



UNIVERSITY OF BELGRADE
Faculty of Economics
and Business



85TH ANNIVERSARY CONFERENCE

**Digitalization and Sustainability
New Environment for Economics and Business**

Book of Abstracts



Book of Abstracts

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FOREWORD

The International conference “Digitalization and sustainability – new environment for economics and business” is organized on the occasion of the 85th anniversary of the University of Belgrade – Faculty of Economics and Business. Sustainability and digital transformation stand for the two global trends that reshape the paradigm of contemporary societies, businesses, and economic systems. These global trends open new opportunities but also impose new constraints. In that respect, the conference deals with the issues and challenges associated with the new framework for economic and business policy-making and implementation.

The main topics covered by the Conference programme are: Accounting, Actuarial Studies and Insurance, Agricultural and Natural Resource Economics, Business Administration and Business Economics, Econometric and Statistical Methods and Methodology, Economic Development, Innovation, Technological Change and Growth, Economic History, Economic Systems, Entrepreneurship and Small Business Management, Environmental and Ecological Economics, Finance, Health, Education, and Welfare, History of Economic Thought, Methodology, and Heterodox Approaches, Human Resource Management and Employment Studies, Information Management, International Business, International Economics, Labour and Demographic Economics, Law and Economics, Logistics and Supply Chain Management, Macroeconomics and Monetary Economics, Marketing, Mathematical and Quantitative Methods, Microeconomics, Public Economics, Strategy and Urban, Rural, Regional, Real Estate, and Transportation Economics.

An essential accompanying event of the Conference is the exhibition “Vienna Circle – Exact Thinking in Demented Times” and the workshop “Vienna Circle and Belgrade School of Logic“, a satellite session of our Conference. The Conference also brought together experts from the region with empirical and methodological research contributions. The outcomes of the discussions will certainly enrich the scientific and policy debate in the region regarding the new environment for economics and business in the era of digitalization supported by sustainability as the primary development goal.

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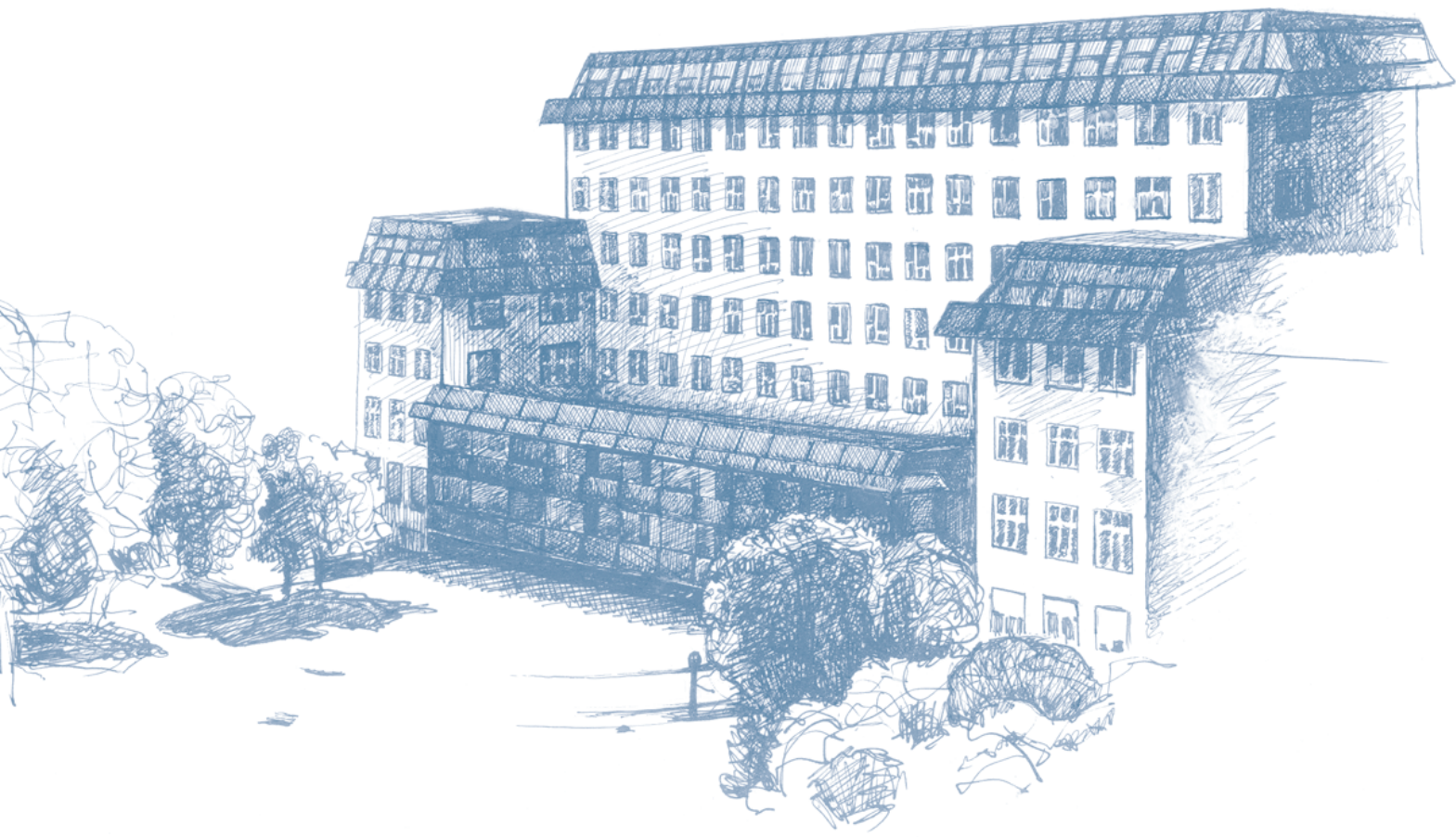
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Vienna Circle and Belgrade School of Logic





"Vienna Circle and Belgrade School of Logic"

Close-up on Kurt Gödel

Karl Sigmund

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Abstract. Kurt Gödel led a very retired life. Recently, however, a spate of new information, based on transcriptions of his Nachlass and in particular of his notebooks, has been transcribed and published. This offers many insights into his thoughts and his personality.

Keywords: Gödel biography (and biographies); Gödel's Notebooks; Maxims of Philosophy.



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"Vienna Circle and Belgrade School of Logic"

The Vienna Circle of Logical Empiricism – A Pluralistic Profile with Philosophical Diversity

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Abstract. The Vienna Circle of Logical Empiricism between the two world wars was a highly complex and pluralist movement which pioneered mainly modern philosophy of science, logic and mathematics. It was neither a “positivistic school” nor exclusively restricted to the natural and formal sciences. After a general characterization of the famous Moritz Schlick Circle, I will focus on its relevance for history, sociology and economics between the left wing around Otto Neurath and the liberal circle around Karl Menger.

Keywords: Vienna Circle, Logical Empiricism, Philosophy of Science, Philosophy of the Social Sciences



UNIVERSITY OF BELGRADE

Faculty of Economics
and Business**"Vienna Circle and Belgrade School of Logic"****A Logic for Reasoning About Degrees of Confirmation**

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Abstract. Carnap studied concepts connected with the scientific procedure of confirming or disconfirming hypotheses with the help of observations. One of those concepts is based on a numerical function c which maps pairs of sentences to the reals, where $c(A, B)$ is the degree of confirmation of the hypothesis A on the basis of the evidence B . We present a propositional probabilistic logic which formalizes this quantitative concept of confirmation. We define the appropriate formal language and describe the corresponding class of models. We provide an infinitary axiomatization for the logic and we prove that the axiomatization is sound and strongly complete. We also show that the logic is decidable. For some restrictions of the logic, we provide finitary axiomatic systems.

Keywords: probabilistic logic, measure of confirmation, completeness theorem, decidability.



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"Vienna Circle and Belgrade School of Logic"

Carnap-Popper Semantics for Probability Logic

Marija Joksimović

University of Belgrade, Faculty of Organizational Sciences

Abstract. Probability of propositional sentences defined in spirit of Carnap's (1950) and Popper's (1955) work can be used as basic idea to define semantics for probability logic. We will give some original examples (2014-2021) of propositional logical systems with probabilities which are sound and complete with respect to Carnap-Popper style models.

Keywords: probability logic; semantics; soundness; completeness.



"Vienna Circle and Belgrade School of Logic"

Vienna Circle, Gödel and Serbian logicians

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Abstract. We can't say that Vienna Circle had much influence on Serbian logicians, but particular members of this group did. Mainly, this influence comes through Gödel's work and it is as large and deep as it is in the whole contemporary logic. However, Gödel did not go along with the varieties of positivism espoused by the participants in the Wienerkreis. We consider this discrepancy and present some examples of Gödel's influence on Serbian school of logic.

Keywords: Vienna Circle, Kurt Gödel, Serbian school of logic



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"Vienna Circle and Belgrade School of Logic"

Gödel and Necessitation Rule

Filip D. Jevtić and Slobodan Vujošević, Mathematical Institute SASA, Belgrade

Abstract. Contemporary systems of modal logic got their elegant and transparent formulations thanks to the necessitation rule. It is not widely known that this rule was introduced by Gödel (in 1933). However, in his short note on the Ontological argument (from the early 1970s) he applies the necessitation rule to sentences derived from the axiom that are not formulated in necessitated from which is required in modal theories.

Keywords: Gödel, necessitation rule, ontological argument.



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"Vienna Circle and Belgrade School of Logic"

The Vienna Circle and Austrian Economics contributions to the Methodology of Economics

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Abstract. The intellectuals of Vienna strongly contributed to the development of methodology and the methodology of economics. Besides the fact that the representatives of the Vienna Circle and Austrian economics had in many cases different, even opposite opinion on social movements and systems and although the Austrian economics is now considered as one of the heterodox economic theories, their contribution in methodology was such that it is strongly incorporated in the system of the paradigm of neoclassical theory. Their works contributed to understanding economy as a more exact science.

Keywords: Vienna Circle, Austrian Economics, Knowledge Problem, Methodological Individualism.



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"Vienna Circle and Belgrade School of Logic"

Gödel's Introduction to Deduction

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Abstract. Gödel taught a one-semester course in basic logic at the University of Notre Dame in the spring of 1939. Among his unpublished writings in the Princeton University Library one can find notebooks with the manuscript of his notes for that course. Together with Kosta Došen, we have prepared an edition of the notes of which we will offer a brief summary and address some of their importance.

Keywords: deduction, propositional logic, predicate logic.



"Vienna Circle and Belgrade School of Logic"

Carnapian Inductive Logic

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Abstract. In the recent decades, Carnapian inductive logic becomes a fruitful field of research in pure mathematical logic with promising applications in areas as diverse as philosophy, artificial intelligence, cognitive science and mathematics. We present a survey of some modern approaches to probabilistic logics that are in line with Carnap's work on probability and induction.

Keywords: inductive logic; probabilistic logics; Carnap's Continuum.



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"Vienna Circle and Belgrade School of Logic"

A Generalization of Gödel's Interpretation of Classical Logic

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Abstract. Gödel's famous double negation mapping of the first-order formulae into itself (1932-33) can be understood as a possible way of intuitionistic interpretation of the classical reasoning. We redefine Gödel's mapping (1992) and found out the minimal superintuitionistic predicate logics in which the classical logic can be embedded by these generalized mappings.

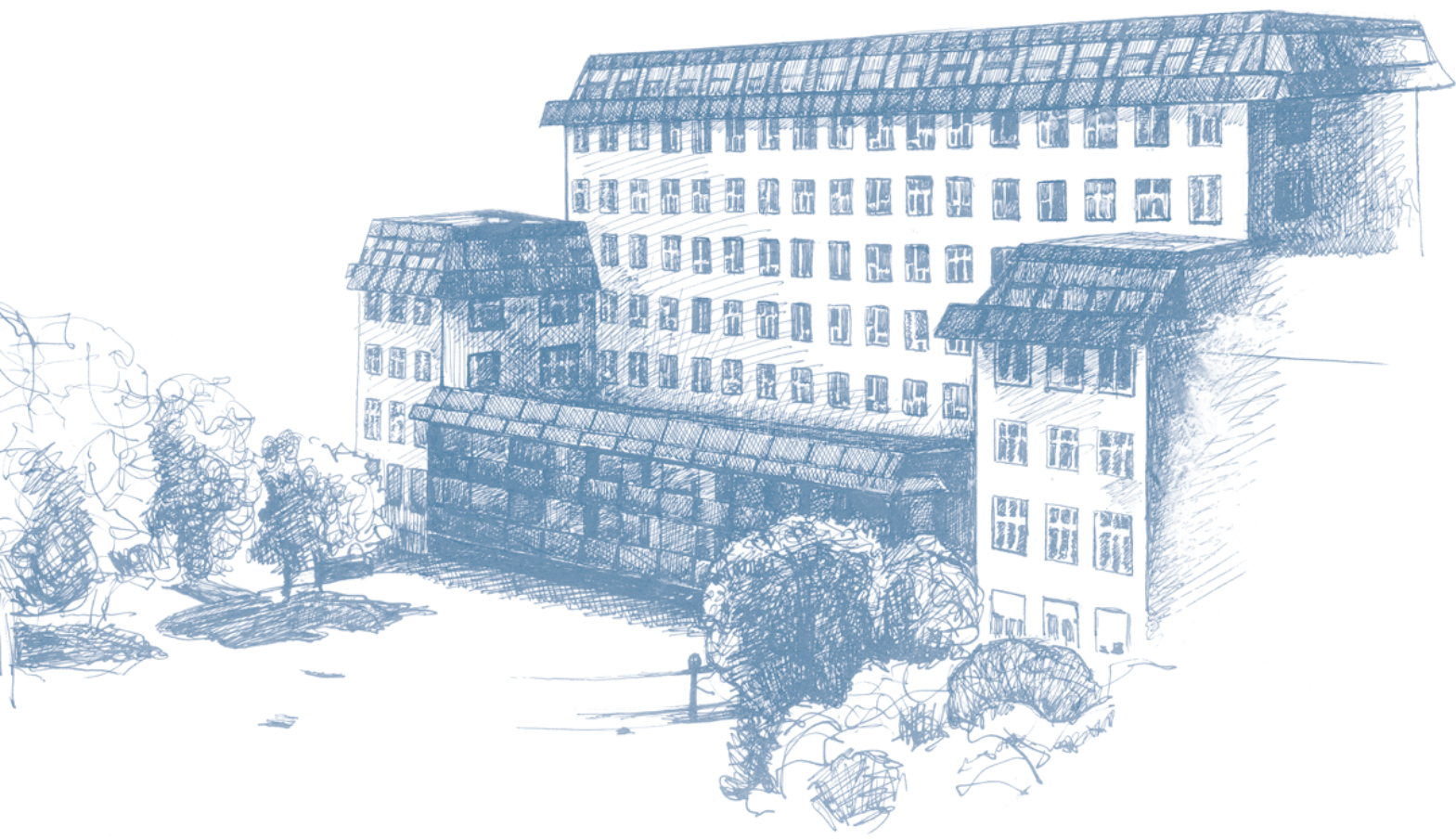
Keywords: classical logic; superintuitionistic logics; interpretation.



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International economics





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The Impact of China's Belt and Road Initiative on Export Flows from Eastern to Western Europe

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Abstract

Since the establishment of formal economic cooperation between China and 16 Central and Eastern European (CEE) economies in 2012, the role Chinese investment on the region has become increasing scrutinized. China's "Belt and Road Initiative" (BRI) in CEE can be interpreted as a gateway access to the greater EU economies. We investigate the economic impact of BRI investments, which follow Chinese foreign direct investment (FDI) in CEE, on the bilateral export of the CEE countries with the other EU member countries. Using a gravity model to estimate the export elasticity of FDI and BRI investments between 16 CEE countries and the Western EU countries, we find that BRI investment has no impact on exports at this early stage, while Chinese FDI inflows have a positive impact on exports from the CEE countries to the Western EU. The results confirm our hypothesis that Chinese FDI in CEE countries have a stronger positive impact on a country's exports to EU compared to FDI impact on export within EU countries. Furthermore, we find that the impact of ongoing BRI infrastructure projects linking transportation infrastructure has an indirect influence on countries trade flows within EU market.

Keywords: Gravity model, belt road initiative, foreign direct investment, Central and Eastern Europe

JEL classification: F15, F23, F63, F68, C33



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Trends in central bank's foreign currency reserves and the case of the emerging and developing countries

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Abstract

This paper first provides a global trends overview of central banks' foreign exchange reserves in terms of their composition, adequacy and size. The reasons for holding foreign exchange reserves are then investigated. The findings show that foreign exchange reserves change over time, as does their size and structure. The traditional reasons for having foreign exchange reserves are operational in nature (external liquidity), as well as for precautionary (in case of balance of payments shocks, sudden interruptions in international capital flows, as to mitigate exchange rate volatility) and non-precautionary policy objectives (for example, the efforts to prevent exchange rate appreciation, or to maintain export competitiveness). Some countries have increased their foreign exchange reserves to avoid the IMF conditionality during adjustment programs. The recent disturbances in international monetary system are also an important factor in increasing foreign exchange reserves. Of course, there are also the costs of holding an excessive amount of foreign exchange reserves. This paper analyses the adequacy of foreign exchange reserves. Then, the paper analyzes the changes in the structure of foreign exchange reserves, pointing out the effects of the introduction of digital currencies. The management of foreign exchange reserves has recently been influenced by geopolitical factors. The world oil market and natural gas disruptions affect the growth of demand for gold, along with the growth of holding gold, especially among the developing countries. The findings of this paper showed that the official foreign exchange reserve holdings by emerging and developing countries has been growing in recent times, in response to the current crisis, and due to caution regarding possible future crises.

Keywords

Foreign exchange reserves, currencies, balance of payments, capital flight, IMF



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Euro and Montenegro through a two-decade perspective - opportunities and challenges to meet growing economic uncertainty

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Abstract

The beginning of the current year, has marked two decades since Montenegro has started to use euro as a valid means of payment. As one of the 16 officially dollarized countries in the world, Montenegro already in 1999 as a part of FR Yugoslavia, took responsibility for conducting its own economic policy, through the introduction of the Deutsche Mark, which was later replaced by the use of European currency.

The subject paper, having in mind the historical context, changes in the state legal status, the Great Economic Crisis, Covid19 pandemic and geopolitical trends, deals with the analysis of the economic reality of the Montenegrin economy through the prism of the euro use, ie the consequences expressed in macroeconomic indicators and living standards. Are the restrictions regarding the conduct of its own monetary policy proven to be a strength or weakness of the Montenegrin economy? Is the situation now further complicated given the current economic and security challenges? Is the Montenegrin economic dependence on foreign partners, a special danger in the current economic moment, with rising food prices and the energy crisis?

In order to provide answers to the set of questions, the economic indicators of Montenegro in the observed twenty-year period will be analyzed, based on secondary data obtained by both national and international institutions and organizations.

Keywords

Montenegro, euro, macroeconomic stability, living standards, economic uncertainty.



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Trade Facilitation Agreement: Economic Impact after five-year Implementation

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Abstract

The implementation of the World Trade Organization` Trade Facilitation Agreement, adopted in 2013, began only five years ago. The progress has been made both, in creating the regulatory framework, as well as the implementation practice itself. The first results indicating the progress within all income groups of countries are already visible, but new challenges in implementation have also emerged. The aim of this paper is pointing out the level of progress made by Serbia and its regional partners, emphasizing the position of the Micro, Small and Medium–sized enterprises (MSMEs). The paper indicates the TF measures applied, with high impact on the progress of this group of enterprises in the CEFTA 2006 region.

The greatest benefits of the TF measures application would be realized by MSMEs, dominant in the structure of trade enterprises all over the world and in Serbia, too. If the automation of border procedures of traded goods is enabled, it would increase the export of these enterprises.

This paper also deals with the specific areas of the TF implementation categories that have contributed mostly to the exports increase of all country income groups. It is not possible to expect that all elements of the TF could provide an equally positive result for the trade value increase. Therefore, the numerous experiences of different income groups of countries are analyzed. We especially emphasize specific role of the TF for trade operations enabling, during the time of numerous regional trade agreements being active, pandemics and the current crisis.

Keywords

Trade Facilitation measures, country income groups, implementation, trade enterprises, border procedures



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REER volatility in CESEE countries: examining the effect of EMU and EU membership

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Abstract

Real effective exchange rate (REER), as a comprehensive indicator that provides a clear picture of the value of the currency, is one of the key macroeconomic factors that affect international trade but also the overall economic performance of the economy. Consequently, examining its volatility is an important issue given the multiple consequences that this type of exchange rate change can have. Increased uncertainty and risk, potential reductions in international trade, outputs, and negative effects on economic growth are just some of them. In this regard, the subject of this paper is to examine the REER volatility for 13 countries in the region of Central, Eastern and Southeastern Europe (CESEE). Based on the IMF classification, this sample includes five countries belonging to the Central and Eastern Europe region (Czech Republic, Hungary, Poland, Slovak Republic and Slovenia), three countries classified as Southeastern European EU member states (Bulgaria, Croatia and Romania) and five countries classified as Southeastern European non-EU member states (Albania, Bosnia & Herzegovina, North Macedonia, Montenegro and Serbia). The analysis covers the period 2001-2020, for which, based on monthly REER data, annual volatility was calculated. The observed group of countries includes both those that have adopted the euro and those that are members of the EU but are not yet members of the EMU. This allows a comparison of average volatility in the years before and after accession, which is the aim of this research and provides valuable information on the effects of EMU and EU membership on exchange rate volatility. The results show that EMU and EU membership has a stabilizing effect on the REER volatility of REER. This result could increase the motivation of those countries in this group that are not yet members of the EMU and EU in terms of meeting the Copenhagen and Maastricht criteria.

Keywords

Real effective exchange rate, Volatility, CESEE countries



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Ricardian equivalence or twin deficit? Evidence from Serbia

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Abstract

Since the mid-2000s, especially during the financial and economic crisis of 2007-2009, in Serbia, as in the most European countries, internal and foreign economic imbalances have increased. In Serbia, current account deficit reached almost 24% of GDP in 2008, and budget deficit about 7% of GDP at the end of 2007. This is again actualized the debate on whether fiscal deficit affects the foreign economic balance. This has a direct impact on the way how macroeconomic policy makers implement economic measures.

Ricardian equivalence theory predicts that decline in public savings (T-G) is accompanied by an equal increase in private savings, leaving national savings unchanged. The current account balance will also remain unchanged, as increase in domestic private savings will be enough to avoid borrowing abroad. In contrast, twin deficits hypothesis predicts that decline in public savings affects an increase in private consumption, which leads to decline in national savings. This will result in growth in loans from abroad and deterioration of the current account.

The purpose of the paper is to empirically investigate the impact of the budget balance on the current account balance in Serbia. Quarterly data of consolidated fiscal balance and current account balance as share of GDP for period 2005-2019 are used. In order to encompass other determinants of the current account balance, we have also included control variables: real exchange rate, terms of trade, relative income, private investments and trade openness.

Due to high persistence of current account balance, key econometric results are derived using standard tools of the vector autoregressive (VAR) model. Additionally, to obtain the impact of current values of the fiscal balance on the current account balance, we transform the standard VAR model into a structural VAR. My results indicate strong evidence of relationship between fiscal and current account deficits, confirming twin deficit hypothesis in Serbia.

