Ekonomická fakulta
Faculty of Economics

Jihočeská univerzita v Českých Budějovicích
University of South Bohemia in České Budějovice

Regions in Context VI
-
Principles of circular economics in regional management leading to increased efficiency of systems

Dagmar Škodová Parmová

Team of authors

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Reviewers:

prof. Ing. Věra Bečvářová, CSc.
Mendel University in Brno

Dr.h.c. prof. Dr. Ing. Elena Horská
Slovak University of Agriculture in Nitra

Team of authors:

doc. Dr. Ing. Dagmar Škodová Parmová (Foreword, Conclusion); Ing. Markéta Kocourková, Ph. D (chap. 1).; Ing. Nikola Soukupová, Ph. D. (chap. 1); Bc. Miroslava Križková (chap. 1); Emma Schneider (chap. 2); Ing. Jaroslav Šetek, Ph. D. (chap. 3), Alexander Shemetev (chap. 4)

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Abstract: This monograph focuses on the use of circular economy principles in regional governance and their contribution to system efficiency and sustainable development. The publication is divided into four main areas: the impact of ESG factors on regional governance, cross-border cooperation in the Interreg program, the relevance of circular bioeconomy for community energy, and the new ETPI and RETPI indices for measuring ethical progress in regional development.

The first part deals with the application of environmental, social, and governance (ESG) factors in regional governance and their impact on sustainability and social stability. The second part analyses the benefits and challenges of transboundary cooperation and shows how it impacts on regional development. The third part introduces the concept of the circular bioeconomy as a tool for promoting community energy that increases the resilience and independence of regions. The final section then introduces two new indices - ETPI and RETPI - to measure the ethical and moral aspects of regional development.

The monograph offers valuable insights and practical tools not only for academics but also for practitioners who want to implement sustainable strategies that support the long-term development of regions.

Key words: ESG, regional development, sustainability, circular economy, circular bioeconomy

Abstrakt: Tato monografie se zaměřuje na využití principů cirkulární ekonomiky v řízení regionů a jejich přínos pro efektivitu systémů a udržitelný rozvoj. Publikace je rozdělena do čtyř hlavních oblastí: vliv ESG faktorů na regionální management, přeshraniční spolupráce v rámci programu Interreg, význam cirkulární bioekonomiky pro komunitní energetiku a nové indexy ETPI a RETPI pro měření etického pokroku v regionálním rozvoji.

První část se zabývá uplatněním environmentálních, sociálních a řídících (ESG) faktorů v řízení regionů a jejich vlivem na udržitelnost a společenskou stabilitu. Druhá část analyzuje přínosy a výzvy přeshraniční spolupráce a ukazuje, jaký má tato spolupráce dopad na rozvoj regionů. Třetí část představuje koncept cirkulární bioekonomiky jako nástroje pro podporu komunitní energetiky, která zvyšuje odolnost a nezávislost regionů. Závěrečná část pak uvádí dva nové indexy – ETPI a RETPI – které slouží k měření etických a morálních aspektů rozvoje regionů.

Monografie nabízí cenné poznatky a praktické nástroje nejen pro akademickou sféru, ale také pro odborníky z praxe, kteří chtějí implementovat udržitelné strategie podporující dlouhodobý rozvoj regionů.

Klíčová slova: ESG, regionální rozvoj, udržitelnost, cirkulární ekonomika, cirkulární bioekonomika

FOREWORD

Regional development is essential to diversifying the economy and ensuring long-term, sustainable development. In the context of the circular economy, regional growth is often linked to the efficient use of local resources. The principles of the circular economy are also relevant given the current global push for more sustainable financial methods. Adopting these ideas should be seen as a social and environmental issue as well as a means of promoting economic progress. Learning how to use resources more sustainably and efficiently in production and business is essential to extending product life, reducing waste, and reducing the overall impact of business

Businesses' approaches to resource management are fundamentally changing because of the creation and use of new technologies like Internet of Things (IoT) applications and intelligent waste management systems. Better resource tracking and management are made possible by these technologies at every stage of the product lifetime, from manufacturing to ultimate recycling. As a result, company operations have less of an effect on their surroundings, and overall competitiveness rises.

These cutting-edge methods and tools, along with new laws, offer a strong foundation for a more thorough application of circularity concepts in daily life. Legislative measures that not only lessen environmental consequences but also encourage industry innovation and boost economic efficiency include the new European Union trash and recycling rules, which mandate better recycling rates and generate less waste from packaging materials. Together, these actions are forming a more sustainable future in which environmental preservation and economic growth coexist, resulting in more effective and ecologically conscious business models.

However, the circular economy cannot be seen only through an environmental and economic lens. Its social impact must also be recognized. The circular economy has a significant impact on society by promoting inclusive employment opportunities and improving the quality of life of local communities. By emphasizing local resources and reducing dependence on imports, it can contribute to the economic empowerment of regions, which in turn leads to greater social stability.

By generating new jobs centered on the gathering, processing, and reuse of resources, circular economy models also foster the creative nature of the labor market. This can increase employment in areas experiencing economic downturns, benefiting not just the workers but also society at large. The authors' collective brings together its sixth scholarly monograph, Regions in Context, with an emphasis on three key areas that help shape contemporary regional development: the integration of ESG factors, cross-border cooperation, and the circular bioeconomy. The first chapter focuses on how environmental, social, and governance (ESG) factors can positively influence regional governance and promote sustainable development through strategic implementation and concrete case studies. The second chapter focuses on cross-border cooperation

within the Interreg Greater Region program, analyzing its positive impacts and challenges and assessing the benefits for regional development and improved cross-border relations. The third chapter presents how the circular bioeconomy can support community energy and how it is essential for increasing regional resilience and independence. Each of these chapters provides a comprehensive view of the dynamics and strategies that are key to regional development and sustainability and provides important insights for policymakers, practitioners, and other stakeholders engaged in regional development. The fourth chapter introduces two new indices - the Ethics Perception Index (ETPI) and the Regional Ethics Perception Index (RETPI) - that quantify the ethical and moral dimensions of social progress. These indices have practical implications for policy makers, especially in light of recent global crises, which highlight the need for ethical considerations in sustainable development. The chapter proposes a dynamic methodology adaptable to regional conditions.

The authors believe that this content resonates with the growing interest in the circular economy, which is not limited to responding to environmental challenges, but is becoming central to pathways to sustainable development in modern economies.

doc. Dr. Ing. Dagmar Škodová Parmová

1 ESG IN REGIONAL MANAGEMENT

1.1 INTRODUCTION

ESG (Environmental, Social, and Governance) is a framework that integrates environmental, social and governance considerations into investment decision-making and a proactive approach to ownership. The concept is based on the principles of responsible investment, which means that these factors are taken into account when assessing companies and their potential for future financial performance. (Li et al., 2021; EBA, 2021).

There are many different perspectives on ESG, whether from an academic, investor, organizational, or public viewpoint. All these perspectives aim to assess its relevance or understand the core of its existence. The ESG framework is currently at the center of political and economic interest (Clément et al., 2023). Although the public may still be trying to fully grasp the concept, institutions, organizations, and businesses need support in deepening their knowledge of ESG, especially for its practical application. The main idea behind ESG is that companies should be evaluated not only on their ability to create economic value but also on their environmental and social sustainability (Eccles et al., 2014; Ziolo et al., 2019). It can be said that this concept significantly influences global society, with its various aspects being promoted through different areas of legislation and policy frameworks, such as the Green Deal, which focuses on sustainability and environmental protection, and the DEI concept, which promotes diversity in the workplace, or CSR activities in general.

This raises the question: where did ESG originate, and what are its roots? ESG has its roots in the ideas of socially responsible investing that emerged in the 1960s. These ideas focused on excluding certain industries, such as tobacco, alcohol, or arms, from the portfolios of ethically-minded investors. ESG as a concept became more formalized and popularized in the 1990s and early 2000s, particularly after 2004, when Kofi Annan, then UN Secretary-General, launched the "Who Cares Wins" initiative. This initiative called on financial institutions to incorporate environmental, social, and governance (ESG) factors into their investment decisions (Becchetti et al., 2022; Eccles et al., 2020). In 2018 the European Commission embraced the Sustainable Finance Action Plan, which involves the Finance Disclosure Regulation (SFDR). This rule mandates that financial institutions unveil their integration of ESG factors, into their investment procedures. In 2020 the EU implemented the EU Taxonomy Regulation to define standards, for evaluating if a business activity supports goals. This regulation helps investors evaluate the impact of their investments. In general terms, the ESG concept can be understood as a set of principles for sustainable development that can be applied not only in the corporate environment but also in the public sector. For example, Becchetti et al. (2022) apply the term multidimensional well-being

and the ability to create sustainable development at the corporate level, but these definitions and terms could also be applied in regional management as they beautifully summarize the underlying vision.

The benefits of ESG are primarily seen in improved long-term performance and risk reduction. Companies that actively engage with ESG factors tend to achieve better financial results, especially in times of crisis, because their strategies include a comprehensive approach to risk management and sustainable development. Moreover, an ESG approach contributes to improved relationships with investors, employees, and communities, leading to greater loyalty and trust (Becchetti et al., 2022; Lins et al., 2017).

According to the KEY ESG report (2024), the main challenges and potential barriers to the implementation of the ESG concept include the following items:

- 71% of executives take personal responsibility for ensuring that their company's ESG strategies are aligned with their customers' values.
- Only half of companies are confident of their solid environmental performance.
- The main challenges in ESG investment include performance concerns, lack of comprehensive data and greenwashing concerns.
- Although many executives recognize the long-term benefits of ESG, 40% admit to ongoing difficulties in balancing growth targets and ESG commitments.
- 37% of executives highlight the lack of consistent reporting standards and the complexity involved as major barriers to addressing ESG issues.

1.2 ENVIRONMENTAL PILLAR (E)

In 2023 the world produced 2h 10m tons of waste and it is expected to hit 3h 40m tons by the year 2050 (UNEP report, from 2024). Additionally, in the year global greenhouse gas emissions soared to levels prompting a call for a significant 28 percent decrease by 2030 to align with the Paris Agreement objectives (UNEP report, from 2023). In 2023 the world saw sea surface temperatures globally and record low ice coverage, in the Arctic and Antarctic regions mentioned in a report by NOAA in 2024 These events highlight the vital role of Environmental factors, within the ESG (Environmental Social and Governance) framework.

Considering the environmental pillar within ESG is essential for long-term sustainable development. This pillar focuses on aspects such as greenhouse gas emissions, resource use, biodiversity and the environmental footprint of the organization (OECD, 2020). Based on a comprehensive literature review, Ronald et al. (2023) key themes within this pillar include resource use (with a focus on waste reduction), emissions and environmental innovation. According to the OECD (2020), this pillar focuses on the following aspects - greenhouse gas emissions, resource use, biodiversity and the ecological footprint of organizations. Many countries are introducing stricter environmental regulations, which the European

Union has been trying to do for a long time. This increases the pressure on companies to address environmental sustainability as a key part of their strategy.

Focusing on environmental management also facilitates the implementation of environmental practices, such as the design of eco-friendly products, procurement, production, logistics, and packaging, which can result in reduced emissions and lower risks of environmental accidents (Ronalter et al., 2023). Li et al. (2021) highlight the following metrics as applicable to the Environmental pillar:

- Greenhouse gas (GHG) emissions.
- Energy consumption and efficiency.
- Waste production and management.
- Water usage and recycling.
- Air pollutants.
- Innovation in environmentally friendly products and services.
- Impact and dependence on biodiversity.
- Impact and dependence on ecosystems (Novata, 2024; King, 2023; Greenly Institute, 2023; Majid et al., 2023).

1.3 SOCIAL PILLAR (S)

Although the topic of ESG in the context of sustainability has received significant scientific attention, the definition, meaning, and implementation options of the social dimension (social pillar - S) are not uniform, making the field incomplete and often ambiguous. The authors Boyer et al. (2016) identify this ambiguity as a problem stemming from the many different interpretations of social sustainability and consequently the lack of an interdisciplinary approach. Moreover, ADEC ESG (2023) adds that the importance of social capital and human resources is often overlooked, increasing the risk of reputational damage when organizations or regions fail to consider important social factors. All of the above causes social sustainability to sometimes become a kind of 'add-on' to environmental and economic pillars, without fully developing its core values and impact on regional development (Boyer et al., 2016).

In the context of the effective application of the social pillar aspects of ESG at the regional level, it is essential to adapt its strategy to the needs of local communities, while being consistent with the environmental and economic objectives of the region. As the authors of McKinsey & Company (2022) state, well-designed ESG initiatives focusing on working conditions, equity, and education can help to increase the satisfaction of residents and promote sustainable regional development.

In the context of regional development, authors most often agree on the following key areas that the social pillar (S) focuses or should focus on for long-term development, social stability and support for local communities:

- Working conditions and safety: promoting a healthy and safe working

environment is essential for worker satisfaction and productivity, e.g. ensuring workplace safety and preventing workplace accidents (ADEC ESG, 2023).

- Education and retraining: investing in training programmes and retraining is important to ensure the long-term competitiveness of regions, especially in an era of technological change and automation where labour requirements are changing rapidly (UNSW BusinessThink, 2023).
- Promoting equality and inclusion: promoting equality of opportunity, preventing discrimination and ensuring inclusion. Regions that emphasize diversity and inclusion gain stronger social connections and improve the quality of life for all residents (McKinsey & Company, 2022).
- Community engagement and relationships: fostering positive relationships with local communities is key to regional stability. Involving the public in decision-making and supporting community initiatives helps to build trust and cohesion between residents and regional government (Boyer et al., 2016).
- Health and public services: access to public services such as health care, education and social security is an essential element of the social pillar of ESG in regional governance. Effective management of these services contributes to the overall well-being of the region's residents and promotes their participation in the local economy (ADEC ESG, 2023; Boyer et al., 2016).

1.4 GOVERNANCE (G)

Governance assesses the quality and effectiveness of a company's leadership, policies and practices in ensuring ethical, responsible and sustainable operations (Deloitte, 2024). It is a corporate governance system used to optimize performance. The aim is to increase the long-term value of the company while taking into account the stakeholders. The company exhibits and implements specific sustainability systems (Tarmuji et al., 2016). By definition, this pillar is closely related to the concept of social responsibility and ethics in business. Khan (2019) adds that good corporate governance is important for effective capital allocation and for capital preservation and growth, which are important conditions for building sustainable businesses.One of the main theories underpinning this is stakeholder theory.

The importance of pillar G is illustrated by study of Kuzey et al. (2023), who demonstrates that the power of public governance might stimulates over-engagement across the ESG domain. That is, firms in countries with strong voice and accountability, government effectiveness, political stability, regulatory quality, rule of law, and control of corruption are more motivated to engage in ESG. This is evidenced by the research of Muhmad et al. (2021) with the finding that corporate governance mechanisms are considered important elements of successful ESG efforts. Previous studies have shown that CSR practices are influenced by the quality of a company's internal governance mechanisms, with better-governed companies shown to be more likely to pursue a more socially responsible agenda. These findings are also applicable to the region, which, by implementing govevrnance correctly, can encourage and support the integration of the other

pillars into routine processes.

The iplemetation could be simple. According to Deloitte (2024), process starts with assessment the current state with a commitment from management to integrate ESG principles into the organization's strategy and culture, including stakeholder engagement. Nect step continues with identification of key ESG issues and risk and opportunity assessment. Then by establishing human resources . a diverse board of directors, sustainability teams and creating the necessary staff competencies followed by forming ESG policies and frameworks. The last step is monitoring and reporting and tracking progress

The main identified governance factors are following:

- Board diversity and structure.
- Accountability.
- Codes of conduct and business principles.
- Transparency and disclosure.
- Executive pay.
- Shareholder rights.
- Bribery and corruption.
- CSR strategy and ethics.
- Mangement.
- Stakeholder engagement (Li et al.., 2021; Keeley et al., 2022; Mian et al., 2024).

1.5 CONCLUSION

The importance of ESG in regional management today is undisputed. ESG is becoming a key tool to enable regions to manage their resources more effectively, increase attractiveness to investors, and promote long-term prosperity. Integrating ESG approaches in regional management can lead to improved living standards, environmental protection, and enhanced social cohesion. ESG assessment is playing an increasingly important role in investment decisions and strategic management of organizations, and therefore also at the regional management level.

Although these assessments are intended to provide an overview of sustainability and corporate social responsibility, they face several criticisms that may call into question their reliability and usefulness. The following table summarizes some of the main drawbacks and challenges associated with ESG assessments as identified in research.

Table 1 Critique of the concept ESG

Critique	Explanation	Authors
Differences in ESG ratings	The significant variation between the ratings of different rating agencies creates uncertainty and makes it difficult for investors to correctly assess the true ESG performance of companies. The divergence is often due to	Chatterji et al., 2016; Saadaoui &

Critique	Explanation	Authors
	varying approaches to measuring, scoping, and weighing individual factors. This inconsistency can lead to an underestimation or overestimation of a company's actual performance in ESG areas.	Soobaroyen, 2018; Liu, 2022
Underlying data quality	Criticism regarding the reliability, accuracy and consistency of the data underlying the calculation of ESG scores. This leads to significantly different results and makes it difficult to accurately assess the true ESG performance of companies	Clementino & Perkins, 2021; Drempetic et al., 2020
Discrimination against disadvantaged firms	ESG ratings are more often available and more beneficial for large and established firms than for smaller or emerging firms. Larger firms have more resources and better access to the necessary data and experts, allowing them to obtain higher and more credible ESG scores. Conversely, smaller firms often do not have such opportunities, which can lead to them either not being rated at all or receiving lower scores	Drempetic et al., 2020; ERM, 2023; Liang & Renneboog, 2020
Costly and burdensome valuations reduce returns and investor satisfaction	Evaluations can be costly and time-consuming for both firms and investors. Firms often have to invest significant resources in obtaining and maintaining ESG ratings, which may involve paying external consulting firms, responding to extensive questionnaires, or adapting their processes to the requirements of the rating agencies. These costs can be passed on to investors through higher management fees, negatively affecting their overall return on investment.	Fatemi et al., 2018; Giese et al., 2019; ERM, 2023

Source: own processing

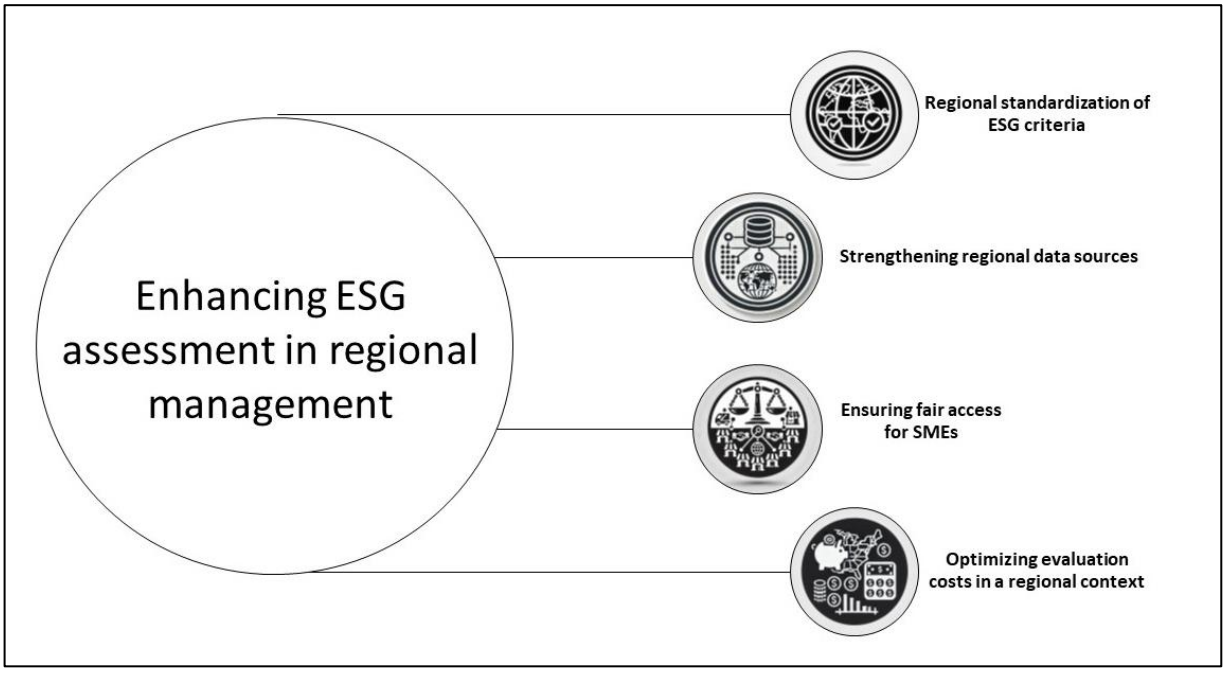
To effectively address the criticisms of ESG assessments in the context of regional management and improve their contribution to sustainable regional development, several key steps need to be considered:

- *Regional standardization of ESG criteria*: the introduction of regionally specific standards for ESG assessments could reduce differences between assessments and ensure that they better reflect local conditions and priorities. This would increase the relevance of the assessment for regional governance and promote comparability across regions, facilitating decision-making on investments and development strategies.
- *Strengthening regional data sources*: data quality is essential for reliable ESG evaluation. Regional management should invest in strengthening local data sources, working with local businesses, institutions and communities to collect accurate and relevant ESG data. This would ensure that the evaluation reflects the true sustainability and social impact of activities in the region.
- *Ensuring fair access for SMEs*: as smaller and emerging firms often face disadvantages in ESG assessments, regional management should create conditions that facilitate their participation in ESG initiatives. This may include the provision of advisory services, financial support, or simplified assessment tools that take into account the specificities of smaller entities in the region.
- *Optimizing evaluation costs in a regional context*: regional management can

play a key role in reducing the costs associated with ESG evaluation. For example, through joint initiatives and shared resources between companies in the region, savings can be achieved and the financial burden on individual actors can be reduced. This could make ESG assessments more accessible to smaller firms and support the overall sustainability of the region.

These suggestions for improvement initiatives are clearly expressed by the authors in the Fig. 1.

Figure 1 Suggestions for improvement initiatives ESG



Source: own processing

2 CROSS-BORDER COOPERATION WITHIN THE FRAMEWORK OF INTERREG GREATER REGION: POSITIVE IMPACTS, CHALLENGES AND STRATEGIES BASED ON THE EXAMPLE OF TWO PROJECTS

2.1 INTRODUCTION

The topic of the significance of the European Union for its citizens was addressed in numerous media on the occasion of the elections for the European Parliament in June 2024 (cf. Glatzer, 2024; ARD Buffet, 2024). The French newspaper Le Républicain Lorrain dedicated for example an entire series of articles to the impact of the EU on the everyday lives of their readers (cf. Républicain Lorrain, o.D.). This newspaper often covers European and especially cross-border issues (cf. Deutsch-Französischer Journalistenpreis, o.D.). This can be explained by its distribution area, which is located in parts of the former Lorraine region, which is now part of the so-called Grand Est (cf. Großregion, o.D.d), and borders Belgium, France and Germany (cf. Deutsch-Französischer Journalistenpreis, o.D.). In general, cross border cooperation (CBC) plays an important role in the Grand Est and is also encouraged by its integration into the so-called Greater Region (cf. La Région Grand Est, o.D.). In this European crossborder territory, actors from Belgium, French and German border areas as well as Luxembourg are cooperating closely and can benefit from the EU funding programme Interreg Greater Region to implement their cross-border projects (cf. Interreg Großregion, o.D.f). This paper takes a closer look at the topic of CBC in the Greater Region and its support by the Interreg Greater Region programme. By conducting two semi-structured expert interviews with two coordinators of Interreg Greater Region projects, the following research questions are to be answered: What are concrete positive effects of projects co-financed by the EU funding programme Interreg Greater Region? What challenges do they face during their implementation? And what strategies are used to overcome, mitigate or prevent them? The focus is placed on two projects that were conducted during the programming period 2014-2020 and are already completed, allowing an overall view of benefits, challenges and strategies found. As this is a qualitative study, the subjective perspective of the interviewees cannot be generalised. However, due to the aforementioned interest in the concrete added value of the EU for citizens, it is particularly interesting to deal with the topic by using concrete examples. Moreover, the relevance of the paper is emphasised by the fact that the European Commission is also aware of the importance of research on the significance of

Interreg programmes (cf. Laissy & Verschelde, 2018, pp. vii–viii). In terms of research published on the topic, one can highlight for example the publication "Border Futures-Zukunft Grenze-Avenir Frontière. Zukunftsfähigkeit grenzüberschreitender Zusammenarbeit" by Pallagst, Hartz and Caesar (2018) which includes an article by Damm (2018) on CBC and its challenges based on interviews conducted in the Greater Region. Moreover, a project called Crossquality was implemented within the framework of Interreg Meuse-Rhine and created "a new methodology for measuring the quality of CBC […] encompass[ing] both qualitative and quantitative elements" (Crossquality Team, 2022b, p. 5). They applied their method in the aforementioned area and published their findings in a report containing relevant information for the topic of this master's thesis (cf. Crossquality Team, 2022a). In addition, the European Union has also published many studies and papers on the topic of CBC (cf. for example European Commission, 2015; Europäische Kommission, 2021; Europäische Kommission, 2016). In contrast to these broader publications, this paper analyses CBC on a small scale using concrete examples from two selected projects to determine the effects they have in the Greater Region and how they address existing challenges. In the first part of the paper, basic information on the theoretical background is provided before presenting the two projects whose coordinators were interviewed. Next, the method of data collection and processing will be explained, the results of the research will be presented and then compared to the existing literature on the topic. A conclusion with a reflection of the applied method and a summary of the most important findings as well as a brief outlook conclude the paper.

