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an Era of Uncertainty”

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# **Blockchain to support the agri-food supply chain traceability. A technology mapping approach**

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## **Abstract**

In recent years, the potential of blockchain technology in ensuring traceability and transparency of supply chains, especially in the agri-food sector, has been recognized. However, there is a lack of empirical evidence about the development of blockchain technology in Italy and its adoption in Made in Italy sectors. Furthermore, there is a need to better understand the interactions between technology developers and users for the effective adoption of this technology. Given these premises, this paper adopts a web scraping methodology to provide a technology mapping of developers and users of blockchain technology in Italy. Moreover, it examines the relevance of spatial proximity between developers and users. We collected information on companies involved in the development and adoption of blockchain technology by using primary and secondary data. The former are collected from company websites using WebAI methods, based on natural language processing to measure company activity and identify those adopting blockchain technologies. The latter are collected from available databases, such as Opencoesione and patent's databases. We used econometric techniques to better understand the factors affecting the adoption of blockchain technology and the potential relevance of the spatial proximity to technology providers. A better understanding of these factors is essential to design effective industrial policies at regional and national level and to enhance the adoption of blockchain technology.

# Engendering Socio-economic Prosperity of the United Kingdom through Gender Equality: Shelving the UK-Rwanda Agreement on Asylum-Seekers

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## Abstract

Majority of women suffer discrimination and limited socio-economic freedom because of cultural beliefs and unfavourable governmental policies, which hinder them from contributing creatively toward improving themselves and society at large. Publicly, the recent United Kingdom (UK)-Rwanda Agreement on deportation of asylum-seekers to Rwanda, has attracted criticisms from within and without the country, condemning the inhumane and dire implications of the agreement. This paper contends that implementing the UK-Rwanda Agreement on repatriating the asylum-seekers is antithetic not only to international obligations signed by both countries, but also severely stifles the UK's commitment to realising Sustainable Development Goals (SDGs) 5, that upholds gender equality. Also, the paper makes the case that the pandemic and post-Brexit eras have resulted in the loss of some skilled and essential workforce required as a strategy of resuscitating the floundering economy of the UK. Against that background, this paper further examines the international obligations of the UK and Rwanda to protect the rights and welfare of asylum-seekers as well as devise policies to utilise their untapped skills in productive aspects of the national economy. It proposes that the deportation agreement between the UK and Rwanda is shelved while proactive and humane options are devised to integrate the asylum-seekers, especially women and children, to achieve their human dignity in light of SDG 5. Finally, the paper conceives that, sustainable development requires adequate funding, and since mobilisation of resources is difficult regardless of states' wealth to initiate projects- such as precision agriculture, digital platforms and zero-carbon energy- the UK government should adopt a sober and broader strategic framework to solicit the needed funds as well as sharpen the country's competitive edge to take advantage of the opportunities emerging under the phenomenon. Expending resources on the Rwanda project however denies the UK economy the crucial innovative minds, talents and skills that accompany the diverse populations of asylum-seekers being deported.

# **Energy transition of the European Union in the context of Fit 55 and REPowerEU strategies.**

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## **Abstract**

**Research problem:** Energy transition is a change in the way we produce, deliver and consume energy. One of the key aspects of the energy transition is the replacement of conventional, carbon-intensive fuels with renewable fuels. Concerns about the impact of fossil fuel consumption on climate change and its depletion are a primary motivation for the energy transition. Others include air quality and energy security concerns. The energy transition requires transformations in many areas of the economy, such as the electricity system, public and private transportation, and in many industrial sectors such as manufacturing and construction. The European Union has for years been a leader in promoting and supporting the energy transition globally as well as regionally (within member states). At the heart of the European Union's energy transition are, among other things, the decisions taken under the Paris Agreement, which aims to halt the increase in the average global temperature at 1.5-2°C relative to 1990 level. Complementing the previous path of argumentation, which was based on climate protection, became the need to increase energy security after Russia's invasion of Ukraine and the ongoing war.

**Current understanding:** In response to events in Ukraine, the European Union has announced the REPowerEU plan to reduce Europe's dependence on Russian conventional fuels. It entails accelerating the goals set out in the Fit for 55 strategy, whose initial goal is to reduce CO<sub>2</sub> emissions by 55 percent by 2030 (compared to 1990) and put the Community on track to achieve net zero emissions by- 2050. REPowerEU increased energy efficiency targets, increased plans to import LNG from non-Russian suppliers, presented concepts for the development of the green hydrogen market as well as the development of the heat pump market, and outlined a number of initiatives that are intended to both accelerate the energy transition and at the same time guarantee the EU's energy security.

**Research question:** This article will be an attempt to answer the following research questions:

- What is the stage of energy transition is the European Union currently?
- What are the assumptions and concept of Fit55 and RePower EU strategies?
- What is the effectiveness of the imposed EU sanctions on Russian hydrocarbons?
- What are the prospects and further paths of green transformation for EU countries?

**Research Design:** Diverse research methods will be used to achieve the outlined research objectives and verify the research hypothesis, including critical analysis of the literature on the subject, analysis of source materials, international reports and statistical materials.

**Findings:** Implementation of the above research goals and objectives will enable verification of the formulated research hypothesis: The war in Ukraine has not caused a retreat from the green energy transition, on the contrary, it has further motivated the European Union to take a number of actions including decarbonization as defined in the Fit 55 and REPower EU.0 strategies. The research will enable finding answers to a number of questions about the contemporary energy transition of the European Union.

**Implications:** The war in Ukraine may have slowed down the EU's energy transition processes in the initial period. However, in the contemporary and longer term, it may significantly accelerate the energy transition. This is due, among other things, to the fact that expensive energy forces radical improvements in energy efficiency and accelerates the development of RES in all sectors of the economy. This is because renewables are not burdened by fuel and CO<sub>2</sub> costs.



