

# Ekonomika preduzeća



**Serbian Association of Economists  
Journal of Business Economics and Management**

**Ljubiša Bojić, Lana Tucaković and Nemanja Nikolić**

NEUROMARKETING UNMASKED:  
A REVIEW OF CURRENT STATE IN THE FIELD

403

**Branko Mihailović, Katica Radosavljević and Vesna Popović**

DEVELOPMENT FACTORS OF MANAGEMENT CONSULTING IN SERBIA

414

**Darko Dimitrovski, Miljan Leković and Marijana Đurađević**

ECONOMIC IMPACT OF THE SPORTING EVENTS AS TOURISM NICHE  
PRODUCT: A CONTEMPORARY BIBLIOMETRIC ANALYSIS

422

**Nikica Radović and Slobodan Čerović**

THE IMPACT OF ECOLOGICAL RESPONSIBILITY  
ON BUSINESS EXCELLENCE OF MOUNTAIN HOTELS

438

**Igor Trišić, Snežana Štetić and Slavoljub Vujović**

THE IMPORTANCE OF GREEN PROCUREMENT AND RESPONSIBLE  
ECONOMY FOR SUSTAINABLE TOURISM DEVELOPMENT:  
HOSPITALITY OF SERBIA

450

**Ivan Nikolić and Sanja Filipović**

COMPARATIVE ANALYSIS OF THE ECONOMIC POLICY RESPONSE  
TO COVID-19 IN THE EU-27 AND REPUBLIC OF SERBIA

460

**Mihalj Bakator, Dragan Čockalo,**

**Dejan Đorđević and Srđan Bogetić**

THE ECONOMIC IMPACT OF THE COVID-19 PANDEMIC:  
REVIEWING SERBIAN AND GLOBAL STRATEGIES

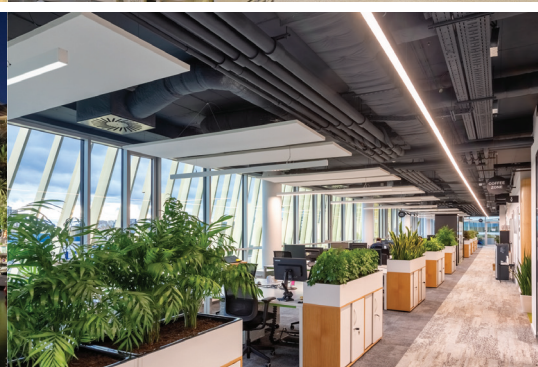
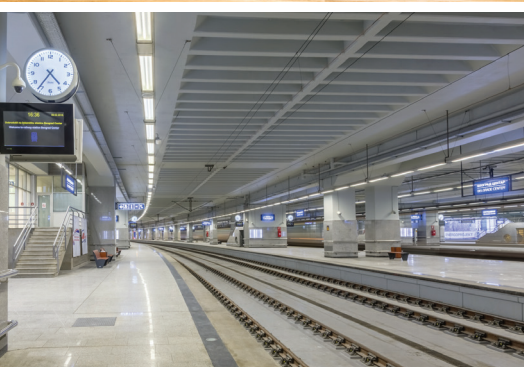
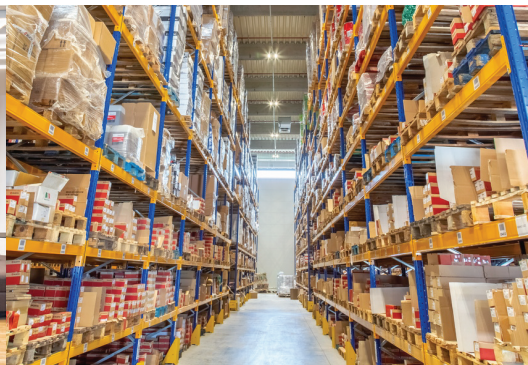
476

# HUMAN CENTRIC LIGHTING

**BUCK**

LIGHT FOR LIFE

Lighting specialist in domains of architectural, medical,  
industrial, sport, street and outdoor lighting



# EP **Ekonomika preduzeća**

**Journal of the Serbian Association  
of Economists**

Founded in 1947 in Belgrade

Year LXIX

November-December

No. 7-8

Page 403-490

Publisher:

Serbian Association of Economists

Editorial Office and Administration

Dobrinjska 11/1

Bulevar Mihajla Pupina 147

11000 Belgrade, Serbia

Phone: 011/264-49-80; 361-34-09

Fax: 011/362-96-89

Account No: 205-14935-97 Komercijalna  
banka

Web: [www.ses.org.rs](http://www.ses.org.rs)

E-mail: [office@ses.org.rs](mailto:office@ses.org.rs)

President of the

Serbian Association of Economists

**Aleksandar Vlahović**

Editor in Chief

**Dragan Đurićin**

Deputy Editor

**Dejan Malinić**

Editorial Coordinator

**Iva Vuksanović Herceg**

Editorial board

**Jasna Atanasijević**

**Predrag Bjelić**

**Radmila Dragutinović Mitrović**

**Vladimir Dženopoljac**

**Tomislav Herceg**

**Ljubo Jurčić**

**Miroslav Kržić**

**Đuro Kutlača**

**Dragan Lončar**

**Stipe Lovreta**

**Ljubomir Madžar**

**Veljko Mijušković**

**Dragan Mikerević**

**Dora Naletina**

**Anna Nowacka**

**Blagoje Paunović**

**Jelena Perović**

**Radmilo Pešić**

**Goran Petković**

**Vesna Rajić**

**Saša Randjelović**

**Ljiljana Stanković**

**Nikola Stevanović**

**Dragan Stojković**

**Mariola Szewczyk-Jarocka**

**Miroslav Todorović**

**Dušan Vujović**

**Bojan Zečević**

Copy Editor

**TopClass Foreign Language Centre**

Prepress

**Branko Cvetić**

Printing office

**"Kuća štampe" 011 307.5.307**

[stampanje.comw](http://stampanje.comw)

Printed in 150 copies

The journal is published four times a year



This issue of *Ekonomika preduzeća* opens with a thought-provoking paper in the *Marketing* section written by a trio of authors, *Lj. Bojić, L. Tucaković* and *N. Nikolić*. They introduce us to neuromarketing, a relatively new field that bridges neuroscience and marketing, which has often been interpreted as a powerful tool used by corporations to manipulate consumers' preferences, purchasing behavior, etc. After a comprehensive review of literature as well as the main techniques and applications used in this field, the authors have paid particular attention to ethical issues. Despite many limitations and controversies surrounding it, neuromarketing could have a bright future as a sophisticated approach to understanding and satisfying consumers' needs provided that ethical concerns are adequately addressed.

In the *Management* section, *B. Mihailović, K. Radosavljević* and *V. Popović* have provided a valuable insight into Serbia's consulting industry and key drivers of its development. The consulting activities in Serbia as well as in other countries in Central and South-Eastern Europe are mostly triggered by the processes of privatization and reorganization of state-owned enterprises, EU integration, and liberalization. The factor analysis based on the empirical study including a respectable sample of 150 consulting organizations has shown that the three factors had the greatest influence on the development of consulting services in Serbia: managerial capabilities and skills, project activities and transformation of enterprises and markets.

In the first paper in the *Tourism* section, *D. Dimitrovski, M. Leković* and *M. Đurađević* have presented the results of their bibliometric analysis of WoS-indexed scientific papers that dealt with the economic impact of sporting events in the period 2000-2018. They have found that mega-events, such as the Olympics and the FIFA World Cup, attracted a great interest of authors, *Tourism Economics* achieved the largest production of papers on the researched topic and *Tourism Management* was the most influential tourism journal. The second paper in this section, written by *N. Radović* and *S. Čerović*, has examined the impact of ecologically responsible business management of mountain hotels in Serbia, Bosnia and Herzegovina and Montenegro on their business excellence, evaluated by applying the BEX model. The statistical analysis has demonstrated that the correlation coefficient is very low and that the presumed impact is insignificant. Anyway, the authors have pointed out that these results should not be taken for granted given that as much as 50% of surveyed hotels responded that they did not use renewable energy sources. So, the absence of sustainable practices in the regional hotel industry is certainly a matter of concern. In the last paper dedicated to tourism, *I. Trišić, S. Štetić* and *S. Vujović*, have followed the same line of reasoning by outlining the importance of environmental forms of tourism, green procurement, eco-labelling and a responsible economy in general. Their findings indicate that the advantages of green procurement are not sufficiently exploited in Serbia's hospitality industry and that only a small number of facilities possess eco-labels as the warranties

of environmentally-friendly and responsible business. Interestingly, they have identified the willingness of hoteliers to change and go green, which could be seen as a ray of light.

In the *Economic Growth and Development* section, a duo of authors, *I. Nikolić* and *S. Filipović*, has compared the effects of the economic policy responses to the COVID-19 pandemic implemented in the EU-27 countries and Serbia in 2020 on economic activity, labor market and public debt. The authors have found that the financial value of the economic aid package largely reflects the economic capacity and relative wealth of a country, rather than the depth of the crisis that countries faced. Also, the research has shown a positive interdependence between the financial amount of the economic measures package and public debt as a percentage of GDP and a negative interdependence between the change in unemployment rate and the volume of economic package aid as a share of GDP. The good news is that Serbia's economy, unlike the Eurozone, recorded moderate debt growth, and that its adequately capitalized banking sector proved to be resistant to credit risk growth. In the second paper in this section, a team of authors, including *M. Bakator*, *D. Čočkalo*, *D. Đorđević* and *S. Bogetić*, have provided an overview of the strategies implemented in resolving both health and economic challenges brought by the COVID-19 crisis. They have concluded that the cumulative efforts of developed and developing countries turned out to have a positive impact on the mitigation of crisis-induced shocks, at least in the short term. Also, the authors have emphasized the resilience of Serbia's economy and healthcare system as well as the efficiency of undertaken measures. So, this issue of *Ekonomika preduzeća* closes with a glimmer of hope that better days are ahead of us.

Prof. Dragan Đuričin, Editor in Chief



**Ljubiša Bojić**

University of Belgrade  
Institute for Philosophy and Social Theory  
Digital Society Lab

**Lana Tucaković**

University of Belgrade  
Institute for Philosophy and Social Theory  
Digital Society Lab

**Nemanja Nikolić**

University of Belgrade  
Institute for Philosophy and Social Theory  
Digital Society Lab

## NEUROMARKETING UNMASKED: A REVIEW OF CURRENT STATE IN THE FIELD

Neuromarketing razotkriven – pregled trenutnog stanja  
u području

### Abstract

Neuromarketing showed up as a new interdisciplinary field that bridges neuroscience and marketing. A relatively young field that was born within the “neuroculture” matrix is covered with a veil of mystery and often misrepresented in the media as a powerful tool used by corporations to manipulate consumers’ preferences, purchasing behavior, etc. In this paper, we have done an extensive literature review in order to put light on some dilemmas and take off the veil of mystery that surrounds neuromarketing. Firstly, (i) we discussed the definition and context in which neuromarketing emerged, (ii) important brain areas in consumer neuroscience which find their application in neuromarketing research, (iii) techniques used in neuromarketing (neuroimaging and non-neuroimaging), (iv) ethical issues in the field of neuromarketing (a part of neuroethics), and (v) limitations and recommendations for future development of neuromarketing.

**Keywords:** *neuromarketing, neuroimaging, consumer behavior, neuroethics, consumer neuroscience.*

### Sažetak

Neuromarketing se pojavio kao novo interdisciplinarno polje koje povezuje neuronauku i marketing. Relativno mlado polje koje je nastalo unutar matrice „neurokulture“ prekriveno je velom misterije i često pogrešno predstavljeno u medijima kao moćno sredstvo koje korporacije koriste za manipulisanje preferencijama potrošača, ponašanjem u kupovini itd. U ovom radu smo izvršili opsežni pregled literature kako bismo osvetlili neke dileme i skinuli veo misterije koji okružuje neuromarketing. Prvo, (i) diskutovali smo o definiciji i kontekstu u kojem se pojavio neuromarketing, (ii) važna područja mozga u potrošačkoj neuronauci koja pronalaze svoju primenu u istraživanjima iz neuromarketinga, (iii) tehnike korišćene u neuromarketingu (neuroodslikavanja i ne-neuroodslikavanja), (iv) etička pitanja u oblasti neuromarketinga (deo neuroetike) i (v) ograničenja i preporuke za budućí razvoj neuromarketinga.

**Ključne reči:** *neuromarketing, neuroodslikavanje, ponašanje potrošača, neuroetika, potrošačka neuronauka.*

## Introduction: What is neuromarketing? Context and definition

Over the last two decades, we are witnessing the rise of “neuroculture” [9]. This is a neologism that refers to the emergence of new scientific disciplines with the prefix neuro. It is not just a matter of making a bridge between neuroscience and social science/humanities in terms of implementing neuroimaging techniques that are used in cognitive neuroscience and neurology, but changing the basic assumptions that we have about ourselves i.e., about self. Neuroculture reinforces a neo-materialistic epistemological standpoint that seeks an explanation for complex human phenomena on the most fundamental biological level [16], [26]. Brain-base narratives which come out from the “neurocultural” matrix increasingly influence our daily lives, social practices, and academic discourse [7].

According to Fisher and colleagues [7], the earliest report that used the word “neuromarketing” appears to be in a June 2002 press release by an Atlanta advertising company, BrightHouse. BrightHouse was the first advertising company that declared using fMRI (abbreviated from Functional Magnetic Resonance Imaging) for marketing research and advertising purposes [7]. The advertising company has been collaborating with people from academia, which led to controversy related to ethical issues [7], [25]. Since then, the number of companies that offer services in the area of neuromarketing has rapidly grown [28].

Neuromarketing is one of such disciplines that emerged within the “neuroculture” matrix. Prefix neuro implies using neuroimaging techniques in the field of marketing. So, it means that neuromarketing is an interdisciplinary field that incorporates knowledge from neuroscience and its methodology to understand and predict consumer behavior [17]. Some authors consider neuromarketing as a subarea within another discipline with the prefix neuro – neuroeconomics [13]. Plassmann and colleagues [28] suggest that neuromarketing can be distinguished from consumer neuroscience by restricting the former to industry applications and the latter to academia. At first glance, it may seem that authors such as Huber and Kenning [13] are using terms such as neuromarketing and

consumer neuroscience interchangeably, but they make clear distinctions between them. Similar to Plassmann et al. [28], Huber and Kenning [13] define neuroscience as a research approach and place it within boundaries of academic discourse, while neuromarketing “designates the application of the findings from consumer neuroscience within the scope of managerial practice” [13, p. 274].

In general, neuromarketing is the implementation of various techniques such as neuroimaging used in other disciplines, which subject is the brain and its activity, in order to understand consumer behavior. Neuroimaging is being used to explore consumers’ preferences avoiding censorship. Therefore, neuroimaging techniques can be said to represent a “royal road” to the consumer’s unconscious mind. With the inauguration of neuroimaging into an area of marketing, the whole field became more controversial than ever.

In the course of this paper, we aim to cover issues related to neuromarketing by doing an extensive literature review. More precisely, we sought to cover important brain areas in consumer neuroscience, techniques used in neuromarketing (both neuroimaging and non-neuroimaging techniques), ethical issues in the field of neuromarketing (a part of neuroethics), and limitations and recommendations for future development of neuromarketing.

## Important brain areas in consumer neuroscience

Research in consumer neuroscience is primarily focused to find out how certain brain areas are activated and what the activation of certain areas of the brain can tell us [12]. Certain brain regions are more important in research in the area of consumer neuroscience than others [12]. Specific brain regions play different roles in cognitive and emotional processes that are relevant in consumer research [4]. In the next few paragraphs, we will describe several areas of the brain that are important for consumer neuroscience.

Firstly, the *striatum* is a striped mass of white and gray matter located in the basal ganglia inside the forebrain [4]. The striatum and its components - *putamen*, *caudate nucleus* (CN), and *nucleus accumbens* (NAc) are most consistently linked to reward processing [4], [17], [18],

[27]. More specifically, the striatum plays a role in the evaluation of one's expectations compared to actual rewards received, and also there is an influence of social factors on this region's reward-related activity. In addition, it is also linked to preference/liking of products, preference of product design, purchasing decision, learning, motivational value, predicted value, etc.

The *insula* or *insular cortex* is one of the regions which plays an important role in emotional processing and (consumer) decision-making [4], [17], [27]. It is related to feelings of pain, frustration, disgust, love, negative emotions, psychological arousal, etc. This area is fundamental in moments of making a decision for which a social or financial risk is expected.

The *amygdala*, a central brain structure located in the temporal lobe, has a crucial role in emotional processing [4], [17]. The amygdala is involved in the processing of negative emotions, unknown stimuli, aversive responses to inequity, positive emotions related to rewarding stimuli, etc. The amygdala appears as an important modulator of the memory system, especially in memory consolidation. It is mostly known as a locus of fear and aversive memory. Thus, it is very relevant in understanding and analyzing marketing stimuli, as well as their position in long-term memory. Situated next and closely related to the amygdala is the *hippocampus*, which plays a major role in generating different forms of memory, but also in memory processing and memory consolidation. Studying memory-related cognitive processes is important for consumer neuroscience because it can provide us with insights into variables that influence consumer behavior such as advertising recall, brand awareness, and product experience.

Another relevant area is the *orbitofrontal cortex* (OFC), located in the frontal lobe and part of the *prefrontal cortex* (PFC), which integrates sensory and affective information from different areas of the brain [4], [17], [18]. Orbitofrontal cortex, as a part of the prefrontal cortex, plays an important role in the underlying processes of human decision-making, by the assessment of the (perceived) value of different options and potential outcomes. This area is critical because one of the main questions in marketing research is how consumers decide between different product alternatives. It is also related to "willingness to

pay (WTP)", experienced value, pleasant experiences, etc. Lesions of this area can have serious consequences on decision-making and emotional processes [12].

Finally, one more area that is significant is the *ventral tegmental area* (VTA), a group of neurons located in the midbrain, which is largely responsible for the transportation of the neurotransmitter dopamine among brain areas [4], [17]. Dopamine enables modulation of the decision-making process and affects goal-seeking behavior. The ventral tegmental area is also a part of the brain's reward system. The modular role of dopamine is of crucial importance in understanding the effect of an advertisement or other stimuli and its sense of reward on consumers, thus determining the success of the stimuli.

It is important to know which brain areas are activated by which marketing stimuli, in the case of both the marketer and the consumer [12]. However, interpretations of activation of certain brain regions and their link to specific psychological processes should be done cautiously, and be theoretically driven [4]. It is difficult to infer a particular psychological process based only on observation of specific brain regions [17]. This is complicated because individual brain areas are usually involved in more than one cognitive function [18]. Therefore, a one-to-one brain activation coordinate to a brain function is rarely possible [27]. We should note, however, that only the most important brain areas for consumer neuroscience were presented in this section, for the sake of being concise. In the next section, techniques with which we can investigate brain areas, but also other physiological indicators relevant for neuromarketing will be presented.

## Neuromarketing techniques: An extensive overview

Neuromarketing techniques are used to observe/measure the responses of participants when exposed to different types of stimuli such as ads/commercials, still pictures, texts, etc. [5]. One practical way of categorizing neuromarketing techniques is into two broad categories – neuroimaging and non-neuroimaging techniques [11]. Neuroimaging techniques can be described as those which are related to the involvement of neurological activity [11]. In contrast,

non-neuroimaging techniques can be described as those which do not involve any neurological activity [11]. Neuroimaging techniques can be further divided into those that measure metabolic activity in the brain or related to it and those that measure electrical activity in the brain [8]. Each of the neuromarketing techniques, which will be described in further detail, has some advantages and disadvantages, and they often measure variables that are complementary in order to better understand a problem in market research [8]. The advantages and disadvantages of neuromarketing techniques depend on the research question being asked [29]. Thus, it is advisable to combine multiple neuromarketing techniques whenever it is possible, to obtain valuable research results [8].

### Neuroimaging techniques

*Functional magnetic resonance imaging* (fMRI) is a non-invasive brain imaging method that measures brain activity based on the changes in the oxygenation level of the blood [29]. fMRI belongs to tools that record metabolic activity in the brain [3]. It functions as a scanner in which a study participant lies during the experiment [29]. It can measure memory encoding, sensory perception, the valence of emotions, cravings, trust, brand loyalty, brand preference, brand recall, etc. [3]. fMRI is used in sensory testing, product choice, testing new campaigns, products, and advertisements, identifying needs, packaging design and prices, celebrity endorsement, positioning of products, identifying video content, etc. [11]. The advantages of fMRI are high spatial resolution (3 mm), measurement covers most brain regions including deeper ones, the method is non-invasive, it is one of the most employed techniques in neuroscience, etc. [3], [8], [11], [29]. The drawbacks of fMRI are relatively low temporal resolution (1-3 s), high costs, the equipment is not portable, the environment makes it difficult to conduct experiments, ethical barriers, etc. [8], [11], [29].

*Electroencephalography* (EEG) is an electrophysiological monitoring method that detects changes in the electric current in the form of brain waves [29]. EEG can be classified as a neuromarketing tool that records electrical activity in the brain [3]. In EEG, electrodes are spread

across the participant's head (commonly there are 64 electrodes) [29]. EEG measures attention, engagement/boredom, excitement, emotional valence, cognition, memory encoding, recognition, approach/withdrawal, etc. [3]. EEG is applied in brand recall, testing new campaigns, testing and developing advertisements, testing design and usability, testing taglines, testing in-store experience, etc. [11]. The advantages of using EEG are high temporal resolution (in milliseconds), equipment costs are relatively low, it is portable, it is a non-invasive method, it has greater validity in the measurement of emotional styles and the detection of psychopathologies compared to fMRI, etc. [3], [8], [11], [29]. The disadvantages of using EEG are that it can only record more superficial electrical signals (i.e., low spatial resolution; around 1 cm, depending on the number of electrodes), it is non-scalable, result normalization is needed, there are ethical implications, etc. [5], [8], [11], [29].

*Magnetoencephalography* (MEG) is a non-invasive medical test that records changes in the magnetic fields produced by electrical currents occurring naturally in the brain [29]. MEG belongs to the group of techniques that record electrical activity in the brain [3]. MEG uses very sensitive detectors set on a helmet placed on the participant's heads (it contains from 100 up to 300 detectors) [29]. It can measure perception, attention, and memory [3]. It can be applied for brand recall, and also for testing design and usability [11]. Good temporal and spatial resolution, as well as non-invasiveness, can be seen as advantages of using MEG [3], [8], [11], [29]. High costs, the need for a room free of the earth's magnetic field, and ethical barriers can be regarded as disadvantages of using MEG [3], [11], [29].

*Positron emission tomography* (PET) is a clinical imaging symptomatic method where researchers inject radioactive ligands into the bloodstream of a participant and track how they accumulate in the brain [5], [11]. PET belongs to the type of neuromarketing tools that record metabolic activity in the brain [3]. PET can measure sensory perception, the valence of emotions, engagement, attention, memory encoding, etc. [3], [11]. It is used in testing new products, testing and developing advertisements, as well as in packaging design and prices [11]. High spatial



resolution and the ability to detect changes in chemical composition or changes in the flow of fluids in the brain, can be perceived as some of its advantages [3], [11]. Poor temporal resolution, expensiveness, negative effects of radioactive material on subjects' health, and ethical barriers can be perceived as some of its disadvantages [3], [8], [11].

*Steady state topography* (SST) is a methodology that records brain electrical activity (previously mentioned EEG) while a sinusoidal visual flicker is presented in the visual periphery [3]. This elicits an oscillatory brain electrical response – the Steady State Visually Evoked Potential (SSVEP), and changes in brain activity are then determined from SSVEP measurements [3]. SST is one of the tools that belong to the category of recording electrical activity in the brain [3]. SST measures sensory perception, valence and intensity of emotions, consumer behavior, video materials' effectiveness, long-term memory encoding, engagement, attention, etc. [3], [11]. Its application can be found in brand recall, testing in-store placement, testing advertisements, testing movie trailers, testing prints and images, testing brand communication, etc. [3], [11]. SST's perceived advantages are tracking rapid changes in the speed of neural processing in different regions of the brain (i.e., high temporal resolution) and high tolerance to noise [3], [11]. SST's perceived disadvantage is low spatial resolution [3], [11].

### Non-neuroimaging techniques

*Facial coding* is a methodology that identifies and measures via video camera micro facial expressions that present non-conscious reactions, based on the activity of the facial muscles [3]. Facial coding is the type of neuromarketing tool that doesn't record brain activity [3]. With facial coding, unconscious reactions, 43 facial muscles, 23 action units, and six basic emotions (i.e., sadness, happiness, fear, anger, surprise, and disgust) can be measured [3], [11]. It can be applied in testing movie trailers, testing new products, testing and developing advertisements, identifying key moments of advertisements, etc. [3], [11]. Real-time data, non-invasiveness, and the spontaneity of facial expressions can be viewed as advantages of facial coding [3], [11]. Subjectivity in deciding when a facial

action has occurred can be viewed as a disadvantage of facial coding [3], [11].

*Eye tracking* is a method that involves the usage of either eyeglasses (mobile) or a stationary tracker that uses infrared cameras in order to detect a subject's gaze [5]. Eye tracking as a method belongs to the methods that don't measure brain activity [3]. With eye tracking, visual search, fixation position, eye movement patterns, spatial resolution, excitement, and pupil dilation can be measured [3], [11]. Eye tracking is used in brand recall, brand perception, testing and developing advertisements, testing design and usability, testing in-store experience, testing layouts, testing new campaigns, etc. [3], [11]. Some advantages of using eye tracking are portability, it is one of the least intrusive techniques, its ability to measure the focus of consumers' attention, the pattern of visual behavior of fixations of the gaze, dilation of the pupils, focus, and microfocus, etc. [3], [8], [11]. Some of its disadvantages are low flexibility, unreliable results, results can depend on subjects' eye conditions, equipment is costly, etc. [3], [11].

*Skin conductance* (SC) is a technique that measures the objective excitation caused by an emotionally relevant stimulus, i.e., it measures subtle change in galvanic skin response (GSP) [8]. SC is the type of technique that doesn't record brain activity [3]. SC measures emotional engagement, as well as valence and arousal of emotions [3], [11]. It can be applied in marketing for testing in-store experience, brand perception, brand recall, testing design and usability, prediction of market performance, etc. [3], [11]. SC's obvious advantages are portability, noninvasiveness, the ability to measure the degree of arousal, there are softwares that allow separating noise from true arousal response, the prediction of market performance is better than with self-report questionnaires, etc. [3], [11]. SC's obvious disadvantages are that it is more informative when combined with neuroimaging techniques and that it cannot distinguish between stress and excitement well enough [3], [11].

*Facial electromyography* (Facial EMG) is a technique that measures and evaluates the intentional and automatic movements of facial muscles [3], [8], [11]. Facial EMG is the type of neuromarketing technique that doesn't record brain activity [3]. EMG can measure unconscious

reactions, subconscious reactions, emotional expressions, social communication, mood state, emotional valence, etc. [3], [11]. Facial EMG is used when testing brand recall, testing consumer reactions to advertisements, testing video materials, testing of content filtering, identifying video content, etc. [3], [11]. The advantages of facial EMG are high accuracy, flexibility of recording, growing credibility for use in the analysis of different affective reactions to visual stimuli, reactions of taste, smell and hearing, human interactions, and behaviors, the ability to measure facial muscle activity even to weak emotional stimuli, the ability to test both voluntary (conscious) and involuntary (unconscious) facial muscle movements, the ability to identify the valence of the mood state/emotion (positive or negative), availability of software to remove artifacts, etc. [3], [8], [11]. The disadvantages of facial EMG are that it doesn't record discrete emotions (i.e., there is double meaning for certain facial expressions), electrodes fixed on the face may inhibit some facial movements, there is noise in data, etc. [3], [8], [11].

*Implicit association test (IAT)* is a psychological test that is designed to measure the implicit attitudes/evaluations of the person by assessing reaction times on two cognitive tasks, in order to identify the speed with which they can associate two different concepts, with two different evaluative anchors/attributes put next to them [3]. IAT belongs to measures that don't record brain activity [3]. As it was described, it measures reaction time and underlying attitudes/evaluations [3], [11]. IAT can be used in the areas of category segmentation, brand positioning, celebrity endorsement, salient packaging features, identifying video content, sensory testing, consumer attitudes, etc. [3], [11]. The pros of using IAT are that it draws a more holistic picture of individual behavior and experience, it allows identifying hierarchies of products, it is less biased by deliberate attempts of the subject to conceal their attitudes, etc. [3], [11]. The con of using IAT is that results depend on willingness of subjects to collaborate [3], [11].

Other commonly used techniques in the area of neuromarketing are transcranial magnetic stimulation (TMS), monitoring heart rate and its variability, blood pressure monitoring, looking into the interaction between

heart beats and pulse transition time, measuring stress hormone (cortisol) from saliva, etc. [3], [8], [11]. All of the described techniques come with ethical implications regarding their usage in neuromarketing, and this will be explained in the next section.

## Neuroethics in neuromarketing

Rapid development in neuroscience and implementation of neuroimaging techniques outside academic and clinical frameworks led to the recognition of the need for neuroethics [6]. Neuroethics deals with ethical, legal, and social aspects related to neuroscience, and with those aspects exclusively restricted to research procedure within the scientific area itself [14]. The emergence of neuroethics on the academic scene happened in the same year (2002) when BrightHouse got media attention for being the first advertising company that declared using neuroimaging techniques for commercial purposes [7]. A conference *Neuroethics: Mapping the Field* organized by Dana Foundation was held on ethical and social implications of neuroscience. The conference gathered experts from different fields such as neuroscience, ethics, law, and journalism to participate in establishing a new interdisciplinary area derived from bioethics. In the next few paragraphs, some of the main aspects of neuroethics related to the field of neuromarketing are going to be presented.

According to Murphy [25], ethical issues in neuromarketing can be classified into two major clusters. The first cluster refers to the protection of parties who can be exploited in the most general sense by those who do neuromarketing research (i.e., companies, research agencies, etc.), and the second cluster implies protection of consumer autonomy if methods in neuromarketing prove their efficiency in terms of manipulating and predicting consumer behavior [24]. Some aspects related to the protection of subjects who participate in neuromarketing research means the implementation of rigorous procedures that will guarantee privacy and confidentiality to these subjects. Researchers in the field of neuromarketing are obliged to provide truthful information i.e., to well inform subjects about the research itself (if possible, expected outcomes of research when it does not interfere with validity, etc.) and potential risks for

health due to methods used in the research (e.g., fMRI's strong magnetic field can have negative health effects)[5]. Along with these "basic" recommendations, researchers in the field of neuromarketing should be very cautious about "vulnerable groups" during the process of "targeting" the niches on the market. These vulnerable groups should be excluded from neuromarketing research. Subjects that can be categorized as vulnerable are children, those with some neurological condition or psychiatric diagnosis [25].

It is said that neuromarketing borrows various neuroimaging techniques from neuroscience for commercial purposes. The dominant motivation of marketers is to find out specific cortical structures responsible for the decision-making process in consumer behavior. If this novel approach proves itself as "key" to a deeper layer of a consumer mind and shows higher predictive power, the autonomy of the consumer comes into question. There is *a priori* attitude that the consumer has autonomy to a certain degree in making decisions, in other words, that he or she is in charge of his/her consumer behavior. Of course, it is partially true. The great advantage of techniques used in neuromarketing, in comparison to a more traditional approach to consumer behavior such as focus groups, surveys, structured interviews, is the possibility of avoiding censorship, social pressure (in the case of a focus group). Additionally, neuromarketing tools provide solutions for the subject's incapability of being absolutely aware of why some product or brand seems to him or her more likable than another. But what if the consumer's autonomy can be manipulated? What if companies can influence consumer's preferences without their conscious knowledge? Can it be treated as an attack on human integrity?

The first neuromarketing research that caught academic attention was conducted by McClure and colleagues [23]. Their research showed how consumers' preferences interact with brand information at the level of brain activity [23]. This study triggered skeptics who were afraid of the potential exploitation of any new technology. This and similar research were quite enough for the media to spread misinformation about the existence of some "magic spot" or "buy button" [7]. These statements have produced legitimate worries and public distrust in

neuromarketing and in some general sense have shaped simplistic, deterministic, reductionist understanding of (consumer) self and behavior. Media are not the only ones to blame, companies that offer services in the area of neuromarketing foster that viewpoint, too. Fisher and colleagues [7] were primarily focused on websites of neuromarketing companies in order to extract their main features that might have an impact on the public image of neuromarketing. They pointed out that there are so often premature and unrealistic claims about the power of neuromarketing that do not get enough support from empirical studies [7]. Furthermore, there is a tendency for over-interpretation of results obtained by neuroimaging techniques. These clarify other relevant ethical aspects related to the creation of an unrealistic image of neuromarketing that leads to public misconceptions about (neuro)science in general. Besides research subjects, ethical concerns should include other parties who pay for services provided by neuromarketing companies. It is proven that showing brain images has a powerful effect even within the scientific community [22]. In addition to scientists, the public shares the same fascination with brain images. Scientific descriptions look more persuasive if they are accompanied by brain images, even though it does not influence the validity of findings [7], [22].

General fascination with brain images reflects the currently dominant attitude and our wish to find out specific places (*loci*) in cortical structures that are responsible for a wide spectrum of the complex human experiencing and behavior. This collective fascination can be abused by neuromarketing companies, so in order to prevent potential ethical issues, some regulations need to be established. Companies that provide neuromarketing services have to be as transparent as possible in terms of the methodology they use in research. Procedures and techniques have to be sufficiently explained, not just listed without any concrete description [7]. Making these aspects clearer should be a good measure in fighting manipulation and violation of ethics in this domain. Related to it is also a question of internal and external validity of the methodology used in neuromarketing [25]. In order to make some improvements in these aspects, more people from academia should participate in testing existing hypotheses in this field and

doing research in order to expand the knowledge that is going to be publicly available. Action of this kind would help to present neuromarketing and its possibilities more realistically and prevent manipulations of corporate clients by neuromarketing companies. One solution for these ethical issues is establishing a more rigorous practice in terms of monitoring and regulating research in consumer neuroscience and its application in neuromarketing. As we can see, damage can be done not just to subjects in research, but to corporate clients so the legal framework has to cover as much as possible those situations in which it is obvious that neuromarketing companies violate ethics by using “fancy” interpretations and brain scan images in order to manipulate their clients.

These ethical issues open up a space for questions such as who can have control and ownership over neuroimaging technologies. Should they be restricted only to academia as it was at the beginning when neuroimaging technologies were used only in clinical and academic purposes? In some countries, e.g., in France, pursuing any commercial research by using brain imaging techniques is banned [30]. Should neuroimaging technologies be democratized? Who could navigate the development and implementation of these technologies? There is no single answer to all potential ethical dilemmas. Farah [6] is an advocate of neuro-literacy, suggesting that as information technologies and environmental science have entered the curriculum of most secondary schools over the past few decades, the same is going to happen with neuroscience in the near future. Therefore, neuro-literacy can be of help for providing necessary knowledge that can guide us when we face some ethical dilemmas considering the implementation of neuroscience in everyday life. In the last paragraphs, we will discuss methodological limitations, as well as recommendations for future research in the field of neuromarketing.

## Conclusions

Neuromarketing is an emerging new way of analyzing and understanding consumer behavior that incorporates methodologies from neuroscience in the field of marketing. Corporations motivated to get an advantage on the market

employ neuromarketing companies to help them achieve their goals related to marketing mix [10], [21]. A great enthusiasm with neuroimaging techniques, brain-based narratives, and fascination with brain scan images which all together blur some limitations in the field that must be taken into consideration if we want to stay objective and improve the state of affairs in the field. Some of the limitations in the field are going to be presented in the next few paragraphs and at the end of the discussion, there will be some recommendations for future research.

Tools used in neuromarketing research such as fMRI, PET, EEG, etc. are much more expensive than instruments used in traditional marketing research. Therefore, the immovability and high costs of these tools are some of the most obvious limitations in neuromarketing research [24]. Implementation of the described tools requires a controlled, laboratory environment. Laboratories are not an adequate representation of the real-world situation in which people are exposed to some advertising stimuli. In numerous situations in which we are exposed to some brands, ads, etc. we are surrounded by other people (e.g., social occasions, joint activities, etc.). These contextual factors give a completely different dimension to our experience of marketing stimuli. In controlled laboratory environments, subjects are completely isolated from these contextual factors. In other words, artificial environments in which neuromarketing research is being conducted show low external validity. Furthermore, simpler experimental designs (like those in fMRI studies) compared to traditional experimental designs in marketing research, difficulties related to subjects' bodies moving during an experimental procedure [19], and a small number of subjects in research have a negative impact on the generalizability of results gained in that way. Lack of reliable empirical findings (i.e., incomplete map of brain functions) is one of the main underlying factors for over-interpretation of results obtained by neuroimaging tools such as fMRI, PET, etc. In most cases, neuromarketing research is based on the implementation of a single tool [24]. Implementation of more than one tool would significantly add to the reliability and (incremental) validity of findings in this field. In other words, the weakness of one tool would be covered by another.

Limitation regarding ethics is tackled in the chapter about neuroethics in neuromarketing. All potential ethical issues are not exhausted in the paper, so it is to be expected that with development in the field new ethical dilemmas will arise, especially those related to consumer autonomy if these neuromarketing tools achieve “high” levels of efficiency in terms of prediction of consumer behavior/preferences as Murphy [25] pointed out. For now, we should be sure that existing technology in the service of neuromarketing does not have an ultimate answer on some specific consumer behavior in terms of accurately identifying brain structures responsible for that behavior.

### Some predictions of the future of neuromarketing and consumer neuroscience

In the next few paragraphs, future avenues for neuromarketing and consumer neuroscience will be discussed. Neuromarketing is a constantly evolving field, both in the area of technology and insights [15]. Still, we should distinguish the neuromarketing hype from the real potential of neuromarketing in the future [2]. The hype can be seen by the fact that there has been tremendous growth in the number of neuromarketing companies in recent years [28]. There are even companies that promote neuromarketing itself [2].