2.2 CROSS-BORDER COOPERATION

While CBC is not a new achievement of the 21st century (cf. Henrich-Franke, Hiepel, Thiemeyer, & Türk, 2019), it gained particular in importance in Europe at the end of World War II, when its possibilities were intensively discussed by border regions (cf. Guillermo-Ramirez, 2018, p. 26). The reasons for CBC are numerous and can, for example, be of ecological, political, economic or cultural nature (cf. Tschudi, 2011, pp. 174–175). Especially regional development of disadvantaged regions is also seen as an important reason for CBC (cf. ibid.), which is reflected in its following definition: "Cross-border co-operation" is defined as the co-operation of adjacent regions in order to foster the integrated regional development and to develop local economic and social centres through the implementation of infrastructure projects as well as "soft" projects (connected with culture or people to people contacts) (Sadowski, 2005, p. 10) This definition illustrates that CBC can take a variety of forms. Over the years, different conventions and tools were put into place to encourage and facilitate it: As an important milestone, one can mention the so-called Madrid Outline Convention that was signed in 1980 by numerous states willing to promote CBC (cf. Council of Europe, 1980). Moreover, as the reduction of negative differences between its member states is an important priority since the Treaty of Rome in 1957, the EU also supports CBC in the framework of its cohesion policy and by creating European funding programmes

(cf. Schwarz, 2023). In this context, the Interreg programme, created in 1990, is an important financial support for CBC (cf. Interact, o.D.a), which will be presented more in detail later on.

Moreover, the importance of CBC is also emphasised in binational treaties, such as in the Aachen Treaty signed in 2019 by the German Chancellor Angela Merkel and the French president Emmanuel Macron (cf. Bundesrepublik Deutschland & Französische Republik, 2019).

2.2.1 The Greater Region

The term Greater Region, also known as Großregion in German and Grande Région in French, refers to a 65 401 km2 large cross-border cooperation area consisting of five regions from four different European countries: the German regions Saarland and Rhineland-Palatinate, the area of the former French region Lorraine, Luxembourg as well as the Belgian regions Wallonia, Federation WalloniaBrussels and the German-speaking Community of Belgium (cf. Großregion, o.D.c). It is a diverse, multilingual area in which German, Luxembourgish and French are official languages (cf. Interreg Großregion, 2022, p. 5). The Greater Region is connected by a common past, as the national borders in this area shifted multiple times in the course of history as a result of wars (cf. Hartz & Caesar, 2018, p. 43). Another unifying element was the coal and steel industry and the common challenge of structural change the regions faced after the decline of its economic success (cf. Dörrenbächer, 2015, pp. 21–25). As a consequence, cross-border cooperation emerged to be able to face this problem together, it evolved and grew over the years and different institutions were put in place (cf. Großregion, o.D.a). Especially the Summit of the Greater Region plays an important role as it "lays down the strategic guidelines of the cooperation" (Großregion, o.D.b). Moreover, there are many other associations and institutions working together in the Greater Region (cf. ibid.). However, a common territorial regional identity in the area does still not exist (cf. Schönwald, 2015, p. 123; Damm, 2018, p. 64).

2.2.2 The EU funding programme Interreg

The Interreg programme is a European funding programme that promotes co-operation between actors across borders through project funding (cf. Bundesministerium für Wirtschaft und Klimaschutz, o.D.). It is divided into different strands of cooperation, one of them being Interreg A which supports cross-border cooperation (cf. European Commission, o.D.). The implementation of the programme is divided into so-called programming periods with the current period being from 2021-2027 (cf. Interreg Großregion, o.D.e). Moreover, the programme is also decentralised in form of different cooperation programmes (cf. Bundesministerium für Wirtschaft und Klimaschutz, o.D.). Each of these cooperation programmes develops its own strategy for the programming period (cf. Europäische Kommission, Generaldirektion Regionalpolitik und

Stadtentwicklung, Wassenberg, & Reitel, 2015, p. 31), which is tailored to the respective region and makes it possible to take the specific circumstances of the region into account (cf. for example Interreg Großregion, 2019, pp. 7–38). One of these cooperation programmes is Interreg Greater Region which supports CBC in the current 2021-2027 programming period in the area of the Greater Region under four priorities: "1. A greener Grande Region, 2. A more socially aware Grande Region, 3. A Grande Region closer to its citizens, 4. Bepper governance of crossborder cooperation in the Grande Region" (Interact, o.D.b). The implementation and management of the Interreg Greater Region programme has been entrusted to several bodies: Some institutions of the programme are the Autorité de Gestion and the Joint Secretariat, responsible for administrative tasks, and the contact points supporting, for example, project coordinators in case they have questions concerning the implementation of their projects (cf. Interreg Großregion, o.D.g).

2.2.3 Opportunities and challenges of cross-border cooperation

CBC has many opportunities as well as challenges. Due to the limited scope of this summary, only some of them will be briefly mentioned: In general, CBC is perceived as an opportunity to connect Europeans across borders (cf. Bohner, 2011, p. 51). This allows the participants not only to learn more about the neighbouring country and its culture (cf. Guillermo-Ramirez, 2018, p. 44), but also to develop intercultural competences (cf. Bohner, 2011, p. 53). Therefore, CBC can help improve the relationship between countries and bring Europe's citizens closer together (cf. Tschudi, 2011, p. 176). Moreover, shared challenges in cross-border areas can be addressed, which is specifically promoted by the Interreg programme (cf. Interact, o.D.c). Border areas are also considered important for the European integration process as new concepts in the context of European integration can be tested there and the added value of the EU, such as free movement, can be experienced on a daily basis (cf. Europäische Kommission, 2021, p. 1). However, CBC also faces numerous challenges: Geophysical obstacles, such as mountains (cf. Tschudi, 2011, p. 175), or a poorly developed infrastructure can hinder effective cooperation (cf. Europäische Kommission, 2016, p. 24). In addition, linguistic and cultural differences can cause difficulties (cf. Tschudi, 2011, p. 175). Different administrative and legal systems between European countries can also complicate CBC (cf. Europäische Kommission, 2017, pp. 9–10), which is often particularly highlighted in the context of Interreg programmes (cf. Crossquality Team, 2022a, p. 39). Other challenges of CBC can include securing sufficient funding (cf. Damm, 2018, p. 59), as well as a lack of interest or willingness to cooperate on a political level (cf. Europäische Kommission, 2016, pp. 25–26).

2.3 PRESENTATION OF THE PROJECTS

The project Senior Activ' – Gut Altern in der Großregion (in the following referred to as Senior Activ') was implemented between October 2018 and December 2022

and was co-financed by the Interreg Greater Region programme with a total of 1.598.433,81€, accounting for 60% of its total budget (cf. Interreg Großregion, o.D.d). The project was composed of 21 partners from all over the Greater Region and from different sectors, focusing on developing solutions to prevent the loss of autonomy among elderly people (cf. SeniorActiv', o.D.). As a consequence, the project's actions were targeted at elderly people as well as their caregivers (cf. ibid.). In the programming period 2021-2027, a follow-up project including new aspects and focusing on a greater involvement of the elderly is carried out (cf. Interview coordinator Senior Activ', in the following referred to as Int. KSA, l. 282-284). The project CinEuro- Auf dem Weg zu einem grenzüberschreitenden Filmstandort im Herzen Europas (in the following referred to as CinEuro) was also an Interreg Greater Region project implemented in the programming period 2014-2020 from July 2020 to December 2022 (cf. Interreg Großregion, o.D.a). Like the Senior Activ' project, it was 60% co-financed by the programme, which amounted to 217 358,37€ of its total budget (cf. ibid.). The project was carried out by 11 partners, with Région Grand Est being its lead partner, and its aim was mainly to promote film co-productions across borders in the Greater Region (cf. ibid.). Therefore, its target group was small and medium-sized companies in the film industry (cf. Interview coordinator CinEuro, in the following referred to Int. KCE, l. 181-188). The particularity of the project was that it was a so-called splitting project (cf. ibid., l. 66). This means that a second Interreg project on the same topic was carried out in parallel in the Interreg Upper Rhine programme area (cf. Int. KCE, l. 245-262). The projects cooperated closely and their actions complemented each other, but they were two administratively and financially separate projects (cf. ibid.). In the 2021-2027 funding period, a follow-up splitting project is implemented (cf. Interreg Großregion, o.D.b; Interreg Oberrhein, o.D.), focusing on local stories as an inspiration for film projects (cf. ibid.).1

2.4 METHODOLOGY

In order to answer the research questions, qualitative research in the form of two expert interviews was conducted. The choice was made to conduct semi-structured interviews because, compared to a structured interview, it allows the interviewees to talk more freely about what they consider important, but at the same time the interviewer still provides a certain framework and asks follow-up questions if necessary (cf. Brinkmann, 2018, p. 579). Classes from the master's programme, the internship the interviewer completed at that time at the Interreg Greater region programme as well as relevant literature (cf. for example Damm, 2018; Crossquality Team, 2022a; Köhler, 2011) were a source of inspiration while establishing the interview guideline (cf. Appendix II2). Moreover, the interviewer took the advice of Helfferich (2022, p. 883) into consideration and asked open questions, wrippen in bold, at the beginning of each new sub-topic. Follow-up questions were also prepared in case they were needed to keep the conversation going or to make sure certain aspects were covered. Therefore, the guideline provides an orientation and can be adapted to the course of the interview (cf.

Loosen, 2016, p. 152). The interviewees and projects were selected based on the following predefined criteria: The project had to be a follow-up project of an Interreg Greater Region V project from the programming period 2014-2020 with the same coordinator, guaranteeing a sufficient knowledge of the coordinator on the topic of Interreg project management as well as ensuring results to talk about. Moreover, the current project had to be part of the priority a more socially aware Greater Region to make sure that the interviewer would understand the information given in the interviews, as other priorities required more scientific or specific knowledge. These criteria already show that the selection of the interviewees and projects is not representative for the programme Interreg Greater Region and that the subjective perspective of the interviewees cannot be generalised. On the basis of the aforementioned criteria, two coordinators were contacted by mail and asked if they were willing to give the interview (cf. Appendix I). Afterwards, a short phone call with the coordinators allowed to agree on the time and place of the interviews, to inform them about the conduct of the interviews, the fact that the paper will be published and the need to sign a consent form in which they can choose if and how their data will to be anonymised (cf. Appendix III). Moreover, to respect the wish of the coordinators, it was agreed that the interviews would be conducted in French. Apart from these mail exchanges and the phone call, the interviewer did not have any contact with the interviewees. The interviewees were the coordinator of the project CinEuro, Charloppe Monnier, and the coordinator of the project Senior Activ', who requested her name not be mentioned. They were working on the Interreg V project as well as on the respective follow-up project. Both interviewees are from France, but differ primarily in the fact that the coordinator of the project Senior Activ' (in the following referred to as KSA) already had experience in European project management, while the coordinator of the CinEuro project (in the following referred to as KCE) had not had any contact with European funding prior to the CinEuro project, but was still familiar with an intercultural context (cf. Int. KCE, l. 13-16; Int. KCE, l. 46-48; Int. KSA, l. 58-69). Both interviews took place at the end of May via Microsoft Teams as the interviewees were based in France and the interviewer in Luxembourg. Before starting the interview, the interviewees were told to inform the interviewer if questions were not understood or there was any kind of problem. Moreover, the interviewees were given the opportunity to ask questions before the recording was started with their consent. The interview with KCE took about 1 hour 44 minutes and the interview with KSA 1 hour 40 minutes. The atmosphere in both interviews was very friendly. Regarding the interview with KSA, it should be mentioned that her intern was also present, at the request of the interviewee, but had turned off his camera and microphone. As she stressed that she was transparent towards her intern, the request was granted because it could be assumed that it would not affect the interviewee's honesty. During the interview with KSA, it became evident that it was important for her to talk about the opportunities as well as challenges of her project. This was reflected in her speaking rate, which was very fast at some points. She sometimes gave the interviewer tips in case she might later undertake a project herself, which showed the relationship between expert and interviewer, but could

also have been influenced by the presence of her intern. In both interviews, open questions on the respective topic were asked at first, to which the interviewees answered freely and in great detail. Follow-up questions concerning sub-topics were asked when a topic had not yet been addressed or explained in detail, which was not often necessary as the interviewees mostly automatically covered them in their explanations. The interviewer adapted to the narrative flow of the interviewees using the guideline as a support that did not have to be strictly followed. However, internet problems occurred during both interviews. During the interview with KCE, there were two brief interruptions that only lasted a few seconds, while during the interview with KSA there were multiple problems and the interviewee once had to reconnect to the Teams call. In situations like these, the interviewer asked the interviewee to repeat what was said in order not to lose any important information. After the interviews, a sequential analysis as well as a transcription of the interviews, following a reduced version of transcription guidelines of Selting et al. (2009), adapted to the purpose of this research, were conducted (cf. Appendixes). Aspects that were not relevant for the research questions were not transcribed and their time span was indicated in the sequential analysis. The name of one interviewee was anonymised at her request and also the names of partners or people, that did not give their explicit consent, were anonymised, except if the information could be found on the internet anyway. The list of abbreviations were used for anonymisation. The transcribed interviews were than coded following an inductive categorisation process. Afterwards, related codes were combined.

2.5 RESULTS AND DISCUSSION

First of all, both projects have considerable added value. One important benefit is that people from the different regions of the Greater Region are brought into contact, either as partners in the project or by appending the events offered by the projects (cf. e.g. Int. KCE, l. 667-668; Int. KSA, l. 541-548). Especially networking meetings organised by the CinEuro project were an important opportunity to get in touch with other filmmakers of the Greater Region (cf. Int. KCE, l. 124-230). The project also organises the socalled Forum Alentours, which is an annual meeting of filmmakers from the Upper Rhine area and the Greater Region appracting also many filmmakers from abroad that are interested in the topic of coproduction (cf. ibid, l. 465-477). This is therefore a great opportunity to make new contacts and meet possible partners for new projects (cf. ibid., l. 477-492). The project also sent a cross-border delegation consisting of producers from the different regions to film festivals, which, thanks to the delegation arriving together as a group at the festival, helps to strengthen a feeling of togetherness within the group (cf. ibid., l. 141-150). This highlights the finding in the literature research that CBC favours the rapprochement of people (cf. Tschudi, 2011, p. 176). Moreover, considering that research literature mentioned the that fact there is not yet one common territorial regional identity within the Greater Region (cf. Schönwald, 2015, p. 123), it can be supportive of the development of such. Furthermore, it became apparent in both

projects that it was not only about creating sporadic contacts between the citizens of the Greater Region: in the CinEuro project, the main focus was on the development of a structured institutional cooperation between the partners (cf. Int. KCE, l. 80-110; l. 503-505). In addition, the regular meetings also brought the partners closer together and after a while, they directly contacted each other to discuss topics not related to their project (cf. ibid., l. 421-434; l.560-566). In the framework of the project Senior Activ' a community of experts was also set up to facilitate networking and maintaining contact with other professionals in this field (cf. Int. KSA, l. 140- 155). While in the consulted literature the sustainability of projects was often mentioned as a challenge and many projects are not continued once the funding period is over (cf. Damm, 2018, p. 66; Crossquality Team, 2022a, p. 74), the interviewed projects showed a different picture: Firstly, both projects carry out a follow-up project allowing the continuation of the cooperation based on EU funding (cf. Int. KCE, l. 208-210; Int. KCE, l. 1023-1026; Int. KSA., l. 611-613; Int. KSA., l. 140-155). For this new project, the mentioned structuring of the collaboration in the CinEuro project was used as a basis and the expert community set up in the Interreg V project will also be continued as a part of the Senior Activ' follow-up project (cf. Int. KCE, l. 208-210; Int. KCE, l. 1023-1026; Int. KSA., l. 611-613; Int. KSA., l. 140-155).

Moreover, the Interreg V projects have already created structures and opportunities that exist without European funding, such as the CinEuro Prize, which rewards film projects that deal with the partner regions of the splitting project CinEuro (cf. Int. KCE, l. 357-368), and a senior council for the Greater Region, composed of elderly people from all over the Greater Region in form of an independent association with the aim to make the voice and need of senior citizens heard (cf. Int. KSA, l. 206-226). In addition, some results of the projects can be duplicated in other areas, like for example a developed training course for caregivers (cf. Int. KSA, l. 485-498), and the projects developed many tools that are still available after the funding period, like a website showing funding possibilities for film projects in the Greater Region (cf. Int. KCE, l. 159-179). The coordinators also stated that they are still in contact with former partners that are not part of the follow-up project indicating the establishment of lasting relationships (cf. Int. KCE, l. 520-523; Int. KSA., l. 728-733).

Therefore, the sustainability which is often mentioned as a challenge, was instead emphasised as a positive impact of the two projects. Moreover, a professional added value thanks to the contacts made in the framework of the projects and the activities they offered for citizens was highlighted (cf. for example Int. KSA, l. 140-155). These projects allowed for example the development of professional skills and created new career opportunities (cf. Int. KCE, l. 124-133; l. 465-492). With regard to new career opportunities, the importance of networking in the film industry was particularly highlighted because informal meetings are considered very important in the development of partnerships and film projects (cf. Int. KCE, l. 124-133, l. 465-492). Both coordinators also mentioned the acquisition

of knowledge and sharing of best practice examples as a benefit (cf. Int. KSA, l. 470-475, Int. KCE, l. 556-557).

This also seems to be the case in other Interreg projects because Palma (2023, p. 14) as well as the Crossquality Team (2022a, p. 36) highlight the importance of learning from each other in their reports. Furthermore, the acquisition of intercultural competences, that was also highlighted in research literature in the context of CBC (cf. Bohner, 2011, p. 53), was in the present paper mainly mentioned in relation to the work context because the projects allows its participants to learn how to work together with people who have a different mindset and way of living (cf. Int. KCE, l. 646-648). Furthermore, there is also a personal added value for the people involved in the project: this ranges from the partner's pleasure at seeing each other again at meetings to linguistic progress and benefits for the target group: Activities organised by the Senior Activ' project are for example working on overcoming the problems of senior citizens and making them more visible at the level of the Greater Region (cf. Int. KCE, l. 516-520; Int. KCE, l. 427-429; Int. KCE, l. 417-420, Int. KSA, l. 424-428; Int. KSA, l. 197-202).

This is supported by the findings in the literature which state that cooperation across borders enables to tackle shared challenges (cf. Hartz & Caesar, 2018, pp. 44–45). In addition, the present research also found that the projects show the possibilities the Greater Region has to offer for the film industry and the topic of aging well: this applies both to their residents, for example through guidelines indicating contact persons on specific topic-related information (cf. Int. KCE, l. 159-179; Int. KSA, l. 436-437), as well as to people who are not from the area. In the case of the CinEuro project, the Forum Alentours also appracts filmmakers from outside the Greater Region, which can strengthen the visibility of the Greater Region's film industry (cf. Int. KCE, l. 465-477). This specific positive impact in terms of highlighting the possibilities of the Greater Region outside of its territory was not mentioned in the literature consulted and therefore stands out. It was also noted that the Interreg co-funding gave the projects more room for action and allowed more ambitious actions to be implemented (cf. Int. KCE, l. 376-379; Int. KSA, l. 575-581).

According to the coordinators, their projects could not have been realised in their current form without the co-financing (cf. Int. KCE, l. 374-389; Int. KSA, l. 413-419). At best, there could have been individual sporadic meetings or another, less suitable source of co-financing would have had to be found (cf. Int. KCE, l. 374-389). Other Interreg projects from the Euregio Meuse-Rhin also agree that in many cases, EU funding makes cross-border projects possible in the first place (cf. Crossquality Team, 2022a, p. 38). While in Damm's (2018, p. 59) research some interviewees criticised the lack of appreciation of higher political authorities for CBC, this research showed a different picture: the Senior Activ' project appracted the interest of the Economic and Social Commippee of the Greater Region, to whom the project was presented and who wanted to be kept informed of its progress (cf. Int. KSA, l.

586-600). As the interviews were conducted with coordinators of Interreg projects, their perspective is at the centre of the work, which is also being reflected in the benefits, challenges and strategies mentioned by them. Some of them refer directly to their work as a coordinator, which differs from the consulted research literature that did not specifically focus on the point of view of coordinators. In the present research, it was emphasised, among others, that working as a coordinator allowed to acquire specific skills, such as for example a thorough and rigorous way of working and the ability to manage an intercultural team consisting of people with different institutional backgrounds (cf. Int. KCE, l. 563-567; Int. KSA, l. 553-560).

At the same time, this was also seen as a challenge because a method has to be found to give the partners the necessary instructions without a direct hierarchy within the project team (cf. Int. KSA, l. 555-560; Int. KSA., l. 386-390). This difference in comparison to a normal manager was also highlighted by Kohlhoff (2020, p. 21) as a challenge in project management. Moreover, both partnerships were also very large, which made their coordination challenging (cf. Int. KSA. L. 566-567; Int. KCE, l. 538; Int. KCE, l. 538-539). This is also in line with the consulted literature which identified a big project team as a factor that could complicate the working together on a project (cf. Damm, 2018, p. 66; Crossquality Team, 2022a, p. 82). In addition, the projects brought together different personalities, working methods and institutional backgrounds and their differences and needs can result in challenges (cf. Int. KCE, l. 693-695; Int. KSA, l. 624-630; Int. KCE., l. 807-814; Int. KSA, l. 617- 641). Other people involved in Interreg projects also share the opinion that in some cases different institutional backgrounds of the partners can be a greater challenge than language or cultural barriers (cf. Crossquality Team, 2022a, p. 73). In this regard, it was also mentioned during the interviews that different national ways of functioning can lead to questions and that intercultural differences exist within the project team (cf. Int. KCE, l. 807-814; Int. KSA, l. 104-106; Int. KSA, l. 814-818).

However, these intercultural differences were considered to be a minor problem and the clashes of different personalities and institutional backgrounds seemed to be a greater challenge (cf. Int. KSA, l. 814-818; Int. KSA, l. 649-667; Int. KSA, l. 624-630; Int. KCE, l. 807-814). One concrete example concerned the development of indicators on the triggers of the loss of autonomy: Due to the fact that the different partners had different ideas and needs regarding these indicators, the developed indicators were not suitable for the work of all the partners in the end (cf. Int. KSA, l. 617-641).

As highlighted in the literature (cf. Crossquality Team, 2022a, p. 39; Pallagst, 2018, p. 359), the administration of Interreg projects is also seen as a significant challenge by KCE and KSA: Both coordinators understand the need for administrative tasks, but criticized the time required, the complexity of the programme and that some requirements can sometimes not be implemented (cf. Int. KCE, l. 956-1014; Int. KCE, l. 1116-1130; Int. KSA, l. 707-725). Due to the use of

public money, certain administrative requirements and checks are essential (cf. Köhler, 2011, p. 247). Both coordinators, however, expressed the wish for a simplification of the procedures and KCE would also appreciate a greater harmonisation between the different Interreg programmes with regard to the splitting project (cf. Int. KSA, l. 707-747; Int. KCE, l. 1078-1099).

A session report published by Mazurkiewicz (2024) of the Interreg Knowledge Fair shows that exactly these two aspects (harmonisation and simplification) were discussed during a meeting with representatives of different Interreg programmes. This indicates that the administrative challenge is well known to the EU and the Interreg programmes and that they are discussing possible solutions to the issue. With regard to the administrative obstacles, the present study found that the two coordinators did not always share the same opinion: While one coordinator described the period in which she prepared the application for funding as very challenging (cf. Int. KSA, l. 760-766), the other coordinator used it as a positive example of the simplifications that have already been made (cf. Int. KCE, l. 1081-1986). This shows that challenges are sometimes subjective or can be influenced by factors external to the programme. In the interview with KSA, it was also mentioned that a small structure did not want to participate in the follow up project because the administration was too much of a burden for them (cf. Int. KSA, l. 726-734).

In this context, Interreg microprojects, called small-projects in the 2021-2027 programming period, which are specifically adapted to these small structures and whose administrative processes have been simplified compared to traditional projects, can be mentioned as a possible alternative for smaller partners (cf. Interreg Großregion, o.D.c; Interreg Großregion, 2019, p. 141; Das Bürgerinformationsportal der Deutschsprachigen Gemeinschaft Belgiens, 2021). This shows that Interreg is also aware of the difficulties for small structures and has reacted accordingly. Geophysical obstacles, which have often been described as a factor that hinders effective CBC (cf. Tschudi, 2011, p. 175; Europäische Kommission, 2016, p. 23), were not mentioned by the coordinators, but the Covid pandemic was seen as an obstacle by the interviewees and in the consulted literature (cf. Int. KCE, l. 150-158; Int. KSA, l. 855-857; Crossquality Team, 2022a, p. 78): events could not take place and the target group was harder or impossible to reach (cf. Int. KCE, l. 150-158; Int. KSA, l. 848-850; Int. KSA, l. 843-847). In general, especially the Senior Activ' project had difficulties reaching seniors, also because they did not want to be disturbed or participate in the project (cf. Int. KSA, l. 973-981). Moreover, the short project duration was mentioned as a challenge as it takes time for a project to get started and it was highlighted that the time is generally passing by really quickly (cf. Int. KSA, l. 184- 187; Int. KSA, l. 750-754; Int. KCE, l. 729-731). The aspect of time pressure was also mentioned in reports and literature (cf. Palma, 2023, p. 8; Mangels & Wohland, 2018, p. 276). Lastly, the language barrier was only mentioned briefly regarding the fact that it is not always easy to make sure that all partners understand the same thing (cf. Int. KCE, Z. 770-

783).

Nevertheless, it is important to take into account that bilingual people were present and that sometimes interpreters were also solicitated (cf. Int. KCE, l. 769-774; l. 769-772). This already highlights two important strategies the coordinators mentioned to overcome obstacles: the role of the coordinator and the possibility to make use of external services. Palma (2023, p. 10) also mentioned that they made use of external services in their project and in Damm's (2018, p. 63) article, interpreters were also seen as a way of ensuring mutual comprehension in a meeting. Moreover, it is possible to include new partners in the project, to work with former partners or with colleagues that are not directly part of the project to tackle challenges because they can contribute specific aspects needed in the project (cf. Int. KSA, l. 262-275; Int. KCE, l. 335-348). The senior council of the Greater Region is for example not part of the Interreg VI project Senior Activ'2, but they still collaborate with the aim to reach more seniors and include their point of view (cf. Int. KSA, l. 210-217).