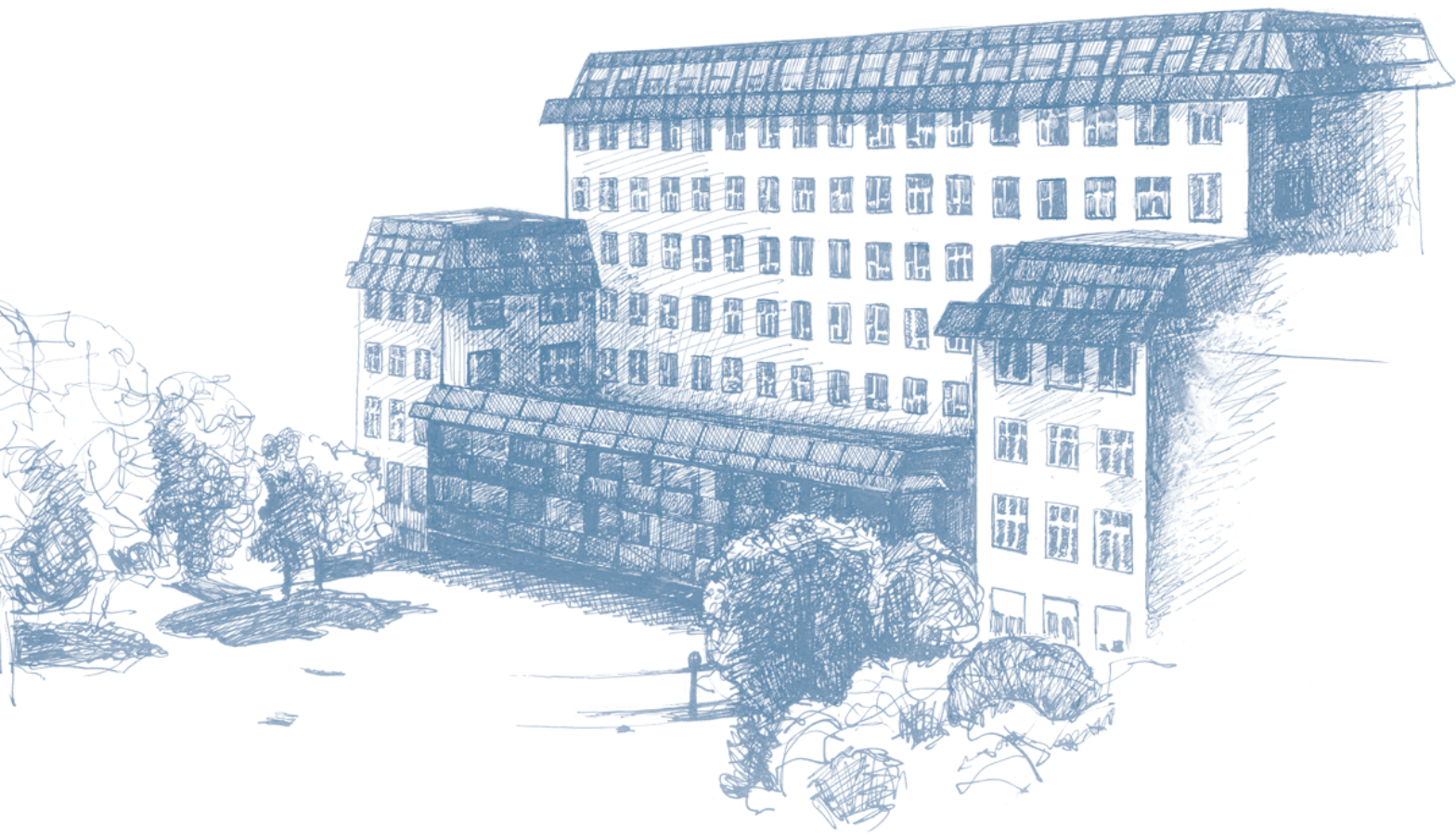
Keywords

Twin deficit hypothesis, Ricardian equivalence, structural VAR model



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**Faculty of Economics
and Business****Information aggregation by council**

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We consider a society of truth-seeking, yet, imperfectly and privately informed individuals who face a binary collective issue, and compare the informational efficiency of a council (i.e. a small representative body able to deliberate before deciding) to that of an electorate (i.e. a large non-deliberative body deciding by majority). These two versions of democracy –representative and direct– have dominated real-world political institutions, and also the interest of scholars studying comparative politics. However, a head-to-head comparison of their welfare effects in a standard Condorcet-jury context is not yet available.

This is precisely the task that we undertake in this paper. We consider a sequence of societies of instrumental voters and we characterize the limit equilibrium outcomes (i.e. for large societies) under both of these collective choice institutions. We consider that as the society grows, both the electorate and the council grow, but in a disproportional manner. In specific, we consider that the electorate increases linearly with the size of the society, while the council increases in absolute size as the population grows, but becomes vanishingly small as a fraction of the society (e.g. it increases proportionally to the cube root of the population, as national parliaments have been found to scale).

An electorate possesses more pieces of information but less elegant tools to aggregate them, while a council possesses less information but can process it more efficiently via deliberation. In line with the literature, we model individual information regarding the state of the world (and, hence, regarding the welfare consequences of each alternative) as an i.i.d. draw of a signal from a state-dependent distribution, but we moreover permit aggregate uncertainty regarding the signal generating process. That is, we allow individuals to be imperfectly informed about the state-dependent distribution from which their signal is drawn.

When there is substantial uncertainty about the signal generating process, then the council is found to perform better than the electorate, while otherwise the electorate dominates. Importantly, we show that when an electorate aggregates information better than a council, it does so only slightly; while when a council aggregates information better than an electorate, the difference can be prodigious. These results, apart from their normative appeal, also admit a positive interpretation: they provide a novel rationale as to why most collective entities employ representative democracy institutions, delegating decisions to small deliberative bodies rather than large electorates.

Keywords Information aggregation, council, electorate, direct democracy, representative democracy.



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The Intangibles Song in Takeover Announcements: Good Tempo, Hollow Tune

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Abstract

Mergers and acquisitions are often motivated by the intention of creating value from intangible assets. We develop a novel word list of intangibles and apply it to takeover announcements. The value of these deals to the acquirer, as shown by abnormal announcement returns, is questionable: One standard deviation more in intangibles talk lowers returns by 0.50 percentage points. Agency problems explain little of these results. Rather, the cross-section of announcement returns, payment mode choices, and insider trades suggest that intangibles talk reflects managerial overoptimism. In sum, takeover announcements reveal important information regarding the quality of deals.

Keywords

Corporate announcements, intangible assets, intangibles talk, mergers and acquisitions, takeovers, textual analysis



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Digital Infrastructure Development and Governance in Maritime Trade: The Role of Blockchain Technology and Standardization

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Abstract

Digital infrastructures enable the delivery of information-based services by providing a technical and organizational foundation for transacting and system integration. The development of digital infrastructure involves significant governance challenges, especially when its scope encompasses an increasing number of stakeholders and systems. Yet, there is a clear gap in our understanding of how the development of digital infrastructure can be governed in an inter-organizational environment and on a global level. This study examines the efforts to digitize the bill of lading, a key trade document. The analysis of rich qualitative data reveals three elements that were crucial in the development of digital infrastructure to support electronic bill of lading proliferation: (1) technology architecture, (2) technology interoperability, and (3) legal certainty. A polycentric governance theory lens is applied to identify novel and specific governance mechanisms and governing units that collectively form a nested governance configuration across a broad network of stakeholders operating at different levels.

Keywords

Digital infrastructure, standardization, blockchain, polycentric governance



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****Natural disasters and fiscal drought**

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Abstract

This paper examines to what extent slowdowns in economic growth are accompanied by widening fiscal deficits and corresponding pressures on public debt after natural disasters. We rely on ifo GAME database (Felbermayr and Groeschl (2014)) that comprises exogenous measures of physical disaster intensity, well suited for causal analysis. Empirical results suggest that natural disasters lead not only to output losses but also to further deterioration of countries' fiscal positions. Moreover, a disaster in the top 1-percentile of the disaster index distribution increases government debt by almost 9 percent of GDP, while the top 5-percentile worst disasters cause the debt-to-GDP ratio to rise by at least 0.5 percent. Local projection estimates indicate that the adverse effects persist in the medium term, not only on impact. In addition, we use a Dynamic Stochastic General Equilibrium (DSGE) model to explain the propagation mechanism of an extreme weather event that affects agricultural productivity. Based on Gallic and Vermandel (2020), the model features farmers endowed with land with time-varying productivity subject to economic and weather conditions. Simulation results exhibit the climate-fiscal nexus existence and highlight the role of structural resilience in limiting the impact of natural disasters.

Keywords

Natural disasters, Climate change, Fiscal sustainability, Local projection, DSGE



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**Faculty of Economics
and Business****Managers and Complementarities**

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Understanding the sources of persistent heterogeneity in firm performance is of crucial importance in strategy research. A wide variety of studies over the last half-century have produced increasingly inconsistent findings. One stream of studies has emphasized the importance of firm-specific factors, while others have supported Upper Echelon predictions where top managers primarily shape performance. In this paper, we develop a theoretical framework relating heterogeneity in firm performance to match quality between managers and firms driven by sorting in the managerial labor market. Our model incorporates the notion of managerial discretion by theorizing on the differential role of complementarities in firms with high and low managerial discretion. We test our hypothesis using a proprietary dataset containing information on the top management team for the entire Compustat sample and apply a novel Group Fixed Effect (GFE) estimator with a structural model that allows us to derive the importance of complementarities in explaining firm performance heterogeneity. Furthermore, we explore the role of labor market frictions and sorting in explaining the sources of firm performance heterogeneity over time. Our theoretical model has implications for the Upper Echelon theory while advancing our understanding of the critical factors that determine firm performance heterogeneity.

Keywords

Upper Echelon theory, variance partitioning, labor markets, firm performance heterogeneity.



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Measuring Diagnostic Test Performance Using Imperfect Reference Tests: A Partial Identification Approach

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Abstract

Diagnostic tests are almost never perfect. Studies quantifying their performance use knowledge of the true health status, measured with a reference diagnostic test. Researchers commonly assume that the reference test is perfect, which is not the case in practice. When the assumption fails, conventional studies identify "apparent" performance or performance with respect to the reference, but not true performance. This paper provides the smallest possible bounds on the measures of true performance - sensitivity (true positive rate) and specificity (true negative rate), or equivalently false positive and negative rates, in standard settings. Implied bounds on policy-relevant parameters are derived: 1) Prevalence in screened populations; 2) Predictive values. Methods for inference based on moment inequalities are used to construct uniformly consistent confidence sets in level over a relevant family of data distributions. Emergency Use Authorization (EUA) and independent study data for the BinaxNOW COVID-19 antigen test demonstrate that the bounds can be very informative. Analysis reveals that the estimated false negative rates for symptomatic and asymptomatic patients are up to 3.89 and 5.42 times higher than the frequently cited "apparent" false negative rate.

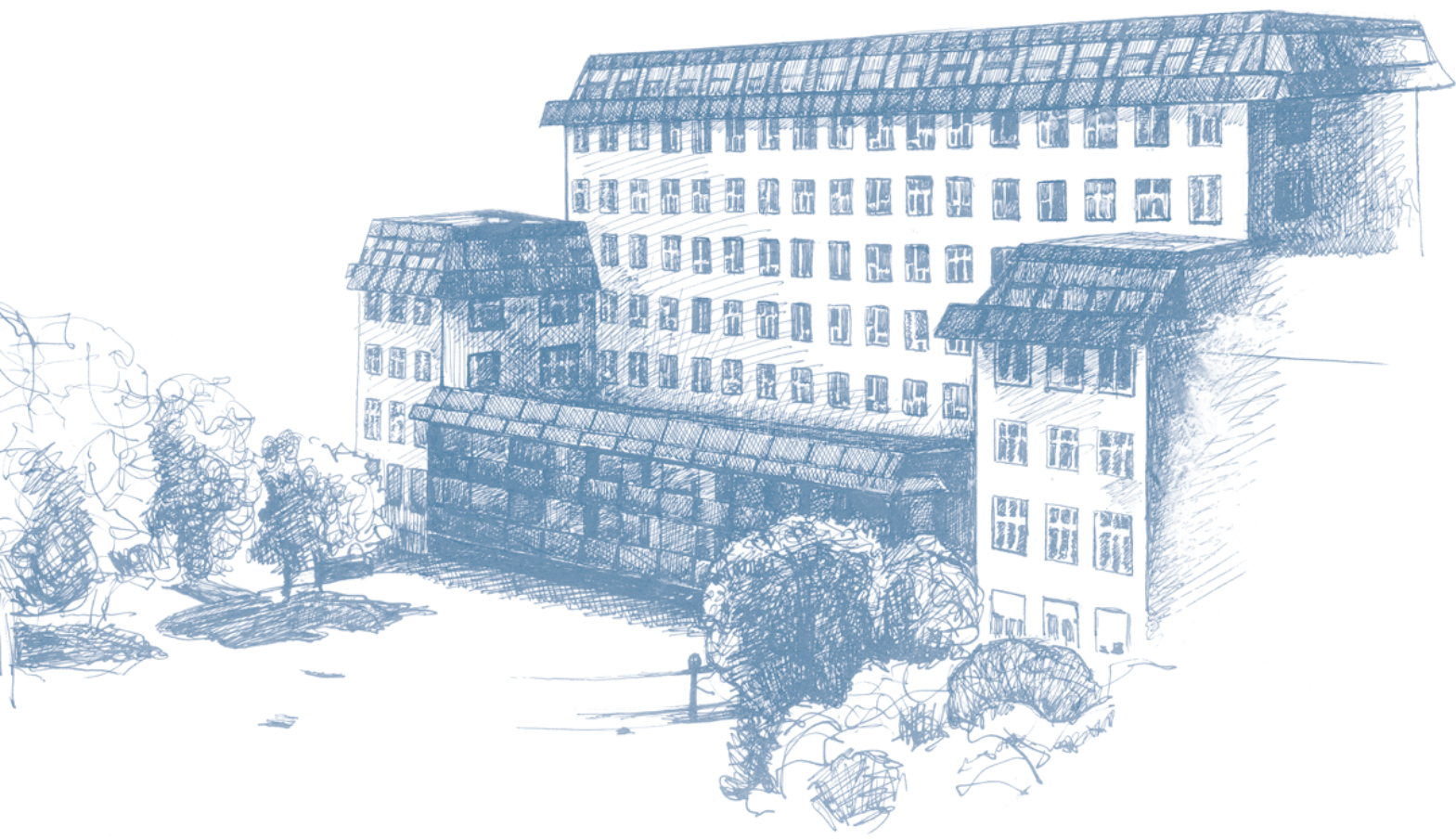
Keywords Sensitivity, specificity, partial identification, moment inequalities, gold standard bias



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Fiscal Policy





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Macroeconomic implications of fiscal stimulus during the COVID-19 pandemic

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Abstract

As a response to the economic crisis, triggered by the COVID-19 pandemic, almost all countries have applied fiscal stimulus, which at the global level represents the strongest stimulus in economic history by scale. Fiscal incentives included numerous and various measures, including private sector wage financing, social assistance for the unemployed and the poor, subsidies to vulnerable enterprises and sectors of the economy, deferment or exemption from taxes, state guarantees for loans to the private sector, recapitalization of private enterprises, additional investments in the health sector, etc. The goal of fiscal stimulus was to mitigate the decline in economic activity and employment, but also to encourage their faster recovery. In this paper, we investigate the impact of expansive fiscal policy on the movement of economic activity, unemployment, inflation and public debt. When assessing the impact of fiscal stimuli on the economy, numerous control variables were used, such as monetary policy measures, the level of development of countries, the structure of the economy, trade relations, the intensity of epidemiological restrictions, etc. The econometric analysis is based on the evaluation of the panel model based on monthly data for the period 2020-2021, but also equations based on the annual data for 2020 and 2021. Depending on the availability of data, the sample size varies, but estimated equations are based on at least a few dozen countries. According to preliminary results, it was obtained that in the period of the COVID-19 pandemic, stronger fiscal stimuli were associated with a smaller decline and faster recovery of economic activity, as well as with a smaller increase in the unemployment rate. There is some evidence that stronger fiscal stimulus has contributed to higher inflation growth as well as public debt growth.

Keywords

fiscal stimulus, macroeconomic effects, panel model



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**Faculty of Economics
and Business****Digital Assets and Taxation: A Policy Reassessment**

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Abstract

Serbia has been at the global forefront in providing a legislative framework for digital assets when it introduced a comprehensive Law on Digital Assets in 2020. Faced with a possible cessation of investment flows from abroad at the beginning of the Covid 19 epidemic the Serbian Government rushed through Parliament this piece of legislation in the hope that it will contribute to the release of considerable capital kept by Serbian residents primarily in crypto-currencies. The Law on Digital Assets was supported with the introduction of amendments to various tax law in Serbia whose primary purpose was to provide clear guidance on the taxation of digital assets, to amend certain anomalies which were already present in our practice and to stimulate the sale of crypto currencies and the investment of the proceeds from such sales into the Serbian economy.

After two years and with the current collapse in the value of most prominent cryptocurrencies, together with new guidance coming out of the EU Commission, it is perhaps the right time to reassess what has been done and to reassert priorities for the legislator, not only the one in Serbia, but globally. Digital assets have great potential to democratize the availability of capital and to open up new channels of financing to those who cannot afford access to traditional capital markets, primarily MSEs. Furthermore, they have the potential to enable small market participants to join forces without losing their independence and compete more successfully with global multinational enterprises. Thus, classic crypto-currencies which were and still are in the focus of public debates may not even be the most relevant, or to be more precise the most useful form of digital assets, if one determines their usefulness from the perspective of broader economic interests of the society as a whole.

In this article the author will try to determine the possible venues for drafting a durable tax policy for digital assets, one which will stimulate those of its aspects that may have fundamental relevance for the growth of the economy, while reassessing the approach taken in relation to pure crypto-currencies.

Keywords

digital assets, crypto-currencies, taxation, policy



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Impact of cashless payments on shadow economy in Europe

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Abstract

Shadow economy in Europe ranges from around 10% of GDP in some of the developed European countries, to more than 35% of GDP in some of the countries from the South Eastern Europe. Large shadow economy has direct adverse impact on tax revenue collection, thus undermining provision of government services, which are important for economic development and social welfare. The level of shadow economy depends on many factors related to the tax system, economic development, tax morale and the quality of institutions. Empirical studies also signal the importance of the payment methods. While cash payments leave limited trace, cashless settlement of transactions is more traceable, which leaves less space for non-compliance. Digitalization and development of telecommunications created infrastructure for efficient execution of cashless payments. Empirical data signal strong proliferation of cashless payments in the last few decades. However, there is still a high variation in terms of the relative development of cashless payments in Europe – the developed European countries considerably outperforming the less developed countries from the Central and South Eastern Europe. In this paper we use the 2000-2019 annual panel data for EU member states and Serbia to evaluate the relationship between the development of cashless payments and the level of shadow economy. We evaluate econometrically the impact of three alternative indicators of cashless economy (value of cashless payments per capita and relative to GDP and the ratio of the value of cashless-to-ATM transactions) on the level of shadow economy (as % of GDP), while controlling for a battery of control variables. Our results show that there is a significant negative relationship between the development of cashless payments and the level of shadow economy. An increase in the value of POS transactions or the ratio of the value of POS-to-ATM transactions by one percent is associated with decrease in shadow economy by 0.041 and 0.037 percent respectively. Robustness of the results is confirmed by estimating the alternative model with the VAT gap being used as the proxy for shadow economy. The simulation analysis shows that if Serbia was to increase the relative level of cashless payments to the CEE average, the shadow economy would decline by around 3.4% of GDP, which would generate additional tax revenues of up to 1.35% of GDP, i.e. EUR 700 million per year.

Keywords

Cashless payments, shadow economy, panel model, tax revenues



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Tax on robots: Whether and how much¹

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Abstract

This paper reviews the literature on the question of whether and how robots that replace routine jobs should be taxed. Although the rapid pace of automation may destroy many jobs, lead to a dramatic increase in income inequality, and result in revenue losses for the government, there is no consensus among economists on whether government intervention is necessary. One strand of economists argues that taxing robots would be a self-defeating act that would spur innovation and slow technological progress, while job losses from the use of robots by foreign competitors could occur anyway. However, another strand of economists that seems to be gaining ground argues for public intervention and the imposition of some kind of tax on robots or the work performed by robots. The first reason is that by taxing robots, governments will be able to generate tax revenue to offset the declining revenue from taxing labor as human labor is displaced by machines. The second reason for taxing robots is to prevent or limit income and wealth inequality that arises from potentially increasing inequality among the types of workers affected by automation and from the transfer of income from workers to owners of capital. Despite the consensus on the need for some kind of tax on robots, however, there is not yet agreement on the precise framework of tax policy. In general, policy proposals fall into two categories. The first advocates direct taxation of firms that benefit from automation, while the second proposes indirect taxation that does not tax firms directly to avoid potential stagnation of

¹ The authors acknowledge support of the EU Horizon 2020 grant GROWINPRO GA No. 822781.



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innovation. In the second proposal, the tax would be levied on the use of robots rather than robots, so that firms would pay for the negative externalities of using robots instead of humans. An optimal robot tax would be levied similarly to a VAT tax on robot activities, with a tax rate that decreases with the age of the robots. In any case, the introduction of a robot tax requires a coordinated approach between countries, otherwise there is a risk that countries will lose tax revenues due to tax competition.

Keywords

automation, robots, optimal taxation



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**Faculty of Economics
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Public procurement and supplier job creation: Insights from auctions

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Abstract

Public procurement contracts (PPCs) of goods, services and works is about one tenth of global gross domestic product. Much research has been conducted on government spending and its aggregate effects, but evidence is scarce at the micro-level. We exploit sealed-bid PPC auctions of construction works, discontinuity in bidders' win margin and firms' daily employment variation to provide a causal estimate of winning a PPC on firms' employment. Winning a PPC has a small positive impact on a firm's short-run employment. We investigate mechanisms and heterogeneity that can explain the initial small magnitudes. We find no compelling evidence in favour of political connections, an information leakage channel or PPC size as explanations for the small magnitude. Our investigation of longer period shows the impact phases out in less than a year. The lack of a long-term impact is due to runners-up winning more PPCs and runners-up substituting towards more market revenue in the year after closely losing a PPC. Finally, the impacts are concentrated in construction firms that conduct the majority of contracted work in-house. The final estimation shows the effect is 3.7 new employees per PPC with a public cost per job created at €60,900 [€53,600 - €66,600].

Keywords

public procurement; auction; firms; jobs; employment



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Left behind in COVID times: The impact of the pandemic on job loss and job finding rates of vulnerable groups in Serbia¹

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Abstract

This paper analyses the effects of the COVID-19 pandemic on the job loss and job finding rate in Serbia, focusing on groups with already low employment before the pandemic, such as youth, women, low-educated and rural areas. The results indicate that COVID-19 caused stagnation in employment growth in Serbia. The stagnation resulted from both increases in job losses and decreases in the chances of finding a job, with the latter effect being much more prominent. Young workers faced the highest increase in job losses, partly due to their higher shares in informal wage employment. In contrast, decreases in job finding rate were particularly high among low-educated and in rural areas and resulted from lower job availability, mainly in agriculture and the informal sector. As a result, after the first year of the COVID-19 pandemic, employment opportunities of vulnerable groups further deteriorated, and already existing labour market inequalities were exacerbated. These effects are partially due to implemented policies to mitigate the crisis, which were focused on preserving permanent employment while leaving vulnerable workers and groups unprotected.

Keywords

Labour market transitions, inequality, COVID-19, Serbia

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Abstract

In order to improve the collection of taxes and duties owed by the population and also to provide the necessary financial resources to governments, the tax administrations have introduced a set of electronic devices. The Electronic Fiscal Device (EFD) can be used by tax administrations to help better monitor business transactions. The purpose of this paper is to evaluate the financial performance of the introduction of digitalization in the Romanian tax system. The reform of the National Agency for Fiscal Administration through digitization has several sub-components aimed at increasing the voluntary compliance of taxpayers by developing digital services, streamlining tax administration processes, including through implementing integrated risk management and ensuring responsiveness to challenges current and future information through the digital transformation of the Agency and the Ministry of Finance. Among the priorities included in the institution's digitization reform is the electronic transposition of forms currently used by taxpayers but also the development of remote services, both current and development new features and the creation of a wide range of services. The results of the research shows that the EFD alone cannot achieve significant results in order to improve the collection of the revenues for the national budget.

Keywords

Tax, electronic fiscal device, digitization reform, taxpayer compliance, financial resources



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Comparative analysis of the impact of tax policy on economic growth in developed and transition European countries

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Abstract

Subject of research of this study is comparative analysis of tax policy influence on long-term economic growth in developed and transition European countries, which are on different level of economic, social and political development, answering two key research questions: first, impact of total tax revenues on level of gross domestic product in long-term (level effect), second, impact of tax structure on economic growth dynamics in long-term (growth level).

Methodology approach is based on endogenous growth theory, government budget constraints premise and revenue-neutral tax structure changes in the long-term. Endogenous growth theory is the basis of differentiating tax instruments according to theoretical assumption on strength and characters of distortions which taxes have on economic agent decisions, while specific country factor which exist in equilibrium of endogenous long-term economic growth dynamic demands defining economic, social and political variables in regression model which represents supposed existence of long-term correlation between tax policy and economic growth.

For assessment of long-term relationship between tax policy (total tax revenues and tax structure) and economic growth, the annual panel data for 31 European countries is used (16 developed and 15 transition countries), together and for each group of countries separately, for the period from 1995 to 2019, through estimation of static panel data model using *Linear regression with panel corrected standard errors method* and dynamic panel data model using *Generalized Method of Moments*.

The empirical results indicate that the level of total tax revenues has statistically significant impact on long-term economic growth dynamics, but, at the same time, level of total tax revenues has statistically insignificant impact on the level of gross domestic product (there is no level effect). The empirical evidence points very strongly to the conclusion that the tax structure effects on long-term economic growth are very weak, statistically insignificant. Empirical results do not find a justified reason for distinguishing among different type of taxes in terms of their growth effects, and do not obtain compelling evidence for favouring consumption taxes over taxes on work (income taxes), or favouring personal income taxes over corporate income taxes.