It is expected that there will be more collaborations between researchers who are interested in neuromarketing [20]. More studies will be done in the field in future periods [20]. Thus, more publications about the topic will be present in marketing and consumer research scientific journals, more books, and more topic-relevant Google references [15]. In addition, special issues on neuromarketing are expected in marketing and consumer science journals [1]. An increased number of studies will help us to better understand, analyze, and compare obtained research data [20]. This will open up space for more methodologically correct studies in the field [20]. It can be expected that neuromarketing will integrate itself with traditional market research methods that belong to quantitative and qualitative research [1]. This will allow the marketing discipline to develop theories based on multi-method evidence [1]. In the future, contributions from the disciplines of social and affective neuroscience will be valuable [18]. More

concretely, contributions of social influences and settings, and also interpersonal interactions should be integrated with neuromarketing research [18]. It is also anticipated that an integrated model of information processing in the consumer’s brain will be built [1].

It is also estimated that connectomics, the study of the brain’s structural and functional connections between cells, will play an important role in the future development of neuromarketing and consumer neuroscience [1]. A new frontier for neuromarketing is nanomarketing as well [24]. The term nanomarketing refers to the integration of neuromarketing tools with miniaturized, portable, nonintrusive, and wireless nanotechnology devices (i.e., in the broader sense, nanomarketing technologies) [24]. Mileti and colleagues [24] predict future market research will use a combination of different nanomarketing technologies to test research hypotheses.

However, there is a possible scenario that the hype around neuromarketing will fade out [2]. It is still an open question whether neuromarketing tools will continue to be used in market research, considering their relatively high costs compared to conventional marketing tools [2]. As we have previously mentioned, the rise of neuromarketing is connected to the rise of neuroculture in general, and its popularity depends on neuroculture’s popularity. For example, there was hype around subliminal advertising, which quickly died out even though subliminal priming remained an important research area in social psychology [2]. The future of neuromarketing depends on the academic community and researching deeper questions on how marketing works and not just examination of specific advertisements [2]. In addition, the academic community should take the results from basic (fundamental) research in neuroscience and find its practical application in marketing. Some examples of fundamental neuroscience research that are making breakthrough advancements and could help in advancing consumer neuroscience are European Union’s Human Brain Project (HBP) and the BRAIN (Brain Research through Advancing Innovative Neuro technologies) initiative [1].

It will be beneficial in the future to use neuromarketing to find out what consumers really want and find useful, and not coerce them into consuming products they don’t

like and need [2]. This field can have a promising future if ethical concerns are taken into consideration [20].

## Acknowledgement

This paper was realized with the support of the Ministry of Education, Science and Technological Development of the Republic of Serbia.

## References

- Agarwal, S., & Dutta, T. (2015). Neuromarketing and consumer neuroscience: current understanding and the way forward. *Decision*, 42(4), 457-462. <https://doi.org/10.1007/s40622-015-0113-1>
- Ariely, D., & Berns, G. S. (2010). Neuromarketing: the hope and hype of neuroimaging in business. *Nature reviews neuroscience*, 11(4), 284-292. <https://doi.org/10.1038/nrn2795>
- Bercea, M. D. (2012, August). Anatomy of methodologies for measuring consumer behavior in neuromarketing research. In *Proceedings of the Lupcon Center for Business Research (LCBR) European Marketing Conference. Ebermannstadt, Germany.*
- Cherubino, P., Martinez-Levy, A. C., Caratù, M., Cartocci, G., Di Flumeri, G., Modica, E., Rossi, D., Mancini, M., & Trettel, A. (2019). Consumer behaviour through the eyes of neurophysiological measures: State-of-the-art and future trends. *Computational Intelligence and Neuroscience*, 2019, Article 1976847. <https://doi.org/10.1155/2019/1976847>
- Ćosić, D. (2016). Neuromarketing in market research. *Interdisciplinary Description of Complex Systems: INDECS*, 14(2), 139-147. doi: 10.7906/indecs.14.2.3
- Farah, M. J. (2013). Neuroscience and neuroethics in the 21st century. In J. Illes & B. J. Sahakian (Eds.), *The Oxford handbook of neuroethics* (pp. 761-781). Oxford University Press.
- Fisher, C. E., Chin, L., & Klitzman, R. (2010). Defining neuromarketing: Practices and professional challenges. *Harvard review of psychiatry*, 18(4), 230-237. doi: 10.3109/10673229.2010.496623
- Fortunato, V. C. R., Giraldo, J. D. M. E., & De Oliveira, J. H. C. (2014). A review of studies on neuromarketing: Practical results, techniques, contributions and limitations. *Journal of Management Research*, 6(2), 201. doi: 10.5296/JMR.V6I2.5446
- Frazzetto, G., & Anker, S. (2009). Neuroculture. *Nature Reviews Neuroscience*, 10(11), 815-821. <https://doi.org/10.1038/nrn2736>
- Gang, D.-J., Lin, W., Qi, Z., & Yan, L. L. (2012). Neuromarketing: Marketing through Science. Paper presented at the International Joint Conference on Service Sciences, Service Innovation in Emerging Economy: Cross-Disciplinary and Cross-Cultural Perspective. Shanghai, China.
- Gill, R., & Singh, J. (2020). A study of neuromarketing techniques for proposing cost effective information driven framework for decision making. *Materials Today: Proceedings*. <https://doi.org/10.1016/j.matpr.2020.08.730>
- Glaenger, E. (2016). *Are the Brain and the Mind One? Neuromarketing and How Consumers Make Decisions*. (Publication No. 812) [Honors Theses, Colby College]. Digital Commons at Colby.
- Hubert, M., & Kenning, P. (2008). A current overview of consumer neuroscience. *Journal of Consumer Behaviour: An International Research Review*, 7(4-5), 272-292. <https://doi.org/10.1002/cb.251>
- Illes, J., & Bird, S. J. (2006). Neuroethics: a modern context for ethics in neuroscience. *Trends in neurosciences*, 29(9), 511-517. <https://doi.org/10.1016/j.tins.2006.07.002>
- Iloka, B. C., & Onyeke, K. J. (2020). Neuromarketing: a historical review. *Neuroscience Research Notes*, 3(3), 27-35. <https://doi.org/10.31117/neuroscirn.v3i3.54>
- Javor, A., Koller, M., Lee, N., Chamberlain, L., & Ransmayr, G. (2013). Neuromarketing and consumer neuroscience: contributions to neurology. *BMC neurology*, 13(1), 1-12 <https://doi.org/10.1186/1471-2377-13-13>
- Jordão, I. L. D. S., Souza, M. T. D., Oliveira, J. H. C. D., & Giraldo, J. D. M. E. (2017). Neuromarketing applied to consumer behaviour: an integrative literature review between 2010 and 2015. *International Journal of Business Forecasting and Marketing Intelligence*, 3(3), 270-288. doi: 10.1504/IJBFMI.2017.085371
- Karmarkar, U. R., & Plassmann, H. (2019). Consumer neuroscience: Past, present, and future. *Organizational Research Methods*, 22(1), 174-195. <https://doi.org/10.1177/1094428117730598>
- Kenning, P., Plassmann, H., & Ahlert, D. (2007). Applications of functional magnetic resonance imaging for market research. *Qualitative Market Research: An International Journal*, 10(2), 135-152. <https://doi.org/10.1108/13522750710740817>
- Klinčeková, S. (2016). Neuromarketing—research and prediction of the future. *International Journal of Management Science and Business Administration*, 2(2), 53-57. <http://dx.doi.org/10.18775/ijmsba.1849-5664-5419.2014.22.1006>
- Kolar, E. (2014). *Neuromarketing and marketing management: contributions of neuroscience for the traditional marketing mix* [Bachelor's thesis, University of Twente].
- McCabe, D. P., & Castel, A. D. (2008). Seeing is believing: The effect of brain images on judgments of scientific reasoning. *Cognition*, 107(1), 343-352. <https://doi.org/10.1016/j.cognition.2007.07.017>
- McClure, S. M., Li, J., Tomlin, D., Cypert, K. S., Montague, L. M., & Montague, P. R. (2004). Neural correlates of behavioral preference for culturally familiar drinks. *Neuron*, 44(2), 379-387. <https://doi.org/10.1016/j.neuron.2004.09.019>
- Mileti, A., Guido, G., & Prete, M. I. (2016). Nanomarketing: a new frontier for neuromarketing. *Psychology & Marketing*, 33(8), 664-674. <https://doi.org/10.1002/mar.20907>
- Murphy, E. R., Illes, J., & Reiner, P. B. (2008). Neuroethics of neuromarketing. *Journal of Consumer Behaviour: An International Research Review*, 7(4-5), 293-302. <https://doi.org/10.1002/cb.252>
- Pitts-Taylor, V. (2012). Neurocultures manifesto. *Social Text*, 1-5.
- Plassmann, H., Karmarkar, U. R. (2015). Consumer neuroscience. In Norton, M. I., Rucker, D. D., Lamberton, C. (Eds.), *The Cambridge handbook of consumer psychology* (pp. 122-151). Cambridge, UK: Cambridge University Press.
- Plassmann, H., Ramsøy, T. Z., & Milosavljevic, M. (2012). Branding the brain: A critical review and outlook. *Journal of Consumer Psychology*, 22(1), 18-36. <https://doi.org/10.1016/j.jcps.2011.11.010>

29. Solnais, C., Andreu-Perez, J., Sánchez-Fernández, J., & Andréu-Abela, J. (2013). The contribution of neuroscience to consumer research: A conceptual framework and empirical review. *Journal of Economic Psychology*, 36, 68–81. <https://doi.org/10.1016/j.joep.2013.02.011>
30. Ulman, Y. I., Cakar, T., & Yildiz, G. (2015). Ethical issues in neuromarketing: "I consume, therefore I am!". *Science and engineering ethics*, 21(5), 1271-1284. <https://doi.org/10.1007/s11948-014-9581-5>



### **Ljubisa Bojic**

is a research fellow at the Institute for Philosophy and Social Theory, University of Belgrade where he coordinates the Digital Society Lab. Bojic defended his PhD thesis at the Institute of Political Studies (Sciences Po Lyon) at University of Lyon, France in 2013. His research interests include neuromarketing, social polarization, echo chambers, fake news, media addiction, impact of emerging technologies on society and philosophy of technology. His latest papers include examination of how mass media impact emotional patterns of their followers on Twitter and how weather conditions affect mood and post count of social media users. Bojic's long term project is establishing the Media Reality Index as a tool for quantifying emotions expressed by media, as opposed to emotions expressed by society members in social media posts.



### **Lana Tucaković**

is a doctoral student at the Department of Psychology, Faculty of Philosophy, University of Belgrade, Serbia. Lana Tucaković is the recipient of the scholarship of the Ministry of Education, Science and Technological Development of the Republic of Serbia for PhD students. Her primary research interests are in the areas of social and personality psychology.



### **Nemanja Nikolić**

is a doctoral student at the Department of Psychology, Faculty of Philosophy, University of Belgrade, Serbia. Nemanja Nikolić is the recipient of the scholarship of the Ministry of Education, Science and Technological Development of the Republic of Serbia for PhD students. His primary research is in the areas of psychodynamic psychology, clinical, and social psychology.

**Branko Mihailović**  
Scientific Advisor  
Institute of Agricultural Economics  
Belgrade

**Katica Radosavljević**  
Senior Research Associate  
Faculty of Economics  
Belgrade

**Vesna Popović**  
Science Advisor  
Institute of Agricultural Economics  
Belgrade

# DEVELOPMENT FACTORS OF MANAGEMENT CONSULTING IN SERBIA

Faktori razvoja menadžment konsaltinga u Srbiji

## Abstract

This paper explores management consulting in Serbia, which is analysed using the factors of its development. The most important drivers of the consulting market development in Central and South-Eastern Europe are the privatization and reorganization of state enterprises, the enlargement of the EU to the eastern region and the liberalization of national markets. The main goal of the research is to determine the most important factors in the development of management consulting in Serbia. Management consulting is in fact the result of managers' need for integrated and complex business information. The basic idea of this paper was to investigate in the empirical way the influence of certain factors on the development of management consulting in Serbia. Empirical research was carried out by gathering relevant data on a sample of 150 consulting organizations in Serbia. The target group of the research is the management consultants who are included in the sample. The research by survey was conducted by telephone surveys and direct interviews. Factor analysis was used for singling out the factors that influence the development of management consulting in Serbia. Factor analysis has shown that the three most important factors in the development of management consulting in Serbia are: managerial capabilities and skills, project activities and transformation of enterprises and markets. The aim of this paper is to point out key factors in the development of management consulting in Serbia, inform economic stakeholders about the importance of management consulting and the ways how to use it.

**Keywords:** *management consulting, development factors, projects, transformations, managerial capabilities.*

## Sažetak

Ovaj rad istražuje menadžment konsalting u Srbiji, koji se analizira kroz prizmu faktora njegovog razvoja. Najznačajniji pokretači razvoja konsultantskog tržišta u Centralnoj i Jugoistočnoj Evropi su privatizacija i reorganizacija državnih preduzeća, proširenje EU na istočni region i liberalizacija nacionalnih tržišta. Osnovni cilj istraživanja je determinisanje najbitnijih faktora razvoja menadžment konsaltinga u Srbiji. Menadžment konsalting je upravo rezultat potrebe menadžera za integriranim i kompleksnim poslovnim informacijama. Osnovna ideja ovog rada bila je da empirijski istraži uticaj pojedinih faktora na razvoj menadžment konsaltinga u Srbiji. Empirijsko istraživanje je izvršeno prikupljanjem odgovarajućih podataka na uzorku od 150 konsultantskih organizacija u Srbiji. Ciljna grupa istraživanja su menadžment konsultanti koji su uključeni u uzorak. Faktorskom analizom izolovani su faktori koji utiču na razvoj menadžment konsaltinga u Srbiji. Faktorska analiza je pokazala da su tri najznačajnija faktora razvoja menadžment konsaltinga u Srbiji: menadžerske sposobnosti i veštine, projektne aktivnosti i transformacija preduzeća i tržišta. Ovaj rad ima pretenzija da ukaže na ključne faktore razvoja menadžment konsaltinga u Srbiji, obavesti ekonomske aktere značaju menadžment konsaltinga kao i načinima njegovog korišćenja.

**Ključne reči:** *menadžment konsalting, faktori razvoja, projekti, transformacija, menadžerske sposobnosti.*



## Introduction

The analysis of the appropriate literature suggests that, through history, many organizations significantly improved their business performance, overcame the problems they encountered, and became stable business systems with the help of external experts [17]. Management Consulting is a professional assistance in identifying, diagnosing and solving problems related to various areas and aspects of business and management of enterprises. It is about supporting managers of companies to achieve their goals, solve business and management problems, identify and exploit new opportunities, increase their knowledge and use it in the suggested changes. Also, consulting services in relation to the establishing of enterprises, as well as training and education of managers and employees are included. Consultancy services may vary from case to case, depending on the goals which should be achieved, but the basic role is to increase the value and reputation of the enterprise, i.e. client, through the process of consulting. According to Ibatova [9] in the process of development and realization of human resources, it is necessary to take into account the harmonious individual development of each employee, his or her qualifications, flexibility, mobility, favourable social conditions, social activity and improvement of the whole way of life.

Srinivasan [22] pointed out that Management consulting is one of the earliest examples of outsourcing and it is often described as a global phenomenon because of numerous international consultancy firms involved in the national and transnational business [19]. The demand for consulting services is growing along with real needs, and it is tailored by: privatization, evaluation of enterprises, establishment of new small and medium enterprises as the premise of faster market economy development, new products, search for new markets, etc. The modern approach to non-financial support for small and medium-sized enterprises is based on the principle of building a private local market of services for development of businesses and this market meets the needs and financial strength of small enterprises in order to create a long-term sustainable, market-based solution. The role of local agencies for development is gradually shifting from providing

certain services to helping entrepreneurs in connecting them with private providers of these services, improving offer, range and quality of services for development of business in a certain territory, and raising the awareness of entrepreneurs about their own needs and the importance of these services. Also, the analysing of the economic parameters of countries, during the EU accession phase, indicate that there were three main drivers at the same time: harmonising economic and social system with EU standards; economic development; maturing of the consultancy market, FEACO [27].

## Literature overview

The current environment of globalization, rapid technological advances and economic turbulence have increased the challenges that managers face and, therefore, there is a need to find the right tools to meet those challenges [5]. Namely, technical progress does not circumvent any of the aspects of human activities [29]. It can be said with assurance that the business environment and conditions are constantly getting more complicated [25], and consequently the theory of doing business and management is changing rapidly, and it is expected that the changes will continue [18]. In such an environment, in order to survive, enterprises must be constantly changing and developing. Survival and development involve investing efforts in re-evaluation and reaffirmation of the competitive advantages of the enterprises and their positions on the market. In order to achieve this, large and worldwide well-known companies in the developed European market hire well-known consultancy firms as a way of support, allocating significant resources for this. Namely, the management consultancy market grew on average 6.6% per year while European GDP grew on average 2.1% per year in the period 2013-2018, as indicated by the research of the FEACO [28].

Serbia's EU accession has imposed new rules in society and way of doing business. Such changes are a great prerequisite for the development of the consulting sector. Enterprises try to improve competitiveness by adopting of new products, technologies and services. It is pointed out that certain management practices and ways of

organization are not equally successful in different economic contexts, because of GDP, economic cycles, investments and ownership structure [2]. Therefore, the methods and tools of management consulting are interpreted as competitive advantages and as the main factor which contributes to strategic, tactical and operational efficiency [10] and the productivity of business processes [24], [31]. The need to learn about certain individual business processes initiates higher consulting involvement.

According to Djordjevic and Pecic [6] only those organizations which respond quickly to contemporary market trends and adapt to changes can remain competitive. Under such conditions it is necessary to establish a continuous education of managers as the basis of innovation [16]. However, the long-standing crisis of the domestic economy has led to a decrease in the accumulated capacity of the enterprises. Under such conditions, there is no substantial mass of resources needed for organizing the research process, nor willingness to accept the financial risks that these processes carry. The modest profitability of the company comes from the reduced investment in the activities of the development of research.

Consequently, the ability of the company to increase its own capital on the basis of a financial leverage, i.e. the difference between profit and interest rates, has been reduced. Because of that management consulting is considered as a variable that should take enterprises from an inefficient business zone in an effective and profitable business area. At the same time, the significance of the relationship between consulting and management in companies which operate according to modern principles is emphasized [32]. Dželetović et al. [7] think it could be said that the organization's ability is to initiate and operate the activities and processes of 'exploiting' existing and create new knowledge among the key factors in creating the competitive advantage of organizations. In each organization human resources represent the driving force of the organization [23], and some studies prove that the human factor is most crucial in the management of business processes [33].

It is often assumed that management consulting represents an important source of external knowledge acquisition for enterprises [26]. The introduction of

changes forces the employees of the organization to adopt new knowledge, gather more information, come to terms with new tasks, improve their skills, and often change their work habits, values and attitudes. This also includes changes in people - in management and staff, their capabilities, motivation, behaviour and work efficiency. Management consulting is an example of a professional service in which reputation plays a central role on the market between clients and labour [8].

However, all this cannot be achieved, at least not for the desired period, without the help of those who have already acquired large amounts of knowledge, gained experience, and who can successfully transfer to others. All this is possible because consultancy firms employ highly qualified individuals and emphasize creativity, innovation, autonomy, learning and development in relation to work [12]. Also, consultants can interview clients in order to measure customers' satisfaction and identify problem points in the value chain. It is important to have a continuous feedback, as indicated by the research of the Center for the Study of Social Policy [4].

Management Consulting is a business model that is used for complex, one-time and supplementary business activities [21]. Namely, management consulting is one of the important factors for the efficient allocation of resources of the enterprises in Serbia and the improvement of business practice. As a model of learning and development of managerial skills and knowledge, it enables solving business problems and improving the business performance of enterprises in Serbia. New methods of making investment decisions require creating a link between economic, social and environmental resource allocation criteria. With the help of consulting which takes into account the situational approach in work, a balance can be achieved between: economic efficiency, socially responsible business and production standards. Consequently, the development of a successful business model is based on innovations [20] and the differentiation of the consultancy firm's business offer, which leads to creating a sustainable competitive advantage [3].

Sustaining a creative consulting company, however, requires balancing the conflicting demands between short-term business development and long-term knowledge

creation [14]. Consequently, a proactive approach in providing consulting services improves the efficiency and effectiveness of hiring of consultants [1]. In the domestic public consultancy services most often involve assistance in creating a business plan which is needed for applying for loans, or orientation training for potential entrepreneurs. Entrepreneurs, when starting and developing their own businesses, need help, first of all, in the form of non-financial support, so that their companies will grow and stay on the market. This can be seen in the consultancy services which provide information, consulting, mentoring, and training in various areas which are essential for doing business. Entrepreneurs who start their own business generally have little experience in managing an enterprise and doing businesses and do not have formal education in this field. Under such conditions, assistance and support in the initial period can significantly increase their chances of success.

### Methodology of research

Empirical research was carried out by gathering relevant data on a sample of 150 consulting organizations in Serbia, and the criteria of factor analysis were met. Taking this into account it is possible to come to appropriate conclusions and generalizations. There were 126 involved in the data analysis which were correctly completed. The target group of research is management consultants who are included in the sample. Survey market research was conducted by telephone surveys and direct interviews. The questionnaire is designed in such way to provide sufficient data for the accomplishing the research task. There were also issues that exceed the set framework, and the answers are important for deeper understanding of this issue. Empirical research was carried out in the period between March and April in 2019. So-called SPSS ("Statistical Package for the Social Sciences") was used for data processing and analysis. Factor analysis was used to point out to the factors that influence the development of management consulting in Serbia. Namely, factor analysis is a multivariate process that enables to determine a smaller number of basic variables which explain such interconnection by observing a large number of variables

which are correlated. These basic / latent variables are known as factors [30]. Taking into consideration the state of factors which influence the development of management consulting in Serbia, as well as the experiences of countries that have gone through transition and countries in the region, the assumption about the most important factors of development has come up: *The three most important factors in the development of management consulting in Serbia are: privatization, development of small and medium enterprises and EU projects.*

### Results and discussion

The survey covered a large number of features which show successful work of a consulting organization or consulting team. These features were used in the questionnaire in a way that it was expected from the respondents to evaluate the value of each feature. Variables are questions from the questionnaire. Each variable has a value from 1 (minimum value) up to 5 (maximum value): 1) Privatization of the enterprise, 2) Restructuring of the enterprise, 3) Market liberalization, 4) Consolidation 5) Foreign investments, 6) Information technology, 7) Network of research centres and universities, 8) Agency for development of small and medium-sized enterprises, 9) Serbian Chamber of Commerce, 10) Competition in the consulting market, 11) EU projects, 12) Managerial skills, 13) Education of managers, 14) Development research activities of enterprises 15) Structure of enterprises' ownership, 16) Business activity of enterprises, 17) Number of employees in the enterprise, 18) Market share of enterprises, 19) Financing of consulting services.

Kaiser-Meyer and Olkin suggest a test measure that is named as MSA criterion - measure of sampling adequacy [13]. This test measure is calculated on the basis of the anti-image correlation matrix [30]. The MSA criterion shows the extent to which the observed variables belong to a common factor and thus serve as an indicator of how good is the correlation matrix for factoring. The values of the MSA criterion may vary between 0 and 1. Their value is higher if: a) a higher number of variables are observed; b) fewer factors; c) a higher number of participants; and g) greater correlation between the observed variables.

The following scale is proposed to evaluate the obtained MSA criterion (Table 1).

**Table 1: Scale for the evaluation of levels MSA criterion**

MSA $\geq$ 0,9 (desirable value)	marvelous
MSA $\geq$ 0,8 (very good)	meritorious
MSA $\geq$ 0,7 (quite good)	middling
MSA $\geq$ 0,6 (mediocre)	mediocre
MSA $\geq$ 0,5 (very bad)	miserable
MSA $<$ 0,5 (non-desirable value)	unacceptable

Source: Kaiser, 1974;

Kaiser's criterion yields a result of 0.740, which is a high value of the evaluation and it shows if the factor analysis can be applied (below 0.5 no factor). Bartlett's test tests the hypothesis "The variables are unrelated", and then shows the probability that the hypothesis is not rejected (Sig .000) (Table 2).

**Table 2: Values of Keiser-Mayer-Olkin's criterion and Bartlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.740
	Approx. Chi-Square 546.534
Bartlett's Test of Sphericity	Df 136
	Sig. .000

Source: Author's calculation

It can be noted that the average value is higher than 0.7, so the Kaiser's criterion is sufficient for determining the factor, i.e. previous table. Also, in each case, the Scree-plot criterion can be used. Namely, the Scree-plot shows that there are six factors, as it has been determined by the method of specific values, i.e. by Kaiser's criterion. This diagram shows the number of factors as the number of dots until it turns into the so-called. "tail", i.e. until the curve turns into almost the right line. There are six of these dots (from left to right). If you look at these dots, it can be seen that there is a slightly higher drop to the seventh point, and then the line becomes almost completely straight. Consequently, it can be concluded that we extracted six factors. The starting point was the hypothesis: *The three most important factors in the development of management*

*consulting in Serbia are: privatization, support of the Agency for the Development of Small and Medium Enterprises and EU projects.* The findings are following: Factor 1 describes 32.26%, factor 2 describes 14.35%, factor 3 describes 10.89%, factor 4 describes 7.3%, factor 5 describes 6.24% and factor 6 describes 6.01% of the issue which we are looking into. In total, these six factors describe and explain 77.05% of the issue in question.

We will accept the fact that variables which the factor is consisted of are in correlation with the factor. The coefficient of variables is higher than 0.6 (0.5 can also be considered).

- Factor 1 consists of: managerial skills, Network of research centers and universities, education of managers, structure of enterprises' ownership, information technology, and development research activities of enterprises
- Factor 2 consists of: Agency for development of small and medium-sized enterprises, EU Projects.
- Factor 3 consists of: Restructuring of the enterprise, privatization of enterprises, market liberalization.
- Factor 4 consists of: Business activity of the enterprise, financing of consulting services.
- Factor 5: number of employees in the enterprise.
- Factor 6 consists of: competition in the consulting market, market share of the enterprises.

Variables are grouped into certain factors by their nature, and that is what factor analysis is used for. The first factor could be named: Managerial skills and capabilities. The second factor could be called: Project activities of enterprises. The third factor would be: Transformation of enterprises and markets. The fourth factor could be: Business-financial factor. The fifth factor is: Number of employees in an enterprise. The sixth factor is: Competition and marketing performances. The variables which certain factors are consisted of can be supplemented by lowering the criterion to 0.5, and then the presentation of each factor would be more detailed. Taking into consideration the results of empirical research, one can conclude the following: *The three most important factors in the development of consulting services are: managerial skills and capabilities, project activities and transformation of enterprises and*

*markets*. The research led to a redefinition of the claim raised by the starting hypothesis, highlighting other factors because of the importance for the development of management consulting in Serbia.

The results of the research show that the development of management consulting in Serbia is determined by the managerial skills and abilities that are necessary for the transformation of domestic enterprises and the market, as well as the accomplishing project activities. The elimination of external restrictions and the return of Serbia to international economic trends has led to a significant increase in demand for new knowledge, experience and expertise, including those in the form of consulting services. In modern business, a great challenge for management is finding alternative ways to improve the process of decision-making [11]. There is specific interest for the programs of rehabilitation and restructuring of enterprises, but also for the formulation and implementation of the development strategy and networking with economic factors in the international market, introduction of information technology, improvement of performance management of enterprises' basic functions, joint ventures, cooperation in terms of technology, etc. Introducing and using new management methods should contribute to expanding the awareness, skills and approach of employees, as well as to enable organizations to be more flexible and to permanently improve their competence, competitiveness and business success [15]. The introduction of market-based business in Serbia is a stimulus for consultants to expand the range of consulting services, because clients need to prepare themselves to rationally use internal and external professional and creative potentials.

## Conclusion

The surveyed consultancy firms which operate in Serbia undoubtedly point out that the greatest influence on the development of consulting services in Serbia have the following factors: *managerial skills and capabilities, project activities and transformation of enterprises and markets*. This observation clearly indicates what are the issues consultancy firms and enterprises which use consulting should focus on. It also indicated that the state should focus

on the above mentioned because all the participants in the process would benefit from the improvement in these areas: consultancy firms would get more jobs (and therefore more money, they would intensify its development); by using the services of consulting companies, enterprises would significantly accelerate their development and improve performance; the state would, if nothing else, get richer sources of financing the budget.

Consulting companies are increasingly aware of the crucial importance of learning and knowledge for their success and business. Their need to use knowledge is emphasized in the analyzed literature on management consultants and education management. When it comes to knowledge, the value of intellectual capital is emphasized. This approach highlights the economic value of human capital, knowledge and other types of unreachable resources for the enterprise. A part of the consulting knowledge can quickly become outdated and lose value. That is why it is necessary for a consultancy firm, as well as for the client, that the management knowledge is constantly being improved.

In modern business conditions, companies need to improve the ability to organize their internal communication, process and knowledge flows, all the way to continuous management support through education and diffusion of innovations. Knowledge sharing through management consulting has proven to be an effective method for using existing knowledge and facilitating its innovation.

## Acknowledgements

Realization of research financed from the budget of the Republic of Serbia, based on the Decision of the Ministry of Education, Science and Technological Development on financing scientific research work in 2021, number: 451-03-9 / 2021-14.

## References

1. Adizes, I., Rodić, D., Čudanov, M. (2017). Estimating consultant engagement in the corporate life cycle: Study of the Bias in South Eastern Europe. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*. 22(2), 1-12. DOI:10.7595/management.fon.2017.0015

2. Ateljević, J., Trivić, J. (2016). *Economic development and entrepreneurship in transition economies*. Switzerland: Springer, Cham Publisher.
3. Back, Y., Parboteeah, K. P., Nam, D. (2014). Innovation in Emerging Markets: The Role of Management Consulting Firms. *J. Int. Manag.*, 20(4), 390–405.
4. Center for the Study of Social Policy (2017). *Customer Satisfaction: Improving Quality and Access of Services and Supports in Vulnerable Neighborhoods*, Washington, DC, USA.
5. Darrell, K., Rigby, D.K. (2017). *Management tools 2017: an executive's guide*. Bain & Company, Boston. Retrieved from
6. Djordjević, V., Pečić, Lj. (2018). Integracija sistema menadžmenta na nivou proizvodnog procesa. *Bizinfo (Blace)*, 9 (1), 31-45. DOI:10.5937/bizinfo1801031D
7. Dželetović, D., Mašić, B.M., Nikolić, D.M., Nešić, S.B. (2016). Menadžment znanja i konkurentnost organizacije. *Poslovna ekonomija*. 10(2), 118-139. DOI:10.5937/poseko12-12266
8. [https://www.bain.com/contentassets/109d90597d774549850226aaa67e249e/bain\\_book\\_management\\_tools\\_2017.pdf](https://www.bain.com/contentassets/109d90597d774549850226aaa67e249e/bain_book_management_tools_2017.pdf)
9. Harvey, W.S., Morris, T. and Santos, M. (2017). Reputation and identity conflict in management consulting. *Human Relations*, 70(1) 92-118.
10. Ibatova, A.Z. (2017). The impact of the economy on teachers' work in the Russian Federation. *International Journal of Applied Business and Economic Research*, 15(21), 67-73.
11. Ibatovaa, A.Z., Valentina I., Kuzmenkob, V.I., Klychovac, G. S. (2018). Key performance indicators of management consulting. *Management Science Letters* 8, 475–482. doi: 10.5267/j.msl.2018.3.004
12. Istrat, V., Stanislavljev, S., Markoski, B. (2015). Uloga poslovne inteligencije u savremenom odlučivanju. *The European Journal of Applied Economics*. 12(2), 44-52. DOI:10.5937/ejae12-8230
13. Jeanette, H. (2017). Management Consultancy As Practice: A Study Of The Duality Of The Management Consultants' Role. MRes thesis The Open University. Retrieved from: <https://oro.open.ac.uk/52578/27/Hartley%20-%20Thesis.pdf>
14. Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, pp. 31–36.
15. Kaplan, R.S., Nolan, R., Norton, D.P. (2018). The Creative Consulting Company. *Harvard Business School*, Working Paper 19-001, Retrieved from [https://www.hbs.edu/faculty/Publication%20Files/19-001\\_d2e7f7ec-f8a5-409c-8ca9-90c5c6106c05.pdf](https://www.hbs.edu/faculty/Publication%20Files/19-001_d2e7f7ec-f8a5-409c-8ca9-90c5c6106c05.pdf)
16. Kokeza, G. (2016). Uloga inovacija menadžmenta u inovativnoj i kreativnoj ekonomiji. *Ekonomski vidici*. 21(2-3), 145-157.
17. Kosareva, E., Safronova, N. (2016). Kontinuirana edukacija menadžera kao osnova inovacione ekonomije (iskustvo Ruske predsjedničke akademije nacionalne ekonomije i javne uprave - RANPEA). *Serbian Journal of Management*. 11(1), 129-140. DOI:10.5937/sjm11-9090
18. Krivokapić, J., Čudanov, M. (2016). Analiza aktuelnih trendova i stavova o konsaltingu u organizacijama koje posluju u Srbiji. *Bizinfo (Blace)*. 7(1), 3-24. DOI:10.5937/bizinfo1601013K
19. Mašić, B., Nešić, S., Nikolić, D., Dželetović, M. (2017). Evolucija menadžmenta znanja. *Industrija*, 45(2), 127-147. DOI:10.5937/industrija45-13201
20. Momani, B., Williams, K. (2017). The geography of multinational management consulting firms: mapping global expansion in developing markets. *Paper presented at the American Association of Geographers Conference*, Boston, April 2018.
21. Panić, S., Andrejić, M., Milenković, M., Andrejić, S., Mirčević, M. (2019). Inovacija menadžmenta u funkciji razvoja. *Vojno delo*, 70 (2), 394-413. DOI:10.5937/vojdela1802394P
22. Pereira, L.F., Jerónimo, C.M., Ramos, M.R. (2017). Management Consulting Business Models: A perspective of sustainability. *Conference: 2017 International Conference on Engineering, Technology and Innovation*, ICE, ITMC, 29-35. DOI: 10.1109/ICE.2017.8279865
23. Srinivasan, R. (2014). The management consulting industry: Growth of consulting services in India: Panel discussion. *IIMB Management Review*, 26(4), 257-270. <https://doi.org/10.1016/j.iimb.2014.09.001>
24. Stanković, A., Pečić, M., Ostojčić, B. (2018). Važnost ljudskih resursa u poslovnom odlučivanju. *Vojno delo*, 70(7), 431-446 doi:10.5937/vojdela1807431S
25. Strelnik, E. U., Usanova, D. S., Khairullina, I. G., Shafigullina, G. I., & Khairullina, K. T. (2017). Key performance indicators in internal control. *Journal of Engineering and Applied Sciences*, 12(19), 4899-4904.
26. Stojanović, D. (2017): Digitalna ekonomija i transformacija poslovnih procesa - izazovi i rizici. *Ekonomija: teorija i praksa*. 10(1), 80-90. DOI:10.5937/etp1701080S
27. Sturdy, A., O'Mahoney, J. (2018). Explaining national variation in the use of management consulting knowledge: A framework. *Management Learning*, 49(5), 537-558. Retrieved from <https://doi.org/10.1177/1350507618788993>
28. Survey of the European Management Consultancy Market. The European Federation of Management Consultancies Associations - FEACO, 2004.
29. Survey of the European Management Consultancy 2017-2018, European Federation of Management Consultancies, FEACO, December, 2018.
30. Todosijević, R. (2015). Promene u strategijskom menadžmentu izazvane inovacijama i ključnim tehnologijama. *Anali Ekonomskog fakulteta u Subotici*. br. 34, 127-138.
31. Tošić, V. (2007). *Primena metoda multivarijacione analize u istraživanju pozicioniranja turističkog proizvoda*. Doktorska disertacija, Univerzitet Braća Karić.
32. Vukajlović, Đ., Brzaković, M., Čurčić, N. (2016). Ocena kompetenci zaposlenih od strane različitih menadžment nivoa. *Ekonomika*, 62(3), 47-56. doi:10.5937/ekonomika1603047V
33. Vukotić, S., Aničić, J., Vukotić, R. (2017). The importance of consulting in contemporary business management. *Journal of Process Management. New Technologies*. 5(3), 69-78. DOI:10.5937/jouproman5-14307
34. Wong, W. P., Tseng, M.-L., & Tan, K. H. (2014). A business process management capabilities perspective on organisation performance. *Total Quality Management & Business Excellence*, 25(5-6), 602-617. doi:10.1080/14783363.2013.850812



### **Branko Mihailović**

is Scientific Adviser at the Institute of Agricultural Economics in Belgrade, Serbia. In master's work, doctoral dissertation, monographs and papers published in domestic and foreign professional journals and presented at scientific meetings of national and international importance, he deals with consulting, enterprise restructuring, transition and agrarian economics. Based on previous scientific research, the Ministry of Science and Technological Development of the Republic of Serbia assigned him a category of researchers A1.



### **Katica Radosavljević**

was born on July 16, 1975 in Gothenburg, Sweden. Since 2000, she has been employed at the Faculty of Economics, University of Belgrade. She defended the doctoral thesis with the topic: The strategy of marketing channel development in agribusiness of the Republic of Serbia. Katica Radosavljević managed two projects related to the valuation of corporate capital. She also assisted on numerous projects.



### **Vesna Popović**

is PhD in economics and works as Scientific Adviser at the Institute of Agricultural Economics, Belgrade, Serbia. In master's thesis, PhD dissertation, monographs, and articles published in scientific journals and presented at scientific meetings, she deals with issues related to international agricultural trade governance, sustainable agriculture and rural development, and land policy and planning. She is a member of the Serbian Association of Agricultural Economists and the Balkan Scientific Association of Agricultural Economists.

**Darko Dimitrovski**  
University of Kragujevac  
Faculty of Hotel Management and Tourism  
Vrnjačka Banja

**Miljan Leković**  
University of Kragujevac  
Faculty of Hotel Management and Tourism  
Vrnjačka Banja

**Marijana Đurađević**  
University of Kragujevac  
Faculty of Hotel Management and Tourism  
Vrnjačka Banja

# ECONOMIC IMPACT OF THE SPORTING EVENTS AS TOURISM NICHE PRODUCT: A CONTEMPORARY BIBLIOMETRIC ANALYSIS

Ekonomski uticaj sportskih događaja kao nišni turistički proizvod – savremena bibliometrijska analiza

## Abstract

The paper provides contemporary insight into the issue of the economic impact of sporting events to contribute to the ongoing discussion related to the topic and to provide an interdisciplinary understanding beyond sports management literature. This was achieved by implementing the evaluative bibliometric analysis of papers on the economic impact of sporting events published in tourism journals indexed in the Web of Science in the period 2000-2018 years. In addition to the application of evaluative bibliometric analysis, the research includes a comprehensive annotated review of existing literature on the topic, based on the bibliography that corresponds to the research's predefined requirements. The results of the research confirm Bradford's bibliometric law, while the applicability of Price's bibliometric law was denied. In the context of the event type, findings point out that mega-events, such as the Olympics and the FIFA World Cup, are prevalent themes within this tourism specialization. Finally, Tourism Economics achieved the largest production of papers on the researched topic, however, Tourism Management was found to be most influential tourism journal, along with the most influential paper within this specialism published in the same journal in 2005, by Choong-Ki Lee and Tracy Taylor.