Furthermore, the support provided by the Interreg Greater Region programme was also emphasised, as for example modifications in the original project can be made, advice on how to tackle problems is given in meetings and especially the contact point is an important support on a regular basis, answering the questions of the coordinators (cf. Int. KCE, l. 941-945; Int. KSA, l. 372-375; Int. KCE, Z. 958-981; Int. KSA, l. 1093-1097; Int. KCE, 989-1014). The support of the programme in findings solutions for project specific problems was also highlighted by Palma (2023, pp. 8–9). Another strategy is the importance of experience in the project, for example on the topic of Interreg funding or other issues related to the project, because this knowledge can also prevent challenges opportunity (cf. Int. KSA, l. 1051-1075; Int. KCE, l. 928-931). In this context, evaluations were for example mentioned as an interesting opportunity to learn from the past and improve the project in the future (cf. ibid.). This is confirmed by Kohlhoff (2020, p. 117) describing evaluations as a good way to optimise the project. Another very important strategy the coordinators mentioned was the importance of structuring the cooperation with the partners based on clear agreements, established rules and a fair distribution of tasks and responsibilities (cf. for example Int. KCE, l. 908-926; Int. KSA, l. 335-351; Int. KSA, l. 882-899).

Particularly with regard to the Senior Activ' project, in which an unequal distribution of work and responsibility led to the coordinator being exhausted, this aspect was emphasised (cf. ibid.). Even though structuration and rules are important, it is also important according to the interviewees to stay somewhat flexible to be able to react and adapt to unforeseen circumstances, like the Covid pandemic, to make the most of the time (cf. Int. KCE, l. 684-692; Int. KSA, l. 845-852). Lastly, the role of the coordinator was highlighted in the study because he/she is responsible for monitoring tasks and also a link between the partners as well as between the programme and the partners, ensuring for example the passing

on of information and keeping an eye on the project's progress (cf. e.g. Int, KCE. l. 301-311; Int. KCE, l. 295- 299; Int. KSA, l. 327-328). That a competent lead partner is important for a smooth project implementation was also mentioned by the interviewees in the Crossquality (2022a, p. 72) research paper. In general, a good communication and the importance of the personal attitude, for example wanting to implement the project even when it's difficult at times, were also important aspects mentioned by the interviewees (cf. e.g., Int. KSA, l. 648-667; Int. KCE, l. 1143-1145). There were only very few challenges for which the projects were unable to find a strategy that could be directly implemented on the project level. For example, with regard to assessing the final impact of their projects, KSA said they lacked in resources to carry out a bigger study themselves and KCE mentioned that the final impact of their project will only be determined later one, as for example film production takes many years (cf. Int. KSA, l. 1227-1232; Int. KCE, l. 859-870).

As described in the methodology, the study only focused on two subjective perspectives. Even if the results can therefore not be generalised, the strategies the projects found may have added value for other Interreg projects: The comparison with the research literature showed that the projects faced a number of challenges that seem to occur also in other Interreg projects. The concrete application of preventive measures or responses to the challenges faced in the two projects could therefore help other projects to overcome similar challenges. In addition, there are some aspects that differ from the findings in the literature research. The inclusion of the CinEuro splitting project differs from the consulted literature, as these were not mentioned there. Knowing that splitting projects seem to be very rare (cf. Int. KCE, l. 66-67), this is not surprising. Even though the work focused only on the Interreg Greater Region project, did not include the partner project in the Interreg Upper Rhine area and did not put a specific focus on the aspect of splitting projects, it did find some particular advantages, challenges and strategies of splitting projects: For once, a greater impact and a bigger range of opportunities for participants were mentioned (cf. Int. KCE, l. 248-251, l. 945-949). In addition, the challenge of avoiding European double funding3 and the need to not only coordinate one's own project but also pay attention to building a harmonious unit with the partner project was mentioned (cf. Int. KCE, l. 254-256; l. 1089-1099; l. 268-274).

2.6 CONCLUSION

The aim of this chapter was to analyse both the positive impact of projects conducted in the framework of Interreg Greater Region as well as the challenges they faced and their strategies to overcome or prevent them. In particular, the complex and time-consuming administrative tasks were seen as an obstacle and the work in large intercultural teams, in which different personalities and working methods collide, were also mentioned as being difficult at times. Moreover, the coronavirus pandemic, the reachability of the target group, measuring the impact

of the projects and the limited project duration challenged the projects. However, they were able to find many solutions to respond to or to prevent these challenges: the organisation of the collaboration with the project partners, the role of the coordinator as well as previously acquired experience played an important role and support from outside the project team was also named as a strategy. Despite the challenges, the projects offer above all many opportunities and have a variety of positive effects: cross-border cooperation can be initiated and expanded, personal and professional benefits can be drawn from it and the opportunities the Greater Region has to offer can be demonstrated. Moreover, the increased scope for action thanks to the funding and the sustainability of some of the project's results can be particularly emphasised. The comparison with relevant literature on the topic revealed that many of the benefits, challenges and strategies are common to other Interreg projects. Nevertheless, the work differs in some points from the consulted literature, for example regarding sustainability and the visibility of the opportunities in the Greater Region for the film industry beyond its area. Another significant difference is the focus on the coordinators' perspective and the inclusion of the splitting projects, which has not yet been explored in the consulted literature. Taking everything into account, one can conclude that the projects considered in this work have a considerable added value for the partners involved as well as for the participants and ultimately the Greater Region: This is due to the fact that they helped to bring the citizens of the different regions closer together, to further educate them, to initiate common projects and therefore to create beneficial activities and visibility for the area, which will continue to have a positive impact even after the end of the funding period.

As the work is a qualitative study that only examined the perspective of two project coordinators, the results cannot be generalised, which is why it would be interesting to conduct a study on a bigger scale including coordinators from all areas of the Greater Region and all priorities of the programme. In addition, the paper mainly focused on the Interreg V projects and it would therefore be instructive to do another interview with the coordinators interviewed for this paper after the end of their follow-up projects implemented in the 2021-2027 funding period to see how benefits, challenges and strategies may have evolved over time. Lastly, it would be interesting to study splitting projects more in detail as they seem to be an interesting topic that has not yet been analysed in detail.

3 CIRCULAR BIOECONOMY AS A SUPPORT FOR COMMUNITY ENERGY TO INCREASE THE RESILIENCE AND INDEPENDENCE OF THE REGION

3.1 INTRODUCTION

At the end of 2019, the European Commission presented its plan for the European Green Deal. In accordance with this plan, emissions in the European Union should be reduced by 65% compared to 1990 by 2040, and at the same time carbon neutrality should be achieved already in 2040. The restructuring of the energy system is also related, when the trend of the future is greater use of local alternative renewable resources. The participation of the circular bioeconomy, especially in the sector of agriculture and the food industry, can contribute to this through the implementation of the energy use of biowaste (plant and animal origin). These wastes meet the required standards of renewable resources for the decentralized production of energy commodities (especially electrical and thermal energy) and subsequent participation in the creation of the energy mix. Circular biotechnologies set up in this way also fulfill environmental goals in the context of the challenge of sustainable development. For these reasons, the issue is also closely related to energy decentralization, resource diversification, self-sufficiency, national security and the independence of the Czech economy from fossil resources. As part of the support of important economic interests of the state, a synthesis of economic, ecological, social and security effects can be observed.

Justifying the implementation of a circular bioeconomy within the region can also partially contribute to solving the phenomenon of energy poverty. During the period of the energy crisis after the start of the third decade of the 21st century, it also represents an important topic not only for the Czech economy, but also across Europe. It is the result of a combination of negative situations such as low incomes, high energy prices or low energy performance of buildings. It is a highly undesirable socio-economic phenomenon that can lead to threats to physical or psychological health or to social exclusion and isolation. In the second half of 2021, in connection with the economic recovery after the COVID-19 pandemic, there was a record increase in energy prices, the growth of which was further accelerated by the aggression of the Russian Federation in Ukraine. Energy poverty and the related protection of vulnerable customers is thus an extremely topical topic of the state's

social policy after the beginning of the third decade of the 21st century.

3.2 THE CONCEPT OF CIRCULAR BIOECONOMY FOR THE ENERGY SECTOR

The bioeconomy is that part of the economy that uses renewable biological resources. These biological resources are used for energy in a sustainable way. The basis of the bioeconomy is agriculture, forestry, aquaculture, food and chemical industry. According to the European Union, the bioeconomy represents a comprehensive approach to solving current challenges, both environmental and energy. The principles of the circular bioeconomy of the economy are actually just a return to what worked here before the advent of the industrial revolution, when the world economy was predominantly circular in nature. From a global perspective, the bioeconomy sector is crucial primarily as a resource that reduces dependence on non-renewable energy sources. Alarming figures provided by the United Nations inform about the unsustainability of the growing energy demand in the long term. Thus, without a major key change, current resources may be insufficient.

The meaning of the circular bioeconomy is a cycle through multiple phases (Geissdoerfer et al., 2017). According to, from an environmental point of view, within the framework of circularity, it is important to reduce primary material and energy inputs in the production and consumption system through recycling (Korhonen et al. 2018). Consequently, this secondary resource must always be maintained at maximum value so that it is not considered inferior (Salvador et al., 2020). It can therefore be stated that the bioeconomy, which uses renewable resources in its processes, is naturally circular to a certain extent (Salvador et al., 2021). The circular economy approach is more technologically oriented (Corvellec et al., 2021), therefore it is not considered a completely sustainable model, and circular and bioeconomic principles have thus been connected (Salvador et al., 2020).

The current reality therefore becomes a challenge in the search for an area of business using available and above all sustainable sources of energy, the resulting products of which will ensure energy freedom without the need to search for increasingly less available and expensive currently used non-renewable resources. The energy transformation, at the end of which there will be a safe and clean supply of renewable energy, must go hand in hand with the transformation of the linear economy into a circular bioeconomy, because they are closely related and it is impossible to think about them separately.

3.3 DEFAULT PHILOSOPHY TO THE ISSUE

One of the basic strategic goals of the implementation of the circular bioeconomy is the reduction of negative externalities resulting from the production, use and

disposal of products. The above-mentioned approach can contribute to the restructuring of the production of energy commodities. The main instrument for the development of restructuring is the liberalization of the energy market, which should create a competitive environment as a necessary condition for dynamic development (Grafström & Aasma, 2021). The technical means for this are decentralization, diversification and technical innovation (Shennib & Schmitt, 2021). At the same time, the integration of these means can contribute to the concept of smart energy, which represents one of the basic pillars of the Smart Region concept (Marrucci et al., 2021). It mainly includes the use of renewable energy sources, elements of smart grid in the electricity distribution system in the region, intelligent management of energy consumption, including energy management of buildings, and intelligent management of city services, especially public lighting. Smart energy is closely connected with other pillars of the Smart Region concept – the environment and mobility (Graczyk-Kucharska & Hojka, 2021).

In this context, circular bioeconomy points out that any natural systems are capable of evolutionary development in a positive direction. When talking about the biomimetic aspect of the circular bioeconomy, nature is being imitated in terms of resource efficiency and the creation of sustainable ecosystems (MacArthur, 2013). The environmental benefits of decentralization are also associated with beliefs of a positive economic and social nature. In these contexts, decentralization should fundamentally reduce unemployment in the economy. Environmental authors, referring to sociological and social psychological theories, emphasize that small communities, where almost everyone knows each other, mean the strengthening of social responsibility and group cohesion (Pileček et al., 2013), as there are manifestations of willingness to participate in social life (Proka et al., 2018). Within interpersonal interaction, deeper relationships occur, which contributes to deepening the spiritual dimension of the individual. Adequate ecological compensation for the reduction of the material level and social satisfaction can also be expected from this. This also shows the essence of the "price" for decentralization, which is inevitable in small groups (Bourdieu, 2011). The validity of the mentioned statement can be seen in the theory of the social field, which is defined as an autonomous part of space that follows its own rules and is structured by its own system of distribution of forms of capital (Häuberer, 2011). The implementation of circular technologies in the framework of industrial and agricultural production in the production of electrical and thermal energy can also contribute to the fulfillment of these goals (Chowdhury et al., 2022).

The production and sale of energy commodities within the national economy is one of the most watched areas of the economic policy of every state. The basic starting document for the Czech Republic in the mentioned issue is the State Energy Concept under the guarantee of the Ministry of Industry and Trade of the Czech Republic. The basis for its creation is the analysis of the energy base. Within the framework of the national economy, this involves monitoring energy raw materials, production, distribution, energy infrastructure and the final

consumption of energy commodities. Social policy regulates the potential risks associated with the growth of energy commodity prices.

In connection with the goals of the European Green Agreement, the phenomenon of energy self-sufficiency is gaining importance in the Czech economy and throughout the European Union. An integral part of the mentioned economic, environmental and safety concept is the search for alternative sources, to which the application of circular biotechnologies can contribute. In its essence, this is the energy use of biowaste, which is naturally related to agricultural plant and animal production (Cecchi & Cavinato, 2015). As part of its specific technological procedure, it produces a whole range of bio-waste, which includes the processing of biomass from forest waste into wood chips, residues from agricultural production, but also waste from households - common municipal bio-waste, industrial residues of sugar, starch or certain types of fruit, waste from fields and gardens, leftovers of unconsumed food and feed. From the point of view of economic and ecological efficiency, the mentioned biowaste is a suitable raw material for the production of energy commodities, such as wood chips and biogas. Subsequently, the products created in this way can be used mainly for the production of electrical and thermal energy or biofuel as a substitute for fossil fuels in transport (Walmsley et al., 2019).

The basic strategic goal of every national economy is to ensure maximum independence from the import of energy raw materials from abroad and to achieve at least partial energy self-sufficiency within its capabilities (Graczyk Kucharska, 2021). However, it is also necessary to perceive the energy system comprehensively within the framework of the dichotomy - domestic - foreign source and also as an intermediate level within the European Union, etc. This is logical, since dependence on another member country of the European Union will probably be safer from a geopolitical point of view than it was on Russia the federation. Traditional energy sources based on massive sources of electricity from coal and nuclear were at their peak until the end of the 20th century, green sources from the sun and wind were considered more of a supplement.

The Czech, but also the European electric power industry works within the framework of the strategy of strengthening energy security in an ecological direction. This results in the shutdown of large non-green power plants and their replacement by ecological production, including through circular technologies (Akanbi et al., 2020). The established way of producing energy commodities in the form of associated agricultural production activities within rural settlements represents an ideal way of fulfilling the strategy of sustainable development, i.e. focusing on economic, environmental and social goals (Korhonen et al., 2018). At the same time, this method contributes to strengthening energy self-sufficiency. The transition to sustainability represents a fundamental change in the social environment, during which the existing social, economic and technological structures are transformed into a new, more sustainable order. One of these radical transitions is the transformation of an economic system using fossil resources to a system based on renewable resources – the transition to a bioeconomy (Halonen

et al., 2022).

3.4 CHALLENGES FOR THE IMPLEMENTATION OF A CIRCULAR BIOECONOMY TO SUPPORT THE REDUCTION OF ENERGY POVERTY WITHIN THE REGION

Energy poverty is a term widely used since the 1990s to describe an obstacle to wealth growth in developing regions (Woods & McDonagh, 2011). Limited access to modern energy solutions, such as a stable and affordable source of electricity, rural electrification, the possibility of using electricity in production or heat supply, prevented them from achieving a better quality of life. In a figurative sense, energy poverty refers to a situation where unavailable energy limits people's well-being. At the time of the energy crisis at the beginning of the 3rd decade of the 21st century, the aforementioned phenomenon of poverty is a very important topic that is being addressed across Europe (Šetek & Petrách; 2017). It is the result of a combination of negative situations such as low incomes, high energy prices or low energy performance of buildings. It is a highly undesirable socio-economic phenomenon that can lead to threats to physical or psychological health or to social exclusion and isolation. Vulnerable customers are not able to deal with this problem by themselves, and therefore external help is necessary, which should be provided primarily by the state through its measures and efforts to reduce energy poverty to the lowest possible level (Faltová Leitmanová et al., 2021). Despite all these negatives, the issue of energy poverty is increasingly being addressed not only at the national level, but also at the regional level.

The second half of 2021 was marked by significant price increases across Europe. This also applied to the Czech Republic and Slovakia, even though at that time they rather corresponded to the growth average of the entire Union. In the Czech economy for December 2021, the harmonized index of consumer prices (i.e. the inflation indicator according to the Eurostat methodology) reached 5.4% year-on-year and the Slovakian 5.1%, compared to an average of 5.3% for the whole of Europe. Union, 5.0% in the eurozone (Czech Statistical Office; 2022). Already in January 2022, however, the index in the Czech economy rose to a value of 8.8% and the Slovak one very similarly to 8.5%, while for the Eurozone and the entire European Union it was a value of 5.1% (Czech Statistical Office; 2022). Since the beginning of 2021, inflationary growth in Europe has been driven mainly by energy prices, first by rising fuel prices, then electricity, and from the second half of 2021 also gas. When comparing individual national economies, these price increases were quite uneven in intensity and timing. This is clearly demonstrated by the prices of residential energy (electricity and thermal energy, gas), which in December 2021 showed the highest year-on-year growth in Estonia (by 77.8%), the Netherlands (by 74.9%), Belgium (by 57.4%)) and in Spain (by 54.8%), on the

contrary in Slovakia (a decrease of 3.9%) and in the Czech Republic (as a result of the temporary waiver of value added tax, even a decrease of 8.5%).).

Based on the analysis of the year 2021 (the year before the start of the war crisis), it was basically not the case that residents of the Czech Republic in municipalities of a certain size category would be more at risk of energy poverty compared to residents of other municipalities (e.g. that energy poverty would be more common among people in small municipalities, or on the contrary in people living in big cities). The share of people in energy poverty in municipalities of different sizes is equal to their share of the entire population. However, the representation of people in rental apartments among people in energy poverty is significantly higher than would correspond to their share in the population. While only 16% of all residents of the Czech Republic live in rented apartments, the number of people living in energy poverty is almost triple (46%), as shown in Tab. 2.

Table 2 People in energy poverty by type of housing, legal relationship to housing and size of the municipality where they live (in 2021) in the Czech Republic

Way of living	**Total (in %)**	**Small villages up to 2 thousand population (in %)**	**Municipalities of 2-10 thousand population (in %)**	**Cities 10 - 50 thousand population (in %)**	**Large cities over 50,000 population (in %)**
Owned house, head of household under 70 years old	23	12	4	4	3
Owned house, head of household over 70 years old	8	4	2	1	2
Owned apartment	15	1	3	4	6
Apartment for rent	46	3	8	13	23
Other (living with relatives, etc.)	8	3	3	1	1
In total	100	23	19	23	35

Source: Czech Statistical Office. Income and living conditions of households 2022, own processing

From January 2022, there were dramatic changes in the prices of energy commodities in the Czech economy. This was also one of the fundamental inflationary returns of the level of the Czech economy to the historically more usual leading places in the European ranking. In the month of January 2024 alone, consumer prices rose by 3.4% month-on-month (Czech Statistical Office; 2022). For comparison, within the modern history of the Czech economy (since the

division of the federation), a higher month-on-month growth was recorded only in January 1993 in connection with the introduction of value added tax. The only exception was 2008, with year-on-year inflation of 6.3% caused by administrative interventions in the form of an increase in value added tax and the introduction of fees in the healthcare sector. It can therefore be stated that after the end of the transformation of the economy in the 1990s, inflation stabilized at annual values in the range of 2-3%. In the year-on-year cumulation, consumer prices rose by 9.9% in January 2022 compared to January 2021 (Czech Statistical Office; 2022). Moreover, as a result of the events of February 24, 2022 – Russia's aggression against Ukraine and subsequent use of natural gas supplies as a "weapon of war" – prices of strategic energy commodities reached an all-time high. This is primarily a consequence of the reality of the direct connection between the wholesale price of electricity on the internal market of the European Union and the price of gas, which is mainly imported into the mentioned region. Deliberate gas supply cuts by Russia are the main cause of the sharp increase in gas prices in the EU area, which had an impact on the price of electricity produced in gas-fired power plants and affected electricity prices in general. As a result of the mentioned event, it was expected that the price of energy in the European Union will continue to be high in the following months, as it took some time to secure replacement supplies of Russian gas with supplies from EU sources. For this reason, EU countries adopted emergency intervention regulations to address high energy prices and help consumers and businesses most affected by the energy crisis. The new rules were quickly adopted by the energy ministers of the EU countries in the Council. The regulation, which was in force from 1 December 2022 to 31 March 2023, complemented existing initiatives and legislation of the European Union with the aim of ensuring security of energy supply for it, e.g. the Regulation on the creation of natural gas reserves, the Regulation on the reduction of gas demand, the creation European Union energy procurement platforms and cooperation initiatives aimed at diversifying sources of supply. As part of the aforementioned diversification, the implementation of a circular bioeconomy in the context of community energy can contribute precisely within the region.

3.5 COMMUNITY ENERGY

Electricity sharing represents the possibility of sharing produced electricity to other consumption points of the producer or other persons, under commercial conditions set by the parties to such sharing (for a fee or free of charge). Connecting to renewable energy sources within the circular bioeconomy reduces dependence on fossil fuels and increases the energy sovereignty of local communities. In addition, it brings economic benefits for everyone involved in this system. The purpose of community energy is to support the decentralization and democratization (increased involvement of smaller players) of energy, increasing the involvement of renewable energy sources, increasing energy efficiency and measures against energy poverty, especially at the level of households and small and medium-sized enterprises.

In this context, energy communities represent the possibility of consumer participation in energy production, i.e. to connect with other consumers and jointly invest in a community production plant and efficiently use the energy produced. This call is intended for the public sector (especially municipalities and associations founded by them, such as voluntary associations of municipalities, microregions, etc.), the business sector (only natural persons running businesses, small and medium-sized enterprises), the household sector (especially owners or tenants of housing units, family houses, apartment buildings, housing cooperatives) and the civil sector (especially associations, churches, foundations, etc.)

Thanks to renewable sources, energy becomes a local product that is produced and consumed in one place. This new dimension brings people even closer to the benefits and lightness of energy also obtained through technological processes within the circular bioeconomy, giving the possibility of energy independence and economic security in uncertain times. Last but not least, the benefits of this clean energy for the environment must be highlighted. Community energy is a future based on renewable resources, at the same time owned not by large companies, but by small groups of citizens or associations of municipalities.

Municipalities can contribute directly to the development of community energy in cooperation with local citizens or companies. In this way, the energy community represents a separate legal personality and a non-profit character, business in the energy sector must not be its main activity. The energy produced in the resources involved in the community will be shared among its participants - with good legislation, it will be possible to use public distribution networks. Members will then be able to use cheap electricity produced within the community (for example, surplus photovoltaics from a school building) instead of expensive purchased electricity from the grid. In these cases, there is an ideal space for municipalities that, within the framework of the circular bioeconomy, can invest in their own resources (especially biogas stations) and offer the electricity and thermal energy produced in this way to users within the municipality, city or microregion.

3.6 CONCLUSION

Renewable resources represent a whole range of raw materials and technologies, and the main goal of their use is to replace fossil (non-renewable) resources, mainly coal, oil and natural gas. These are wastes mainly from agricultural production and the food industry as part of renewable resources, whose properties are particularly suitable for the decentralized production of energy commodities (mainly electricity and thermal energy), which of course requires their larger construction near settlements. This leads to the inevitable interaction of the investor with local agricultural enterprises and residents. For this reason, the deployment of circular technologies within the region is dependent on the technology of local business entities on the one hand and consumers on the other. Within the framework of the circular bioeconomy, it is a broad technological use of renewable resources for the

production of energy commodities. This is the energy use of the entire assortment of biowaste in agricultural (plant and animal) production, possibly also in the food industry (Berrada & Loudiyi, 2016). In this context, conditions are also created in terms of economic efficiency within the framework of circulation technologies for cogeneration, i.e. the combined production of electrical and thermal energy in the municipalities of interest. Compared to classic large-capacity sources of electricity production (such as nuclear, thermal or, for example, hydropower plants), circular producers are much more flexible and efficient (Stevovic et al., 2021).

The circular bioeconomy is often defined as a zero-waste concept. Its essence lies in technological applications within the framework of connecting material flows and maintaining their value in the cycle for as long as possible (Androniceanu et al., 2021). Following the model of natural ecosystems, it proposes closing material flows in functional and never-ending cycles, drawing energy from renewable and sustainable sources and creating sustainable products and services (Bag et al., 2021). One of the modern concepts that tends to ensure economic prosperity while simultaneously protecting the environment and thus promoting sustainable development is the circular bioeconomy. This paradigm includes all primary sectors producing renewable resources such as agriculture, forestry, fishing or aquaculture. But it also includes all industrial sectors that use these renewable resources to produce energy, food, feed and other products and services. It can therefore be expected that the circular bioeconomy will facilitate the transition to the use of renewable resources, biological processes and innovative technologies and thus reduce our dependence on fossil resources while respecting the Earth's natural and ecological limits. For the reasons mentioned above, the implementation of a circular bioeconomy in the production of strategic energy commodities also enables adaptation to the local conditions of the regions, thereby significantly increasing the efficiency of the energy transformation (Malik et al., 2022). The lower need for transmission contributes to higher efficiency of the entire system and offers the possibility to use any available energy, including renewable energy. This simultaneously fulfills economic, ecological and social goals within the regions as well as requirements in the context of sustainable development within the national economy.

In practice, the implementation of circular bioeconomy requires the participation of stakeholders who have the ability to transfer knowledge and are able to integrate these principles in territorial districts. Regions are important actors who play a key role in the support and implementation of bioeconomy strategies. This further means applying specific production processes on the part of the professional public and integrating them into a specific regional context (Zeug et al., 2021).