# Unlocking Collaborative Innovation: The Role of Innovation Ecosystems in Healthcare

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## Abstract

The paper reviews and provides some examples of innovation ecosystem in healthcare. The review and the case analysis aims to identify key dimensions, developments and future research prospects. Innovation ecosystem can be defined as the evolving set of actors, activities, artifacts, institutions and relationships that are relevant for the innovative performance of an actors of population of actors ( Granstrand and Holgersson, 2020). The review shows that the COVID-19 represented a turning point for the evolution and analysis of innovation ecosystems in healthcare. Moreover, the role of innovation intermediaries is considered crucial for their development. Innovation intermediaries connect two or more parties in an innovation process (Howells, 2006) and establish extralocal linkages (Le Gallo and Plunket, 2020). There is still a need for further investigations to help policy-makers choose the right intermediary (Larty et al. 2017). Above all, the complexity behind the development of innovation ecosystem in healthcare call for a comprehensive framework of analysis that can help trace their emergence, connections, and changes. Examples of innovation ecosystems guided by innovation intermediaries are discussed. Specifically, the cases of living labs, science parks and digital innovation hubs (DIH) are considered. The International Association of Science Parks and Areas of Innovation (IASP), the European Network of Living Labs (ENoLL), and the Catalogue of European Digital Innovation Hubs are used to seek exemplary cases. These innovation intermediaries are managing interactions and knowledge exchanges among multiple players in the ecosystem. Specific examples related to Balkan area are presented and compared. A final research agenda is proposed.

## **Soft Skill for Successful Youth Entrepreneurship: Analysis of the Focus Group Results**

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### **Abstract**

Entrepreneurship is an important factor in the development of every country. By having the ability to recognise the opportunities in the market, entrepreneurs establish new businesses, open up opportunities for new job positions, and increase the overall employment in the country. They also enhance the living standards of many people by providing them with a job or by introducing new products and services that serve everyday life. As they usually implement efficient processes and new technologies, they also play a vital role in increasing the productivity of the individual firms and the entire economy. In short, entrepreneurship adds value to society in many different ways, leading to prosperity and welfare. For the economy development and welfare of the society, the special importance has the entrepreneurship of the young people. As young people are generally innovative, risk-oriented, and flexible, young entrepreneurs have a great potential to create new and fresh perspectives and innovative ideas that can significantly contribute to the economic growth. The importance of youth entrepreneurship also lies in the fact that young entrepreneurs create job opportunities for themselves and for others, increasing overall employment in the country. In addition, successful young entrepreneurs can serve as role models for other young people, inspiring them to start their own businesses and therefore strengthen the entrepreneurial mindset within the youth.

However, in order to become successful entrepreneurs, young people, besides possessing technical (hard) skills, which are very important, should also possess certain soft skills, as they often make the difference between successful and unsuccessful businesses. These skills include various types of specific skills, attitudes, behaviours, personal qualities, and mindsets that enable individuals to interact successfully with other subjects in the business sphere, to recognise opportunities in the market, to find out innovative solutions for overcoming obstacles, to establish lasting partnerships, to constructively resolve conflicts, etc.

Based on the above, the aim of this paper is to stress the importance of the soft skills for successful youth entrepreneurship as well as to analyse the results of the qualitative research that was undertaken in the form of a focus group. The main aim of the focus group was to identify the essential soft skills for successful integration of youth into the business sphere and for starting their own business. The specific goals of the focus group also included identifying approaches for the development of soft skills, soft skills that HR specialists put importance on during the selection process, methods for recognising and assessing soft skills, etc. In the focus group that was held at the Faculty of Economics at the University of Niš, five participants took part. Three participants that took place were successful entrepreneurs, while two participants were experts in the field of HR. Based on the answers of the participants, several soft skills are identified as crucial for young entrepreneurs to be successful, among which are communication skills, flexibility and adaptability, the ability to work in a team, self-motivation, work ethic, conflict resolution, self-marketing, and stress management. In addition, the answers of the focus group participants showed that the key ways for developing “soft” skills among youth are the educational process, various types of training, and, later, work.

# Antifragility and Resilience of European Regions

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## Abstract

In the contemporary world, external shocks to economies appear every few years. Financial system crises, pandemics, and the results of nearby wars can be examples of those shocks. Different regions react differently to those shocks, and this reaction is an interesting field for empirical studies, especially since regions are different in terms of population size, metropolitan character, economic development, and structure.

From a theoretical standpoint, the concepts of resilience and, more recently, antifragility have emerged as promising tools for studying the outcomes of shocks at various levels. While these concepts are relatively new, and their usage sometimes lacks precision, a deeper comprehension can be achieved through clear definitions. In essence, both terms denote a response to negative shocks, with resilience often indicating low vulnerability and antifragility signifying the ability to benefit from primarily adverse factors. However, there are instances where the terms overlap, a concern that warrants initial attention.

Therefore, in the paper, those concepts will be systematised and operationalised. They will be used to study the conditions of European regions undergoing external shocks. Different groups and kinds of regions will be compared, including Central Europe and Western Balkans. The empirical part will include a structural analysis of the regions under consideration, which could help to provide insight into factors lying behind resilience and antifragility. Economic composition, diversity, regions size, and metropolitan or rural character are among the structural factors to study. The added value of the paper will come from indicating those factors that may play a role in making regions less vulnerable to external shocks. In the discussion section, the results will also be referred to findings made by other authors in the existing literature, and some conclusions will be made. In the contemporary world, answering such questions can have both theoretical as well as practical sense.

# Stock market bubbles and capital flows in Central and Eastern European Countries – lessons for Western Balkans

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## Abstract

Nowadays, we witness relatively high uncertainty about the future global economic situation. Many economic categories such as capital flows are characterized by relatively high volatility, which, combined with the uncertain political and economic situation, may intensify the negative phenomena occurring in the economy. It should also be taken into account that more recent studies discuss the validity of the assumptions of the macroeconomic trilemma. These works therefore question the effectiveness of floating exchange rates in insulating economies against external shocks in conditions of openness to capital flows. The works of authors such as Miranda-Agrippino and Rey (2020) suggest that there is a global financial cycle created by US monetary policy, which has a strong impact on credit creation, asset prices and capital flows, which cannot be fully tamed with floating exchange rate regimes. Therefore, this suggests an increased susceptibility to disruptions in financial markets.

