores available for the companies listed on the NASDAQ Baltic stock exchange by the ESG scoring agencies, the computation of the disclosure score is performed individually. Following the method of (Roca & Searcy, 2012) and later used also by (Zumente et al., 2020) for the Baltic data, the ESG disclosure score is computed based on a check-list of ESG metrics included in the NASDAQ ESG guidelines as well as reported by the companies additionally. More precisely, by dividing the NASDAQ ESG Reporting Guide 2019 into individual reporting metrics, a total of 53 possible indicators were identified – 18 of them corresponding to the environmental pillar, 17 to the social pillar and 18 to the governance pillar. Further, the content analysis of the reports revealed a set of additional metrics that Baltic companies choose to disclose, the distribution of them across the pillars being 11 for E dimension, 26 for S dimension, and finally 16 for G pillar. The additional metrics including specific KPIs suggested by the Global Reporting Initiative (GRI) reporting guidelines, NASDAQ Corporate Governance Code, and United Nations Sustainable Development Goals (SDG), were included in the total list of at least 3 companies using this metric as a disclosure in their non-financial statements. The total amount of the metrics included in the evaluation checklist therefore reached 106:

$$ESG\ disclosure\ score = \frac{(Sum\ of\ individual\ disclosure\ items)}{(Max\ score\ according\ to\ check\text{-}list\ (106))}$$

By using the content analysis approach for the non-financial reports of the sample companies, the disclosed items were measured against the checklist of the max score of 106. One point was added to company's score if the disclosure included the specific metric. As no evaluation of the disclosure value or quality was done, it should be noted that the gained variable does not measure the specific performance of the company (e.g. the amount of CO2 emissions), but rather checks whether the company is disclosing the information per se. The disclosure scores computed as a sum of all the individual dis-

closures, indicate the transparency of the company rather than specific environmental, social, or governance performance. A similar approach for research of companies, which have not been externally scored, has also been used by Bakar et al. (2019) and Al-Tuwaijri et al. (2003). The approach is also in line with Bloomberg's disclosure score calculation method.

Board diversity is measured by the board size and female representation on such boards. While other studies use additional diversity metrics such as average age of the board members, ethnicity, and tenure, this information is insufficiently disclosed in the reports of the Baltic companies, and thus is omitted from analysis.

In order to allow for the differences in the corporate governance structure among the sample companies, the board size variable (BSIZE) is measured as the sum of the members of management and supervisory boards.

BSIZE = Members of the management board + Members of the supervisory board

To test the gender diversity hypotheses (companies having female board members have higher ESG disclosures scores), binary variables are created for having both female members on the supervisory board, management board, and a combined variable of having at least one female representative in any of the boards:

$$W_{SB} = \frac{(Women\ in\ supervisory\ board)}{(All\ supervisory\ board\ members)}$$

$$W_{MB} = \frac{(Women\ in\ management\ board)}{(All\ management\ board\ members)}$$

$$W_{\%} = \frac{(Women\ in\ management\ and\ supervisory\ board)}{(All\ board\ members)}$$

Finally, to control for company specific metrics, firm size (SIZE) can be proxied as the market capitalization (measured as of 21 October 2020 and count of employees. Profitability (PROF) is proxied by the return on equity for the financial year of 2019. As the previous analysis of the Baltic data done by Zumente et al. (2020) revealed lower ESG scores for companies in financial sector (FS) and based in Latvia (LV), these binary variables are included in the analysis to check for the possible impact on the ESG disclosure score in line with other independent variables.

4. Results and discussion

The descriptive statistics describe the sample used in the analysis. The companies in the sample analysed are rather diverse. The size variations in the sample are very evident as the market capitalization of the companies vary from 6.82mEUR to 1610mEUR, while the profitability in terms of ROE ranged from -360% to 40%.

Table 2. *Descriptive statistics of the variables used. Source: created by authors.*

	ESG	PROF	SIZE	BSIZE	WSB	WMB	SB	W%
Count	43	43	43	43	43	43	43	43
Minimum	0.08	-3.61	6.82	3	0	0	0	0
Mean	0.40	-0.05	172.00	7.51	0.12	0.17	0.70	0.16
Maximum	0.71	0.40	1610.00	15	0.80	0.67	1	0.75
Standard Deviation	0.17	0.64	284.41	2.79	0.19	0.21	0.46	0.18

From the table above it can be seen that the average disclosure score for the listed Baltic companies was 40%, while it varies from a minimum of 8% to a maximum of 71%, suggesting the wide range of the non-financial disclosure volume. As none of the non-financial reporting guidelines give a precise framework with respect to extent of the information to be included in the disclosure, the companies can decide themselves on the materiality areas and the volume of the non-financial information disclosed, leading to the significant differences in the ESG transparency scores.