4 MEASURING ETHICAL PROGRESS: INTRODUCING THE ETHICS PERCEPTION INDEX (ETPI) AND THE REGIONAL ETHICS PERCEPTION INDEX (RETPI) FOR HOLISTIC DEVELOPMENT ASSESSMENT

4.1 INTRODUCTION

At a time when economic growth often overshadows other aspects of social development, the call for a more nuanced understanding of progress is increasingly urgent. Joseph E. Stiglitz's (2005) seminal essay, The Ethical Economist: Growth May Be Everything, But It's Not the Only Thing, catalysed a critical reassessment of conventional measures of development. Challenging the dominant paradigm that equates economic growth with overall prosperity, Stiglitz argues for a broader framework that incorporates ethical considerations into the assessment of societal progress. His work highlights the limitations of traditional approaches that focus primarily on material well-being, thereby neglecting the moral and ethical dimensions essential to sustainable development (Stiglitz, 2005).

This research builds on Stiglitz's critique by introducing the Ethics Perception Index (ETPI) and its regional counterpart, the Regional Ethics Perception Index (RETPI). These indices are designed to quantitatively measure the moral-ethical growth of societies, filling a significant gap in existing methodologies that tend to overlook these crucial aspects of development. By integrating ethical considerations into development metrics, this research aims to provide policymakers and academics with a comprehensive tool for assessing not only economic but also ethical progress. This approach is particularly relevant in light of recent global challenges, such as the 2008 Global Financial Crisis (GFC) and its aftermath, the military conflicts of 2022-2024, and the COVID-19 pandemic, which have exposed the vulnerabilities of growth models that ignore ethical and moral foundations (Stiglitz, 2010; Stiglitz et al., 2018).

The need for ethical considerations in development is not merely theoretical; it has practical implications for policy-making at local, regional and national levels. Economic development typically progresses from the local to the regional and finally to the national and international levels. However, current policy frameworks

often overlook this progression because they lack tools to measure development at these different levels simultaneously. The RETPI aims to fill this gap by providing a methodology for monitoring key ethical indicators at the regional level, enabling more nuanced and informed decision-making. This methodology also highlights the role of ethical growth in fostering resilience, thereby contributing to a more robust foundation for both social and economic development (Sen, 2000; Sen & Nussbaum, 1993).

The unpredictability of economic developments, which can resemble a 'random walk', is well documented. Events such as the GFC, military conflicts and the COVID-19 recession illustrate how economic growth trajectories can be disrupted by unforeseen shocks. In this context, the importance of ethical considerations becomes even more pronounced. The RETPI is based on the premise that the potential for sustainable economic growth and resilience is rooted not only in material wealth but also in the moral and ethical dimensions of society. These dimensions include factors such as justice, equity, environmental stewardship and general ethical behaviour, all of which are critical to ensuring that the benefits of development are shared equitably among all citizens (Nussbaum, 2011; Rawls, 2005).

The ETPI and RETPI are constructed from a number of measurable components, including economic freedom, patterns of corruption, human development, education and environmental sustainability. These components are derived from well-established indices such as the Economic Freedom Index, the Corruption Perception Index and the Human Development Index, among others. Each component is scaled to reflect its impact on ethical development, with positive scaling indicating that higher values contribute to a better ethical situation. For example, a higher score on the Economic Freedom Index indicates greater economic autonomy, which is associated with ethical progress (Fraser Institute, 2021; Lawson et al., 2024).

Conversely, natural resource depletion is negatively scaled, indicating that higher levels of resource depletion are detrimental to ethical development (The World Bank, 2018; United Nations Development Programme, 2021).

One of the key innovations of this research is the introduction of a dynamic component to the ETPI, which allows for time-series analysis of ethical development in different regions. This is particularly important for understanding how ethical considerations evolve over time in response to changing social, economic and environmental conditions. The methodology includes provisions for dealing with missing data, which is a common problem in longitudinal studies. By employing linear interpolation and other imputation techniques, the RETPI can provide a more accurate and up-to-date assessment of ethical developments even when some data points are unavailable, solving a significant analytical and statistical problem (Little & Rubin, 2020; Wiley & Wiley, 2019).

In particular, the RETPI addresses a significant gap in the literature by focusing on regional concerns that are often neglected in national-level analyses. The index

is designed to capture the ethical nuances of different regions, recognising that ethical issues can vary significantly within a country. The RETPI model incorporates modifiers that reflect regional interest in ethical issues as measured by online activity and other indicators. This allows for a more tailored approach to measuring ethical development that takes into account the specific challenges and opportunities of different regions (Sen, 2000, 2013).

In summary, this research aims to advance the understanding of societal progress by introducing the ETPI and RETPI, indices that integrate ethical considerations into the assessment of development. By providing a quantitative framework for measuring moral-ethical growth, this research seeks to contribute to a more holistic understanding of development, one that goes beyond economic metrics to include the ethical foundations necessary for sustainable and equitable progress.

4.2 THEORETICAL BACKGROUND: INTEGRATING STIGLITZ'S CRITIQUE AND NOVEL INDICES FOR HOLISTIC MEASUREMENT OF MORAL-ETHICAL GROWTH

4.2.1 Introduction to the theoretical background

Economic growth has long been at the centre of political and academic discourse. However, the debate on whether Gross Domestic Product (GDP) and other related indicators adequately capture societal well-being is far from settled. Joseph E. Stiglitz, in his essay "The Ethical Economist: Growth May Be Everything, But It's Not the Only Thing" (2005), critically examines the overemphasis on GDP as the sole measure of progress. He argues for the inclusion of moral-ethical growth as a critical dimension of social progress. Building on Stiglitz's critique, this paper introduces two novel indices - the Ethics Perception Index (ETPI) and the Regional Ethics Perception Index (RETPI) - to quantify and incorporate moral-ethical growth into broader assessments of societal well-being.

4.2.2 The critique of GDP as a singular measure of progress

Historical development of GDP

GDP and related indicators have their roots in the work of Simon Kuznets, who developed them as a measure to assess the economic performance of nations (Kuznets, 1934, 1941, 1955). Over time, GDP has become the most widely used indicator of economic health, providing insight into a country's economic size and performance (Landefeld, 2000; Neil & U.S. Bureau of Economic Analysis, 2020). Despite its widespread use, GDP has come under considerable criticism for its inability to capture the full extent of societal progress (Bergh, 2009).

Limitations of GDP and related indicators

Bergh (2009), Shemetev & Pělucha (2023), Stiglitz (2005) and several other authors highlight several critical limitations of GDP and related indicators. First, it does not take into account the distribution of income, which means that GDP growth can coexist with increasing inequality. Second, GDP does not take into account the environmental degradation and resource depletion that often accompany economic growth. Third, GDP does not measure non-market activities, such as household work and voluntary work, which are essential for social well-being. Finally, GDP overlooks the moral and ethical dimensions of progress, which are crucial for a holistic understanding of societal progress.

4.2.3 Broadening the scope: Introducing new moral-ethical growth indices

Introduction to Ethical Indicators

Ethical norms play a fundamental role in shaping the social, cultural, economic and political landscapes of societies (Ariely, 2012; Bauman, 2008; Gotoh & Dumouchel, 2009; Sen, 2004; Shemetev, 2022; Stiglitz, 2005). The complexity and variability of ethics across regions, countries and societies requires a nuanced understanding of how ethical norms are formed and measured (Bauman, 2007; Burnham & Phelan, 2001; Douglas & Isherwood, 1996b; Hickel, 2020; Wengrow, 2010). Historically, ethics has been viewed as a culturally embedded phenomenon, with each society developing its moral compass based on historical, religious, and social factors (Douglas & Isherwood, 1996a; Graeber, 2011; Harari, 2015; Harreld, 2016; Maddison, 2007; Narotzky, 1997; Shapiro, 2020; Wengrow, 2010). However, with the advent of globalisation, there is a growing need for comprehensive ethical indicators that can be applied at different levels - regional, national and local - to assess sustainable well-being.

This theoretical background explores the roots of ethical norms, the role of education in shaping ethics, and the potential for creating comprehensive ethical indices. By integrating previous research on the components of ethics and the methods for measuring them, this study aims to propose a novel approach to ethical indexing that is both quantitative and applicable across different socio-cultural contexts.

The roots of ethics

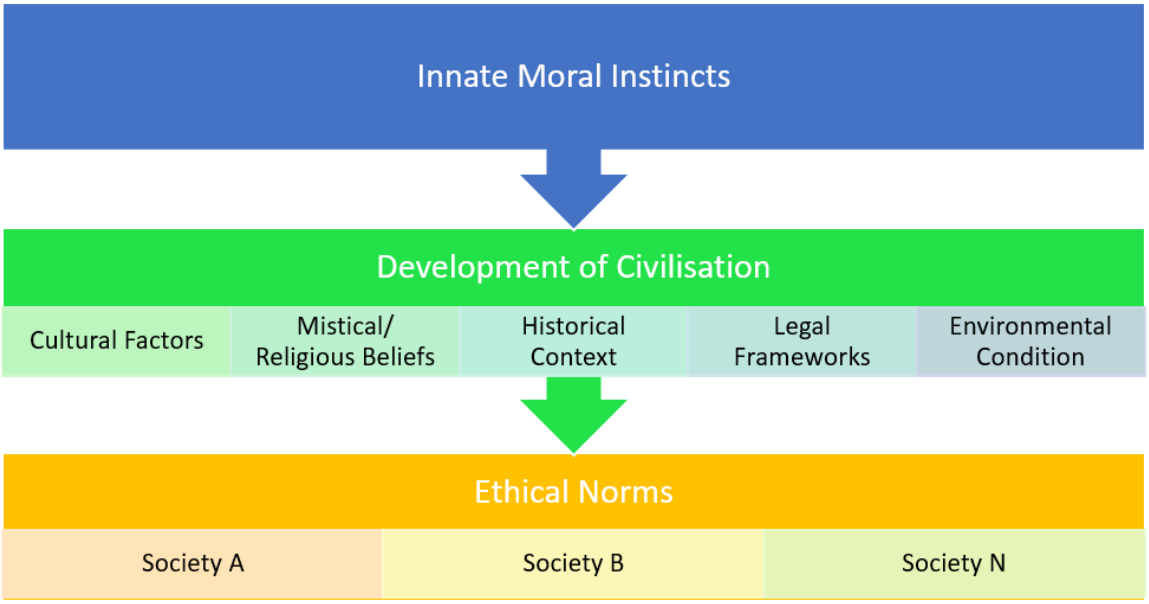
Ethics is not a monolithic concept, but a dynamic process shaped by various factors, including culture, religion and historical context (Broadie, 1994; Haeffele & Storr, 2019; Hauptman, 2019; Lord, 2010; White (ed.), 2019). Different societies may have different views of what constitutes ethical behaviour (Boucher, 2009; Carrier, 2005; Harari, 2014; Hauptman, 2019; Hayek & Bartley, III, 1992; Sherwin, 2000). For example, while some indigenous tribes may view cannibalism as a virtuous act (see, for example, study of Keeley (1997)), other societies may condemn it as highly unethical (see, for example, the work of Kennedy (2007; example: page 711)). This divergence highlights the importance of understanding the roots of ethics within each region, country or society.

Ethical norms are often shaped by a combination of innate moral instincts (Bloom & Cook, 2013) and external influences such as education, religion and law

(see, for example, Keeley's concept of civilisation (1997) or the collection of studies on ethics in White (ed.) (2019)). The concept of ethics as an innate understanding of 'right' and 'wrong' has been supported by psychological studies suggesting that even infants have a rudimentary sense of morality (Bloom, 2013). However, these innate tendencies are further shaped by societal influences, leading to the development of collective ethical standards through the process of civilisation (Keeley, 1997).

Figure 2 conceptualises the sources of ethics as a stochastic process in which innate moral instincts are shaped and refined by external factors over time. This process results in a wide range of ethical norms, as seen in the different practices and beliefs of different societies.

Figure 2 The proposed concept of the sources of ethics



Source: Own processing. For more information, see e.g. Shemetev (2022)

This diagram (Figure 2) illustrates how various external factors, such as cultural factors, religious beliefs, historical context, legal framework and environmental conditions, interact with innate moral instincts. These interactions lead to the development of ethical norms that vary from society to society.

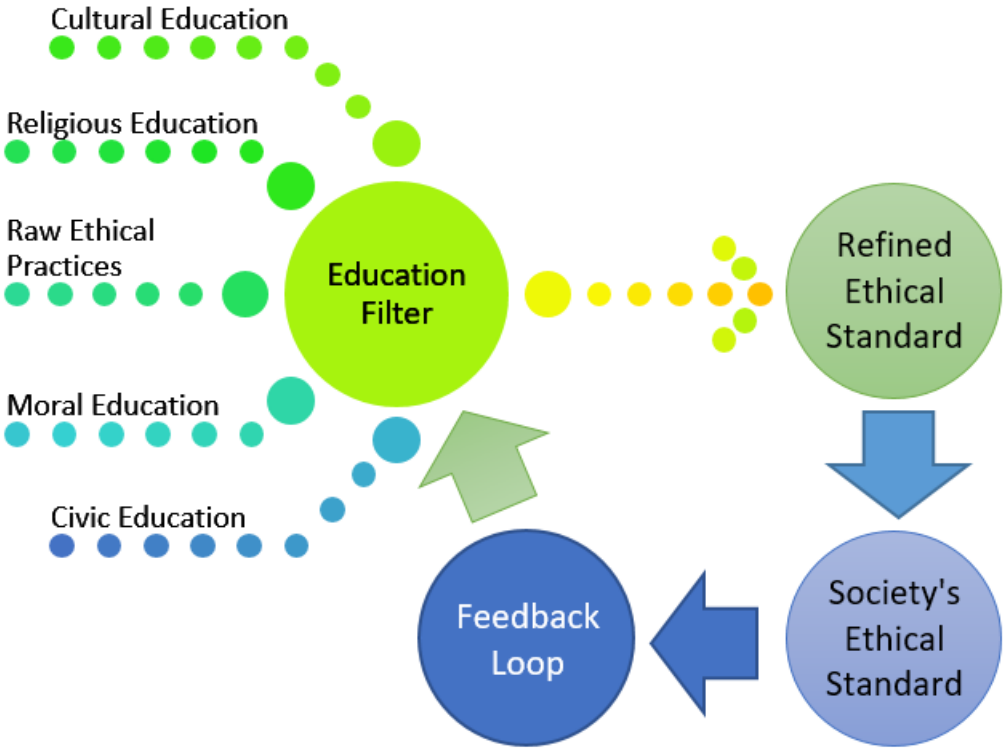
The role of education in shaping ethics

Education plays a crucial role in filtering and refining ethical standards within a society (Halstead & Taylor, 2000; Nucci, 2003; Rest et al., 2014). It serves as a mechanism for selecting 'good' and 'bad' practices, thereby shaping collective ethical consciousness (Arthur, 2003; Lapsley & Narvaez, 2005, 2004; Smiles, 1862). The globalisation of education has the potential to create a globalised filter for ethical standards, promoting universally accepted norms while discouraging practices deemed unethical by the wider global community (Power, 2015).

Throughout history, education has played a central role in challenging and transforming societal norms (Arthur, 2003). For example, the abolition of slavery in nations such as Russia (Troinitsky, 1858) or the United States (Kennedy, 2007) was significantly influenced by the dissemination of new educational philosophies and ethical frameworks. Even Xenophon's "Cyropedia" (c. 370 BC), a foundational European encyclopaedia, illustrates how education can shape societal values. The enlightened Cyrus, a product of an excellent education (for his time), embraced moral (and political) philosophy and freed some slaves as a result, demonstrating the power of education to foster empathy and challenge entrenched social practices (Xenophon, 2011, Volume #1, Book 1-4, pp. 361-364; Volume #2, p. 9 ("...slavery is a great evil.") and pp.148-150 (People who treat others as slaves deserve nothing and often lose everything ["...because they preferred to treat (people) like slaves rather than as friends. Many, too, not satisfied to live contentedly in the enjoyment of their own proper share, have lost even that which they had, because they have desired to be lords of everything; and many, when they have gained the much coveted wealth, have been ruined by it." [p.149]])).

Figure 3 illustrates the role of education as a filter that selects and promotes ethical practices, reinforcing the idea that education is a fundamental element in the development of a society's ethical standards.

Figure 3 The Role of Education in Shaping Ethical Standards



Source: Own processing. For more information, see e.g. Shemetev (2022)

Figure 3 highlights the central role of education as a filtering mechanism that

refines raw ethical practices (see, for example, the study of MacIntyre (2007)). Various forms of education (moral, civic, cultural and religious) contribute to the formation of refined ethical standards, which in turn shape a society's ethical norms. A feedback loop from societal ethical norms helps to continually inform and adjust the educational filter.

The need for ethical indices

Despite the centrality of ethics to societal development (Foot et al., 1967; Habermas, 1987; Macintyre, 2007; Nussbaum, 2011; Rawls, 2005; Sen, 2000, 2013; Stiglitz, 2005), there is a noticeable gap in the availability of comprehensive ethical indices that can be applied at regional, national and local levels. Existing indices, such as the Dow Jones Sustainability Indices (DJSI), focus primarily on the financial sector and exclude broader societal dimensions (Carlos & Lewis, 2018; Johnson, 2013; Lee & Faff, 2009). While useful, these indices do not capture the full range of ethical standards that govern society.

The lack of a robust, replicable quantitative basis for measuring ethics on a broader scale has limited the ability of researchers and policymakers to assess and compare ethical standards across regions and countries. Furthermore, the subjective nature of some existing indices, such as those measuring freedoms (Fundación para el Avance de la Libertad, 2019), further complicates the task of creating a universal ethical index.

4.2.3 Proposed ethical index: ETPI+RETPI

To fill these gaps, this study proposes the Ethical (Transparency) Performance Index (ETPI) and the Regional Ethical (Transparency) Performance Index (RETPI) as comprehensive tools for measuring ethics. These indices aim to quantify ethical standards across multiple dimensions, including cultural, social, economic and political factors measured by proxy indices. By providing a transparent and reproducible methodology, the ETPI and RETPI offer a novel approach to ethical indexing that can be easily implemented at regional, national and local levels.

The development of these indices is based on the premise that ethics is a multifaceted phenomenon that cannot be fully captured by existing financial or freedom-based indices. Instead, ETPI and RETPI seek to provide a more holistic assessment of ethical standards, taking into account the various factors that influence ethics in different societies.

The Ethics Perception Index (ETPI)

The Ethics Perception Index (ETPI) is designed to provide a quantitative measure of moral-ethical growth at the national level. The ETPI includes indicators related to justice, equality, environmental protection and general ethical behaviour. By systematically assessing these dimensions, the ETPI provides a comprehensive framework for assessing societal progress beyond traditional economic measures.

The Regional Ethics Perception Index (RETPI)

The Regional Ethics Perception Index (RETPI) extends the principles of the ETPI to a more localised context. By focusing on regional differences, the RETPI allows for

a more nuanced understanding of moral-ethical growth in different areas of a country. This localised approach is particularly valuable for identifying regions that may be lagging behind in ethical development, despite overall national progress.

4.3 METHODOLOGY

4.3.1 Math model

The ETPI index (version I of the index proposed in 2021-2022 to measure the level of ethics in different countries of the world) has 7 measurable components:

- ✓ economic freedom (measured by the Economic Freedom Index),
- ✓ patterns of corruption (measured by the Corruption Perception Index),
- ✓ level of human development (measured by the Human Development Index),
- ✓ level of skills and education (measured by the Education Index),
- ✓ maintenance of a sustainable ecology (measured by the Environmental Performance Index)
- ✓ preservation of natural resources for future generations (measured by the depletion of natural resources as a percentage of GDP).

Let components C be scaled either positively or negatively by their original methods. Positive scaling means that higher values of the ETPI components (C) lead to a better situation in a particular area of ethics. The positively scaled components for the ETPI Index Version I are:

- ✓ Economic Freedom Index
- ✓ Corruption Perception Index
- ✓ Human Development Index
- ✓ Education Index
- ✓ Environmental Performance Index
- ✓ Human Rights Index

So that:

$$C_{it} = \left(\frac{X_{it}}{\max(X)} \right) \times 100$$

Notes: Author's calculations. C - specific positive-scale component for estimating the ETPI (version II - for time series analysis); X - one of the positive scale components for measuring ethics [in versions I and II of the ETPI methodology these are: Economic Freedom Index, Corruption Perception Index, Human Development Index, Education Index, Environmental Performance Index]; max - the maximum value (taken for all countries or territories and all time periods in the time series analysis). i - specific country or territory; t - time.

Conversely, negative scale components are possible. Methodologically, a negative scale means that higher values of an ETPI component (C) lead to a worse overall ethical situation. Version I of the ETPI has only one negative scale component - natural resource depletion as a percentage of GDP.

$$NRD_{it} = 100 - \left(\frac{NRD_{it} - \min(NRD)}{\max(NRD) - \min(NRD)} \right) \times 100$$

Notes: Author's calculations. NRD - natural resource depletion; i - specific country or territory; t - time; min - minimum value (taken for all countries or territories and all time periods in the time series analysis); max - maximum value (taken for all countries or territories and all time periods in the time series analysis).

Dealing with missing data between periods

However, the previous version I of the ETPI index was designed for static analysis of ethics, i.e. it allows comparison of countries within a given year, but limits time series analysis. This paper presents version II of the ETPI index for estimating time series in the development of ethics within different countries.

Let Cit be the value of the positive scale component i within a time t. Some values (less than 3% of the total number of observations) can have missing values for certain dates in between. The linear interpolation method allows these values to be filled in, thus improving the ETPI index once the missing values appear:

$$C_{it} = C_{it_0} + \frac{C_{it_1} - C_{it_0}}{t_1 - t_0} \times \left(t_j - t_o \right)$$

Notes: Own calculations.

C - Components of the ETPI;

i - specific country or territory;

j - current time with unavailable data (at the time of index estimation in between); 1 - final period; 0 - base period;

t - time.

For example, suppose country *N* has an economic freedom index available for 1990 of 100 and for 2000 of 200, with currently missing data in between. Then:

$$C_{N1991} = 100 + \frac{200 - 100}{2000 - 1990} \times \left(1991 - 1990 \right) = 110$$

$$C_{N1992} = 100 + \frac{200 - 100}{2000 - 1990} \times \left(1992 - 1990 \right) = 120$$

And similarly for other years (1993-1999). As soon as the economic freedom index data for country *N* for the years in between (1991-1999) become available,

they should replace these interpolated values and thus adjust the estimation of the ETPI. A similar process occurs with the estimation of other key social and economic indicators, such as GDP, where data revisions are common within the further half-decade period, potentially correcting the value of GDP for country *X* for time *t*.

Handling temporary unavailability of data in recent periods

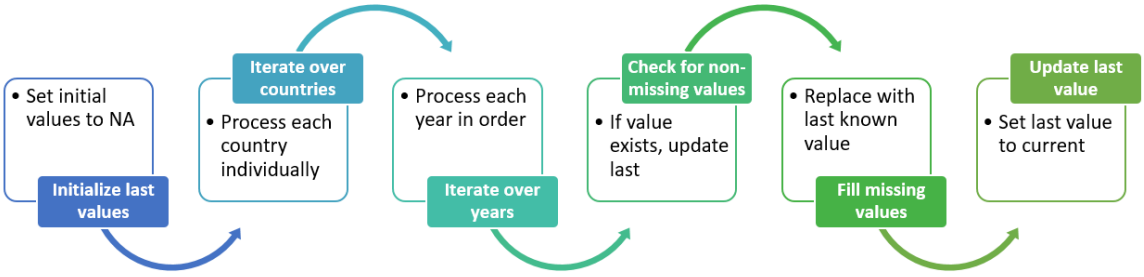
Given a data set D with a set of countries {I1, I2, I3, …, In}, a set of years {y1, y2, y3, …, yn} and a set of input components of the ETPI index {C1, C2, C3, …., Cn}, where DIYj represents the value of the variable Cj for country I in year y. Let YI be an ordered set of years for which data exist for country I, so that YI={y1, y2, …, yk}. For each country I it is possible that the last value(s) [LVIj] of the variable Cj may be missing, which is often observed in the datasets.

The following iterative algorithm can solve this problem. For each variable Cj for each country I, where LVIj is a missing value (NA) for each year y ∈ YI (in ascending order):

$$D_{I,y,j} = \begin{cases} D_{I,y,j} \rightarrow if\ D_{I,y,j} \neq NA \\ LV_{I,j} \rightarrow if\ D_{I,y,j} = NA \cap LV_{I,j} = NA \\ NA \rightarrow if\ D_{I,y,j} = NA \cap LV_{I,j} \neq NA \end{cases}$$

Thus, this algorithm updates the LVIj after each year iteration if $D_{I,y,j} \neq NA$ (see Figure 4).

Figure 4 Process of imputation of missing values for recent data



Notes: Own elaboration

It is worth noting that as soon as the most recent values of the Cj become available, – we update the values of the DIYj, which consequently updates the ETPI itself.

This is a similar methodological approach to the estimation of macroeconomic indicators, where even such popular components as GDP can be updated within half a decade of the original publication of the estimate.

Modelling the Regional Ethics Perception Index (RETPI): Conceptual Framework and Analysis

Let E represent the level of interest in ethical questions, as measured by online activity ($E \in [0,1]$). T denotes the ETPI (Ethics Perception Index) for a specific country ($T \in [0,1]$). L and H represent the lower and upper bounds, respectively, of the modifiers applied to T ($L,H \in [0,1]$). The RETPI (Regional Ethics Perception Index) is then defined by the following function:

$$RETPI^{U} = \begin{cases} T & \\ (1-L)T & if\ E = 50\% \\ (1-L)T + \left(\frac{E}{50\%}\right)(TL) \rightarrow & if\ E = 0\% \\ (1+H)T & if\ E \in (0\%;50\%) \\ T + \left(\frac{E-50\%}{50\%}\right)(TH) & if\ E = 100\% \\ & if\ E \in (50\%;100\%) \end{cases} \quad (1)$$

Notes: Own work.

T: ETPI [Ethics Perception Index] value (T∈[0;1]);

L: Lower bound (L∈[0;1]);

H: Higher bound (H∈[0;1]);

E: Interest in ethical questions, as measured by internet activity; E∈[0;1]);

$RETPI^{U}$: Unscaled Regional Ethics Perception Index.