One of the factors that may have a destabilizing effect on economies is the appearance of speculative bubbles, which, due to strong financial connections between countries, may spread to different countries and markets. The aim of the study is to determine what factors contribute to the appearance of speculative bubbles in the markets of Central and Eastern European Countries (CEECs). For this purpose, in the first stage, a bubble detection method based on recursive right-tailed Augmented Dickey-Fuller (ADF) tests will be used to test for and date-stamp speculative bubbles episodes (Phillips, Shi, & Yu 2015). The method used to detect speculative bubbles is a recursive flexible window method that is better suited for practical implementation with long historical time series, allowing for multiple bubbles in each of the series of stock market indices.

Thus, the study will examine the role of various factors and their co-occurrence in the formation of speculative bubbles in the stock markets. The analysis carried out in the second stage will allow us to determine the sources of the growth of speculative bubbles and, consequently, to determine the sources of market disruptions, with a special focus on short-term capital flows. For that purpose we will apply a set of panel data methods, including panel-corrected standard errors (PCSE), and with Driscoll-Kraay estimator, which allow to deal with potential problems arising from heteroskedasticity, as well as temporal and spatial correlated errors. The analysis will include recommendations for the Western Balkan countries regarding factors increasing exposure to the risk of speculative bubbles.

# The Geopolitics of Energy in South America: Russian Influence and the Risk of Regional Instability

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## Abstract

In order to consider South America from the aspect of energy geopolitics, it is necessary to analyze energy resources as an important geopolitical factor. Russia's presence in South America is part of its strategy to expand its influence in the region and establish an international relations system without American hegemony. The relations between Russia and some South American countries (Venezuela, Bolivia, Ecuador) have a significant impact on their political order, which often reinforces authoritarian regimes. Namely, if the governments in these countries were to change, it could lead to a reduction of Russian influence in the region, which would lead to serious risk for Russian interests. One of the motives for Russia's presence in South America is to show that economic sanctions, imposed by the European Union and the United States, will not prevent it from acting on the international stage. This is particularly relevant given the ongoing Russian invasion of Ukraine, since it underscores Russia's determination to assert its influence despite international condemnations and sanctions.

With the strengthening its economy, Russia has intensified its geopolitical influences and interests in this region, which has been achieved through renewal and strengthening of the ties that the former USSR had in South America. Besides Russia's geopolitical interest, another crucial factor is the susceptibility of this region to the influence of third parties. In that sense, the competitive authoritarianism in certain countries that are rich in energy resources will be considered. Namely, it is important to mention that the economic situation and social unrest are also significant factors that make these countries susceptible to the influence of third parties. This analysis becomes particularly important when considering the fact that all prerequisites and a significant potential for this region to become a source of intense conflicts, as a result of the conflicting interests of great powers. Thus, we could draw a parallel from this case with the Western Balkans, since it resembles the situation in the Western Balkans countries, where Russian influence continues to be a destabilizing factor amidst ongoing geopolitical tensions.

Therefore, one of the solutions that could lead to greater stability and development of this region, is based on integrations. Namely, through increased interaction and cooperation, these countries could enhance their economic power and become more resilient to political instability caused by external influences. In that sense, there are several significant initiatives such as: MERCOSUR, UNASUR. However, after the initial optimism, all integration initiatives have had limited scope, which is significantly affected by the reduced enthusiasm for cooperation, when different political options, such as left-wing and conservative, prevail in these countries. This sharp division between political options is characteristic for this region, which makes it unstable and susceptible to global games between the United States and Russia.

# Two-stage DEA Analysis of Health System Efficiency in Balkan Countries

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## Abstract

Efficiency has become one of the health sector's central preoccupations due to mounting pressures on healthcare resources for many years. However, efficiency assessment at the cross-country level has not often been directly evaluated by given inputs or outputs. According to Auster (Auster et al., 1969) and Grossman (Grossman, 1972), a country's health system may be considered a production system that can transform input into output, as a DMU.

Data Envelopment Analysis, DEA (Charnes, Cooper, & Rhodes, 1978 ) is a method for evaluating the performance of peer decision-making units (DMUs) with multiple performance measures that are termed as inputs and outputs. DEA first establishes an efficient frontier formed by a set of DMUs that exhibit best practices and then assigns the efficiency level to other non-frontier units according to their distances to the efficient frontier. Over the years, DEA has been enriched and modified. Numerous DEA models have been developed and used in various applications (Zhou, 2018), including health care (Mavridoglou, 2020).

This paper uses a two-stage DEA model to evaluate the efficiency of the public health care system in Balkan countries compared to the corresponding experience from all European countries from 2015 to 2021. In the first stage, the efficiency scores were calculated, the second stage aimed to determine the causes of the different efficiency levels using Tobit's regression model. We used four input variables: health expenditure per capita, PPP, physicians per 1,000 people, hospital beds per 1,000 people; one output variable, life expectancy at birth (both sexes); and as influencing factors: GDP per capita, PPP, Public health expenditure, private health expenditure, Urban population, Literacy rate, adult total.

## Utility of Piotroski F-Score to a long time downturns market

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### Abstract

The Piotroski F-score is a financial metric that assesses the strength of a company's financial position. It was introduced by Joseph Piotroski (2000), who observed that value stocks show skewed returns: while the mean market-adjusted return of value stocks is significantly positive, the median market-adjusted return of value stocks is negative. Hence, the average value stock performs below market; however, few value stocks show significant outperformance. Piotroski, therefore, constructs a fundamental indicator that aims at separating the few winning value stocks from the majority of value stocks that lose.

The F-Score is a comprehensive calculation based on nine financial criteria (binary signals) that cover a firm's profitability, leverage, liquidity, source of funds, and operating efficiency. Each criterion is assigned a value of either 1 (good) or 0 (bad), and the F-Score is the sum of these nine values, ranging from 0 to 9. A higher F-Score indicates a firm with a stronger financial position. He observed a 23% difference in mean-return between high (score 8 or 9) and low (0-1) F-Score value stocks. Additionally, 50% of high F-Score stocks outperform the naïve value portfolio (indicating still skewed returns), while low F-Score firms underperform in 68% of the time.