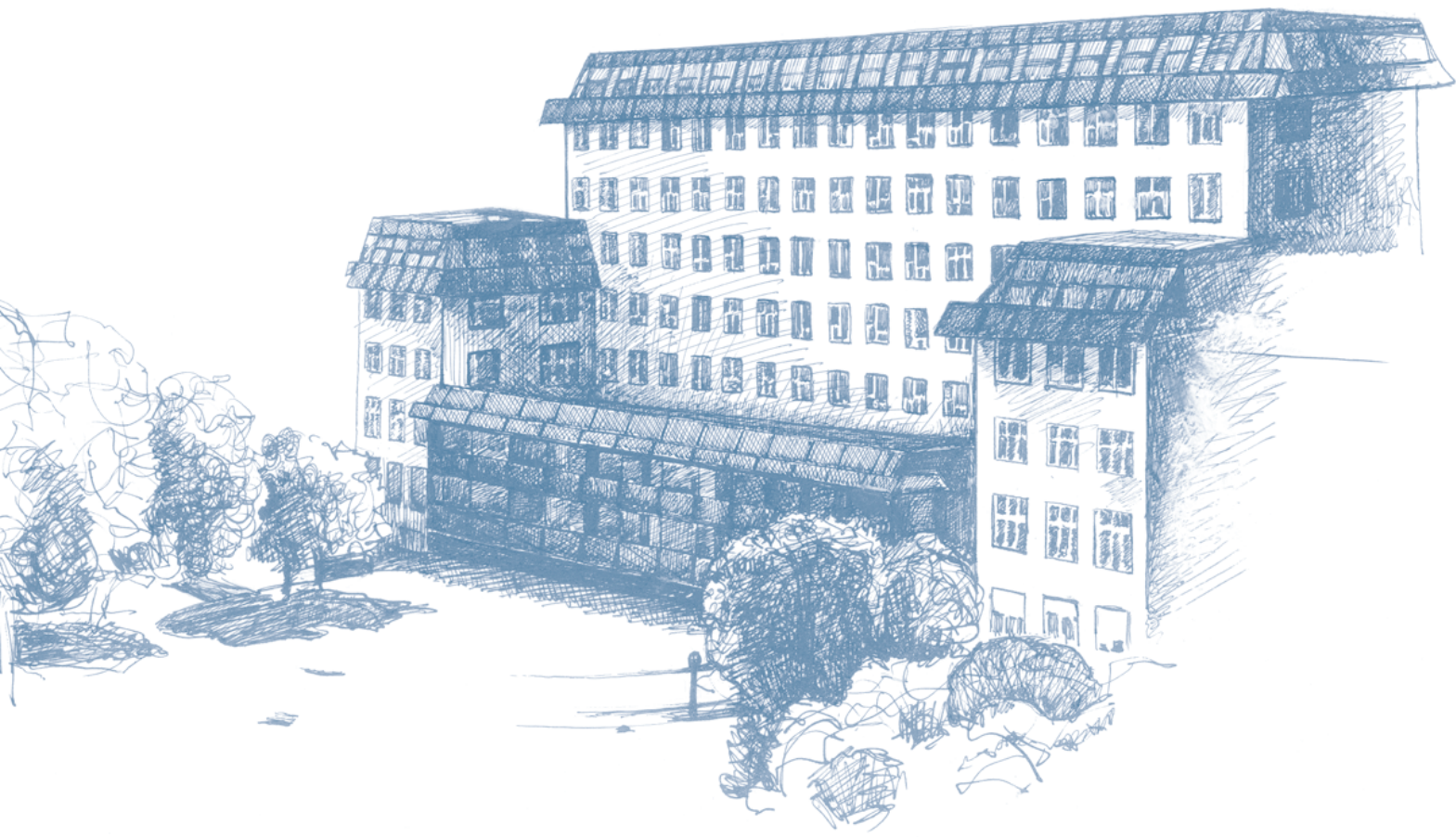
Keywords

Tax revenue, tax structure, economic growth



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Business, Retail and Logistics





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Integration of ESG parameters into business strategy: the evidence from the companies in Serbia

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Abstract

Defining the ESG (*the environmental, social and governance*) strategy is one of the fundamental preconditions for creating a sustainable competitive advantage for companies simultaneously oriented towards profit, environmental protection, and social goals. Numerous research have shown that companies oriented towards the stated goals achieve more stable and relatively higher performance in a more extended period. At the same time, these companies achieve a sustainable competitive advantage, attract investors and capital more easily, have better corporate governance, and face fewer business risks, making them more attractive on the market.

At the same time, the ESG strategy should ensure sustainable financial performance with a positive impact on the environmental and social environment. In such circumstances, the quality of management of an organization is measured by the success of management to simultaneously satisfy the interests of different stakeholders and effectively manage ESG risks. In accordance with the previous, the subject of the paper is the analysis of business practice of companies in Serbia, primarily their applied business strategies. The exploratory analysis of the document will be based on the application of the multiple case study approach and the analysis of the content of publicly available financial and non-financial reports on the company's operations. The aim is to see the level of integration of ESG criteria in the strategic planning documents of companies in Serbia. The paper should provide insight into the level of compliance of companies in Serbia with the ESG approach to defining business strategy.

Keywords

corporate strategy, ESG strategy, risk management



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Omni-channel retail: Multiple Criteria Decision Aiding approach

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Abstract

The prevalence of the new type of customers seeking a seamless shopping experience created new multiple channel market challenges. Traditional retailers are under pressure to respond to growing customer demands by incorporating new digital touchpoints into their physical sales channels. However, the ever-present question of integrating offline and online sales channels remains. Contemporary literature does not provide a uniform, objective, and quantitative approach to multiple channel classification. In a fast-moving, always-changing multiple channel environment, retailers want a clear-cut take on a precise, measurable, and easily replicable framework for multiple channel strategy selection. The main research goal of this paper was to develop a strategic roadmap for implementing multiple channel strategies based on a quantitative approach, which both academics and practitioners can use. To achieve this, we propose a methodological framework to surpass the gap. The paper focuses on specific dimension attributes and their relations in different multiple channel scenarios. Attributes are analyzed using a dominance-based rough set approach (DRSA) to provide a set of decision rules to identify individual retailers' multiple channel strategy. By proposing the attribute significance index and combining it with derived DRSA decision rules, we develop a multiple channel strategic roadmap with a multiple channel-related attribute prioritization and a predictive capacity for brick-and-click newcomers. The managerial value of the findings is related to the multiple channel implementation guidance. Derived "if-then" decision rules help retail managers focus on channel aspects relevant to implementing a specific multiple channel strategy. A fully quantified roadmap also simplifies the optimization process, allowing retailers to allocate limited resources to improving dimension attributes most important for the specific multiple channel strategy. Finally, the roadmap aids industry newcomers by providing unique strategic pathways toward the desired multiple channel strategy.

Keywords

Multiple channel strategy, Omni-channel retail, Multiple Criteria Decision Aiding, Dominance-based Rough Set Approach



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****How Covid-19 has reshaped businesses- digital strategies and responses in
SMEs**

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Covid-19 has caught the world off guard in every way, leaving experts unprepared for a worldwide pandemic to sweep the globe and have a massive impact on the whole global economy. Because the pandemic poses a threat to the existence of small and medium-sized enterprises (SMEs) around the world, businesses have to adjust their marketing strategies and policies right now.

This study focuses on the market upheaval that occurred during Covid-19, as well as the new normal of marketing. Businesses that were willing to adapt to new technological trends were able to survive. Because the transition to digital e-commerce happened faster than anyone could have predicted, organizations that were able to use their resources and strategies effectively achieved good benefits.

Due to the lack of a local perspective on the problem, both quantitative and qualitative methodology will be used to obtain more evidence from various perspectives within the business.

Analyzing how Covid-19 has transformed businesses, what methods they've used to stay relevant, and how the need for e-commerce has grown allows us to address and analyze the steps



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organizations have taken to avoid falling behind and grow. This research will be useful to businesses that are stuck or experiencing difficulties during pandemics, academics who are analyzing the new take on marketing, and, most importantly, it will serve as an informal guide to society that addresses and analyzes problems that the world has never faced before.

Keywords

pandemic, Covid-19, strategies, e-business, growth, measures.



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Omnichannel Concept and Digitalization of Food Retailing in Serbia

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Abstract

Omnichannel retailing has gained in popularity and importance in developed countries. Clear advantages of this multiple channel concept have motivated leading retailers to implement it. However, it is still in the fine-tuning phase in developed markets. In emerging economies retailers are making significant efforts to implement the omnichannel concept, but the majority cannot advance beyond the multichannel phase. Also, food retailing is less developed than some other retail sectors, such as ICT retailing, apparel retailing, etc.

Situation in Serbia is similar to that in other emerging markets. Retail digitalization has intensified during the last decade, covering the entirety of retail business, including e-commerce. However, the level of digitalization varies significantly among retailers. Local and regional players have lower levels of business digitalization than large national retail chains. This is important as the level of multichannel and omnichannel adoption is correlated with the level of digitalization.

Food retailing has grown during COVID-19 pandemic in Serbia. E-commerce has grown significantly in 2020-2022 period. Both of these trends have forced some food retailers in Serbia to introduce online channels. However, only few of them are aware of the importance of providing omnichannel fulfillment. Although complicated, omnichannel concept brings clear benefits to retailers that succeed in implementing it. Therefore, the most successful retailers tend to increase both the level of business process digitalization and omnichannel implementation.

Keywords

Omnichannel, E-commerce, Food retailing, Digitalization



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The role of air and maritime humanitarian logistics in managing the disaster response

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Abstract

After the offset of a catastrophe, time is of paramount importance, where time means life. Disaster stricken areas can be very difficult to reach by land due to destroyed road infrastructure. Therefore, every disaster response strategy should include air logistics for response to catastrophes. When it comes to maritime logistics it is limited to regions with water areas. If possible the synchronization of these two can improve the efficiency and effectiveness of disaster management, especially in the response phase. With adequate air and maritime logistics, in terms of capacities and staff training, response activities are significantly accelerated. The aim of the analysis of this paper is to investigate the role of air and maritime humanitarian logistics in managing the disaster response strategy within devastated areas. Secondary data sources are used for this purpose, as well as for drawing concluding remarks. What strategy should be applied depends on the region of a potential disaster. Furthermore, the government and humanitarian capabilities dictate disaster management through all phases, from mitigation to recovery. Paper analysis findings indicate that air humanitarian logistics is an important factor in disaster response activities. Consequently, the whole value chain of humanitarian assistance can be highly dependent on the performance of air logistics.

Keywords

Humanitarian logistics, Disaster response management, Air transport, Maritime transport.



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**Faculty of Economics
and Business****Analysis of Effects of Drone Using in the Supply Chain**

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Abstract

Drones as a form of unmanned aerial vehicle technology are the solution to a number of logistical problems, especially those related to the delivery of goods through densely populated cities and urban areas. In addition to their speed and specificity of goods transfer, drones are also characterized by climate sustainability and environmental protection. Some of the companies that currently use drones in distribution are Amazon, Google, and the largest logistics company UPS. These companies examples shows that drones can avoid city crowds and rush hours, guided by computer programs and optimized routes, drones reduce the time of delivery of products to the customer, but also have a positive impact on the environment. On the other hand, the question is whether the use of drones endangers the labor market. According to that, the aim of this paper is to determine whether the application of drones and other new technologies in labor-intensive activities, such as trade, leads to a reduction in the need for labor. Also, it should be determined whether the application of new technologies will increase the demand for labor of new profiles.

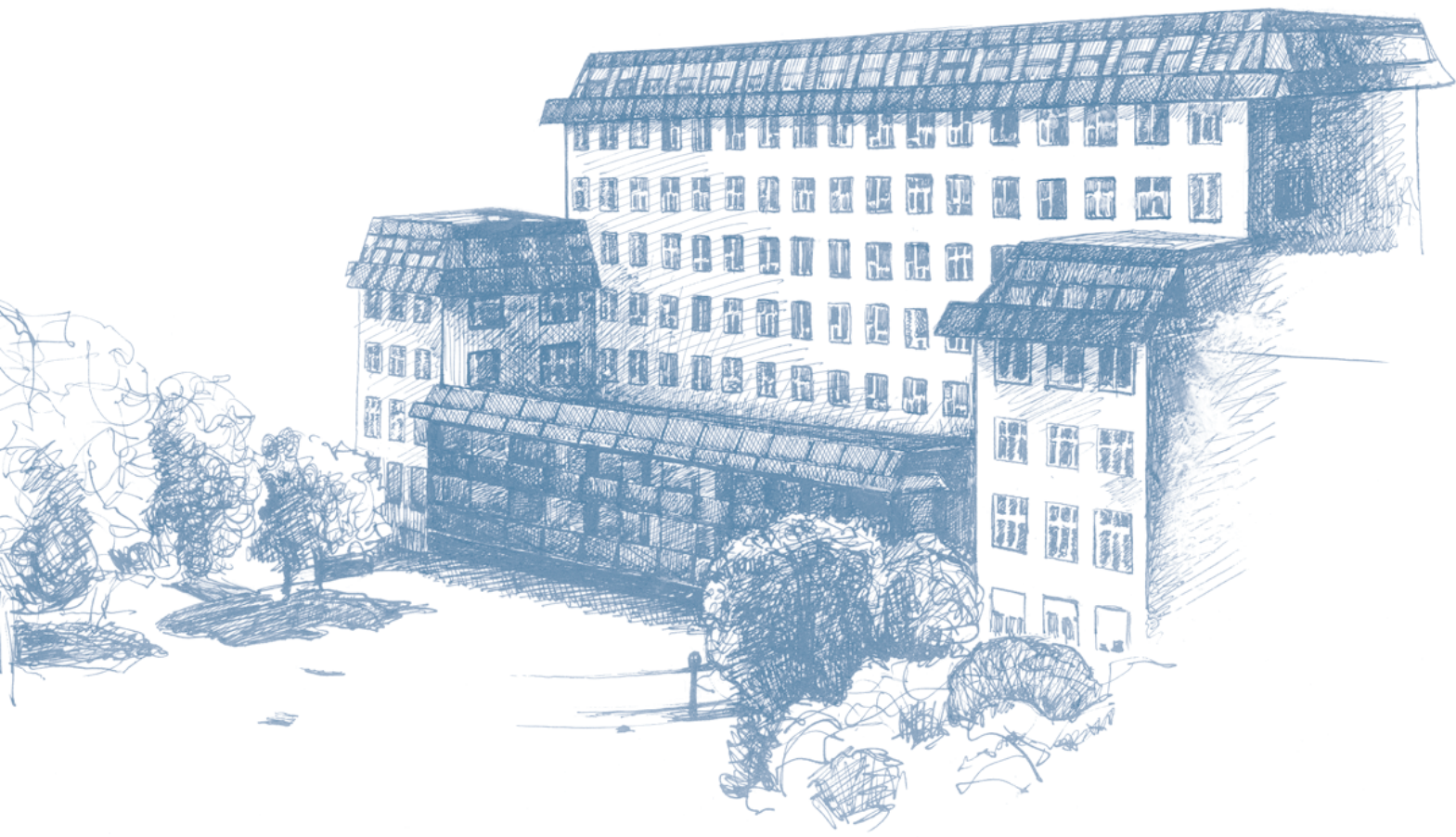
Keywords

Drones, Supply Chains, Trade, Retail, Labor



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Sustainability, Growth and Development





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An innovative approach to measuring the economic growth performance: the evidence from European countries

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Abstract

The economic growth performance is most often reduced to the rate of production increase, i.e. the intensity of growth expressed through the appropriate growth rate. In addition to the intensity of growth, its stability over time, i.e. resistance to various shocks and uncertainty, is also important for measuring the economic growth performance. Together, these two components – the intensity of growth and its stability, fully and comprehensively characterize the performance of economic growth, and are denoted by the term growth dynamics.

The main contribution of our research is the formation of a new composite index of growth dynamics, as well as adjusted growth rate. Index of growth dynamics is obtained as a linear combination of growth intensity and stability, varying the weights assigned to them. We use the obtained values for further calculation, i.e. to construct an adjusted growth rate, where the original growth rate is increased or decreased by the level of stability.

The results of the empirical analysis, based on the sample of European countries (including Serbia), for the period 2000-2019, reveal that less developed European countries have a relatively high growth intensity (rate), but low growth stability, while European countries at a higher development level have a lower growth rate, but that growth is relatively stable. In addition, based on an adjusted growth rate, we see the extent to which the map of European growth performance changes and becomes more comprehensive and realistic.

The new growth dynamics index and the adjusted growth rate are relatively simple indicators, which allow comparing countries at different development levels. The intersecting of the two components of growth, one being “more inclined” to less developed countries (intensity) and the other to more developed



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economies (stability), creates the necessary balance in assessing the growth performance of individual countries.

Key words

Growth intensity, Growth stability, Growth dynamics, Adjusted growth rate, Europe



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**Faculty of Economics
and Business****Industrial policy: the road to recovery**

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The outbreak of COVID-19 pandemic has had profound consequences on economic development. Post-pandemic industrial policies can have a significant role in shaping the road to overcome the crisis and set countries back on the path of economic development. Traditionally, industrial policy has been foremost aiming at enhancing productivity and competitiveness. Nowadays, instruments of renewed industrial policy have to adapt to the post pandemic world. Although much can be learned from past experience, post-pandemic industrial policy will have the demanding task of aligning environmental, social and economic goals, with the background of rapid technological change. The solution to the crisis recovery lies in strengthening the industry. For that purpose, governments and authorities of every single country can use industrial policy to identify priority sectors and facilitate the investments to achieve sustainable industrialization. The aim of this paper is to discuss about active use of industrial policies to the recovery from the COVID-19 crisis. Renewed industrial policies need to put sustainable development goals (SDGs) at the centre, so it can represent a direct leverage to promote sustainable structural changes.

Keywords

Industrial policy, economic development, sustainable development goals, conference, Belgrade.



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Serbia: Long-term Secular Trends of the Key Macroeconomic Variables

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Abstract

The main task for historical statistics is to present how macroeconomic aggregates behave over time (or in the very long run). However, the lack of long comparable time series has been a major obstacle to quantifying and explaining long-term economic trends. Collecting data in a systematic way goes back to the period of the Industrial Revolution era so that even for developed countries no reliable statistics are available before 1750. In Serbia, organized data collection starts significantly later. Thus, for example, the first official population census was organized in 1834, but the first comprehensive and reliable population census took place in 1866. There is a considerable array of materials on prices, available for Serbia back in time. Although price series exist for the most important commodities traded, the first official price index is produced in the interwar period by the National bank. Similarly, for the period prior to the First World War there are no useful statistics on national income (which equals net national product). A group of Serbian refugee economists, during the First World War, prepared a study of the national revenues, expenditures, and wealth of Serbia at the period between the end of the Balkan War and the outbreak of the First World War. The estimates were prepared with the aim to determine the war damage. The first official national income measurement of Serbia was done after the Second World War, starting in 1947. In addition to the lack of long-run data series, boundary and currency units changes affect the comparability of national data over time. Less obvious however are the changes in the methodology that affect data comparability. Regardless of all these limitations, this paper is an attempt to put the puzzle pieces together and reconstruct the longest possible comparable macroeconomic time series. The paper contributes to the literature by estimating GDP, both in terms of level per capita and growth rate, population, consumer price index, and inflation in the present-day territory of Serbia, over the very long run. In order to do so, different sources and methods are combined: (i) available statistics from national and international sources; (ii) rich archaeological, historical, and geographical material that provides insight into the distant past of Serbia; (iii) domestic research papers to date (iv) international research projects such as the International Comparison Program (ICP), the Maddison Project, etc.; (v) statistical methods for estimating missing data; and (vi) expert assessments. The author's intention was to "produce" retrospective estimates going back, in some cases, a long way into the nineteenth century, and sometimes pretty rough ones. In a changing economy, macroeconomic time series must compromise between continuity and relevance. Nevertheless, a



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better understanding of the past is expected to emerge after this exercise. As there is no hope of doing perfect research, further research in this field might indicate the need for a re-estimation of the prior mentioned macroeconomic time series.

Keywords

historical statistics, secular trends, macroeconomic time series



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Serbian Economy in the Post-Pandemic World: Challenges of New Geopolitical Perspectives

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Abstract

The paper analyzes the key challenges facing the Serbian economy in a post-pandemic world where geopolitical tensions are present to the extent that they primarily determine economic and political developments. The pandemic caused significant negative economic effects. These effects include slowing economies, market imbalances and rising inflation. In such unfavorable economic conditions, the war conflict in Ukraine started, which further aggravated the already present economic disturbances. The world is facing several crises today – political crisis, economic crisis, food crisis and energy crisis. Each of these crises has negative consequences for the Serbian economy. Although today it seems that the problem of rising inflation is the most important, for the Serbian economy it is extremely important that the emerging geopolitical shift will dictate further economic and political challenges it faces. The paper also discusses the effects of key economic reforms undertaken in the last two decades in Serbia, following the political changes of October 2000, in the context of missed opportunities. Related to that is the analysis of the sustainability of the existing model of economic growth in Serbia, which is based on foreign investments, cheap labor and energy, as well as access to the markets of both the West and the East.

Keywords

economic reforms, inflation, economic policy



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**Faculty of Economics
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Abstract

This paper investigates the impact of economic disasters (as especially large crises) on sustainable development (which encompasses issues of environment, as well as issues of social and economic sustainability). In doing so we fill in the gap in the literature, which typically investigates only specific parts of this relationship. We start from the premise that long-term sustainability concerns can easily become neglected during crises; hence economic crises pose a real threat to sustainability as envisioned by the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). We further elaborate this idea in arguing that this might be especially true in case of economic disasters. The term “economic disaster” refers to a particularly large economic crisis, defined as a cumulative decline in output over one or more years of at least 10 percent. For this we make use of a newly constructed data on economic disasters (Ćorić, 2021), not used in the literature previously. As for sustainable development, we start from the notion that sustainable development is not a single, uniquely defined concept. Rather, it has many dimensions and aspects such as environment, poverty, hunger, health, education, gender equality, employment, and many others. In order for our analysis to be as comprehensive as possible we make use of several sustainable development indicators, which include genuine (adjusted) savings, human development index, sustainable development index, as well as indices of particular SDGs. For the period 2000-2019, we adopt a panel data approach and regress sustainable development variable against the probability of economic disaster taking place, and a set of control variables. We draw conclusions regarding the short- and long-term effects of economic disasters, and raise the question of whether sustainable development should be the primary macroeconomic goal, instead of GDP growth.

Keywords

economic disasters, GDP growth, sustainable development, 2030 Agenda



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Development of New theory of economic policy in the domain of interactions between economic policymakers

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(The first author is presenting the paper if the abstract is accepted)

Abstract

Tectonic disturbances caused by Lucas' critique have left their mark on both economic theory and economic policy. Many economists, accepting the hypothesis of rational expectations, have shown the neutrality of economic policy. Today, there has been a radical turn, where rational expectations should not be a problem for the effectiveness of economic policy, but encourage its effectiveness, with the proper way of managing public expectations and adequate commitment mechanisms. Modeling the decisions of economic policymakers, regardless of the expectations and moves of other actors in this type of game, proved to be a major shortcoming of the development of economic theory. The invariance of the behavior of individuals in the economic game of any type, and especially in the conduct of economic policy, can no longer be an adequate assumption. The solution to this problem was found in the introduction of interactions between economic policymakers in the form of strategic games that take place between them. Depending on whether the game is of the simultaneous or sequential type, as well as whether the game is of the cooperative or non-cooperative type, different solutions of the game can emerge. In the context of the application of these methodological improvements to the interactions of economic policymakers, different outcomes can be identified depending on whether there is a coordination problem.

Keywords

New theory of economic policy, Rational expectations, Interactions between economic policymakers



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An empirical evaluation of the environmental Kuznets curve for European countries

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Abstract

Theoretical framework developed by Grossman and Krueger suggests that as economies grow, they initially do increase environmental damage - but become more environmentally friendly once they become sufficiently rich. The subject of the paper is the empirical investigation of the relationship between the level of economic development and the level of pollution in the case of selected countries of Europe. The aim of the paper is to evaluate the existence of the environmental Kuznets curve for a wide range of European countries at different stages of economic development, based on data for several decades. Studying this relationship is of special importance in the case of European countries because of the growing concerns of policy makers about the need for higher environmental sustainability due to increasing pollution damage.