So that:

$$RETPI = 100\left(\frac{RETPI^{U}_{E,T}}{\max(RETPI^{U})}\right) \quad (2)$$

Notes: Own work.

RETPI: Scaled [from 0 to 100] Regional Ethics Perception Index;

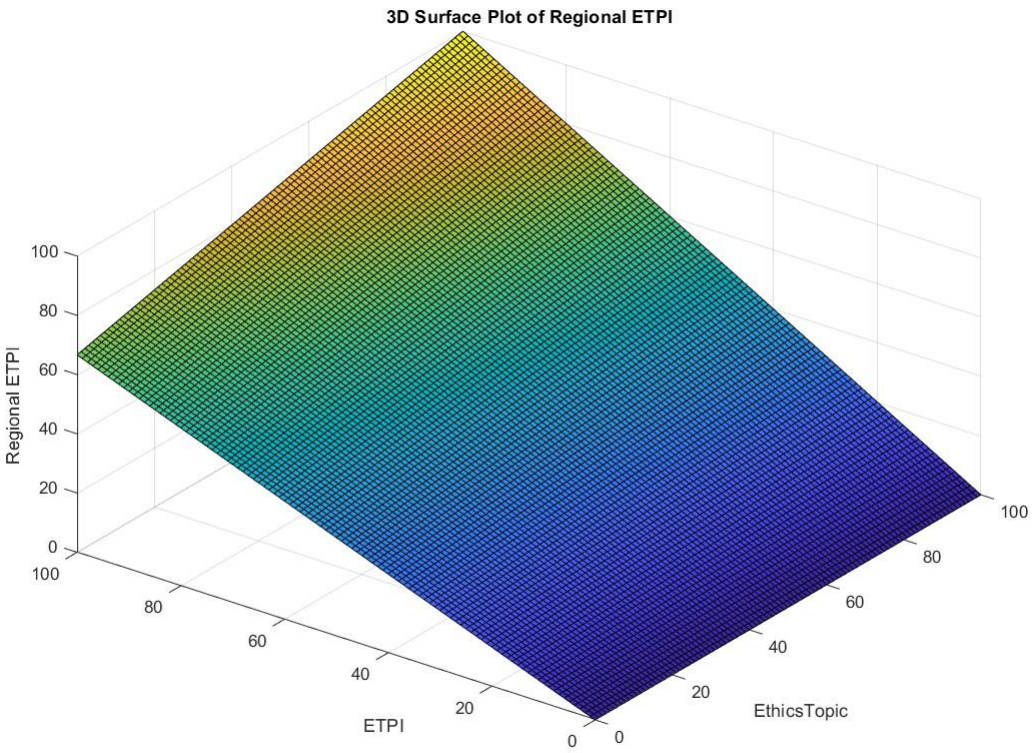
Max($RETPI^{U}$): the maximum value of the Unscaled Regional Ethics Perception Index;

100 – multiplier to shift the scale of the RETPI index to values between 0 and 100.

Analysis

Figure 5 illustrates the range of RETPIU values under the conditions set for this study, where H=L=0.2.

Figure 5 REPTI values modulation when H=L=0.2

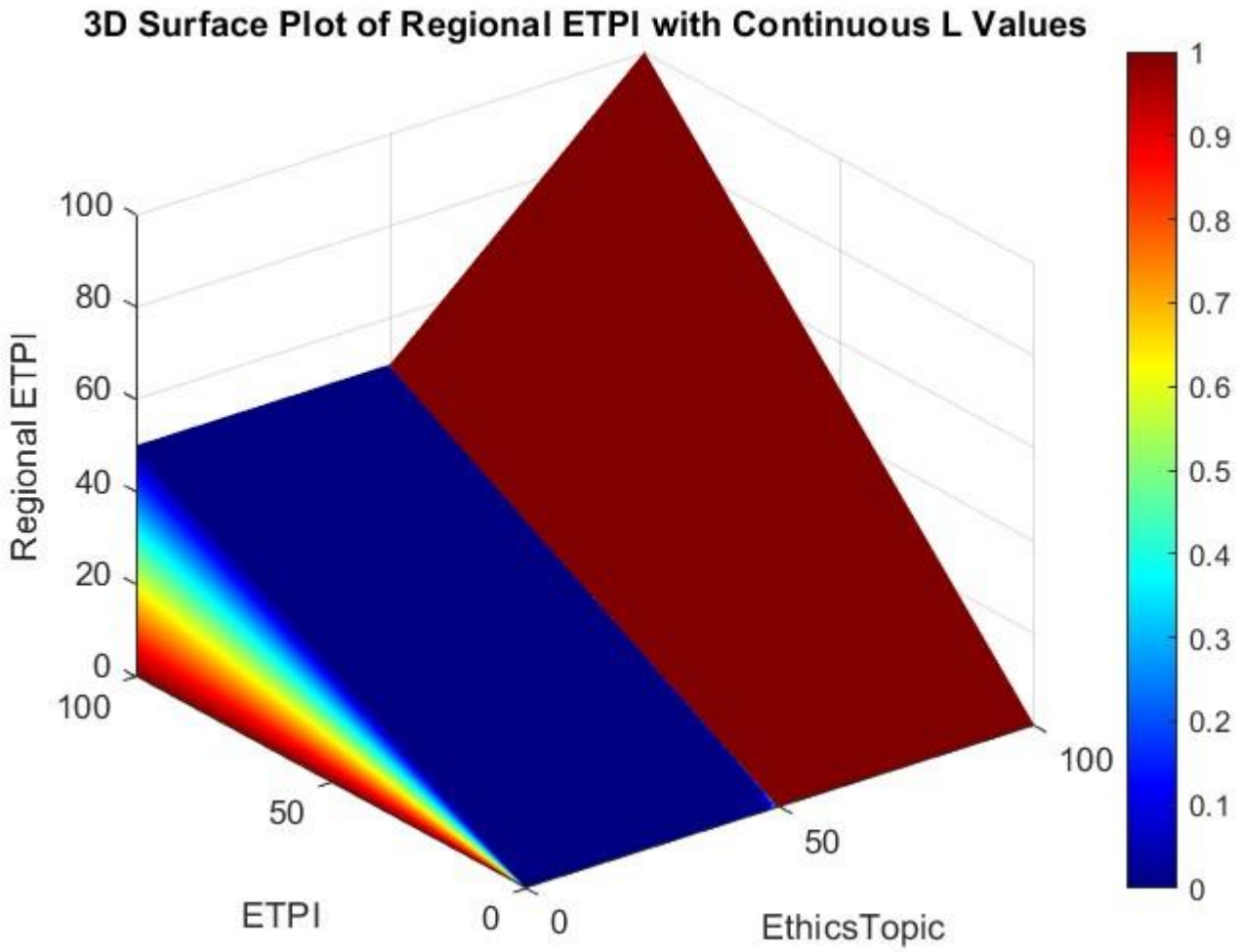


Notes: Own elaboration in MatLab 2022

It is evident from Figure 5 that the maximum value of this function is achieved by maximising both ETPI (which reflects a nation's commitment to ethics, including anti-corruption efforts, human development, and ecological sustainability) and "Ethics Topic" (a variable indicating the overall interest in ethics-related issues based on online activity). Minimising ETPI leads to a corresponding decrease in RETPI, while a low "Ethics Topic" score reduces the overall RETPI value.

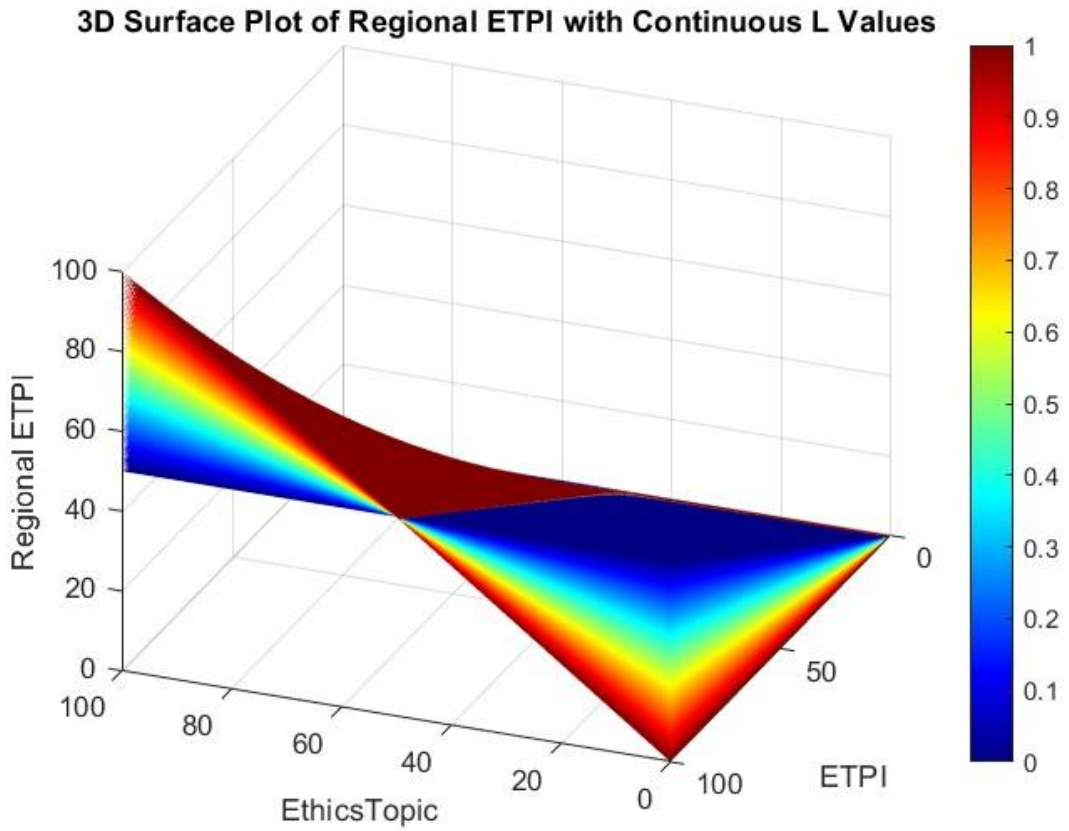
Mathematically, *L* and *H* can be adjusted or even defined as functions, offering flexibility for different modulations (see Figures 5 and 6).

Figure 6 3D REPTI values modulation when H=L=X (detailed outlook of the ETPI)



Notes: Own elaboration in MatLab 2022 (legend shows the values of L=H between 0 and 1).ETPI, Regional ETPI and "Ethics Topic" are in scale 0-100 (rescaled percentage).

Figure 7 3D REPTI values modulation when H=L=X (detailed outlook of the "Ethics Topic")



Notes: Own elaboration in MatLab 2022 (legend shows the values of L=H between 0 and 1).ETPI, Regional ETPI and "Ethics Topic" are in scale 0-100 (rescaled percentage).

Figures 6 and 7 demonstrate how varying *L* and *H* between 0 and 1 influences RETPI values. These figures highlight that increasing (*H*) enhances the RETPI scores in regions with greater interest in ethics-related topics, while penalising regions with minimal interest.

Implications:

The parameters *H* and *L* in this model reflect key choices in how ethics is quantified - whether to emphasise a solid ethical foundation (similar to feeding plants with nutrients) or active engagement with ethical issues (similar to plant growth). Both aspects are important to consider. In this study, we set $H = L = 0.2$ to balance these factors, emphasising foundational ethics while allowing for active pursuit (about 20%).

While this choice of thresholds may seem subjective, it follows a precedent in fields such as probability theory, where subjectivity is often inherent in the treatment of uncertain events (see Wise & Hall (1993); Stoyanov (2013)). Despite

these limitations, the model allows analysts to explore different ethics-related scenarios, effectively modulating the ETPI and 'Ethics Topic' to reflect regional differences in ethical awareness and development.

Managing Low-Frequency Data in Ethics Indicators with the ME-Matrix

A challenge arises when ethics-related indices (e.g. HRI, EI, NRD, EFI) have low update frequencies. To address this, we design the ME (Moral-Ethical Missing Data Evaluation) matrix to handle incomplete data by updating ETPI values as new data becomes available. For example, the matrix handles gaps by using the most recent data available (LD) until updates occur. This approach ensures accuracy in ETPI updates, similar to the delayed updates found in widely used indicators such as GDP.

Table 3 The Designed ME-Matrix Principle to Process the Evaluation of the Missing Data

Indicator	2020	2021	2022	2023	2024
CPI					LD
EFI<-IEF					LD
EI			LD		
HDI			LD		
HRI			LD		
NRD			LD		
EPI			LD	LD	
	The data are missing (they will appear as soon as they are available; the ETPI values will become updated at that point)				
	The data are valid for this year				
LD	The last available data for the calculation of the index; LD – latest date when data are available				

Source: Own processing. Notes: CPI – corruption perception index. EFI – economic freedom index; IEF – index of economic freedom (a more frequent substitute of the EFI); EI – education index; HDI – human development index; HRI – human rights index; NRD –natural resource depletion; EPI – environmental performance index.

A step-by-step guide to estimating regional ethics trends using RETPI and Google search data (basic methodology)

Introduction: The Regional Ethics Perception Index (RETPI) is an extension of the Ethics Perception Index (ETPI) designed to assess ethics trends at the regional and local level. While the ETPI is limited to national data, the RETPI uses Google search trends as a proxy for measuring public interest in ethics-related issues. This guide provides a manual method for estimating RETPI using an algorithm developed in R for collecting and analysing search data.

Step-by-step guide:

1) **Identify relevant search queries:** Start by identifying keywords related to ethics for each region or country. These may include terms such as "ethics" or more specialised queries, depending on cultural and linguistic differences. Tools such as Answer The Public (NP Digital, 2024) can help generate relevant ethics-related terms tailored to specific regions.
2) **Obtain search query statistics:** Use tools such as Google Trends (Google, 2024) or WordsStat (Yandex, 2024) to collect data on the identified searches. Make sure the data is collected at a regional or local level for the countries you are analysing.

3) **Regional mapping:** Use geographic information from search engines to map the regions of interest. This step involves linking the names of the regions retrieved from the search engines to the actual geographical areas in your country analysis.
4) **Data analysis:** Use statistical software (such as R or Python) to analyse which regions show the most interest in ethics-related issues. Apply time series analysis to visualise patterns and trends over time, adapting statistical methods to your research objectives.
5) **Ranking of regions:** Create a ranking of regions based on their interest in ethics-related queries. This ranking provides insight into the relative intensity of ethical concerns in different regions.
6) **Trend analysis over time:** Use time series analysis to explore how interest in ethics evolves within a region. Compare trends between regions and how they compare to the national level.
7) **Integration with RETPI and ETPI:** Merge data from the regional analysis with the ETPI using a pre-defined formula, such as Formula 1. This integration provides a comprehensive view of ethical trends at both national and regional levels.

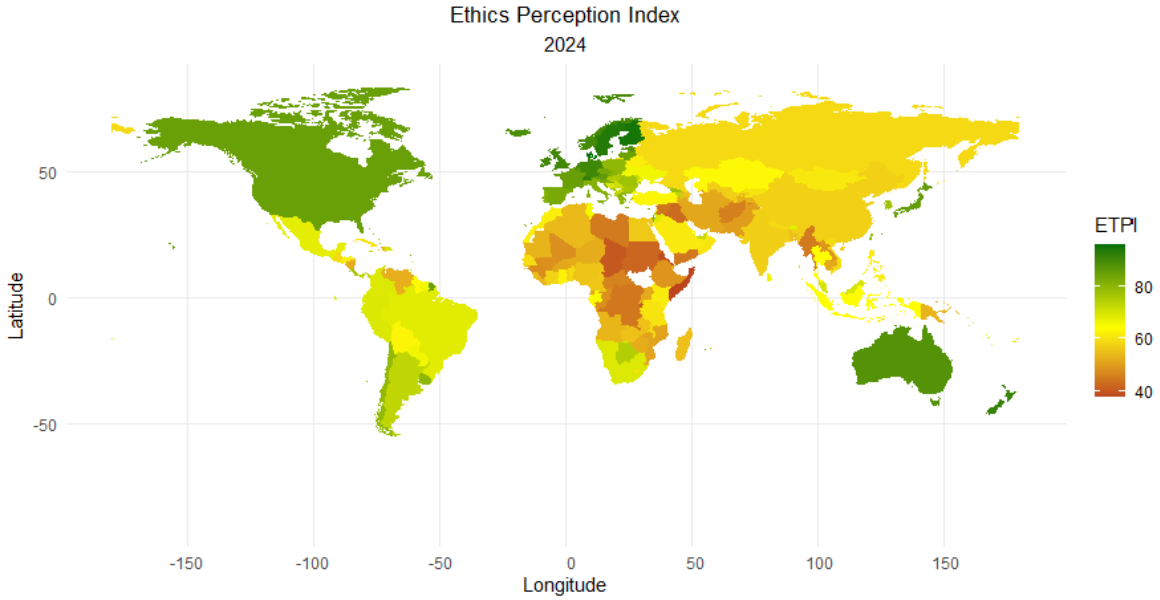
Conclusion: This method allows researchers to estimate regional ethical trends using RETPI, providing a proxy measure of ethical interest in different regions. Using internet search data, RETPI serves as a qualitative ordinal tool for understanding public interest in ethical issues across regions, providing valuable insights into national and local ethics dynamics.

For readers interested in the detailed methodology for assessing regional and national well-being through ethical growth analysis, we recommend that you refer to our earlier publication (Shemetev, 2022; Shemetev & Pělucha, 2023). This work provides a detailed rationale for each component of the ETPI and RETPI indices, and offers valuable insights into how these indices can be applied to measure moral-ethical resilience and recovery potential at different territorial scales. The methodological framework outlined in this research serves as the basis for the models presented in this paper.

4.4 RESULTS AND DISCUSSION

The Ethics Perception Index (ETPI) provides a quantitative measure of ethical perceptions across countries, assessing moral-ethical growth on a global scale. This dataset presents the ETPI for 174 countries (Figure 7), summarised by descriptive statistics such as mean, median, standard deviation, minimum and maximum. The index identifies countries with the highest ethical perceptions, such as Denmark (95.9), Finland (94.8) and Sweden (93.7). Countries are ranked on the basis of aggregated perception data, providing insight into regional differences and the global ethical landscape. The standardised ETPI scores serve as a tool for comparative analysis, reflecting each nation's ethical perception based on specific indicators.

Figure 8 Ethics Perception Index (ETPI), 2024



Source: Own processing in R

Countries such as Germany (90.6), the United Kingdom (90.6) and Ireland (90.5) demonstrate consistently high ethical practices, with only minor fluctuations. These nations score well on most components of the Ethical Transparency and Practices Index (ETPI), and are particularly strong in areas such as economic freedom and human development. A broader group of ethically strong nations includes Australia (88.1), Austria (86.2), Belgium (87.6), Canada (85.2), Switzerland (92.3), the Czech Republic (83.2), Cyprus (82.8), Denmark (95.9), Finland (94.8), Greece (80.3), Iceland (89.2), Japan (85.8), Latvia (84.8), Norway (89.9), Singapore (85.4), Sweden (93.7) and several others. Annex A provides a comprehensive list of ETPI values for all countries from 1995 to 2024.

The United States presents an interesting case as a large, developed nation (ETPI: 85.14) with moderate challenges in economic freedom (77.5), corruption (Corruption Perception Index: 75) and environmental sustainability (Environmental Performance Index: 65.53). However, the country's exceptionally high levels of human development (96 on the Human Development Index) and education (88.5 on the Education Index) significantly bolster its overall ethical standing.

Several other countries, while performing moderately well, have lower scores, suggesting areas for potential improvement. For example, Hungary (75.5), Botswana (74.7) and Brazil (68.4) have room for improvement in the areas of control of corruption, environmental sustainability and management of natural resources. While these countries maintain commendable ethical standards, addressing these specific weaknesses could improve their future scores.

Brazil (ETPI: 68.4), an example of a large developing country in this ethical

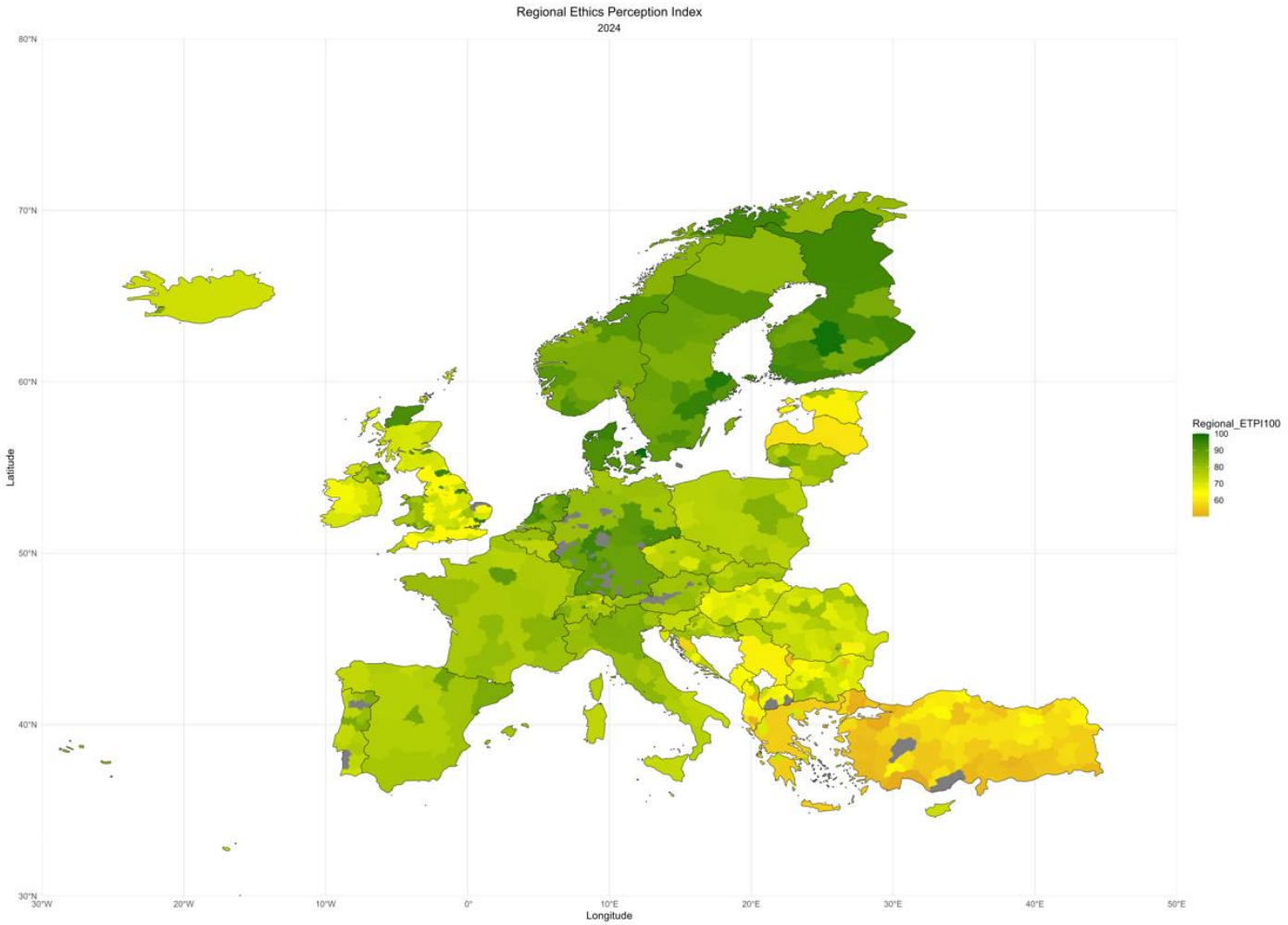
sector, faces serious challenges in the areas of justice, economic freedom, corruption and environmental issues such as deforestation, all of which have a negative impact on its ETPI. However, Brazil performs relatively well in certain areas of the Economic Freedom Index, including business freedom (67), monetary freedom (71.6) and trade freedom (66.8). In addition, its strong scores in human development (78.6), education (67.3), human rights (86.2) and natural resource management (91) help to partially offset the negative impact of its environmental struggles, reflected in a lower Environmental Performance Index (55.5), as well as other struggles.

At a lower end of the spectrum (but far from the bottom), countries such as Kazakhstan (63.2), Turkey (62.9), Belarus (61.8), Honduras (61.9) and Morocco (61.8) face significant ethical challenges. These countries struggle with corruption, underdeveloped human capital and inadequate sustainable practices. Efforts to strengthen governance and ethical frameworks could lead to significant improvements in their ethical scores.

China, an example of this ethical sector with an ETPI of 57.5, faces notable challenges in economic freedom (53.6), corruption (49), environmental performance (36.5), reflecting significant problems with clean water, soil and air) and human rights (17.6). However, China's strong human capital (81.5 on the Human Development Index) and high natural resource depletion ratio (98.1 positively scaled) help to maintain its overall ETPI. Although China's Education Index is relatively low (66), this reflects a large gap between the general level of education and the large number of well-educated individuals, as evidenced by an average IQ ranking in the top five globally (Lynn/Becker (World Population Review, 2024)), providing a strong foundation for a significant rise in its ethical standards.

It is crucial to recognise that ethical standards are not necessarily uniform across a country, especially in large nations with multiple regions. The Regional Ethical Perception Index (RETPI) adds depth to this understanding by capturing regional differences in ethical practices. Figure 5 illustrates the RETPI, rescaled to match the global ETPI scores for 2024.

Figure 9 Regional Ethics Perception Index (RETPI) for Europe, rescaled to global ETPI (2024)



Source: Own processing

Figure 9 shows the considerable regional variation in ethical standards in the large countries. A notable exception is Latvia, where ethical considerations are relatively consistent and homogeneous across the country. This uniformity is due to a comparatively low level of public interest in ethical issues, as evidenced by per capita internet search data. Despite this, Latvia's ethical development is relatively high on a global scale, especially when compared with countries outside Europe (see Annex A for more details).