Piotroski F-score is a helpful tool for assessing the financial health of companies, it's essential to be aware of its limitations, like :

- Historical Data Reliance,
- Industry-Specific Differences,
- Sensitivity to Small Changes in Financial Metrics:,
- Accounting Manipulation and Creative Reporting,
- Small Sample Size and Backtesting Bias,
- Market Efficiency.
- Lack of Qualitative Factors

In the literature, only a few studies use the F-Score to discriminate between firms with strong and weak value in the Greek stock market. Our research applied the F-Score methodology to Greek Stocks from 2007 until 2017, a period with high market risk for the Greek stock market. We followed the Piotroski test design to compare the results of our study with those of Piotroski's study. We also test differences based on the financial characteristics of high B/M firms.

# Exploring the Connection Between Artificial Intelligence, Public Administration and Corruption

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## Abstract

Good governance concepts may develop under the influence of the adoption and diffusion of new technologies within public sectors. The process of digitalization accelerated the transformation of government and public services. The general belief is that going digital yields positive effects on the quality of public administration: increased use of digital technologies enables more efficient, professional, transparent, and prompt, i.e. improved public service to citizens and businesses.

Although digitalization of public administration and services by introducing e-government and integrating ICTs in public administration bodies has been shown to be correlated with lower corruption levels, the relationship is not straightforward. The research how the artificial intelligence (AI) might contribute to the integrity of public administration and help in seizing corruption is scarce. Knowing the characteristics of AI, one can speculate on its potential to strengthen transparency and accountability within the public sector, aiding in the fight against corruption. Transparency and accountability are critical in making public administration operations open to scrutiny but also in establishing trust between the government and the public. In the context of combating corruption, elements such as open government data, transparent decision-making processes, and trust-building are indispensable. By making government datasets publicly available, open government data initiatives enable the use of AI technologies to analyse patterns potentially indicative of corrupt practices while also allowing for the independent verification of government claims. AI algorithms may facilitate big data analysis of financial transactions, government contracts and public spending by employing machine learning techniques to detect corrupt practices such as embezzlement, bribery, or fraud. Big data analysis could help in assessing the corruption risk and provide useful auditing tool. AI can enhance transparency by automating processes and auditing tools, making it more difficult for corrupt practices to go undetected. Further, AI-driven optimization models can improve the efficiency of public service delivery, reducing bureaucratic inefficiencies that are often breeding grounds for corruption. AI can also assist policymakers in making more informed decisions by analysing data and providing insights into areas vulnerable to corruption. Furthermore, AI can enhance the transparency of decision-making processes by providing a clear trail of how decisions were made, a step crucial for accountability that enables citizens to understand and scrutinize governmental actions. These practices of transparency and accountability are instrumental in building public trust in government institutions. Trust, in turn, is a vital component in the battle against corruption, fostering citizen engagement and oversight and creating a more informed and participatory governance environment.

However, implementing advanced ICT tools including the AI does not automatically yield anti-corruption outcomes, and new information technologies can also create new corruption risks



(e.g. misuse of databases). There are number of issues in deploying AI in public administration, generating more corruption risks being one of them. Prior of advocating usage of AI in the public sector to seize corruption, more research is needed. This paper aims to delineate the framework to evaluate the impact of AI's usage in the public sector in seizing corruption.

# **Enhancing Transnational Cooperation: An Actor-Network Analysis within the Interreg V-B Adriatic-Ionian Programme**

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## **Abstract**

This contribution explores the dynamics of cooperation within the Adriatic-Ionian Region, specifically focusing on the Interreg V-B Adriatic-Ionian Programme (programming period of 2014-2020). This programme is the sole transnational instrument facilitating the implementation of the EU Cohesion Policy in this region, encompassing eight Partner States: Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Montenegro, Serbia, and Slovenia. The study examines the interconnections and collaborative efforts among the various actors involved through a comprehensive actor-network analysis of participating in projects within the environmental sector. By mapping and analysing it, the research aims to identify the key actors (i.e., the cooperation leaders) demonstrating the reasons (i.e. actors' behaviour) for extensive cooperation with multiple partners. The findings of this analysis provide valuable insights into the factors that contribute to successful collaboration, offering actionable recommendations for improving cooperation in future initiatives. Additionally, the study highlights critical elements necessary for fostering effective cooperation, thereby contributing to the enhancement of transnational project implementation within the framework of the Adrion Programme.

# Green Bonds and Climate Risk in Greece: A New Form of Sustainable Development

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## Abstract

The potential impact of climate change on financial markets has become an increasingly important topic in recent years. Climate change is a slow and gradual process that is expected to have long-term impacts on the economy. Dong and Liu (2023) investigate the impact of climate risks on stock prices and explore the measures that corporate managers may take to mitigate the associated risks. Considering that the authors suggest as future research the investigation of the impact of climate risks on bond markets, in this study, we examine the connectedness and spillovers of climate risk with corporate green bonds in Greece that has not attracted any attention in the relevant literature. Of course, there are certain studies like the one by Dafermos et al. (2018) which make focus on the effect of climate change on corporate bond prices. However, no attention is attracted by green bonds. Also, Greece is a country with intense activity that aims for a successful green transition in all areas of business activity. However, there is no specific policy that manages climate risk for the benefit of this transition.

To investigate our research questions, we adopt two main variables (as well as a set of necessary control variables). The first one is the Greek Green Bond Index (GGBI) which we construct according to certain criteria. The reason is the lack of official Green Bond Index in Greece. This is used as a proxy for the green bonds. The other variable is the DISADAY (following with a slight modification Elnahas et al. 2018) which is the cumulative number of disaster days during a month in the country. This is used as a proxy for climate risk. The analysis covers monthly the period from January 2019 to February 2024. 2019 is the first year of green bond entry into the Greek money market. Also, the use of monthly (within a month we can measure the climate risk) observations is necessary to have a sufficient sample of data for our analysis.

Significant results are extracted by our analysis. The most important is a bidirectional time-varying causal relationship from green bonds to climate risk and vice versa. This relationship becomes clearer by using the Bayesian VAR model that considers the presence of structural breaks. More precisely, we detect a transmission from climate risk to green bonds. Furthermore, the control variables have significant effect as well. At the same time, we examine and confirm the robustness of our results using different indicators for the main variables and a different econometric model (the switching VAR model).

