

CONTENTS

LIST OF ABBREVIATIONS.....	5
INTRODUCTION.....	7
1 FOUNDATIONS OF ENVIRONOMICS.....	9
1.1 Environment.....	9
1.1.1 The importance of the environment	9
1.1.2 Climate changes and their impact	10
1.1.3 Consequences of climate change in the European region	10
1.2 The interconnection of the economy and the environment	14
1.2.1 Environmental and natural resource economics.....	17
1.2.2 Environmental economics and environment policy	17
1.3 EU strategies in relation to the environmental economy	19
1.3.1 The European Green Deal – more sustainable EU economy	21
1.3.2 The concept of Green Growth	22
2 MEASURING GREEN GROWTH PROGRESS AND CLUSTER ANALYSIS	25
2.1 Selected indicators of green growth	28
2.1.1 Human Development Index - HDI.....	32
2.1.2 Environmental performance index - EPI.....	34
2.2 Cluster analysis – method of empirical classification	37
3 ENVIRONOMICS AS A COMPREHENSIVE METHODOLOGICAL APPROACH.....	40
3.1 Indicators monitoring environmental and resource productivity	40
3.2 Indicators monitoring the natural asset base	53
3.3 Indicators monitoring the environmental quality of life	58
3.4 Indicators monitoring economic opportunities and policy responses.....	64
3.5 Global Sustainability Indices.....	67
3.5.1 HDI index and its components in Slovakia and the Netherlands.....	67
3.5.2 EPI index and its categories in Slovakia, in the Netherlands and within the EU countries	68
3.6 Hierarchical clustering procedures.....	70
3.6.1 Nearest Neighbour Method.....	71
3.6.2 Median Method.....	72
3.6.3 Ward’s Method.....	73
3.7 Hierarchical clustering analysis of attitudes towards environment across cultures.....	74
3.7.1 Clustering design	77
3.7.2 Segmentation, discrimination and classification result.....	80
4 MODELING AIR POLLUTION AND CARBON DIOXIDE EMISSIONS WITH A COMPUTABLE GENERAL EQUILIBRIUM MODEL.....	90
4.1 Methodology and data.....	91

4.2	Air pollutants and emissions	93
4.3	The current status and the development in 10 years.....	97
4.4	The European Green Deal: Modeling the Impact of Reducing Greenhouse Gas Emission Quotas.....	102
5	COMPARISON OF THE ECONOMIC AND ECOLOGICAL DEVELOPMENT OF SLOVAKIA AND THE NETHERLANDS BASED ON THE DICE MODEL.....	107
5.1	An analysis of the current state of the climate crisis.....	107
5.1.1	The change in air temperature	107
5.1.2	Deforestation.....	109
5.2	How does the climate crisis affect the development of the economy?	109
5.3	DICE Model.....	111
5.3.1	The methodology of the DICE model.....	111
5.3.2	The data and the model.....	114
5.3.3	The Slovak Republic	115
5.3.4	The Netherlands	117
	CONCLUSION	120
	LIST OF TABLES.....	124
	LIST OF FIGURES.....	126
	BIBLIOGRAPHY.....	128
	APPENDIX.....	I
A.	The impact of changes in individual European regions	I
B.	EPI Index (Ranking of 180 countries)	II
C.	EPI, Environmental Health and Ecosystem Vitality Score	III
D.	HDI Index, 2017 (Map of world and Europe)	V
E.	Air pollution and emissions.....	XI
F.	Carbon dioxide emissions decomposition.....	XVI