Other exceptions include Serbia and Greece, where ethical standards remain relatively high compared to global benchmarks, but are relatively homogeneous within the country. In Greece, certain regions such as Epirus, the Thessaloniki area within Macedonia and parts of the Peloponnese have significantly higher ethical standards than the rest of the country (in particular Βόρειος Τομέας Αθηνών, Κεντρικός Νότιος, Πειραιάς, Νήσοι, and Ανατολική Αττική micro-regions). It should be noted that Mount Athos is excluded from the analysis due to insufficient data.

A common trend is that capital regions often show the highest ethical standards in terms of interest in ethical issues. This pattern can be seen, for example, in the Prague region in the Czech Republic, the Bratislava region in Slovakia, the Madrid region (though competing with Navarra and Catalonia) in Spain, the Paris region (including Essonne, Hauts-de-Seine, Seine-et-Marne, Seine-Saint-Denis and other micro-regions close to Paris) in France and the Tallinn region in Estonia. However, this is not the case everywhere.

For example, the regions of Central Finland (Keski-Suomi) and South Karelia (Etelä-Karjala) outperform the region of Uusimaa, which includes the capital Helsinki, albeit by a small margin of around 5% per capita. A similar situation can be observed in Turkey, where regions such as Bayburt, Çankiri, Sinop, Gümüshane and Burdur outperform the capital region of Istanbul. In Germany, regions such as Bergstraße, Darmstadt, Kreisfreie, Frankfurt am Main, Gießen, Landkreis and Groß-Gerau have higher ethical standards per capita than Berlin and its environs.

In some cases, the capital region has strong ethical indicators but faces competition from other micro-regions with comparable ethical development. This is the case in the UK, where Camden and the City of London compete with micro-regions such as Antrim and Newtownabbey, Barking & Dagenham, Belfast and Bradford. Similarly, in Poland, the capital Warsaw competes with micro-regions such as Ciechanowski, Ostrołęcki, Płocki and Radomski.

4.5 DISCUSSION

The majority of existing studies on ethics focus narrowly on micro-dimensions of the field, often exploring issues that are not measurable or too specific. A notable example is the extensive research devoted to subfields of medical ethics, such as euthanasia (Ebrahimi, 2012; Fernandes, 2001; Narbekovas & Meilius, 2004) or abortion (Cantens, 2019; Dubner & Levitt, 2006; Kaczor, 2023). These studies typically suffer from two major limitations: they narrow the broader concept of ethics, and they lack quantifiable metrics for evaluating ethical standards. The introduction of the Ethics Perception Index (ETPI) and the Regional Ethics Perception Index (RETPI) is the first attempt to comprehensively and quantitatively assess ethics within societies.

There have been earlier attempts to construct general ethical frameworks, such as Benjamin Franklin's dissertation on "Liberty and Necessity, Pleasure and Pain" (Franklin, 1725). In this work, Franklin explores moral-ethical issues by suggesting that humans, unlike animals, derive ethical behaviour from the interplay of pain (or "uneasiness" or discomfort) and pleasure that occurs when desires are satisfied in order to avoid discomfort. While such theoretical frameworks offer deep philosophical insights (Aumann & Hart, 1992; Coeckelbergh, 2012; Hauptman, 2019), they do not provide a mechanism for quantifying ethics, leaving a gap in current knowledge. In contrast, the ETPI and RETPI indices address this gap by providing a reliable and replicable method for measuring ethics.

Moreover, it was clear from the earliest studies of morality and ethics that not

all individuals are morally equal, since the factors that shape personal ethics - such as education - vary widely. Franklin himself noted this in 1735, recognising that ethics is influenced by local, regional phenomena (Franklin, 1735). This underlines the need for ethical indices that can account for regional and micro-regional variations. The ETPI and RETPI indices are uniquely suited to meet this need by providing quantifiable measures that can be applied at both national and regional levels.

In contrast, there are several quantitative studies on ethics, the most prominent of which is the Global Business Ethics Survey (GBES) conducted by the Ethics & Compliance Initiative (ECI). This longitudinal study covers ethical practices in 42 countries and includes responses from over 75,000 employees. It focuses on key areas such as pressure to compromise ethical standards, observations of misconduct, reporting of misconduct and perceived retaliation against whistleblowers (ECI, 2024). While the GBES provides valuable insights into ethics in the workplace, recent findings highlight serious challenges, including rising workplace pressures, increased misconduct and weak ethical cultures. Companies use the GBES data to benchmark their ethics programmes, but its scope remains limited to employee ethics in corporate settings.

There are striking patterns in the GBES Index. For example, in 2023 Russia is the country with the lowest pressure to compromise ethical standards (ECI, 2024, sec. 1), followed by Indonesia and Colombia. Meanwhile, Egypt, Colombia and Brazil have the highest percentages of employees working in strong ethical cultures (ECI, 2024, sec. 5). However, the replicability of these results has been debated, and potential biases related to subjective assessment have emerged.

Despite its broad reach, the GBES survey has obvious limitations. It focuses solely on employee ethics, neglecting broader corporate and societal ethical dimensions. In addition, while the sample size is large, it is insufficient to allow for detailed regional or micro-regional analysis, which contradicts the understanding of Franklin (1735) and subsequent scholars that ethics is shaped by multiple local factors, including education. As such, the GBES provides only a narrow lens through which to view ethics.

The Standard Ethics Index (Standard Ethics, 2024a) offers a different perspective by analysing the ethical practices of large companies. For example, the French Ethics Index of September 2024 is based on 43 large companies, each of which is assigned a rating corresponding to its ISIN (International Securities Identification Number (Standard Ethics, 2024b)). While the scale of this index is impressive, it also has several shortcomings:

Subjectivity bias: Analysis is not easily reproducible.

- Limited scope: The ethics of a large country like France are represented by a small number of large companies.
- Narrow ethical focus: The Index assesses corporate ethics, leaving out other important aspects of societal ethics.

- Lack of regional analysis: The Index does not provide insights at the sub-national level.
- Bias towards global companies: When assessing transnational companies, it is difficult to attribute ethical practices to a specific country due to global supply chains.

These limitations leave a significant gap in the field, which the ETPI and RETPI indices aim to fill.

Another recent attempt to assess ethics is the measurement of freedoms carried out by the Fundación para el Avance de la Libertad (2019). This approach measures five categories: religion, bioethics, drugs, sex and family/gender (Fundación para el Avance de la Libertad, 2019). The idea is that an ideal country would have broad freedoms in these areas.

However, the methodology is subjective and the lack of a reproducible, transparent and quantitative basis undermines its validity (Shemetev, 2022, pp. 78–79). For example, Afghanistan ranked lowest overall in 2020 (followed by the United Arab Emirates and Saudi Arabia (Fundación para el Avance de la Libertad, 2019, p. 9)), but may have had higher scores for at least the easiest and cheapest access to drugs in that year (Varlamov, 2021a, 2021b) [one of the five (Fundación para el Avance de la Libertad, 2019, p. 10) components measuring ethics by this index], raising concerns about the accuracy and usefulness of this index.

The Governance Institute of Australia has taken a different approach with its Ethics Index, based on a national survey conducted by Ipsos. This survey assesses the ethical behaviour of various professions and sectors across Australia and calculates an 'Ethics Index Score' that reflects the perceived level of ethical behaviour (Governance of Australia & Ipsos, 2024).

While this is a valuable tool for assessing public perception, its limitations include a narrow focus on Australia, potential bias in survey responses and an emphasis on ethical perceptions rather than the broader conditions that influence ethical development.

In contrast, the ETPI and RETPI indices provide a global perspective, covering countries, regions and localities. They are fully replicable and focus on the conditions that promote or inhibit ethical behaviour, providing a unique and comprehensive tool for assessing ethics globally. Unlike other indices that are limited in scope and focus, the ETPI and RETPI indices provide a robust, transparent and quantifiable framework for the study of ethics.

4.6 CONCLUSION

Achieving the core objective:

The core objective of this research is to develop comprehensive tools - the ETPI and the RETPI - that can quantitatively measure ethical and moral growth in

societies and integrate these dimensions into broader assessments of development. We believe that this goal has been achieved, as the indices introduced provide a replicable, transparent framework for assessing ethical standards at both national and regional levels. The innovative dynamic component enables time-series analysis, allowing ethical progress to be tracked over time, overcoming the limitations of previous static, single-point-in-time analyses.

Key outputs:

The key outputs of this paper are the ETPI and RETPI, which are based on measurable components such as economic freedom, patterns of corruption, education, human development and environmental sustainability. These indices provide a holistic view of societal progress by going beyond traditional economic measures to include ethical dimensions that are critical to understanding the sustainability and fairness of development processes. In addition, the research presents a dynamic methodology capable of dealing with missing data, thereby enhancing the utility of these indices in longitudinal studies.

Benefits for academia:

For academics, ETPI and RETPI provide a valuable contribution to interdisciplinary research in ethics, economics and development studies. By bridging ethical considerations with quantitative metrics, this research opens new avenues for exploring the intersection of moral philosophy and socio-economic development. It also provides a robust tool for comparative regional studies, enhancing the ability of scholars to examine ethical differences in different socio-economic contexts. Furthermore, the indices lay the groundwork for future empirical studies that aim to explore the causal relationships between ethical development and economic growth.

Benefits for policy makers:

For policy makers, the practical implications of this research are significant. The ETPI and RETPI provide a tool for more informed decision-making by providing insights into the ethical underpinnings of societal progress. This is particularly important in addressing policy challenges related to inequality, corruption and environmental sustainability, which are often overlooked by traditional economic indicators. The ability to assess ethical development at both national and regional levels allows for targeted and contextually relevant interventions, thereby improving the effectiveness of policies aimed at promoting inclusive and sustainable growth.

Limitations of the research:

Despite its innovations, this research is not without limitations. A major challenge is the subjectivity inherent in certain ethical indicators, which can vary significantly across different cultural and societal contexts. In addition, the availability and reliability of data for certain regions may limit the applicability of the indices, particularly in regions with less robust statistical infrastructures. While the use of imputation techniques such as linear interpolation mitigates some of

these issues, the accuracy of the indices may still be affected by incomplete or biased data.

Avenues for future studies:

Future studies should focus on refining the components of the ETPI and RETPI to ensure their applicability in different cultural contexts, possibly by incorporating more granular, locally relevant indicators. There is also a need for further research into the causal links between ethical development and other dimensions of societal progress, such as economic resilience and social cohesion. In addition, as more data become available, particularly in under-represented regions, longitudinal studies could provide deeper insights into how ethical growth affects long-term development outcomes. Finally, expanding the scope of these indices to include global ethical challenges, such as climate change and digital governance, would further enhance their relevance in addressing contemporary issues.

This research is an important step towards integrating ethical considerations into the broader discourse on social progress, providing tools that are both theoretically sound and practically applicable.

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Annex A. The Ethics Perception Index, 1995-2024

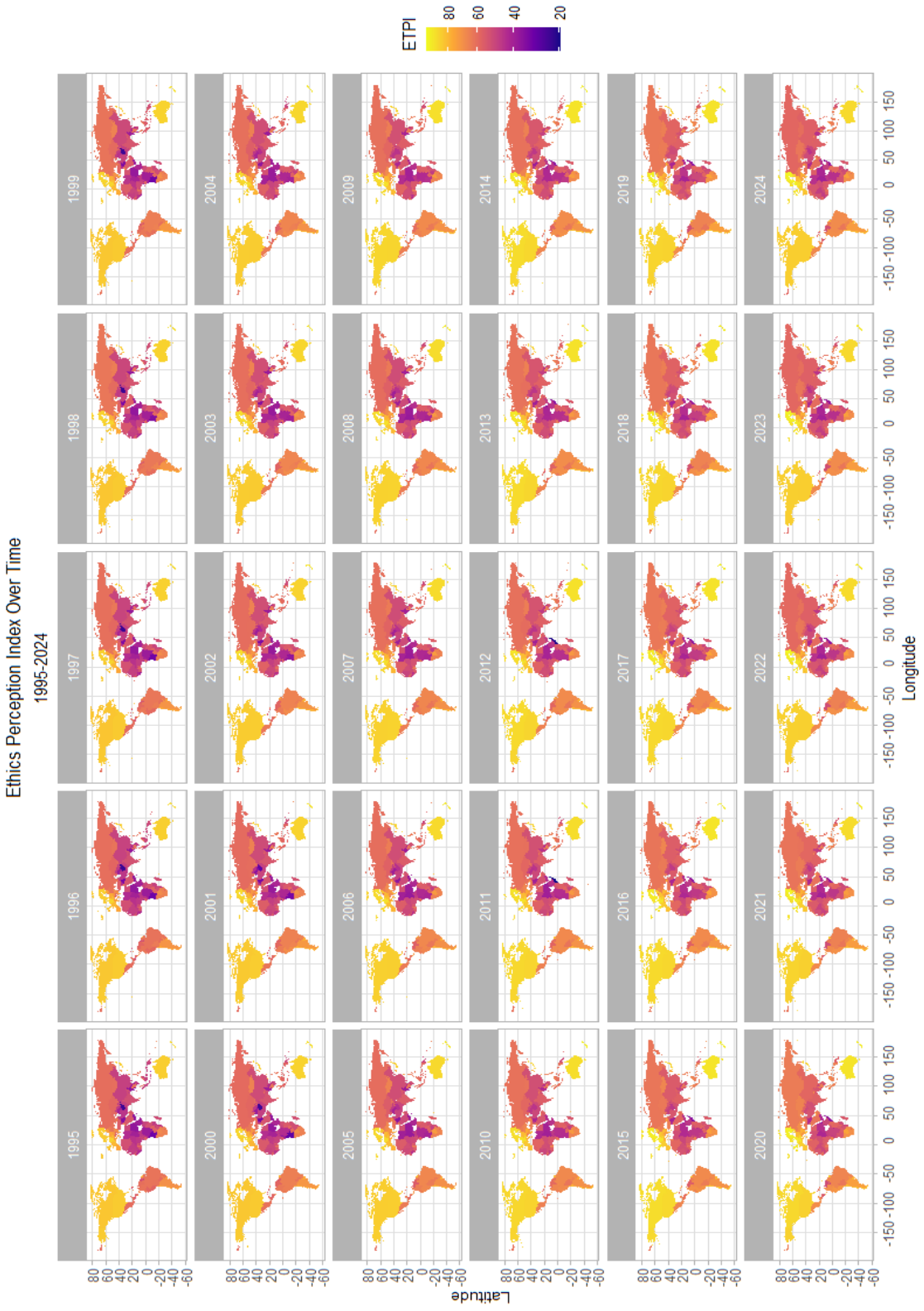

Table A1: Ethics Perception Index (ETPI) for Countries (1995-2024)

iso	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AFG	23,8	23,3	23,4	23,5	23,7	23,8	28,5	42,8	43,6	44,0	44,3	44,5	44,9	45,0	45,4	45,7	45,8	46,0	46,1	46,3	46,3	47,0	49,2	51,4	51,3	52,9	46,4	46,4	45,6	45,6
AGO	31,0	31,0	31,3	33,9	31,0	28,6	32,3	36,6	39,8	40,7	40,6	41,7	41,6	41,1	44,7	43,8	43,5	44,4	45,5	46,7	48,9	48,8	49,3	49,8	52,3	54,1	53,0	53,4	53,4	53,6
ALB	64,1	65,0	65,4	66,1	66,7	65,8	65,1	64,8	64,8	65,3	65,8	66,7	67,8	69,4	70,5	71,7	72,0	72,7	73,0	73,2	73,6	74,1	73,6	73,3	74,0	73,8	73,3	73,6	73,4	73,3
ARE	62,4	62,2	62,9	64,2	64,0	63,4	64,3	65,3	64,8	63,3	62,7	62,1	62,9	62,5	64,4	64,4	63,1	63,9	64,9	65,9	68,6	68,7	72,0	73,6	75,0	75,6	73,9	72,7	72,8	72,8
ARG	69,7	71,0	71,0	70,9	71,4	71,6	72,0	71,3	70,3	70,0	69,6	69,7	69,9	69,9	70,1	70,0	70,3	70,2	70,5	70,4	70,2	71,1	72,5	73,1	74,1	74,1	73,2	72,8	73,3	73,1
ARM	64,4	64,6	65,4	66,3	67,4	67,9	68,5	68,1	68,0	68,3	68,5	68,9	68,2	67,4	69,5	70,0	70,3	70,6	71,1	71,8	71,5	71,6	73,0	73,1	74,5	75,7	75,1	73,8	73,0	73,0
AUS	85,2	85,4	86,0	86,1	86,4	86,4	86,4	86,5	87,1	87,3	87,8	88,0	88,3	88,6	89,4	89,2	89,0	89,7	90,2	90,5	91,0	90,9	90,3	90,1	90,3	90,5	88,7	88,3	87,8	88,1
AUT	82,6	82,8	82,4	82,7	82,7	83,7	83,7	83,8	83,7	84,0	84,3	84,6	84,8	84,8	85,2	85,5	85,9	86,1	86,4	86,9	87,3	87,2	87,1	87,2	87,4	87,5	87,4	86,9	86,6	86,2
AZE	51,2	51,4	53,4	57,3	56,1	55,3	57,3	58,5	56,2	55,4	53,6	53,0	54,0	53,4	56,4	57,1	56,7	57,3	58,7	59,2	60,4	59,7	59,5	57,0	59,0	60,6	58,3	55,4	55,3	55,4
BDI	39,7	38,9	39,8	39,3	40,7	41,1	40,9	40,7	39,1	41,6	42,8	44,1	42,3	41,8	42,6	42,0	41,7	42,4	41,8	41,9	41,5	40,4	40,7	40,6	41,0	41,4	42,0	41,0	41,0	40,4
BEL	82,0	82,3	82,2	82,3	82,2	82,6	83,1	83,9	84,2	84,7	85,2	86,5	86,9	86,8	87,2	86,7	86,8	87,1	87,3	87,7	88,0	88,0	88,3	88,0	88,1	88,4	88,2	88,2	87,8	87,5
BEN	54,3	54,6	55,9	56,2	56,9	57,4	57,8	57,6	57,4	57,8	57,7	58,0	58,0	58,1	58,1	58,3	58,5	58,6	59,2	59,5	59,7	59,8	60,2	59,5	59,1	58,6	59,2	59,7	59,5	59,1
BFA	46,6	46,8	47,5	48,2	49,9	50,9	51,2	51,5	51,3	51,4	51,3	51,2	50,5	50,7	51,3	51,6	51,8	52,4	53,3	53,6	54,2	55,0	55,8	56,2	56,3	55,8	54,3	54,0	51,8	51,2
BGD	49,1	51,0	51,1	51,8	51,8	51,8	52,4	52,3	52,3	52,0	51,8	52,6	51,3	51,1	51,8	52,5	52,8	52,9	52,5	52,7	53,5	53,7	54,2	54,1	54,0	54,9	55,0	54,8	55,0	55,0
BGR	67,7	67,9	67,9	68,0	68,4	68,9	69,8	72,0	72,5	73,2	73,7	73,7	73,5	74,0	74,8	74,9	75,2	75,5	76,1	76,6	76,2	76,0	76,0	75,8	76,5	76,6	76,4	77,1	76,8	76,7
BHR	58,0	57,7	58,1	59,4	59,0	60,9	63,1	64,9	65,3	64,0	62,3	62,2	61,7	61,0	62,3	62,0	57,8	58,8	59,5	60,4	63,5	63,1	60,9	61,2	63,4	64,0	63,7	62,7	62,9	63,0
BHS	75,1	75,7	75,9	76,5	76,7	76,6	76,8	76,7	76,9	76,8	77,2	77,4	78,0	77,3	77,5	76,3	76,9	77,0	77,5	77,4	76,9	78,0	76,6	77,2	77,5	77,6	77,8	78,9	77,8	77,8
BIH	55,4	55,8	55,5	55,8	56,1	60,2	59,0	59,3	60,2	60,7	61,4	63,0	63,6	63,9	64,6	64,9	65,1	66,1	67,0	68,1	68,7	69,2	69,6	69,3	69,6	69,5	69,6	69,5	69,4	69,3
BLR	65,1	63,2	63,9	63,9	61,2	63,1	64,8	64,2	63,5	63,8	64,4	64,2	64,3	64,1	64,2	64,5	64,6	65,2	65,7	66,3	66,6	68,3	70,7	70,5	70,6	65,3	63,8	62,2	62,0	61,6
BOL	62,2	64,1	64,6	66,2	65,7	65,5	66,6	66,1	65,8	65,6	64,1	63,1	62,6	62,6	63,8	62,7	62,3	62,8	62,9	63,2	64,4	64,5	64,7	63,8	62,6	63,2	62,8	63,0	62,9	62,9
BRA	62,4	62,1	63,2	63,4	65,0	65,3	65,7	66,1	66,8	66,9	67,5	67,7	67,2	67,4	68,1	67,8	68,0	68,4	69,0	68,8	68,2	68,3	67,2	66,4	66,3	66,8	65,9	65,9	68,4	68,4
BRB	76,9	77,0	77,5	78,1	78,0	78,2	78,0	78,1	77,4	77,6	78,1	78,8	79,1	79,3	79,3	78,6	78,6	78,7	78,9	79,3	78,6	78,1	78,0	79,0	79,4	79,3	80,0	81,1	80,9	80,4
BRN																				69,7	71,6	72,8	73,7	71,2	70,4	72,0	70,0	69,6	69,8	69,9
BTN	59,6	59,7	60,0	60,3	60,4	60,9	61,1	61,4	61,9	63,0	63,2	63,3	63,4	64,7	64,4	63,6	63,5	63,4	63,7	64,5	65,1	65,7	66,5	68,0	69,0	69,4	68,1	68,3	68,3	67,8
BWA	68,0	69,1	68,9	69,7	69,9	70,2	70,5	70,4	71,5	72,9	73,2	72,3	73,2	72,2	73,3	72,7	72,4	72,4	72,7	73,5	74,2	75,3	75,3	75,1	75,7	75,5	73,5	74,2	74,3	74,7
CAF	46,5	46,6	46,5	46,5	47,2	47,1	47,5	47,9	48,1	47,8	47,9	47,4	46,9	46,2	46,9	47,1	47,1	46,4	44,4	45,4	46,0	45,8	47,7	48,3	48,3	49,0	49,1	47,9	46,7	46,4