This study makes a significant contribution to the literature by providing insights into the complex relationship between climate risks and financial risks. At first, the findings have important implications for investors aiming to achieve better risk-adjusted performance and sustainability of their portfolios. It is particularly important for investors when building their investment strategy to consider the effect of climate risk on green corporate bonds since it can significantly change their market valuation. On the other hand, policymakers are interested in designing and implementing policies aiming to the mitigation of the climate change risk and the transition to a more sustainably economy. In this direction, they should incorporate into their policy that focuses on the development of green finance (so that it has the expected results) a proper climate risk management.

## Industrial Structure and the Italian Smart Specialization Strategy

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### Abstract

The main aim of this paper is to investigate to what extent the Italian Smart Specialization Strategy (S3) was coherent with the actual industrial structure. We use data referring to S3 2014-2020 programming period and we use data on the characteristics of “eligible” firms, i.e., self-declared as “potential S3 recipient”. To this purpose, we use a novel dataset linking eligible firms to the specific areas of specialization outlined in the S3 strategy at the national level. Firms are classified according to a set of indicators related to five domains: R&D, innovation, human capital, local development, and value added. Our goal is to understand the actual fit between the endowment in terms of industrial structure and firm capabilities with respect to the S3 areas of specialization. Moreover, leveraging on the fine-grained measures of firms' endowment and characteristics, we measure the strength and weaknesses of S3 specialization areas.

# Age of school entry, human capital formation, and labor market outcomes: Lessons from Croatia

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## Abstract

What is the effect of school starting age on educational performance and subsequent labor market outcomes? This question has sparked a lot of academic and policy debate, as children who start their education older usually do have higher curriculum absorption and benefit from the relative maturity compared to their younger peers. However, later educational entry also implies postponed entry into the labor market, so the overall effects on the labor market outcomes are ambiguous. To shed some light on this question, I analyze the effects of age of school entry on educational and labor market outcomes using cohorts in Croatia from 1950 to 1975. In order to obtain exogenous variation in school entry age and therefore circumvent the endogeneity concerns, I exploit month-of-birth discontinuities in the school-entry rules. In particular, adjunct December-January presents the month-of-birth discontinuity which can serve as an exogenous variation. Using the microdata on Croatian Labor Force Surveys from 2007 to 2018 I focus on the individuals born from 1950 to 1975. From the month of birth, I can imply the age of school entry, and explore the effects on the educational and labor market outcomes. Using the intent-to-treat as well as instrumental variable (IV) estimation, I find no educational penalty of being younger in a cohort, nor do I find any significant labor market penalty or premium. These results, which I estimate also on a number of predetermined exogenous variables to capture heterogeneous effects, point towards the direction of suppressed and non-significant effect of age of school entry on human capital formation, at least in the context and sample it was estimated on.

## **Navigating Change: Shaping the Future of EUSAIR - Trends, Priorities, and Policy Implications**

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### **Abstract**

This study focuses on the European Union Strategy for the Adriatic and Ionian Region (EUSAIR) as a pivotal framework. EUSAIR's four key pillars—Blue Growth, Connecting the Region, Environmental Quality, and Sustainable Tourism—form the bedrock for comprehensive regional development. Through synergistic efforts, EUSAIR aims to cultivate collaboration, innovation, and sustainable growth, thereby contributing to the broader goals of social, economic, and territorial cohesion in the European macro-regions. This paper investigates the shifting needs and trends within the EUSAIR from 2014 to the present, aiming to formulate strategic policy recommendations for the upcoming programming period. In addition, this article endeavours to identify emerging priorities intricately linked to the concepts of neighbourhood and enlargement, emphasizing the integration of the region, bolstering the single market, and positioning it as a vibrant research and academic hub. Anchored in the identified potential new priorities, including research emphasis, stakeholder engagement, youth involvement, infrastructure connectivity, and data standardization, the study proposes leveraging the need of establishing a dedicated space for research, study, and the exchange of data and information. A well-structured space for data and information sharing, along with the definition of specific transversal priorities represents a cornerstone for addressing evolving regional priorities for fostering comprehensive development in the macro-region.

# Organizational Culture and Innovativeness in Albanian Consumer Electronics Industry

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## Abstract

Organizational Culture (OC) and Innovation are considered two important elements of today's successful organizations. Especially within retail industry which has a competitive and rapidly changing environment, organizational culture plays an important role in driving innovation. Retailers are under constant pressure to innovate in terms of new products, new customer experience and operational efficiency. Organizational culture can stimulate or restrain innovation depending on the type of values that the organization chooses to embrace. A strong culture that adapts to the changing environment enables continuous innovation. On the contrary a rigid culture that doesn't accept and initiate change slows innovation. This paper explores the organizational culture that manifests in a consumer electronics company that operates within the retail industry in Albania and also analyzes the construct of organizational innovativeness in Albanian context by seeking to find answers of how this culture helps the company to be innovative, competitive and successful in the retail industry.

The aim of this research work is to study organizational culture by using Cameron and Quinn Competing Values Framework applied in a consumer electronics company operating in Albania. In the same time the study aims to explore the innovativeness construct by measuring product innovation, market innovation, process innovation, strategic innovation and behavior innovation in the same company. By using a 7-point Likert scale structured questionnaire the results were gathered in all managerial levels employees of the company in retail (shops) and headquarters. The results show that the culture that fosters innovation within the company is adhocracy culture and market culture, the later scores the highest results within the OCAI measure. It has been found specifically, that the company results high in product and market innovation which is reflected in the fact that the company is a market leader in consumer electronics and retail industry in Albania.

This research contributes to management discipline in Albania in the fields of organizational culture and innovation measured in retail industry. No prior studies have been performed in Albania related to these fields combined together; additionally, this empirical study helps in exploring OC and Innovation in retail industry where there is a lack of research even in the global research perspective.

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# **Productivity at the Grassroots The Significance of Local Government Actions**

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## **Abstract**

This paper explores the critical role of local government actions in fostering productivity at the grassroots level of the public services. As the closest administrative body to citizens, local governments are uniquely positioned to influence economic, social, and environmental outcomes in their communities. By examining case of Albania based on law competences of local government, this paper highlights how targeted local government initiatives can drive significant improvements in productivity, from enhancing infrastructure and public services to supporting small businesses and fostering innovation. By analysing the last ten-year correlation between local government expenditures with annual growth rate of GDP of Albania we will define the contribution of local government on national productivity.