**Keywords:** *economic impact, sporting events, bibliometric analysis, tourism journals, Web of Science.*

## Sažetak

Rad pruža savremeni uvid u problematiku ekonomskog uticaja sportskih događaja u nameri da doprinese aktuelnoj diskusiji na ovu temu i obezbedi njeno interdisciplinarno razumevanje izvan okvira literature posvećene menadžmentu u sportu. Navedeno je postignuto primenom evaluativne bibliometrijske analize radova na temu ekonomskog uticaja sportskih događaja objavljenih u časopisima iz oblasti turizma indeksiranim u Web of Science u periodu 2000-2018. godina. Pored primene evaluativne bibliometrijske analize, istraživanje uključuje sveobuhvatan i detaljan pregled postojeće literature, zasnovan na bibliografiji koja ispunjava unapred definisane kriterijume. Rezultati istraživanja potvrđuju validnost Bradford-ovog bibliometrijskog zakona, dok je primenjivost Price-ovog bibliometrijskog zakona odbačena. U kontekstu tipa događaja, rezultati istraživanja ukazuju da su mega događaji, poput Olimpijskih igara i Svetskog prvenstva u fudbalu, dominantne teme u okviru ove turističke niše. Konačno, iako je Tourism Economics časopis sa najvećim brojem objavljenih radova na istraživanu temu, utvrđeno je da je Tourism Management najuticajniji časopis iz oblasti turizma u kome je 2005. godine objavljen i najuticajniji rad iz ove niše autora Choong-Ki Lee i Tracy Taylor.

**Ključne reči:** *ekonomski uticaj, sportski događaji, bibliometrijska analiza, turistički časopisi, Web of Science.*



## Introduction

Inclusion of events in a destination portfolio can diversify a tourism product mix of a host destination [58]. Sport events were perceived as valuable instruments in destination marketing efforts [50]. Ziakas [58] emphasize the urge of “creating synergies between sport events and the destination for joint marketing initiatives, cross-promotion, bundling of tourist services and co-branding” [p. 2]. The correlation between sport and event tourism has been acknowledged on the level of ‘Sport Tourism Cube’ distinguishing the axes related to event, type of physical involvement and sport engagement [53]. Unfortunately, there is only limited number of the studies that investigate how these events contribute economically to destination tourism product.

The growth in the number of sporting events worldwide could be described as remarkable [52], so there is an objective need to evaluate their economic impact. An increasing number of sporting events can be viewed as a result of the annual programs of supporting organization of sport events proposed and run by many cities and countries [30]. Sporting events are a vital source of revenue for cities, regions and host countries [39], confirming their role as a powerful tool for stimulating economic activity [20]. In addition, other advantages of hosting sporting events have been recognised such as improvements to existing and the construction of new sports facilities, contribution to sports and the enhancement of the host country’s image [15].

Identifying and measuring the possible economic impact of sporting events is a complex task [12]. The economic impact of sporting events could be defined as “net economic changes in the host community, excluding non-market values stemming from the expenditure attributable to the event” [14, p. 33]. There are three elements of economic impact that can be estimated as a result of an event [32; 56]: direct revenue or costs; indirect effects or expenses of participants or visitors; and induced effects that are directly stimulated by the event. Since the duration of sporting events can range from one day, over several days to several weeks [55], it is necessary to adapt monitoring methods to more accurately gauge their economic impact [56]. Methods for assessing the economic

impact of sporting events range from simple estimates of the total consumption of visitors to sophisticated modelling techniques that explore changes in the supply side [12].

The economic impact of sporting events is a common theme within tourism literature. Thus, to fully understand its place and evolution, it is necessary to give a comprehensive overview of the situation in the field of research and conduct a quantitative analysis of published papers. Evaluative bibliometric analysis was found to be an appropriate tool for performing the quantitative analysis and acknowledging the patterns and structures within tourism academia [11].

## Aims and research design

The aims of the paper are, first, to understand the ongoing discussion related to the economic impact of sporting events by implementing a comprehensive review of the literature beyond sport management literature, secondly, to identify most influential specialism topics, authors, papers and journals, modelling scientific thought within the researched field, and thirdly, to provide an interdisciplinary understanding of the issues studied. A further understanding of the economic impact of sporting events was found as a precondition for their successful management and valorisation in the future. Therefore, the study is valuable in both theoretical and practical terms. The originality of the paper lies in the fact that, according to the authors’ knowledge, no similar study exists in the context of tourism academia which is driven by the bibliometric approach in such a narrow niche as sporting events and their economic impact.

The research was designed in a two-fold manner. The first part provides insight into the search results of papers that meet pre-defined criteria that will be explained in detail within the Methodology section. In addition to the search results, the first part of the research provides a comprehensive annotated literature review that examines the development of scientific thought within the researched tourism specialism. The second part concerns the examination of keywords within selected papers to identify the most commonly used keywords and the prevalent themes within the topic of interest. Finally,

this section includes citation analysis (papers and journal distribution of the citations) to reveal the leading papers and journals in the context of the research theme.

## Methodology

In order to understand the economic impact of sport events and to fulfill the aims of the paper, the bibliometric method has been applied. Bibliometric analysis is often used in academic research, “due to its state of art contribution in making certain areas of interest known” [9, p. 108]. According to Ellegaard and Wallin [22], “bibliometric methods or analysis are now firmly established as scientific specialities and are an integral part of research evaluation methodology especially within the scientific and applied fields” [p. 1809]. Bibliometric analysis is a quantitative analysis of published papers, which is primarily characterised by objectivity, which is why it is suitable to complement subjective interpretations of the literature review in the field of research.

A prerequisite for conducting appropriate bibliometric analysis is the formation of a representative sample of papers in the study [19], which was achieved by applying the following criteria: 1) only tourism journals referred in Web of Science (WoS) were included; 2) only original and reviewed scientific papers studying the economic impact of sporting events were chosen; 3) following the example of Benckendorff [7, p. 108], edited editorials, letters, notes and errata were excluded; 4) the research covered only papers published since 2000 to achieve contemporary insight into the investigated phenomenon; 5) all selected papers were studied in detail, which resulted in an additional reduction of the sample due to the elimination of those papers whose focus is not on the economic effects of sporting events (for example, papers investigating the respondents' perception of potential economic effects). The implementation of these filters resulted in the creation of a final sample of 37 papers which, to monitor changes and trends in a particular research niche, are divided into two periods of approximately equal duration (2000-2009 and 2010-2018).

The analysis of keywords and citation analysis stand out within the evaluative bibliometric analysis. Keyword

analysis points to issues that predominantly capture the attention of researchers and represent the prevalence of themes within the topic of interest. In order to obtain a clear picture of the key subjects (topics) within this tourism niche, the distribution and occurrence of the keywords within the sample was visualised in the form of a word cloud. Also, the longitudinal change in the keyword occurrence was monitored by separating the occurrence of the keywords in the two above-mentioned time frames. Citation analysis aims to assess the scientific impact of individual authors, published papers and scientific journals on the previous and future development of the research area. According to Acedo et al. [1], “citation frequencies are assumed to indicate the scientific utility of any paper, and this can be used in turn as a partial indicator of the study quality” [p. 965]. Publish or Perish 6.45 software package was used to conduct an evaluative bibliometric analysis of the citations (Google Scholar, Scopus and Crossref), field-weighted citation and cites / per year. This software package was considered suitable, as it has already been used and recommended in the context of bibliometric analysis in tourism [27; 54].

Moreover, the examined research niche has been additionally depicted through paper distribution among tourism journals. The initial assumption related to the paper distribution across journals follows Bradford's bibliometric law which postulates that most of the articles were centred in core journals, while the number of other articles was reduced to more peripheral journals [49] and Price's bibliometric law that acknowledges that study scientific production could be perceived as exponential [11].

## Results and discussion

### Results of search and comprehensive overview of the niche

The search resulted in the selection of eighteen papers published between 2000 and 2009 and nineteen studies published between 2010 and 2018 in tourism and hospitality related journals indexed in the WoS Master Journal list. These studies are shown in Tables 1 and 2. Moreover, to provide a detailed examination of the academic thought

related to the topic, an extensive literature review over two pre-defined timeframes was conducted.

Within the first period, Madden [45] assesses the economic impact of the Sydney 2000 Olympics using the Computable General Equilibrium (CGE) model following the MONASH Multiregional Forecasting (MMRF) model. The MMRF recognises the changing economies of the eight regions associated with the interstate movement of commodities and factors of production (especially labour). The Commonwealth Games, which are the subject of research by Lockstone and Baum [44] and took place in 2006 in Melbourne, Australia, resulted in a high level of gross consumption of visitors from both overseas and interstate and metropolitan visitors to Melbourne. The economic and social impact of another mega-event, the 1999 Rugby World Cup (RWC99) in Wales, have been evaluated as very significant in the work of Jones [33]. Kasimati [35] explains that the Summer Olympic Games has a huge role in promoting and developing the country in which it is held, by contributing to economic growth, tourism development and additional employment. This paper emphasises the positive impact that continues long after the event has taken place. Li and Blake [40] engaged in research into the economic impact of the 2008 Beijing Olympic Games using Olympic-related investment and expenditure assessment. This expanded Olympics-related framework shows the flow of investment and expenditure in the city as well as the host country. Lee and Taylor [39] examined the FIFA World Cup 2002 in South Korea, using an Input-Output (I-O) model and concluded that visitor spending generated economic benefits to the tune of \$307 million in revenue and the creation of 31,349 full-time equivalent jobs.

Daniels [16; 17] studied the economic impact of the National Softball Association's B-league Girls Fast-pitch World Series (GFWS) as a medium-size event using I-O analysis and Occupation-based (O-B) modelling. In the first study [16] this event led to the emergence of new jobs, with wages estimated at a medium level. The second study [17] estimated the economic impact of the event between two different regions: Mecklenburg County (North Carolina) and York County (South Carolina). Although most of the tournaments were played in York, the results

showed that the economic impact on Mecklenburg was almost double the level. The South Pacific Masters' Games, as a medium-sized event, was the subject of research by Ryan and Lockyer [51]. Expenditure on accommodation, food, drink, souvenirs, transport and more was calculated and total expenditure was estimated. A distinction was made between three groups of expenditure: "retained expenditures"; "partial additional consumption"; and "wholly incremental expenditures". Cannon and Ford [10] also engaged in researching medium-sized events, more specifically the consumption of visitors to the 1995 and 1999 Bowl college football games in Alamo. The estimation was made using the Ordinary Least Squares (OLS) model in both cases, examining daily visitor consumption estimates and changes in consumption results over time. The positive impact on expenditure was from out-of-state visitors with higher income levels.

Hodur et al. [29] assessed the economic impact of events held at FARGODOME, including eleven different event types. The economic impact assessment was performed using the I-O model, where the results obtained reflect changes in the overall production of each event type and should be interpreted accordingly. Jones [34] studied the 2004 World Rally Championship held in Wales, in the United Kingdom. Spectators were interviewed about expenditure by category, to gain a more accurate assessment of the impact of the event, using environmental accounting techniques. This method of assessment may provide indications of the "ecological economic efficiency" of the host country of the main events. Connell and Page [13] investigated the economic impact of the World Medical and Health Games (WMHG) that have traditionally consisted of 22-24 events since 1978. Using a business survey technique, it was estimated that businesses located in the inner-city, downtown area had a disproportionate benefit from the event compared with those in other locations. Breen et al. [8] studied the 1995 Schweppes Northern Conference University Games (NCUSA) using recall and diary questionnaire techniques for economic impact examination. This research confirmed that the use of recall interview techniques can result in a lower estimate of visitor costs. The event chosen in Daniels et al. [18] analysis was the Cooper River Bridge

Run (CRBR) organised in Charleston, South Carolina, USA. The aggregated O-B model, which uses full-time equivalent wage data, is recognised as the most accurate economic assessment model for application to sporting events. Gelan [24] used to recall and diary questionnaire techniques to measure the economic impact of the 1999 British Open held at Carnoustie, Scotland. Most visitor spending occurred within the venue, suggesting that the development of local businesses that offer visitors products and services at the event should be encouraged. Agrusa et al. [2] looked at the impact of tourism on the local economy, most notably the 2007 Honolulu Marathon event. The authors emphasise the use of the Nordic Model as significant for measuring the impact of regional events.

Dwyer et al. [20] studied the projected impact of sporting events on production, gross output and employment. The findings suggest different economic impacts of the sporting events depending on the estimation technique. The authors highlight the benefits of CGE analysis in assessing the economic impact of special events, especially when considering broader rather than local impact.

To summarise, approximately half of the papers published between 2000 and 2009 in selected tourism journals indexed in the WoS examined the economic impact of mega and major events, while the remainder investigated the economic impact of medium-sized and small-scale events. Sporting events organised in the United States, Australia, New Zealand and the United Kingdom were most common in the sample. In terms of the research methods applied, I-O analysis was dominant, while other methods of research were approximately equally represented.

Within the second examined period, Li et al. [43] applied the CGE analysis model, a model developed as a country-specific statistic to assess short-term impact, to the 2008 Beijing Olympic Games. The results were positive, but compared to previous Olympics, several factors caused a fall in international tourist arrivals and expenditure, where the most important factor was the tightening of visa requirements. Giampiccoli et al. [25] used a multiple-aspect approach and comparative analysis to compare the impact of the 2010 FIFA World Cup in South Africa with

**Table 1: The structure and characteristics of the selected literature (2000-2009)**

Author(s)	Title	Journal	Event	Type of event	Region	Method(s)
Daniels M. J. (2004)	"Beyond input-output analysis: Using occupation-based modelling to estimate wages generated by a sport tourism event"	<i>Journal of Travel Research</i>	NSA B-league 2001 (GFWS)	Medium-sized event	U.S.	Input-Output analysis; Occupation-based modelling
Dwyer, L., Forsyth, P., & Spurr, R. (2006)	"Assessing the economic impacts of events: A computable general equilibrium approach"	<i>Journal of Travel Research</i>	No specific event	Special events	No specific region	Computable General Equilibrium (CGE) analysis
Madden, J. R. (2002)	"The economic consequences of the Sydney Olympics: The CREA/ Arthur Andersen study"	<i>Current Issues in Tourism</i>	2000 Sydney Olympics	Mega-event	Australia	CGE model: MONASH Multiregional Forecasting (MMRF) model
Lockstone, L., & Baum, T. (2008)	"Fun in the family: Tourism and the Commonwealth Games"	<i>International Journal of Tourism Research</i>	2006 Commonwealth Games	Mega-events	Australia	No specific method
Jones, C. (2001)	"Mega-events and host region impacts: Determining the true worth of the 1999 Rugby World Cup"	<i>International Journal of Tourism Research</i>	1999 Rugby World Cup	Mega-event	UK, Ireland and France	No specific method
Kasimati, E. (2003)	"Economic aspects and the Summer Olympics: A review of related research"	<i>International Journal of Tourism Research</i>	Summer Olympics	Mega-event	/	No specific method
Li, S., & Blake, A. (2009)	"Estimating Olympic-related investment and expenditure"	<i>International Journal of Tourism Research</i>	Beijing 2008 Olympic Games	Mega-event	China	Olympic-related investment and expenditures assessment

Author(s)	Title	Journal	Event	Type of event	Region	Method(s)
Ryan, C., & Lockyer, T. (2001)	"An economic impact case study: The South Pacific Masters' Games"	<i>Tourism Economics</i>	South Pacific Masters' Games	Medium-sized event	New Zealand	Case study
Cannon, T. F., & Ford, J. (2002)	"Relationship of demographic and trip characteristics to visitor spending: An analysis of sports travel visitors across time"	<i>Tourism Economics</i>	Alamo Bowl college football games	Medium-sized event	U.S.	Ordinary least squares (OLS)
Hodur, N. M., Bangsund, D. A., Leistriz, F. L., & Kaatz, J. (2006)	"Estimating the contribution of a multipurpose event facility to the area economy"	<i>Tourism Economics</i>	Eleven FARGODOME Events	Small-scale event	U.S.	Input-Output model
Jones, C. (2008)	"Assessing the impact of a major sporting event: The role of environmental accounting"	<i>Tourism Economics</i>	2004 World Rally Championship	Major event	U.K.	Environmental accounting techniques
Connell, J., & Page, S. J. (2005)	"Evaluating the economic and spatial effects of an event: The case of the World Medical and Health Games"	<i>Tourism Geographies</i>	World Medical and Health Games	Medium-sized event	Scotland, U.K.	Business survey technique
Breen, H., Bull, A., & Walo, M. (2001)	"A comparison of survey methods to estimate visitor expenditure at a local event"	<i>Tourism Management</i>	1995 Schweppes Northern Conference University Games	Local event	Australia	Recall and diary questionnaire techniques
Lee, C.-K., & Taylor, T. (2005)	"Critical reflections on the economic impact assessment of a mega-event: The case of 2002 FIFA World Cup"	<i>Tourism Management</i>	2002 FIFA World Cup	Mega-event	South Korea	Input-Output model
Daniels, M. J. (2007)	"Central place theory and sport tourism impacts"	<i>Annals of Tourism Research</i>	NSA B-league 2001 (GFWS)	Medium-sized event	U.S.	Input-Output model
Daniels, M. J., Norman, W. C., & Henry, M. S. (2004)	"Estimating income effects of a sport tourism event"	<i>Annals of Tourism Research</i>	Cooper River Bridge Run (CRBR)	Medium-sized event	U.S.	Occupation based modelling
Gelan, A. (2003)	"Local economic impacts: The British Open"	<i>Annals of Tourism Research</i>	1999 British Open	Hallmark event	U.K.	Recall and diary questionnaire techniques
Agrusa, J., Lema, J. D., Kim, S. S., & Botto, T. (2009)	"The impact of consumer behaviour and service perceptions of a major sport tourism event"	<i>Asia Pacific Journal of Tourism Research</i>	2007 Honolulu Marathon	Major event	U.S.	Nordic model

Source: Authors

the three provincial sporting events (SPE) of the Comrades Marathon, Dusi Canoe Marathon and Midmar Mile held in the KwaZulu-Natal, in Durban. They concluded that SPEs could be more cost-effective, sustainable and have a stronger long-term economic impact. Meurer and Lins [46] used the Natural Logarithms of Receipts and Real Exchange Rates series for the estimation of the impact of two major events in Brazil – the 2014 FIFA World Cup and the 2016 Olympics. The research findings suggest that the economic effects were large but short-lived and that higher

revenues were generated by the former event rather than the latter. Mega-sporting events such as the Summer and Winter Olympic Games, the FIFA World Cup, the Cricket World Cup, the Rugby World Cup, and the Lions Tour (which is held in 15 countries), significantly influence the promotion of the host destination and contribute to tourism development. However, according to Fourie and Santana-Gallego [23], the impact varies depending on whether they were held in- or off-season. By use of the Gravity Equation Model (GEM), the authors estimated that

four of the six mega-events had a statistically significant positive impact on tourist arrivals, although this was not the case for the Rugby World Cup and the Winter Olympic Games. Allan et al. [3] implemented the CGE model within the Glasgow 2014 Commonwealth Games intending to estimate temporary tourism expenditure. Foreign tourist expenditure was estimated at £100 million, which had a cumulative effect on employment and GDP. Nishio [47] examines the impact of eight mega sporting events on inbound tourism to New Zealand using an AR (1) model to monitor overall tourism arrivals and arrivals from the participating countries during the period 1983–2005. It was concluded that mega sporting events had a significant impact on international tourist arrivals for one event (the 1990 Commonwealth Games) and there was a significant impact from four events on visitor arrivals from participating countries. The economic impact of hosting a Formula One Grand Prix (F1) event in Shanghai, China was examined using I-O analysis by Kim et al. [36]. The results of the research, showed the great economic contribution of a sporting event, not only on sports but also on the transportation, accommodation and manufacturing industries, as well as through indirect tax, which was found as a significant item in the income of a country. Collins et al. [12] examined the impact of the 2007 Tour de France cycling event. Using two related methods, Ecological Footprint (EF) Analysis and Environmental Input-Output Analysis (ENVIO), the authors sought to show the relationship between consumption and environmental impact from different perspectives.

In their research, Li and Jago [41] analysed major economic impact assessment models using a meta-review analysis. A key shift in the exploration of major events was reflected in the following: the transition from one approach to a multidisciplinary approach; assessment of the broader category of event expenditures; using the CGE model instead of the simple I-O model; assessment of broader economic effects; and calculating the full economic effects on GDP, welfare, employment and other. The impact of mega-events on tourism development was addressed by Li and McCabe [42] who proposed the integration of CGE and CBA models, as the CGE model measures the economic benefits of an event, while the CBA model covers

a wide range welfare effects such as social, political and environmental well-being in the community. Dwyer et al. [21] used two methods of measuring the impact of events: Economic Impact Analysis (EIA) and CBA. The findings suggest that it was essential to use an adequate method to measure the economic impact of events and in future, a solution needs to be found to bridge the gap between the methods.

The Westfield International Air Show (WIAS) is a major special event that has great economic importance and impact [56]. Trade Market Analysis (TMA) provides an accurate assessment of the economic impact of WIAS, which delimits local and non-local populations. Sato et al. [52] used OLS multiple regression and multiple imputation methods to estimate the key cost determinants of mass participant sports events (MPSEs) over five years (2008–2012) and concluded that sporting events have the effect of increasing the spending of repeat visitors on food, drink and lodging. A medium-sized event – the 2013 European Athletics Indoor Championships (EAIC) – was the subject of research by Andersson et al. [4] and contributed to the development of strategies to increase social, economic and environmental sustainability through the use and non-use value, consumer surplus, direct economic impacts, environmental footprint analysis and shadow cost. Barquet et al. [5] applied a Tobit censored model to estimate the various determinants of visitor travel costs within a medium-sized event, the Biathlon World Cup 2009. The results suggested that a significant consumer segment, the so-called heavy consumer segment, which consumes more than \$401 at an event, consists of visitors between the ages of 41 and 50 years old. Regression analyses used to evaluate the economic impact of another medium-sized event, the Two Oceans Marathon held in South Africa in 2011, showed that spectator spending plays a significant role in the economic value of an event, especially marathons [37]. Huang et al. [30] considered the total expenditures of visitors, as well as the new inflow of money, as a result of three major sports events: Formula One Grand Prix (F1), the ATP World Tour Masters 1000 (ATP), and the Shanghai International Marathon (SIM) in Shanghai, China, using I-O analysis. The economic impact of F1 was nearly three times greater than that of the ATP event and

nine times greater than that of SIM. Using the ARIMA technique, Baumann and Matheson [6] sought to assess the extent to which the Pro Bowl, the Hawaii Bowl, the Honolulu Marathon, and the Ironman Triathlon Baumann events affect tourist numbers in Hawaii by using daily tourist arrival data at the airport for the period between

2004 and 2015. The effect of the Honolulu Marathon daily tourist arrivals was found to be positive and statistically significant, resulting in an additional 3,900 tourist arrivals.

The research conducted by Kwiatkowski et al. [38] deals with the consumption estimation of a small-scale event – the Warnemünder Woche (a German sailing

**Table 2: The structure and characteristics of the selected literature (2010-2018)**

Author(s)	Title	Journal	Event	Type of event	Region	Method(s)
Collins, A., Munday, M., & Roberts, A. (2012)	“Environmental consequences of tourism consumption at major events: An analysis of the UK stages of the 2007 Tour de France”	<i>Journal of Travel Research</i>	2007 Tour de France	Major event	U.K.	Ecological Footprint (EF) analysis; Environmental Input-Output analysis (ENVIO)
Warnick, R. B., Bojanic, D. C., & Xu, F. (2015)	“Using a trade market analysis technique to refine measurements for economic impact analysis of special events”	<i>Journal of Travel Research</i>	Westfield International Air Show (WIAS)	Large special event	U.S.	Trade market analysis
Sato, M., Jordan, J. S., Kaplanidou, K., & Funk, D. C. (2014)	“Determinants of tourists’ expenditure at mass participant sport events: A five-year analysis”	<i>Current Issues in Tourism</i>	Mass participant running event held in Miami, Florida	Mass participant sport events (MPSEs)	U.S.	Ordinary least squares multiple regression analysis; multiple imputation method
Giampiccoli, A., Lee, S. S., & Nauright, J. (2015)	“Destination South Africa: Comparing global sports mega-events and recurring localised sports events in South Africa for tourism and economic development”	<i>Current Issues in Tourism</i>	2010 FIFA World Cup vs Comrades Marathon, Midmar Mile and Dusi Canoe Marathon	Sports mega-event vs regional sporting events (SPEs)	South Africa	Multiple aspect approach; comparative analysis
Li, S., & Jago, L. (2013)	“Evaluating economic impacts of major sports events – A meta-analysis of the key trends”	<i>Current Issues in Tourism</i>	No specific event	Major sports events	No specific region	Meta-review analysis
Li, S., & McCabe, S. (2013)	“Measuring the socio-economic legacies of mega-events: Concepts, propositions and indicators”	<i>International Journal of Tourism Research</i>	No specific event	Mega-events	No specific region	An integration of CGE and CBA methods
Kwiatkowski, G., Diederich, M., & Oklevik, O. (2018)	“Profile, patterns of spending and economic impact of event visitors: Evidence from Warnemünder Woche in Germany”	<i>Scandinavian Journal of Hospitality and Tourism</i>	Warnemünder Woche (German sailing event)	Small-scale event	Germany	Evaluation of visitors spending patterns
Andersson, T. D., Armbrrecht, J., & Lundberg, E. (2016)	“Triple impact assessments of the 2013 European athletics indoor championship in Gothenburg”	<i>Scandinavian Journal of Hospitality and Tourism</i>	European Athletics Indoor Championships 2013 (EAIC)	Medium sized event	Sweden	Use- and non-use value, consumer surplus, direct economic impacts, ecological footprint analysis and shadow cost
Dwyer, L., Jago, L., & Forsyth, P. (2016)	“Economic evaluation of special events: Reconciling economic impact and cost-benefit analysis”	<i>Scandinavian Journal of Hospitality and Tourism</i>	No specific event	No specific event	No specific region	Economic Impact Analysis (EIA) and Cost-Benefit Analysis (CBA)

Author(s)	Title	Journal	Event	Type of event	Region	Method(s)
Li, S., Blake, A., & Cooper, C. (2011)	“Modelling the economic impact of international tourism on the Chinese economy: A CGE analysis of the Beijing 2008 Olympics”	<i>Tourism Economics</i>	Beijing 2008 Olympics	Mega-event	China	Computable General Equilibrium (CGE) analysis
Barquet, A., Brida, J. G., Osti, L., & Shubert, S. (2011)	“An analysis of tourists’ expenditure of winter sport events through Tobit censored model”	<i>Tourism Economics</i>	Biathlon World Cup 2009	Medium sized event	Italy	Tobit censored model
Kruger, M., Saayman, M., & Ellis, S. (2012)	“Determinants of visitor spending: An evaluation of participants and spectators at the Two Oceans Marathon”	<i>Tourism Economics</i>	Two Oceans Marathon	Medium sized event	South Africa	Regression analyses
Huang, H., Mao, L. L., Kim, S.-K., & Zhang, J. J. (2014)	“Assessing the economic impact of three major sport events in China: The perspective of attendees”	<i>Tourism Economics</i>	Formula One Grand Prix (F1), ATP World Tour Masters 1000 (ATP), and Shanghai International Marathon (SIM)	Major sport events	China	Input-Output analysis
Baumann, R. W., & Matheson, V. A. (2017)	“Many happy returns? The Pro-Bowl, mega-events, and tourism in Hawaii”	<i>Tourism Economics</i>	Pro Bowl, Hawaii Bowl, Honolulu Marathon, Ironman Triathlon	Mega-events	U.S.	ARIMA process
Meurer, R., & Lins, H. N. (2018)	“The effects of the 2014 World Cup and the 2016 Olympic Games on Brazilian international travel receipts”	<i>Tourism Economics</i>	2014 World Cup and the 2016 Olympic Games	Major events	Brazil	Natural logarithms of the receipts and real exchange rates series
Fourie, J., & Santana-Gallego, M. (2011)	“The impact of mega-sport events on tourist arrivals”	<i>Tourism Management</i>	Summer and Winter Olympic Games, FIFA World Cup, Cricket World Cup, Rugby World Cup, Lions Tour	Mega-events	15 countries	Gravity equation model
Allan, G. J., Lecca, P., & Swales, K. (2017)	“The impacts of temporary but anticipated tourism spending: An application to the Glasgow 2014 Commonwealth Games”	<i>Tourism Management</i>	Glasgow 2014 Commonwealth Games	Mega-event	U.K.	Computable General Equilibrium (CGE) analysis
Nishio, T. (2013)	“The impact of sports events on inbound tourism in New Zealand”	<i>Asia Pacific Journal of Tourism Research</i>	1983 British Lions Tour, 1987 Rugby World Cup, 1990 Commonwealth Games, 1992 Cricket World Cup, 1993 British Lions Tour, 2000 America’s Cup, 2003 America’s Cup, 2005 British and Irish Lions Tour	Mega events	New Zealand	AR(1) model
Kim, M. K., Kim, S.-K., Park, J.-A., Carroll, M., Yu, J.-G., & Na, K. (2017)	“Measuring the economic impacts of major sports events: The case of Formula One Grand Prix (F1)”	<i>Asia Pacific Journal of Tourism Research</i>	Formula One Grand Prix (F1)	Major event	China	Input-Output analysis

Source: Authors



event). The authors concluded through the evaluation of visitor spending patterns that organisers of smaller sporting events must be careful when assessing the economic impact of these events because unlike mega-events, the largest number of visitors to smaller sporting events were visitors coming from the country of the event. In the case of Warnemünder Woche, a quarter of visitors were locals.

To summarise, in studies published between 2010 and 2018 there was a slight increase in the number of mega and major events researched, compared to the previous period, 2000 to 2009. These events account for 63.2% of the studies presented in Table 2. The emphasis remained on analysing the economic impact of sporting events organised in the United States, Australia, New Zealand and the United Kingdom, however, each country's share was reduced in comparison to the earlier period. Finally, Table 2 indicates that I-O analysis is no longer the dominant method used for research, whereas it had been in the previous ten-year period.

### Results of evaluative bibliometric analysis

In the following text, the results of the evaluative bibliometric analysis are presented. Firstly, the structure of the whole sample based on the distribution of the papers across the journals is presented in Table 3.

The total number of papers is almost equal between the two observed time frames (2000-2009 and 2010-2018), with a difference between the 2000-2009 and 2010-2018 periods for the following journals: *Tourism Economics*, *Current Issues in Tourism*, the *Scandinavian Journal of*

*Hospitality and Tourism* and the *Asia Pacific Journal of Tourism Research*. These journals were launched more recently in comparison with the others included in the sample and have published more articles related to the topic in the latter period of 2010-2018. Their increasing interest in publishing articles that assess the economic impact of sporting events in tourism is in line with the expected higher level of citation related to the topic. Based on Bradford's bibliometric law, the study suggests that research findings were found to be consistent with Bradford's argument that majority of the articles are centred in core journals, or in this specific case one journal (*Tourism Economics*) with a double number of the articles in comparison to the *International Journal of Tourism Research* as a second most frequent. Concerning Price's bibliometric law, the study scientific production cannot be perceived as exponential [26], due to almost equal number of the articles in the both of the observed time frames (18 articles in the 2000-2009 and 19 in 2010-2018).

The analysis of the data in the 37 papers led to the construction of a list of 84 unique keywords. This step was initiated to determine the prevalent themes within the topic of interest. The frequency of the most common keywords is documented in Table 4, highlighting only words which appeared more than two times. Some keywords with similar meanings were carefully combined and proposed as one, to reduce the final number of keywords and to provide a wider understanding of the prevalent themes.

To visualise and understand the relationships between keywords, a word cloud of keywords was created. The figure

**Table 3: The journal distribution of the papers**

Journal	Number of the papers	2000-2009	2010-2018
<i>Tourism Economics</i>	10	4	6
<i>International Journal of Tourism Research</i>	5	4	1
<i>Journal of Travel Research</i>	4	2	2
<i>Current Issues in Tourism</i>	4	1	3
<i>Tourism Management</i>	4	2	2
<i>Scandinavian Journal of Hospitality and Tourism</i>	3	0	3
<i>Annals of Tourism Research</i>	3	3	0
<i>Asia Pacific Journal of Tourism Research</i>	3	1	2
<i>Tourism Geographies</i>	1	1	0
<b>Total</b>	<b>37</b>	<b>18</b>	<b>19</b>

Source: Authors

shows a relative indication of how frequently a specific keyword was used in different papers. Its importance was visualised through the size and place of the words within the word cloud, suggesting the higher importance of the specific theme in the research context (Figure 1).

According to the Table 4 and Figure 1, the keywords ‘economic impact’ and ‘sports events’ are identified as the most commonly used, which was expected due to the specific nature of the topic investigated. Also, keywords that focus on specific events were also identified (for example, the Olympics and FIFA World Cup). Finally, the importance of the methodologies used for the economic assessment (I-O and CGE analysis) and tourist expenditure of the sports events was also underlined.

The 37 articles produced a dataset of 3.754 Google Scholar, 1.235 Scopus and 1.173 Crossref citations. The

average mean of the citations of the selected papers was 101.46 for Google scholar, 33.38 for Scopus and 31.70 for Crossref (Table 5). Some authors [31; 57] have underlined the importance of citations as critical variables in the construction of journal rankings, and the contribution of a paper to a given specific topic. Also, the issue of self-citations within the bibliometric studies has been addressed, as Nisonger [48] stated that self-citation could be observed as a part of the citation analysis.

According to the citation data, the leading papers in the field are Lee and Taylor [39], Dwyer et al. [20], Fourie and Santana-Gallego [23], Kasimati [35], Jones [33], Daniels et al. [18], Gelan [24], and Cannon and Ford [10]. Of the different citation counts, Crossref citations within Social Science Citation Index were seen as a most appropriate measure of a paper’s influence and contribution in the

Table 4: Repeated keywords within the dataset

Keyword	Number of repetitions	2000-2009	2010-2018
economic impact	16	9	7
sport events	11	3	8
sport tourism (travel)	10	5	5
mega-event	8	4	4
tourism (industry; international)	5	1	4
FIFA (2010) World Cup	4	1	3
Summer Olympics (games)	4	2	2
tourist expenditure	3	1	2
computable general equilibrium models (CGE)	3	1	2
impacts (analysis)	3	0	3
input-output analysis (I-O)	3	2	1

Source: Authors

Figure 1: Word cloud of the keywords in the dataset



Source: Authors

Table 5: Distribution of the citations across the papers selected for the study

Papers	Google scholar	Scopus	Field-weighted citation	Crossref	Crossref cites/per year
Daniels (2004)	69	24	0.72	17	1.13
Collins et al. (2012)	39	20	0.54	19	2.71
<b>Dwyer et al. (2006)</b>	<b>242</b>	<b>119</b>	<b>7.32</b>	<b>88</b>	<b>6.77</b>
Warnick et al. (2015)	19	8	0.82	10	1.67
Sato et al. (2014)	23	14	5.76	14	2.8
Giampiccoli et al. (2015)	47	27	3.74	22	3.67
Li & Jago (2013)	48	23	1.48	18	3
Madden (2002)	119	51	0.5	35	2.06
Li & McCabe (2013)	38	19	1.3	9	1.29
Lockstone & Baum (2008)	29	6	0.49	5	0.45
<b>Jones (2001)</b>	<b>365</b>	<b>N/A</b>	<b>N/A</b>	<b>115</b>	<b>6.39</b>
<b>Kasimati (2003)</b>	<b>448</b>	<b>N/A</b>	<b>N/A</b>	<b>109</b>	<b>6.81</b>
Li & Blake (2009)	49	25	1.08	21	2.1
Kwiatkowski et al. (2018)	9	5	4.01	4	2
Andersson et al. (2016)	18	9	1.38	6	1.5
Dwyer et al. (2016)	13	7	1.04	6	1.5
Ryan & Lockyer (2001)	35	19	1.77	11	0.61
<b>Cannon &amp; Ford (2002)</b>	<b>159</b>	<b>84</b>	<b>1.5</b>	<b>65</b>	<b>3.82</b>
Hodur et al. (2006)	37	10	1.36	7	0.54
Jones (2008)	35	23	1.22	19	1.73
Li et al. (2011)	61	39	2.53	30	3.75
Barquet et al. (2011)	41	23	1.26	23	2.88
Kruger et al. (2012)	25	10	1.46	9	1.29
Huang et al. (2014)	19	11	1.22	11	2.2
Baumann & Matheson (2017)	2	2	0.69	2	0.67
Meurer & Lins (2018)	3	3	2.74	2	1
Connell & Page (2005)	39	19	0.37	16	1.14
Breen et al. (2001)	110	40	0.62	24	1.33
<b>Lee &amp; Taylor (2005)</b>	<b>570</b>	<b>219</b>	<b>5.92</b>	<b>166</b>	<b>11.86</b>
<b>Fourie &amp; Santana-Gallego (2011)</b>	<b>326</b>	<b>142</b>	<b>5.78</b>	<b>122</b>	<b>15.25</b>
Allan et al. (2017)	7	2	0.62	2	1
Daniels (2007)	150	39	1.37	31	2.58
<b>Daniels et al. (2004)</b>	<b>249</b>	<b>81</b>	<b>2.99</b>	<b>51</b>	<b>3.4</b>
<b>Gelan (2003)</b>	<b>263</b>	<b>94</b>	<b>2.52</b>	<b>65</b>	<b>4.06</b>
Agrusa et al. (2009)	22	6	0.27	6	0.6
Nishio (2013)	17	9	0.56	8	1.33
Kim et al. (2017)	9	3	1.03	5	1.67

Source: Authors

field [28], thus articles that have more than 100 citations, such as Lee and Taylor [39], Fourie and Santana-Gallego [23], Jones [33] and Kasimati [35], were found to be the most influential. Among the above-mentioned papers, the Lee and Taylor [39] study were identified as the paper with the highest number of citations, while the Fourie and Santana-Gallego [23] research was the paper with the highest number of citations per year.