iso	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CAN	83,3	83,5	83,1	83,3	83,6	83,6	84,0	84,8	84,7	85,0	85,0	85,6	85,8	86,2	87,1	87,3	87,6	88,2	88,4	88,5	88,8	88,1	87,9	87,5	86,9	87,5	86,5	86,0	85,4	85,2
CHE	86,4	86,5	87,0	87,3	87,5	87,4	87,1	87,8	87,9	88,1	88,1	88,4	88,8	89,3	89,6	90,3	90,7	90,9	91,1	91,6	91,7	91,8	92,0	92,3	92,4	92,3	92,4	92,5	92,4	92,2
CHL	74,5	75,3	76,1	76,5	76,5	76,7	77,3	78,5	78,7	78,7	79,4	78,3	78,2	79,1	79,7	79,0	79,2	80,1	81,3	81,8	82,1	81,8	81,9	81,4	81,7	81,4	79,7	80,0	79,5	79,6
CHN	48,6	49,1	49,6	50,3	50,9	51,6	51,6	52,3	52,5	52,1	52,2	52,0	51,8	51,7	53,0	52,6	52,9	53,9	54,4	54,9	56,0	56,7	58,1	57,9	58,7	59,1	59,3	57,4	57,4	57,4
CIV	53,4	53,7	54,2	54,6	54,7	54,6	55,3	55,9	56,4	57,0	56,7	56,4	56,3	56,2	57,3	57,1	56,7	56,3	56,8	57,7	57,6	57,7	58,6	58,3	58,7	57,8	57,8	58,2	58,1	57,8
CMR	49,5	48,6	48,2	49,6	50,1	49,9	52,6	52,7	52,9	53,0	53,1	53,3	53,7	53,8	55,1	54,9	55,2	55,6	56,0	56,1	56,3	56,0	55,0	55,2	55,9	56,4	56,6	56,5	56,0	56,3
COD	38,5	38,4	38,5	39,9	39,8	43,8	42,4	42,5	41,0	42,5	42,7	42,9	42,7	42,5	43,3	44,2	44,0	44,6	44,4	44,4	46,2	46,5	47,4	48,2	50,6	49,7	46,1	46,1	44,6	44,5
COG	45,6	45,5	40,8	42,0	41,9	38,4	40,9	42,1	43,9	44,1	43,1	41,7	42,9	42,6	45,3	43,2	41,8	44,4	46,0	47,4	49,3	48,6	46,6	44,6	45,3	48,2	48,2	47,8	47,9	47,8
COL	62,3	62,8	63,5	63,7	63,4	63,5	64,4	64,0	65,2	64,6	64,9	64,9	65,4	65,3	66,2	67,1	67,8	68,0	68,8	69,2	70,0	70,3	70,4	69,5	68,8	69,4	68,5	69,9	69,6	69,0
COM	50,3	50,4	50,3	50,4	50,7	50,7	51,0	51,4	51,6	51,7	52,1	52,2	53,7	54,3	54,7	55,3	56,0	56,7	57,4	58,1	58,3	57,6	58,8	58,9	57,7	56,9	56,7	55,7	56,1	55,9
CPV	60,2	60,4	60,2	61,3	63,0	62,5	62,2	63,3	64,0	62,5	61,4	62,2	63,4	59,5	64,6	63,1	62,5	65,0	67,2	68,8	69,1	69,7	67,1	67,3	67,9	67,9	66,9	67,9	67,7	67,3
CRI	71,8	71,7	71,9	72,2	72,7	73,4	73,8	74,0	74,1	73,8	74,0	74,1	74,0	74,3	74,9	75,0	75,8	76,5	76,6	77,1	77,8	78,3	78,0	76,9	77,3	77,7	77,5	77,0	77,1	77,3
CUB	54,0	54,4	54,6	55,0	55,4	55,6	55,9	57,0	58,2	59,0	59,7	59,3	59,3	59,9	60,3	59,4	59,5	59,5	59,7	60,3	60,6	60,1	61,8	61,5	61,1	60,7	59,9	60,3	59,8	60,1
CYP	74,4	74,6	74,9	75,3	75,5	76,0	77,1	78,0	78,3	79,2	79,3	79,7	80,0	80,6	81,2	81,4	82,0	82,3	82,4	82,5	82,7	82,1	82,3	82,9	83,0	83,2	82,8	82,9	82,8	82,8
CZE	78,9	79,4	79,8	79,9	80,4	78,9	79,1	78,7	78,9	79,0	79,1	79,6	79,8	80,0	80,8	81,1	81,4	81,7	82,4	83,1	83,9	83,7	83,7	84,0	83,5	82,9	82,8	83,8	83,5	83,2
DEU	86,7	86,9	87,0	86,8	87,2	87,2	88,0	88,3	88,4	88,9	88,7	89,1	89,2	89,3	89,7	89,9	90,2	90,2	90,5	90,7	91,0	90,9	90,8	90,8	91,1	91,0	90,8	91,3	90,9	90,6
DJI	46,7	46,8	47,0	47,2	47,6	47,5	48,2	48,1	47,5	47,8	48,0	48,0	48,2	48,1	48,5	48,7	49,7	50,0	50,3	51,5	52,2	52,1	50,8	51,1	51,7	52,4	53,4	53,3	53,4	53,3
DMA	70,3	70,3	70,4	70,4	70,4	70,4	70,4	71,0	71,0	70,9	70,8	70,7	70,2	70,9	71,2	71,4	71,7	71,9	72,5	73,0	73,7	74,3	72,4	73,2	72,8	72,1	70,7	71,0	72,0	70,9
DNK	86,9	87,2	87,5	87,9	88,4	88,9	89,4	90,3	90,9	91,5	93,8	91,7	91,9	92,2	92,3	92,3	93,4	95,0	94,0	95,1	95,8	95,8	95,3	95,4	95,2	95,4	95,5	96,0	95,9	95,9
DOM	59,5	60,4	60,8	61,8	62,0	62,5	62,8	63,0	63,2	63,4	65,5	66,1	66,3	67,1	67,6	68,1	68,1	68,1	67,9	68,5	69,0	69,5	69,5	69,6	68,9	69,6	69,6	70,2	70,1	70,2
DZA	53,1	52,8	53,3	54,7	56,6	55,7	56,9	58,0	57,5	58,0	56,3	56,6	57,1	57,3	58,7	58,6	57,6	57,8	58,0	58,5	59,3	59,3	57,8	56,9	57,8	58,1	55,8	54,4	54,1	54,2
ECU	62,9	63,3	64,1	65,1	65,4	64,3	65,3	65,3	65,3	65,3	64,5	64,2	64,7	64,1	65,2	64,2	63,3	64,2	64,1	64,6	66,3	66,4	67,5	68,5	68,9	70,2	69,5	70,0	69,1	69,1
EGY	50,4	51,8	52,9	53,5	53,8	52,5	52,9	53,4	53,4	53,4	52,9	52,6	53,2	53,8	54,9	55,2	56,4	57,3	54,5	54,4	55,5	56,0	55,0	55,8	56,6	57,4	57,3	56,3	56,4	56,4
ERI	43,8	43,9	44,0	43,5	43,7	43,3	42,6	42,4	42,3	42,4	42,1	42,1	41,6	41,7	42,1	41,7	38,2	38,0	37,9	38,2	37,3	38,1	38,0	39,0	38,6	38,2	39,1	38,7	38,6	38,6
ESP	75,9	75,8	76,1	76,8	77,4	77,7	78,6	78,9	79,1	79,3	79,3	79,8	80,1	80,5	81,1	81,8	82,6	82,9	83,4	83,0	82,7	82,9	81,9	82,3	83,4	83,4	83,9	83,8	83,2	82,9
EST	77,3	78,1	79,2	80,6	81,1	81,2	82,7	83,5	83,9	84,3	85,6	85,7	86,2	86,0	86,3	86,2	86,1	86,0	86,3	86,1	86,6	86,8	87,3	87,8	88,5	88,8	88,8	89,2	88,9	88,8
ETH	39,1	40,2	40,8	40,3	41,8	42,2	41,9	40,9	38,6	41,0	41,9	42,7	43,3	43,9	44,7	45,0	44,9	45,7	45,4	45,6	46,2	46,6	47,4	48,5	49,8	50,6	50,8	49,9	48,8	48,8

iso	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
FIN	84,8	85,2	85,8	85,9	86,8	87,4	88,5	89,4	89,4	88,6	88,8	89,0	89,4	89,8	90,0	90,1	90,6	90,9	92,2	91,8	92,7	92,3	92,5	92,9	94,4	94,4	94,9	95,2	95,0	94,8
FJI	66,6	67,1	67,1	67,0	67,0	66,7	66,7	66,5	66,2	66,2	65,8	65,4	65,7	66,3	67,3	67,5	67,8	67,9	68,5	68,9	69,1	68,8	69,8	69,4	69,2	69,0	68,5	67,4	68,8	68,8
FRA	80,0	80,2	79,8	79,9	80,3	79,7	79,8	79,9	80,2	80,8	81,2	81,5	82,5	83,1	83,1	83,7	84,1	84,1	84,5	84,8	84,9	84,8	85,2	85,6	85,2	85,2	85,5	85,7	85,4	85,2
GAB	56,1	55,8	56,3	58,8	58,2	54,2	56,4	57,6	59,6	59,5	57,9	58,5	60,4	60,2	63,0	62,6	62,4	62,1	63,9	64,4	65,6	66,0	65,3	65,2	65,9	66,3	65,6	65,1	64,9	65,0
GBR	83,8	83,8	84,1	84,7	85,3	85,8	86,0	86,4	86,4	86,9	87,4	87,5	87,6	87,8	88,5	88,4	88,0	88,1	89,5	90,1	92,2	92,6	93,1	93,0	92,8	92,5	92,7	91,2	90,8	90,6
GEO	68,5	68,6	69,1	69,3	70,1	70,6	71,9	71,4	70,0	71,5	71,9	72,5	73,0	72,5	72,5	72,5	72,6	73,3	75,4	75,6	77,1	78,0	78,4	79,8	79,3	79,4	79,0	78,5	77,9	77,8
GHA	58,9	59,3	59,6	59,9	61,0	60,8	61,1	61,5	61,6	62,8	63,3	64,0	64,4	64,7	65,0	65,8	64,5	64,0	64,3	64,3	64,2	63,7	61,5	61,8	62,7	63,7	62,6	62,9	62,5	62,2
GIN	43,7	43,8	43,3	45,1	45,2	44,9	45,1	44,4	45,0	45,4	44,5	44,5	45,3	44,7	44,2	47,0	46,4	46,6	47,3	47,9	48,5	49,3	47,7	49,1	50,7	49,0	48,5	47,7	47,4	47,4
GMB	45,7	46,3	46,9	47,3	47,1	46,9	47,5	47,7	47,2	47,7	47,9	48,2	48,5	48,6	48,6	48,5	48,7	48,9	48,8	49,1	49,5	49,4	57,0	59,2	59,3	60,0	60,7	60,4	60,4	60,5
GNB	42,2	42,5	42,7	41,3	43,4	45,4	47,4	48,0	47,2	47,6	48,1	48,3	47,6	48,1	47,8	48,4	49,8	50,6	51,5	51,5	51,9	52,1	53,4	54,4	55,3	55,1	55,8	53,5	53,2	52,9
GNQ	36,3	33,3	32,8	34,3	33,2	30,1	32,0	32,2	33,5	33,9	39,5	40,1	41,4	42,0	45,4	44,2	44,7	44,7	46,2	48,1	49,6	50,7	50,2	48,4	48,6	51,2	50,3	49,9	50,6	50,5
GRC	73,1	73,1	73,3	74,0	74,2	74,6	75,4	75,5	75,8	76,3	76,9	77,7	77,2	77,7	78,2	78,8	78,5	77,9	77,8	78,3	78,6	77,9	79,1	79,4	80,4	81,0	80,7	81,5	80,5	80,3
GTM	50,2	51,7	52,7	53,4	54,2	57,0	57,3	57,1	57,4	57,3	57,4	57,7	58,5	59,1	59,5	60,1	60,5	60,5	60,5	61,3	59,7	59,7	60,0	60,2	60,1	59,9	59,7	58,9	58,8	58,7
GUY	50,9	52,5	54,0	55,8	56,0	55,8	57,0	58,0	57,5	58,0	59,4	61,9	61,3	60,9	60,6	60,4	60,8	61,4	62,1	62,8	64,4	64,4	66,4	67,5	67,6	67,2	63,5	63,8	63,4	63,5
HKG	79,2	79,9	79,7	79,9	80,3	80,8	81,4	81,6	81,8	82,1	82,4	82,8	83,9	84,5	84,6	84,7	85,0	85,1	85,0	84,9	84,9	84,9	85,2	85,0	84,4	83,5				
HND	56,6	56,6	56,7	56,7	57,3	57,7	58,0	58,5	59,0	58,4	58,2	58,9	59,2	59,4	57,8	59,1	59,9	60,3	61,1	60,9	61,2	61,2	60,9	62,0	62,0	62,0	61,3	61,9	61,9	61,9
HRV	64,2	66,2	66,4	67,8	69,0	71,9	72,1	72,5	73,0	73,4	73,4	73,9	73,9	74,1	74,7	76,1	76,9	77,5	78,0	78,5	79,6	79,0	79,2	79,6	79,3	79,5	80,1	81,5	81,3	81,4
HTI	50,0	49,9	51,3	51,6	51,8	51,7	51,7	51,5	52,1	52,2	52,1	52,8	54,0	53,7	54,2	53,7	54,9	55,0	54,8	55,1	55,3	55,7	54,8	55,4	54,8	54,4	54,3	53,6	53,4	53,2
HUN	73,1	73,6	73,8	74,5	75,2	76,3	76,6	76,8	76,8	76,9	77,9	78,0	78,2	79,0	79,3	79,4	79,6	80,0	81,3	81,2	79,5	78,3	77,4	77,1	76,5	76,6	76,5	76,5	75,9	75,5
IDN	48,8	50,1	50,8	52,7	56,1	58,3	58,5	59,6	60,1	59,2	59,2	59,6	59,6	59,4	60,7	61,5	61,4	62,0	62,5	63,2	64,3	64,8	65,2	65,4	66,2	65,4	65,2	64,8	64,4	64,4
IND	52,7	53,3	54,0	54,2	54,4	54,1	54,6	55,2	55,7	55,8	56,4	56,3	56,7	56,4	56,9	56,8	57,1	57,6	58,1	58,1	57,8	58,3	57,6	58,1	57,6	57,6	58,1	57,6	57,2	57,2
IRL	79,3	79,7	80,7	82,3	82,6	83,1	84,2	84,5	85,1	85,7	86,2	86,9	87,4	88,0	88,2	88,7	88,3	88,3	88,4	88,7	89,0	88,7	88,7	89,2	89,4	89,2	89,7	90,4	90,4	90,5
IRN	45,8	46,2	47,6	49,7	49,3	48,1	49,8	50,4	51,6	50,6	49,5	48,6	49,6	49,2	51,2	50,6	50,8	52,6	52,6	52,5	54,7	55,9	56,5	53,5	54,1	54,0	52,3	51,5	51,5	51,3
IRQ	34,4	32,7	33,7	33,2	33,6	32,0	32,5	33,1	34,9	36,3	35,7	36,2	39,0	39,2	42,1	41,6	39,9	39,6	39,5	38,7	40,5	42,0	41,5	41,0	41,9	43,7	42,1	42,8	42,7	42,7
ISL	83,9	84,1	84,5	85,0	85,1	85,9	86,0	86,4	86,9	86,8	87,9	87,9	88,0	87,8	87,8	88,4	88,0	88,7	89,3	89,6	89,6	89,8	90,1	90,3	90,5	90,0	90,3	90,2	89,4	89,2
ISR	74,9	75,2	75,7	76,8	77,2	76,7	76,8	77,3	76,6	76,5	77,4	78,1	78,8	79,0	79,7	79,8	79,6	79,3	79,4	79,9	80,4	81,1	80,8	81,0	81,2	81,7	81,7	81,5	81,1	81,3
ITA	73,3	73,5	73,4	73,9	74,5	74,9	75,3	75,7	76,0	76,4	76,9	76,9	77,3	77,5	77,5	78,0	78,0	77,7	77,7	77,6	77,9	78,5	79,7	80,5	81,0	80,9	81,9	82,2	81,7	81,3

iso	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
JAM	66,0	66,3	66,6	66,8	66,6	67,0	67,4	67,5	68,0	68,8	69,2	69,4	69,7	70,6	71,4	72,1	72,1	72,4	72,1	71,9	72,4	72,0	73,2	72,8	72,8	72,9	72,9	72,7	72,4	72,4
JOR	62,9	62,8	63,5	64,2	64,5	65,4	65,9	65,6	65,9	66,3	66,4	66,3	66,0	65,7	66,6	67,5	68,5	69,0	69,6	68,7	69,3	68,4	68,4	68,8	69,9	69,9	69,6	68,8	68,7	68,6
JPN	85,2	85,0	84,8	84,8	84,7	85,2	85,4	84,8	85,0	84,6	85,1	86,1	86,0	86,2	86,3	86,4	86,4	86,1	86,1	86,2	86,3	85,8	85,5	86,1	86,4	86,3	86,5	86,1	86,1	85,8
KAZ	59,2	58,9	59,5	60,5	60,3	59,0	60,8	61,0	59,3	57,0	56,4	57,7	58,2	57,3	59,1	59,3	59,1	60,5	61,3	62,0	63,6	64,0	64,4	63,1	64,2	66,5	64,4	63,4	63,2	63,2
KEN	49,6	50,3	51,1	51,1	51,4	52,7	52,6	54,0	55,6	56,4	56,9	57,4	56,8	56,7	56,4	56,0	55,8	56,2	56,9	57,6	57,9	58,8	58,2	59,1	59,4	60,1	60,5	60,7	61,2	61,3
KGZ	60,2	60,2	60,2	60,9	61,3	62,3	62,9	62,6	61,6	61,2	61,6	62,5	61,7	60,4	60,3	60,5	61,9	62,3	62,0	62,4	62,6	62,6	63,0	65,1	64,4	64,1	63,1	61,4	60,4	60,3
KHM	46,8	47,0	46,8	49,1	49,8	50,3	50,9	51,6	52,4	52,8	52,9	52,6	52,5	52,3	52,1	52,0	52,0	52,0	51,7	51,4	51,8	51,3	51,7	52,1	52,4	52,2	52,2	52,6	51,8	51,7
KOR	69,8	70,3	70,5	71,1	71,4	72,0	72,6	73,2	73,6	73,9	74,5	74,4	74,4	74,2	74,4	75,0	75,0	74,9	75,0	75,0	74,9	74,9	76,2	76,8	77,3	77,8	78,1	78,1	77,6	77,5
KWT	56,7	56,4	56,3	58,5	58,3	55,7	56,7	58,2	58,1	56,4	55,0	55,6	56,0	55,7	57,8	56,9	55,7	56,7	56,9	57,6	61,7	61,5	61,1	59,7	60,5	62,9	63,5	62,4	62,5	62,8
LAO	40,2	40,8	40,7	40,8	41,6	42,3	41,8	42,7	43,4	43,8	44,3	43,5	44,1	44,4	44,9	44,6	44,9	45,4	45,9	47,0	47,6	48,2	48,6	48,6	49,5	49,3	48,8	48,3	48,6	48,7
LBN	58,8	58,8	59,0	58,3	58,3	57,9	59,2	59,0	59,1	60,1	61,1	62,4	63,7	63,7	63,3	63,7	64,0	63,6	63,1	62,9	62,4	63,0	62,1	62,6	62,3	62,0	61,2	60,1	60,2	60,6
LBR	42,1	41,4	39,1	39,1	39,1	46,0	46,2	45,1	46,5	52,8	53,6	54,7	54,2	54,3	54,2	54,5	53,7	53,4	53,2	53,8	54,8	54,7	53,7	55,2	54,3	54,1	53,5	52,9	53,2	53,2
LBY	43,8	43,4	43,9	45,9	45,8	44,1	44,6	41,9	42,1	40,5	39,8	40,1	41,1	40,7	43,9	42,7	48,7	48,1	48,4	50,3	52,3	52,7	51,0	49,6	49,3	52,7	44,9	45,1	44,8	44,8
LCA	69,8	70,0	70,1	70,3	70,5	70,8	71,1	72,5	73,0	73,5	73,9	74,3	74,7	75,7	75,8	75,6	75,8	75,9	75,3	75,2	74,5	73,7	72,0	72,7	72,4	72,3	72,1	71,4	70,8	71,0
LKA	63,3	63,8	64,5	64,4	64,5	64,3	65,0	64,7	64,6	64,3	64,1	63,3	63,1	63,2	62,9	64,7	65,0	65,5	66,6	66,2	67,7	68,3	68,4	69,3	67,9	67,0	66,5	66,7	67,0	66,5
LSO	57,8	57,8	57,9	57,7	58,2	58,2	58,7	58,5	59,2	59,2	59,6	59,8	59,3	59,2	58,8	59,1	59,2	59,3	59,5	60,2	58,6	57,7	59,2	60,4	60,5	61,1	60,6	59,9	59,8	59,9
LTU	74,1	74,7	76,5	77,4	78,2	79,0	80,0	80,7	81,7	82,6	82,6	82,7	82,3	82,2	82,3	82,5	83,0	83,1	83,3	83,8	84,4	84,7	84,7	84,5	84,8	85,0	85,1	85,1	84,4	84,5
LUX	85,9	86,3	86,6	87,0	87,6	88,4	88,8	87,4	86,9	86,2	85,5	85,2	85,2	86,0	87,1	87,5	87,9	88,2	88,9	89,4	89,4	89,4	89,8	89,7	89,4	89,0	89,3	89,7	89,4	89,5
LVA	73,6	74,1	75,8	77,2	77,8	78,3	79,3	79,6	80,4	81,2	80,9	80,4	80,3	80,5	80,7	80,6	81,0	81,2	82,0	82,7	83,3	83,6	84,8	85,1	84,4	84,8	85,1	85,6	85,0	84,8
MAR	52,0	52,6	53,0	52,8	53,6	56,2	56,7	56,3	56,5	56,3	55,7	55,7	56,5	55,8	56,9	57,4	57,7	58,4	59,3	59,6	60,1	60,7	61,3	62,4	62,5	62,5	62,6	62,1	62,0	61,8
MDA	64,5	67,6	67,4	68,2	68,7	69,3	68,3	68,9	69,6	69,6	69,7	69,0	68,1	68,0	68,2	68,9	69,6	69,4	69,5	70,9	70,4	69,6	70,1	70,2	70,4	70,9	72,0	72,9	72,4	72,1
MDG	51,9	52,3	52,1	51,9	52,5	53,1	53,4	53,1	55,9	56,3	57,0	56,9	56,9	57,4	56,1	55,0	54,3	55,3	55,7	56,2	56,1	55,8	55,1	55,6	55,2	55,4	55,0	55,2	55,2	55,0
MDV	51,2	51,4	51,5	51,7	52,0	52,1	52,1	51,9	53,0	53,8	54,6	55,3	55,3	58,5	59,2	59,7	60,0	58,7	58,2	58,7	59,2	59,2	58,1	58,9	62,9	65,7	65,1	64,0	64,1	64,3
MEX	60,8	60,7	60,4	61,1	61,4	61,9	62,7	63,5	64,3	64,6	64,5	64,5	64,9	64,8	65,3	65,7	65,7	66,0	66,4	67,0	67,2	67,3	68,1	68,5	68,8	68,9	68,1	68,0	68,0	67,9
MKD	64,3	64,5	64,8	65,2	65,6	65,4	65,1	66,7	68,2	68,1	68,3	68,8	69,3	70,6	71,5	72,5	72,1	72,7	73,6	73,9	73,5	72,4	73,5	74,4	73,8	72,6	73,3	72,6	72,5	72,1
MLI	47,4	48,4	48,4	49,0	49,9	50,3	50,6	50,9	51,2	51,3	52,4	51,6	52,0	52,2	52,0	52,5	52,6	51,8	52,0	52,2	52,6	51,6	51,4	51,7	52,2	50,7	49,1	48,6	48,2	47,9
MLT	72,3	72,3	73,7	74,6	74,4	74,9	76,2	76,8	76,7	77,6	78,7	78,3	78,0	78,1	78,5	79,5	79,2	80,0	80,9	81,4	83,6	84,4	84,7	84,8	84,1	84,6	85,2	85,0	84,5	84,0

iso	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
MMR	36,2	36,7	37,2	37,5	38,7	38,8	38,0	38,2	38,1	38,2	38,1	38,5	39,2	39,6	41,0	42,7	45,2	46,9	47,8	48,7	49,7	50,7	51,7	52,6	53,3	53,8	47,7	46,2	45,5	44,8
MNE	61,4	61,4	61,4	61,4	61,6	67,1	67,1	67,4	67,1	67,8	68,4	69,2	69,9	70,3	72,1	73,3	73,1	73,2	73,6	74,3	75,1	75,6	75,5	75,5	75,4	75,1	76,3	75,9	76,6	76,4
MNG	61,2	62,4	63,6	64,9	66,2	66,3	66,0	66,1	66,7	65,8	66,4	64,8	64,3	64,0	64,9	62,4	61,4	65,0	65,7	65,8	67,2	67,1	65,0	65,1	65,2	64,4	61,9	61,9	61,2	61,0
MOZ	47,2	48,7	48,8	49,1	51,0	52,1	53,0	52,5	52,2	52,6	52,4	51,9	52,4	52,6	52,9	53,9	54,1	54,4	54,1	53,6	53,4	51,6	49,7	48,8	50,7	51,3	50,9	50,8	50,9	50,6
MRT	47,9	48,2	48,6	48,0	48,4	49,2	49,2	49,8	51,5	52,3	51,2	50,6	49,3	49,4	52,1	50,0	50,6	52,3	51,7	52,5	53,8	52,9	51,6	53,0	55,1	54,6	52,6	53,0	53,2	53,2
MUS	69,3	69,4	69,6	69,9	70,2	70,1	70,3	70,6	70,3	70,7	71,4	71,5	72,2	73,2	74,0	74,5	74,9	75,6	75,8	76,1	76,4	76,4	75,5	76,0	76,8	76,3	76,1	73,9	73,8	74,0
MWI	50,4	52,3	52,6	52,1	52,9	53,7	54,5	55,4	54,4	55,3	56,0	56,5	56,0	55,9	56,6	57,2	57,7	57,7	58,1	58,5	59,0	57,6	58,6	59,2	59,1	59,8	60,5	59,5	59,1	58,9
MYS	61,5	61,7	62,0	62,8	63,2	63,2	62,9	63,1	63,0	63,2	62,7	62,9	63,6	64,0	65,5	66,1	66,6	67,1	67,2	68,0	68,6	69,0	69,6	70,8	72,1	71,8	71,1	70,2	70,3	70,0
NAM	66,0	65,9	65,6	66,2	66,0	66,4	66,3	66,8	67,3	66,6	66,2	65,6	65,6	65,7	65,9	66,2	66,1	66,4	67,3	67,7	69,1	69,5	69,6	70,5	70,6	70,7	70,1	69,3	69,0	69,0
NER	45,1	44,9	44,9	45,4	45,7	47,1	48,0	48,2	48,8	49,4	49,9	49,9	49,9	50,2	50,1	52,0	51,9	50,3	50,1	50,4	50,2	50,6	50,8	51,0	51,6	52,5	52,8	52,9	52,4	52,2
NGA	46,5	46,5	47,9	49,8	51,8	49,5	50,0	51,2	50,6	51,2	51,0	51,7	53,3	53,5	55,7	54,7	53,4	53,7	53,9	54,2	54,9	56,0	55,3	55,3	55,9	56,5	56,2	55,7	55,6	55,5
NIC	56,2	58,4	58,5	58,9	59,3	60,0	60,7	61,4	61,6	61,6	62,0	62,2	61,8	61,5	61,5	61,0	60,9	61,1	61,0	61,4	61,5	61,2	60,2	55,2	54,4	54,2	52,9	52,3	52,3	52,1
NLD	85,1	85,3	85,4	85,3	85,6	85,9	87,4	87,7	87,8	87,8	87,8	88,3	88,6	88,9	89,1	88,8	89,3	89,2	89,5	89,9	90,2	90,2	90,4	90,7	91,0	91,0	91,0	91,2	90,8	90,7
NOR	84,1	84,0	84,4	86,1	85,8	85,2	85,0	85,6	85,8	85,9	85,7	86,4	86,9	86,2	87,2	87,8	87,9	88,2	88,8	89,3	90,4	90,6	91,1	90,2	89,9	89,8	89,2	89,8	89,8	89,9
NPL	51,1	50,8	51,5	51,6	51,8	51,3	51,1	50,7	51,3	52,1	52,8	54,9	57,5	58,0	58,2	57,9	57,3	57,6	56,9	57,0	57,1	57,5	59,1	58,7	59,0	58,7	58,1	58,3	58,7	58,8
NZL	87,7	88,0	88,5	88,9	89,6	89,7	90,1	90,5	90,8	91,1	91,4	91,6	91,6	92,2	92,8	93,1	93,3	93,4	93,3	93,0	93,0	92,5	92,7	92,3	92,7	92,5	92,6	92,1	91,9	91,7
OMN	54,2	52,7	53,4	55,1	53,8	51,5	53,3	53,5	53,7	53,8	52,9	53,1	54,4	55,3	57,0	57,6	57,1	57,4	57,7	58,7	61,2	62,2	60,9	61,7	62,7	64,0	61,9	59,6	59,9	60,6
PAK	48,8	49,0	48,5	48,4	48,3	48,8	49,0	49,2	49,6	49,9	50,1	50,7	50,4	50,4	51,3	51,4	51,5	51,8	52,3	52,8	53,3	53,5	52,7	52,3	52,0	52,3	51,5	50,1	49,9	49,9
PAN	68,7	68,9	69,2	69,4	69,6	70,2	70,2	70,2	70,5	70,6	70,8	70,9	71,3	71,3	71,2	71,2	70,9	71,1	70,9	71,5	72,2	73,3	73,8	74,3	74,4	74,1	73,8	73,9	73,6	73,6
PER	58,5	59,6	59,7	60,6	61,6	64,9	69,2	68,8	68,9	68,8	67,6	66,8	67,2	67,7	67,9	68,4	68,3	69,2	69,8	70,2	70,4	70,6	71,1	71,4	72,3	71,8	70,0	69,9	69,6	69,3
PHL	61,0	62,1	62,5	62,5	62,4	62,8	63,1	63,7	64,2	64,3	63,5	63,9	63,6	64,1	64,1	64,8	64,9	65,3	65,5	65,4	65,0	63,5	62,9	62,6	62,2	61,9	61,0	61,4	61,4	61,3
PNG	50,3	51,4	52,5	52,2	52,1	50,5	51,8	51,3	50,9	49,7	49,2	49,9	50,6	50,6	52,1	51,6	52,7	55,5	56,9	56,4	55,9	55,6	54,9	55,6	56,4	56,9	54,9	54,2	53,5	53,2
POL	75,3	76,9	77,1	77,9	78,3	79,0	79,8	80,7	80,3	79,6	80,7	80,0	79,7	80,0	80,3	80,4	80,5	81,1	82,0	82,4	83,4	82,3	81,0	80,9	80,8	80,5	80,4	80,0	80,2	79,9
PRT	74,3	75,2	75,3	75,8	75,9	76,4	76,7	76,7	77,1	77,8	77,6	78,2	78,8	79,5	80,0	80,3	80,8	80,5	80,5	80,5	80,8	80,3	80,2	80,7	80,8	80,6	80,8	81,4	81,3	81,1
PRY	60,3	60,9	61,3	61,3	61,4	62,2	62,6	64,3	64,1	64,5	64,1	64,3	64,8	65,5	65,4	65,6	65,9	65,8	65,7	65,8	66,5	66,8	66,7	67,0	67,3	66,8	66,9	66,5	66,2	66,0
QAT	59,0	57,6	58,4	59,5	58,4	57,3	58,1	59,1	59,8	59,9	59,2	60,0	61,3	62,1	63,8	63,4	62,7	63,4	64,1	64,7	66,3	65,4	66,0	65,9	66,8	67,1	65,1	63,7	63,6	63,7
ROU	68,3	69,2	70,3	71,4	71,1	71,5	71,4	71,4	71,6	70,3	70,7	71,8	72,4	74,1	75,8	77,0	77,2	77,2	79,4	79,8	80,7	80,8	79,0	78,4	78,2	78,2	78,3	77,9	77,4	77,4