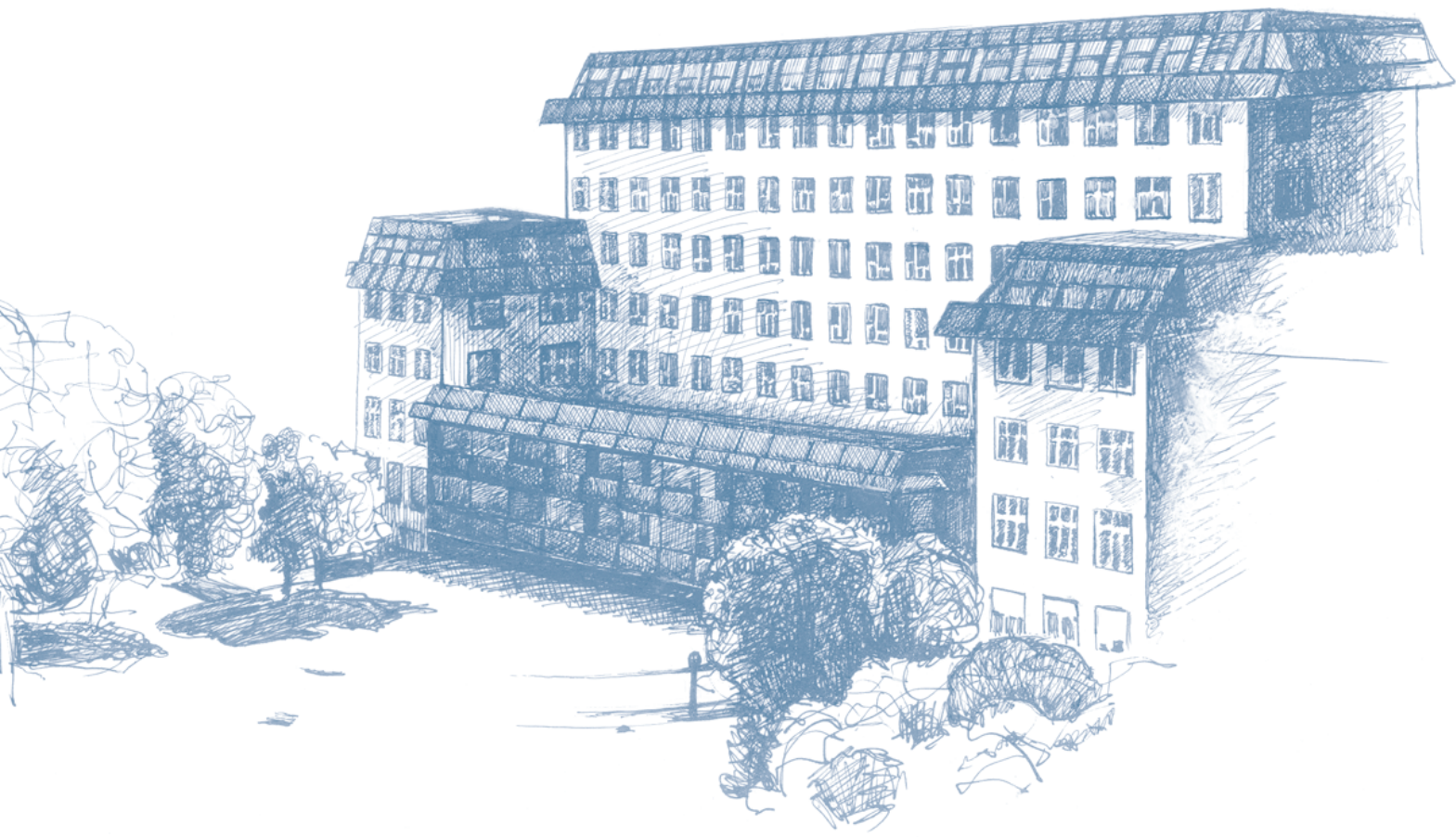
Keywords

environmental Kuznets curve, sustainable development, economic growth, pollution damage.



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Statistics and Quantitative Methods





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On Simplification of Arrow-Sen Axioms

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Abstract. The axioms of Arrow-Sen Social Choice Theory may be divided roughly into two classes: strong and very complex, like the Independence of Irrelevant Alternatives and Universal Domain, and a little bit simpler, but not simple, axioms like Dictatorship, Liberalism, Vetoing and Pareto rule, and their negations. Axioms of both classes are expressible essentially in higher-order languages. We propose a method simplifying axioms of second class in order to obtain the first-order language fragments of Arrow-Sen theory in which some impossibility theorems still can be proved in a logically and mathematically correct way. The importance of this approach lies in the fact that the central teacher's problem, during the process of transferring knowledge to his students, is how to simplify and present complex and difficult concepts and ideas, and simultaneously to preserve their essence plausibly.

Keywords: axiom; simplification; complexity; social choice; preference logic.



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Capturing bivariate and three-way sorts by a dynamic correlation factor

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Abstract

Asset pricing models represent simplified propositions about average returns. Some of the imperfections of these models could be attributed to shared characteristics of problem portfolios. Recent evidence suggests that the prominent asset pricing anomalies, albeit seemingly unrelated, share at least one common trait: abnormal returns are driven mainly by stocks with smaller and less stable correlations with the market portfolio. Univariate sorts based on five-year rolling-window correlations with the market excess return produce patterns similar to those based on size, value, profitability, investment, price ratios, and earnings and price momenta. This paper shows that the *WMS* factor that exploits the spread between the weaker and the stronger correlations with the market universally helps capture effects induced by bivariate and three-way portfolio sorts. In particular, for sorts based on size, value, profitability, investment, and sorts that combine size with three different price ratios, replacing some of the Fama-French factors by *WMS* improves the relative performance of the model measured by the *GRS* statistics.

Keywords

Asset pricing, Factor models, Excess returns, Fama–French factors, Dynamic correlations



UNIVERSITY OF BELGRADE

**Faculty of Economics
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Abstract

As an intermediate target, the external current account appears to be a purely technical concept compared to the economic and social relevance attached to the ultimate macroeconomic goals, such as the sustainable and inclusive economic growth or the low unemployment rate. The usefulness of this summary statistic of the developments in the macroeconomy has been associated more with the policymakers' concern for macro-financial stability rather than with growth-conducive policies.

However, external current account balances continue to spark considerable interest among academic economists and policymakers across the globe. Frequent trade tensions among the United States, the People's Republic of China, and the European Union, the difficult Brexit negotiations, and the discussions on potential free trade agreements are a few manifestations of the fear of high - and sometimes - unsustainable trade and current account imbalances. Global imbalances also provoke accusations of economic nationalism (protectionism), currency manipulations, strategic foreign reserve accumulation, lack of intergenerational solidarity, etc.

The central goal of the study is to critically examine a myriad of potential driving forces of the current account imbalances in Europe in the past three decades. We make two contributions to the existing empirical literature on current account determination. The first one is at an epistemological level while the second one is an empirical proof of a concept. From an epistemological perspective, we employ Machine Learning Algorithms as a relatively new toolkit for social scientists. We also apply traditional first-principles model of current account determination and contrast and compare the results with the data-driven models.

Keywords

International trade, Intertemporal optimization, Machine Learning, Sustainability



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Optimization of massive testing

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Abstract

For this kind of paradigm, I found motivation in mass testing for covid-19. In a certain mass testing, with relatively low probability for the result to be positive in one test, we found the strategy which leads to lower (minimum) overall costs. The main idea is dividing an individual sample in two parts and then perform one or more test. First, we perform a test with joined individual samples of volume n . If this test is negative, we conclude that all individual tests in that group are negative, otherwise we perform n tests with second parts of individual samples. For appropriately selected n , depending on the probability to test be positive and costs of testing, we can lower the cost of overall testing.

Keywords

Covid-19, massive testing, optimization



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Hierarchical Bayesian approach in modeling consumer preferences

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Abstract

In this paper, we have developed a model based on neuromarketing and the Bayesian method in assessing consumer preferences. A hierarchical Bayesian choice model and metrics obtained using electroencephalograph (EEG) were applied in empirical research to model consumer choices and take into account their current psychological state. The resulting model analyses the influence of music on the price sensitivity of demand. The results suggest that the arousing effect of music via the regulatory state significantly reduces the price sensitivity of demand. Except for music, the method developed in this paper could also be applied to other contextual factors that affect the regulatory states of consumers.

Keywords

Bayesian hierarchical modeling, Choice models, Neuromarketing, Regulatory focus



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Application of Benford's law on data from financial statements of private hospitals in the Republic of Serbia

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Abstract

Benford's law, also known as the first digit law, tells us about the probability of the appearance of certain digits in different data sets. Although any of the nine digits can be found at the starting position of a record, this law states that digit 1 appears as the leading digit in slightly more than 30% of the cases. The higher the digit is, the probability of the digit occurring at the starting position decreases. The subject of the paper is the analysis of Benford's law and the possibility of its application to the data from the financial reports of private hospitals operating in the Republic of Serbia. The goal of this research is to point out a simple process of assessing the presence or absence of irregularities in the financial statements. This paper examines whether the records that represent certain results in the hospitals' financial statements, behave in accordance with Benford's law. Furthermore, we test fitting with the Benford's distribution by conducting the Kolmogorov-Smirnov test, with which we can draw conclusions about whether there are minor or major deviations in the frequencies of digits' occurrences.

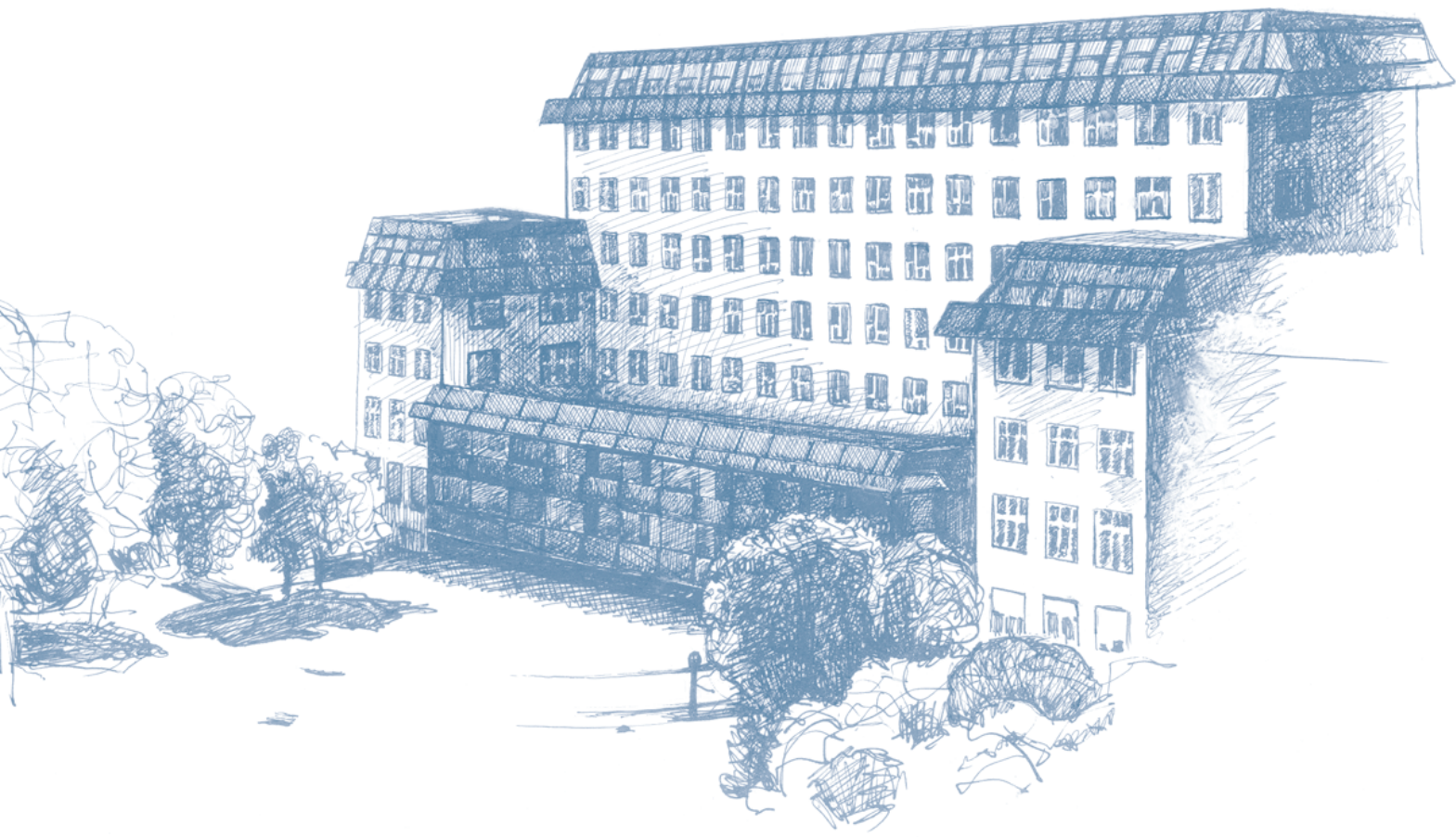
Keywords

Benford's law, Benford's distribution, Kolmogorov-Smirnov test, Financial report, Private hospitals



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Tourism and Sdgs





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Sustainable tourism in Western Balkan region - opportunities and limitations

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Abstract

Sustainable tourism aims to improve the living standards as well as tourists' experiences by respecting environmental principles in the use of limited resources without which the tourism system would not function. To measure progress toward sustainable development of tourist destinations, it is necessary to use a set of sustainable tourism indicators. They provide information on presence and intensity of existing problems, indicate potential issues, and allow risk measurement with possible action required. Also, they are helpful in benchmarking, evaluating results, and decision-making process.

This study aims to evaluate the applicability of international sustainable tourism indicator systems in Western Balkan economies. To determine the current situation and the overall progress in the field of global sustainable development and the application of relevant sustainability standards and indicators in Western Balkan economies, the study uses data from the scientific literature, relevant websites, official documents, reports, and studies. Based on the obtained results, challenges, and recommendations for the implementation of sustainable tourism criteria and standards are presented.

Keywords

sustainability, tourism, sustainable tourism indicators, Western Balkan economies



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Does International Tourism and ICT Promote Sustainable Development in Top Tourist Economies? Evidence from Novel Fourier Estimation

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(The third author is presenting the paper if the abstract is accepted)

Abstract

Sustainable development is critical for long-term growth and development. Without developing sustainably, a nation jeopardizes the health of its citizens and that of its entire habitat. This paper focuses primarily on the role of tourism and ICT in promoting sustainable development. To achieve the above objective, we utilize novel methods such as the Fourier unit root test known as FADF developed by Enders and Lee (2012) and the Fourier bootstrap ARDL (FARDL) method developed by Solarin (2019).

The results indicate that sustainable development co-moves with changes in international tourism and ICT in the long run for France, Spain, and the USA. The diagnostics tests demonstrated no diagnostics problems and that the model was stable for the three countries of the study. The results for the long-run coefficient estimates suggested the following: For France, international tourism and ICT have a statistically significant and positive effect on sustainable development. For Spain, international tourism has a statistically significant effect on sustainable development, while ICT has a statistically insignificant effect. While, for the US, international tourism improves sustainable development, and ICT has an adverse impact on sustainable development. Our results highlight the need for the development of a sustainable tourism sector that can benefit the economy without sacrificing the environment. The results also highlight the need to identify potential solutions and opportunities for making ICT an enabler of sustainable development.

Keywords

Sustainable development; Tourism; ICT; Globalization; Fourier



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What drives user satisfaction and subjective wellbeing in hotel wellness services ? An adapted experiencescape approach

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Abstract

A part of the offer of a great number of hotels includes wellness contents which have a rising influence onto the created value and satisfaction of hotel services users. In the conceptual sense the wellness contents in hotels represent the amenities which enable users to improve the health of body and mind. Seen from the perspective of the service user wellness contents are not only hotel amenities which improve the state of body and mind, but also the narrower and wider surroundings where the hotel is located and which have influence on the psycho-physical relaxation of the hotel guests. The value of the hotel wellness market in 2021 was estimated at around 4.8 billion dollars, while noting that more than 93% of the tourists preferred to use wellness amenities during their stays at the hotels and to gain positive experience based on that. Wellness hotels are a good example of experience economy, and experiences which offer the harmony of body, mind and soul are especially valued today. On a global level, customers are not only seeking for emotional experience, but rather expect permanent transformation and lifestyle changes. A rising number of hotel service users is not satisfied with only basic services, but within wellness hotels seeks the possibility of temporary or permanent individual transformation, both physical and psychical. Therefore, the focus of the wellness hotel service users is shifting from space and service processes towards the space where the very hotel wellness experience takes place, especially that experience which has the potential of individual transformation. The aim of the paper analysis is to measure the influence of key experience components of wellness hotel service users (hedonic, functional, social, natural, cultural and hospitality culture component) onto satisfaction and subjective well-being. Based on the results of the empirical study key antecedents of emotional reactions of users of hotel wellness services can be identified. The paper analysis shall present a new research model which theoretical setting is based on the experiencescape model. The first analysis step assumes the testing of the model fit, convergent and discriminatory model validity. By using the structural equation modelling the effects of the main components of user experience onto satisfaction and subjective well-being shall be analyzed. The



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contribution of the paper analysis refers to shifting the focus of the empirical analysis from the traditional service escape approach towards the experience escape concept and stressing the importance of user experience onto the customer non-financial performance measures.

Keywords

Wellness hotel, Experience, Satisfaction, Subjective well-being, Services



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Sustainable Digitalization – Purpose and Key Questions from a Digital Economics Perspective

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Abstract

Digitalization can have positive and negative effects on economic, ecological, and social sustainability. It is up to us, business, government and society, to shape digitalization in such a way that positive effects are strengthened, and negative effects weakened. It is up to us to shape digitalization such that it is sustainable, and economy and society benefit from it in the long term. Sustainable digitalization leads to greater prosperity, which must be measured not only in monetary economic growth but also in social and environmental metrics. But how to shape digitalization? Where to start?

This paper aims to identify the key questions that need to be answered to put digitalization at the service of sustainability from a digital economics perspective. To this end, the topics of digital economics are first outlined, among them data economy, digital markets, digital education, artificial intelligence, and so on. Then, the guard rails of sustainable digitalization will be presented, the most important one being fairness. The ambivalence of the core elements of digitalization – data use, networking, virtualization and automation – is highlighted by extensively comparing the opportunities and risks of these developing elements. Finally, key questions are formulated for each of the topics of digital economics. These must be answered in order to ensure sustainable digitalization. They are a starting point for the upcoming research in the field of digitalization and sustainability.

Keywords

Digitalization, Sustainability, Data Economy, Prosperity



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Is corporate social responsibility an industry sensitive phenomenon?

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Abstract

The main purpose of this study is to observe the understanding level, implementation stage and disclosure route/intensity within various nature of corporations operating in Pakistan. GRI (G-4) guidelines were taken to calculate the CSR's trends with the help of content analysis within sin and neutral industries. Overall, this research revolves around the extent of different CSR's dimensions, essence of its indicators and the nature of activities both in more and less sensitive (hazardous) corporations. Unlike proposition, it was noticed that neutral industries outperformed in almost every dimension. Government and other law enforcement institutions should act as watchdog to monitor corporate activities, especially in sin industries. They should introduce and implement customized CSR guidelines which are not only acceptable to corporations but also fulfill the needs and priorities of all stakeholder, especially weak and silent stakeholders.

Keywords

Corporate social responsibility; neutral industry;; GRI (G-4); Pakistan.



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Analyzing firms' engagement with the SDGs through web scraping

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Abstract

The need to achieve a sustainable economic development is already undeniable. The 2030 Agenda of the United Nations includes 17 Sustainable Development Goals (SDGs) whose objective is to work towards 17 big interconnected challenges in relation to sustainable development. The role of firms to achieve these goals is particularly relevant given their reach of action and impact over production practices worldwide. Thus, analyzing their commitment with the SDGs is needed. However, this task is particularly difficult for the case of Micro, Small and Medium Enterprises (MSMEs), as they are not legally required to report non-financial information. Given that corporate websites are publicly available sources of business information, we propose its use as alternative sources to analyze the commitment of MSMEs with the SDGs. Moreover, given the recent advances in computing techniques such as web scraping, we designed and tested an approach to scrap websites with the aim to detect contents potentially related to the SDGs. To do so, we first manually analyzed the websites of 64 Spanish manufacturing MSMEs in search for keywords related to the different SDGs. Then, we tested our solution with the same sample of websites. Results showed that: i) it performs as well as the manual approach, and ii) the percentage of the MSMEs' websites that mention keywords related to the SDGs reached just 6.25%. In light of these results we should highlight, first, that the great performance of our proposal along with its automatic and scalable nature makes it a viable option to analyze thousands of firms, which would otherwise not be possible. Second, the general commitment of the analyzed MSMEs with the SDGs seems especially low. Whether this is a general trend, which could to some extent indicate a low level of awareness with sustainable development, will be verified in future studies by analyzing bigger samples of websites. Finally, as the European regulations are increasingly promoting the reporting of non-financial information, our proposal is going to be particularly relevant to help monitor, among others, the voluntary adoption of non-financial information reporting standards.

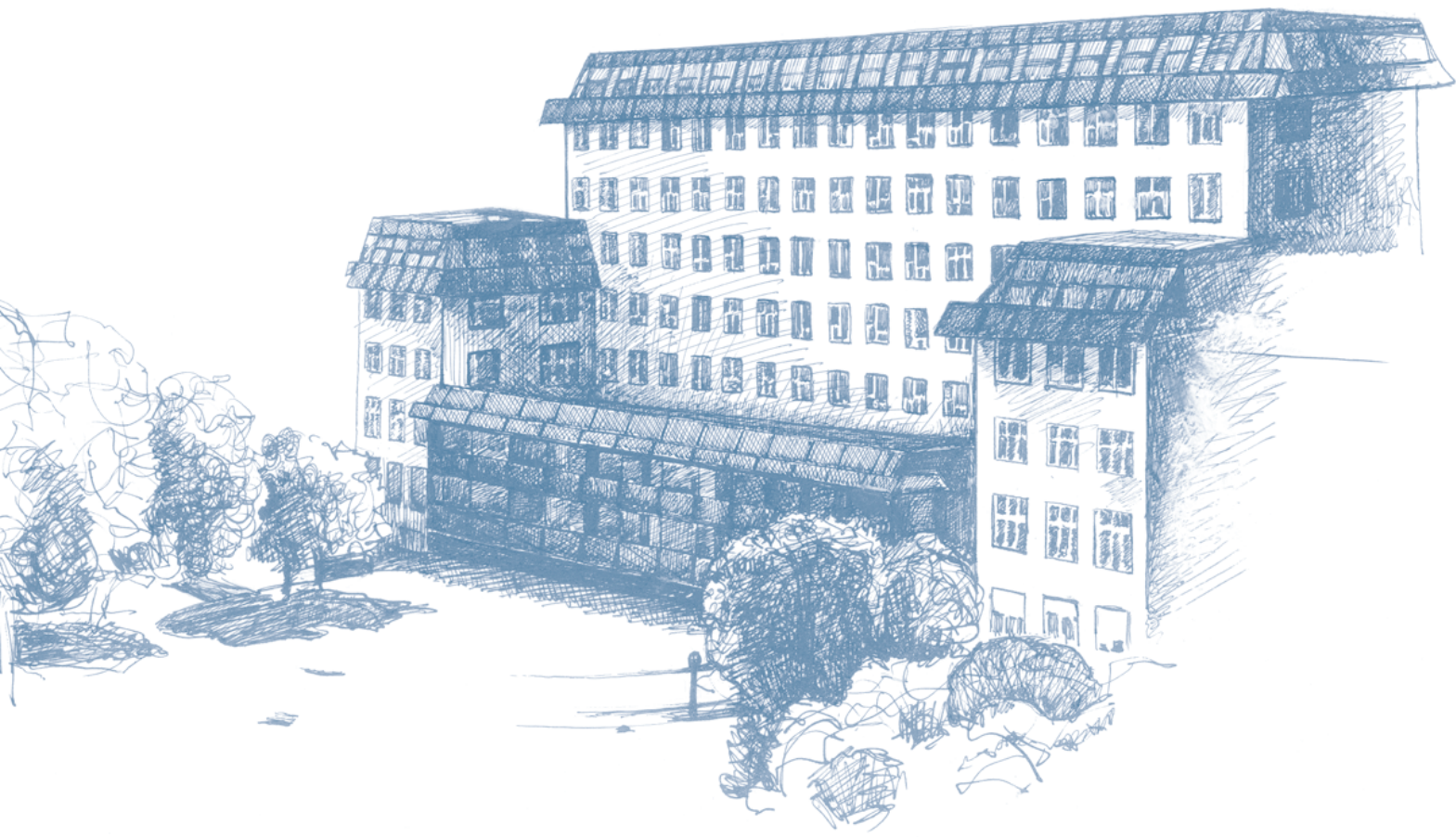
Keywords

SDGs, sustainability, non-financial information reporting, MSMEs, web scraping



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Environment, Development and Sustainability





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Environmental challenges in the Western Balkans

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Abstract

Sustainable development has been on the agenda of international organizations and governments at least since the early 1970s, but it has acquired particular importance during the past years. In the European Union, after the strong impact of the COVID-19 pandemic, the 2021-2027 financial framework and the Next Generation EU recovery instrument are helping economic recovery through various measures that ought to facilitate the Green transition. This paper considers the situation regarding environmental problems in the Western Balkan countries. Available indicators suggest that the Western Balkan countries are at the very beginning of the Green transition. All countries except Kosovo are signatories to the Paris agreement on climate change, but government measures regarding air and water pollution, wastewater management and energy efficiency have been very limited so far. Most Western Balkan countries are highly dependent on coal as the main energy generator, which has a direct impact on the environment, air quality and climate change. The *Economic and Investment Plan for the Western Balkans* adopted by the European Commission in October 2020 will support economic recovery in the Western Balkans through substantial investments that should also facilitate the Green transition. The Western Balkan countries should urgently adopt specific policies regarding the priorities of the Green transition in the area of renewable energy, transition from coal, waste and waste water management. Addressing these challenges will require a different type of industrial policy, much more articulated than the one applied so far. Enterprise competitiveness across the region continues to be hampered by a polluting and inefficient energy sector characterised by high carbon intensity, outdated infrastructure, intensive use of coal and low energy efficiency. Major investments will be needed to modernise energy infrastructure, along with substantial technical support and incentives to firms to adopt more appropriate environmental norms, training and development of skills. These measures could strengthen the competitiveness of enterprises from the Western Balkans on foreign markets, in this way contributing to stronger economic recovery.