The distribution of the citations across the journals was also of interest within this phase of the research (Table 6).

The data in Table 6 suggest that papers published in Tourism Management have the highest number of citations regarding the economic impact of sporting events, while the Scandinavian Journal of Hospitality and Tourism, Tourism Geographies and the Asia Pacific Journal of Tourism Research have the least number of citations. The high number of citations of Tourism Management could arise as a result of wider acknowledgement of the papers published in Tourism Management, which is globally recognised as a leading journal in the field. These findings' were consistent with the Li and Jago [41] study, confirming

**Table 6: Journals distribution of the citations**

Journal	Google scholar	Scopus	Crossref
Journal of Travel Research	369	171	134
Current Issues in Tourism	237	150	89
International Journal of Tourism Research	929	50*	259
Scandinavian Journal of Hospitality and Tourism	40	21	16
Tourism Economics	417	224	179
Tourism Geographies	39	19	16
<b>Tourism Management</b>	<b>1013</b>	<b>403</b>	<b>314</b>
Annals of Tourism Research	662	214	147
Asia Pacific Journal of Tourism Research	48	18	19

Notes: \*some data was unavailable;

Source: Authors

that Tourism Management, Annals of Tourism Research and Journal of Travel Research were generally rated as top journals in tourism, so it is expected that studies published in these journals generally have substantive theoretical and/or methodological contribution and consequently receive a larger number of citations.

## Conclusion

The study implements the longitudinal bibliometric analysis of the sporting event economic impact assessment academic literature. Study performs evaluative bibliometric data intending to provide an understanding of the complex knowledge systems. Based on the two-stage approach: comprehensive literature review and evaluative bibliometric analysis that includes keyword analysis and citation analysis, the following conclusions were drawn:

- Compared to the first decade (previous ten-year period), the second decade of the 21st century is characterised by a slight increase in the number of researched mega and major events, more even distribution of sporting events among the regions of the world, but also the fact that IO analysis is no longer the dominant research method, as there is an increasing use of CGE for the purposes of the sporting event economic impact assessment;
- Most of the papers were published in one journal (Tourism Economics), that confirms the validity of Bradford's bibliometric law in the field of analyzing economic impact of the sport events;
- The production of papers related to the economic impact of sporting events did not occur

exponentially, but almost evenly during the two analysed comparative periods, thus rejecting the applicability of Price's bibliometric law in this specific study;

- Specific events, such as the Olympics and FIFA World Cup, as well as the issue of tourist expenditure, stand out among the dominant areas of interest of researchers, while the frequent use of I-O and CGE analysis indicates the importance of these methodologies for the economic assessment;
- The most impactful paper, in terms of citations and thus the impact on the development and modelling of scientific thought within the researched tourism specialism is Lee and Taylor [39] study, while the highest number of citations per year was achieved by Fourie and Santana-Gallego [23];
- The most impactful journal is Tourism Management, which, despite the mediocre number of published papers on the research topic, achieved the largest number of citations and thus confirmed the dominant position it occupies among tourism journals.

The study contributes to the existing literature, as it sheds light on a specific research niche within the tourism discipline through a comprehensive literature review and bibliometric analysis. In addition, the paper contributes to the ongoing discussion related to the economic impact of sporting events by providing a better understanding of the examined theme. The theoretical contribution is reflected in the fact that the analysis of papers published in tourism journals provides an interdisciplinary understanding beyond sports management literature. Finally, the

evaluative bibliometric analysis performed represents the solid foundations for further relational (network analysis) understanding of the discipline/specialism academic community. In addition to the theoretical, the practical contribution of the work is indisputable, since the manuscript, through a better understanding of the research subject, contributes to better organisation, management and greater profitability of sports events.

The main limitation of the research comes as a result of the fact that relative bibliometric analysis was ignored, especially, since it is widely known that it can provide insight into the connections and relationships that are established between the papers and their authors through citations. In the following studies, the authors of this paper will try to resolve this limitation and provide an even deeper understanding of the research problem using Social Network Analysis (SNA).

## References

1. Acedo, F. J., Barroso, C., Casanueva, C., & Galan, J. L. (2006). Co-authorship in management and organisational studies: An empirical and network analysis. *Journal of Management Studies*, 43(5), 957–983. doi:10.1111/j.1467-6486.2006.00625.x
2. Agrusa, J., Lema, J. D., Kim, S. S., & Botto, T. (2009). The impact of consumer behavior and service perceptions of a major sport tourism event. *Asia Pacific Journal of Tourism Research*, 14(3), 267–277. doi:10.1080/10941660903023960
3. Allan, G. J., Lecca, P., & Swales, K. (2017). The impacts of temporary but anticipated tourism spending: An application to the Glasgow 2014 Commonwealth Games. *Tourism Management*, 59, 325–337. doi:10.1016/j.tourman.2016.08.014
4. Andersson, T. D., Armbrecht, J., & Lundberg, E. (2016). Triple impact assessments of the 2013 European athletics indoor championship in Gothenburg. *Scandinavian Journal of Hospitality and Tourism*, 16(2), 158–179. doi:10.1080/1502250.2015.1108863
5. Barquet, A., Brida, J. G., Osti, L., & Schubert, S. (2011). An analysis of tourists' expenditure on winter sports events through the Tobit censorate model. *Tourism Economics*, 17(6), 1197–1217. doi:10.5367/te.2011.0084
6. Baumann, R. W., & Matheson, V. A. (2017). Many happy returns? The Pro-Bowl, mega-events, and tourism in Hawaii. *Tourism Economics*, 23(4), 788–802. doi:10.5367/te.2016.0562
7. Benckendorff, P. (2009). Themes and trends in Australian and New Zealand tourism research: A social network analysis of citations in two leading journals (1994–2007). *Journal of Hospitality and Tourism Management*, 16, 1–15. doi:10.1375/jhtm.16.1.1
8. Breen, H., Bull, A., & Walo, M. (2001). A comparison of survey methods to estimate visitor expenditure at a local event. *Tourism Management*, 22(5), 473–479. doi:10.1016/s0261-5177(01)00005-x
9. Cancino, C. A., Merigó, J. M., & Coronado, F. C. (2017). A bibliometric analysis of leading universities in innovation research. *Journal of Innovation & Knowledge*, 2(3), 106–124. doi:10.1016/j.jik.2017.03.006
10. Cannon, T. F., & Ford, J. (2002). Relationship of demographic and trip characteristics to visitor spending: An analysis of sports travel visitors across time. *Tourism Economics*, 8(3), 263–271. doi:10.5367/000000002101298106
11. Casanueva, C., Gallego, A., & Garcia-Sanchez, M. R. (2016). Social network analysis in tourism. *Current Issues in Tourism*, 19(12), 1190–1209. doi:10.1080/13683500.2014.990422
12. Collins, A., Munday, M., & Roberts, A. (2012). Environmental consequences of tourism consumption at major events: An analysis of the UK stages of the 2007 Tour de France. *Journal of Travel Research*, 51(5), 577–590. doi:10.1177/0047287511434113
13. Connell, J., & Page, S. J. (2005). Evaluating the economic and spatial effects of an event: The case of the World Medical and Health Games. *Tourism Geographies*, 7(1), 63–85. doi:10.1080/1461668042000324067
14. Crompton, J., & McKay, S. (1994). Measuring the economic impact of festivals and events: Some myths, misapplications and ethical dilemmas. *Festival Management & Event Tourism*, 2, 33–43. doi:10.3727/106527094792335782
15. Cruz, A. R., Manrique, D. C., Gonzalez, J., & Ibanez, J. C. (2018). Estudio de satisfacción de los asistentes a la Universiada de Invierno Granada 2015 [Study on attendees' satisfaction at the Winter University Games of Granada 2015]. *Retos: Nuevas Tendencias en Educacion Fisica, Deporte y Recreacion*, (33), 247–251. Retrieved from: <https://digibug.ugr.es>
16. Daniels, M. J. (2004). Beyond input-output analysis: using occupation-based modeling to estimate wages generated by a sport tourism event. *Journal of Travel Research*, 43(1), 75–82. doi:10.1177/0047287504265515
17. Daniels, M. J. (2007). Central place theory and sport tourism impacts. *Annals of Tourism Research*, 34(2), 332–347. doi:10.1016/j.annals.2006.09.004
18. Daniels, M. J., Norman, W. C., & Henry, M. S. (2004). Estimating income effects of a sport tourism event. *Annals of Tourism Research*, 31(1), 180–199. doi:10.1016/j.annals.2003.10.002
19. Dimitrovski, D., Lekovic, M., & Joukes, V. (2019). A bibliometric analysis of Crossref agritourism literature indexed in Web of Science. *Menadžment u hotelijerstvu i turizmu – Hotel and Tourism Management*, 7(2), 25–37. doi:10.5937/menhottur1902025D
20. Dwyer, L., Forsyth, P., & Spurr, R. (2006). Assessing the economic impacts of events: A computable general equilibrium approach. *Journal of Travel Research*, 45(1), 59–66. doi:10.1177/0047287506288907
21. Dwyer, L., Jago, L., & Forsyth, P. (2016). Economic evaluation of special events: Reconciling economic impact and cost–benefit analysis. *Scandinavian Journal of Hospitality and Tourism*, 16(2), 115–129. doi:10.1080/15022250.2015.1116404
22. Ellegaard, O., & Wallin, J. A. (2015). The bibliometric analysis of scholarly production: How great is the impact? *Scientometrics*, 105, 1809–1831. doi:10.1007/s11192-015-1645-z
23. Fourie, J., & Santana-Gallego, M. (2011). The impact of mega-sport events on tourist arrivals. *Tourism Management*, 32(6), 1364–1370. doi:10.1016/j.tourman.2011.01.011

24. Gelan, A. (2003). Local economic impacts: The British Open. *Annals of Tourism Research*, 30(2), 406–425. doi:10.1016/S0160-7383(02)00098-1
25. Giampiccoli, A., Lee, S. S., & Nauright, J. (2015). Destination South Africa: Comparing global sports mega-events and recurring localised sports events in South Africa for tourism and economic development. *Current Issues in Tourism*, 18(3), 229–248. doi:10.1080/13683500.2013.787050
26. Guilera, G., Barrios, M., & Gómez-Benito, J. (2013). Meta-analysis in psychology: a bibliometric study. *Scientometrics*, 94(3), 943–954. doi:10.1007/s11192-012-0761-2
27. Hall, C. M. (2011). Publish and perish? Bibliometric analysis, journal ranking and the assessment of research quality in tourism. *Tourism Management*, 32(1), 16–27. doi:10.1016/j.tourman.2010.07.001
28. Ho, Y. S. (2014). Classic articles on social work field in Social Science Citation Index: a bibliometric analysis. *Scientometrics*, 98(1), 137–155. doi:10.1007/s11192-013-1014-8
29. Hodur, N. M., Bangsund, D. A., Leistriz, F. L., & Kaatz, J. (2006). Estimating the contribution of a multi-purpose event facility to the area economy. *Tourism Economics*, 12(2), 303–316. doi:10.5367/000000006777637449
30. Huang, H., Mao, L. L., Kim, S. K., & Zhang, J. J. (2014). Assessing the economic impact of three major sport events in China: The perspective of attendees. *Tourism Economics*, 20(6), 1277–1296. doi:10.5367/te.2013.0340
31. Jogaratnam, G., Chon, K., McCleary, K., Mena, M., & Yoo, J. (2005). An analysis of institutional contributors to three major academic tourism journals: 1992–2001. *Tourism Management*, 26(5), 641–648. doi:10.1016/j.tourman.2004.04.002
32. Jojić Novaković, Đ., & Mandarić, M. (2019). Do events contribute to the brand of Novi Sad? A millennials' perspective. *Menadžment u hotelijerstvu i turizmu – Hotel and Tourism Management*, 7(1), 47–59. doi:10.5937/menhottur1901047J
33. Jones, C. (2001). Mega events and host region impacts: Determining the true worth of the 1999 Rugby World Cup. *International Journal of Tourism Research*, 3(3), 241–251. doi:10.1002/jtr.326
34. Jones, C. (2008). Assessing the impact of a major sporting event: The role of environmental accounting. *Tourism Economics*, 14(2), 343–360. doi:10.5367/000000008784460382
35. Kasimati, E. (2003). Economic aspects and the Summer Olympics: A review of related research. *International Journal of Tourism Research*, 5(6), 433–444. doi:10.1002/jtr.449
36. Kim, M. K., Kim, S. K., Park, J. A., Carroll, M., Yu, J. G., & Na, K. (2017). Measuring the economic impacts of major sports events: The case of Formula One Grand Prix (F1). *Asia Pacific Journal of Tourism Research*, 22(1), 64–73. doi:10.1080/10941665.2016.1176061
37. Kruger, M., Saayman, M., & Ellis, S. (2012). Determinants of visitor spending: An evaluation of participants and spectators at the Two Oceans Marathon. *Tourism Economics*, 18(6), 1203–1227. doi:10.5367/te.2012.0174
38. Kwiatkowski, G., Diederling, M., & Oklevik, O. (2018). Profile, patterns of spending and economic impact of event visitors: Evidence from Warnemünder Woche in Germany. *Scandinavian Journal of Hospitality and Tourism*, 18(1), 56–71. doi:10.1080/15022250.2017.1282886
39. Lee, C.-K., & Taylor, T. (2005). Critical reflections on the economic impact assessment of a mega-event: The case of 2002 FIFA World Cup. *Tourism Management*, 26(4), 595–603. doi:10.1016/j.tourman.2004.03.002
40. Li, S., & Blake, A. (2009). Estimating Olympic-related investment and expenditure. *International Journal of Tourism Research*, 11(4), 337–356. doi:10.1002/jtr.694
41. Li, S., & Jago, L. (2013). Evaluating economic impacts of major sports events – A meta analysis of the key trends. *Current Issues in Tourism*, 16(6), 591–611. doi:10.1080/13683500.2012.736482
42. Li, S., & McCabe, S. (2013). Measuring the socio-economic legacies of mega-events: Concepts, propositions and indicators. *International Journal of Tourism Research*, 15(4), 388–402. doi:10.1002/jtr.1885
43. Li, S., Blake, A., & Cooper, C. (2011). Modelling the economic impact of international tourism on the Chinese economy: A CGE analysis of the Beijing 2008 Olympics. *Tourism Economics*, 17(2), 279–303. doi:10.5367/te.2011.0025
44. Lockstone, L., & Baum, T. (2008). Fun in the family: Tourism and the Commonwealth Games. *International Journal of Tourism Research*, 10(6), 497–509. doi:10.1002/jtr.701
45. Madden, J. R. (2002). The economic consequences of the Sydney Olympics: The CREA/Arthur Andersen study. *Current Issues in Tourism*, 5(1), 7–21. doi:10.1080/13683500208667904
46. Meurer, R., & Lins, H. N. (2018). The effects of the 2014 World Cup and the 2016 Olympic Games on Brazilian international travel receipts. *Tourism Economics*, 24(4), 486–491. doi:10.1177/1354816617746261
47. Nishio, T. (2013). The impact of sports events on inbound tourism in New Zealand. *Asia Pacific Journal of Tourism Research*, 18(8), 934–946. doi:10.1080/10941665.2012.718718
48. Nisonger, T. E. (2000). Use of the journal citation reports for serials management in research libraries: An investigation of the effect of self-citation on journal rankings in library and information science and genetics. *College & Research Libraries*, 61(3), 263–275. doi:10.5860/crl.61.3.263
49. Ruhanen, L., Weiler, B., Moyle, B. D., & McLennan, C. L. J. (2015). Trends and patterns in sustainable tourism research: A 25-year bibliometric analysis. *Journal of Sustainable Tourism*, 23(4), 517–535. doi:10.1080/09669582.2014.978790
50. Richards, G. (2017). From place branding to placemaking: The role of events. *International Journal of Event and Festival Management*, 8(1), 8–23. doi:10.1108/IJEFM-09-2016-0063
51. Ryan, C., & Lockyer, T. (2001). An economic impact case study: The South Pacific Masters' Games. *Tourism Economics*, 7(3), 267–275. doi:10.5367/000000001101297865
52. Sato, M., Jordan, J. S., Kaplanidou, K., & Funk, D. C. (2014). Determinants of tourists' expenditure at mass participant sport events: A five-year analysis. *Current Issues in Tourism*, 17(9), 763–771. doi:10.1080/13683500.2014.892918
53. Schlemmer, P., Barth, M., & Schnitzer, M. (2020). Research note sport tourism versus event tourism: Considerations on a necessary distinction and integration. *Journal of Convention & Event Tourism*, 21(2), 91–99. doi:10.1080/10.1080/15470148.2019.1710314
54. Strandberg, C., Nath, A., Hemmatdar, H., & Jahwash, M. (2018). Tourism research in the new millennium: A bibliometric review of literature in Tourism and Hospitality Research. *Tourism and Hospitality Research*, 18(3), 269–285. doi:10.1177/1467358416642010

55. Trišić, I. (2020). Natural resources for the nature-based tourism development of the Vojvodina Province. *Menadžment u hotelijerstvu i turizmu – Hotel and Tourism Management*, 8(2), 101–112. doi:10.5937/menhottur2002101t
56. Warnick, R. B., Bojanic, D. C., & Xu, F. (2015). Using a trade market analysis technique to refine measurements for economic impact analysis of special events. *Journal of Travel Research*, 54(1), 52–65. doi:10.1177/0047287513513160
57. Zhao, W., & Ritchie, J. R. B. (2007). An investigation of academic leadership in tourism research: 1985–2004. *Tourism Management*, 28, 476–490. doi:10.1016/j.tourman.2006.03.007
58. Ziakas, V. (2020). Leveraging sport events for tourism development: The event portfolio perspective. *Journal of Global Sport Management*, 1–30. doi: 10.1080/24704067.2020.1731700



#### **Darko Dimitrovski**

is an Associate Professor at the Faculty of Hotel Management and Tourism in Vrnjačka Banja, University of Kragujevac. He has been involved in postdoctoral fellowship at University Trás-os-Montes and Alto Douro (UTAD), Portugal. He is Associate Editor of *Hotel and Tourism Management*, and Editorial board member of *Tourism Management Perspectives* (SSCI Master Journal List; IF 1.779), *European Journal of Tourism Research* (ESCI, SCOPUS), *Journal of Global Business Insights* (published by University of South Florida) and *Social Sciences & Humanities Open* (Elsevier). He has authored several of articles in the leading peer reviewed international journals. His research interest is largely focused on special interest tourism, with special focus on event tourism. He was engaged as researcher in several international cultural tourism related projects.



#### **Miljan Leković**

is an Assistant Professor at the Faculty of Hotel Management and Tourism in Vrnjačka Banja, University of Kragujevac, where he teaches Principles of Economics and National Economy. He graduated and completed his PhD studies at the Faculty of Economics of University of Kragujevac. He is an author of numerous papers published in national and international journals and proceedings. He is the President of the Faculty Council, a member of the Quality Assurance Committee of the University of Kragujevac and the Executive editor of the scientific journal *Hotel and Tourism Management*. He is a reviewer of the scientific journals *Economics of Agriculture*, *Hotel and Tourism Management*, *Economic Alternatives* and *Ekonomika*. His research interest is focused on the financial economics and macroeconomics.



#### **Marijana Đurađević**

is a PhD candidate at the Faculty of Hotel Management and Tourism in Vrnjačka Banja, University of Kragujevac. She has been working as a teacher of the economic group of subjects at the High School of Culinary Arts and Tourism with Dormitory in Vrnjačka Banja, since 2008. During her work at the school, she was a mentor to students at domestic and international competitions. She was also the moderator of a school project within an international project "Meet my country". Her research interest is focused on event tourism, service quality and service quality models. She is an author of several papers published in national journals and national and international proceedings.

**Nikica Radović**  
Singidunum University  
Faculty of Tourism and Hospitality  
Management  
Belgrade

**Slobodan Čerović**  
Singidunum University  
Faculty of Tourism and Hospitality  
Management  
Belgrade

# THE IMPACT OF ECOLOGICAL RESPONSIBILITY ON BUSINESS EXCELLENCE OF MOUNTAIN HOTELS

Uticaj ekološke odgovornosti na poslovnu uspešnost  
planinskih hotela

## Abstract

Sustainable business management of companies aims to, taking into consideration all the goals of sustainable development, monitor and analyze business performance in order to be ready to react at the moment critical to the company's financial position. Risk management in sustainable business management refers to the implementation of ecological, social, and economic factors in a company's business. The focal point of the analysis are hotels from the mountain centers of Serbia, Bosnia and Herzegovina and Montenegro. In this paper, research will be conducted from two aspects: first, we examine and evaluate ecologically responsible business management of hotels; then, we calculate and analyze their business excellence on the basis of data obtained from the official financial reports by applying the BEX model. The aim of this paper is to observe and consider the business results of analyzed hotels to date and give recommendations for the upgrading of business management and better positioning on the regional tourist market.

**Keywords:** *sustainable tourism, ecological responsibility, hotel business management, business excellence, BEX model.*

## Sažetak

Cilj održivog upravljanja poslovanjem kompanija je da se, uzimajući u obzir sve ciljeve održivog razvoja, prate i analiziraju poslovne performanse kako bi se spremno reagovalo u trenutku kritičnom za finansijsku poziciju kompanije. Upravljanje rizikom u održivom poslovanju podrazumeva primenu ekoloških, društvenih i ekonomskih faktora u poslovnim procesima u kompaniji. Fokus analize su hoteli iz planinskih centara Srbije, Bosne i Hercegovine i Crne Gore. U ovom radu istraživanje će se sprovoditi sa dva aspekta: prvo ćemo ispitati, a zatim i oceniti ekološki odgovorno poslovanje hotela, a potom ćemo izračunati i analizirati njihovu poslovnu uspešnost na osnovu podataka iz zvaničnih finansijskih izveštaja primenom BEX modela. Cilj ovog rada je da se uoče i sagledaju dosadašnji rezultati poslovanja analiziranih hotela i daju preporuke za unapređenje upravljanja poslovanjem i bolje pozicioniranje na regionalnom turističkom tržištu.

**Ključne reči:** *održivi turizam, ekološka odgovornost, hotelsko poslovanje, poslovna uspešnost, BEX model.*



## Introduction

Tourism industry, according to the statistical data of the World Tourism Organization (UNWTO), is an industry of great importance for society and economy, third in terms of revenue, accounting for 10.4% of global gross domestic product (GDP), 28% of world services exports and 10% of employment [33]. Also, tourism industry was identified as one of the vital sectors able to make a major contribution to achieving the three pillars of sustainable development (social, economic and environmental), and it has been recognized by the United Nations (UN) as one of the 10 sectors which has the capacity to steer communities towards a green economy [34].

Sustainable tourism emerged at the end of the 20th century and has become firmly established in both tourism policies and strategies and tourism research [25], [6], [15], [26], [14], [30]. In tourism policy terms, according to Hall [15], sustainability is primarily seen as being 'environmental' and development as 'economic' (and to a lesser extent 'social'), and the concept of sustainable tourism or sustainable tourism development aims to mitigate the paradox between them.

Hotel business is the essential part of the tourism industry and encompasses a significant portion in the analysis of sustainable tourism from the aspect of the impact that hotel properties have on destinations. Analyzing the Brundtland definition as a starting point, a sustainable hospitality operation can be defined as 'a hospitality operation that manages its resources in such a way that economic, social and environmental benefits are maximized in order to meet the need of the present generation while protecting and enhancing opportunities for future generations' [26]. Following the developments in the global tourism market and trends in the sustainable business management, hotels are in the process of constant implementation of innovations and activities with the aim of satisfying the expectations of their guests. Risk management in sustainable hotel business is based on a permanent analysis of business processes and activities and their upgrading with regard to the company's impact on the environment from an economic, social and environmental point of view, with the aim of business success.

The subject of research in this paper is to examine and assess the business success of simple hotels in the mountain centers of Serbia (Zlatibor, Kopaonik, Divčibare, Stara planina), Bosnia and Herzegovina (Jahorina) and Montenegro (Žabljak). The research will be conducted from two aspects: first, we will examine and also evaluate ecologically responsible business management of the hotels, and then calculate and analyze their business excellence. The analysis and data processing is based upon collected, compiled and processed values from the financial reports of the analyzed hotel companies for the business years 2016 and 2017. At the same time, this paper includes a correlation analysis of the existence of the impact of the implementation of environmentally responsible hotel business activities and business success calculated according to the BEX model. In this regard, the research question is whether the application of eco-activities in the hotel business affects the rank of business success in accordance with the values of the BEX model.

## Literature review

According to Sloan et al. [26], the report *Our Common Future 1987* defines sustainability as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. In the 1991 publication *Caring for the Earth: A Strategy for Sustainable Living* by the United Nations Environment Programme (UNEP) and the World Wide Fund for Nature (WWF), sustainable development is defined as 'improving the quality of human life while living within the carrying capacity of supporting ecosystems'. According to the World Tourism Organization [34], sustainability principles refer to the environmental, economic and sociocultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

The traditional approach to sustainability perceived a trade-off between environmental performance and economic performance such that regulation was aimed toward social welfare, and firms were required to pay for negative externalities imposing costs that detracted from financial performance [25]. However, the modern

approach views a dynamic and circular relationship between sustainability, competitive performance and risk management.

Sustainable business management of companies has for a significant amount of time been the subject of research studies [19], [32], [12]. Sustainable business management refers to a business model entailing the harmonization of the company with its entire organic environment without disrupting economic, social, and ecological relations [31]. It is based on the triple bottom line (TBL) which encompasses economic prosperity and potential, social equality and quality of life and preservation of ecological resources [36]. Ecologist and economist John Elkington envisaged this concept in 1997 with the belief that companies should, apart from their already customary financial report, also present facts related to the social and environmental segment of their business [11]. Hume and Gallagher ascertained that eco-friendly companies in the service sector [16], in our case hotels, increase their financial performance on the side of the investors, and that dedication to the initiatives for the protection of the environment is an important signal for the investors' returns and performance. Companies in the sector of accommodation and food services which pay attention to the protection of the environment take into consideration the conflicts of different participants in business activities, including customers, employees, suppliers, government institutions and shareholders as they upgrade the activities of "green" marketing with a view to growing investments [13]. According to Dutescu et al. [10], sustainable business management and sustainable development should become an integral part of the company's business concepts, bearing in mind that this would ensure striking a balance between economic growth and social progress.

According to Vaughan and Vaughan [28], risk management entails a specific business philosophy, culture and business climate, and it represents a central part of strategic management and corporate company management. Risk management enables a systemic approach to managing business performance and realization of activities for the 17 sustainable development goals which companies should certainly strive to honor if they do business in a responsible

manner. A key risk to the business of companies is the necessity of keeping the sustainable management standards with the aim of advancing business and creating profits while protecting the social community, the surrounding and the living environment. What is understood as risk is an emergence of unexpected outcomes due to fluctuations of financial variables, which can result in business and financial losses for the company.

The idea of application of business models and correct view of the chain of values in a company enables risk management. In this manner, the company has the ability to control progress and measure its performance. The importance of risk management is reflected in an innovative approach and the advantages that can be observed in the processes of control, loss prevention, analysis of organizational business management, etc. The company's management must keep track of the processes and results of business and activities which impact the segments of sustainable business management. Moreover, development of entrepreneurship in tourism implies creativity, flexibility, proactivity, the ability to find new solutions, recognition of possibilities, creating values, but also taking certain risks [9]. Risk management in sustainable business management entails the application of economic, sociological and environmental factors in the company's business. The strategy of responsible management is directed towards the synergy of the needs of society, individuals (tourists) and business in the function of the financial success of the company.

Sustainability has become an important objective for most hotels, as it is emerging as a competitive necessity [1]. Considering that hotels consume large amounts of energy and water for heating, cooling and lighting and that this has a negative impact on the environment, some hotels have implemented an environmental policy to, in particular, promote the preservation of the environment in the hope of improving the quality of human lives, and introduced sustainable practices to enhance resource efficiency and savings in connection with energy and water consumption, as well as a marketing tool to attract customers interested in sustainability [18].

The environmental responsibility in hotel business management includes the use of renewable energy, man-

aging waste by minimizing and recycling (waste management), energy efficiency (such as efficient use of wind or solar energy with the aim of producing one's own electricity or hot water), prevention of pollution and preserving the ecological environment while simultaneously investing in objects [31]. Social entrepreneurship by hoteliers in "going green" promotes a better future for the environment and arguably also for the human race [35]. Green hotels are becoming increasingly important because their business is based on reduced consumption of natural resources and pollution reduction [9].

Camillari [7] confirmed that a positive correlation was observed in a large number of activity studies and parameters related to socially responsible business and financial performance within the analyzed results of hotel corporation business.

## Introduction to the BEX model

Commercial subjects doing business in the area of hotel services are in their activities, depending on the level of capacity utilization [8], exposed to numerous business risks which impact business results, and this is indirectly reflected in business performance [27]. Models for assessing difficulties in a company's business management generate significant information which can be of service to the management in taking appropriate business decisions [21]. With regard to this, several models have been created (Altman model, Kralicek DF indicator, Quick test, Zmijewski model, BEX model, etc.) which enable the analysis and evaluation of the business success of companies, as well as their potential possibility of bankruptcy. The application of some of these methods enables a timely consideration of the situation in which a company finds itself and, with an analysis of the segments of the triple bottom line elements, observes the factors which have a positive or negative impact on the business of the analyzed company.

Several authors have applied in their research the analysis of business excellence of commercial subjects via the BEX model in different areas [21], [23], [17], [2], [5], [4], [3]. In this paper, the BEX model was applied with the aim of evaluating the business excellence of simple mountain hotels in Serbia, Montenegro and Bosnia and

Herzegovina, where the companies which were analyzed conduct their business.

Belak and Aljinović Barać [3] stated that, when creating the BEX model, they were guided by logical selection and criteria of sustainability and compatibility in displaying business excellence, based on data from 1600 financial reports of Croatian companies doing business on the Croatian capital market in the period between 2000 and 2008. Out of a substantial number of data and calculated indicators 14 indicators were selected, with 5 indicators from the financial performance group, 5 structural indicators, and 4 indicators of shareholders' investment efficiency on the capital market. The model created is relatively simple to use.

The structure of the BEX model is as follows [3]:

$$BEX = 0,388ex1 + 0,579ex2 + 0,153ex3 + 0,316ex4.$$

According to Belak and Aljinović Barać, the indicators included in the model are the following [3]:

$$ex1: \text{profitability} = \frac{\text{EBIT}}{\text{Total Assets}}$$

$$ex2: \text{value creation} = \frac{\text{Net Business Profit}}{\text{Equity}} * \text{Price}$$

$$ex3: \text{liquidity} = \frac{\text{Working Capital}}{\text{Total Assets}}$$

$$ex4: \text{financial strenght} = \frac{5 * \text{EBITDA}}{\text{Total Liabilities}}$$

After the calculation, values of the BEX index are scaled and presented in Table 1. The analysis of obtained values determines the assessment of business excellence. Values of the BEX index higher than 1 are considered to mean that the company's business is good. With companies whose BEX index is between 0 and 1, the recommendation is that it is necessary to upgrade the business processes. The companies whose BEX index is below 0 are considered to have their existence threatened.

**Table 1: Summary of the BEX index of business excellence values**

BEX index	Business excellence BEX ranking
>1.0	Good company
0 – 1	Necessary business upgrades
< 0	Threatened existence

Source: Adapted from Belak and Aljinović Barać, 2008.

After defining the obtained values of the BEX index, what follows is ranking and providing forecasts for the future of the analyzed companies, all according to the defined items given in Table 2.

## Research methodology

The aim of this paper is to examine and evaluate the impact of ecological responsibility of simple hotels in mountain centers in Serbia, Bosnia and Herzegovina, and Montenegro on their business excellence. With this in mind, a sample was created encompassing 12 hotels doing business in the mountain centers of Kopaonik (SRB), Zlatibor (SRB), Stara planina (SRB), Divčibare (SRB), Jahorina (BIH) and Žabljak (MN), these being the leaders in mountain tourism in the Western Balkans. It should be noted that certain limitations emerged in the process of forming the sample of hotels for analysis in the sense that several hotels situated in the mountain centers mentioned doing business within holding companies as one of their segments, thus not having independent financial reports, and therefore it is not possible to view their individual business results.

The research methods employed in this paper include analysis of scientific literature and secondary data, research based on a survey, processing statistical data, comparative analysis, and correlational analysis by application of a statistical package.

The research was conducted from two aspects. Namely, with the aim of viewing the ecological responsibility of hotel business on the mentioned sample, research was conducted in the form of an anonymous survey based on relevant questions referring to the implementation of appropriate standards, methods, and procedures utilized by hotels conducting business in the spirit of ecological awareness.

For the needs of calculating business excellence by the application of the BEX model it was necessary to use data from the financial reports for the years 2016 and 2017. Financial reports were taken from official websites of institutions which compile data on business by commercial subjects from the states in which the analyzed companies conduct their business. For companies from Serbia data were taken from the website of the Business Registers Agency (APR) [38], for companies from Bosnia and Herzegovina data were taken from the website of the Agency for Intermediary, IT and Financial Services (APIF) [37], and for companies from Montenegro the website used was that of the Tax Administration of Montenegro [39]. The financial reports taken were used to form a key information/indicator database, based on which a calculation of the BEX model of business excellence was then conducted.

The obtained results were then also processed via a correlational analysis in the statistical package SPSS v.22.0 and an observation of the impact of individual segments

**Table 2: Ranking business excellence according to the BEX index and future forecast**

BEX index	Business excellence ranking	Future forecast
Higher than 6.01 – 4 years consecutively	World class	Company operates with top results which is also to be expected in the next 4 years, if management continues with upgrades.
Higher than 6.01	World class candidate	Company has excellent operation and this is to be expected over the next three years, if management continues with upgrades.
4.01 – 6.00	Excellent	Company has excellent operation and this is to be expected over the next three years, if management continues with upgrades.
2.01 – 4.00	Very good	Company has very good operation and this is to be expected over the next two years if management continues with upgrades.
1.01 – 2.00	Good	Company has good operation and it can be expected to do so only if upgrades are made.
0.00 – 1.00	Limited area between good and poor	Business excellence is positive, but not satisfactory. It is necessary to make serious upgrades.
Lower than 0 (negative)	Poor	Existence is threatened. Urgent restructuring and upgrading is needed, otherwise poor business operations will continue to threaten the survival (probability is over 90%).

Source: Adapted from Belak and Aljinović Barać, 2008.

of ecological responsibility on the business excellence of hotel companies from the sample was completed.

## Results and discussion

Empirical research was organized and conducted by way of a survey which was delivered to a group of 12 hotel companies via electronic mail, in the form of a Google document, as an anonymous questionnaire. The goal of the research was to observe the current state and implementation of the standards of ecologically responsible business management in the hotels in key mountain destinations of Serbia, Bosnia and Herzegovina, and Montenegro.

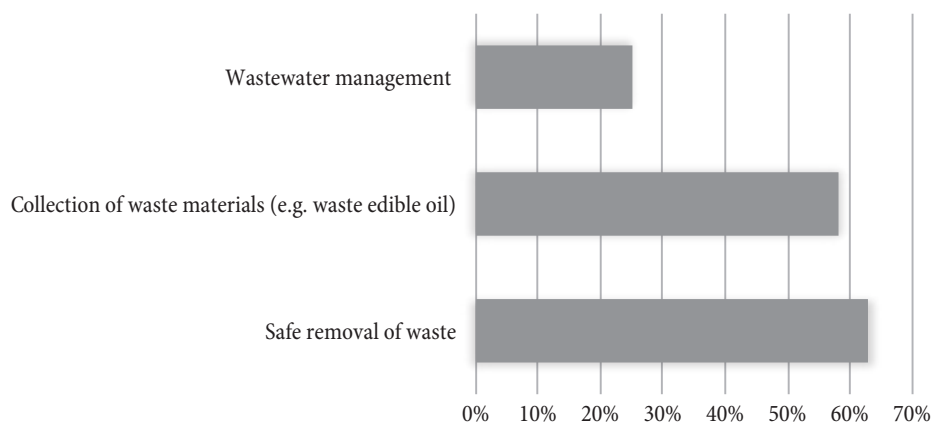
According to the research conducted, 83% of the survey participants are cognizant of the concept of “green” management, and 17% are not. Based on survey results, in the course of business processes, 58% of hotels implement activities relying on ecological principles, while 42% do not.

The question *Does the hotel practice waste management?* was answered affirmatively by 66% of the hotels. Figure 1 offers the structure according to which they replied to the defined and itemized activities in this domain.

Namely, 17% of the facilities implement the process of wastewater management, 43% apply the standards for safe removal of waste, and 40% apply the activities of collection of waste materials (e.g., waste cooking oil, etc.).

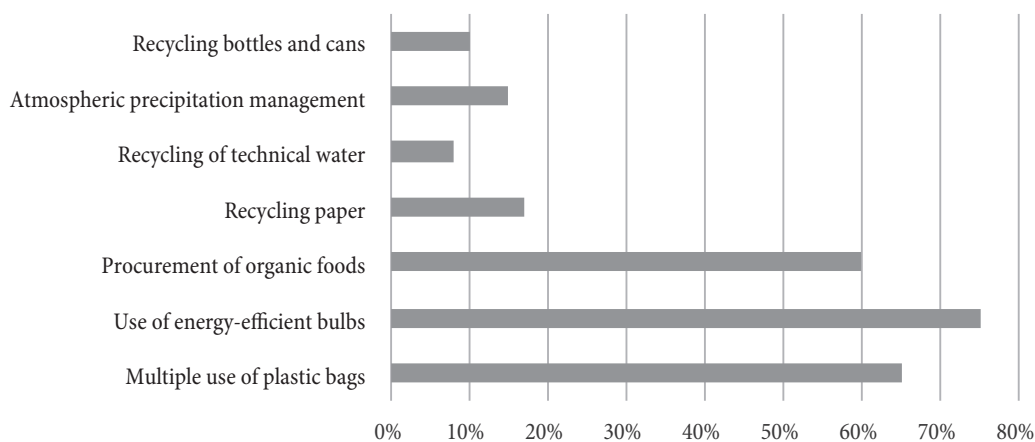
The analysis of the implementation of renewable energy sources, which we know to be significant for the protection of the environment and sustainable development, as well as reducing certain expenses in regular business activities, showed that 50% of the facilities employ the mentioned energy sources. The participants stated that they used several types of renewable energy sources. Solar energy by way of installed solar panels is used by 5 facilities. Geothermal energy is used by 4 hotels, while 2 facilities objects use MHEs.