The research underscores the importance of decentralized decision-making, community engagement, and tailored policy interventions in addressing the unique challenges faced by local communities. The findings suggest that strengthening local governance and empowering grassroots actors are essential for achieving broader national and global development goals.

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# Utilizing the Delphi Technique to Examine Open Innovation and Sustainable Entrepreneurship: Insights from SMEs in Albania

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## Abstract

The primary objective of this research is to explore the interaction between open innovation and sustainable entrepreneurship within the context of Small and Medium-sized Enterprises (SMEs) in developing countries, experience from Albania. The study contributes to the existing publications on open innovation and sustainable entrepreneurship by providing empirical evidence from the Albanian SMEs. Additionally, it highlights the contextual factors influencing these practices in a developing economy by filling a gap in the literature which is mainly focused on developed countries. The Delphi technique is used in this study to reach expert consensus on exploring the topic of open innovation and sustainability among SMEs in Albania, including challenges and future opportunities. The interviews are conducted during July 2024, focusing on founders or high-level managers from technological companies, academics, and researchers within the fields of innovation, information technology, and entrepreneurship. One of the key findings is the significance of external collaborations in driving open innovation. Experts highlighted that partnerships with universities, research institutions, and other businesses are crucial for accessing new knowledge and technologies, which, in turn, can foster innovation and sustainability. However, the lack of established networks and the level of absorb capacities in Albania poses a significant challenge.

Acknowledgments: This research is based on data collected by the project USE IPM, Horizon Widera 2022, “Up-skilling researchers for sustainable entrepreneurship- Based on innovation process management” funded by the European Union. The authors would like to thank the colleagues from University of Banja Luka, Faculty of Economics, Banja Luka and Faculty of Economics in Niš for their collaboration and preparation of the methodology and the colleagues from the University of Tirana in coordinating and implementing Delphi technique and implanting the research.

# **Improving Climate and Sustainability Action in the WB Region through Higher Education**

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## **Abstract**

Economic and social development in the Western Balkans is increasingly aligned with the Sustainable Development Goals (SDGs), with the education system playing a crucial role in building the capacities and interdisciplinary knowledge essential for fostering a sustainable and resilient society. This paper explores the mainstreaming of SDGs into the education agenda through EU-supported projects, with a particular focus on higher education and alignment with the EU's Green Deal Agenda. By analyzing a sample of five selected EU projects implemented in the Western Balkans, the paper assesses the impact of key initiatives such as the revision and enhancement of course programs, the development of new lecture materials, faculty training, and the promotion of research in climate and sustainability. The findings highlight the importance of educational reforms and strategic EU project support in cultivating environmental responsibility and resilience. These initiatives not only advance the achievement of the SDGs but also strengthen the Western Balkans' alignment with EU integration objectives. The paper concludes that regional cooperation is crucial for effectively addressing shared environmental challenges, enabling the exchange of best practices, and fostering collaborative problem-solving.

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# Exploring sustainable entrepreneurship in Albania: Insights from Green Entrepreneurs

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## Abstract

“Sustainable entrepreneurship” is increasingly recognized as a business approach that involves economic, social, and environmental impacts. While this paradigm is gradually entering in the Albanian business lexicon, proactive engagement from the private sector is imperative to achieve the country's sustainability objectives. This study aims to investigate selected case studies of companies that have embraced sustainable practices, with a focus on identifying the drivers behind green entrepreneurship in Albania. Through qualitative analysis, drawing from interviews and focus group discussions, numerous barriers are uncovered, and opportunities associated with adopting green entrepreneurship models. Findings highlight an obvious distinction in the factors motivating sustainability initiatives between smaller and larger companies. In smaller enterprises, the entrepreneurial spirit of owners, along with their beliefs and vision, drive green actions. Conversely, larger companies are primarily influenced by external factors such as competition, government regulations, and corporate directives. However, the impact of these factors remains insufficient, underscoring the need for robust government oversight and intervention. Given the challenges companies face in effectively self-monitoring and regulating, enhanced regulatory mechanisms are essential to facilitate sustainable business practices. This article concludes with significant insights and implications for both academia and practitioners in the field.

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# **The Impact of the Stabilization and Association Agreement Between the EU and Bosnia and Herzegovina on Small Agricultural Businesses in the Republic of Srpska**

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## **Abstract**

The Stabilization and Association Agreement between the European Communities and their member states, on the one part, and Bosnia and Herzegovina, on the other, was signed in Luxembourg on June 16, 2008, and entered into force on June 1, 2015. It replaced the Interim Agreement on trade and trade-related matters between the European Community and Bosnia and Herzegovina, which was in force from July 1, 2008. The signatory country is required to gradually adapt its legislation to the legal acquis of the European Union (Acquis Communautaire) and establish a free trade zone with the European Union. One of the most important obligations that Bosnia and Herzegovina undertook with this agreement is the gradual abolition of customs duties on the import of goods originating from the EU in the transitional period. The aim of the paper is to research the impact of the Stabilization and Association Agreement on the production of small agricultural businesses in the Republic of Srpska, with a special focus on animal production. The paper investigates the theoretical foundations of free trade, and analyzes the empirical data on animal production in the Republic of Srpska in the period before and after the Stabilization and Association Agreement.

Key words: Stabilization and Association Agreement, the Republic of Srpska, Bosnia and Herzegovina, small agricultural businesses, animal production.

# Structural Business Dynamics in Bosnia and Herzegovina: An Analysis of Sectoral Shifts Amidst Uncertainty

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## Abstract

This article provides an in-depth analysis of the structural business dynamics in Bosnia and Herzegovina during the previous decade, focusing on the evolution and distribution of active companies across various business sectors, as well as on the number of entrepreneurs and employees in each sector. Utilizing comprehensive structural business statistics, we identify and examine significant trends and sectoral shifts within the country's economic landscape over the past decade. This period, marked by political and economic uncertainty, has seen notable transformations in the composition of business activities. Our analysis delves into the factors driving these changes, including economic policies, regional developments, and global market fluctuations. We highlight how certain sectors have demonstrated resilience and adaptability, while others have faced challenges and decline. By connecting these structural shifts to broader uncertainties, we provide a nuanced understanding of the business environment in Bosnia and Herzegovina and its dynamics. The findings offer critical insights for policymakers, business leaders, and stakeholders, suggesting strategic approaches to foster sustainable economic development and enhance the resilience of the business sector in the face of ongoing and future challenges.