The board size variable suggests that the average total board member count is 7.51 with a maximum of 15 members in both management and supervisory boards. In addition, the board diversity variables describe that on average only 17% of management board members and 12% of the supervisory board members are women. To account for the differences in companies, which might not have formed supervisory boards, the variable W% shows that on average of all board members, only 16% of them are female. The variable SB presents a binary measure of whether the company has formed a supervisory board – the mean value of 0.7 noting that 70% of the companies in sample indeed have one.

To put these results into perspective, it makes sense to compare them with the average female board participation in other countries and regions. In order to do so, the data of companies having ESG disclosure scores on Bloomberg were retrieved for two samples; firstly, for companies headquartered in the CEE countries (Poland, Czech Republic, Estonia, Lithuania, Latvia, Romania, Hungary, Slovakia, Slovenia) and a sample of more economically developed Western and Northern European countries, which are argued to have higher ESG compliance (Germany, France, Austria and Sweden). The Bloomberg disclosure score similarly as per the methodology applied here ranges from 0 to 100 and measures transparency instead of performance. Thus, the higher the disclosure score, the more information companies disclose in their annual and sustainability reports as well as press releases and third-party research. As the calculated scores for the Baltic companies are not directly comparable due to potential differences in the metrics measured and wider data sources used for Bloomberg scores, they shall not be compared.

Table 3. *Board gender diversity comparison. Source: Bloomberg, author's calculation*

	Latvia, Estonia, Lithuania	CEE	Western Europe
ESG disclosure score	n.d.	34	42
Count of companies	43	46	354
Average female members on board	16	16.59	34.08

The comparison shows that the Baltic countries have on average slightly less female board members than the CEE country sample. Relative to the companies headquartered in the more developed European countries, the proportion is twice lower, indicating that the Baltic companies still lag in forming sufficiently gender diverse company boards. In addition, the fact that only 46 companies listed on CEE stock exchanges have a Bloomberg ESG score once more signals the gap in the data availability.

Table 4 shows the Pearson correlation matrix for the chosen variables. All board diversity variables correlate positively and significantly (5% significance level for gender and 10% significance for board size) with the ESG transparency score, providing the first indication in favor of the developed hypotheses of this research. Contrary to previous academic research, there is no statistically significant relation between profitability of the company and the ESG score. Nevertheless, the data confirms firm's size has a positive and 5% significance correlation to the transparency volume. The company's size also seems to correlate with the percentage of female members in the supervisory boards (weakly significant at 10%). Logically, board size variable is strongly and significantly correlated to the gender balance, as larger boards have more options for women inclusion.

Table 4. *Pearson correlation matrix. Source: author's calculation*

	ESG	PROF	SIZE	BSIZE	WSB	WMB	W%	SB	LV	FS
ESG	1									
PROF	-0.131	1								
SIZE	0.319**	0.131	1							
BSIZE	0.283*	0.149	0.289*	1						
WSB	0.351**	0.151	0.261*	0.374**	1					
WMB	0.338**	0.091	0.093	0.576***	0.495***	1				
W%	0.361**	0.159	0.213	0.456***	0.878***	0.798***	1			
SB	0.181	-0.118	0.060	0.549***	0.423***	0.234	0.288*	1		
LV	0.203	-0.074	-0.114	0.278**	0.444***	0.270*	0.420***	0.315	1	
FS	-0.333**	0.070	-0.038	0.049	-0.052	-0.119	-0.127	0.290	-0.211	1

Table 4: ESG: ESG disclosure score, PROF: profitability measured by ROE for FY2019, SIZE: firm size measured by market capitalization rate at 21.10.2020, BSIZE: total number of members on the management and supervisory board in the reporting year, WSB: percentage of women on the supervisory board,

WMB: percentage of women on the management board, W%: percentage of women on both boards, SB: dummy variable equal to 1 if the company has a supervisory board, LV: dummy variable equal to 1 if the company is headquartered in Latvia; FS: dummy variable equal to 1 if the company belongs to the financial and real estate sector. * correlation is significant at the 0.10 (2-tailed) ** correlation is significant at the 0.05 level (2-tailed); *** correlation is significant at the 0.01 level (2-tailed)

Next, in order to determine whether there are significant non-financial disclosure score differences between the companies having female members on their boards, independent sample t-tests were carried out to evaluate the potential effect and its statistical significance. As the first step, F-tests were carried out to determine the differences in variances of the samples. Next, table 5 shows the results of all the t-tests performed.

