

**Sustainable investments: Green Bond and ESG criteria influencing investment decision**

Deniss Rozkov

170042

Doctoral Dissertation

to obtain the degree of  
Doctor of Philosophy in Business Economics

University of Liechtenstein

*Supervisor:* Prof. Dr. Marco J. Menichetti

*Co-supervisor:* Prof. Dr. Martin Kukuk

Working period: 01.09.2019 – 09.03.2023

Vaduz, March 9<sup>th</sup>, 2023

## **Table of contents**

<b>Abstract.....</b>	i
<b>Acknowledgement .....</b>	ii
<b>1   Introduction .....</b>	1
1.1   Sustainability at glance.....	3
1.1.1   Emergence of sustainability .....	3
1.1.2   Sustainable agenda and SDG investing.....	3
1.1.3   Environmental, Social, and Governance domains.....	4
1.1.4   Green Bonds.....	7
1.2   Investors' outlook.....	7
1.2.1   Investment approaches .....	8
1.2.2   Materiality and moral obligations .....	9
1.2.3   Benefits and controversies.....	9
1.3   Contribution to this dissertation .....	9
<b>2   Impact of ESG Factors on Investment Decision.....</b>	13
2.1   Introduction .....	14
2.2   Theoretical positioning.....	14
2.2.1   Historical background of sustainable investing.....	14
2.2.2   Components of sustainable development .....	15
2.2.3   ESG in focus: environmental, social and governance issues.....	16
2.2.3.1   Environmental factors .....	16
2.2.3.2   Social factors .....	17
2.2.3.3   Governance factors .....	18
2.2.4   Materiality and ESG-associated risks.....	19
2.2.5   ESG controversies .....	19
2.2.6   Hypotheses .....	20
2.3   Methodology .....	20
2.3.1   Choice-based conjoint analysis configuration.....	20
2.3.2   Backtesting .....	21
2.3.3   Survey Participants .....	21
2.4   Results .....	21
2.4.1   Data cleansing .....	21
2.4.2   CBC analysis results.....	22

2.4.3	The significance of ESG factors.....	24
2.4.4	Portfolio management style.....	26
2.4.5	Risk Profiles .....	27
2.4.6	Asset class preferences.....	27
2.4.7	Investment by region .....	28
2.4.8	Trade execution methods.....	29
2.4.9	Investment goals.....	29
2.5	Conclusion.....	30
2.5.1	Limitations and shortcomings .....	30
2.5.2	Main findings and future research.....	30
<b>3</b>	<b>The Gender Factor in Sustainable Development Goal Investing.....</b>	<b>32</b>
3.1	Introduction .....	33
3.2	Theoretical positioning.....	34
3.2.1	Sustainable investing.....	34
3.2.2	Profile of socially responsible investor .....	34
3.2.3	Agenda for sustainable development.....	35
3.2.4	Breaking the terminology: CSR, ESG and SDG .....	36
3.2.5	SRI strategies.....	36
3.2.6	The gender factor in investing .....	37
3.2.7	Hypotheses .....	38
3.3	Methodology .....	38
3.3.1	Systematic literature review .....	38
3.3.2	Choice-based conjoint analysis setup.....	39
3.3.3	Survey participants .....	39
3.3.3.1	Geographical focus and sample.....	39
3.3.3.2	Statistical tests .....	39
3.4	Results .....	40
3.5	Conclusion.....	43
3.5.1	Limitations and shortcomings .....	44
3.5.2	Recommendations for future research.....	44
<b>4</b>	<b>Aligning Investment Strategies with Sustainable Development Goals from Institutional Investors' Perspective: The Gender Factor .....</b>	<b>45</b>
4.1	Introduction .....	46

<b>4.2 Literature review .....</b>	<b>47</b>
4.2.1 Factors influencing investors' decision .....	47
4.2.2 Sustainable investment strategies .....	48
4.2.3 Sustainable development goals.....	49
4.2.4 Decision making by sustainable institutional investors.....	50
4.2.4.1 Institutional setting.....	50
4.2.4.2 Institutional investors and importance of sub-groups.....	51
4.2.4.3 Nation effect in decision making by institutional investors .....	51
4.2.4.4 Drivers and factors important for institutional investors decision making.....	51
4.2.4.5 Use of sustainable investment strategies .....	52
<b>4.3 Methodology .....</b>	<b>52</b>
4.3.1 Survey and data .....	52
4.3.2 Conjoint measurement and CBS analysis setup .....	53
4.3.3 Ordered probit model .....	54
<b>4.4 Results .....</b>	<b>55</b>
4.4.1 Data validation .....	55
4.4.2 Regional investors' preferences .....	57
4.4.3 Investors' risk profile .....	57
4.4.4 Choice-based conjoint analysis results .....	58
4.4.5 Attribute importance.....	59
4.4.6 SDGs preferences .....	59
4.4.7 SRI strategies.....	60
4.4.8 Investment instruments.....	61
4.4.9 Results ordered probit model.....	62
<b>4.5 Conclusion.....</b>	<b>63</b>
4.5.1 Limitations and shortcomings .....	64
4.5.2 Recommendations for future research.....	65
<b>5 Institutional Investors' Preferences in Green Bonds and ESG Criteria: a Focus on German-Speaking Europe .....</b>	<b>66</b>
<b>5.1 Introduction .....</b>	<b>67</b>
5.1.1 The need for green bonds .....	67
5.1.2 Theoretical relevance.....	68
5.1.3 Managerial relevance.....	68

5.1.4	Structure of this paper .....	68
5.2	Theoretical positioning.....	69
5.2.1	Sustainable investments .....	69
5.2.2	The case of green bonds .....	69
5.2.3	Environmental, social and governance in focus: literature review on investors' ESG preferences.....	70
5.3	Methodology .....	70
5.3.1	Survey design .....	71
5.3.2	Survey participants .....	72
5.4	Results .....	72
5.4.1	Respondent statistics summarized.....	72
5.4.1.1	Importance of green bond attributes.....	74
5.4.1.2	Pre- and post-issuance preferences.....	79
5.4.2	Discussion .....	80
5.5	Conclusion.....	81
5.5.1	Limitations and shortcomings .....	81
5.5.2	Recommendations for future research.....	82
6	<b>Conclusion and future directions .....</b>	<b>84</b>
6.1	Summary of the main findings .....	84
6.2	Consecutive knowledge and its application .....	86
6.3	Directions for future research.....	87
	<b>List of references .....</b>	<b>88</b>
	<b>List of figures .....</b>	<b>101</b>
	<b>List of tables .....</b>	<b>102</b>
	<b>List of abbreviations.....</b>	<b>104</b>
	<b>Appendix: Co-authoring supplement explaining conjoint analysis methodology .....</b>	<b>105</b>
	<b>Declaration of authorship .....</b>	<b>108</b>
	<b>Curriculum Vitae .....</b>	<b>109</b>