## Western Balkans – Opportunity for the Future or a Step Back

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### Abstract

The dynamics of economic growth in the Western Balkan countries under conditions of economic globalization and uncertainty contribute to the scientific appeal of studying these nations. The development of a country's economy is determined by macroeconomic stability.

Adequate control and analysis of economic performance contribute to achieving targeted values. Rational economic policy management, correlated with necessary structural reforms, ensures macroeconomic stability. Stable and strong economies are a key prerequisite for survival during periods of crisis and accompanying uncertainty. The Western Balkan countries are relatively small economies in transition towards market-oriented economies. The fundamental research question underlying this paper is: Do the Western Balkan countries possess a sufficient degree of economic development and industry to respond to negative global events and uncertainty?

The main objective of the paper is to analyze key macroeconomic and fiscal indicators of the Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, Kosovo, North Macedonia, and Serbia). Based on the analysis of selected indicators, the paper will compare and rank these countries using the EDAS method. This analysis will provide insights into the state of the economies, the stability of the economies themselves, and define areas for further progress. In times of uncertainty, the level of national debt plays a significant role. Using the World Bank's criteria for debt levels, the paper will determine which group each Western Balkan country belongs to. Based on the results, strategic directions for the further development of the Western Balkan countries will be defined. The presentation and analysis of these countries' debt aim to apply economic policies that will lead to the competitiveness of the Western Balkans. The analysis of external solvency and external liquidity indicators will present the external position of these countries. The significance of the analysis lies in obtaining a real state of and macroeconomic stability for each country to adequately respond to uncertainty. For the analysis of the Western Balkan countries, data published by the World Bank and available on Trading Economics will be used. In addition to annual data, historical data series will also be utilized to obtain a realistic picture.

# Corruption and migration: Western Balkan perspective

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## Abstract

The Western Balkan route is one of a key corridor for migrants, especially from the Middle East, Asia, and Africa, heading for the EU (European Union). Specific prominence of this route can be attributed to geographical proximity of this route to EU, historical precedence considering that this route has been used for many years, and as such, networks and systems have been established to facilitate migration. This analysis will use a combination of data available in Word Bank database, and data collected by IOM (INTERNATIONAL ORGANIZATION FOR MIGRATION) survey that provides insights into the profiles, experiences, needs, routes travelled and intentions of migrants transiting through the Western Balkans.

Quantitative modelling of migration is a complex task due to the multifaceted nature of migration drivers. These drivers can range from individual and household level factors to societal events such as war and climate disasters (de Valk et al., 2022). Various quantitative approaches are used in migration studies, including social surveys, experimental research, cross-national designs, and longitudinal data (Salamońska, 2022). Non-linear regression methods and machine learning techniques can also be used, although their ‘black box’ nature may limit the conceptual understanding of the processes that affect migration (Beyer et al., 2023).

This paper uses robust and comprehensive approach to incorporating control of the corruption into basic concept imposed by the migration gravity model. It is reasonable to assume that the greater the difference in the corruption measurement, the more likely it is for migration to occur from countries with lower indices to those with higher ones.

Initial descriptive analysis of the data includes cluster analysis. Cluster analysis is a statistical technique used to classify objects into distinct groups (or “clusters”) so that objects in the same cluster are more like each other than to those in other clusters. In the context of migration studies, cluster analysis can be used to group regions or countries based on similar migration patterns or characteristics. This can provide insights into the underlying factors driving these patterns and help identify unique migration trends or phenomena. Specifically, K-means clustering is a method of vector quantization that aims to partition certain number of observations into certain number of clusters. This process minimizes the within-cluster variance.

The application of the gravity model in this migration study is not straightforward and assumes modifications to account for a range of factors. Hence, factors such as the level of corruption and political stability can significantly influence migration patterns and should be incorporated into the model. Moreover, data collection remains a significant challenge. The need for detailed, pair-specific data, the handling of zero or negative values, and the completeness of the data are all issues that need to be addressed.

# **Does the economy need a fresh dose of stimulus? - Conceptual Metaphors in Economic Discourse of Serbian and British Newspaper Articles**

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## **Abstract**

This study explores the use of organic and mechanical conceptual metaphors in economic discourse, focusing on Serbian and English newspaper articles. Conceptual metaphors, which shape our understanding of abstract concepts by relating them to more concrete experiences, are prevalent in economic language. The research examines how these metaphors manifest across the two languages and cultural contexts. Organic metaphors, drawing from the natural world, present the economy as a living entity capable of growth, decay, or recovery. In contrast, mechanical metaphors depict the economy as a machine, emphasizing functionality, control, and maintenance. The corpus consists of newspaper articles from the Serbian newspaper Политика and the British newspaper The Economist covering the period from January 2019 to December 2019. By analysing the corpus, the study identifies key metaphorical patterns and their implications for framing economic issues. The findings reveal great similarities in both languages regarding linguistic expressions and conceptual metaphors that describe the word economy as a living organism or a machine due to the fact that they are based on universal bodily experience. However, there are certain cross-cultural variations in metaphor usage implying that cultural and linguistic factors influence economic conceptualisation. This research contributes to a deeper understanding of the role of language in shaping economic thought and discourse across different linguistic landscapes.



# **Effectiveness of different green economic policies - evidence from high achievers**

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## **Abstract**

In an attempt to revert climate change and combat its adverse effects, most of the developed countries are aiming to make their economy greener by utilizing a specter of policy measures, including green public finance. These measures include green bonds, environmental taxes, etc. and are aimed at, at the first place, decreasing levels of greenhouse gasses in the atmosphere. Most of the developed countries implemented such measures.

This paper researches the effectiveness of multiple instruments used in Denmark, Norway and Switzerland, in an attempt to determine the scale and direction of these effects. By utilizing a fixed effects model, I observe how the use of multiple policy instruments such as environmental taxes, environmentally friendly subsidies, green bonds as well as multiple control variables, affect the change in greenhouse gas emissions in selected countries.