Figure 1: Which of the activities in the domain of waste management are practiced by your business?



Source: Authors' calculation.

Figure 2: What eco-activities you apply in the service delivery process?



Source: Authors' calculation.

In the course of providing services of accommodation, provisions, and additional activities which hotels offer to their guests, different sectors present in hotels perform various types of ecological activities given in Figure 2.

The types of ecological activities implemented differ, but the sample is dominated by implementation of energy efficient lighting (75%), multiple use of plastic bags (65%) and procuring organic food (60%).

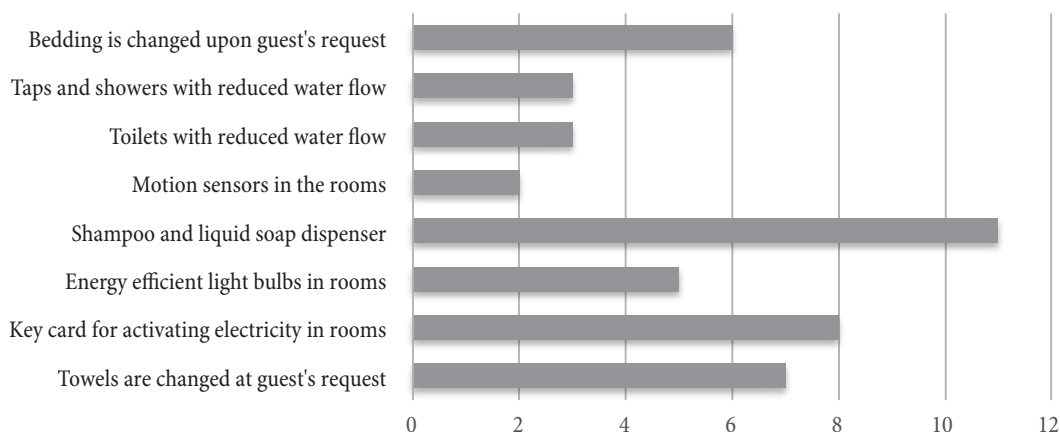
Simultaneously, in the room section, several activities considered to be exceptionally ecologically responsible in this area are present in the course of maintaining hygiene in the rooms and the facility. Figure 3 allows us to observe which of the following activities/elements are practiced/utilized in the process of room maintenance in the surveyed hotels.

### The calculation of the BEX model

Based on the obtained data, following the calculation of business excellence by applying the BEX model for the business years 2016 and 2017, Table 3 was created illustrating a summary of values for the BEX index of business excellence for mountain hotels individually for both the years 2016 and 2017.

According to the data obtained, significant changes can be observed over the two analyzed business years in terms of the values in the BEX index. If we observe the rules of ranking in BEX models for the year 2016, the mountain center hotel companies are situated in the category of companies with borderline values between 0 and 1, and the BEX index for 2016 is 0.82152, and therefore, according to

**Figure 3: Which of the following ecological activities/elements are practiced/utilized in the process of room maintenance?**



Source: Authors' calculation.

**Table 3: Summary of values for the BEX index of business excellence for mountain hotels Individually for the years 2016 and 2017<sup>1</sup>**

HOTEL	BEX 2016	BEX16 Ranking	BEX 2017	BEX17 Ranking
1	1.0113	Good	0.7321	Bordering area
2				
3	-0.0154	No rating	-0.0109	No rating
4	1.4543	Good	1.6000	Good
5	-0.5710	No rating	3.0974	Very good
6	0.2623	Bordering area	1.0299	Good
7	0.0346	Bordering area	0.1024	Bordering area
8	0.0196	Bordering area	0.0081	Bordering area
9	0.7676	Bordering area	0.6097	Bordering area
10				
11	3.0449	Very good	3.1655	Very good
12	2.2070	Very good	4.7814	Excellent

Source: Authors' calculation.

<sup>1</sup> Bearing in mind that some hotels from two mountain centers do business within the same company, data on their business and evaluation of their excellence can only be observed through their joint financial report.

the laws of this model, it is necessary to undertake serious upgrades in their business management.

**Table 4: Results of the BEX index of business excellence calculated jointly for the sample of mountain hotels**

	2016	2017
ex1 profitability	0.03562	0.05790
ex2 creating value	1.46605	1.79852
ex3 liquidity	-0.28805	0.61970
ex4 financial strength	0.61882	1.31009
BEX	<b>0.82152</b>	<b>1.51155</b>
BEX ranking	Bordering area	Good

Source: Authors' calculation.

When we observe the year 2017, the analyzed hotel companies show a rise in the value of the BEX index, and the indicators are positioned in the group of good values between 1 and 2, while the BEX index for the year 2017 is 1.51155, with a suggestion that upgrades in business are desirable in order to maintain or increase the degree of business excellence.

Analysis of the dataset within the financial reports led to the observation that certain hotel companies had investments which were realized in the form of loaned funds, leading to the rise in long-term commitments and excessive indebtedness of these companies. Simultaneously, these hotels had net business results in the form of loss for the mentioned year. If there is a problem with insufficient usage of accommodation capacity, this leads to the inability to honor business commitments [25], caused by insufficient income from services [20]. One of the reasons for the insufficient percentage of capacity usage is the extremely bad business in the 2016-2017 winter season caused by low snowfall and thin cover of snow in certain mountain centers, leading to an inability to realize winter sports activities, which was further reflected in low numbers of guests arriving at certain destinations.

### Correlational analysis of the impact of ecologically responsible business management on the business excellence of hotel companies

Following the analysis of BEX models and obtaining the values for BEX indices of business excellence, along with the processing of data obtained from the conducted

survey on ecological responsibility of hotel companies in mountain centers, the gathered results were processed using the statistical package SPSS v.22.0 via a calculation of the correlation coefficient and ANOVA statistical method by way of which the situational analysis of the impact of ecologically responsible business on business excellence of hotel companies in 2016 and 2017 was conducted.

We chose BEX indices as the dependent variable, while practicing ecological activities, waste management and implementation of renewable energy sources were defined as independent variables. The same procedure was applied to all pairs of variables. In order to test the relationship, we chose the Pearson's correlation coefficient ( $r$ ).

Testing the correlation between practicing ecological activities in hotel business and the impact on business excellence in 2016 yields the results which show that the value is  $R\ 0.176$ , and this means there is no statistically significant relationship. Also, the outcome of the F-test is not significant because  $Sig. = 0.321$  (more than 0.05), which leads to the conclusion that practicing ecological activities does not affect the business excellence of the analyzed hotel companies.

**Table 5: Model summary for BEX index 2016 and eco-activities**

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.176a	.031	-.066	1.2455486

a. Predictors: (Constant), Does the hotel practice ecological activities?

b. Dependent Variable: BEX16

Source: Authors' calculation.

**Table 6: ANOVA BEX 2016 and eco-activities of the hotel**

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	.497	1	.497	.321	.584b
Residual	15.514	10	1.551		
Total	16.011	11			

a. Dependent Variable: BEX16

b. Predictors: (Constant), Does the hotel practice ecological activities?

Source: Authors' calculation.

Testing the correlation between practicing ecological activities in hotel business management and impact on business excellence in 2017 yielded results that show that the value is  $R\ 0.097$ , and this means that there is no statistically significant relationship. Also, the outcome of the F-test is not significant because  $Sig. = 0.764$  (more than

0.05), and we conclude that practicing ecological activities does not impact business excellence of the analyzed hotel companies in 2017 either.

**Table 7: Model summary for BEX index 2017 and eco-activities**

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.097a	.009	-.090	1.6488821

a. Predictors: (Constant), Does the hotel practice ecological activities?

b. Dependent Variable: BEX17

Source: Authors' calculation.

**Table 8: ANOVA BEX 2017 and eco-activities of the hotel**

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	.258	1	.258	.095	.764b
Residual	27.188	10	2.719		
Total	27.446	11			

a. Dependent Variable: BEX17

b. Predictors: (Constant), Does the hotel practice ecological activities?

Source: Authors' calculation.

What follows is an analysis of the impact of waste management on the business excellence of hotel companies in 2016 and 2017.

**Table 9: Model summary for BEX index in 2016 and waste management**

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.221a	.049	-.046	1.2341021

a. Predictors: (Constant), Does the hotel practice waste management?

b. Dependent Variable: BEX16

Source: Authors' calculation.

**Table 10: ANOVA BEX 2016 and waste management**

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	.781	1	.781	.513	.490b
Residual	15.230	10	1.523		
Total	16.011	11			

a. Dependent Variable: BEX16

b. Predictors: (Constant), Does the hotel practice waste management?

Source: Authors' calculation.

**Table 11: Model summary for BEX index in 2017 and waste management**

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.309a	.096	.005	1.5753829

a. Predictors: (Constant), Does the hotel practice waste management?

b. Dependent Variable: BEX17

Source: Authors' calculation.

**Table 12: ANOVA BEX 2017 and waste management**

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	2.628	1	2.628	1.059	.328b
Residual	24.818	10	2.482		
Total	27.446	11			

a. Dependent Variable: BEX17

b. Predictors: (Constant), Does the hotel practice waste management?

Source: Authors' calculation.

Analysis shows that there was no statistically significant relationship between the stated variables, as is given in the tables. Namely, the R values in the mentioned calculations show that there is no statistically significant relationship. Also, the outcome of the F-test is not significant because the values are Sig. 0.490 and 0.328, i.e., higher than 0.05, and we therefore conclude that waste management does not impact the business excellence of the analyzed hotel companies.

When we observe the correlation between the implementation of renewable energy sources and the impact on business excellence rankings in 2016 and 2017, the R indices in the mentioned calculations indicate that there is no statistically significant relationship. Also, the outcome of the F-test is not significant because the values Sig. 0.403 and 0.973 are higher than 0.05, leading us to the conclusion that in business years 2016 and 2017, implementing renewable energy sources did not impact the ranking of companies according to business excellence.

**Table 13: Model summary for BEX index in 2016 and implementing renewable energy sources**

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.266a	.071	-.022	1.5969316

a. Predictors: (Constant), Does the hotel use renewable energy sources?

b. Dependent Variable: BEX16

Source: Authors' calculation.

**Table 14: ANOVA BEX 2016 and implementing renewable energy sources**

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	1.944	1	1.944	.762	.403b
Residual	25.502	10	2.550		
Total	27.446	11			

a. Dependent Variable: BEX16

b. Predictors: (Constant), Does the hotel use renewable energy sources?

Source: Authors' calculation.



**Table 15: Model summary for BEX index in 2017 and implementing renewable energy sources**

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.011a	.000	-.100	1.2652805

a. Predictors: (Constant), Does the hotel use renewable energy sources?

b. Dependent Variable: BEX17

Source: Authors' calculation.

**Table 16: ANOVA BEX 2017 and implementing renewable energy sources**

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	.002	1	.002	.001	.973b
Residual	16.009	10	1.601		
Total	16.011	11			

a. Dependent Variable: BEX17

b. Predictors: (Constant), Does the hotel use renewable energy sources?

Source: Authors' calculation.

## Conclusion

The strategy of responsible business is directed towards a synergy of the needs of society and business and contributes to the financial success of companies. Following the analysis of obtained data, the statistical analysis showed that the correlation coefficient is very low and that the presumed impact is not significant. Although this analysis resulted in the conclusion that the analyzed segments of ecologically responsible business do not affect the ranking of business excellence of the analyzed companies, this perspective should be viewed with reservations for reasons such as the fact that 50% of surveyed hotels responded that they do not use renewable energy sources. Namely, awareness of implementing renewable energy sources and waste management is at a low level when implementation within the framework of the analyzed geographical area is evaluated.

Bearing in mind that the analysis confirmed that none of the ecologically significant activities, such as waste management and implementing renewable energy sources, have an effect on the business excellence of the analyzed hotel companies, and that according to the business reports they do not operate with a negative annual result, it could be said that business excellence is impacted by the market trends. With regard to this, the amount of realized business income which the analyzed

companies receive from providing services, depending on tourist interest in the products on offer at the analyzed destinations and which the companies realize is, in this case, a more significant factor.

Simultaneously, BEX indices for hotel companies for 2017 are rising and are evaluated with a suggestion that a continuing trend of upgrades is desirable in the goal of maintaining and advancing business results and consequently business excellence. The result for 2017 is actually an indicator of the necessity of investments into innovations in hotel business management in order to upgrade business and realize better business results with significant economizing, by reducing certain expenses in business, leading to a more financially efficient and profitable business model.

The future of hotel industry lies in the implementation of sustainable business. The recommendation is therefore to consider the good examples of sustainable hotel management practice, along with the goal of promoting quality at each moment, in order to achieve a positive effect on the company business results, including the impact on the living environment, economic and social factors in the community, i.e., the space of their business (Serbia, Bosnia and Herzegovina, Montenegro).

## References

- Alameeri, A., Ajmal, M.M., Hussain, M., & Helo, P. (2018). Sustainable management practices in UAE hotels. *International Journal of Culture, Tourism and Hospitality Research*, 12(4), 440-466. Retrieved from <https://doi.org/10.1108/IJCTHR-10-2017-0100>.
- Alihodžić, A., & Džafić, J. (2012). Model for the evaluation of business excellence in capital market of Bosnia and Herzegovina. *Singidunum Journal of Applied Sciences*, 9(1), 9-15.
- Belak, V., & Aljinović Barać, Ž. (2008). *Secrets of capital markets*. Zagreb: Belak doo.
- Belak, V., Aljinović Barać, Ž., & Vuko, T. (2011). Stocks selection in capital markets crisis: multi-criteria approach. *International Journal of Economics and Business Research*, 3(1), 60-71.
- Bubić, J., & Hajnrih, J. (2012). The analysis business performances of agricultural enterprises in Vojvodina during the current crisis. *Ekonomika poljoprivrede* 59(2), 183-194.
- Budeanu, A., Miller, G., Moscardo, G., & Ooi, C. S. (2016). Sustainable tourism, progress, challenges and opportunities: an introduction. *Journal of Cleaner Production*, 111(Part B), 285-294. ISSN 0959-6526. Retrieved from <https://doi.org/10.1016/j.jclepro.2015.10.027>.

7. Camillari, M.A. (2014). Advancing the sustainable tourism agenda through strategic CSR perspectives. *Tourism Planning and Development*, 11(1), 42-56.
8. Čerović, S., Spasić, V., & Radović, N. (2020). *Finansijski menadžment turističko-ugostiteljskih preduzeća*. Beograd: Univerzitet Singidunum.
9. Cvijanović, D., Sekulić, D., & Pavlović, D. (2018). Are green hotels suitable for the development of entrepreneurship in tourism?. *Ekonomika preduzeća*, 66(7-8), 424-432. Retrieved from <https://doi.org/10.5937/EKOPRE1808424C>.
10. Dutescu, A., Popa, A. F., & Ponorica, A.G. (2014). Sustainability of the tourism industry, based on financial key performance indicators. *Amfiteatru Economic Journal*, 16(Special No. 8), 1048-1062.
11. Elkington, J. (1999). Triple bottom line revolution: reporting for the third millennium. *Australian CPA*, 69(11), 75.
12. Gladwin, T. N., Kennelly, J. J., & Krause, T. S. (1995). Shifting paradigms for sustainable development: Implications for management theory and research. *Academy of Management Review*, 20(4), 874-907.
13. Göğüş, G., Karakadilar, I. S., & Apak, S. (2013). Innovation and sustainable growth measurement in hotel industry: A hierarchical decision making model. *Procedia - Social and Behavioral Sciences*, 99, 752 – 761.
14. Gössling, S., Hall, C. M., & Weaver, D. (Eds.). (2008). *Sustainable tourism futures: Perspectives on systems, restructuring and innovations* (1st ed.). Routledge. Retrieved from <https://doi.org/10.4324/9780203884256>.
15. Hall, C. M. (2011). Policy learning and policy failure in sustainable tourism governance: From first- and second-order to third-order change?. *Journal of Sustainable Tourism*, 19(4-5), 649-671.
16. Hume, S.R., & Gallagher, L. (2010). The value for service industry firms of environmental initiatives. *Management Research Review*, 33(11), 1054-1063.
17. Knežević, G., Stanišić, N., & Mizdraković, V. (2014). Predictive ability of the Business Excellence model: the case of foreign investors in Serbia from 2008 to 2012. *Teme*, 38(4), 1475-1488.
18. Moise, S. M., Gil-Saura, I., & Ruiz Molina, M. E. (2021). The importance of green practices for hotel guests: does gender matter?. *Economic Research - Ekonomska istraživanja*. Retrieved from <https://doi.org/10.1080/1331677X.2021.187586>.
19. Morrison, C. (1991). *Managing environmental affairs: Corporate practices in the US, Canada and Europe*. New York: The Conference Board.
20. Pratt, S. P., & Grabowski, R. J. (2010). *Cost of capital*. John Wiley & Sons.
21. Radović, N., & Miličević, S. (2020). The examination and assessment of winery business and contribution to the development of wine tourism of Serbia. *Ekonomika poljoprivrede*, 67(4), 1103 – 1123.
22. Radović, N., & Stanić, N. (2016). Analiza pokazatelja rentabilnosti poslovanja hotelskih preduzeća. Paper presented at FINIZ 2016 - Risks in Contemporary Business. doi:10.15308/finiz-2016-171-174.
23. Rajin, D., Milenković, D., & Radojević, T. (2016). Bankruptcy prediction models in the Serbian agricultural sector. *Ekonomika poljoprivrede* 63/1, 89-105. Retrieved from <https://doi.org/10.5937/ekoPolj1601089R>.
24. Singal, M., Kothari, T., & Dollinger, I. (2015). *Perspectives of Eco-Innovation in the Hospitality Industry*. In Parsa, H.G., Narapareddy, V., Jang, S.C., Segarra-Ona, M., Chen, R, (Eds) *Sustainability, Social Responsibility and Innovations in the Hospitality Industry*, pp. 112-133. Apple Academic Press.Inc.
25. Sloan, P., Legrand, W., & Chen, J. (2009). *Sustainability in the hospitality industry*. Elsevier Inc.
26. Stanišić, M., Radović, N., & Nikolić, J. (2017). Business success analysis in the hotel industry. Paper presented at FINIZ 2017 - Challenges in modern corporate governance. doi:10.15308/finiz-2017-14.
27. Vaughan, E., & Vaughan, T. (1995). *Osnovi osiguranja - upravljanje rizicima*. Zagreb: MATE.
28. WCED (1987). Report of the World Commission on Environment and Development: Our Common Future. Retrieved 25 February 2020 from <http://www.un-documents.net/wced-ocf.htm>.
29. Weaver, D. (2005). *Sustainable Tourism* (1st ed.). Routledge. Retrieved from <https://doi.org/10.4324/9780080474526>.
30. Wilson, B., Smith, B., & Dunn, P. (2007). *A guide to developing a sustainability strategy and action plan*. Sustainable Homes Ltd.
31. Winn, M. Ed. (1995). *Corporate leadership and policies for the natural environment*. Greenwich, CT: JAI Press.
32. World Tourism Organization (2021). *International Tourism Highlight, 2020 Edition*, UNWTO, Madrid. Retrieved from <https://doi.org/10.18111/9789284422456>.
33. World Tourism Organization and United Nations Development Programme (2017). *Tourism and the Sustainable Development Goals – Journey to 2030*, UNWTO, Madrid.
34. Yeh, S.S., Ma, T., & Huan, T.C. (2016). Building social entrepreneurship for the hotel industry by promoting environmental education. *International Journal of Contemporary Hospitality Management*, 28(6), 1204-1224. Retrieved from <https://doi.org/10.1108/IJCHM-03-2014-0122>.
35. Yilmaz, A. K., & Flouris, T. (2010). Managing corporate sustainability: Risk management process based perspective. *African Journal of Business Management*, 4(2), 162-171.
36. Internet sources:
37. Agencije za posredničke, informatičke i finansijske usluge. Retrieved from <https://www.apif.net/index.php>.
38. Agencija za privredne registre. Retrieved from <https://www.apr.gov.rs/pocetna.1898.html>.
39. Poreska uprava Crne Gore. Retrieved from <https://eprijava.tax.gov.me/TaxisPortal>.

**Nikica Radović**

Is Assistant Professor of the Faculty of Tourism and Hospitality Management, Singidunum University in Belgrade. Her research focuses on sustainable tourism, financial analysis, hospitality management and she is the author of one university book, many scientific and professional papers and lectures by invitation. Mrs Radović is a member of IIA Serbia and IIA Global.

**Slobodan Čerović**

Is Full Professor at and Dean of the Faculty of Tourism and Hospitality Management, Singidunum University, where he teaches Economic and Financial Analysis in Tourism and Hospitality, HR Management in Hospitality and Design, Constructions and Protection of Space in Hotels. He is author of two monographs, Strategic Management of Tourism Industry of Serbia (2002) and Strategic Management in Tourism (2009&2020). So far, he published over 160 scientific and professional papers, out of which more than 35 in journal indexed in SSCI. His scientific competence index is around 370.

Igor Trišić  
Balkan Network of Tourism Experts  
Vrnjačka Banja

Snežana Štetić  
Society for Culture, Art and International Cooperation  
(ADLIGAT)  
Belgrade

Slavoljub Vujović  
Economics Institute  
Belgrade

# THE IMPORTANCE OF GREEN PROCUREMENT AND RESPONSIBLE ECONOMY FOR SUSTAINABLE TOURISM DEVELOPMENT: HOSPITALITY OF SERBIA

Značaj zelene nabavke i odgovorne ekonomije u održivom turističkom razvoju – hotelijerstvo Srbije

## Abstract

Green procurement or responsible economy represents a production process which takes into account environmental, economic, social and ethical issues. These would, at the same time, be the basic postulates of sustainable development. The tourism market, whose consumers today have very specific needs, takes part in such a responsible economy. Tourists turn to the environmental forms of tourism. Such forms include activities focused on improvement of the values of environmental elements. This implies the selection of accommodation in environmentally responsible hotels and other facilities, directing of their business operations towards green procurement, eco-labelling and responsible economy in general. This research included the collection of data on responsible economy by surveying 50 hotels situated in Serbia. The hotels which are not sufficiently implementing responsible procurement into their business operate in the Republic of Serbia. Also, only a small number of facilities belonging to the tourism and hospitality industry possess eco-labels as the warranties of green and responsible business. What is significant is the fact that the tendency of environmental awareness to increase and its significance in the economic sphere are present in a great number of hotels in Serbia, which is demonstrated by this paper's research results.

**Keywords:** *responsible procurement, green economy, eco-labelling, sustainable tourism development.*

## Sažetak

Zelena nabavka ili odgovorna ekonomija predstavlja proizvodni proces u okviru kojeg se uzimaju u obzir ekološka, ekonomska, socijalna i etička pitanja. To bi istovremeno bili osnovni postulati održivog razvoja. Turističko tržište, čiji potrošači danas imaju vrlo specifične potrebe, učestvuje u takvoj odgovornoj ekonomiji. Turisti se okreću ekološkim oblicima turizma. Ti oblici uključuju aktivnosti usmerene na poboljšanje vrednosti elemenata životne sredine. To podrazumeva izbor smeštaja u ekološki odgovornim hotelima i drugim objektima, usmeravanje njihovog poslovanja ka zelenim nabavkama, ekološkom etiketiranju i odgovornoj ekonomiji uopšte. Ovo istraživanje je obuhvatilo prikupljanje podataka o odgovornoj ekonomiji od 50 hotela smeštenih u Srbiji. Hoteli koji još uvek nedovoljno implementiraju odgovornu nabavku u svoje poslovanje posluju upravo u Republici Srbiji. Takođe, mali broj objekata koji pripada industriji turizma i ugostiteljstva poseduje ekološke sertifikate kao garancije zelenog i odgovornog poslovanja. Ono što je značajno jeste činjenica da je tendencija povećanja ekološke svesti i njen značaj u ekonomskoj sferi prisutan u velikom broju hotela u Srbiji, a to pokazuju i rezultati istraživanja u ovom radu.

**Ključne reči:** *odgovorna nabavka, zelena ekonomija, eko-sertifikati, održivi turistički razvoj.*

## Introduction

Besides being oriented towards sustainable development, these hotels strive to achieve significant resource savings and reduction of business costs [21], [14]. Green procurement today is the symbol of such a hotel. A great number of facilities of the tourism and hospitality industry in the world market aspires to such a successful working process [2]. Green (responsible) procurement is characterised by the following:

- quality [28];
- energy efficiency;
- exclusion of dangerous substances;
- recycling;
- significant share of organic products [8];
- eco-labels and labelling schemes;
- gradual implementation;
- improvement of supply channels;
- financing of “green” and “eco” funds;
- renewable use of energy and raw materials [50];
- improving national economic [18], etc.

When the term “green economy” is identified with the business operations of certain market subjects, then it can be concluded that certain criteria of sustainable development have been fulfilled [41]. Hotels and other tourism facilities, by carrying out business operations connected to green procurement, represent the significant indicator of sustainable tourism development [13]. The main objectives of sustainable tourism development are achieving ecological, economic and socio-cultural benefits at certain tourist destinations, regions or countries [35].

The first hypothesis in this paper is that hotels in Serbia operate according to green procurement principles. The research will, also, determine the second hypothesis, i.e., whether the hoteliers are environmentally conscious and ready to improve their business operations to support green procurement, eco-labelling, responsible economy and sustainable development. The objective of this paper is to demonstrate that obtained results can represent a significant sample for comparing the business operations in the tourism and hospitality industry in the Republic of Serbia, and have great significance for domestic and foreign tourists coming from the countries of the region,

as well (e.g., Bosnia and Herzegovina, Croatia, Hungary, Romania, Bulgaria, Slovenia, and other European and world countries). It follows from all the abovementioned that this research will give results that are significant at the national and international level.

## Literature review

In the tourism and hospitality industry, a green economy, responsible procurement and eco-labelling are the important elements of business operations benefiting sustainable development [12]. Environmental awareness regarding the use and procurement of ecological products and services takes an important place in the world economy [46]. Today, tourism is an important economic factor in the green economy [40], and therefore it should be considered as an initiator of green procurement and labelling in the responsible consumption [4]. Green procurement not only encourages the consumption and use of environmentally acceptable products and services on the wider market, but encourages the innovations, introduction and spreading of new and sustainable products, technologies and business models in tourism [11], [45]. Labelling, as the method in tourism, provides the written warranty that hotel or another tourist facility fulfils certain standards satisfying or exceeding the basic classical standards [9]. The most significant activities under the labelling procedure for tourism eco-labelling include application, verification, labelling and marketing [26]. Labelling in tourism, and especially ecotourism achieves a lot of positive effects [16], [37]. Eco-labels are the way to standardise “green” or “eco” products which are to be easily recognised, as such, by the trademark [31]. Since eco-labels have been implemented according to modern programmes, they have had the function of a managerial tool bringing a wide range of benefits [22]. Depending on the perspective, green procurement and eco-labels can also be a marketing tool for hotel companies, a deciding factor for the consumers, but also a voluntary instrument of environmental management for governmental and non-governmental organisations. One of the postulates of green procurement is that achieving business results cannot disregard the constant minimising of environmental impacts [19], [27]. Green procurement

must include green suppliers in its system, in addition to products and consumers [7]. Eco-labelling represents a guide for the consumers, i.e., tourists during decision making regarding spending, helping them to find and recognise responsible service providers, who have harmonised their business operations with sustainable development [17]. Achieving positive ecological, economic and socio-cultural effects represents key principles of sustainable development [42].

Green procurement and eco-labelling at the tourism market are aimed at promoting the concept of business that protects the environment and saves its resources [36]. Besides, tourist companies have to provide significant proof in order to create confidence in their “green” consumers [20]. Tourism development caused diversification of demand, offer and market [48].

Green (responsible) procurement in the hospitality industry and tourism represents a process in which very different and specific decisions are made. During green procurement decision making, ecological, social and ethical principles must be taken into consideration. Green procurement considers the options as regards the following:

- reasons for certain product procurement [30];
- what certain products are made of;
- under what conditions products have been manufactured;
- the way they have been packed;
- who they are intended for;
- the way they will be used;
- the way they will be stored;
- the way they will be disposed of after use [47].

Green procurement decisions can have significant ecological and social effects, especially in the tourism and hospitality sector. Representatives of these sectors are often under pressure of importing a great number of products, including food from far away countries, to fulfil the greater demands of the users. On the other hand, consumers in tourism are precisely interested in green procurement. Tourists are more and more interested in environmentally sustainable products and services which do not affect the environment. Such are the products made of environmentally friendly and biodegradable materials, organic food for the hospitality industry, props, facilities constructed following standards of significant

environmental principles, environmental aspects of transport, activities for environmental protection, etc. Eco-labelling of the responsible economy represents the warranty for green procurement and consumption. That means that hotels implementing green procurement business policy achieve significant business results based on commercial, environmental and social sustainability. At the same time, that is the basic postulate of sustainable tourism development [44].

Very significant international standards for eco-management in the hospitality industry are ISO 14001 and EMAS (Eco-Management and Audit Scheme) [49]. They are the symbols of eco-production and the sale of goods or services concept [25]. Both are designed for the industry and they extended their activities to the service sector, too, which includes tourism and hospitality. ISO 14001 and EMAS refer to the responsibilities undertaken as part of business operations under environmental concepts [39]. They focus on the following:

- environmental management system;
- defining of sustainable development;
- identification of environmental impacts;
- legal requirements;
- management programmes;
- implementation and application of environmental protection;
- monitoring and corrective measures;
- continuous improvement and assessment of the business by different market subjects [21].

Besides responsible procurement, green consumption also takes a very significant place in hospitality. It is a “new” form of consumption of products that are natural and environmentally friendly. Lately, green consumption has had a significant place in tourism and hospitality [6]. Possession of certificates, obtained by responsible business operators, is the proof of verification that certain company operates under the environmental requirements [32].

In tourism and hospitality, the most significant certificates of green procurement and consumption are as follows:

- 1) The *Green Globe 21*, established by the World Travel and Tourism Council in 1994 [38]. The original form of Green Globe dates back to the 1992 Summit

of the United Nations dedicated to sustainable development, held in Rio de Janeiro. The Agenda 21 was adopted then, a document considered as the base for the enactment of sustainable development measures around the world [34]. In 1999, the Green Globe 21 was transformed into an independent profit global organisation, and in 2008 it was united with the company Green Globe International from the USA. This certificate operates within the certification standards for 22 production sectors in tourism and hospitality. These include tour operators, travel organisations, hotels and hotel resorts, sports grounds, facilities of MICE tourism, different restaurants and other sectors [26].

- 2) The *Green Key* is the eco-label for tourist facilities whose business is aimed at contributing to the prevention of climate change and helping sustainable tourism development [23]. It was established in Denmark, in 1994, by HORESTA (Association of the Hotel, Restaurant and Tourism Industry in Denmark) [34].
- 3) The *EU Ecolabel* was established in 1992 to encourage the industrial sector to decrease the environmental impact of the products and services during their life cycle, from the production of raw materials through consumption and use to the final disposal [29]. The EU Ecolabel includes cleaning products, different devices, paper products, textile products, household products and cleaning products for premises, and also, the products directly connected to accommodation services in the hospitality industry [15]. It represents the limit of responsible business as regards the environment [5]. The EU Ecolabel is the label assigned to the products and services fulfilling the high standards of environmental protection, through all stages of their production and consumption cycle. This includes obtaining primary raw material, production, distribution and waste disposal.
- 4) The *Green Leaf* was introduced by the Pacific Asia Travel Association (PATA). Its purpose is the support to businesses in the area of tourism,

together with monitoring environmentally responsible actions. In addition, a certificate in business includes the assistance to consumers during the selection of products in compliance with the set criteria of environmental preservation [38].

- 5) The *Green Suitcase* was the first in introducing ecotourism in Europe. It is aimed at establishing the standards of environmental protection in tourism centres, accommodation and catering facilities and travel agencies, operating within Europe [9].

## Research methodology

Facilities for the provision of accommodation and catering services which do not have certain business certificates and do not implement green procurement sufficiently still operate in the Republic of Serbia. The tendency of improving business to obtain certain certificates of the green economy is getting significantly stronger. The reason for this is the response to the more subtle needs of tourists, who rapidly develop their environmental awareness [24]. Special attention of the industry is directed towards the certification and labelling of food and raw materials [1]. Possession of a certain certificate and implementation of green procurement in business represent the warranty for making a profit [3]. Research data used in this paper were obtained by electronic data collection through an online questionnaire, in which the persons in charge of the hotels responded to the questions asked. The questions referred to the representation of green (responsible) procurement, eco-labelling and green consumption within the business operations. The survey was carried out in 2020. The obtained results were examined and tabulated by applying descriptive data analysis using SPSS software. The differences obtained in certain responses were examined by the one-sample t-test analysis. The existence of variables was examined by the Pearson correlation method, in order to determine if the model of obtained differences was relevant for the result analysis. A number of 50 randomly selected hotels represent a small but significant sample for the analysis of the current state of the hotel market in the Republic of

Serbia. Analysis of the questionnaire responses can help draw conclusions regarding the current state of green procurement, possession of certificates and responsible economy in the hospitality industry of Serbia. Results can also be used for further research studies regarding these areas of the hospitality business.

## Results and discussion

All questionnaires were valid and completed properly. The representatives of the hotels were asked to answer questions related to the responsible procurement, possession of certificates, and significance of the green economy in the hotel business operations. The analysis of responses, studies, and the answers of the respondents are ranked with marks 1 or 2, whereby the answer under number 1 refers to the negative statement and the answer under number 2 refers to the positive statement. The structure of the surveyed hotels can be seen in Table 1.

Cities where the hotels are located are the biggest cities in Serbia and they have significant tourist visits. A hotel in Niš with 37 beds has the minimum capacity

among the surveyed hotels, while another selected hotel, also in Niš, has the maximum capacity of 400 beds. All hotels are city type hotels and they are located in central parts of the city.

Respondents were asked nine questions, sent to them by electronic mail, referring to green procurement, labelling and business in accordance with environmental standards. The questions are shown in Table 2.

Structure of the responses as regards the responsible procurement topics is shown in Table 3.

By analysing the responses with expressed differences, it can be concluded that only 17 hotels have the restaurant serving meals prepared with organically-produced food. A total of 26 hotels classify their waste, 24 hotels recycle different raw materials, and 25 hotels use renewable sources of energy. A total of 42 hotels tend to include the procurement of work tools made of eco-materials into their business operations. Only 14 facilities of the total number of the surveyed facilities have certain eco-labels. It should be emphasised that business characterised by the green (responsible) procurement is not connected only to facilities of high categories or greater accommodation

**Table 1: Structure of respondents (hotels)**

Hotel rating	Frequency	Percent	City	Frequency	Percent
2'	9	18	Belgrade	17	34
3'	14	28	Kragujevac	7	14
4'	18	36	Niš	13	26
5'	9	18	Novi Sad	13	26
Total	50	100	Total	50	100
	N	Min	Max	Mean	Std. deviation
Hotel rating	50	2	5	3.56	1.013
Beds	8,511	37	400	170.22	104.417

Source: Authors' calculation.

**Table 2: Questions from the questionnaire**

N	Green procurement topics
n <sub>1</sub>	The hotel has a restaurant with organic food
n <sub>2</sub>	The hotel tends to procure work tools made of eco-materials
n <sub>3</sub>	The hotel classifies the waste
n <sub>4</sub>	The hotel recycles different raw materials
n <sub>5</sub>	The hotel has eco-labels
n <sub>6</sub>	Do you think that possession of eco-labels can help the business be more successful?
n <sub>7</sub>	The hotel allocates funds for environmental actions
n <sub>8</sub>	The hotel tends to implement green procurement
n <sub>9</sub>	The hotel uses renewable sources of energy



capacity. Of 26 hotels which classify their waste, six are 2-star facilities, three are 3-star facilities, eight are 4-star facilities, and nine are 5-star facilities. A similar situation is with hotels that recycle. Using renewable energy sources is a business characteristic of high category hotels.

The obtained results show that the awareness of green procurement, consumption and possession of certain eco-labels is developing in all the surveyed hotels, particularly within the management and business planning. The most important is that all facilities have the business tendency to follow green procurement and green economy. This is indicated by all positive responses to questions  $n_6$ ,  $n_7$  and  $n_8$ .

A total of six questions with certain differences in given responses can be examined by the one-sample t-test analysis (Table 4).

Based on the results of the one-sample t-test analysis it can be concluded that there are statistically significant differences in six given responses regarding the presence of certain statements within the asked questions.

Those statistically significant differences in six given responses can be examined by the Pearson correlation analysis, which determines whether the model of obtained statistically significant differences relevant for making a

conclusion if the intentions of respondents are directed towards the tendency that all responses are identical to the responses to questions  $n_6$ ,  $n_7$  and  $n_8$  (Table 5).

Correlation results show that the respondents have a tendency that expressed differences in responses be equal to the responses to questions  $n_6$ ,  $n_7$  and  $n_8$ . Such result shows that a significant number of the total number of the surveyed hotels in the Republic of Serbia still have not fully adjusted their business operations to green (responsible) procurement, eco-labelling and green economy, which would confirm basic postulates of sustainable development. Given that 50 hotel facilities of different capacity and category from the biggest cities of Serbia have been surveyed, it can be assumed that the number of surveyed facilities represents a significant sample for the analysis of business operations of hotel companies in the Republic of Serbia. As the positive responses in statements have been expressed within three questions ( $n_6$ ,  $n_7$  and  $n_8$ ) the surveyed facilities were asked to answer, it can be concluded that such responsible business operations represent the intentions in the future work of all the surveyed hotels. This has been confirmed by the employed research methods.

**Table 3: Responses of the respondents**

n	N	Range	Min	Max	Sum	Mean	Std. deviation	Variance
$n_1$	50	1	1	2	67	1.34	.479	.229
$n_2$	50	1	1	2	92	1.84	.370	.137
$n_3$	50	1	1	2	76	1.52	.505	.255
$n_4$	50	1	1	2	74	1.48	.505	.255
$n_5$	50	1	1	2	64	1.28	.454	.206
$n_6$	50	0	2	2	100	2.00	.000	.000
$n_7$	50	0	2	2	100	2.00	.000	.000
$n_8$	50	0	2	2	100	2.00	.000	.000
$n_9$	50	1	1	2	75	1.50	.505	.255
Valid N	50							

Source: Authors' calculation.