iso	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
RUS	61,0	61,3	61,5	63,2	62,4	60,1	60,3	60,8	61,1	61,5	60,8	60,9	61,4	60,6	61,6	61,9	61,8	61,7	62,1	62,0	62,9	62,8	63,5	63,1	63,7	64,4	62,5	59,8	59,2	59,0
RWA	43,6	44,0	44,5	44,9	46,1	47,4	48,6	49,6	49,2	50,8	51,3	52,3	52,5	52,8	53,4	54,3	55,0	55,6	55,6	55,9	56,5	55,0	55,2	56,3	57,0	56,6	55,6	53,6	52,9	52,8
SAU	55,3	54,7	55,6	57,2	55,8	54,0	54,3	54,9	53,4	51,7	51,2	51,2	51,3	50,9	54,9	54,7	53,6	53,6	54,4	55,5	58,7	58,8	59,4	58,4	60,8	62,3	61,7	60,0	60,5	61,1
SDN	36,6	36,8	37,2	36,8	37,4	37,2	37,8	37,6	37,8	38,2	38,4	38,8	38,9	38,5	40,2	40,6	39,8	41,2	41,8	42,7	43,6	44,2	45,1	44,0	45,7	44,6	43,1	42,4	41,8	42,0
SEN	56,3	56,3	56,7	57,0	57,4	57,2	57,6	57,6	57,5	57,5	57,3	57,5	58,4	58,9	58,9	58,7	58,9	58,7	59,3	59,0	59,7	59,9	59,7	60,1	60,2	60,9	60,5	60,8	59,7	59,3
SGP	79,8	80,2	80,8	81,0	81,4	82,0	82,3	82,6	83,0	83,3	84,3	84,5	84,2	84,1	83,2	83,5	84,5	84,6	84,7	84,8	85,1	85,7	86,7	88,5	86,4	86,6	86,4	85,3	85,5	85,4
SLB	57,0	56,9	57,4	56,2	55,1	54,4	54,5	56,2	57,0	57,7	57,6	57,6	56,8	56,9	58,4	57,9	57,7	57,5	57,9	57,6	58,6	59,3	59,0	60,6	59,9	59,3	60,2	60,1	60,2	59,9
SLE	42,8	45,2	43,7	43,5	45,5	47,0	49,8	51,2	49,9	49,8	50,2	50,4	50,6	51,4	52,3	53,6	54,0	53,8	54,6	54,6	54,0	53,6	53,5	54,8	54,8	54,9	56,0	55,7	55,5	54,6
SLV	60,2	60,9	61,4	61,9	62,9	63,8	63,8	64,4	64,6	65,1	65,5	65,8	65,8	66,0	66,6	67,3	67,4	68,0	68,0	68,1	68,0	67,4	66,6	66,5	65,6	64,4	62,8	61,3	60,9	60,7
SOM																	19,7	20,7	35,2	35,1	35,0	36,0	35,6	37,5	36,4	36,8	37,9	36,0	37,7	37,7
SRB	59,8	60,4	60,6	60,5	60,3	62,5	65,5	65,8	65,5	66,3	67,6	68,2	68,6	69,0	70,2	70,5	70,7	71,3	71,2	71,8	72,3	72,8	71,4	71,2	71,9	72,1	72,1	71,5	71,3	71,1
STP	50,5	50,7	50,8	50,9	51,1	51,4	58,0	58,1	58,2	58,5	59,0	59,2	60,6	60,7	61,0	61,8	62,3	62,7	63,0	63,6	64,8	66,1	66,1	66,3	66,8	67,4	67,1	67,5	67,9	67,8
SUR	62,6	62,5	62,7	64,1	64,1	64,3	63,8	65,9	66,5	66,7	66,6	67,6	67,5	66,3	66,7	64,1	61,9	61,9	63,0	64,4	65,9	66,0	64,2	66,5	66,8	66,7	65,6	66,1	65,9	66,0
SVK	71,9	71,7	71,9	73,3	73,8	74,2	75,2	75,7	75,8	77,3	78,0	78,6	78,8	79,3	79,5	80,3	80,6	80,4	80,8	80,8	81,1	80,7	79,9	79,3	79,5	79,6	80,0	81,1	80,9	80,7
SVN	73,4	73,8	75,1	76,5	77,3	77,3	78,5	78,6	79,1	79,7	80,5	81,1	80,8	80,9	81,6	82,3	82,5	82,5	83,1	83,7	83,8	84,0	84,1	84,6	84,3	84,1	83,7	85,1	84,3	83,9
SWE	84,4	85,0	86,0	86,8	87,2	87,7	88,1	88,8	89,0	88,0	88,0	88,3	88,2	88,3	89,0	89,3	89,3	89,6	91,3	91,5	92,8	92,2	92,6	93,1	93,6	93,6	93,6	93,8	93,7	93,7
SWZ	53,4	52,6	52,6	52,8	52,8	52,6	52,6	51,9	52,6	52,5	52,7	54,2	53,8	53,8	54,0	54,3	55,3	55,1	55,4	57,1	57,5	57,3	57,8	57,4	56,9	56,9	55,0	53,5	54,1	54,2
SYC	68,2	68,2	68,3	68,3	68,3	68,2	67,7	67,9	68,1	68,2	68,7	68,1	69,6	70,2	71,0	72,2	73,6	74,6	75,1	76,0	76,5	77,2	76,7	77,5	77,5	78,1	79,9	79,8	79,4	79,6
SYR	43,4	43,6	43,9	44,3	43,6	44,0	44,8	45,8	47,1	47,7	49,2	50,3	49,6	48,5	49,8	49,2	46,4	46,2	44,0	44,4	44,4	43,6	44,0	43,9	43,8	43,5	43,4	43,5	44,2	44,2
TCD	40,0	40,3	40,4	40,7	41,1	40,8	41,4	42,1	41,3	38,1	37,7	37,8	38,1	37,7	40,3	39,9	39,6	41,0	42,2	42,7	43,2	42,5	41,5	40,6	41,1	42,3	40,4	39,4	40,1	40,0
TGO	47,9	48,6	48,9	49,0	49,5	49,3	49,5	49,7	49,6	50,3	51,5	52,2	52,8	52,5	52,0	52,4	52,2	52,1	53,3	54,3	55,6	56,9	56,9	56,7	57,0	58,8	58,8	58,8	58,5	57,8
THA	61,9	62,1	61,8	62,5	62,9	63,5	64,5	64,9	64,8	64,4	63,6	63,1	63,2	63,6	64,1	64,0	65,2	65,4	64,6	62,9	62,8	62,7	63,3	63,8	65,7	65,3	64,5	63,9	64,4	64,1
TJK	52,1	51,8	52,3	53,7	54,0	57,0	58,1	58,3	58,1	57,5	57,1	57,0	56,6	56,6	56,7	55,9	56,2	56,3	56,6	55,8	55,3	53,5	54,1	54,7	54,6	53,7	53,8	52,6	52,5	52,6
TKM	40,2	38,4	41,2	46,6	44,8	38,0	35,5	38,9	40,5	40,9	40,4	38,7	39,9	39,3	45,6	45,9	44,8	45,7	46,3	47,5	48,4	50,3	50,4	49,5	51,6	51,0	51,4	51,4	51,5	51,5
TLS	36,8	36,8	36,9	37,4	38,2	56,5	57,1	57,7	57,6	58,0	58,5	59,1	59,9	60,9	61,8	61,3	61,6	61,3	61,1	60,0	47,4	54,3	55,0	52,3	55,0	57,2	56,6	57,3	57,4	57,9
TTO	65,9	65,9	66,8	68,0	67,7	67,6	67,6	67,2	67,2	68,0	67,3	67,0	67,7	67,8	67,8	68,4	68,0	68,7	69,1	70,4	72,8	72,9	73,4	72,3	72,1	73,1	73,0	73,2	73,3	73,4
TUN	55,0	55,5	55,7	56,3	56,3	56,4	56,6	56,7	56,6	56,9	56,7	57,2	57,8	57,3	57,7	58,0	65,1	65,4	65,1	65,4	66,1	67,1	67,6	68,5	68,2	68,7	68,5	67,1	66,4	65,8

iso	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TUR	57,0	57,1	58,2	58,6	58,9	60,7	60,9	62,0	62,6	63,1	62,9	64,1	63,9	63,9	64,3	65,0	65,3	65,1	65,0	66,0	65,4	62,9	63,2	64,0	64,1	64,2	63,8	62,6	63,0	62,9
TWN	67,6	67,9	67,0	67,3	67,8	70,4	71,6	71,2	71,3	70,6	71,3	71,5	71,6	72,4	72,7	73,6	74,0	74,7	75,0	75,5	76,4	76,1	76,9	76,9	77,7	77,5	78,7	79,1	79,3	79,1
TZA	53,1	53,8	54,6	55,4	56,1	55,9	55,8	56,2	55,6	56,5	55,5	56,1	56,0	56,6	57,2	57,7	57,2	57,2	57,2	57,1	56,5	56,3	57,3	58,0	58,8	59,0	58,9	59,5	60,5	60,3
UGA	48,1	49,2	49,9	49,9	50,9	50,0	50,4	50,5	49,7	52,1	52,5	53,0	52,7	52,7	54,0	53,9	53,3	52,8	53,0	53,2	53,3	52,6	52,8	53,5	53,7	53,3	53,0	52,4	52,0	51,8
UKR	62,1	62,1	62,8	62,5	62,9	63,6	64,8	67,6	66,5	67,0	68,1	68,4	67,8	67,7	68,6	66,8	67,0	67,7	67,1	66,0	64,9	65,4	65,9	67,0	68,6	69,8	68,7	65,9	66,2	66,2
URY	74,0	74,7	75,7	76,1	76,3	77,0	78,0	78,1	78,9	78,2	77,9	77,3	77,5	76,9	76,5	76,8	77,2	77,7	78,3	78,7	79,1	78,9	79,9	79,2	79,1	79,1	79,6	79,9	80,0	80,0
USA	84,4	84,4	84,3	84,3	84,2	84,3	85,0	84,9	84,5	84,7	85,2	85,5	86,3	86,5	87,0	86,7	86,8	87,0	87,3	87,3	87,8	87,5	87,4	86,6	86,5	85,9	85,6	85,7	85,2	85,1
UZB	47,3	47,3	47,4	47,9	47,9	46,8	44,6	45,6	45,6	46,4	47,3	46,6	48,3	47,3	49,6	50,5	49,7	49,7	50,3	51,2	52,0	52,6	54,8	54,4	57,4	58,3	57,1	57,3	57,4	57,3
VCT	69,5	69,5	69,5	69,6	69,6	69,8	70,3	71,0	71,5	71,6	71,9	72,4	72,8	73,3	73,1	74,3	75,2	75,3	76,2	76,2	76,9	77,2	76,4	77,4	76,7	77,1	76,9	76,9	76,5	75,8
VEN	61,0	58,9	59,8	61,2	60,3	58,8	59,4	58,8	58,1	56,9	56,2	57,1	59,7	59,3	60,5	60,0	58,4	58,8	57,5	57,9	57,1	57,5	55,1	53,9	52,7	51,9	51,8	52,0	52,2	52,5
VNM	47,3	47,5	47,8	48,8	49,4	49,4	50,2	51,0	51,4	51,2	52,1	53,0	53,3	53,3	54,5	54,5	54,8	55,3	56,1	56,3	56,6	57,3	57,2	56,7	57,3	58,0	58,2	58,9	58,9	59,0
VUT	64,1	64,1	64,1	64,2	64,1	64,2	64,2	64,5	64,7	65,5	66,1	67,0	66,0	65,7	65,2	64,5	63,9	64,0	63,9	64,5	65,0	66,0	67,3	68,4	66,1	66,2	66,7	67,6	67,6	67,6
YEM	36,2	37,2	38,4	39,7	38,3	36,4	37,7	39,0	39,4	39,3	38,8	39,0	40,8	41,0	44,0	43,6	43,7	47,5	48,0	46,1	44,8	43,9	43,6	42,8	43,2	43,1	43,4	43,8	44,5	44,5
ZAF	66,0	66,2	66,3	66,3	66,2	65,8	65,8	66,8	67,6	67,2	66,7	66,7	66,4	65,6	67,3	67,3	67,6	68,4	68,8	70,1	71,1	70,5	70,5	71,0	70,5	69,8	70,0	69,2	69,1	69,0
ZMB	57,8	58,7	59,4	59,3	60,0	59,8	60,1	59,5	58,1	57,7	57,9	57,8	57,7	58,6	58,7	58,7	59,1	59,4	58,8	59,5	59,1	57,6	56,6	57,5	58,5	55,9	52,9	54,0	55,2	55,3
ZWE	52,1	52,1	52,7	51,9	52,1	52,1	50,5	50,0	49,4	48,6	48,5	47,7	46,8	45,8	47,5	48,4	48,9	50,5	51,0	51,7	51,9	51,6	52,5	53,1	53,1	53,9	52,5	51,5	52,4	52,3

Notes: This table has been prepared by the author and estimates the Ethics Perception Index (ETPI) for countries around the world from 1995 to 2024, based on data known as of 16 July 2024. Country names are represented using ISO3 codes to ensure the table fits on one page.

Included countries are Afghanistan (AFG), Angola (AGO), Albania (ALB), United Arab Emirates (ARE), Argentina (ARG), Armenia (ARM), Australia (AUS), Austria (AUT), Azerbaijan (AZE), Burundi (BDI), Belgium (BEL), Benin (BEN), Burkina Faso (BFA), Bangladesh (BGD), Bulgaria (BGR), Bahrain (BHR), Bahamas (BHS), Bosnia and Herzegovina (BIH), Belarus (BLR), Bolivia (BOL), Brazil (BRA), Barbados (BRB), Brunei (BRN), Bhutan (BTN), Botswana (BWA), Central African Republic (CAF), Canada (CAN), Switzerland (CHE), Chile (CHL), China (CHN), Côte d'Ivoire (CIV), Cameroon (CMR), Congo, Dem. Rep. (COD), Congo, Rep. (COG), Colombia (COL), Comoros (COM), Cabo Verde (CPV), Costa Rica (CRI), Cuba (CUB), Cyprus (CYP), Czech Republic (CZE), Germany (DEU), Djibouti (DJI), Dominica (DMA), Denmark (DNK), Dominican Republic (DOM), Algeria (DZA), Ecuador (ECU), Egypt (EGY), Eritrea (ERI), Spain (ESP), Estonia (EST), Ethiopia (ETH), Finland (FIN), Fiji (FJI), France (FRA), Gabon (GAB), United Kingdom (GBR), Georgia (GEO), Ghana (GHA), Guinea (GIN), Gambia (GMB), Guinea-Bissau (GNB), Equatorial Guinea (GNQ), Greece (GRC), Guatemala (GTM), Guyana (GUY), Hong Kong (HKG), Honduras (HND), Croatia (HRV), Haiti (HTI), Hungary (HUN), Indonesia (IDN), India (IND), Ireland (IRL), Iran (IRN), Iraq (IRQ), Iceland (ISL), Israel (ISR), Italy (ITA), Jamaica (JAM), Jordan (JOR), Japan (JPN), Kazakhstan (KAZ), Kenya (KEN), Kyrgyzstan (KGZ), Cambodia (KHM), Korea, Rep. (KOR), Kuwait (KWT), Lao PDR (LAO), Lebanon (LBN), Liberia (LBR), Libya (LBY), St. Lucia (LCA), Sri Lanka (LKA), Lesotho (LSO), Lithuania (LTU), Luxembourg (LUX), Latvia (LVA), Morocco (MAR), Moldova (MDA),

Madagascar (MDG), Maldives (MDV), Mexico (MEX), North Macedonia (MKD), Mali (MLI), Malta (MLT), Myanmar (MMR), Montenegro (MNE), Mongolia (MNG), Mozambique (MOZ), Mauritania (MRT), Mauritius (MUS), Malawi (MWI), Malaysia (MYS), Namibia (NAM), Niger (NER), Nigeria (NGA), Nicaragua (NIC), Netherlands (NLD), Norway (NOR), Nepal (NPL), New Zealand (NZL), Oman (OMN), Pakistan (PAK), Panama (PAN), Peru (PER), Philippines (PHL), Papua New Guinea (PNG), Poland (POL), Portugal (PRT), Paraguay (PRY), Qatar (QAT), Romania (ROU), Russia (RUS), Rwanda (RWA), Saudi Arabia (SAU), Sudan (SDN), Senegal (SEN), Singapore (SGP), Solomon Islands (SLB), Sierra Leone (SLE), El Salvador (SLV), Somalia (SOM), Serbia (SRB), São Tomé and Príncipe (STP), Suriname (SUR), Slovakia (SVK), Slovenia (SVN), Sweden (SWE), Eswatini (SWZ), Seychelles (SYC), Syria (SYR), Chad (TCD), Togo (TGO), Thailand (THA), Tajikistan (TJK), Turkmenistan (TKM), Timor-Leste (TLS), Trinidad and Tobago (TTO), Tunisia (TUN), Turkey (TUR), Taiwan (TWN), Tanzania (TZA), Uganda (UGA), Ukraine (UKR), Uruguay (URY), United States (USA), Uzbekistan (UZB), St. Vincent and the Grenadines (VCT), Venezuela (VEN), Vietnam (VNM), Vanuatu (VUT), Yemen (YEM), South Africa (ZAF), Zambia (ZMB), and Zimbabwe (ZWE).

Annex B: Significant Changes in Ethics Perception Index (ETPI) from 1995 to 2024

Table B1: Significant annual changes in the Ethics Perception Index (ETPI) by country (1995-2024)

iso	*Year_before*	*ETPI_before*	*Year_of_leap*	*ETPI_of_leap*	*country*
AFG	2001	28,5	2002	42,8	Afghanistan
AFG	2020	42,8	2021	46,4	Afghanistan
AGO	2000	46,4	2001	32,3	Angola
AGO	2001	32,3	2002	36,6	Angola
COD	1999	36,6	2000	43,8	Congo, Dem. Rep.
COG	1996	43,8	1997	40,8	Congo, Rep.
GMB	2016	40,8	2017	57,0	Gambia
GNQ	2004	57,0	2005	39,5	Equatorial Guinea
LBR	1999	39,5	2000	46,0	Liberia
LBR	2003	46,0	2004	52,8	Liberia
LBY	2010	52,8	2011	48,7	Libya
LBY	2020	48,7	2021	44,9	Libya
MMR	2020	44,9	2021	47,7	Myanmar
SOM	2012	47,7	2013	35,2	Somalia
STP	2000	35,2	2001	58,0	São Tomé and Príncipe
TKM	1997	58,0	1998	46,6	Turkmenistan
TKM	1999	46,6	2000	38,0	Turkmenistan
TKM	2008	38,0	2009	45,6	Turkmenistan
TLS	1999	45,6	2000	56,5	Timor-Leste
TLS	2014	56,5	2015	47,4	Timor-Leste
TLS	2015	47,4	2016	54,3	Timor-Leste
TUN	2010	54,3	2011	65,1	Tunisia

Notes: This table, prepared by the author, shows significant year-on-year changes in the Ethics Perception Index (ETPI) for various countries from 1995 to 2024, based on data available on 16 July 2024. A significant change is defined as a change of 10% or more in the ETPI from one year to the next.

Explanation of columns:

ISO: ISO3 country code.

Year_before: The year preceding the significant change.

ETPI_before: The ETPI value in the year preceding the significant change.

Year_of_leap: The year in which the significant change took place.

ETPI_of_leap: The ETPI value in the year of the significant change.

Country: The full name of the country.

This Table B1 helps to identify possible historical or socio-political events that may have influenced ethical perceptions in these countries. The ETPI is based on several indices, including the Economic Freedom Index, the Corruption Perception Index, the Human Development Index, the Education Index, the Environmental Performance Index and the Human Rights Index. An increase in these indices typically leads to an increase in the ETPI. Conversely, an increase in natural resource depletion as a percentage of GDP tends to reduce the ETPI.

Possible contextual background for significant changes:

- ✓ Afghanistan (2001-2002): Post-9/11 geopolitical changes and subsequent military conflict (Council on Foreign Relations, 2022) are likely to have influenced ethical conditions.
- ✓ Angola (2000-2001): End of civil war and subsequent reconstruction efforts (Tufts University, 2015).
- ✓ Congo, Dem. Rep. (1999-2000): The Lusaka ceasefire agreement (The Lusaka Ceasefire Agreement, 1999) and efforts to stabilise the region.
- ✓ Gambia (2016-2017): The transition of power from long-time ruler Yahya Jammeh to Adama Barrow (Al Jazeera, 2017).
- ✓ Liberia (1999-2000): The period leading up to the end of Liberia's second civil war (Kieh, 2009).
- ✓ Libya (2010-2011): The Libyan civil war and the fall of Muammar Gaddafi (Bouckaert, 2012).
- ✓ Myanmar (2020-2021): Political upheaval and military coup (Clare, 2021).
- ✓ Somalia (2012-2013): Efforts to establish stable government and reduce piracy (The World Bank, 2013).
- ✓ São Tomé and Príncipe (2000-2001): Political reforms and stabilisation efforts (Nascimento & Presidency of the Federative Republic of Brazil, 2010).
- ✓ Turkmenistan (1997-1998, 1999-2000, 2008-2009): Leadership transition and economic reforms (Bohr, 2005; Jasutis et al., 2020).
- ✓ Timor-Leste (1999-2000, 2014-2015, 2015-2016): Independence from Indonesia [1999-2002] and subsequent nation-building efforts, as evidenced by GDP per capita peaking in 2014-2016 and declining thereafter (diminishing returns from depleting natural resources) (Sakane, 2024).
- ✓ Tunisia (2010-2011): The Tunisian revolution and the start of the Arab Spring (Kuznetsov, 2022).

This information provides a comprehensive understanding of the significant changes in the ETPI and the potential socio-political and economic factors that may have influenced these changes.

CONCLUSION

Dear readers,
the publication that has come into your hands not only provides theoretical foundations and practical examples for understanding the benefits of the circular economy, but also focuses on current challenges and innovations in regional management and cross-border cooperation.
The book offers a perspective on ESG aspects in regional management, emphasizing environmental protection and sustainable use of natural resources. It also looks at the impacts and strategies of cross-border cooperation under the INTERREG program, presenting specific projects that have had a positive impact on regional development, as well as overcoming the challenges that this cooperation brings.
The next chapter introduces the concept of the circular bioeconomy as a tool to promote community energy that strengthens the resilience and independence of regions. It highlights the need to address energy poverty and increase regional energy self-sufficiency, which is crucial in today's volatile environment. In the final chapter, the book discusses the ethical assessment of regional development using the newly proposed ETPI and RETPI indices, which provide a holistic approach to measuring progress concerning ethical and moral considerations, responding to the criticism of GDP as the sole indicator of prosperity.
The present publication thus not only summarises current knowledge on circular economy but also brings innovative tools and practices to support practitioners in both academia and the business and public sectors. Today's dynamic times place ever greater demands on regions' ability to adapt to change - not only through economic measures, but also with an emphasis on ethical and environmental approaches.
We hope that this publication will offer readers useful insights and inspiration for their future strategic decisions that will help ensure the long-term and sustainable development of our regions.

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