I conclude that direct public investment in pollution abatement is the most effective way of decreasing emissions, followed by public investment in environmental protection and the introduction of green bonds. Investments in green research and development do not play such an important role.

# **The Role of Fiscal Rules in Ensuring the Stability of Public Finances in Western Balkan Countries**

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## **Abstract**

Stable public finances represent the basis of economic growth and development of any country. That is why the establishing fiscal limits in the form of fiscal rules is considered to be useful mechanism for ensuring fiscal stability. Considering the above, this paper will analyze the application of fiscal rules in the countries of the Western Balkans. The subject of the research is to analyze to what extent the fiscal rules in the countries of the Western Balkans are respected, especially bearing in mind the obligation to apply them in terms of meeting the criteria for accession to the European Union. The main goal of the research is to analyze the impact of the introduction of fiscal rules on the stability of the public finances of the Western Balkan countries. Descriptive and comparative analysis will determine the effects of adoption fiscal rules of the Western Balkans countries. It will be determined whether and to what extent the existing fiscal rules affect the improvement of fiscal indicators in the countries of the Western Balkans. The significance of the aforementioned research is reflected in the fact that the strengthening of fiscal stability and sustainability is a basic precondition for recovery and strengthening of the economic activities of the countries of the Western Balkans, especially in times of crisis and uncertainty.

# **Observing the Role of Sectoral Employment Shifts in the Context of Green Transition: Evidence from Bosnia and Herzegovina and the European countries**

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## **Abstract**

This paper analyses the structural changes in the labor market of Bosnia and Herzegovina, focusing predominantly on the shifts among three key identified sectors: agriculture, industry and services sector. This analysis was done historically and comparatively to EU-27 and other observed world countries and regions. Using mostly modeled data from the International Labor Organization and their database (ILOSTAT), the authors aim to identify the historical shifts that have been happening since 1992. These shifts are also analysed in the context of green transition, introducing the Green Transition Index, developed by Oliver Wyman, which benchmarks EU-27 along with the United Kingdom and Norway on progress made in the transition towards environmental sustainability. A multiple linear regression model was used to examine the cross-country variability of the index and its relation with variables such as GDP per capita, employment and value added in observed sectors. The results yielded the importance of economic prosperity in achieving higher green transition index scores, while the role of both employment in services and its value added in GDP was deemed insignificant by the model. This was also explained through a comprehensive review of literature, which all suggested mixed services effect on green transition in general, while also focusing on the industry and agriculture sectors, and inspecting their potential and role in the overall green transformation. This suggests a need for further research on sector-specific contributions to green transition efforts. The study opts to provide foundation for policymakers to consider sectoral specifics and dynamics when overviewing and planning for sustainable economic development.

# Evaluating the Impact of Procedural Non-Tariff Barriers on Bosnia and Herzegovina's Exports to Its Main Partners from the European Union

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## Abstract

This paper investigates the impact of procedural non-tariff barriers on Bosnia and Herzegovina's (B&H) export to the 10 key export partners in the European Union during the period from 2006 to 2019, including the signing of the Stabilization and Association Agreement (SAA). Using a gravity model framework and applying a random effects regression approach, the study examines how factors such as GDP, distance, and regional agreements influence Bosnia and Herzegovina's export performance. Additionally, the role of logistical performance, measured through the Logistics Performance Index (LPI), is explored to assess how administrative efficiency affects B&H exports and is used as proxy for the effect of the procedural non-tariff barriers. The results reveal that higher GDP and membership in the former Yugoslav bloc positively affect export values, while greater geographical distance presents a significant barrier. Moreover, the analysis confirms that the SAA has had a positive and significant effect on exports, while improvements in logistical performance, although marginally significant, contribute to higher export levels. These findings provide valuable insights for policymakers aiming to reduce administrative barriers and enhance trade infrastructure to better integrate Bosnia and Herzegovina into European markets.

## **Learning teamwork and entrepreneurial skills in university curriculum: Case study for Norway, Belgium and Bosnia and Herzegovina**

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### **Abstract**

Teamwork has become a central issue for many corporations, and self-managing teams are often viewed as the goal of teamwork development programs. Entrepreneurship is generally regarded as an engine of social development because it drives economic growth, innovation and job creation. It is important to note that the methods used in our educational environment are generally not adapted to encourage the development of entrepreneurial thinking in students. Courses are taught using traditional methods and team assignments are very rare and there are few opportunities for students to practice and develop entrepreneurial skills. According to the "NMC Horizon Report", higher education continues to move away from traditional lecture-based programs to more hands-on scenarios. The modern labor market needs employees who are capable to work together solving multidisciplinary problems with or without technology. This paper presents an approach that moves away from traditional lecture-based programs towards more practical scenarios, where university classrooms will reflect real-world work and social environments. Paper presents assessment of university curriculum regarding teamwork and entrepreneurial skills in Norway, Belgium and Bosnia and Herzegovina.

# Efficiency of investments in tourism in Bosnia and Herzegovina - A comparative analysis

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## Abstract

This research paper studies investments in the tourist-hotel industry in the territory of Bosnia and Herzegovina. In the research, secondary data were used, which confirmed through quantitative analysis that a higher share of investments in GDP does not necessarily mean a higher efficiency of realized investments. The researchers put a special focus on the analysis of foreign direct investments in the tourism sector and the analysis of the efficiency of those investments. The goal of the work is to look at the possibilities of increasing the GDP growth rate through the ICOR concept, with special reference to the tourism industry.

Appropriate statistical methods were used to perform a comparative analysis of the state and determinants of investments in tourism in selected countries, while the efficiency of investments was measured by the Incremental Capital Output Ratio (ICOR). Given that previous scientific research has confirmed that ICOR and the level of income are positively related, the authors decided to use ICOR as the simplest way to calculate the ratio of investment rate (investment share in GDP) and GDP growth rate.

A comparative analysis showed that foreign direct investments in the tourism and hotel industry in Bosnia and Herzegovina are below the European average. At the same time, the effectiveness of the investments made and the rationality of the return period of the invested funds are questionable.

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