**Table 4: One-sample t-test**

n	t	df	Sig. (2-tailed)	Mean difference	95% Confidence interval of the difference	
					Lower	Upper
$n_1$	19.801	49	.000	1.34	1.20	1.48
$n_2$	35.133	49	.000	1.84	1.73	1.95
$n_3$	21.297	49	.000	1.52	1.38	1.66
$n_4$	20.737	49	.000	1.48	1.34	1.62
$n_5$	19.956	49	.000	1.28	1.15	1.41
$n_9$	21.000	49	.000	1.50	1.36	1.64

Source: Authors' calculation.

The obtained results are significant for the comparative analysis of business operations in the tourism and hospitality industry in the Republic of Serbia. It can be inferred that the understanding of the green procurement significance is present in the hospitality industry, because such business surely provides a profit [10]. This refers to the data implying that a small number of facilities implement green procurement and have eco-labels. What is important is to observe the intensive increase in environmental awareness of hoteliers. They have intentions to harmonise their business operations in the future with environmentally sustainable business practices and a green economy. The obtained results can have great significance in domestic and foreign tourism. The Republic of Serbia is getting more frequently visited by tourists from the region's countries, such as Bosnia and Herzegovina, Croatia, Hungary, Romania, Bulgaria, and other European and world countries, too.

## Conclusion

The tourism industry depends on global trends in the tourism market influencing both the type of demanded products and further directions of tourism development. That is why successful businessmen should take

into account the following: increased demand for the preserved natural environment, good traffic connections, infrastructure built in conformity with the environment, as well as the sustainable development of tourist destinations. Such business activity affects the adequate assessment of the market, the proper policy of presence at the market and placement of tourism products. Besides, special care should be taken of the sustainability of the tourism products, too, in the sphere of the eco-destination existence. Such tourism products must fulfil the needs of tourists, the local community and tour operators, as well. Tourism products, conceived in such a way, can make a profit for tourist companies regarding the market demands.

Ethical consumerism has widely been present in the world and it is manifested through the ethical selection of products. The tourism industry, basically, has the economic aspects of business, which should be observed from different points of view during green procurement and creating of tourism eco-product. It is obvious that big companies which do not take care of the green economy are starting to lose clients, who even boycott the products of the companies which do not show sufficient ethical awareness of green procurement. When it comes to tourism, the great demand for responsible tourism all

Table 5: The Pearson correlation

		n <sub>1</sub>	n <sub>2</sub>	n <sub>3</sub>	n <sub>4</sub>	n <sub>5</sub>	n <sub>9</sub>
n <sub>1</sub>	Pearson correlation	1	0.083	0.014	0.325*	0.211	0.296*
	Sig. (2-tailed)		0.567	0.926	0.021	0.142	0.037
	N	50	50	50	50	50	50
n <sub>2</sub>	Pearson correlation	0.083	1	0.017	0.310*	0.029	0.109
	Sig. (2-tailed)	0.567		0.904	0.028	0.841	0.451
	N	50	50	50	50	50	50
n <sub>3</sub>	Pearson correlation	0.014	0.017	1	0.042	0.064	-0.160
	Sig. (2-tailed)	0.926	0.904		0.774	0.658	0.267
	N	50	50	50	50	50	50
n <sub>4</sub>	Pearson correlation	0.325*	0.310*	0.042	1	0.203	0.801**
	Sig. (2-tailed)	0.021	0.028	0.774		0.157	0.000
	N	50	50	50	50	50	50
n <sub>5</sub>	Pearson correlation	0.211	0.029	0.064	0.203	1	0.178
	Sig. (2-tailed)	0.142	0.841	0.658	0.157		0.216
	N	50	50	50	50	50	50
n <sub>9</sub>	Pearson correlation	0.296*	0.109	-0.160	0.801**	0.178	1
	Sig. (2-tailed)	0.037	0.451	0.267	0.000	0.216	
	N	50	50	50	50	50	50

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' calculation.

around the world is obvious. That is why the use of green procurement in tourism is inevitable.

This research has dealt with the problems of domestic hotels, and not hotels as parts of major hotel chains, with desire to get a real insight into the hospitality industry in Serbia and its participation in green, i.e., responsible procurement. The obtained results, representing the beginning of a comprehensive research of the entire hospitality industry, show both the positive and negative elements of business operations of this part of the tourism market. It is obvious that hospitality and catering facilities, which do not have certain business certificates and do not implement green procurement sufficiently, still operate in the Republic of Serbia. That means that the first hypothesis in this paper is partially confirmed. The deficiencies in the work of a part of the hospitality industry in Serbia are manifested through the insufficient use of organic products as well as insufficient use of eco-materials. Besides, the problem of waste recycling, sorting of packaging, use of alternative sources of energy are some of the problems the hospitality industry in Serbia is faced with. This must change if we want to be the country desirable for tourist visits, because tourism is not an isolated activity. It is the activity which, first of all, demands the synergy of resources, eco-procurements, as well as environmental postulates in its development. The tendency of improving tourism industry business operations to obtain certain certificates of the green economy has been getting significantly stronger in the last few years.

The obtained research results in this paper show that the awareness of green procurement, consumption and possession of certain eco-labels is developing in all surveyed hotels, more precisely within the management and business planning. The most important is that all facilities have the business tendency to pursue green procurement and green economy. This confirms the second hypothesis of this research, i.e., to prove whether green procurement is present in the hospitality industry in Serbia and whether the hoteliers' awareness of the green economy significance is being developed. The experiences of tourists visiting hotels in the Republic of Serbia, regarding the selection of hotels operating according to green procurement principles, will be shown in future research studies.

## References

1. Aboelmaged, M. (2018). Direct and indirect effects of eco-innovation, environmental orientation and supplier collaboration on hotel performance: An empirical study. *Journal of Cleaner Production*, 184, 537-549. Retrieved from <https://doi.org/10.1016/j.jclepro.2018.02.192>.
2. Ahn, J., & Kwon, J. (2020). Green hotel brands in Malaysia: perceived value, cost, anticipated emotion, and revisit intention. *Current Issues in Tourism*, 23(12), 1559-1574. Retrieved from <https://doi.org/10.1080/13683500.2019.1646715>.
3. Bag, S., Gupta, S., & Telukdarie, A. (2018). Exploring the relationship between unethical practices, buyer-supplier relationships and green design for sustainability. *International Journal of Sustainable Engineering*, 11(2), 97-109. Retrieved from <https://doi.org/10.1080/19397038.2017.1376723>.
4. Barber, N. A. (2014). Profiling the potential "green" hotel guest: Who are they and what do they want?. *Journal of Hospitality & Tourism Research*, 38(3), 361-387. Retrieved from <https://doi.org/10.1177%2F1096348012451462>.
5. Barbulescu, A., Moraru, A. D., & Duhnea, C. (2019). Ecolabelling in the Romanian seaside hotel industry - Marketing considerations, financial constraints, perspectives. *Sustainability*, 11(1), 265, 1-13. Retrieved from <https://doi.org/10.3390/su11010265>.
6. Bastič, M., & Gojčić, S. (2012). Measurement scale for eco-component of hotel service quality. *International Journal of Hospitality Management*, 31(3), 1012-1020. Retrieved from <https://doi.org/10.1016/j.ijhm.2011.12.007>.
7. Blome, C., Hollos, D., & Paulraj, A. (2014). Green procurement and green supplier development: antecedents and effects on supplier performance. *International Journal of Production Research*, 52(1), 32-49. Retrieved from <https://doi.org/10.1080/00207543.2013.825748>.
8. Bojnec, Š., Petrescu, D. C., Petrescu-Mag, R. M., & Rădulescu, C. V. (2019). Locally produced organic food: consumer preferences. *Amfiteatru Economic*, 21(50), 209-227. Retrieved from <https://doi.org/10.24818/EA/2019/50/209>.
9. Buckley, R. (2002). Tourism ecolabels. *Annals of Tourism Research*, 29(1), 183-208. Retrieved from [https://doi.org/10.1016/S0160-7383\(01\)00035-4](https://doi.org/10.1016/S0160-7383(01)00035-4).
10. Buclet, N., & Lazarevic, D. (2015). Principles for sustainability: the need to shift to a sustainable conventional regime. *Environment, Development and Sustainability*, 17(1), 83-100. Retrieved from <https://doi.org/10.1007/s10668-014-9539-4>.
11. Camilleri, M. A. (2016). Responsible tourism that creates shared value among stakeholders. *Tourism Planning and Development*, 13(2), 219-235. Retrieved from <https://doi.org/10.1080/21568316.2015.1074100>.
12. Cerqua, A. (2017). The signalling effect of eco-labels in modern coastal tourism. *Journal of Sustainable Tourism*, 25(8), 1159-1180. Retrieved from <https://doi.org/10.1080/09669582.2016.1257014>.
13. Cvijanović, D., Sekulić, D., & Pavlović, D. (2018). Are green hotels suitable for the development of entrepreneurship in tourism?. *Ekonomika preduzeća*, 66(7-8), 424-432. Retrieved from <https://doi.org/10.5937/EKOPRE1808424C>.
14. Cvijanović, D., Stanišić, T., Leković, M., & Kostić, M. (2020). Indicators of agricultural and rural development in the East Central and South-East European countries. *Agriculture and*

- Forestry, 66(2), 19–32. Retrieved from <https://doi.org/10.17707/AgricultForest.66.2.02>.
15. European Commission, (2017). Project to support the evaluation of the implementation of the EU ecolabel regulation. Brussels: European Commission. Retrieved from <https://doi.org/10.2779/880111>.
  16. Fairweather, J. R., Maslin, C., & Simmons, D. G. (2005). Environmental values and response to ecolabels among international visitors to New Zealand. *Journal of Sustainable Tourism*, 13(1), 82–98. Retrieved from <https://doi.org/10.1080/17501220508668474>.
  17. Fennell, D. A. (2015). *Ecotourism*. London & New York: Routledge, Taylor & Francis Group.
  18. Gavrić, O., & Mitrović, Đ. (2019). Development of Green Economy and competitiveness of EU countries: Macro-level empirical analysis. *Ekonomika preduzeća*, 67(7-8), 415–425. Retrieved from <https://doi.org/10.5937/EKOPRE1908415G>.
  19. Gelderman, C. J., Semeijn, J., & Vluggen, R. (2017). Development of sustainability in public sector procurement. *Public Money and Management*, 37(6), 435–442. Retrieved from <https://doi.org/10.1080/09540962.2017.1344027>.
  20. Gupta, A., Dash, S., & Mishra, A. (2019). All that glitters is not green: Creating trustworthy eco-friendly services at green hotels. *Tourism Management*, 70, 155–169. Retrieved from <https://doi.org/10.1016/j.tourman.2018.08.015>.
  21. Han, H., & Yoon, H. (2015). Customer retention in the eco-friendly hotel sector: examining the diverse processes of post-purchase decision-making. *Journal of Sustainable Tourism*, 23(7), 1095–1113. Retrieved from <https://doi.org/10.1080/09669582.2015.1044535>.
  22. Harris, K., & Divakarla, S. (2017). Supply chain risk to reward: Responsible procurement and the role of ecolabels. *Procedia Engineering*, 180, 1603–1611. Retrieved from <https://doi.org/10.1016/j.proeng.2017.04.323>.
  23. Hensens, W. (2016). The integration of environmental management standards in contemporary hotel classification systems. *Research in Hospitality Management*, 6(1), 25–32. Retrieved from <https://doi.org/10.2989/RHM.2016.6.1.3.1291>.
  24. Kruger, M., Viljoen, A., & Saayman, M. (2017). Who visits the Kruger National Park and why? Identifying target markets. *Journal of Travel and Tourism Marketing*, 34(3), 312–340. Retrieved from <https://doi.org/10.1080/10548408.2016.1156618>.
  25. Lira, J. M. S., Salgado, E. G., & Beijo, L. A. (2019). Characterization of evolution and dissemination of ISO 14001 in countries and economic sectors in Europe. *Journal of Environmental Planning and Management*, 62(7), 1166–1184. Retrieved from <https://doi.org/10.1080/09640568.2018.1479244>.
  26. Maksin, M., Pucar, M., Milijić, S., & Korać, M. (2011). Sustainable development of tourism in the EU and Serbia. Belgrade: Institute for Architecture and Urban Planning of Serbia.
  27. Nepal, R., Irsyad, M. I., & Nepal, S. K. (2019). Tourist arrivals, energy consumption and pollutant emissions in a developing economy—implications for sustainable tourism. *Tourism Management*, 72, 145–154. Retrieved from <https://doi.org/10.1016/j.tourman.2018.08.025>.
  28. Pereira, V., Gupta, J. J., & Hussain, S. (2019). Impact of travel motivation on tourist's attitude toward destination: evidence of mediating effect of destination image. *Journal of Hospitality and Tourism Research*, online first. Retrieved from <https://doi.org/10.1177%2F1096348019887528>.
  29. Pastor, M. C., Mathieux, F., & Brissaud, D. (2014). Influence of environmental European product policies on product design - current status and future developments. *Procedia CIRP*, 21, 415–420. Retrieved from <https://doi.org/10.1016/j.procir.2014.03.130>.
  30. Peng, N., & Chen, A. (2019). Luxury hotels going green – the antecedents and consequences of consumer hesitation. *Journal of Sustainable Tourism*, 27(9), 1374–1392. Retrieved from <https://doi.org/10.1080/09669582.2019.1622710>.
  31. Potts, T., & Haward, M. (2007). International trade, eco-labelling, and sustainable fisheries – recent issues, concepts and practices. *Environment, Development and Sustainability*, 9(1), 91–106. Retrieved from <https://doi.org/10.1007/s10668-005-9006-3>.
  32. Romero, I., & Tejada, P. (2020). Tourism intermediaries and innovation in the hotel industry. *Current Issues in Tourism*, 23(5), 641–653. Retrieved from <https://doi.org/10.1080/13683500.2019.1572717>.
  33. Sagić, Z., Diković, L., Trumbulović, L., & Vujović, S. (2019). Intellectual capital and leading information technology trends as components of a modern company development. *Ekonomika preduzeća*, 67(3-4), 288–296. Retrieved from <https://doi.org/10.5937/EKOPRE1904288S>.
  34. Sasidharan, V., Sirakaya, E., & Kerstetter, D. (2002). Developing countries and tourism ecolabels. *Tourism Management*, 23(2), 161–174. Retrieved from [https://doi.org/10.1016/S0261-5177\(01\)00047-4](https://doi.org/10.1016/S0261-5177(01)00047-4).
  35. Savić, B., Vasiljević, Z., & Milojević, I. (2020). Costing system as an instrument for enhancing environmental performance of entities in agribusiness. *Ekonomika preduzeća*, 68(3-4), 294–303. Retrieved from <https://doi.org/10.5937/EKOPRE2004294S>.
  36. Sipic, T. (2017). Eco-labelling of marine recreation services: the case of Blue Flag price premium in Croatia. *Journal of Ecotourism*, 16(1), 1–23. Retrieved from <https://doi.org/10.1080/14724049.2016.1194848>.
  37. Štetić, S., & Trišić, I. (2018). The role and importance of ecosystems in creating tourism activities. *Hotel and Tourism Management*, 6(2), 35–46. Retrieved from <https://doi.org/10.5937/menhottur1802043S>.
  38. Stojanović, V. (2011). *Tourism and sustainable development*. Novi Sad: University of Novi Sad, Faculty of Sciences, Department of Geography, Tourism and Hotel Management.
  39. Strick, S., & Fenich, G. G. (2013). Green certifications and ecolabels in the MEEC industry: Which are really worth it?. *Journal of Convention and Event Tourism*, 14(2), 162–172. Retrieved from <https://doi.org/10.1080/15470148.2013.782832>.
  40. Stroebe, M. (2015). Tourism and the green economy: inspiring or averting change?. *Third World Quarterly*, 36(12), 2225–2243. Retrieved from <https://doi.org/10.1080/01436597.2015.1071658>.
  41. Tisdell, C., & Wilson, C. (2005). Perceived impacts of ecotourism on environmental learning and conservation: turtle watching as a case study. *Environment, Development and Sustainability*, 7(3), 291–302. Retrieved from <https://doi.org/10.1007/s10668-004-7619-6>.
  42. Trišić, I. (2019). Opportunities for sustainable tourism development and nature conservation in Special Nature Reserve "Deliblatska Peščara". *Hotel and Tourism Management*, 7(1), 83–93. Retrieved from <https://doi.org/10.5937/menhottur1901083T>.

43. Trišić, I. (2020). Natural resources for the nature-based tourism development of the Vojvodina Province. *Hotel and Tourism Management*, 8(2), 101-112. Retrieved from <https://doi.org/10.5937/menhottur2002101T>.
44. Trišić, I., Štetić, S., & Krstić, V. (2018). Possibilities to prevent negative environmental impacts. *Economics of Agriculture*, 65(4), 1599-1614. Retrieved from <https://doi.org/10.5937/ekoPolj1804599T>.
45. Vujović, S., Premović, J., & Spajić, J. (2018). Sustainability aspects of managerial process of creating material basis for tourism. *Zbornik radova Filozofskog fakulteta u Prištini*, 48(4), 297-310. Retrieved from <https://doi.org/10.5937/ZRFFP48-19302>.
46. Walker, H., & Brammer, S. (2012). The relationship between sustainable procurement and e-procurement in the public sector. *International Journal of Production Economics*, 140(1), 256-268. Retrieved from <https://doi.org/10.1016/j.ijpe.2012.01.008>.
47. Waltner, E. M., Rieß, W., & Mischo, C. (2020). Development and validation of an instrument for measuring student sustainability competencies. *Sustainability*, 12(1), 82. Retrieved from <https://doi.org/10.3390/su12010082>.
48. Wang, C., Xu, H., & Li, G. (2018). The corporate philanthropy and legitimacy strategy of tourism firms: a community perspective. *Journal of Sustainable Tourism*, 26(7), 1124-1141. Retrieved from <https://doi.org/10.1080/09669582.2018.1428334>.
49. Waxin, M. F., Knuteson, S. L., & Bartholomew, A. (2019). Drivers and challenges for implementing ISO 14001 environmental management systems in an emerging Gulf Arab country. *Environmental Management*, 63(4), 495-506. Retrieved from <https://doi.org/10.1007/s00267-017-0958-5>.
50. Zolfani, S. H., Sedaghat, M., Maknoon, R., & Zavadskas, E. K. (2015). Sustainable tourism: a comprehensive literature review on frameworks and applications. *Economic Research-Ekonomska istraživanja*, 28(1), 1-30. Retrieved from <https://doi.org/10.1080/1331677X.2014.995895>.



### Igor Trišić

is currently engaged as professor of vocational subjects at the high school of tourism. He received a bachelor's degree from the Faculty of Sciences Novi Sad, Department of Geography, Tourism and Hotel Management and a master's degree in tourism from the Singidunum University in Belgrade. Main fields of scientific interest and research are: tourism development, sustainable tourism, ecology, geocology, environment protection and environmental protection programmes, UNESCO programme: Man and Biosphere (MaB), tourism geography, management and marketing of tourism and hospitality, management of tourism destinations, importance of protected areas and species (IUCN). He wrote more than 40 papers related to the previous topics and joined many international and domestic congresses.



### Snežana Štetić

University professor and Travel consultant, working in Tourism and in education more than 40 years. As a recognized expert in tourism, she is (was) a visiting professor in many countries in Europe. Author of numerous papers, books and book chapters. Published 35 books in fields of Tourism, more than hundred articles, over 40 tourism projects. Main field of scientific interest and research are Tourist development, Sustainable Tourism, environment protection, Specific forms of Tourism, Risks in Tourism and practical training for Tourism studies. Author of specialized business schools in Tourism.

Member of the National Council for Recovery and Development of Tourism of the Republic of Serbia, World Tourism network, Editorial Boards of international magazines. Founder, cofounder, board member or president of several Associations: Balkan Network of Tourism Experts, Association for Tourism and Catering Industry of Serbia, Group for Rural tourism of the SCC, Tourist Guide Association of Serbia, etc.



### Slavoljub Vujović

is Senior Research Associate at the Institute of Economics in Belgrade, where, in addition to scientific research work and consulting, he was the president of the scientific council and director for research and development. He completed his undergraduate and master's studies at the University of Belgrade at the Faculty of Economics, while he defended his doctoral dissertation at the University of Novi Sad, at the Faculty of Science. As an assistant professor and associate professor, the business economics he taught at two private universities, while at two state colleges he taught tourism economics, basics of tourism and business finances.

Ivan Nikolić  
Economics Institute  
Belgrade

Sanja Filipović  
Singidunum University  
and Institute of Social Sciences  
Belgrade

# COMPARATIVE ANALYSIS OF THE ECONOMIC POLICY RESPONSE TO COVID-19 IN THE EU-27 AND REPUBLIC OF SERBIA

Komparativna analiza efekata programa ekonomske pomoći na COVID-19 u zemljama EU-27 i Republici Srbiji

## Abstract

In response to the COVID-19 crisis, a wide range of short-term fiscal, monetary and macroprudential measures have been implemented. The aim of this research is to compare the effects of the package of economic measures implemented in the EU-27 countries and the Republic of Serbia in 2020 according to several criteria, starting from factors which had the impact on the amount of economic aid package to assessing short-term effects on economic activity, labour market and public debt. The results of the research showed that the financial value of the economic aid package in 2020 reflects, above all, the economic capacity and relative wealth of the country, rather than the depth of the crisis that the countries faced. A positive interdependence was found between the financial amount of the economic measures package and the amount of public debt as a percentage of GDP, while a negative interdependence was found between the change in unemployment rate and the volume of economic package aid as a share of GDP. Based on the available data, it is still not possible to determine the positive statistical impact of the economic package aid on economic growth. Such findings are also expected because the measures were primarily tailored to preserve the liquidity of the economy and employment. Besides, a certain period of time is needed for the measures to take effect, which may explain the discrepancy between the amount of aid and the depth of economic activity in 2020. The data showed that the Serbian economy, unlike the Eurozone, recorded moderate debt growth and adequate capitalized banking sector is resistant to credit risk growth.

**Keywords:** COVID-19 crisis, public debt, unemployment, economic growth, indebtedness.

## Sažetak

Kao odgovor na COVID-19 crisis primenjen je širok set kratkoročnih fiskalnih, monetarnih and macroprudential mera. Cilj istraživanja je da uporedi efekte paketa ekonomskih mera koje su tokom 2020. godine primenile zemlje EU-27 i Republika Srbija po nekoliko kriterijuma, počev od faktora koji su uticali na obim pomoći pa do procene kratkoročnih efekata na dinamiku privredne aktivnosti, tržište rada i javni dug. Rezultati istraživanja su pokazali da finansijska vrednost ekonomskog paketa pomoći u 2020. godini odražava, pre svega, ekonomski kapacitet i relativno bogatstvo države, pre nego dubinu krize sa kojom su se zemlje suočile. Utvrđena je pozitivna međuzavisnost između finansijskog iznosa paketa ekonomskih mera i visine javnog duga kao procenta GDP-a, dok je između promene stope nezaposlenosti i obima ekonomskog paketa pomoći kao % GDP-a utvrđena negativna međuzavisnost. Na osnovu dostupnih podataka, još uvek nije moguće utvrditi pozitivan statistički uticaj ekonomskog paketa pomoći na ekonomski rast. Takvi nalazi su i očekivani jer su mere prioritarno bile krojene za očuvanje likvidnosti privrede i broja radnih mesta. Pritom, potreban je i izvestan vremenski period da bi se mere efektivirale što može objasniti prisutnu diskrepancu između visine pomoći i dubine pada privredne aktivnosti u 2020. Podaci su pokazali da je privreda Srbije, za razliku od Eurozone, zabeležila umereni rast zaduženosti i da ima adekvatno kapitalizovan bankarski sektor otporan na rast kreditnog rizika.

**Ključne reči:** COVID-19 kriza, javni dug, nezaposlenost, ekonomski rast, zaduženost.

## Introduction

Due to the state of emergency caused by the COVID-19 pandemic, all EU member states (EU-27), except Ireland, had recorded a recession in 2020. However, the intensity of the decline in economic activity was uneven among countries due to a number of reasons - starting with the difference in the structure of the economy or the relative share of sectors most affected by the crisis (tourism and hospitality, transport, arts, entertainment, etc.), a lockdown strategy including a set of measures which restricted movement and harmed economic activity (for example, lockdown in Germany was less severe than in Italy, France or Spain, and hence Germany recorded a smaller decline in economic activity). Certainly, the final assessment of economic activity in 2020 must take into account the dynamics of economic activity in the first two months of the year, respecting the conjuncture with which the countries entered in the COVID-19 crisis or in economic inertia.

As response to the economic crisis, European countries have applied a wide range of short-term fiscal and monetary measures, as well as macroprudential policy responses most notably capital buffers and liquidity requirements, which stabilized financial markets in the short term [28].

In most of the EU-27 countries, as well as in Serbia, monetary policy measures were applied first. The European Central Bank approved longer-term refinancing operations (LTROs), set up the pandemic emergency purchase program (PEPP), and expanded existing asset purchase programs. Besides, new swap and repo lines were set up with national central banks [14]. Monetary policy measures included lowering of all basic interest rates, providing lines to additional liquidity to banks, approving suspensions in the repayment of debtors' obligations, providing more favourable conditions for loans under the guarantee scheme, etc. Central bank market interventions had an immediate effect on stabilisation of financial markets. Banks were favourably affected by flexible monetary financing, temporary easing of certain capital requirements and government credit guarantees. Thanks to that, in all EU member states, a rapid growth of loans to companies was recorded, with the majority of loans intended for

liquidity and working capital, while investment loans decreased. This trend was recorded in Serbia as well – considering dinar and foreign currency indexed claims of banks in period from March to November, the balance of investment loans to the economy decreased by RSD 3.1 billion while the balance of liquidity and working capital loans increased by RSD 69 billion in the same period.

Fiscal policy measures included the so-called automatic stabilizers (automatic change of tax revenues and transfer payments, primarily in the form of unemployment programs) and discretionary fiscal policy measures (tax relief and / or reduction of tax rates, extraordinary expenditures, where a major part have incentives to preserve jobs and health care). The effect of discretionary measures on both the expenditure and revenue sides is immediate and direct for the budget. However, some tax measures adopted to increase a company's liquidity (such as deferral of taxes or social security contributions) may not have a direct effect on the budget if these amounts are settled at the end of the budget year. This is important to have in mind due to this fact further complicates the assessment of the overall economic aid package as well as fiscal implications during 2020. Also, as the crisis continues, the measures will be applied in 2021. As the pandemic crisis deepened, the set of measures and the financial amount of economic package expanded, increasing the level of public debt.

The aim of the paper is to compare the effects of economic measures to mitigate the negative consequences of COVID-19 crisis during 2020 in European countries according to several criteria, starting from the factors that influenced the volume of economic aid package to assessing short-term effects on economic activity, labour market and public debt. Since an explosive growth of corporate indebtedness has been registered in the EU-27 countries, set of adequate measures and alternative solutions to this problem will be discussed.

The European Court of Auditors (ECA) is the main source of data for quantification of the total amount of economic policy response to COVID-19 in 2020, while for Serbia the key source of data is the Ministry of Finance.

The paper is structured as follows: in the first chapter, the relationship between the scope of economic assistance programs and living standards in the EU-27

and the Republic of Serbia is analysed. The second chapter analyses the effects on public debt, unemployment and economic growth. The third chapter points out the problem of economic debt growth, and the fourth chapter discusses some of the solutions for restructuring the debt of the economy. Finally, summary conclusions are presented.

### Economic policy response to COVID-19 in EU-27 and Republic of Serbia

According to Eurostat [20], the amount of economic policy response to COVID-19 in 2020 among the EU-27 member states countries ranged from 2.2% of GDP in Bulgaria to 43.3% of GDP in Germany (Figure 1). On the other hand, the Ministry of Finance of the Republic of Serbia announced that in 2020, the total economic package of aid for the rehabilitation of the negative effects of COVID-19 amounted 12.7% of GDP, which ranked Serbia on the first place among countries in the Southeast Europe.

Analysing the volume of economic aid packages in absolute amount and the amount of GDP per capita, it was shown that the volume of aid was determined, above all, by the wealth of the country, and not by the depth of the decline in economic activity. Thus, countries with higher GDP per capita have applied more generous fiscal aid packages so that the scale and content of the measures adopted reflect the relative wealth of member

states rather than necessarily the estimated reduction in economic activity (Figure 2).

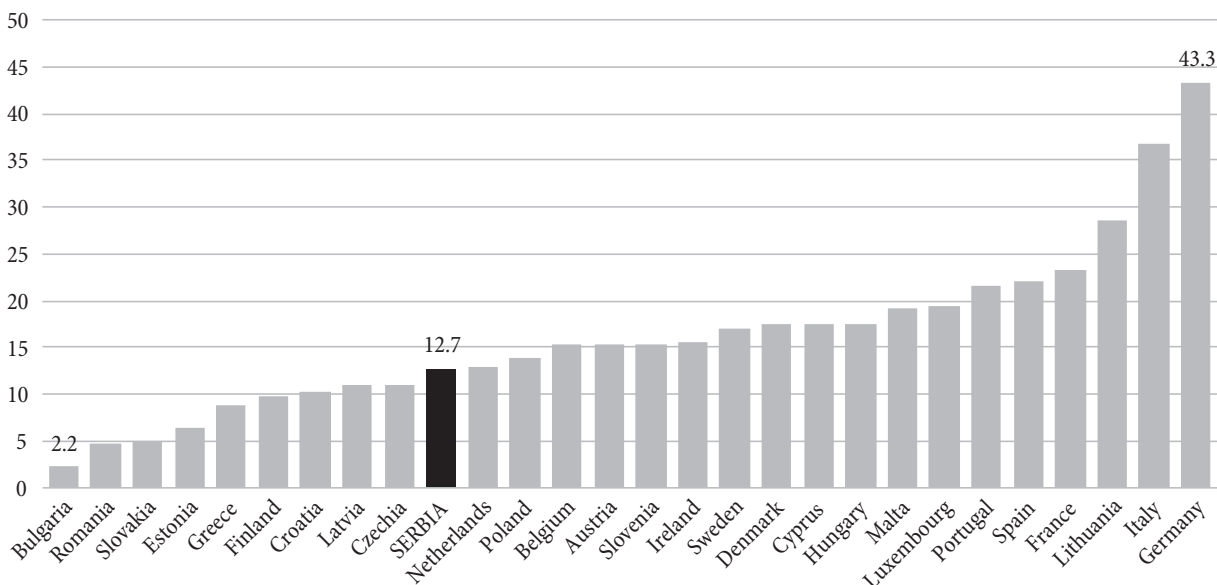
The regression line perfectly approximates this data set although the coefficient of determination is almost 70%. In that sense, if this approximation is taken as a measure of the “optimum” of state aid in the fight against the pandemic, then it is simple to calculate the degree of deviation, i.e. the success of the calibration of aid by countries. Figure 3 shows that the closest to the “optimum” were Cyprus and Luxembourg; and there are also Denmark, Sweden, Slovenia, Malta, Hungary, Poland and Serbia.

It should be noted that the “optimal” amount of aid, according to this account, for Serbia is 745 EUR per capita. While the economic aid package, according to the Ministry of Finance, reached the value of 841 EUR by the end of 2020, the deviation upwards is exactly 96 EUR (that is, the value corresponding to the payment of one-time aid of 100 EUR to all adult citizens of the Republic of Serbia at the end of April).

### Effects of economic response on public debt, unemployment and economic growth

According to the latest Eurostat data for the EU-27, at the end of the third quarter of 2020 in comparison to the third quarter of 2019, the government debt to GDP

Figure 1: Economic policy response to COVID-19 in 2020 (% GDP)



Source: ECA data for EU countries and Ministry of finance RS for Serbia.



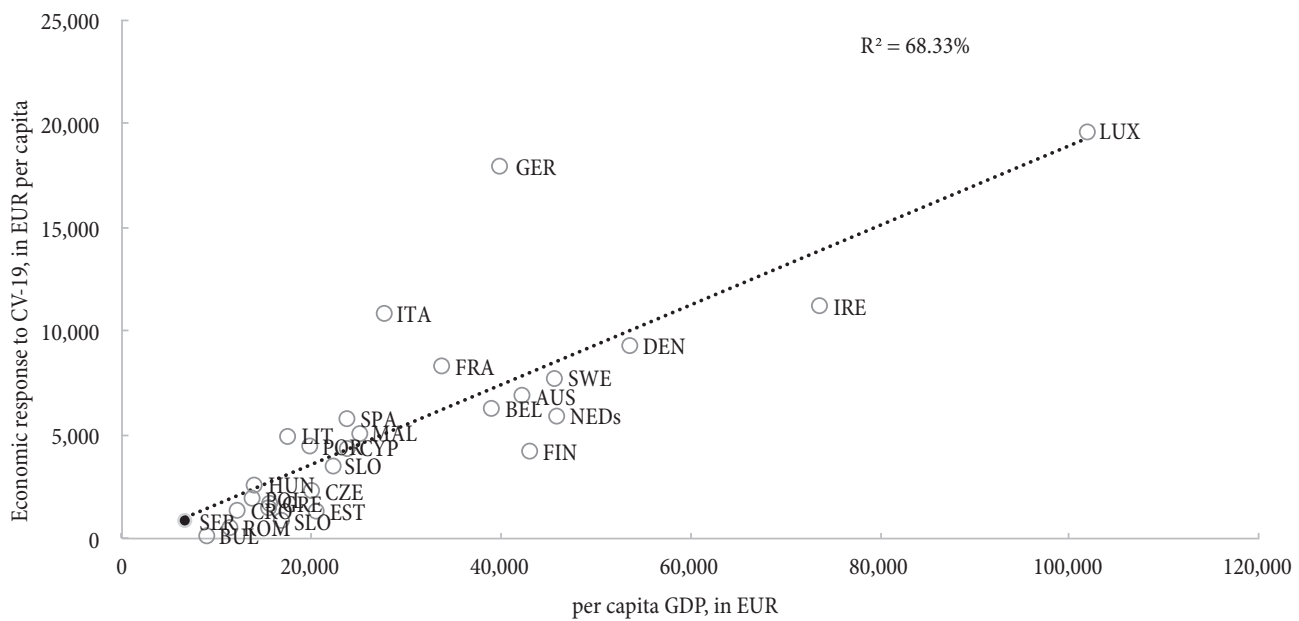
ratio increased from 79.2% to 89.8%. The highest ratios of government debt to GDP were recorded in Greece (199.9%), Italy (154.2%), Portugal (130.8%), Cyprus (119.5%), France (116.5%), Spain (114.1%) and Belgium (113.2%), and the lowest in Estonia (18.5%), Bulgaria (25.3%) and Luxembourg (26.1%). At the same time, Serbia recorded ratio of government debt to GDP 56.7%.

Analysing the volume of state aid and the amount of public debt as percentage of GDP in the EU-27 and Serbia, a positive interdependence is recorded (Figure 4).

At the same time, due to the current economic situation, there are pressures to further increase of the projected deficit and public debt (Figure 5).

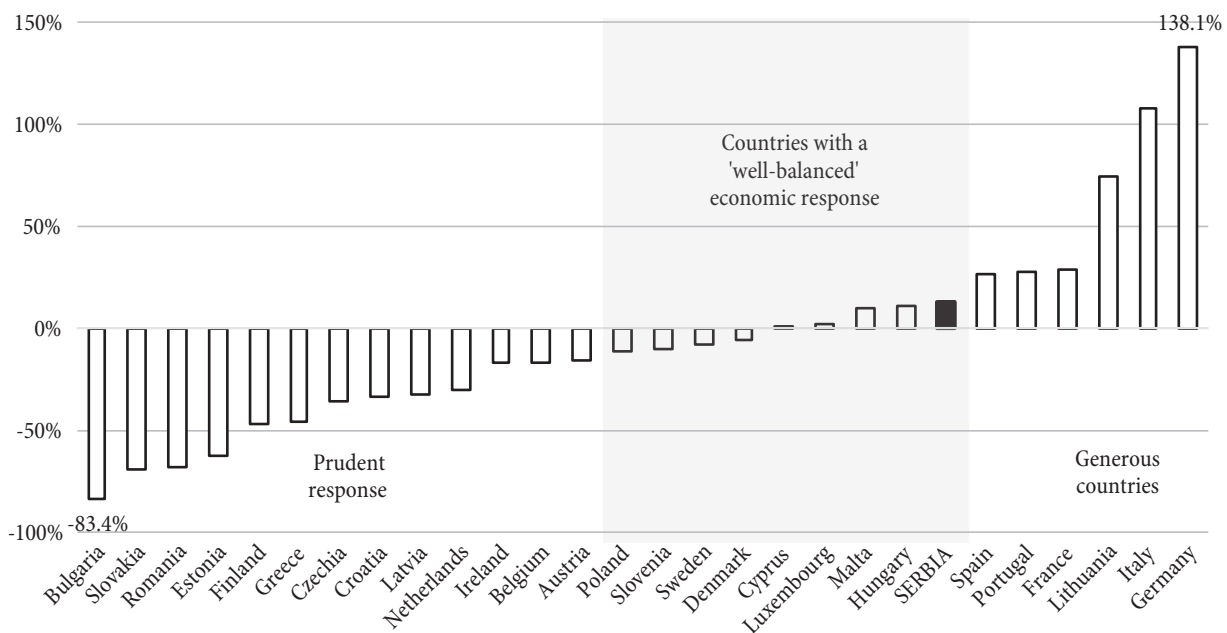
COVID-19 crisis and great lockdown, have caused an unprecedented level of economic uncertainty which

Figure 2: Economic response to COVID-19 (€ per capita) vs. per capita GDP, in 2020



Source: Calculated on the basis of EUROSTAT and ECA data.