Keywords

Sustainable development, Environment, Green transition, Climate change, Western Balkans



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**Faculty of Economics
and Business****Seat at the sustainable table: the role of the assurance in investigating
greenwashing**

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ESG is neither new nor a fad. Sixty years ago, it was primarily about the impact of pollution on health, followed years later by a global UN initiative and the development of standardized sustainability accounting and measurement across industries. Today, ESG refers to much broader non-financial factors that influence stakeholders' decisions when choosing the companies they work with or buy products from. Nine out of ten Millennials prefer ethical and sustainable companies, which in turn means that ESG-related measures have gone from a fringe specialty to a core necessity. But without consistent standards, ESG-related regulatory and reporting frameworks are struggling to keep pace, and with companies under pressure to report positive progress toward ESG goals, the risk of non-financial reporting fraud has increased to deceive and attract investors, funders, or other stakeholders. One of the examples is the sale of fraudulent "green" investments known as greenwashing, which is the risk of traditional Ponzi or other investment schemes that exploited investors in the recent financial crisis.

In this paper we address issues and challenges related to fraud and going concern in audits of nonfinancial statements, as well as the role, skills, and required mindset the auditors need to have in order to effectively audit this type of fraud and, in particular, greenwashing. Many of the regulatory inquiries became commonplace after the corporate failures of the late 2000s, but ESG reporting should be done with the same rigour as financial reporting. The role of auditors in non-financial reporting and ensuring the reliability of ESG information will be critical. They must have appropriate skills underpinned by a healthy dose of scepticism, context, and an analytical mindset when assessing the information. Finally, the outbreak of the



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COVID -19 pandemic has affected the control environments of many organisations and they are not as they once were. Increased digitization has only heightened the challenge of the auditor's ability to assess the risk profiles of many audits, particularly with respect to fraud and obtaining evidence. For assurance to provide the trust that stakeholders need, the assurers will need technical knowledge of what is being audited - be it financial information, greenhouse gas emissions, gender pay gaps or governance structures. But when it comes to transparency, they also need the trust mentality in order to bridge the gap between the non-financial information required and sufficient material information about companies' ethical and sustainable behaviour stakeholders need.

Keywords

assurance, ESG, sustainability, greenwashing, nonfinancial reporting fraud, fraud examination



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Building the win-win solutions: Sustain-analytics for green agriculture

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Abstract

The sustainable development goals, set by the United Nations, are widely accepted all over the world as the leading development goals. They are consisted of 17 goals covering economic, environmental and social aspects of development (Triple Bottom-Line / 3BL). However, “sustainability” is not always interpreted in the same way by different stakeholders. The common understanding of sustainability and SDGs on the global level strongly relies on the adequate instruments/indicators that can be easily used and observed. The lack of a shared methodology is simply considered as the most important obstacle in building of win-win solutions. Therefore, the sustainability concept should be supported by adequate sustain-analytics - the indicators that should be easily applied both at micro and macro level.

The paper explores different systems of indicators specifically designed for agriculture. Particular attention is paid to The Global Strategy to improve Agricultural and Rural Statistics (World Bank, FAO & UN, 2011), SAFA Guidelines (Sustainability Assessments Food and Agriculture Systems, FAO, 2014), Local vs Global Food Chain Assessment (Brunori et al, 2016) and Assessment of Social, Economic and Environmental Impacts of FQS (Bellasen et al, 2019). The case study analysis is based on observations related to the agricultural sector in Serbia. The multi-criteria assessment, with totally 12 systematic indicators, is applied to explain sustainability in agriculture. The analysis shows that it is possible to clearly indicate and measure separate contributions of different aspects of sustainability to overall agricultural system functioning. Furthermore, the sustain-analytics should be standardized and equally implemented regardless of the sector and national context of analysis. Sustainability simply has to be measured using as many as possible standardized quantitative indicators related to the triple bottom line with the aim to support “greening of agriculture” (sustainable agricultural and rural development).

Keywords

Sustainability, TBL, Green Agriculture, Sustain-analytics



“It's not that easy being green”: evaluating the UK financial services prudential supervision of climate change risks.

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Abstract

This paper presents a critical analysis of the prudential supervisory approaches towards climate change risks, commenting on disclosures and financial metrics, with focus on stress and scenario testing. The aim of this analysis performed is to comment on gaps identified from existing climate change scenarios and supervisory practices towards the management and reporting of climate change related risks for financial services in the UK. The focus is placed on the Bank of England Climate Biennial Exploratory Scenario (CBES) and Network for Greening the Financial System (NGFS) guidance in meeting the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations in line with the Prudential Regulation Authority's (PRA) guidance. Using law and economics as the underlying theory to analyse regulation and its effectiveness with regards to the regulation and supervision of climate change related risks via conducting a document analysis and quantitative empirical assessment of the disclosures of the listed UK financial services, the financial stability implications of climate change and associated risks are discussed. Implications of climate change for financial stability with climate-related financial risks, part of the long-term financial supervision of the Bank of England and the PRA, are reflected in this analysis, after examining existing guidance and scenarios capturing climate change-related risks. Recommendations for enhancements in supervisory practices about the prudential governance and management of climate change related risks are included, with advances to the underlying UK regulatory framework, focusing on banks and insurance undertakings. This specifically refers to advances to prudential supervision with proposals for development of macroprudential policies and tools for the effective management of risks arising from climate change for financial services, as part of the supervisory review and evaluation process with Pillar 1 and Pillar 2 requirements, in amending the Internal Capital Adequacy Assessment Process (ICAAP) and the Own Risk and Solvency Assessment (ORSA).

Keywords

Sustainability, climate change, scenarios, risk management.



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Carbon footprint: Misunderstanding of the concept in business practices and sustainability policies

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Abstract

The fact is that sustainability issues are becoming one of the central points of business agendas worldwide. Companies are increasingly faced with the need to integrate environmental protection issues into their business decisions due to many various reasons. Among such priorities, the reduction of greenhouse gas emissions (GHG) ranks highly on a top of sustainability agendas. Both, at the level of companies as well as at the level of international policies. Consequently, the stakeholders' demand for information on the business climate policies and other environmental impact associated with products and services is constantly growing. As a result, carbon footprint (CF) was introduced as a parameter that soon gained the attention of companies worldwide.

In such a context, product CF measures the GHG emissions over the whole life cycle of a product, from the extraction of raw materials and manufacturing through to its use and waste treatment. Despite the growing popularity, product CF has many serious methodological and conceptual shortcomings that regulators, managers and consumers must be aware of. Namely, the CF is not the only "footprint" concept at the moment. There are several more, like ecological footprint, water footprint, nitrogen footprint etc. In addition, serious methodological and conceptual shortcomings regarding CF calculation are still not overcome. Thus, focusing on product CF alone may give a misleading picture of the environmental impacts and shift environmental burdens to other impact areas which can lead to incomplete decisions. This fact is still not widely and seriously recognized by companies.

The presentation critically discusses how certain trendy environmental approaches, like product CF (with its shortcomings and advantages), fit into the stakeholders understanding of sustainability priorities. Advantages and shortcomings are critically discussed. In addition, relations between concept of product CF and term "greenwashing" that is used to describe the act of misleading the consumers regarding the environmental practices are commented.

Keywords

Carbon footprint, products, greenhouse gases, greenwashing



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DICE Model as a Tool for Local Economy-Climate System Analysis

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Abstract

Nordhaus' DICE model is one of the most popular academic IAM models used in economics of climate change. The model is global in its nature and one of its main functions is to identify optimal mitigation policies on global level. The first model version was made public in the early nineties, and since then many extensions were made by Nordhaus as well as other researcher. Today, DICE is a family of economy-climate system models rather than one specific model. However, all those extensions kept original property of globality. In essence, any member of DICE family refers to global economy-climate system. The question is: could DICE model be utilized for studying interdependencies of economy and climate on local level, say on small developing country level? One of usual ways to study optimal national climate policies is to use numerical general equilibrium models that allow identification of carbon tax propagation effects throughout the system. However, these models do not integrate economy and climate. Alternative path would be to modify DICE in a way to 1) eliminate excessive global properties, 2) introduce desired local properties, 3) stays numerically stable. This research tries to identify such DICE modification, that includes the following: 1) elimination of CO₂ module, 2) introduction of adaptation policies like in AD-DICE model, 3) introduction of specialized climate projections, 4) modification of damage function and 5) application of numerical optimization method like in DSICE model. Steps 1-4 serve to provide localized model with solid theoretical background, while step 5 should provide numerically stable solutions.

Keywords

Economics of climate change, economy-climate system, DICE model, Conference, Belgrade



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**Faculty of Economics
and Business****Do Sanctions Affect Environment? Evidence from Bilateral Sanctions Data**

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Abstract

International sanctions are used as a tool to correct the unwanted behavior of a country. However, the actual effects of sanctions on global welfare are still debated. There is a scarce literature exploring the impact of sanctions on global welfare by studying their effect on the environment. Theoretically, there are several possible pathways through which sanctions can affect the environment. Primarily, sanctions reduce the capacity of acquisition and imports of goods, services, and technologies and increase unemployment. Further, environment and natural resource management are pushed lower in the public policy agenda in the state of sanctions.

In this study, we conduct a comprehensive empirical analysis of environmental performance and sanctions by taking a non-traditional approach and exploiting the dyadic nature of sanctions to understand how different types of sanctions affect environmental performance while controlling for other development indicators. The current study bridges the gap in the existing literature that only considers the environmental performance of sanctioned countries while studying the impact of sanctions on the environment. Also, we bifurcated the effect of sanctions on the environment across the different types of sanctions, including arms, military, trade, financial, and travel. Furthermore, we tested for the presence of the long-term effect of sanctions on the environment and the distribution of effects within low-income, medium-income, and high-income countries. The dataset for this study is compiled using data from The Global Sanctions Data Base, International Country Risk Guide (ICRG), World Development Indicators (WDI), and the German Institute of Global and Area Studies (GIGA). World Bank's country classification classifies the world into 218 countries. However, data on the required variables was only available for 146 countries from 1995 to 2019.

Our preliminary results using the fixed effect estimator show a negative effect of sanctions on the environment after controlling for gross domestic product, urbanization, corruption, industrialization, foreign direct investment, and population. On average, sanctioned countries have a 0.21 point lower value of environmental performance index (EPI) compared to countries with no sanctions. Similarly, the effect of arms, military, financial, and travel sanctions on EPI score are -0.70, -1.05, -1.23, -1.04 respectively.

Keywords

Bilateral sanctions; Environmental quality; Carbon emissions



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The role of hydrogen in the low-carbon energy transition - opportunities and cost aspects of implementation in different sectors of the economy

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Abstract

Global climate change is no longer a purely scientific or environmental problem, but is increasingly becoming a matter of domestic and foreign policy, business, international financial institutions and transnational corporations. Slowing down the process of global warming, as well as the development of the economy with a low level of greenhouse gas emissions are considered one of the priority goals of the world economy. The answer to the goals of the fight against climate change is in the term "global decarbonization" or the transition of global proportions to low-carbon development, which is expected to reduce the demand for fossil fuels and increase the role of renewable and other sources of "green" energy. The world is currently paying more and more attention to the development of hydrogen technologies. Many countries around the world have adopted specialized government strategies and roadmaps for the development of "hydrogen energy". Hydrogen can be used to store or deliver energy and in a future, it could play a key role by connecting different energy vectors to a low carbon system. The main advantages of hydrogen are the possibility of production from various sources and the absence of carbon dioxide emissions when used as an energy carrier. The author of the research paper performed an analysis of the current situation on the hydrogen market, as well as various development scenarios based on the expectations of leading energy organizations in the field of renewable and sustainable energy. Technologies of production, transport and possibilities of implementation in different sectors of the economy are considered. Cost calculations on the entire supply chain and parity analysis with commercial technologies in current macroeconomic conditions were performed.

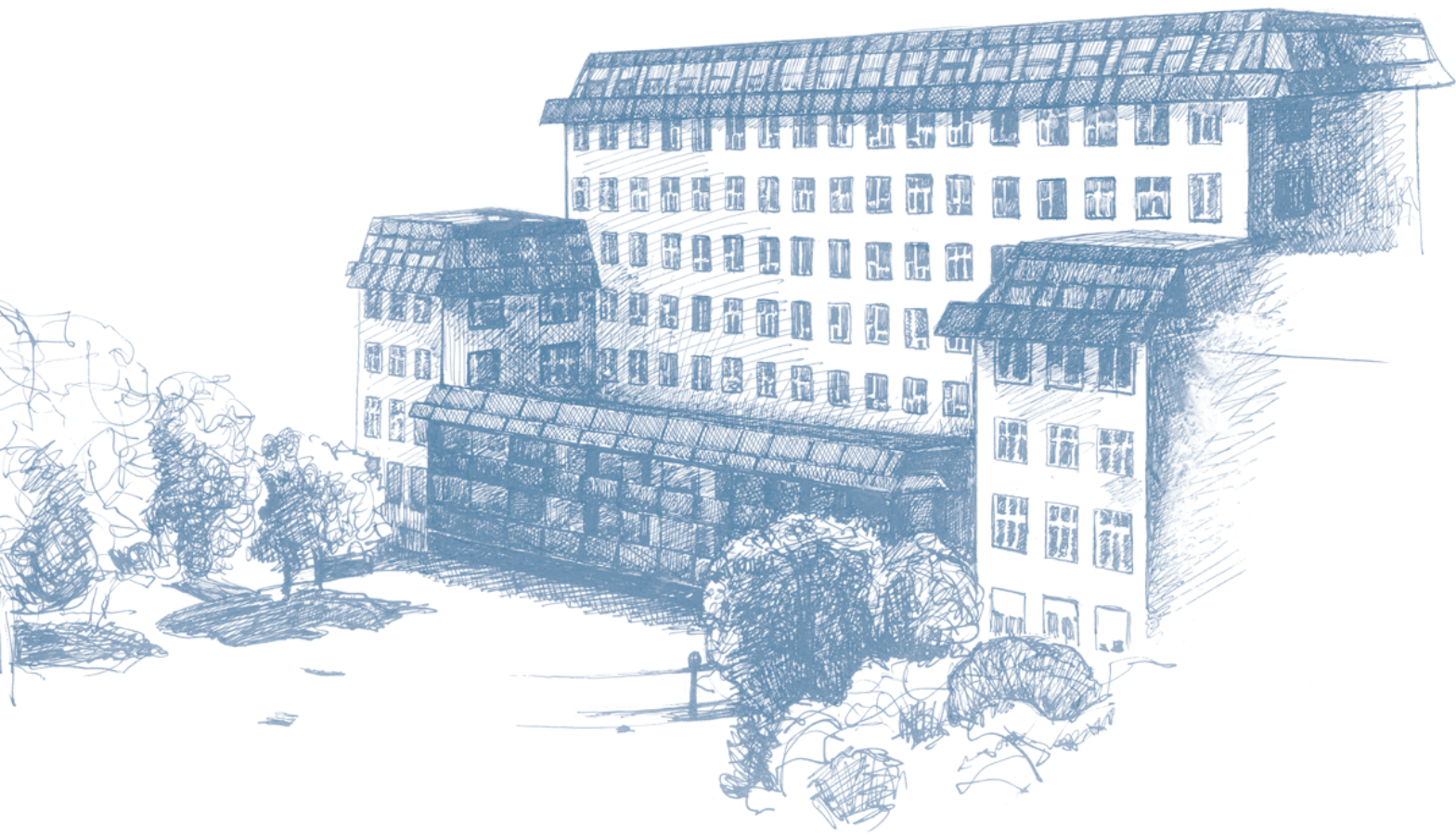
Keywords

Climate-change, Low-Carbon Development, Energy Transition, Hydrogen Energy, Cost-Benefit Analysis



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Digital Transformation





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The Impact of Information and Communication Technology on European countries' exports

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Abstract

In this study, we consider the impact of information and communication technology on exports in 32 European countries observed in the period between 2009 and 2017. Namely we analyse the export effects of e-commerce, e-government and internet prevalence. In addition to the aggregate analysis, we conduct the sector level analysis, using the dynamic model of exports estimated by applying the system generalised method of moments. The results of our study suggest that only e-commerce has a statistically significant effect of exports, whereas the effects of e-government and internet are not significant. The significant effects are particularly pronounced in the manufacturing and services sectors. The results imply that European countries could improve their export performances by investing in information and communication technologies applications in business and supporting the development of the e-commerce platforms. However, this requires the harmonisation of e-commerce and tax regulation, sufficient cybersecurity, reduction of the existing trade barriers and the development of adequate dispute settlement mechanisms.

Keywords

Information and communication technology (ICT), E-commerce, Exports



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**Faculty of Economics
and Business****THE DEVELOPMENT OF THE SME SECTOR IN SERBIA MEASURED
BY THE DEGREE OF DIGITALIZATION AND INNOVATION -
Comparative analysis with the countries of the region and the EU**

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Abstract

Small and medium enterprises in economic theory and practice are widely accepted as a driver and source of innovation, economic growth and employment around the world. The level and speed of SME development is influenced by a large number of factors, among which digitalization and innovation are becoming increasingly important. Both factors directly determining both the development and overall competitiveness of SMEs and national economies as a whole. Based on this fact, paper investigates the level of development of SMEs in Serbia in comparison with the countries of the region that are members of the EU (Hungary, Croatia, Slovenia, Romania and Bulgaria), primarily through the achieved level of digitalization and innovation. The obtained results show that Serbia lags behind in the development of entrepreneurship (Global Entrepreneurship Index) in 2019 and the Digital Entrepreneurship Index (Digital Platform Economy Index) in 2020 in relation to all five EU countries in the region. The results of the 2021 survey show that countries and SMEs in many parts of the world increased their investment in innovation during the Covid 19 pandemic, and that all neighboring countries achieved a relatively stable level of innovation (Global Innovation Index), but also Serbia's lagging behind to EU countries in the region. Also, in 2021, according to the innovation performance (Innovation index), Serbia lags significantly behind the EU average, and compared to the surrounding countries, Slovenia, Croatia and Hungary have better innovation performance than Serbia, but Romania and Bulgaria are weaker. The achieved results in digitalization and innovation have resulted in Serbia being ranked worse than Croatia, Slovenia, Romania and Hungary in 2021 according to the Sustainable Competitiveness Index (Global Sustainable Competitiveness Index), and better only than Bulgaria.

Keywords

small and medium enterprises, development, digitalization, innovation



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****Effects of digital development on the exports of services
in the Western Balkans**

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Abstract

The aim of this paper is to provide evidence on the effects of the digital economy on the economic development of cross border services trade in the Western Balkans. The paper first gauges the extent and usage of internet infrastructure in the region. It then identifies the role of the digital economy in explaining the growth of exports of services in the Western Balkan economies and explores the barriers to providing services exports through e-commerce. We find that the digital economy makes a significant contribution to services exports in the region, but that several substantial barriers hinder the achievement of its full potential. These include poor infrastructure, slow broadband speeds and limited bandwidth, the regulatory environment and a lack of skills in the use of online technologies. In regard to the latter, the opportunities and financing for internet training and the development of internet skills is insufficient and problematic.

Keywords

Digital economy, trade in services, economic development, Western Balkans, CEFTA.



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Empirical research on the acceptance of digital technologies in contemporary business

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Abstract

The main goal of the study was to investigate the degree to which Serbian businesses accept and use digital technologies as part of the digital business transformation process. Through an empirical analysis, digital technologies were classified under primary and secondary. Primary digital technologies include mobile technologies, social networks, cloud computing, the Internet of Things and Big Data Analytics, whereas secondary involve the following disruptive technologies: 3D printers, robotics, drones, augmented reality and artificial intelligence. The main idea behind the study was to determine to what extent the said technologies are employed in Serbian businesses. The research was conducted from October 2020 to March 2021. A questionnaire was sent to over 500 email addresses of Serbian companies, and 98 questionnaires were filled in and duly returned, i.e. approximately 20% of the initial sample. Mobile technologies, social networks and cloud computing were found to be dominantly employed technologies by the Serbian businesses from the sample. The Internet of Things and Big Data Analytics were stated to be much less used by the Serbian companies, compared to the previous three concepts. In percentage terms, the second class of disruptive technologies was shown to be insignificantly present in the Serbian companies. Finally, it appears that the role and importance of robotics and artificial intelligence are starting to be recognised on the business scene.

Keywords

Digital economy, Digital technology, Digital business transformation



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Challenges of digital transformation, sustainability and development

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Abstract

Digital technologies are transforming economies, businesses, consumers, but also states, societies and people. Transformative powers of digital transformation include both development and disruption. In such circumstances the concept of sustainable development becomes more relevant than ever before. The drivers of changes are based in information and communication technologies such as the Internet, artificial intelligence, big data and cloud computing. These drivers can help us bridge divides between developed and developing countries, tackle global challenges such as poverty, hunger, and climate change, and accelerate human well-being. On the other side digital transformation can also increase inequalities, speed up negative trends, and disrupt social cohesion. The article in introductory part deals with the concept, theoretical fundamentals, phases and current trends of digital transformation, digitalization and sustainability. The empirical part analyses the current state of affairs of digital transformation in Bosnia and Herzegovina (BiH), in terms of context, level and drivers of change related to digitalization in BiH. The methodology used includes literature reviews, officially available secondary sources analysis, presentation and interpretation of various indexes, for example the Digital Economy and Society Index – DESI, Eurostat database, Digital Transformation Scoreboard and related sources. In the conclusion the specific recommendations and policy guidelines are presented for Bosnia and Herzegovina economy and businesses.

Keywords

Digital transformation, sustainability, challenges, businesses, Bosnia and Herzegovina.



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The Role of Big Data in the Implementation of 2030 Sustainable Development Agenda

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Abstract

Critical data for global, regional, and national development are still lacking and policymaking requires access to adequate data. Collaboration of various actors including data scientists and practitioners is the key for leveraging the data strengths and understanding the insights that can be implemented for powerful development decisions.

This paper examines the importance of data revolution for sustainable development through the integration of data coming from new technologies with traditional data in order that relevant high-quality information be produced to foster and monitor sustainable development at much higher frequencies. In that process and with the adoption of adequate techniques, real-time insights into people's wellbeing can be obtained and better targeted aid interventions to vulnerable groups can be achieved.

New sources of data, such as satellite data, new technologies, and new analytical approaches can enable more agile, efficient, and evidence-based decision-making and better measure progress of the Sustainable Development Goals (SDGs) in a way that is both inclusive and fair.

Data mined from social media or administrative operations can help government agencies monitor and improve their performance. In order that government resources have great impact and be effectively delivered, understanding and precious selection of big data is of utmost importance. Complexity of that process is examined with all the practical and technical challenges and legal and regulatory limitations.



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In that context, the developing countries including Serbia are analysed, with the recommendation to policymakers to provide openness and transparency, so as to empower people for accountability and better policy decisions leading to sustainable outcomes.

