Report on Bachelor / Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University

Student:	**Purev-Ochir Byambajav**
Advisor:	**Binyi Zhang**
Title of the thesis:	**The impact of ESG score on financial performance: Evidence from the automotive industry**

OVERALL ASSESSMENT (provided in English, Czech, or Slovak):

Please provide your assessment of each of the following four categories, summary and suggested questions for the discussion. The minimum length of the report is 300 words.

Short summary

In this thesis, Purev-Ochir takes the automotive industry as a case study to examine the impact of ESG (Environmental, Social, and Governance) performance on corporate financial performance. The study employs panel regression techniques, including Pooled OLS and Fixed Effects models, and uses return on equity (ROE) and return on assets (ROA) as proxies to evaluate corporate financial performance. The emprical findings reveal that the impact of ESG on corporate financial performance varies among different sectors and regions within the automotive industry. Overall, this thesis is of good quality for a bachelor's thesis makes a clear contribution to the existing body of ESG literature.

Contribution

Purev-Ochir articulates his original insights on the subject, showcasing critical thinking skills and the ability to derive insightful conclusions rooted in relevant theory and empirical analysis. His work has a clear contribution to the existing literature on ESG, particularly by highlighting the significant influence of the Environmental pillar on both Return on Assets (ROA) and Return on Equity (ROE) within the heavy vehicles, car parts, and retail sectors, while also indicating a negative impact on companies within the tire sector. Moreover, the social pillar demonstrates a positive effect on the ROA and ROE of companies in the tire and retail sectors but adversely affects profitability in the heavy vehicles and car parts sectors. On the other hand, the Governance pillar positively affects the ROA of companies in the retail sector but negatively impacts those in the tire sector. Interestingly, the Environmental pillar shows a positive impact on the profitability of American and African companies, with the Governance pillar also positively influencing the ROA of African companies. Conversely, Asian companies experience adverse effects from the Governance pillar. Notably, social factors exhibit insignificance across all regions. These results stem from an in-depth and meticulously conducted analysis, providing insightful revelations about how ESG performance affects corporate finance.

Methods

The comprehensive dataset comprises 131 companies spanning 20 countries, each providing 7-year annual data (2015-2021) encompassing ESG scores, ESG pillar scores, ROE, ROA, and other pertinent control variables. Purev-Ochir adopts a systematic approach to empirical modeling, initially employing Pooled OLS as the benchmark model before transitioning to the Fixed Effects model to mitigate the influence of time-invariant firm characteristics. Beyond analyzing the entire dataset, Purev-Ochir conducts sub-sample analyses to focus his investigation on exploring the impact of ESG on corporate finance across various sectors within the industry. These empirical methods are grounded in relevant literature and supported by empirical evidence. However, Purev-Ochir incorporates only 3 variables as controls (i.e., Beta, Leverage, and Total Asset), raising concerns about potential variable omission bias.

Literature

A 6-page literature review on related research in the field of ESG seems fine to me. It summarizes the current state of research in filed of ESG, drawing from top journals. The review begins with an overview of theoretical frameworks before examining the effects of ESG performance on corporate

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financial outcomes. Additionally, Purev-Ochir explores issues such as ESG rating divergence, ESG disclosure reporting, and investment behavior linked to ESG. The review is thorough, encompassing all relevant papers and perspectives. I particularly appreciate sections 2.3 on ESG rating divergence and 2.4 on ESG disclosure. I would recommend that Purev-Ochir further explore these topics in his postgraduate research.

Manuscript form
The manuscript was well prepared using LaTeX, satisfying the formal requirements for a Bachelor's thesis. The content was clearly written, it is easy to read and understand. The introduction was clear, but it could be improved by strengthening the research motivation. The data were described in detail, including comprehensive calculations for each variable selected into the emprical analsysis. The tables were well-organized, and the appendix provided useful extra information without overloading the main text. Overall, from my perspetive, the thesis was well-written and properly formatted. The author took great care in editing and presenting the results, making it enjoyable to read.

Overall evaluation and suggested questions for the discussion during the defense

In my view, while there are areas for improvement in this this thesis, Purev-Ochir Byambajav has delivered a nice piece of work. He features a comprehensive literature review, summarising the current state of reseach in the filed. The unique focus on the automotive industry, along with a solid econometric analysis using a series of panel data regression, leads to insightful conclusion.
However, this thesis comes with following limitations which Purev-Ochir may consider for his future postgraduate research works:

1. Insufficient control variables included in the model. Purev-Ochir may consider other firm-level characteristics as additional controls to reduce the potential of variable omission bias.

2. Only ROA and ROE as main proxies to corporate financial performance. Besides from ROA and ROE, there are many other corporate financial indicators (i.e., Profitability ratios, Tobin's Q) that Purev-Ochir may use for purposes of model robustness checks. Alternatively, Purev-Ochir might consider employing Principal Component Analysis (PCA) or other Dimensionality Reduction Techniques to create a self-defined corporate financial performance index. This index could integrate various potential financial performance measures into the analysis, providing a more comprehensive understanding of corporate financial health.

Certainly, Purev-Ochir has a few additional estimation approaches to consider:

1. Dynamic panel with GMM estimator: This method is particularly useful for handling potential endogeneity issues and addressing dynamic effects over time. By employing the Generalized Method of Moments (GMM) estimator in a dynamic panel framework, Purev-Ochir can better capture the causal relationship between ESG practices and corporate financial performance, while also accounting for unobserved heterogeneity and potential biases.

2. Difference-in-Difference estimation: This approach allows Purev-Ochir to evaluate the effectiveness of ESG practices on corporate financial performance by comparing changes in performance metrics before and after the implementation of ESG initiatives, both within firms and across different groups. By controlling for time-varying factors and firm-specific characteristics, Purev-Ochir can identify the causal impact of ESG practices on financial outcomes more accurately.

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The main text was well-written and properly formatted using LaTeX. The result of the Urkund analysis do not show any significant text similarity with other available sources. **In my view, the thesis fulfils the requirements for a bachelor thesis at IES, Faculty of Social Sciences, Charles University, I recommend it for the defence and suggest a grade B.**

Questions to the defense:
1. In addition to the listed control variables, were there any other firm-level characteristics that you considered including in your model? If so, why were they not included initially?
2. In your thesis, you highlighted that the influence of ESG improvement on corporate finance may depend on the current stage of ESG implementation. However, your empirical analysis did not explore this aspect. Can you elaborate on how you may to incorporate the current stage of ESG implementation into your analysis in future research? Additionally, what implications do you foresee this consideration having on the interpretation of your findings, particularly regarding the relationship between ESG performance and corporate finance?

SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY		POINTS
Contribution	(max. 30 points)	20
Methods	(max. 30 points)	22
Literature	(max. 20 points)	19
Manuscript Form	(max. 20 points)	19
TOTAL POINTS	(max. 100 points)	**80**
GRADE	(A – B – C – D – E – F)	**B**

NAME OF THE REFEREE: Binyi Zhang

DATE OF EVALUATION: **04.05.2024**

Digitálně podepsáno(04.05.2024)
Binyi Zhang

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Referee Signature