Figure 3: Assessing the success of the calibration of economic response package in 2020 (% deviation from the 'well-balance' response defined by the regression line in Figure 2)

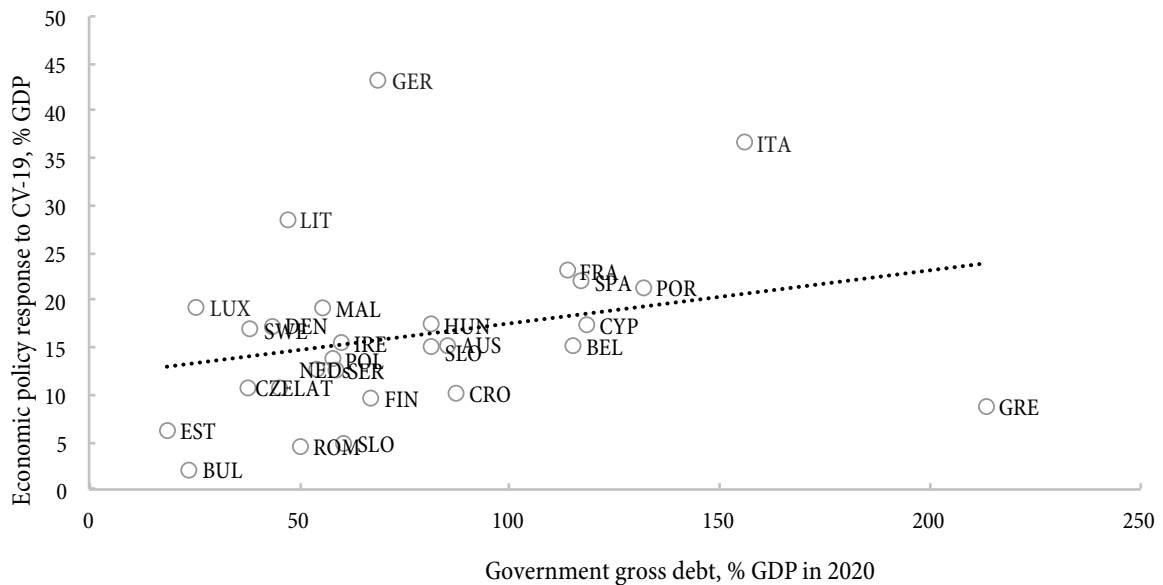


Source: Calculated on the basis of EUROSTAT and ECA data.

is similar or even higher than during the Great Recession of 2007-2009. Facing with overall economic anxiety, EU member states adopted different policy measures, such as short-time working schemes [38]. Besides, in March 2020 the EU adopted Temporary State Aid Framework to support the economy in the current COVID-19 outbreak [19]. In that way, a direct support for the EU member states included subsidies of EUR 500,000 per company, state guarantees for loans and subsidized interest rates. Most of the state aid measures were aimed at preserving

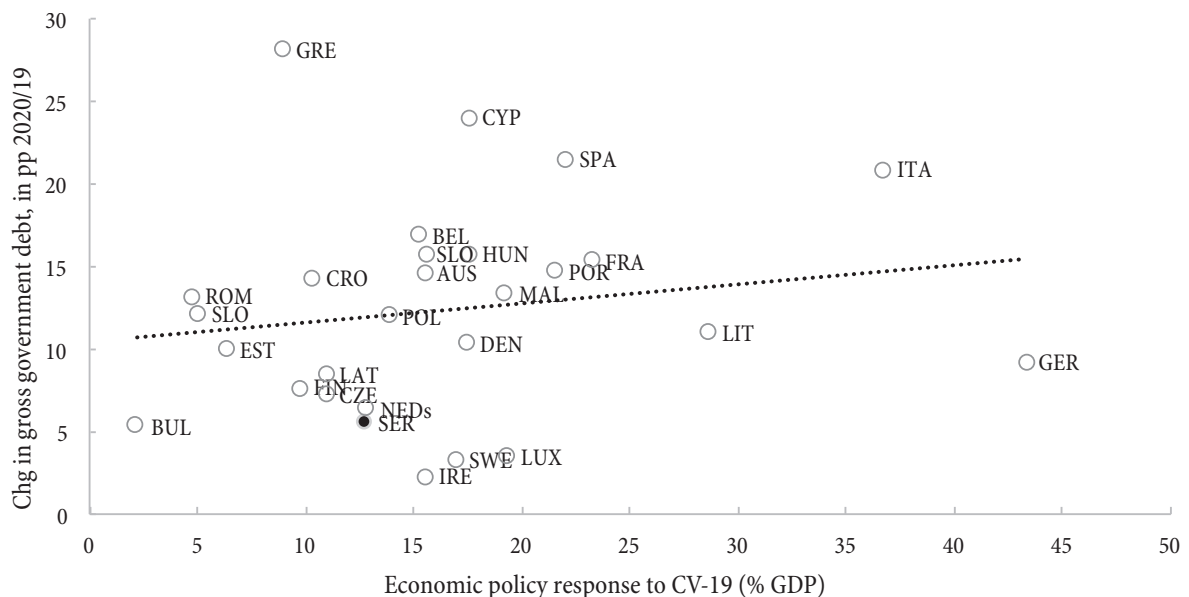
jobs and alleviating the insolvency of the economy, which is in line with the economic policy guidelines that the European Commission sent to the member states on March 13 [18]. The document states that fiscal measures should be aimed at households and companies, in order to strengthen the liquidity of companies and prevent mass layoffs. The plan was implemented operationally, mostly through part-time programs, where companies faced with difficulties in temporarily reducing the number of working hours received compensation from the state for

Figure 4: Economic response to CV-19 vs. public debt in 2020, % GDP



Source: Calculated on the basis of IMF (WEO April 2021) and ECA data.

Figure 5: Public debt growth in 2020



Source: Calculated on the basis of IMF (WEO April 2021) and ECA data.

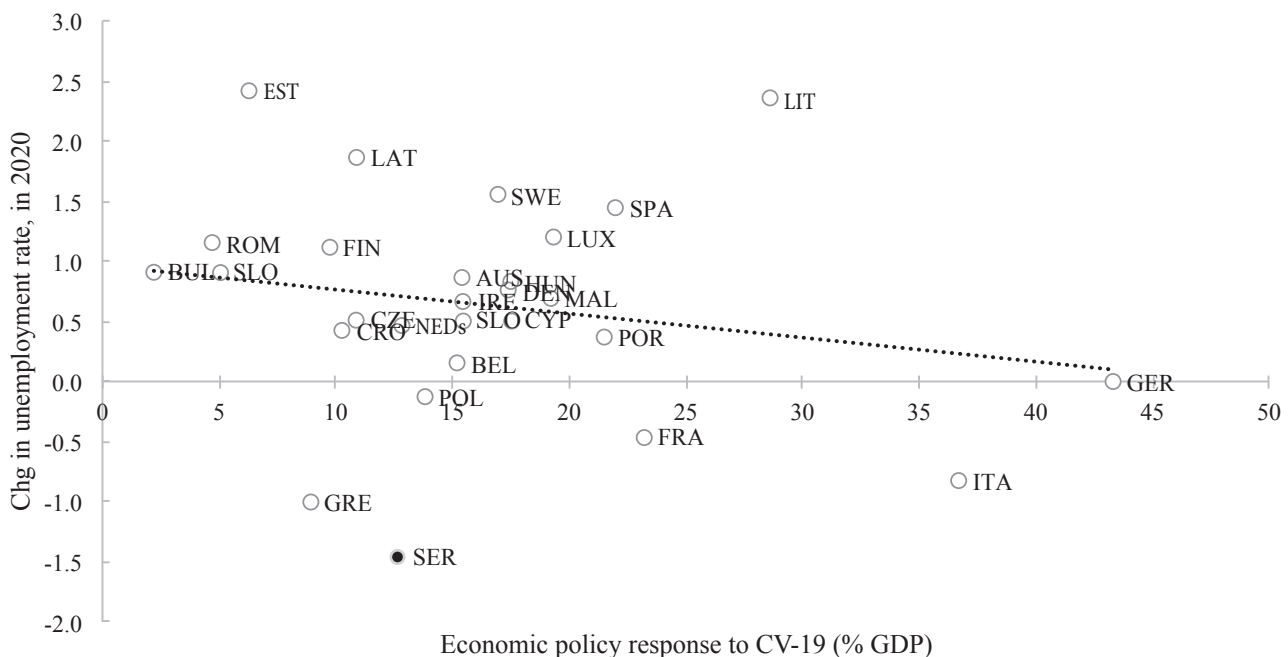
hours not worked, while maintaining a high level of wages for workers. For example, at the height of the pandemic, during April, more than a quarter of the total EU workforce was covered by this support program [29].

It should not be forgotten that Western European countries had already been faced the problem of external migration which already generated not only a high unemployment rate, but also an additional pressure on social programs in these countries. However, external migration can sometimes have positive consequences on their origin countries (e.g. South East European countries) where there is evident shortage of labour in some specific sectors such as constructions, manufacturing industry, etc. [3]. Analysing the increase of the unemployment rate in 2020 compared to 2019 in percentage points (Sep-Oct 2020 compared to April 2020) and state aid as percentage of GDP, an expected negative interdependence between the unemployment rate and the relative amount of state aid can be noticed. Countries where aid was more restrictive on average recorded a higher increase in the unemployment rate during 2020 (Figure 6). The European program in this segment was more efficient than the one in the USA, where only the period of payment of unemployment benefits was extended. That is why the unemployment rate in the United States grew much faster [25].

Based on the available data, it is still not possible to determine the positive statistical impact of state aid on GDP growth. Moreover, Figure 7 shows a different relation - higher relative state aid in the fight against the consequences of the COVID-19 pandemic resulted in a deeper fall in GDP. There is no significant difference in the conclusion whether data are considered for the whole year (the estimation of real GDP decline was taken from the November projection of the European Commission, except for Serbia where according to the Republic Statistical Office the decline was 1.0%) or the quarterly dynamics is analysed (growth of economic activity in the third in relation to the second quarter). Thus, in both cases, a better GDP result is not positively correlated with a larger economic aid package.

This paradox can be explained, above all, by the different economic situation at the time of the escalation of the crisis. Along with Ireland, Serbia has been at the very top of Europe in terms of GDP growth since the third quarter of 2019 (convincingly the best in the last quarter of 2019). By inertia, that economic growth will have a positive effect in 2020 as well. In addition, the effect of the economic structure is important. The largest decline in GDP is in countries where the dominant share of services (tourism, hospitality, transport) and where demand has

Figure 6: The unemployment impact of COVID-19 in 2020



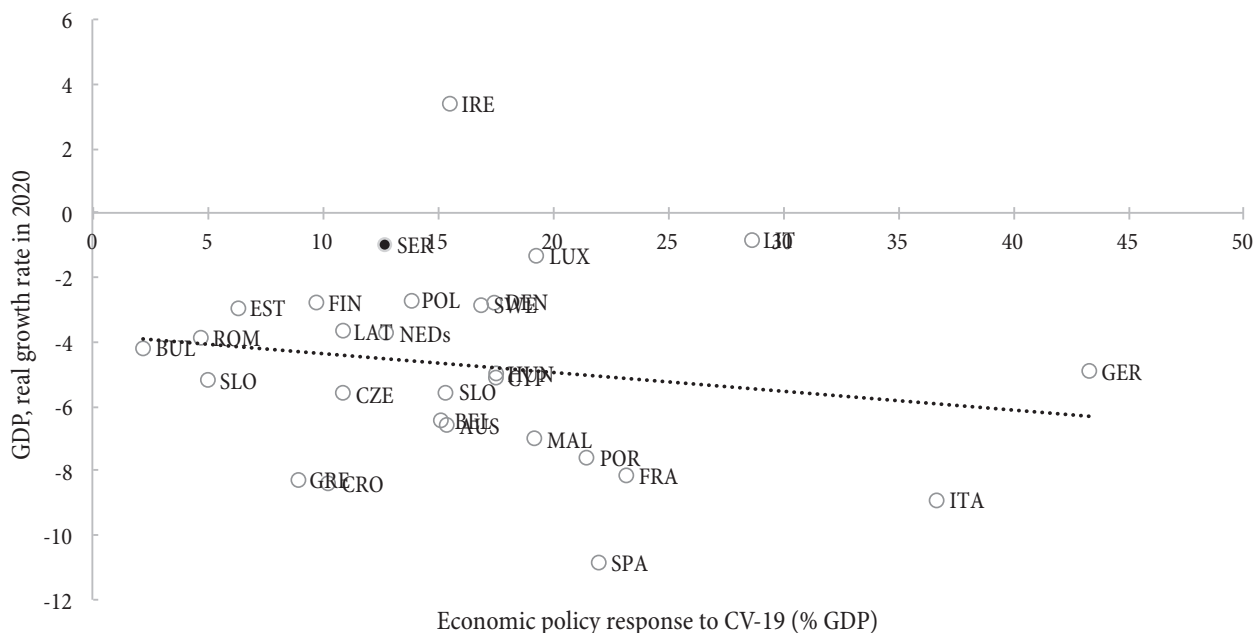
Source: Calculated on the basis of IMF (WEO April 2021) and ECA data.

dropped dramatically due to limited mobility of people. Above all, it is possible that the negative slope of the regression line in Figure 7 comes from simple regression, without controlling for other factors (such as structure of the economy or rigidity of containment measures).

Considering structure of fiscal support, fiscal measures in the EU-27 in 2020 were predominantly directed to the non-financial business sector of the economy (84%),

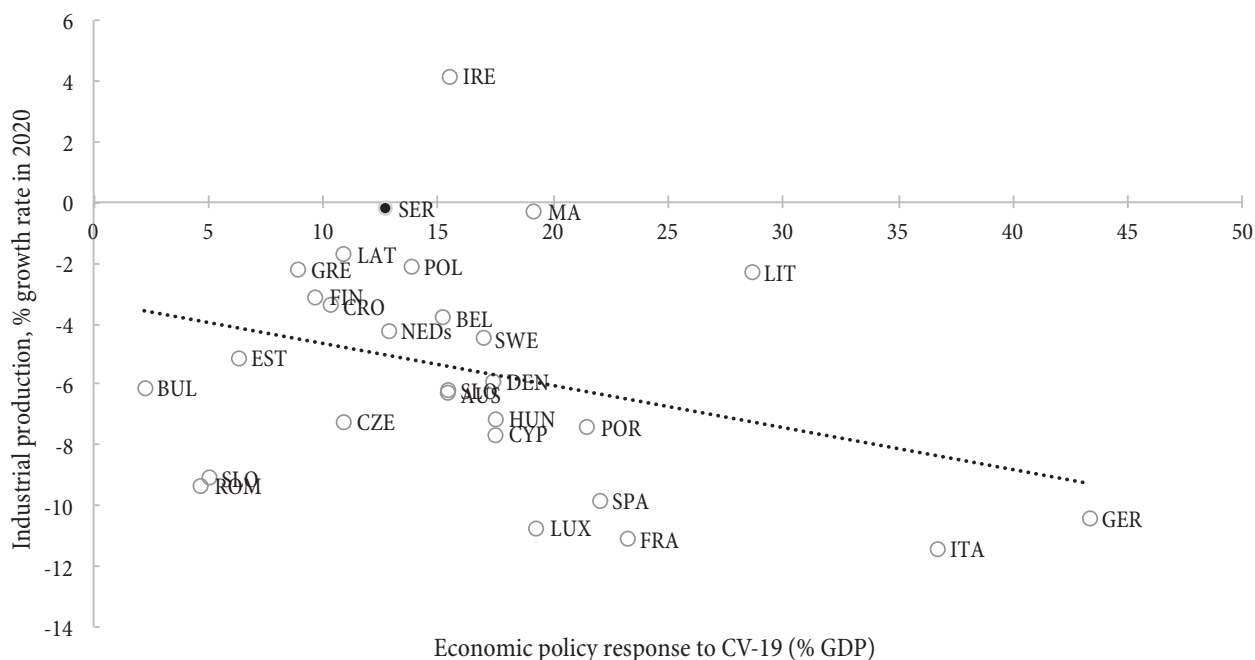
followed by households (8%) and other sectors. Despite the fact that at the end of autumn 2020, industrial production and retail trade are recovering faster in countries that have chosen a more generous package of assistance to the economy, by completing the data for the whole year we got the same result as for total economic activity measured by GDP. Thus, in the short run, the significant positive statistical impact of economic aid packages and

Figure 7: Economic response to COVID-19 vs GDP growth in 2020



Source: Calculated on the basis of Eurostat and ECA data.

Figure 8: Industrial production, % increase (average Sept-Oct 2020 compared to April 2020)



Source: Calculated on the basis of IMF (WEO April 2021) and ECA data.

industrial production (Figure 8) as well as retail trade turnover (Figure 9) still cannot be captured.

The previous finding is probably unexpected for the creators of support measures. It also requires a more cautious interpretation, given the fact that despite the clear interdependence, it cannot be claimed whether a less valuable aid package would keep economic activity at the level recorded during 2020. In particular, whether the decline would be much deeper in that case.

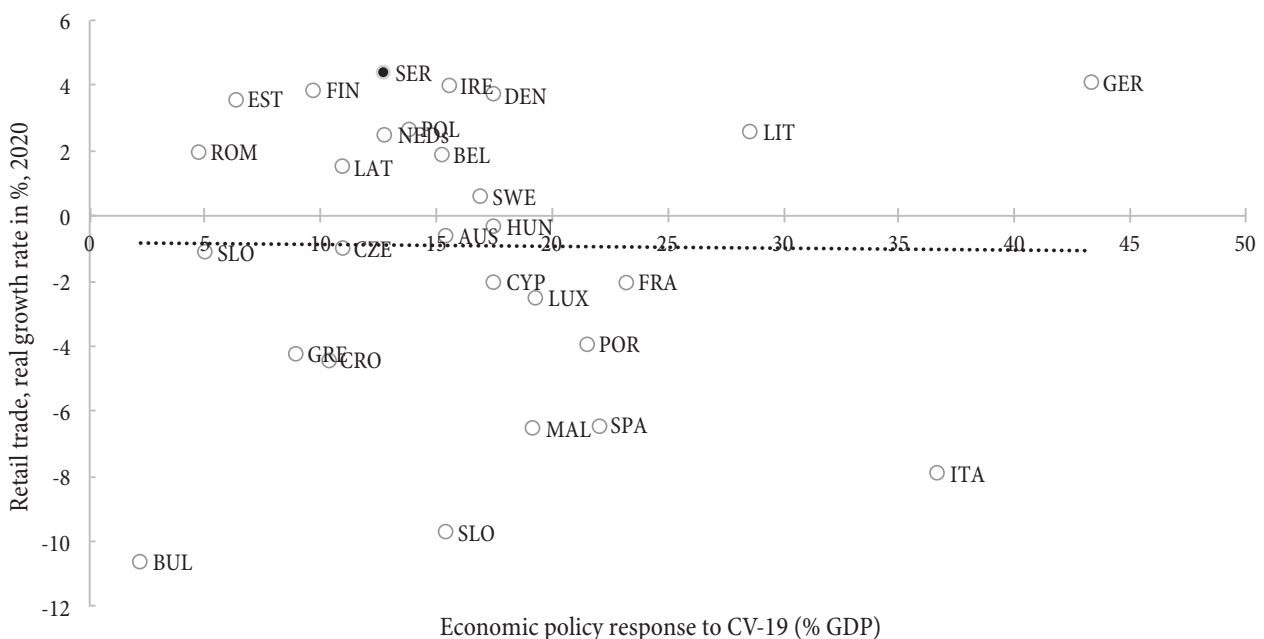
### The effects of the COVID-19 crisis on the indebtedness of the economy

Corporate sector indebtedness recorded a record-high levels at the time of the outbreak in early 2020. Companies which entered the COVID-19 crisis with high levels of overhang had slower or even negative growth. The economic shutdown and revenues contractions, which were most severe in tourism, leisure and related industries, additionally got worse companies' cash flows and increased a high risk of bankruptcy [21, 37]. In addition to the mentioned sectors, SMEs companies are especially exposed in terms of massive job losses and other economic scars, as well as in terms of rising market power among dominant firms as they emerge even stronger while smaller rivals fall away [23].

Analysing corporate indebtedness, Baines showed that the respond from large and small companies is not the same. Empirical data showed that large non-financial companies experienced leverage increase, while their debt servicing burdens decreased. Contrary, smaller companies experienced sharp deleveraging alongside increasing debt servicing costs [4]. Empirical data showed that SMSs sector is particularly hit by decline in profitability, which together with a sharp rise in the financial pressure undermine and their solvency [6]. Even though cash holdings are expensive for companies (considering opportunity costs), the COVID-19 crisis highlighted the importance of precautionary cash holdings for firm value [35].

Based on data for 6,000 companies in 56 countries during the first quarter of 2020, it is recorded that companies with greater hedge fund ownership performed worse, while those with larger non-financial corporate ownership performed better [39]. According to estimations [30], COVID-19 generated cumulative net revenue losses for EU companies in the range of 5.4% to 10.0% of assets. Companies already entered the COVID-19 crisis having high leverage, while the pandemia has significantly increased the insolvency risk and debt levels [22]. There are BIS estimations that if 2020 revenues fall by 25%, then in the absence of any rollover, debt service and operating

Figure 9: Turnover in retail trade, % increase (average Sep-Oct 2020 compared to April 2020)



Source: Calculated on the basis of IMF (WEO April 2021) and ECA data.

expenses will exceed cash buffers and revenues in more than half of the firms sampled [5]. Based on data for the first half of 2020, there is estimation that the combination of high prior debt overhang and revenue contractions lead companies in the most affected industries to grow 10% percent more slowly than in a Great Recession crisis [7].

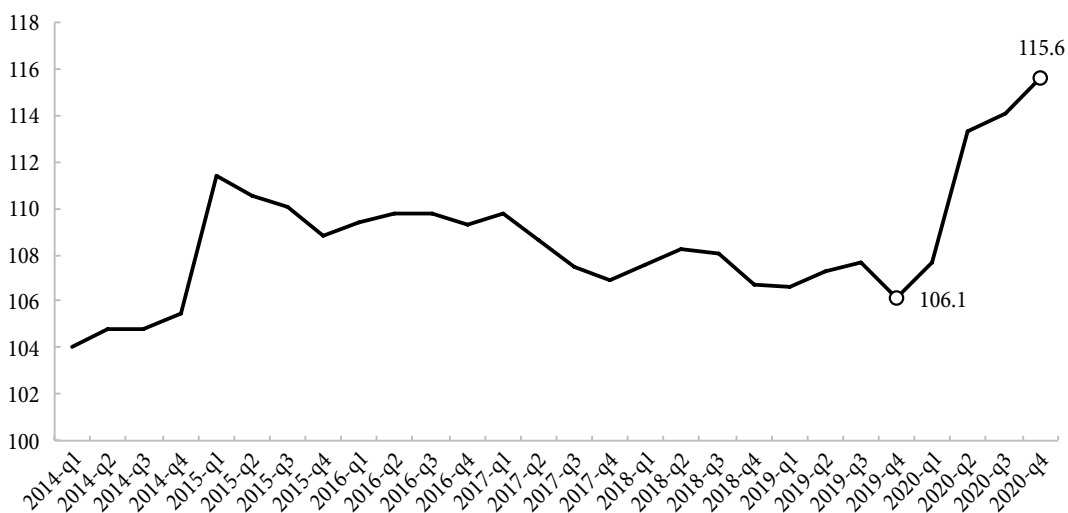
Eurozone has registered an exponential growth of corporate sector indebtedness since March 2020. Thus, the share of corporate debt of the non-financial business sector in GDP increased by 9.1 pp, from 106.3% of GDP at the end of 2019 to 115.4% in the fourth quarter 2020 (Figure 10). Additionally, as a result of the considerable associated uncertainty, equity prices fell by more than 30% from February to mid-March 2020 and began to recover

after the announcement of the pandemic emergency purchase program [2].

It is expected that companies' demand for loans or drawing of credit lines will increase during this year while banks tightening their credit standards to companies without government guarantees reflecting rising risks. Especially there is a very strong net increase in demand for loans or credit lines with government guarantees, which is driven by companies' need to make precautionary liquidity buffers and to cover acute liquidity needs [15].

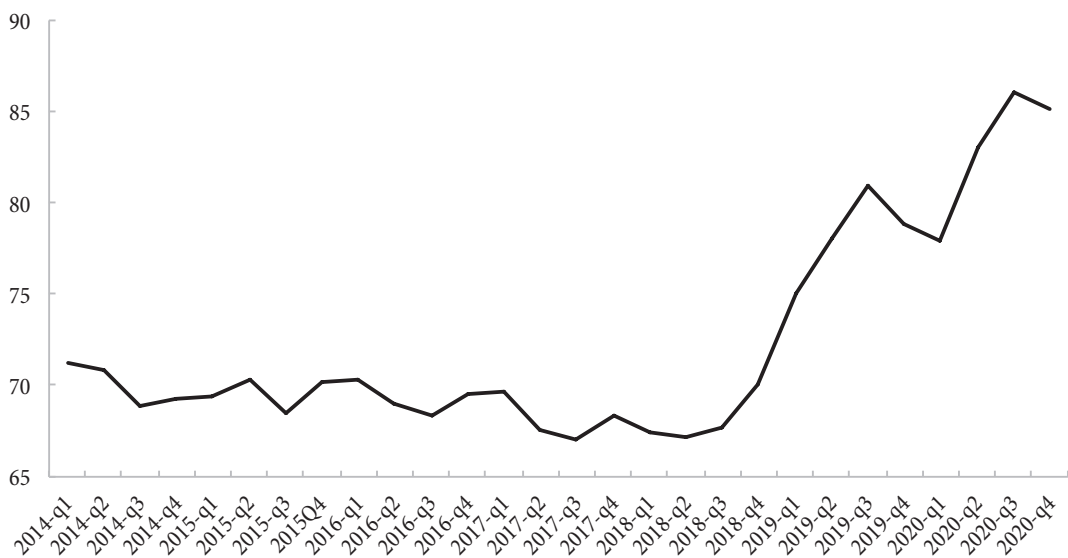
The ratio of total indebtedness, which expresses the relative share of debt in total sources of financing (higher ratio of financial leverage means higher risk for the creditor) is higher by one fifth (Figure 11). The final

Figure 10. Corporate debt-to-GDP ratio in Eurozone, %



Note: Corporate debt = Debt securities + Loans; Source: calculation based on Eurostat, Financial balance sheets.

Figure 11: Leverage ratio of non-financial sector in Eurozone



Source: Calculated on the basis of ECB data [16].

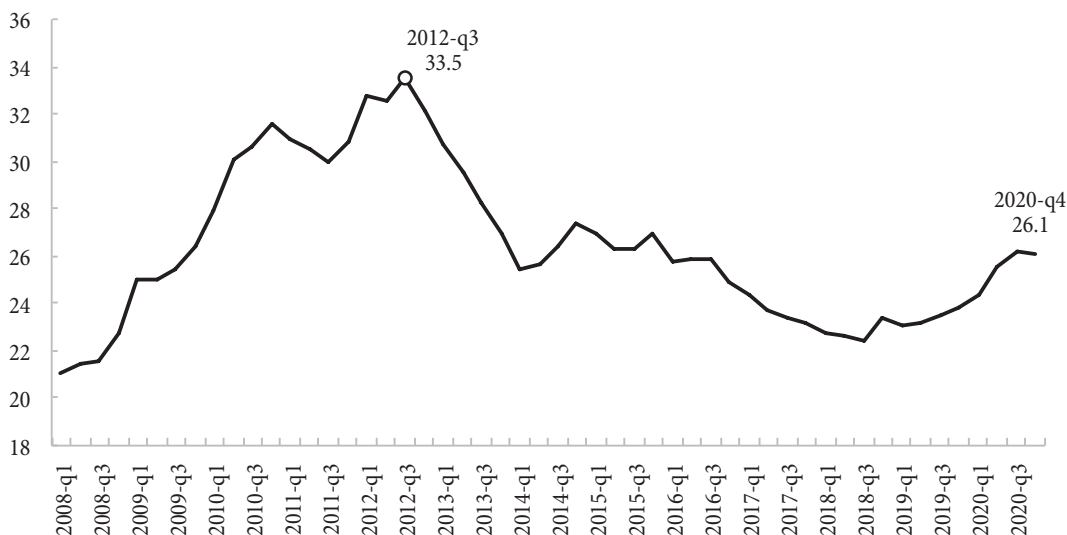
balance will be even more unfavourable when the results for the beginning of 2021 arrive. Excessive debt will significantly limit investment and non-performing loans (NPLs) will increase. In comparison with the 2008 crisis, the COVID-19 crisis was not preceded by a credit boom. Even though today banks have higher capital, they are less profitable. Compared to 2008, most European countries have significantly higher public debt, so credit losses from corporate distress will rise and could overwhelm banks, further complicating NPL resolution [36]

Corporate debt in Europe reflects long-term trends of falling interest rates, expansion and compressed credit spreads. During the COVID-19 crisis, corporate cash flows are deteriorating and collateral values are falling which resulted in a rapid deterioration in credit quality. It is obvious that corporate leverage and problems in business cycle, needs urgent debt restructuring measures which can include reducing capital requirements for banks that write down excessive debt burdens or accept debt-for-equity swaps and offering tax inducements for debt write-downs [8]. However, if the government is involved in corporate debt restructuring, this interventions can have effects on public finances. Since the existing literature provides only a partial view of corporate debt as it usually focuses on specific markets and borrowers, it seems that is needed a more detail analysis on the levels and composition of corporate debt across economies [1].

Up to now, state aid and incentive policies (such as loan guarantees and moratoriums, along with capital relief) have resulted in preventing a liquidity crisis by about half and short-circuiting the doom loop between corporate and financial sector fragility [13]. This is indicated by a sharp increase in the value of the liquidity ratio (a measure of a company's ability to meet its short-term obligations with the most liquid assets) that reached its highest level in 12 years at the end of the third quarter. Similar conclusions arise when looking at the value of the current ratio (the relationship between current assets and current liabilities). For example, in the EU, in the case of medium-sized companies, the value of that ratio increased from 1.3 in fourth quarter 2019 to an estimated 1.4 in third quarter 2020 [31]. State aid has enabled companies to finance working capital and compensate for reduced revenues. Thus, the insolvency tsunami was stopped, permanent damage to production capacities was avoided, as well as mass layoffs.

Unlike the Eurozone, according to the National Bank of Serbia, the Serbian economy recorded a moderate growth of indebtedness in 2020. The share of corporate debt in GDP at the end of last year compared to the fourth quarter of 2019 increased by only 2.3 percentage points, to 26.1% (Figure 12). The debt of the real sector of economy is still almost a quarter lower in comparison to the highest level of indebtedness recorded in the third quarter of 2012.

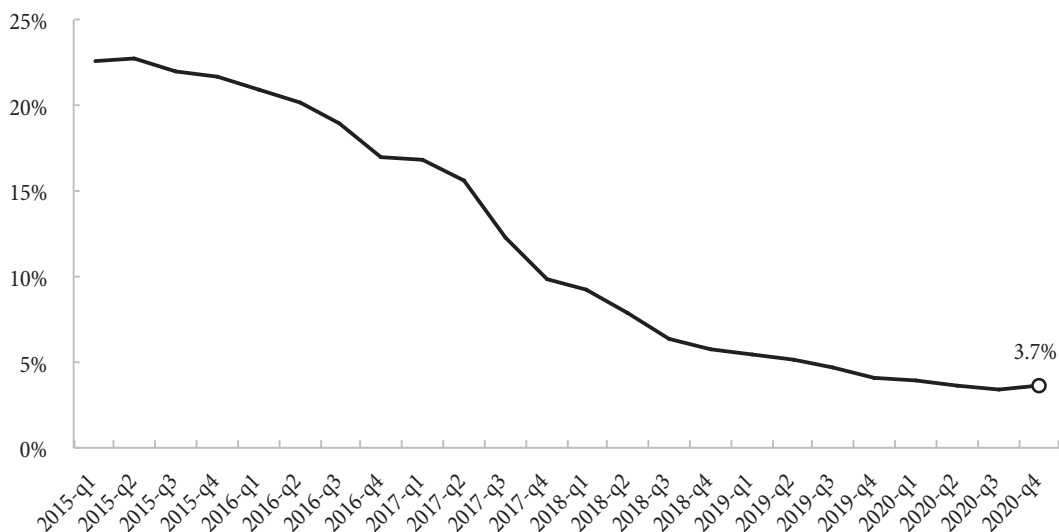
Figure 12: Corporate debt of Serbian non-financial sector, % GDP



Source: National Bank of Serbia.

Note: claims of the domestic banking sector include newly introduced corporate bonds from the third quarter of 2020. Source: author's calculation based on the National Bank of Serbia database.

Figure 13: Non-performing loans to total gross loans in Serbia



Source: National Bank of Serbia.

The debt of the economy expressed in this way refers to the exposure of companies (public and private companies) to domestic banks, i.e. on the total claims of the domestic banking sector from public companies and companies in the Republic of Serbia, which include corporate bonds, as a new type of financing the economy that began in September 2020. At the same time, nothing in the conclusion would change if we increased this debt for foreign borrowings of the company (cross-border) nor accrual of stock of enterprises external debt. Vicerlike, total amount of enterprises external debt increased by EUR 1,032.5 million (at a level of EUR 12,001 million, as of December 31, 2020) or only 1,96 percentage points of GDP in 2020.

Available data indicate that in 2020, Serbia maintained high efficiency of the financial market, credit activity and support to the economy (Figure 13). The banking sector is adequately capitalized and resilient to credit risk growth due to the still unfavourable macroeconomic trends caused by COVID-19. This is evidenced by the share of NPL in total loans, which at the end of last year was reduced to the lowest level since the beginning of the implementation of the Strategy for resolving NPL issues.

### Debt restructuring - potential options

The sovereign credit default swap (CDS) market has grown rapidly during the past three decades and become one of

the main financial instruments to manage credit risk. Based on daily observations for 77 countries in the first half of 2020, there is empirical evidence that COVID-19 crisis has had a significant impact on sovereign CDS spreads across all countries, while the adverse effect is more pronounced in advanced economies [10].

Historical experience points to the conclusion that the public sector must be an active participant in solving the problem of debt growth - it should proactively provide the necessary incentives and enable coordination between creditors and debtors. In time of COVID-19 crisis, solving debt problem will correspond to a speed and effectiveness of policy measures [27]. Given the intensity of the shock and the role of public guarantees as part of the debt, the imperative for an active government response is even greater. The European Commission and the Member States need a clear joint action plan in order to take full advantage of the set of tools available and carry out the necessary restructuring. Current discussions in the EU are again focused on the issue of resolving NPLs and the importance of freeing the balance sheet of banks for new loans. The proposed solutions range from generating networks of asset management companies (AMCs) to reliance on strengthened bank capital reserves and encouragement of NPLs sales on secondary markets [32].

These are feasible and tried-and-tested solutions. The focus on banks and their balance sheets again masks and widens the macroeconomic impact of over-indebtedness.



The advantage of AMC is that, as a rule, it owns easily marketable assets. However, Europe is currently facing an increasing number of companies, especially in the SME's segment, which do not have adequate collateral. Even if banks can dispose of NPLs through AMC and the secondary market, it remains questionable whether a solution to hard-to-collect receivables will be sought in the restructuring or liquidation of companies, even sustainable ones.

One of the solutions mentioned is the introduction of the European deposit insurance scheme, which should ensure the stabilization of depositors, as well as help prevent further increases in public debt to GDP in the event that national deposit guarantee funds are exhausted or when there is very little space for the application of measures in fiscal policy [11].

If we consider political will, there is still no agreement in the European Council about the so-called “instrument to support solvency” economy. Attitudes are ambivalent because the EU member states have already generated huge fiscal costs in order to mitigate the negative effects of the pandemic. There are even suggestions that some costs should be allocated to the parts of the private sector that can best bear it with minimal adverse effects. Although injections of public capital will certainly be needed during this year, there is a growing opinion that in this way the costs would be reduced and much better economic results would be achieved.

No matter how much the restructuring of companies that are able to continue doing business is theoretically the optimal option, for private creditors the end result may be something completely different. In practice, it happens that the restructuring process is accompanied by short-sighted, non-cooperative and harmful decisions of creditors, with the aspiration to settle as quickly as it possible, even if a sustainability of company is questionable.

Institutional factors and efficient bankruptcy procedure play an important role in this regard. For example, bankruptcy proceedings in Europe are significantly more rigid than in the United States, which many see as an important reason for the slower recovery of the European economy [9]. There are empirical studies suggesting that institutional factors related to corporate debt are crucial for economic recovery

[24]. Even now, out-of-court proceedings and mediation are proposed as effective alternatives.

The fact is that in Europe, bankruptcies can last for years, but also that the practice differs between member states and that some reforms have already been implemented. For example, a mechanism for imposing a reorganization or restructuring plan on a cram down mechanism has been introduced, although it also has certain weaknesses. Imposing against the will of creditors makes this institute problematic, because restructuring implies the cooperation of all relevant parties, and it is quite justified that a key creditor, alone or in cooperation with other creditors, can obstruct the restructuring. Another argument against this mechanism is that it implies a significant role of the court, and wrong court decisions and a significant extension of the procedure are possible, which can make the whole procedure completely meaningless [34]. Although the number of preventive out-of-court restructuring is growing, formal procedures that usually end in liquidation still prevail [33]. The outcome of which the largest number of European businessmen are afraid of.

For this reason, an urgent, joint and consistent European response to these challenges is needed. Perhaps in the form of a new strategy, with a precise action plan to, on the one hand, accelerate the necessary restructuring. Before that, companies were brought to the edge of insolvency, and at the same time the conditions for ‘fair play’ were imposed on everyone, without exceptions.

The regulatory basis for action would be the “Directive 2019/1023” on restructuring and insolvency [17] and its unconditional implementation. Self-initiated restructuring and all possibilities of ‘out-of-court’ reaching a compromise solution, before declaring formal insolvency, will be encouraged. The whole process must be provided with adequate resources (time boundaries and money restrictions are present, and there is no monitoring and control of the implementation of restructuring without appropriate institutions and professional staff). No matter how much institutions are strong and independent, the political leadership must be engaged in the process of persuading creditors to accept reorganization and restructuring plans. This is a very interesting proposal,

despite the fact that it is attributed only to solving the problems of the largest systems and strategic companies. In support of this option, the Ministry of Finance of France (The Comité Interministériel de Restructuration Industrielle) is given as an example of institution which actively arbitrates in negotiations that are important for the country's economy [26].

The forthcoming action of mass restructuring is burdened by numerous dilemmas. The key question is who should be restructured? The answer is that only sustainable companies or those that have a long-term development perspective should be restructured. Otherwise, the principle of competition is violated and resources are misallocated. But it is not easy to determine who is sustainable and who is not. Will structural business changes during a pandemic (such as work from home) be reflected in companies in the future? Common guidelines could ensure that 'temporary' tolerance does not mask support for firms that do not need to survive, all to the detriment of new business models. Besides, it is possible that business conditions before the pandemic will never return, so it would be completely wrong to follow the estimates based on cross-sections from the earlier period.