Keywords

big data, policymaking, sustainable development, integration of data, new technologies



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BUSINESS MANAGEMENT - PROGRAMMING ERP SOLUTIONS

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Abstract

In the last decade, we have witnessed a very rapid digital transformation of business systems. ERP solutions have been part of the business functioning of companies for a long time, regardless of the size of the company. Depending on the needs and financial possibilities, companies have the opportunity to decide which type of ERP solution and which vendor would be most suitable for automating work and increasing profits. However, each ERP solution basically uses certain programming languages, when using which it is possible to improve or adapt certain processes in the business system. For example, the SAP solution uses the ABAP programming language, Microsoft Dynamics 365 uses the X++ language or in some cases Visual Basic, while the open source software Odoo uses Python. These languages in different ERP solutions also enable different approaches to solving business problems, which is the subject of the analysis of approaches to automating business processes.

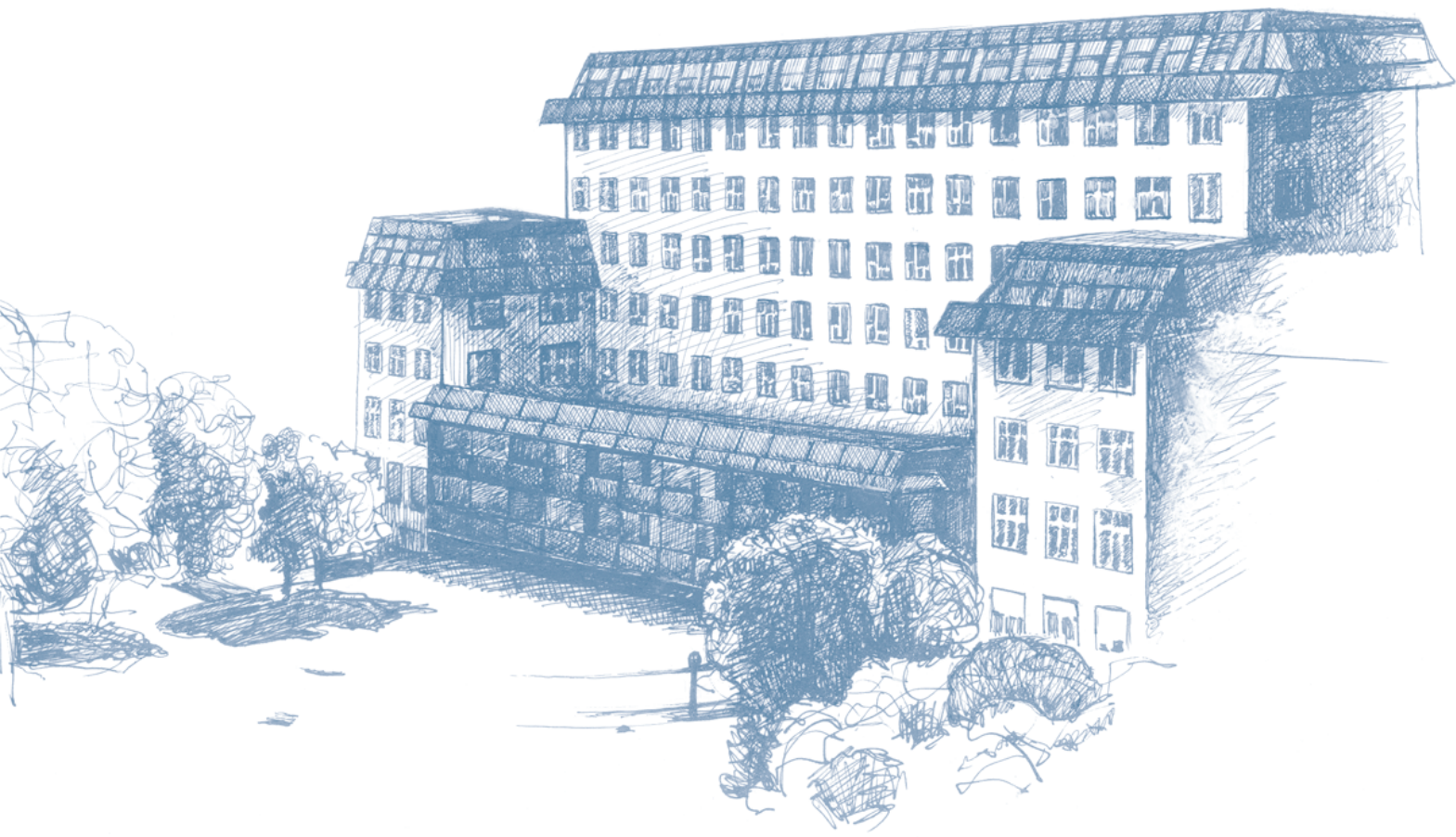
Keywords

ERP software, programming languages, business systems



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Employees in the Era of Digitalization and Sustainability





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The Impact of Employee Education on Sustainable Development Strategies in the EU

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Abstract

Educating employees on the importance of sustainable development creates a positive impact on the organization and its environment. Companies must take part in sustainable development programs and projects to encourage employees to have a greener corporate culture that meets the needs of the present while protecting the future. The United Nations and the EU have common goals for a sustainable future. The EU supports the concept of effective multilateralism, in which educating employees helps in creating awareness (European Commission, 2022). Educating employees in understanding the mission of the EU and United Nations contributes to shaping a safer and better world for everyone. The sustainable development goals are the essential catalyst for projecting the EU's objectives and values by providing a shared framework with different organizations. The current study focuses on exploring the impact of educating employees on sustainable development strategies. Employee education on sustainable development strategies improves a green corporate culture that benefits humans and nature in the present and future.

Keywords

Sustainability, Employee, Development, Company, Green.



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Sources of gender wage gap along the unconditional wage distribution: findings from Serbia

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Abstract

While most of research on gender pay gap in Serbia focused exclusively on conditional mean, this paper will investigate whether there is any heterogeneity of the gender pay gap at different quintiles of the wage distribution, or more precisely, whether ‘glass ceiling’ and/or ‘sticky floor’ effects are pronounced. This paper will reveal whether large gender pay gap at the bottom and/or top of the wage distribution exist because women have fewer endowments of pay determining characteristics or because women are less rewarding for those characteristics. We will dig deeper into each component of the gender pay gap decomposition and provide evidence how characteristics of women compared to men, such as sectoral and occupational segregation, their type of contract and employment, and measures of their individual productivity, such as education and labour market experience influence the gap and to what extent. Particular attention will be given to the impact of female occupational intensity on wage differentials at different parts of the wage distribution in order to identify whether wage penalty between women and men working in female dominated occupations exist and how this contributes to the glass ceilings and/or sticky floor effect.

We will use SILC data for 2015 and 2018 and apply extension of the Oaxaca-Blinder decomposition method that relies on recentered influence function regressions with reweighting. We will account for the sample selection, which may be particularly relevant for Serbia given a comparably low female labor market participation rate.

Keywords

Gender wage gap, decomposition, wage distribution, Serbia



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The Future of Work: Exploration of Work-Related Attitudes and Values of Covid-19-Generation Students

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Abstract

In this paper, we explore the issue of work-related attitudes and values among the cohort of students that experienced a two-year-long period of studying from home. Due to Covid-19 pandemics, most of them finished the second semester of their freshman year at the time when the pandemics started, and it is not excluded that they may graduate without experiencing the traditional full-in-the-classroom mode of studying. Another important characteristic is that they belong to the Generation Z, the cohort born from 1997 to 2013. Research in various disciplines suggests that compared to previous generations, Generation Z possesses unique work-related expectations and desires, despite some behaviours they still have in common with the previous ones. This generation will soon leave the world of education and step into the world of work with all its specificities that are known and described in the literature and with an additional one, experience shaped by studying that implied significant independent work from home. This study will advance the knowledge about the work-related attitudes and values in this specific cohort of students. From the practice viewpoint, it is useful for organizations to understand the attitudes and values that this population has regarding employment and work, and to have input for the development and eventual modification of their employment, retention, reward and employee development policies. Our sample covered 214 respondents, all students of the Faculty of Economics and Business, University of Belgrade, responding to the questionnaire in late February 2022. We evaluated 20 job-related values arranged within groups of related values. The questionnaire is designed by Norene Lindsay (2004). The mean values of the observed items are given in brackets: Achievement /4.46/ - 1.1. Using Ability (4.21); 1.2. Achieving (4.71); Comfort /3.66/ - 2.1 Activity (2.54); 2.2. Independence (2.84); 2.3. Variety (3.56); 2.4- Compensation (4.43); 2.5. Security (3.88); 2.6. Working Conditions (4.75); Status /4.405/ - 3.1. Advancement (4.63); 3.2. Recognition (4.76); 3.3. Authority (3.62); 3.4. Social Status (4.61); Altruism /4.1/ - 4.1. Co-workers (4.4); 4.2. Social Service (3.58); 4.3. Moral values (4.32); Safety /4.57/ - 5.1. Company Policies (4.73); 5.2. Supervision/Human (4.41); Autonomy /3.90/ - 6.1. Creativity (4.16); 6.2. Responsibility (3.85); 6.3. Autonomy (3.70). We provide more explanation on the reported gender-related differences.

Keywords: The Future of Work, Work-Related Attitudes, Work-Related Values, Generation Z



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COMPANY DIGITAL PROFILE: SUSTAINABLE FIGURES AND HAPPY EMPLOYEES?

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Abstract

The new face of the reality highlights the importance of digital transformation of companies, the corporate digitalization profile working towards a sustainable future. The digital transformation is associated with innovation, modernization, and financial success. In Europe, following the COVID-19 crisis, many companies invested in advanced digital technologies, infrastructure, software, monitoring, security, and data protection. Still, the recent EIB report on digitalization in companies indicates differences across EU countries and among regions within the same country, also considering the size of the company, industry, and corporate digitalization profile. The scope of the research is to analyze the alignment between employee ratios in financial terms, figures reported in company annual reports and employees' perception on the impact of digitalization on employment and firm management. We consider the case of a computer software multinational company, operating in 71 countries and we refer to the company's activity in Romania. Methodologically, we perform a qualitative analysis, by conducting a survey (based on the EIB Investment Survey) on employees' part of several departments, including questions regarding: the value of wages, the evolution of staff number, adaptation of skills, investments in employee trainings, management practices in the context in digitalization. We analyze the alignment of the survey's results with the figures reported by the company in terms of employees' ratios, namely: profit/operating revenue/cost/working capital/total assets per employee and we conclude by including policy recommendations.

Keywords

Sustainability; Company Digitization; Ratios; Employment.



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Eco-innovations and Job Satisfaction: A Moderated Mediation Approach

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Abstract

We examine empirically the relationship between eco-innovations and job satisfaction on a large number of observations using a moderated mediation model. We posit that the effect of eco-innovations is mediated by job recognition, while the effect of the latter is moderated by job insecurity. Our findings show that eco-innovations do not directly lead to increased job satisfaction; job recognition mediates positively the relationship between the adoption of eco-innovations and job satisfaction; and job insecurity moderates negatively the positive mediating effect between the adoption of eco-innovations and job satisfaction.

Keywords

eco-innovations; job satisfaction; moderated mediation approach.



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Employee attitudes in Montenegro in the new business environment – comparison between private and public sector

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Abstract

The post-Covid environment has brought a significantly different way of conducting business activities and managing human capital in organizations. Among the visible factors, remote and part-time work practices, technology implementation, overall unpredictability, and increased work-related stress are the most prominent elements that changed. This paper aims to assess the attitudes of various groups of employees in Montenegro and draw conclusions from their viewpoint and associated behavior towards work. The total number of 1995 employees completed the online survey containing work engagement, job stress, and turnover intentions questionnaires. All measurements implemented in this research have been previously validated in numerous research and showed appropriate internal reliability. The survey was filled during April '22. Based on the obtained dataset, statistical analysis was implemented. The main results of the research indicate that public service employees are showing higher engagement and lower job stress levels compared to employees working in the private sector. Likewise, private sector employees are showing significantly more pronounced intention to leave the organization in which they work. Decision-makers in the private sector should pay undivided attention to maintaining engagement and improving the working environment since human capital represents an essential factor in business success. Overall, this paper highlights the importance of properly understanding and managing employees' attitudes and behavior at work in an ever-changing context.

Keywords

employee attitudes, new environment, job stress, job engagement, turnover intentions



UNIVERSITY OF BELGRADE

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Impact of Personality Traits on Job Performance; Moderating Role of Management Style

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Abstract

In recent decades, research on how the personality can influence the results of the work were getting a lot of attention According to Guilford (1959), the personality trait is a hallmark, relatively long-lasting way in which an individual differs from others while other researchers We believe that personality traits refer to characteristics, Models of thought, emotion and lasting behavior. Which are stable over time and that explain to people. behavior in different situations (Costa e McCrae, 1989; Founder, 2001). Of the numerous investigations on personality traits, the five the factorial model received the greatest attention (for example, Barrick and the Mount, 1991; From Raad e Doddema-Winsemius, 1999; Juan and Srivastava, 1999; Liao and Chuang, 2004). It was widely used by many researchers, especially those in the Fields of psychology and social sciences. to promote the discussion on the five-factor model is presented in the next section.

Personality traits can change the situation (Stewart and Barrick, 2004), which can be perceived and reflected differently due to the personality traits of the people involved. Contrary to the traditional belief that all conflicts are always harmful, research has shown that conflict can be constructive (De Dreu and Gelfand, 2008, Deutsch et al., 2011; Jehn, 1997; Tjosvold and Yu, 2007). This study focuses on the impact of different personality traits and management style towards job performance. This research deals only the specific personality traits such as extrovert, openness, emotional instability, optimism and self-esteem and the moderating role of management style such as paternalistic. These multifactor personality traits may contribute in the effective job performance. And the management style stimulated the employees' performance. Purposive sampling technique was used to collect the data. For data analysis SPSS and AMOS were used. Cronbach's Alpha was used to get the reliability of the variables. Results of the study showed that Extrovert is significantly and positively associated with job performance, emotional instability is significantly and positively associated with job performance and management style moderates the relationship between personality traits and job.

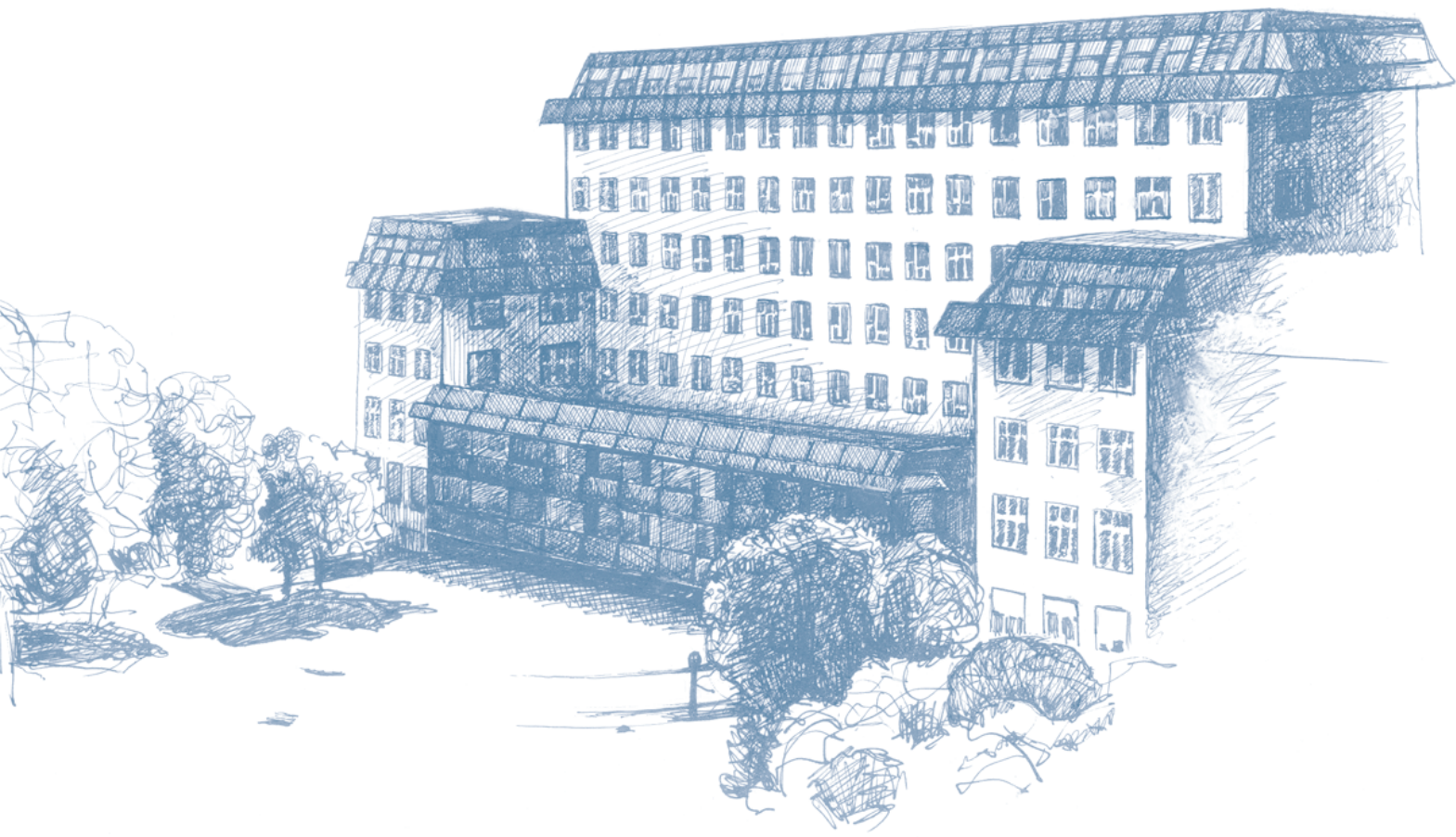
Keywords

Management style, Job performance, Personality traits



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Regional/Local Development and Digital Economy





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Digital Economy: a research framework based on a bibliometric and in-depth analysis

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Abstract

Recent advances in digital technologies and policy incentives aimed at digital transformation of society and economy signal that future research should devote considerable attention to the concept of digital economy and the research domains strongly connected to it. The interest in the digital economy has generated a wide array of terms that created confusion over its theoretical foundations. Several bibliometric analyses in recent years have attempted to map scientific findings and provide guidelines for future research in this area. However, such analyses draw their conclusions from algorithms that focus on attributes common to all studies without looking at their content. Our study combines bibliometric and in-depth content analyses to shed light on the definition, theoretical underpinnings, and state of the art of research on the digital economy. Our findings show that research on the digital economy is still in its infancy and that the stated focus of digital economy studies is often not reflected in their content. The design of the study allows us to more precisely identify gaps in existing knowledge, outline a detailed research agenda and provide guidelines for future studies as well as informed policy decisions based on rigorous research on the determinants and outcomes of the digital economy.

Keywords

digital economy, bibliometric analysis, in-depth content analysis, digital transformation, disruptive innovation



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****Linking innovation performance and economic growth in OECD countries**

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Abstract

Innovations are considered as a main driver of economic development. COVID 19 has created unprecedented challenges and imposed innovation and research as essentials to fight for the health crisis and socioeconomic consequences, as well as a driver of green and digital transition. The purpose of this paper is to assess the linkage between innovation performance measured by the summary innovation index and economic growth in OECD countries. This is examined by an estimation of panel model using data from 2014–2021. The results show that innovation has a positive impact on the economic development and difference between four performance groups (innovation leaders, strong, moderate and emerging innovators). This evidence supports the relevance and importance of a long term innovation policy especially in developing countries.

Keywords

Innovation, Economic growth, innovation index



UNIVERSITY OF BELGRADE

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The contribution of digital infrastructure, skills, and high technology industries to local economic development in European regions

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Abstract

With the commencement of the IPA III strategy for the Western Balkans EU policies have begun to focus intensively on economic development of the region with an aim to establish a Common Regional Market, backed up by the EU Economic and Investment Plan for the Western Balkans. This initiative focuses on developing digital infrastructure, digital skills, mobility of researchers and the development of local industrial strategies based on FDI attraction and smart specialisation. This regional focus of EU development policy also overlaps with the EUSAIR macro region (the EU Strategy for the Adriatic-Ionian Region). To understand the dynamics growth and innovation in these regional economic areas, this paper investigates the relationship between digital access and labour force skills and local economic development. Using Eurostat regional data, it investigates the relationship between local economic growth and employment in high technology industries and in science and technology, the educational structure, and the share of the population making regular use of digital infrastructure. The econometric analysis makes comparisons between the Western Balkans, the EUSAIR region and other regional groupings in Europe. The findings show the importance of focusing on the development of Internet access, on reducing drop-out from basic education, and on promoting high technology industries and the science and technology skills of the labour force.

Keywords

Local economic development, digital infrastructure, skills, high technology, EU policies



UNIVERSITY OF BELGRADE

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Using of SCRUM in Business: Virtues of Heuristic Approach

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Abstract

Speed, turbulent character and many unknowns in the business environment generate the necessity to simplify a complexity of decision-making. That is why, instead of rigorous sequential model with predetermined stages in software development (such as waterfall model), a flexible SCRUM approach is increasingly used as a specific type of agile methodology in project management.

This study, which is conducted through a qualitative research based on interviews in five companies (Infostud group, Quantox technology, Webelinx games, Endava, Vega IT), analyzes the virtues of applying the above-mentioned methodology. The aim of our paper is twofold: a) to offer arguments and reasons why SCRUM is supposed to be treated as a heuristic approach - a kind of shortcut meant to find a satisfactory (and very often optimal) solution to a specific problem in the project cycle; b) to show that the use of SCRUM corresponds to the theoretical view of heuristics as a source of efficiency rather than a source of error, since the results of our research indicate the advantages it has (compared to traditional algorithmic approach): it is a simpler model that requires less documentation and better profiled tasks during the sprint, which even in the circumstances of using a mixed methodology facilitates the entire planning process.

Keywords

SCRUM, heuristics, project management, agile methodology



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****Regional aspects of internal migration in Serbia**

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Serbia is a country with large regional disparities in economic development. These economic disparities are connected to demographic changes – certain regions and towns experience large demographic decline, partly also due to out-migration flows. On the other side, internal labour market flows do not seem to contribute to narrowing the regional disparities. The aim of this paper is twofold: 1) to describe main factors that affect internal migration flows in Serbia and 2) to estimate effect of internal migration on regional convergence. First, we provide a brief description of size and structure of internal migration flows in Serbia. As expected, the age cohort 25-34 has the highest gross migration rates. Further with age, gross migration rates decrease, leaving the oldest part of the working-age population (55-64) as the least prone to changing location. If we observe gender differences, younger women (15-34) are more prone to changing the place of residence in comparison to men of the same age. In the second step we give an overview of differences in labour market parameters (mainly employment rate and average wages) between NUTS 3 districts in Serbia, as one of the key factors that drive internal migration flows, as well as an overview of potential factors that could impede internal labour migration (i.e. poverty traps/liquidity constraint, housing market characteristics and performance in cross-regional cooperation of employment services). In the end, we estimate the impact of internal migration flows on the convergence process between NUTS 3 districts in Serbia, for the period 2000-2018. For this purpose, we estimate the equation of conditional convergence using the System GMM approach. The change of beta coefficient when net migration rates are included in the equation confirm the starting hypothesis that internal migration in Serbia slow down convergence process.

Keywords

Internal migration, Regional convergence, Serbia



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Migration and Youth: Factors Predicting Intention to Stay in a Home Country

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Abstract

Young people, especially those with college degrees, are one of the main drivers of prosperity and a sign of sustainable economic and social development of any country. In this sense, a prominent trend of young people leaving their home countries to build new lives abroad represents a demographic, economic, social, and cultural challenge that needs to be adequately addressed. Most of the studies to date have focused on the push factors - negative aspects of life in the country of birth that encourage people to move abroad; and the pull factors - various opportunities for a better life in the foreign countries. To take a different perspective, this study examines the factors that determine young people's decision to stay in their home country. Based on the theory of planned behavior, this paper develops a regression model that predicts young people's decision to stay in their home country after the graduation. The research design includes a sample of final year business students at a Croatian university. The empirical model highlights the important role of personal attitudes, subjective norms, and perceived behavioral control in the process of intention formation. Moreover, the results point to a mediating role that universities play in developing human capital and encouraging young people to contribute to their local community and country.