Table 5. *Independent t-test analysis. Source: computed by authors.*

	ESG score			Two-sample t-test	
Variables	**Mean**	**Variance**	**Observations**	**t-statistic**	**p-value**
WM in MB or SB	0.45	0.03	28		
No WM in MB or SB	0.36	0.03	15	1.708	0.09
WM in MB	0.47	0.02	20		
No WM in MB	0.37	0.03	23	1.963	0.056
WM in SB	0.48	0.03	17		
No WM in SB	0.38	0.02	26	2.144	0.038**
Board size <7	0.35	0.02	19		
Board size >7	0.47	0.03	24	-2.457	0.018**

Table 5: * mean difference is significant at the 0.10 (2-tailed) ** mean difference n is significant at the 0.05 level (2-tailed); *** mean difference is significant at the 0.01 level (2-tailed)

Out of the three gender driven specifications, the results show that only female representation in the supervisory board has a significant impact (significant at 95%) on the differences in the ESG scores. The results imply that companies which have a female representative on the supervisory board have on average higher non-financial disclosure scores of 48% in comparison to companies which do not have females represented on their supervisory boards, averaging 38%. The results allow to accept the third hypothesis (H3), but do not provide sufficient significance to accept also the second hypothesis (H2). In order to ensure that the significant difference does not come from the effect of having a supervisory board in the first place, a t-test is performed to compare the results of the companies having supervisory board in place with those that do not. The t-stat value of -1.34 (critical two tail value 2.04) implies that there is no significant difference between the two groups, thus it signals rather that the effect comes from having a female supervisory board member.

Next, a t-test is performed to check for the mean differences between companies of different board sizes. The sample is split based on the board size average (7.51) into a group of companies having less than 7 board members and companies having 7 or

more board members. The results show a significant difference (significant at 95%) of a mean ESG transparency score of 35% for companies with smaller boards and 47% for the larger-board sized companies. The results are in line with the predictions of the first hypothesis (H1).

The results largely are in line with the Resource Dependence and Upper Echelon Theory suggesting that larger, more diverse boards bring supplementary skills-sets, agendas, and values to the company's actions and therefore are also more likely to devote more attention to the sustainability questions. In addition, the data supports the view that female participation on the company's decision-making bodies indeed show a larger company's dedication to the non-financial activities and their disclosures.

While the results indicate that female presence in the supervisory board (in contrast to management board) of the company yields statistically significant differences in the non-financial transparency score, participation in the management board did not present significant impact. When looking at potential explanations it is possible that the supervisory board function in controlling and appointing the board members might have a larger impact on a company's agenda with respect to sustainability than the executive body themselves. As confirmed by several reports of the reviewed companies, sustainability oversight is largely the responsibility area of the council rather than the management. This view would be in line with Dienes & Velte's (2016) findings in respect to female presence on the supervisory board for German companies. Nevertheless, as of now there are no definite conclusions with respect to this finding.

5. Conclusion

The main aim of the study was to explore the impact of board diversity in terms of board size and gender composition on the non-financial reporting volume. The data for 43 stock-listed companies headquartered in Estonia, Latvia and Lithuania were analysed. Due to lack of external ESG rating scores, authors performed content analysis and comparative analysis of the ESG related information disclosed in the public reports of the sample companies to derive the disclosure scores. The results revealed an average ESG disclosure score of 40% ranging from 8% to 71%. Without unified reporting requirements, the companies can decide themselves on the materiality areas and the volume of the non-financial information disclosed, leading to significant differences in the ESG transparency scores.

Secondly, the paper provides an insight into the board composition of the Baltic companies. The board diversity variables suggest that the average total board member count is 7.51 with a maximum of 15 members in both management and supervisory boards. In addition, the board diversity variables describe that on average 17% of management board members and 12% of the supervisory board members are women. The comparison with Western European countries shows that the Baltic countries have on average twice less female board members than the Western European company country sample, indicating that the Baltic companies still lag in forming sufficiently gender diverse company boards.

Finally, the Pearson correlation analysis shows that all board diversity variables correlate positively and significantly with ESG transparency score, providing the first indication of the positive impact of the board diversity on disclosure scores. The effect is confirmed via independent t-test analysis, which imply that a company having a female representative on the supervisory board has on average, a higher non-financial disclosure score of 48% in comparison to companies which do not have females represented on their supervisory boards (38%). Also the board size is found to significantly impact the ESG scores – an average ESG transparency score of 35% is calculated for companies with smaller boards (less than 7 members), while a score of 47% is found for the larger-board sized companies (7 or more members). The results are largely in line with Resource Dependence Theory, suggesting that a larger and more diverse company leadership team provides additional skills, expertise, and expands the viewpoint of the company also in the direction of sustainability. Thus, this study contributes to the growing body of the literature exploring the determinants of the sustainability orientation of the stock listed companies.

It should be noted that the research conducted was solely based on the quality of disclosure and information availability, and the companies were not evaluated based on how well they perform in terms of ESG. Suggestions for further research could therefore be the ESG performance determination and expansion of the board impact's analysis not only on the non-financial disclosure scores, but also performance metrics.

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