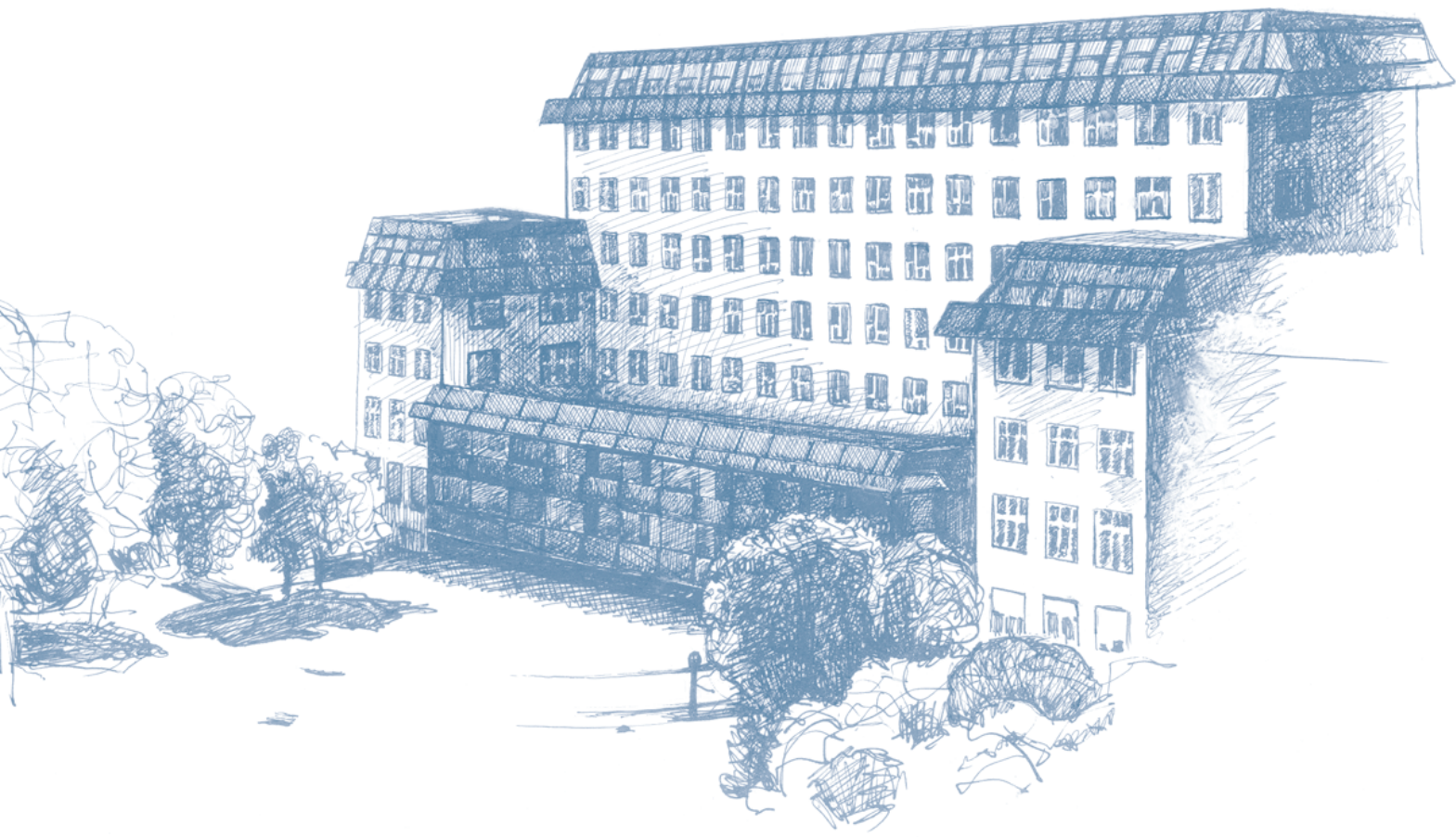
Keywords

Theory of planned behavior, migration challenges, university, emerging economy



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Demography, Health and Services





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Demography in the era of digitalization

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Abstract

Demography deals with population dynamics, demographic processes, causes and consequences of changes in structures. Demography is based on extensive empirical material and statistical data, which is why it is considered the most accurate among the social sciences. Census of people, as well as the collection of data on vital events, have been known since the earliest times.

The development of demography, especially the formal one, meant the development of a methodology for collecting, analyzing, and presenting rich statistical material on the population. At the same time, the fields of demographic research expanded and the interdisciplinarity of demography increased. The development of information technologies has favored the development of new opportunities in population research.

Digital technologies and the Internet have enabled the collection of large amounts of population data and have significantly accelerated the process of obtaining data. New opportunities have been created to enrich demographic data on social and human behavior, necessary to deepen the analysis of the causality of demographic changes. Digitization, widely understood, has created conditions for the design of new information about the population.

In addition to data collection, digitization has facilitated access to already existing data, such as censuses and population registers, but also to other databases. Important data repositories for demographic research have been created, such as databases of mortality, fertility, population registers. Within the new possibilities of obtaining data, there are also digital traces that users leave on social networks. There are a lot of data that can be used to study certain aspects of population dynamics. Also, data from social networks can be used to study poorly accessible populations that would otherwise be excluded. The demographic literature provides examples of the use of digital trace data to study fertility, mortality, and migration in a new way (e.g., short cell phone surveys to monitor health behaviors). The advantages of digital technologies are also reflected in the collection of primary data using devices connected to the Internet (online surveys).

Keywords

Demography, Digitization, Conference, Belgrade



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Sustainability and Higher Education: An Efficiency Analysis

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Abstract

The goal of this research is to assess the efficiency of higher education in the realization of Sustainable Development Goals (SDGs) in selected countries. The 17 Sustainable Development Goals were adopted by all UN Member states in 2015 as a part of the 2030 Agenda for Sustainable Development. With less than a decade left to achieve the SDGs there is a need for more action in terms of financing, better national implementation and stronger institutions.

Higher education is clearly recognized in a number of SDGs and education institutions and various stakeholders should be actively involved in addressing these goals. Measuring the efficiency of higher education in achieving SDGs provides more information on the extent to which inputs are used to produce outputs. To assess the efficiency of higher education the Data Envelopment Analysis is used. It is a non-parametric linear method which allows for multiple inputs and outputs to be used in the analysis. Some of the inputs used in this research are the total number of students, the number of academic staff and public expenditure on higher education, while the outputs are the number of graduates, employment rates of recent graduates and the country's SDGs score.

Assessing technical efficiency will help us determine which countries use their resources most efficiently in the higher education sector. It will also highlight less efficient countries and draw attention to ways they can achieve more progress.

Keywords

Sustainable Development Goals, Higher education, Efficiency



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Title

Europeanization of the social assistance benefits in the Western Balkans

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Abstract

We examine the evolution of minimum income programs in the nations of the Western Balkans from the period of socialism to the emergence of European Pillar of Social Rights (EPSR). We first show that Yugoslav self-management socialism developed a rudimentary targeted minimum income protection. Albania at that time, however, did not have such a program. As countries moved towards a market economy, socialism's legacy remained relevant, but especially since 2000 the governments took more direct responsibility for the minimum income - typically under the direct or ideational influence of the World Bank. The attention was paid to strict targeting accuracy rather than to adequacy or sufficient coverage of the lowest deciles. In essence, neither socialist nor neoliberal policymakers ever recognized anything but poverty relief function of minimum income. Both ideologies were hostile or at best indifferent toward increasing adequacy and generosity of minimum income – perceiving them as impediments and distractions slowing down socialist and neoliberal transformations. Despite some reform initiatives supported by the World Bank and more recently European Union, generosity and adequacy of minimum income programs remain low, and coverage keeps declining. There have been very little efforts to develop inclusion function of minimum income, while activation aspect has achieved very little, sometimes degrading into punitive

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* This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo declaration of independence.



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programs of unpaid community works. In this dismal picture, the EPSR action framework could serve as a guide for a long overdue third phase in the Western Balkans' minimum income policy evolution.

Keywords

Minimum income, Western Balkans, social policy, European Pillar of Social Rights



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The incidence of public governance on health systems: a scientometric analysis

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Abstract

This paper provides a scientometric analysis of the evolution regarding the incidence of public governance in health systems. This paper aims to build up a framework of the main topics discussed in the academic publications related to public governance and health systems. Data were selected and extracted through the Web of Science Core Collection database (WOS), resulting in 313 relevant articles, published between the period 2018-2022. In order to develop the analysis, the methodological endeavour was based on a method of science mapping, namely the “R-bibliometrix” package, using the bibliometrix R-Tool to visualize the knowledge networks and to measure the quality and quantity of the selected and included documents. Through the R software, we studied the topic related to public governance and health systems, and for detailed analysis, our research explores a wide range of bibliometrix main features, namely conceptual structure, sources, authors, clustering, documents, and the trend of the annual scientific production. The main results highlight the most significant collaboration networks of authors and principal sources, significant scientific publications in many geographical areas around the world, the most influential affiliations, and the most used terms related to our topic. Furthermore, our findings relate that international collaboration has a growing potential, implying also new trends of research. Ultimately, our study provides insights regarding the research trends, namely collaborative ecosystem, patient and workforce engagement, digital acceleration, revenue, and diversification. Our findings can assist future research by providing a visual overview of the relationship between public governance and health systems, and other associated fields.

Keywords

Public governance, health systems, R-bibliometrix, knowledge networks



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**Faculty of Economics
and Business****Sharing of Personal and Household Services in selected EU countries**

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Abstract

Nowadays, digitisation has rapidly expanded a type of sharing widely outside the family, neighbours, or friends, and moved it from the linear to a circular economy. Accordingly, this paper focuses on sharing of personal and household services that people traditionally exchange informally within their close social networks but recently became part of the sharing economy. According to definition of European Commission, personal and household services' (PHS) cover a broad range of activities that contribute to well-being at home of families and individuals like child care, long term care for the elderly and for persons with disabilities, cleaning, remedial classes, home repairs, gardening or ICT support. In addition, sharing of personal and household services may be provided as non-profit or for profit. Nevertheless, such sharing supported by digital platforms tackles formal issues such as taxation, infrastructure, quality requirements, social guarantees, or personal data protection. International social surveys reveal that sharing of personal and household services developed at various levels in various European countries. Main advantages of aforementioned sharing are a variety of supplied services, a convenient way of accessing them, lower prices or even services that are provided free of charge. On the other hand, the main problematic issues identified are lack of the trust in providers of services or in internet transactions in general, disappointment with the quality of personal and household services obtained via digital platforms, or deficiency of information about their supply.

Keywords

Circular Economy, Digital Platforms, EU countries, Sharing of Personal and Household Services



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****Assessing the health systems transformation under governance and digitalisation actions**

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Public governance involves ensuring the existence of strategic public policy frameworks, effective oversight, and regulation. More recently, following the Covid-19 pandemic, public governance was oriented to the formation of coalitions and a redesign of the medical system, including from the perspective of its financing. In addition to these governance challenges, the COVID-19 pandemic has also accelerated the convergence of several health trends, mainly digital transformation, to adapt to patients, healthcare providers, and the healthcare system itself. Our analysis is based on two methods, namely principal component analysis (PCA) and ordinary least squares (OLS) regression, to assess the relationship between public governance, digitalisation and health expenditure allocations. The database consisted of annual data from 2016-to 2020, referring to the European Union's member states. The dataset consists of relevant descriptors of the studied phenomenon, namely the six dimensions of public governance (WGI), the four dimensions of the Digital Economy and Society Index (DESI) and health expenditures, and it was presented visually based on the data mapping process to evidence the hierarchy of the EU countries. Our study evidence that digital technologies revolutionise the health system and provide new opportunities for process



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optimisation and design. The impact of the DESI and its sub-dimensions on the level of health expenditures is statistically significant. Considering the value of the regression coefficients, the most significant impact comes from digital intensity, followed by the connectivity for mobile broadband, then the citizens' internet skills and digital public services. Except for the latter, the other dimensions directly influence health expenditures. The main component of WGI has a direct influence on health expenditure, all dimensions of governance significantly impact health spending, except government effectiveness; therefore, regardless of the level of government efficiency, budget allocations keep their trend.

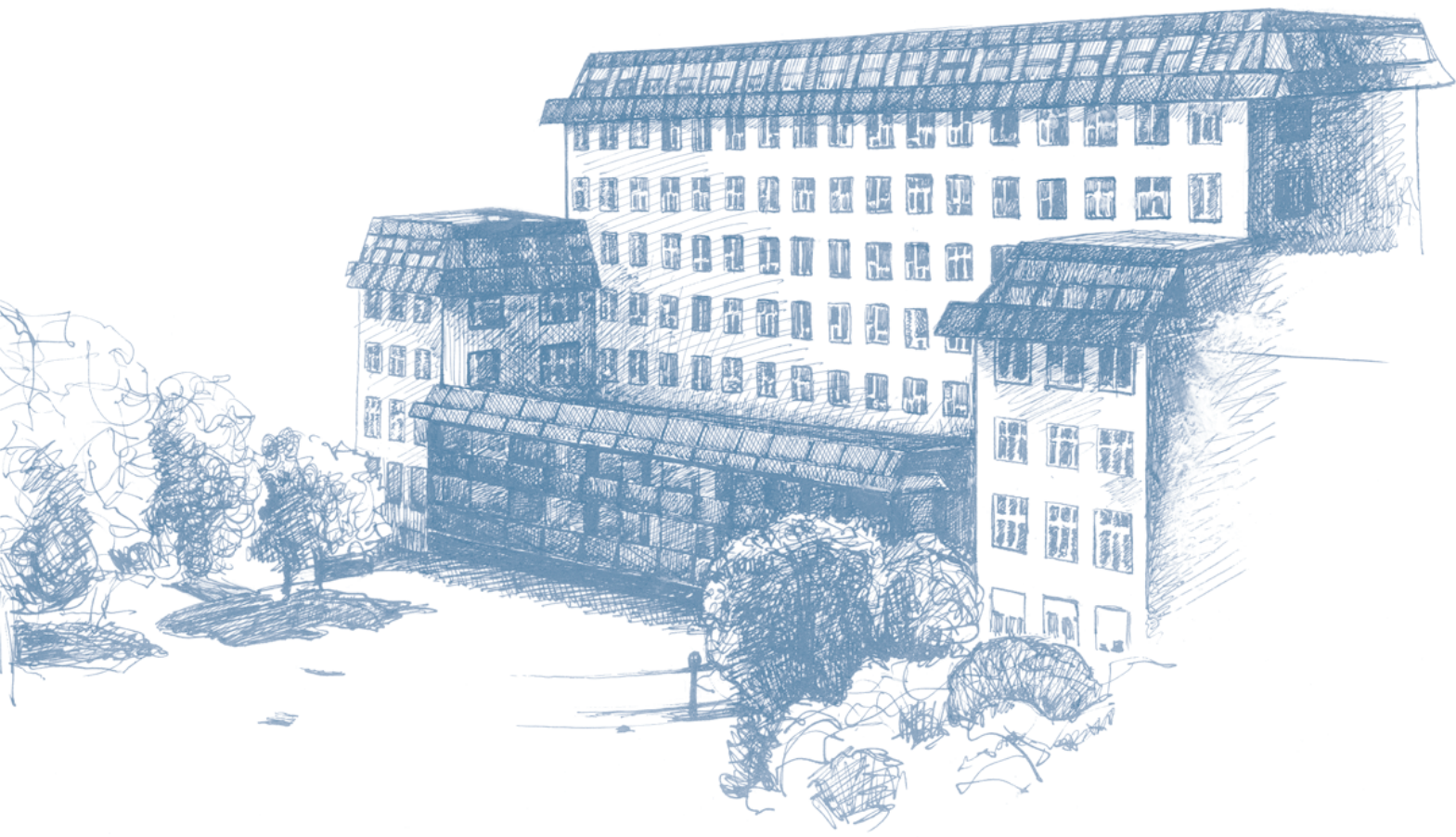
Keywords

Health system, public governance, digitalisation, EU countries, Principal component analysis, OLS regression



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Marketing





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**Faculty of Economics
and Business****Sustainability and digitalisation: two main challenges for consumer law**

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This Paper will examine two major challenges that the consumer law is faced with in the times of the Fourth Industrial Revolution: sustainability and digitalization. Sustainability requires that regulatory framework provided by consumer law has to be compliant with the sustainability requirements. That is the case, for example, with the main remedy for the lack of conformity of acquired product where its repairment should be the principal remedy rather than its replacement with a new product as it is the case now, or similarly, that consumer is provided with the true information on energy consumption of the electrical device they are buying.

Digitalisation poses significant challenges to consumer law as consumer law is supposed to be technologically neutral and always provide a high level of consumer protection. However, the challenge is that consumer law needs to adapt to all the new technologies and maintain the level of consumer protection, on the one side, but also not to represent a disproportionate obstacle for innovation and technological developments, on the other side. An excellent example are smart contracts, as a new technology, that is being increasingly used to secure enforcement of contractual promises, but in case of consumer contracts, it has to be secured that smart contracts comply with all consumer law requirements if they are to be allowed to be used by traders.

On both of these issues, sustainability and digitalization, there has been a lot of regulatory and policy debate and efforts invested by the European Union, and European Commission in particular, but still these efforts are not being able to keep the pace of the developments in the digital age. In that sense, Serbia is even further behind with its regulatory and policy responses. Therefore, the principal aim of this paper is to provide some potential solutions on how the regulatory framework for consumer protection could be improved to reflect better challenges brought by the sustainability and digitalization and to prepare the consumer law for the market of the 21st century.

Keywords

Sustainability, Digitalisation, Consumer, EU Law, Regulation



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Digitalization and sustainability as megatrends in marketing management - a perspective in the modern business environment

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Abstract

Digitalization and sustainability are two megatrends of a new business paradigm. The modern business environment imposes the need to better understand of the impact of these megatrends in all business segments, of which marketing management is particularly important. This stems from the fact that marketing management activities are focused on end consumers, who largely determine business success. On the one hand, digital technologies have changed the way companies communicate with their customers around the world, while, on the other hand, traditional practices are increasingly expanding with sustainable practices. Therefore, the paper analyses how the digital transformation affects the marketing activities of companies in Montenegro, as well as its relationship with sustainable business. The research question focuses on the analysis of marketing management activities, viewed through the prism of the use of digital technologies and sustainable business. The research was conducted using a survey on a stratified random sample, and the data were analyzed using advanced statistical methods. The results of empirical research show that managers to a significant extent know and use digital technologies in business, i.e. in marketing management activities. However, the range of applications of various forms of digital technologies is not at a satisfactory level, which is a consequence of the lack of knowledge required for their adequate application. Also, the results showed that the research of the interrelations of digitalization and sustainability in the marketing management activities contains a significant level of misunderstanding, which imposes the need for future research in this area.

Keywords

Digitalization, Sustainability, Marketing, Management, Business...



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How to communicate the family identity on websites: The interplay between storytelling and heritage

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Abstract

This study aims to explore the role of communication presented on websites related to family-based businesses. In particular, this research aims to reveal how family businesses communicate their quality recognition, international presence, business plan, history, heritage, traditions, and the role of family members in the firm's development, through their websites. Moreover, to understand how companies correlate the identified themes through their website storytelling. The analysis of the communication through the 279 companies related to this sector and their websites was performed using content analysis combined with the Multiple Correspondence Analysis method. The findings reveal that themes related to marketing (e.g., core values, company's structure, range of products) and strategies (e.g., human resources, internationalization process, management model, performance, production, and sustainability) are being employed more frequently by the companies in the textile industry. Furthermore, the comparison between the top and lower performers indicates that regardless of the financial capability and size of the companies, the aspects related to the "management", "product", and "company" itself are predominantly used to convey the message to the customers. Finally, the results reveal a general lack of emphasis on the contextualization of the family history on the firms' websites.

Keywords: family business communication, website, branding, storytelling



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Typology of online shoppers as a result of COVID-19

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Abstract

The pandemic caused by the spread of the new coronavirus and, like few crises in the history of mankind, has dramatically affected all spheres of behavior of individuals in society. Thus, among other things, the pandemic affected the change in the pattern of shopper behavior, which greatly complicates the efforts of retailers in the desire to adequately segment their shoppers. All efforts to segment shoppers in the period before the outbreak of the COVID-19 pandemic were based on shopper segmentation according to different attributes of the retail facility, purchasing activities and motivation for shopping. The link between the typologies of shoppers before and after the pandemic is online shopping, which has been experiencing its exponential growth since the outbreak of the pandemic.

So far, the analysis of shopper behavior and, consequently, their typology has been reduced to typologies that emerged in "times of crisis", with an emphasis on the effects of the recession, i.e. global economic crisis. According to many authors who write on the topic of shopper typology in times of crisis, shopper behavior changes. The driver of shopping in difficult times is mostly fear, and the change in shopper behavior is manifested in an increased degree of panic shopping, changes in consumption patterns, sensitivity to the price of products and services, online shopping preferences, health concerns, and willingness of shoppers to participate in charity.

The aim of this paper is to examine the impact of the COVID-19 pandemic on changes in shopper behavior, and consequently changes in previous, common customer segmentation practices. In this paper, special attention is given to the typology of online shoppers.

Keywords

shopper, typology, online, COVID-19



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Understanding consumers' intention to purchase GI cheeses based on the SEM-Logit model

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Abstract

In the speciality cheese industry, there is a growing interest in geographical indications of origin (GIs) as a tool for product differentiation. This study aimed to investigate determinants of purchase cheeses with GIs in Serbia and to analyze to what extent these factors affected individuals' purchasing intention. An extension of the theory of planned behavior (TPB) is used as the framework of the study. Data were collected by using the online questionnaire. The survey was conducted country-wide and 806 responses were collected.

The results from SEM-Logit show that attitude, subjective norms, perceived behavioral control, trust, loyalty, education and monthly income have significant impacts on intention to purchase cheeses with GIs. It was found that perceived behavioral control has the most effective and crucial effect on cheese purchasing. The study supports extended model of TPB, which includes trust and loyalty, as a useful framework to understand the consumers' intentions to buy the investigated product category. Also, the results showed that the expanded SEM-Logit model (including latent variables) was better than the sole SEM model, considering the explanation power of each latent variable on consumer intention to purchase cheeses. The findings of this research provide important contribution for understanding GI cheeses' consumption intention and behavior.

Keywords

Geographical indication, Theory of planned behavior (TPB), Cheese purchasing



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**Faculty of Economics
and Business****CUSTOMER RELATIONSHIP MARKETING IN ARTS
ORGANISATIONS, THE CASE OF CROATIAN NATIONAL THEATRE
IN SPLIT**

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This paper examined whether it makes sense to introduce a loyalty program in Croatia National Theatre in Split (HNK Split) and what benefits it should include for customers to deepen their relationship with the theatre. Its purpose is to popularize the theatre among a wider audience, using the loyalty card as a marketing tool. The paper includes the concept, methods of application and goals of marketing in culture and art. It explains the historical development, classification, and descriptions of different loyalty programs in theatres worldwide. The paper shows potential benefits of loyalty program of Croatian National Theatre in Split, i.e. in addition to loyalty, also to increase ticket sales, and thus affect the revenue growth of the institution. The survey examined which elements of the loyalty card the visitors consider the most interesting and would encourage the loyalty the most. Based on the results of the survey (respondents were subscribers of the official Facebook page and newsletter of the Croatian National Theatre Split, to collect an appropriate but rather small sample), from statistical results, a decision was made to accept or reject the hypotheses. It has been concluded that most of the respondents would like to become members of the loyalty program, and, as the most important elements of its loyalty program, point out discounts on tickets and free reservations. It implies that most of the marketing budget of HNK Split should be directed towards advertising on the web and social networks. Moreover, videos "behind the scenes", interviews with artists from the Croatian National Theatre in Split and the like could be shared. The results and guidelines of this paper could be used to introduce or improve loyalty programs in the future, to develop and maintain a satisfied and loyal customer base.

Keywords

Customer Relationship Marketing, Croatia, loyalty program, theatre



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**Faculty of Economics
and Business****FinTech and the Customer Experience: How to Embrace Change in Macedonian Banking Industry?**

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Abstract

In the last decade, modern disruptive innovation and FinTech services are rapidly developing and becoming widely used in the banking industry, thus transforming the financial services to customers with positive and negative implications. Our paper contributes in identifying the dimensions, the determinants and the outcomes of customer experience in FinTech, while from a banking sector perspective, we demonstrate how banks can better integrate FinTech and customer experience in their business models.

In section 1 of the paper, we present a review on the FinTech developments in the Macedonian banking industry and we explore how FinTech is reshaping financial services market. Moreover, we assess whether and how Macedonian banks to better 'digitalize or be disrupted' in a Fintech driven future. Some of the key technologies that are elaborated with focus on banks are: electronic banking and e-trade, digitalization, NFC technology, blockchain technology and many other technology aspects. In Section 2 we present the review on customer experience and the ongoing degree of innovative infrastructure and client approach with a focus on clients' outlook of the banking system. The results show that the improved banking infrastructure and new innovative technology-based services are vital for building trustworthy client relationships which are crucial for adaptability and survival in era of digitalization. The findings also provide more evidence on the current trends, problems and opportunities offered by FinTech to the banking sector and the possible challenges to be faced on its adaptation.

Keywords

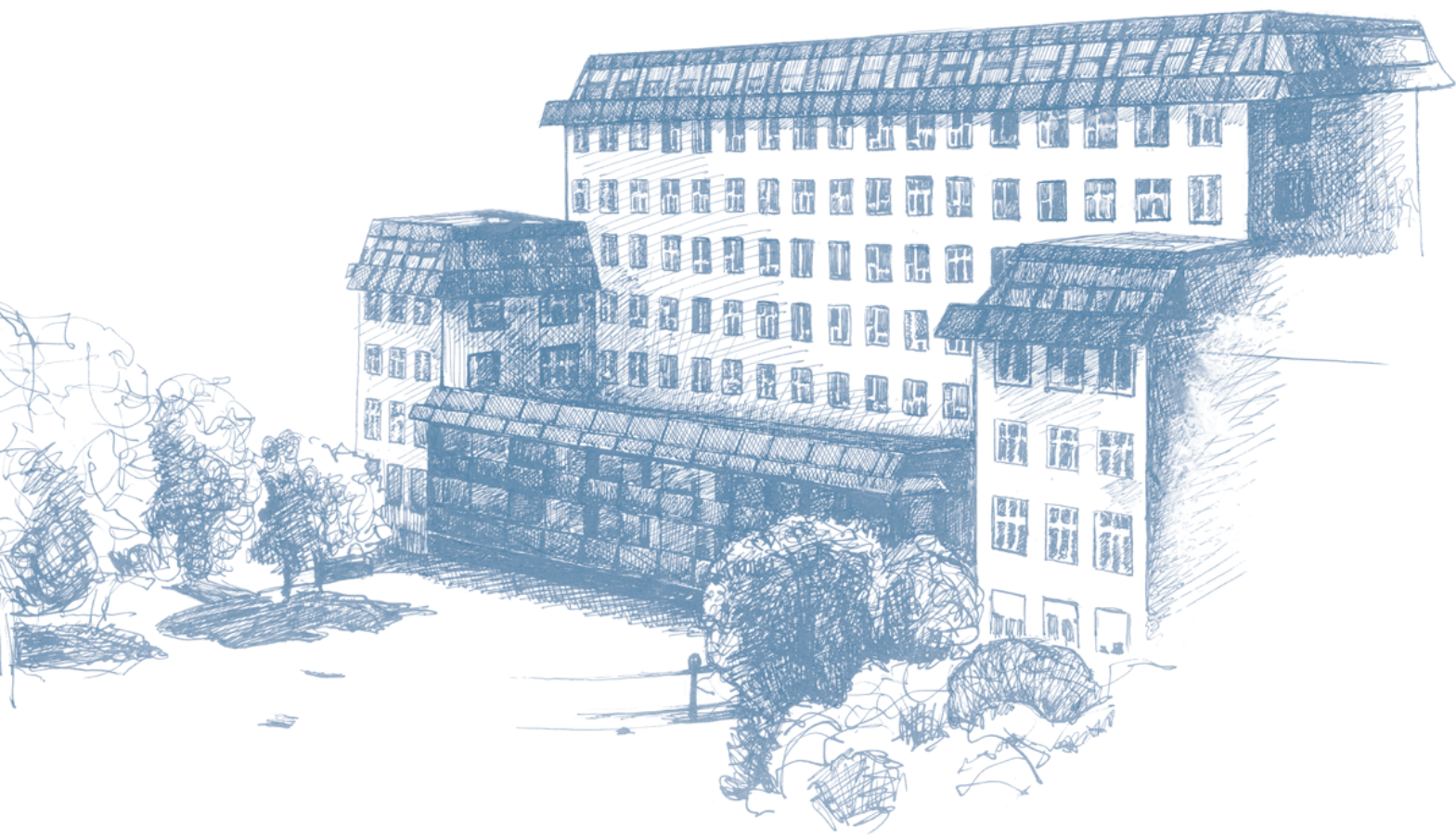
Fintech, Technology, Financial services, Customer behavior, Online banking



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Accounting and Finance





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**Faculty of Economics
and Business****IMPORTANCE OF SUSTAINABLE REPORTING FOR MANAGEMENT DUTIES
AND LIABILITIES**

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Abstract: Over the last decade, there has been an increasing emphasis on corporate social responsibility in business. The idea has evolved from CSR (Corporate Social Responsibility) to ESG Reporting (Environment, Social, Governance), with the latest trends developing towards a green transition. This genesis of development has been followed by corporate practice and legislation at European and national level. As a consequence, ESG and Green Transition guidelines have been incorporated into the liabilities and duties of the management and supervisory bodies of the company, resulting in a new view of the performance of these functions and their accountability. In this paper, the authors outline the basic postulates and roles of corporate governance bodies and their respective responsibilities for the implementation of ESG and the Green Transition. Sustainability as a value is highlighted in the EU and companies are committed to respecting human rights and reducing their impact on the planet. However, progress by companies (corporates) in integrating sustainability into their governance processes, in particular human rights and environmental due diligence, is still slow, and progress is visible with the drafting of the Corporate Sustainability Due Diligence Directive (CSDD) as a follow-up to the Directive 2014/95/EU (NFRD). The new rules are intended to provide companies with legal certainty and a level playing field. It should provide greater transparency for consumers and investors and should accelerate the green transition and protect human rights in Europe and beyond. These tasks are directly linked to the responsibilities of the authorities in society, who will have to respect these rules and be held accountable for failing to enforce them or for failing to achieve an "adequate" transfer of capital to the green transition.

Key words: CSR (Corporate Social Responsibility), ESG (Environment, Social, Governance) Reporting, Green Transition, liabilities and duties, management, supervisory board, Corporate Sustainability Due Diligence Directive (CSDD)



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The Fourth Industrial Revolution and Accounting

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Abstract

The fourth industrial revolution profoundly is reshaping contemporary civilization. Nowadays we significantly different learn, think, work, and behave compared to previous generations, but at the same time, we are in danger of lagging behind constant and accelerated changes in a business environment.

As Accounting is a specific business language with the basic goal of presenting information necessary for making various economic decisions it needs to keep track of changes that occur in the new digitized business world. Accounting should adopt new technological and technical solutions, methodologies, and information transfer methods.

This paper analyses the impacts of digitization on different areas of accounting as well as on the accounting profession. The focus is on changes in financial reporting, especially in the context of using main digital solutions (Big data, Artificial intelligence, and Cloud computing. Mentioned impacts and changes need new types of accounting professionals. Consequently, it will be explored necessary improvements in the curricula of accounting subjects in secondary and universities.

The reached conclusion is that digitalization is not a threat to the accounting profession. Namely, digital solutions and automatization should be used for routine tasks and activities. At the same time activities that require critical thinking and creativity stay domains in which accounting professionals are irreplaceable.

Keywords

accounting, digitalization, education, accounting profession



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Impact of capital employed efficiency on employee productivity of commercial banks

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Abstract

Most of empirical research studies conducted in developed countries presented strong evidence that investments in intellectual capital components have a positive impact on the overall performance of companies. Nevertheless, previous research has shown that this conclusion may not be drawn considering entities that operate in economies that are similar in characteristics and the level of development to the Serbian economy. These entities continue to base their performance predominantly on physical and financial capital. The aim of our empirical research, which was carried out using econometric analysis based on financial statement data, was to analyze the impact of the efficient use of intellectual capital and capital employed (physical and financial capital) on the employee productivity of commercial banks. For this purpose the Value Added Intellectual Coefficient (VAIC) was used. The paper examines the impact of investments in physical and financial capital on employee productivity of commercial banks that operate in Serbia. Empirical analysis covers the period from 2008 to 2016. Our sample consists of 243 bank-year observations (27 commercial banks during the 9-year period).

In considered specifications significant and positive impact of capital employed efficiency on employee productivity of commercial banks in Serbia has been shown. Additionally, the effect of the efficient use of physical and financial capital on employee productivity of commercial banks remains more important than the impact of the efficient use of intellectual capital. This effect is also consistent, because it depends on neither inclusion (exclusion) of regressors that represent conditional effects nor other regressors in the model.

Keywords

Value added intellectual coefficient, employee productivity, commercial banks, panel data analysis



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****Post-acquisition restructuring in technology intensive industries – case study
Deutsche Telekom in transitional markets**

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Abstract

Rising globalization since 1990 has resulted in increasing value and number of cross-border acquisitions. Cross-border acquisitions have been frequent internationalization strategies and multinational companies conduct cross-border acquisitions aiming to enter in foreign markets, achieve economy of scale, obtain cutting-edge technology and different types of intangible resources. Researchers and managers thoroughly analyzed different aspects of cross-border acquisitions process, but this did not result in increasing success rate of cross-border acquisitions. Empirical evidence shows that many cross-border acquisitions are complex and often fail to reach their desired potential. The acquisitions generate negative or insignificant returns for shareholders, so this paper examines what are the main factors which affect post-acquisition performance. The paper analyzed how Deutsche Telekom successfully restructured business operations of Montenegro Telekom after the acquisition. Survey approach was adopted and a sample of 31 employees engaged in Deutsche Telekom acquisition of Montenegro Telekom was taken for data collection. To deepen results of the survey we conducted interviews with foreign and local managers engaged in the acquisitions. We found out that the target's position in local market was deteriorating, due to lack of cutting-edge technology and management and marketing knowledge. After the acquisition, Deutsche Telekom had to invest in employees' training and education, and to provide necessary marketing and management knowledge. Aiming to boost the knowledge transfer Deutsche Telekom hired expat-managers and encourage new management team to closely cooperate with sister companies in other transitional markets. Local corporate culture was identified as the main obstacle to improve the target's business processes' efficiency, so the expat-managers encouraged local employees to become more flexible and take the initiative, and to accept Deutsche Telekom corporate values. The results of the study show that transfer of knowledge and intangible resources is crucial for post-acquisition performance.

Keywords

Cross-border acquisition, restructuring, knowledge transfer, intangible resources, corporate culture



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Determinants of profitability of pharmaceutical companies in Serbia

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Abstract

Promoting the importance of health and quality of life is one of the global sustainable development goals of the United Nations. The pharmaceutical industry plays a significant role in achieving this goal. According to Lim & Rokhin (2020), the global pharmaceutical industry is constantly growing and is expected to grow more in the future in connection with demand factors, such as an aging society and chronic diseases and supply factors, such as the expansion of bioresearch. The described position, along with the fact that this industry is continuously growing in the Republic of Serbia, with promising prospects, implies a large existing and future contribution of this industry to the macroeconomic aggregates of the national economy.

Having previously in mind, and the absence of similar research, the subject of the paper is the analysis of financial performance of domestic manufacturers of pharmaceutical products and determinants of their profitability. The authors will examine the impact of internal and external factors on the profitability of selected pharmaceutical companies in the Republic of Serbia in order to determine those that have a significant influence. Possible determinants of profitability will be defined on the basis of previously conducted empirical research (e.g. Tyagi & Nauriyal 2017, Lim & Rokhin 2020). The methodology that will be used to define the determinants of profitability is panel analysis. The analysis will be based on data collected from official financial statements for a selected group of companies in the period 2016-2021.

The research results will have a practical significance for the management of pharmaceutical companies. The results could be important for economic policy makers whose decisions could contribute to the further development of this industry. Contribution of the research is that it will be conducted in the pharmaceutical industry, which is characterized by the need to balance social responsibility and profitability.

Keywords

profitability, determinants of profitability, pharmaceutical industry, financial analysis



UNIVERSITY OF BELGRADE

**Faculty of Economics
and Business****Changes in Accounting Information System under the Enterprise Resource
Planning Systems**

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Abstract

Digitalization and digital transformation are our reality, permeating all spheres of life and business. The accounting information systems (AISs) and accounting professionals are not immune to these processes. Digitalization impacts all activities and participants of AIS (IMA & Deloitte's Center for Controllershship, 2018; IGC, 2020). Consequently, it attracts the attention of researchers trying to respond, analyze and explain the challenges that technologies bring and thus contribute to the realization of the goals and tasks of the accounting profession (Moller et al. 2020; Lombardi and Secundo 2021; Agostino et al. 2022), especially in the context of sustainability and green accounting (Purthi 2021; Varaniute et al. 2022). These are not easy tasks given the dynamics of changes, expectations from the accounting profession, and the complexity of the issue.

Our focus is on the effects of Enterprise Resource Planning (ERP) implementation on AIS. ERP is one of the popular software for corporate resource planning in the contemporary business environment, adopted by many organizations around the world. ERP was developed as an answer to the continuously growing information needs of management (Malinić & Todorović, 2012) and is often observed as a factor of the company's competitive advantage (Johansson and Newman 2009; Tariagn et al. 2020). ERP influences AIS organization and performance, the application of different accounting methodologies, and the accounting profession. The most important effects of ERP implementation on AIS identified in previous research are better quality of reports, stronger organizational integration, and empowered personnel (Abbasi, et al., 2014). ERP implementation allows the application of various advanced techniques and tools (Malinić & Todorović, 2012). Accounting techniques used with ERP can also affect company performance (Wajdi, 2018). ERP changes the way accountants work and seek new knowledge. We, therefore, aim at identifying the effects of ERP implementation on the AIS and accounting professionals of Serbian companies. In our study, we address several research gaps and thus make several contributions to the extant literature.

Keywords

Accounting Information System (AIS), Enterprise Resource Planning Systems (ERP), accounting professionals, accountants effectiveness.



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Consider the impact of ESG issues on the audit engagement

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Abstract

In the last decade, there has been an increasing concentration of interest in environmental issues, climate change and analysis of the negative impact of the human population on the environment. Investors, governments, banks and other stakeholders show a tendency to be adequately informed about ESG issues, which creates the need for business reporting and at the same time the engagement of auditors. The role of auditors in the described issues is in their ability to gather sufficient adequate information on issues related to environmental protection and other ESG issues and to independently and professionally with a satisfactory level of assurance perform a risk assessment based on them, on the basis of material errors, which may arise and which may influence the business decisions of interested parties. The subject of this paper is to consider the impact of ESG issues on the audit engagement. In general, although the ESG audit has a very diverse coverage of thematic areas, they are reduced to three topics, which include environmental protection, society and governance. Taking ESG issues into account when making decisions about investing in new projects, buying other companies or making accounting estimates can have an impact on the final outcome. Persons engaged in the audit profession can significantly contribute to the improvement of the overall system of business reporting on environmental protection, climate change and analysis of the negative impact of the human population on the environment.

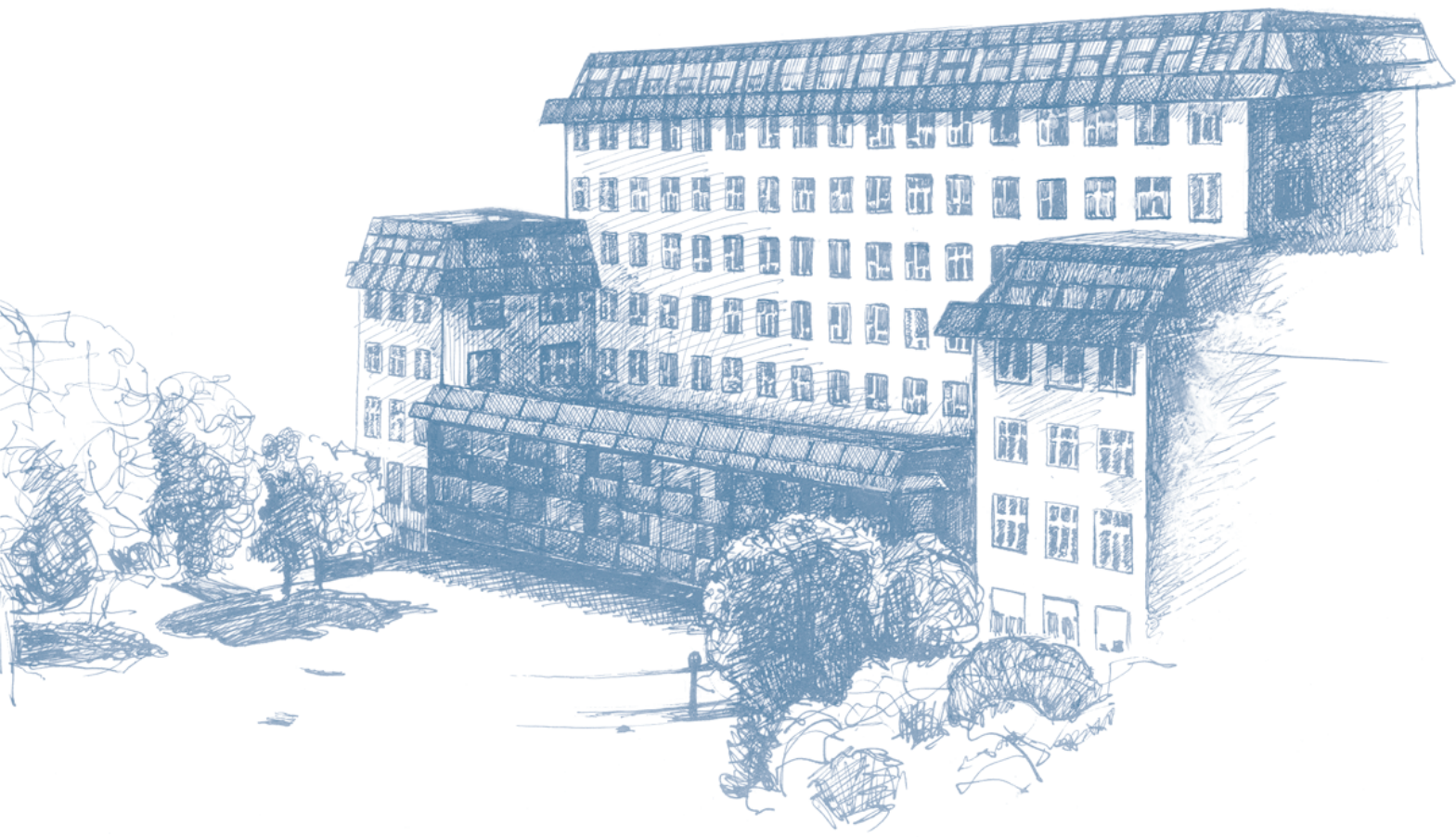
Keywords

ESG, Audit, Auditor



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Public Policy and Crisis





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**Faculty of Economics
and Business****FDI and growth: A new look from the sectoral perspective**

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Abstract

This paper investigates the impact of foreign direct investment (FDI) on growth in a sample of 12 ex-socialist European countries. While the link between FDI and growth has been extensively investigated in empirical literature, this paper contributes to this literature by econometrically investigating the effects of FDI inflows in specific sectors using the panel data estimation techniques. In addition to confirming the positive impact of total FDI inflows on growth, using the wiiw FDI database which disentangles the FDI data across different industries the paper finds significant effects of FDI inflows in manufacturing on growth, whereas FDI inflows in other sectors are only sporadically and marginally statistically significant. This finding serves as a basis for further investigation of the specific subsectors (NACE 2-letter classification) within manufacturing and the empirical investigation finds that not all FDI inflows within manufacturing enhance growth. Econometric results confirm that among 13 subsectors FDI inflows only in Wood and paper products and printing (CC); Computer, electronic, optical products (CI); Chemicals and chemical products (CE); Basic metals, fabricated met.products., ex mach. & equip. (CH) are statistically significant and positive. These findings have also important policy recommendations pointing towards which sectors (subsectors) should be in the focus of policy makers when attempting to attract the FDI inflows.

Keywords

FDI, growth, sectoral data



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Analysis of aggregate demand determinants in SEE countries: a panel ARDL approach

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Abstract

The scope of aggregate demand has a crucial meaning in the macroeconomic analysis. The impacts of aggregate demand factors, which are all unique, are achieved through several categories of aggregate expenditures. This paper analyses the link between aggregate demand and relevant variables that have an impact on it by applying the panel ARDL method, at the example of South-East European countries between 2000 and 2020. The analysis includes the influence of the world economic crisis but also the effect of the crisis caused by COVID-19 pandemics. The research results show that government expenditure and gross investments in fixed capital have a significant positive effect on the aggregate demand in the long and short term, while the growth of unemployment rate has a significant impact on the aggregate demand reduction. In addition, we have shown significant negative impact of COVID-19 pandemics in 2020 and a negative influence of the economic crisis in 2009 in South-East European countries. Despite theoretical controversies on the one hand and a better openness of economies on the other, successful implementation of the policy of managing aggregate demand has become crucial in the conditions of economic crises from the point of need of taking into account its scope and the results achieved. Adequate management of government expenditure may be one of the crucial mechanisms for increasing aggregate demand in these countries, especially in the situations when it goes down due to the influence of external shocks.

Keywords

Aggregate demand, SEE countries, Panel ARDL approach, Government expenditure



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EU Government Green Bonds Yields' Determinants

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Abstract

Green bonds are debt securities that occurred as promising financial instruments aimed at financing projects oriented towards natural environment preservation and mitigation of climate change. Funds raised through the issuance of green bonds are directed towards adaptation to climate change, sustainable natural resources, renewable energy, sustainable land use, energy efficiency, water purification, prevention and control of pollution. Green bonds are usually structured as classical fixed coupon bonds, but can also be issued in the form of revenue bonds or securitized instruments. They differ in accordance to the issuer, credit rating and maturity.

The research in this paper is focused on the determinants of the EU governments green bonds' yield behavior. By employing the panel data regression analysis we empirically test the impact of variables of importance to the yield movement for analyzed bonds. The empirical results confirm the significant impact of both, bond specific and relevant macro variables, on green bond yields' formation.

Keywords

Government green bonds, Yield determinants, EU



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Drivers of Green Asset Bubble: An Experimental Study

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Abstract

In this paper we investigate the influence of prosocial preferences and social image motivations of investors on asset prices. In the designed experiment, participants could trade two types of stocks, where one of them has either positive environmental externality and social image considerations, only positive environmental externality, or nothing. The results indicate that, in the treatment with prosocial preferences, the market erodes social responsibility motivations. Namely, the price of green stock does not contain a premium and there is no significant correlation between prosocial preferences of participants and their green stock holdings. On the other hand, in the treatment where both prosocial preferences and social image motivations are present at the same time, we witness the existence of their effect on stock prices. Additionally, in this treatment, stocks without environmental externalities have higher prices, due to the spillover effect.

Keywords

ESG, Green Bubble, Social Image, Laboratory Experiment



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Sustainability strategy and digital transformation in Serbian bank context

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Abstract

The main aim of this study is to assess sustainability reports and indicators as well as digital transformation in an international bank which operates in Serbia. The concepts of sustainability and digitalization are well explored in developed countries. Moreover, transition countries left behind in researching these issues. This paper contributes to the existing literature by assessing digitalization process in selected bank.

The sample consisted of 287 managers different socio demographic variables from bank. In this paper the mixed methods research approach had been used. Regarding different characteristics of national cultures, the construct validity of research methodology developed in one society has been investigated for a Serbian sample. The results of Realibility analysis showed that the questionnaire is adequate for investigating phenomena of digital transformation in Serbian bank.

The qualitative data about sustainability were sourced from publicity available information of observed bank. The content analysis of Sustainability report in 2020 and 2021 showed that in observed Bank the followed aspects have been partially met: reductions of energy consumption, direct and indirect greenhouse gas emissions, parental leave, and programmes for upgrading employees skills and transition assistance programmes. The analysis of sustainability indicators revealed the higher values of Bank Contribution to “Social Product“ (i.e. direct economic value), as well as training and new employment. In 2021 higher rate of turnover initiated new human resource strategy.

The findings add to the existing literature on sustainability and digitalization in cross-cultural organizational contexts. The practical implementation for managers, and study limitation are suggested, too.

Keywords

sustainability strategy, digital transformation, bank, GRI indicators, Serbia



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Commodity reserves system as a stabilization mechanism in crisis conditions - the case of Montenegro

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Abstract

The paper investigates the importance of commodity reserves for the functioning of the economy in the 21st century. At the center of the analysis is Montenegro, which abolished commodity reserves in 2003, since when the world has been hit by two economic crises, one of which is still ongoing. The paper analyzes two aspects of commodity reserves, their stabilization character during market oscillations and their importance during emergencies. In a separate section is analyzed the development impact of the formation of commodity reserves on the economy of Montenegro in the 21st century, through the strengthening of agriculture and the formation of public-private partnerships. Formation of commodity reserves and their connection with domestic production, with constant renewal and maintenance requires a planned approach and high costs, so the paper gives an overview of examples of countries in the region and their organization of commodity reserves, with analysis of the model most suitable for formation of commodity reserves in the Montenegrin economy.

Keywords

Commodity reserves, market, oscillations, prices, Montenegro