Having in mind size, fixed costs, capital structure, and diversity of SME's, the next challenge is their treatment. In earlier economic crises, the burden of large-scale restructuring fell on the shoulders of the SME sector. The problem is their diversity and number, which makes it difficult to locate the most endangered. That is reason why the economic package of aid now must be more comprehensive and flexible, which again cannot be realized without more serious state incentives. Here, it will probably be necessary or inevitable to offer a one-time debt write-off, perhaps for tax liabilities and obligations to mandatory social insurance organizations.

The dilemma is also how to deal with debt from the pre-COVID 19 period. Debt incurred during a pandemic should not be a moral hazard. However, this debt cannot be substantially separated from the inherited debt from the pre-crisis period. Successful restructuring and further survival is possible only if the debt is treated uniformly.

Additionally, there is dilemma of debt-to-equity conversion. Namely, in order to strengthen the European

capital market, the European Commission launched an initiative in 2015 called the Capital Markets Union. The initiative included measures aimed at creating a truly integrated single capital market by 2019. Obviously this has not been realized, but it is still believed that it can contribute to increased investment, GDP growth and job creation.

The capital market should play a more significant role in financing the European economy, especially in the period after the COVID-19 crisis. Accordingly, the Action Plan is updated and supplemented with new priority measures. Restructuring is a chance to strengthen the capital market, especially in area of debt conversion into capital. The whole process should certainly be specified and priorities should be determined, which would be acceptable for creditors as well. This is an area where even European asset management companies (AMCs) can operate effectively. They would take over and manage the assets of the original owners, which would help the financial consolidation of banks, but also maximize the recovery rate of problem loans. The assets could be sold on the secondary market or transferred to a larger state investment fund.

Certainly policy makers need to find some solution between prematurely ending of support and providing too long comprehensive support. Although debt financing is an option in the case of resolving current liquidity constraints, a solution may also be to recapitalize a company that (e.g. preferred stocks) which reduces corporate debt. Policymakers may consider establishing legal conditions that favour new financing for firms in need (e.g., prioritizing unsecured existing creditors), promoting a pre-insolvency framework, and adopting special procedures to facilitate SME debt restructuring [12].

## Conclusion

European countries have applied a wide range of short-term fiscal, monetary and macroprudential measures in response to the COVID-19 crisis. The results of the research showed that the financial value of the state aid package reflected, above all, the economic capacity and relative wealth of the countries, and not how much the

crisis hit them hard. Thus, the most generous economic aid package was implemented in Germany (as much as 43.4%), while in Bulgaria the share of the economic package was only at the level of 2.2% of GDP. Compared to the EU-27 member states, Republic of Serbia is ranked in the middle with about 12.7% of GDP.

Contrary to the Eurozone, Republic of Serbia recorded a moderate growth of indebtedness in 2020. Republic of Serbia also had an adequately capitalized banking sector resistant to credit risk growth, which can be supported by the fact that the share of NPL in total credits at the end of 2020 was the lowest since the beginning of the implementation of the Strategy for resolving NPL issues.

The COVID-19 crisis will further exacerbate economic inequalities between European countries in the coming years. At the same time, the prospects for the growth of economic activity have changed. With all the previous limitations, the new unfavourable circumstances are different economic policies that, through fiscal instruments, seriously distort the current market competition, although countries have different capacities to implement economic policy response during the crisis. Differences are also growing due to rising unemployment, cut down on investment flows and risks in the area of financial stability, which could occur if the problems spread to the financial sector. Increasing public debt and concerns about its sustainability could consequently limit the fiscal capacity to adequately respond to future crises and implementation of long-term sustainable EU development strategies. Therefore, there is a risk that new national financial constraints will be introduced in the coming period. At the same time, the high degree of uncertainty regarding the further economic outlook, the decline in corporate income and the growth of their indebtedness over the past year may induce a significant reduction in private investment as well.

Consequently, it is obvious that the future European economic recovery will depend on the efficient and effective resolution of excessive corporate debt, which escalated during the COVID-19 pandemic. Part of the remediation must inevitably stem from self-initiated private restructuring even though the fiscal system is overstretched. Bankruptcy procedures have been gradually improved over the last decade, but additional public policy action is needed.

Europe must jointly provide the resources, guidance and coordination necessary to carry out the giant corporate restructuring that follows. Otherwise, the outlook is bleak. The economy would enter a period of protracted crisis, with the bankruptcy of many companies, even sustainable ones, with sound business models, while the economic recovery would be permanently blocked.

## References

1. Abraham, F., Cortina, L., Juan, J., Schumkler, S. (2020). Growth of Global Corporate Debt: Main Facts and Policy Challenges. Policy Research Working Paper Series 9394, The World Bank. <http://documents1.worldbank.org/curated/en/570381599749598347/pdf/Growth-of-Global-Corporate-Debt-Main-Facts-and-Policy-Challenges.pdf>
2. Ampudia, M., Kapp, D., Kristiansen, K., Nicolay, C. (2020). Euro area equity markets and shifting expectations for an economic recovery. Economic Bulletin Boxes, European Central Bank, vol. 5.
3. AvrĂfmescu, T. C. (2020). Assessments on the Effects of the Coronavirus Pandemic on the Economies of the Central and South-East European Union Countries. Ovidius University Annals, Economic Sciences Series, Ovidius University of Constantza, Faculty of Economic Sciences, vol. 0(1), pages 105-112, August.
4. Baines, J., Hager, S. B. (2021). The Great Debt Divergence and its Implications for the Covid-19 Crisis: Mapping Corporate Leverage as Power. Leibniz Information Centre for Economics. [https://www.econstor.eu/bitstream/10419/228533/1/20210000\\_baines\\_hager\\_the\\_great\\_debt\\_divergence\\_preprint.pdf](https://www.econstor.eu/bitstream/10419/228533/1/20210000_baines_hager_the_great_debt_divergence_preprint.pdf)
5. Banerjee, R., Illes, A., Kharroubi, E., Garralda, J. M. S. (2020). Covid-19 and corporate sector liquidity. BIS Bulletins 10, Bank for International Settlements. <https://www.bis.org/publ/bisbull10.pdf>
6. Blanco, R., Mayordomo, S., Menéndez, A., Mulino, M. (2020). The impact of the Covid-19 crisis on the financial position of non-financial corporations in 2020: CBSO-based evidence. Economic Bulletin, Banco de España; Economic Bulletin Homepage, issue 4/2020, pages 1-22.
7. Blickle, K. S., Santos, J. A. C. (2020). The Costs of Corporate Debt Overhang Following the COVID-19 Outbreak. Liberty Street Economics 20201201, Federal Reserve Bank of New York. <https://libertystreeteconomics.newyorkfed.org/2020/12/the-costs-of-corporate-debt-overhang-following-the-covid-19-outbreak.html>
8. Bo, B., Ulrich, H., Pierre, M. B. (2020). Corporate debt burdens threaten economic recovery after COVID-19: Planning for debt restructuring should start now. In the Time of Covid-19, edition 1, volume 1, chapter 1, pages 34-40, Centre for Economic Policy Research.
9. Bo, B. (2019). The EU's insolvency reform: Right direction, not enough, and important issues left unaddressed. VoxEU, 27 June 2019.
10. Cevik, S., Miryugin, F. (2020). Leverage Shocks: Firm-Level Evidence on Debt Overhang and Investment. IMF Working Papers 2020/287, International Monetary Fund.

11. Clemens, M., Gebauer, S., König, T. (2020). European Bank Deposit Insurance Could Cushion Impact of Corona-Induced Corporate Insolvencies. DIW Weekly Report, DIW Berlin, German Institute for Economic Research, vol. 10(32/33), pages 325-333. [https://www.diw.de/documents/publikationen/73/diw\\_01.c.795607.de/dwr-20-32-1.pdf](https://www.diw.de/documents/publikationen/73/diw_01.c.795607.de/dwr-20-32-1.pdf)
12. Demmou, L., Calligaris, S., Franco, G., Dlugosch, D., McGowan, M. A., Sakha, S. (2021). Insolvency and debt overhang following the COVID-19 outbreak: Assessment of risks and policy responses. OECD Economics Department Working Papers 1651, OECD Publishing.
13. Elenev, V., Landvoigt, T., van Nieuwerburgh, S. (2020). Can the Covid Bailouts Save the Economy? CEPR Discussion Papers 14714, C.E.P.R. Discussion Papers.
14. Eller, M., Reiner, M., Vashold, L. (2021). CESEE's macroprudential policy response in the wake of the COVID-19 crisis. Focus on European Economic Integration, Oesterreichische Nationalbank (Austrian Central Bank), issue Q1/21, pages 55-69.
15. European Central Bank. (2020). Bank lending survey available at: [https://www.ecb.europa.eu/stats/ecb\\_surveys/bank\\_lending\\_survey/html/ecb.blssurvey2020q4~e89c77d212.en.html#toc5](https://www.ecb.europa.eu/stats/ecb_surveys/bank_lending_survey/html/ecb.blssurvey2020q4~e89c77d212.en.html#toc5)
16. European Central Bank. (2020). Speech by Philip R. Lane, Member of the Executive Board of the ECB, at the Economics Department and IM-TCD, Trinity College Dublin, link: <https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp201126~c5c1036327.en.html>
17. European Commission. (2019). Directive (EU) 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt.
18. European Commission. (2020). Coordinated economic response to the COVID-19 Outbreak. Available at: [https://ec.europa.eu/info/sites/info/files/communication-coordinated-economic-response-covid19-march-2020\\_en.pdf](https://ec.europa.eu/info/sites/info/files/communication-coordinated-economic-response-covid19-march-2020_en.pdf)
19. European Commission. (2020). Temporary Framework for State aid measures to support the economy in the current COVID-19 outbreak. Available at: [https://ec.europa.eu/competition/state\\_aid/what\\_is\\_new/sa\\_covid19\\_temporaryframework.pdf](https://ec.europa.eu/competition/state_aid/what_is_new/sa_covid19_temporaryframework.pdf)
20. European Court of Auditors. (2020). Review No 06/2020: Risks, challenges and opportunities in the EU's economic policy response to the COVID-19 crisis, link: <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=57497>
21. Friesenhahn, S. M., Kwan, S. H. (2020). Risk of Business Insolvency during Coronavirus Crisis. FRBSF Economic Letter, Federal Reserve Bank of San Francisco, vol. 2020(30), pages 01-05, October.
22. Holtemöller, O., Muradoglu, Y. G. (2020). Corona shutdown and bankruptcy risk, IWH Online 3/2020, Halle Institute for Economic Research (IWH). <https://www.econstor.eu/bitstream/10419/219390/1/1701135906.pdf>
23. IMF. (2021). Rising corporate market power: emerging policy issues.
24. Jordà, Ò., Kornejew, M., Schularick, M., Taylor, A. M. (2020). Zombies at Large?: Corporate Debt Overhang and the Macroeconomy. Federal Reserve Bank of New York.
25. Kandoussi, M., Langot, F. (2021). On the heterogeneous impacts of the COVID-19 lockdown on US unemployment, TEPP Working Paper 2021-01, TEPP.
26. Keohane, D. Abboud, L. (2020). French economy and the pandemic: 'It's the calm before the storm. Financial Times, 09 December 2020.
27. Kerbl, S., Steiner, K. (2020). Austrian banks' lending risk appetite in times of expansive monetary policy and tightening capital regulation. Financial Stability Report, Oesterreichische Nationalbank (Austrian Central Bank), issue 39, pages 89-109.
28. Kerstin, B., Clemens, M., Geraldine, D. K., Gebauer, S. (2020). Identifying Effective Combinations of Economic Policy Measures for the Coronavirus Recession in Europe. DIW Weekly Report, DIW Berlin, German Institute for Economic Research, vol. 10(23), pages 263-273. [https://www.diw.de/documents/publikationen/73/diw\\_01.c.790938.de/dwr-20-23-1.pdf](https://www.diw.de/documents/publikationen/73/diw_01.c.790938.de/dwr-20-23-1.pdf)
29. Konle-Seidl, R. (2020). Short-time Work in Europe: Rescue in the Current COVID-19 Crisis? Institute for Employment Research, Nuremberg, Germany. [http://doku.iab.de/forschungsbericht/2020/fb0420\\_en.pdf](http://doku.iab.de/forschungsbericht/2020/fb0420_en.pdf)
30. Lane, P. R. (2020). Monetary policy in a pandemic: ensuring favourable financing conditions. Trinity College Dublin, 26 November 2020.
31. Maurin, L., Pál, R. (2020). Investment vs debt trade-offs in the post-COVID-19 European economy. EIB Working Papers 2020/09, European Investment Bank (EIB). <https://www.econstor.eu/bitstream/10419/226515/1/1739016556.pdf>
32. Mella-Barral, P. (2020). Corporate debt burdens threaten economic recovery after COVID-19: Planning for debt restructuring should start now. *VoxEU*, 21 March 2020.
33. Mollet, F. (2021). Will corporate debt choke the post-COVID-19 recovery? Policy Brief - Europe's Political Economy Programme, 25. januar 2021.
34. Radulović, B., Anđić, L. (2017). Nametanje plana reorganizacije nesaglasnoj klasi poverilaca. *Pravo i privreda*, 2017, 55 /4-6, 202-227.
35. Ramelli, S., Wagner, A. F. (2020). Feverish Stock Price Reactions to COVID-19. CEPR Discussion Papers 14511, C.E.P.R. Discussion Papers.
36. Ratnovski, L. (2020). COVID-19 and non-performing loans: lessons from past crises. Research Bulletin, European Central Bank, vol. 71. <https://www.ecb.europa.eu/pub/economic-research/resbull/2020/html/ecb.rb200527~3fe177d27d.en.html>
37. Sungmin, A., Kovner, A., Luck, S. (2020). Implications of the COVID-19 Disruption for Corporate Leverage. Liberty Street Economics 20200810, Federal Reserve Bank of New York. <https://libertystreeteconomics.newyorkfed.org/2020/08/implications-of-the-covid-19-disruption-for-corporate-leverage.html>
38. Van der Wielen, W., Barrios, S. (2020). Fear and Employment During the COVID Pandemic: Evidence from Search Behaviour in the EU. JRC Working Papers on Taxation & Structural Reforms 2020-08, Joint Research Centre (Seville site). <https://ec.europa.eu/jrc/sites/jrcsh/files/jrc121718.pdf>
39. Wenzhi, D., Levine, R., Lin, C., Xie, W. (2020). Corporate Immunity to the COVID-19 Pandemic. NBER Working Papers 27055, National Bureau of Economic Research, Inc. [https://www.nber.org/system/files/working\\_papers/w27055/w27055.pdf](https://www.nber.org/system/files/working_papers/w27055/w27055.pdf)



**Ivan Nikolić**

is Senior Research Associate/Director of Scientific Research Development at the Economics Institute in Belgrade. He is also a member of the Council of the Governor of the National Bank of Serbia and editor and co-author of the monthly publication *Macroeconomic Analyses and Trends (MAT)*. His research focuses on Serbia's economic policy, development and economic system, macroeconomic environment and international economy. He has been involved in various national and international scientific projects and during his time at the Economics Institute, he acted as team leader in numerous commercial projects as well.



**Sanja Filipović**

is a Principal Research Fellow at the Institute of Social Sciences and a full professor at the University Singidunum. In period 2002-2020 she worked at the Economics Institute as a project manager and a Senior Research Associate. Her research areas are economic policy, macroeconomic analysis and international economics. Working on more than 80 different projects and studies, she has developed broad project management experience and experience in work with different international organisations. She published seven books and more than 100 scientific papers, where some of them were published in the leading world scientific journals.

**Mihalj Bakator**

University of Novi Sad  
Technical faculty "Mihajlo Pupin"  
Department of Management  
Zrenjanin

**Dragan Čočkalo**

University of Novi Sad  
Technical faculty "Mihajlo Pupin"  
Department of Management  
Zrenjanin

**Dejan Đorđević**

University of Novi Sad  
Technical faculty "Mihajlo Pupin"  
Department of Management  
Zrenjanin

**Srdan Bogetić**

Belgrade Business and Arts Academy of  
Applied Studies  
Professor of Vocational Studies, Kraljice  
Marije 73 street Belgrade, Republic of  
Serbia

# THE ECONOMIC IMPACT OF THE COVID-19 PANDEMIC: REVIEWING SERBIAN AND GLOBAL STRATEGIES

## Ekonomski uticaj pandemije COVID-19 – Pregled strategija u Srbiji i u svetu

### Abstract

The main goal of this review paper is to thoroughly analyze and concisely present data and information on the COVID-19 pandemic. The review focuses on Serbian as well as on global strategies and policies for resolving challenges in the domain of public health and economic stability. Now, the goal is to analyze the intensity of this negative economic impact, and to address the existing and potential strategies for overcoming the economic crisis. The review paper contributes to the existing body of literature and it increases the awareness of non-experts, as its concise nature provides significant insight into the seriousness of the crisis. Fellow scholars can turn to this review as basis for future research.

**Keywords:** *COVID-19, SMEs, economy, recession, policies, strategies, Serbia.*

### Sažetak

Glavni cilj ovog preglednog rada je temeljna analiza i sažeti prikaz podataka i informacija o pandemiji COVID-19. Pregled se fokusira na strategiju Srbije kao i na globalne strategije i politike za rešavanje izazova u domenu javnog zdravlja i ekonomske stabilnosti. Cilj je analiziranje intenziteta ovog negativnog ekonomskog uticaja i analiza postojećih i potencijalnih strategija za prevazilaženje ekonomske krize. Pregledni rad doprinosi postojećem delu literature, i povećava svest nestručnjaka, jer rad pruža značajan uvid u ozbiljnost krize. Kolege naučnici mogu primeniti ovaj rad kao osnovu za buduća istraživanja.

**Ključne reči:** *COVID-19, MSP, ekonomija, recesija, polise, strategije, Srbija.*

## Introduction

The “COVID-19” pandemic brought unprecedented challenges for enterprises around the globe. The outbreak of the new strain of coronavirus (from the Severe Acute Respiratory Syndrome - SARS species) has severely affected previous estimations of economic growth and it brought uncertainty for enterprises [46]. Manufacturing enterprises faced problems as their “lean” approach struggled under compromised supply chains. Other sectors such as transport, recreation, and tourism were also severely affected [40]. The interconnectedness of economies has become a strong drawback and weakness point. Strategies implemented across countries for “flattening the curve” have drastically halted the already stifled supply chains, bringing them almost to a full halt [20]. Business closure can result in between 15 to 35% reduction in output. These reductions vary from country to country and from industry to industry. However, spillover is inevitable, and in a median economy, output decline can be expected to be around 25% [45]. Reduced working hours and the anxiety of getting ill negatively affects employees of enterprise in various industries [50]. Measures to contain the virus such as social distancing, quarantine, school and university closures, non-essential business shutdowns, working remotely or fewer hours, are all negatively affecting national economies and the overall global economy. In such an environment, enterprises many did not reopen after the multiple mid to long-term shutdowns [28]. The probability for this was and still is especially high with micro, small and medium-sized enterprises (MSMEs). However, big corporations are also affected and the majority suffer large profit losses, which further resulted in letting go employees.

In Serbia, during the first wave of the COVID-19 epidemic, non-essential business were closed, and weekend-long curfews were introduced. Currently, the third wave of the epidemic was the most severe so far, with high numbers of new cases on a daily basis. The current, fourth wave, which started after March 2021, was also expected right after the third, and due to measures accompanied with the vaccine, the number of cases is not as high compared to the third wave [54]. The epidemic will subside, but the negative effects brought to the world economy is still present.

Fiscal policies and macro strategies are implemented and planned with the goal maintain macroeconomic stability and to reduce the negative impact on MSMEs.

Furthermore, in order to cushion the blow of the pandemic and its adverse macroeconomic consequences, it is necessary to address various scenarios of impact, and develop effective roadmaps towards recovering the economy. Therefore, monetary policy measures, fiscal measures, public health measures, and human control measures are an imperative for sustaining the health of the people and the health of the economy [46]. Questions regarding jobs, enterprises, health and economic sustainability arise faster than they are answered. Large enterprises can somewhat withstand the consequences of the pandemic, even though there are massive layoffs in several sectors (transport, tourism, service, entertainment). However, MSMEs are more sensitive to lesser demand for their products on the market, thus MSMEs, and large enterprises as well, need support in the form subsidies. Strategies addressing this issue have to develop an effective mechanism for distributing these subsidies in order to reduce the percentage of misused or misapplied resources.

Christine Lagarde the president of European Central Bank (ECB) noted that the economic problem is a matter of fiscal capacity, rather than monetary policy [23]. Later on, the ECBs Governing council decided on a package of monetary policies on March 12th 2020 which included refinancing, purchase programs, support bank lending etc. [15]. However, there was a misunderstanding in the communication of these policies, which resulted in a massive Italian bond market sell-off [22]. It is evident that the mere lack of misinformation can cause dramatic economic effects in these pandemic-induced and post-pandemic conditions. The effects of information and communication to the public is also evident among consumers. As panic kicked in, certain consumer items “flew off the shelves”. Information that certain products are in shortage (toilet paper, hand sanitizers, canned goods etc.) induced further hoarding. Therefore, governments around the globe had to optimize and manage several economic metrics at once including public health, SMEs and global economy as a whole. Through policies and strategies, the main goal was to buy a crucial resource for

reducing the negative effects of the COVID-19 pandemic. This crucial resource is time.

Now, how is this review significant? The economic challenges and issues that arise from the pandemic on a global scale, and epidemic on a national scale, are rather new. The majority of existing body of literature focuses on the health aspects of COVID-19. The impact on the economy is addressed mainly in news, and government reports.

This review paper aims at filling this gap. It analyzes the impact of COVID-19 on Serbian enterprises and the spillover effect on various industries. An extensive review of existing literature and available data is conducted, while the results are concisely presented. In addition, the numerous policies and strategies for supporting enterprises and the overall economy are discussed. The main goal is to provide an overview on the risks and challenges of the COVID-19 pandemic in Serbia and in other countries as well. The review is guided by the following research questions:

1. *How does the COVID-19 pandemic affect the Serbian economy and the global economy?*
2. *What policies and strategies are implemented by governments and how effective are they?*

3. *What future economic trends can be expected in Serbia and in other countries after the crisis has subsided?*

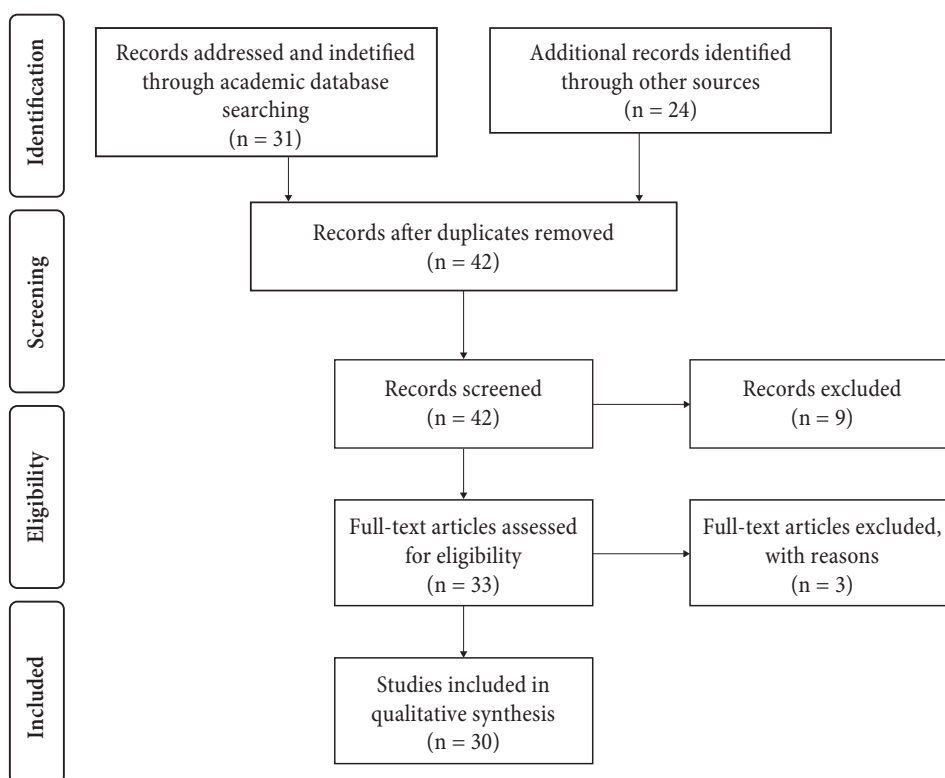
The whole paper includes three sections (excluding the Introduction and Conclusion sections). The first section presents the methodology used for conducting the review. Next, in the second section, the review results (data and information) are presented. In the third section, the results are discussed and the noted research questions are addressed.

### Methodology

#### Review process and flow diagram

With the goal to structurally analyze the current data and literature on the COVID-19 pandemic a structural protocol flow diagram was used in accordance with the PRISMA protocol [41]. The majority of literature was acquired through academic services, publishers and relevant search engines. News articles and other credible websites were also used for obtaining information. The review process

Figure 1. Research framework



(Source: Developed for this research)



included searching, downloading, and analyzing literature in the domain of COVID-19 and its effect on micro- and macroeconomic trends (policies, strategies etc.) in Serbia and other countries around the globe. After the articles were downloaded and stored, screening was conducted in order to remove duplicates. Next, a thorough analysis was conducted, and irrelevant literature was removed. Irrelevant literature included non-credible sources. Please note that the paper includes a higher number of references than papers reviewed. This is due to the establishing an introduction and brief background before the review, as well as some references are only noted in the discussion section of the paper. The structured flow diagram of the review process is presented on Figure 1.

### Literature eligibility criteria

Articles published in 2020 and 2021 were taken into consideration for the review. Sources of these articles were scientific journals, reports (International Monetary Fund - IMF, ECB etc.), and news articles from credible sources. Some of the main subjects included in these articles are COVID-19 policies; COVID-19 pandemic economic shock; COVID-19 strategies; COVID-19 SMEs; COVID-19 enterprises and support; COVID-19 pandemic challenges; COVID-19 long-term effects; COVID-19 trends and data.

As seen above, articles discussing and reporting on the COVID-19 pandemic and its effect in various domains were the main source of review literature. Details on specific literature sources are given in the *References* section.

### Data collection, search and study selection

The first step included searching and downloading articles through academic services (with the credentials of the University of Novi Sad), and other relevant search engines for scientific article search. Articles, which filled the requirements for the review, were downloaded to the author's desktop computer. The second step was analyzing and screening articles to identify duplicates and to evaluate if an article has meaningful data. The duplicates and ineligible articles were removed. Articles, which included relevant data and information on the COVID-19 pandemic,

were taken into consideration. The third step included the review process. The results of the review process were used to provide concise notes on strategies, policies and actions which are implemented during this crisis. Such a concise summary is significant as the COVID-19 pandemic is currently a burning global challenge, however, the economic shock it brought will resonate even in the post-outbreak period. Thus, evaluating and discussing these challenges is an imperative.

## Review Results

### Challenges of the pandemic

Based on the data from the World Health Organization (WHO), from the U.S. Centers for Disease Control and Prevention (CDC), and from the Australian Government Department of Health (AGDH), as of today (25th of June 2021), there are and were in sum 180,777,842 confirmed COVID-19 cases, from which 11,352,865 are active, 165,427,681 recovered, and 3,916,268 lives were lost [58]. Undoubtedly, the COVID-19 pandemic presents one of the largest health and economic challenges in a century. Large economies are struggling to keep afloat while, through distribution and trade channels, developing economies are facing spillover of negative economic effects [31]. Therefore, countries are highly engaged in coming up with various stimulus programs to support enterprises and to soften economic shocks. Policies and strategies are introduced in various forms around the globe. These policies can be mostly grouped into fiscal policies, financial regulation policies, monetary policies, social insurance policies, industry policies, and trade policies [6]. Depending on what specific outcome is aimed at in a certain critical situation, the adequate policies and strategies are implemented. The biggest challenges are present in almost all industries, while tourism, transport, and other services receive the strongest economic shocks. Governments have to optimize their efforts in order to "balance" the spread of the virus, and to keep the economy from further sinking in to a deeper recession [37].

## Serbia

In the Republic of Serbia, a transitional economy on the road to become a part of the EU has similar challenges with developed countries. As this crisis is systematic in nature, governments are the ones who have to “take the lead” in the process of implementing potential solutions. Similarly to the US, UK, EU countries, China and other countries, Serbia too focused on three main issues - containing the outbreak, saving MSMEs, and keeping unemployment rates at a minimum. Jobs in the public sector were not affected, and it was necessary to create an environment of positive outcomes (and to act on them). *What are the challenges pre-, during, and post-COVID-19?* Even before the pandemic, in Central and Eastern Europe (CEE) and Western Balkans (WB), Serbia was among the lowest ranking countries when it comes to public investments (an average of 2.6% of GDP) and total public capital [49]. In 2019, the Serbian macroeconomic situation was slightly improved, inflation was under control, and unemployment rates were acceptable. However, in the beginning of 2020, Serbia’s economy had a fragile growth outlook, high level of risk, and overall future growth trajectory. Economic risks due to structural imbalances were present even before the epidemic [13]. Further, the globalization of markets and the fourth industrial revolution - Industry 4.0 additionally put a strain on the domestic enterprises and the overall economy. Industry 4.0 is characterized by modern information-communication technologies (ICTs) [5]. These ICTs affect all business activities [38]. The digitalization of business can be viewed as a positive concept. However, in a transitional setting it can present an additional challenge for enterprises. In addition to this challenging economic situation, the COVID-19 epidemic has

put a heavy strain on the national economy. Estimations of GDP growth by the National Bank of Serbia were between -1.5% to -1.0%. These forecasts were rather optimistic. However, GDP growth decline was 1% [42]. The main reason for such positive outcome was the implementation of an economic package that included 12.5% of GDP for preventing the decrease of public and business spending trust [43]. The World Bank estimated that the GDP of Serbia will take a hit close to 3.0%, while the European Bank had an even more negative estimate of -3.5% [43]. The real GDP growth % was much better compared to these forecasts. Due to the tremendous financial stimulus, macroeconomic fundamentals didn’t take a critical, but rather a moderate hit, remaining in good conditions [14]. Further, even though competitiveness wasn’t hit by the pandemic, there is still no proper way to boost it in a significant manner [14]. Furthermore, German experts estimated that Germany’s GDP would shrink by 6.5%, putting the economy in a deep recession, the worst since the end of World War II [12]. According to the National Bank of Serbia the GDP in 2020 declined by 1%. The potential growth in 2021 is estimated to be 6% [42]. The World Bank noted similar stats, a decrease of 1% of GDP in 2020, and forecasts a 5% GDP growth in 2021 [57]. The mild recession in 2020 was achieved via timely government stimulus packages [57]. In Table 1. GDP growth for 2020 and forecasts for 2021 and 2022 are presented.

The European Commission estimated that the majority of EU countries’ GDP will shrink by more than 5.0%. These estimations were right, and some countries, whose economy relies on tourism shrunk by 9% and more than 9% (Greece, Croatia). To better understand these estimations and before conclusions are drawn, it is

**Table 1. GDP growth in 2020 and economic forecast of GDP growth in 2021**

Country	GDP growth in 2020	GDP growth in 2021	GDP growth in 2022
Hungary	-6.4%	*4%	*5%
Austria	-7.1%	2	5.1
Croatia	-9.6%	5.3	4.6
Greece	-9.0%	3.5	5.0
Romania	-5.2%	3.8	4.0
Slovakia	-7.5%	4.0	5.4
Slovenia	-7.1%	4.7	5.2

Source: [17]

\*Source: [18]

\*Source: [18]

necessary to address the measures and strategies that were implemented to reduce the negative economic impact of the COVID-19 pandemic. The Serbian government prepared financial support for SMEs through various packages in the amount of 5.1 billion euros [3]. In addition, tax cuts are proposed for the SME sector where more than 900,000 people are employed [2]. Further, there are four main groups of economic measures for reducing the negative impact of the pandemic (Table 2.).

Based on these measures, it can be argued that Serbia has managed to adequately act on the impact of the crisis. The noted measures were developed in accordance with strategies and policies from other countries. From here, a graph is developed with four estimations (estimation A, B, C, and D). The graph is presented on Figure 2.

**Scenario A** refers to the estimation of the National Bank of the Republic of Serbia (6%). As noted earlier this estimation is rather positive. Such positive growth of GDP

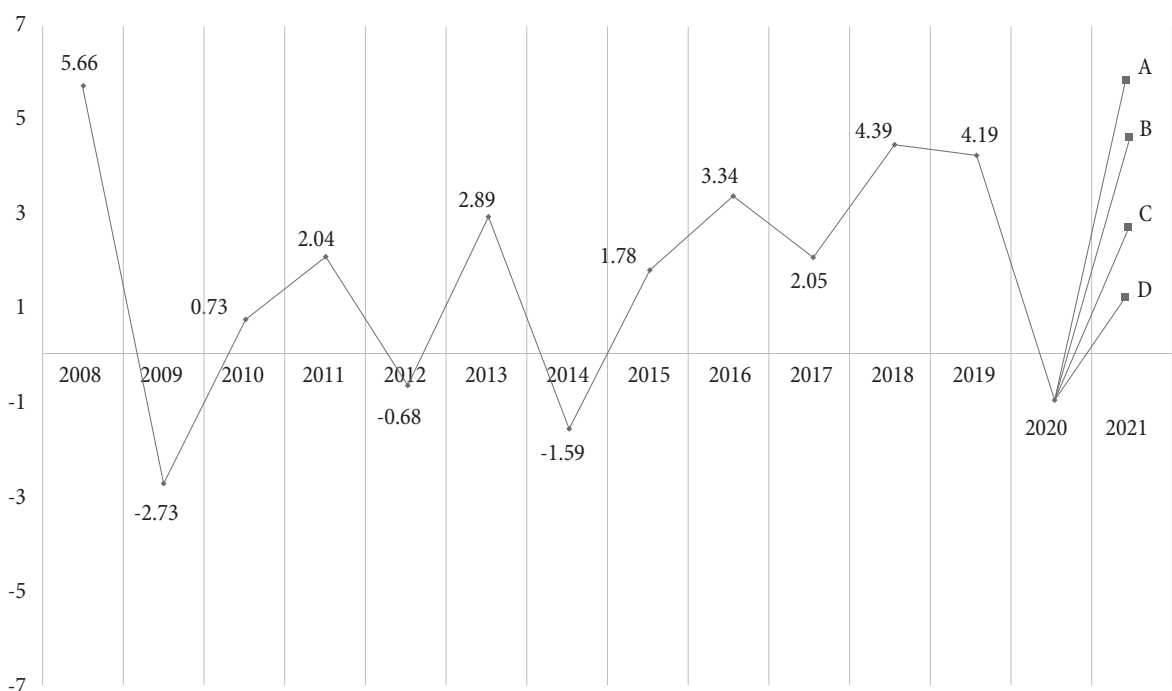
**Table 2. Economic forecast of GDP growth in 2020**

Measure	billions of RSD	% of GDP
<b>1. Tax measures</b>	<b>161</b>	<b>2.9</b>
• Postponement taxes on salaries and contributions for the private sector, during the state of emergency, with the subsequent repayment of the obligations incurred in installments with beginning at the earliest from 2021	140	2.5
• Postponement of advance tax payment in the second quarter	21	0.4
• Tax exemption for donations	-	-
<b>2. Direct support for enterprises and employees</b>	<b>97.3</b>	<b>1.8</b>
• Direct support for micro, small, and medium-sized enterprises who are taxed at a flat rate in the amount of minimum wages for every employee	92.8	1.7
• Direct aid to large enterprises in the amount of 50% of minimum wages for every employee	4.5	0.1
<b>3. Economy liquidity measures</b>	<b>264</b>	<b>4.8</b>
• Support to the economy through the Development Fund of the Republic of Serbia	24	0.4
• Guarantee scheme to support the economy through banks of which state guarantees (according to official statements)	240	4.4
	60	1.1
<b>4. Other measures</b>	<b>86</b>	<b>1.6</b>
• Moratorium on dividend payments until the end of the year, except for public enterprises	16	0.3
• Payment of 100 euros to all adult citizens	70	1.3

Source: [21]

**Figure 2. GDP growth and estimation for 2021**

SERBIA'S GDP GROWTH IN % (ESTIMATION FOR 2021)



Source: [42, 56]

can be achieved if the negative effects of the COVID-19 pandemic subside, and economic growth is not hindered by the lingering effects of the pandemic. **Scenario B** refers to the estimation of the World Bank. This estimation (a GDP growth of 5%) is more probable compared to the estimation of the National Bank of the Republic of Serbia. However, in 2020 the forecast of the National Bank of the Republic of Serbia had the closest estimation of GDP shrinkage compared to other institutions. Therefore, higher than estimated GDP growth is within the realm of possibility.

Further, **Scenario C**, where GDP growth would be around 3%, is less likely, and could only occur if there are sudden rises of new COVID-19 patients, which would require local or national quarantine measures. Such events could reduce the pace of GDP growth.

Finally, the worst case scenario, **Scenario D**, is the least probable outcome, and a new COVID-19 wave would have to occur, which intensifies the lingering negative economic impact that culminated in 2020. When it comes to risk management, local, national, and international strategies have to be out in place, regardless of positive forecasts. This way, if new waves occur on a local, national, or global level, then the negative socio-economic effects could be effectively dampened.

## Europe

Compared to December 2019, China's fixed investments and the manufacturing index have declined over 30%. A similar situation was observed in European manufacturing indexes. In addition, the European Central Bank predicted that the European GDP could decline as much as 4% in 2020 [16, 28]. Such decline would not be disastrous, but it still indicates an economic shock followed by recession. The ECB could intervene with an Outright Monetary Transactions (OMT) program which relies on the principle "spend what you must on crisis containment and commit to wind down everything once the crisis is over". Bank of Japan has taken this approach. The ECB had to act, as a euro crisis would further deepen the recession [8]. Large set of various plans and strategies considered by many governments could cost 5% (and more likely much more)

of their GDP. A potential solution for the EU is that the ECB offers infinite guarantee similarly as the national banks offered to their governments [56, 58].

Further, large-scale debt issuance presents a serious challenge for transitional economies. Financial assistance is an imperative and this assistance would come from international organizations such as the ECB, IMF, and regional development banks. The concept of introducing the Eurobond alongside with a 10 to 20 percent of GDP was somewhat objected as there is potential risks that several countries would lack fiscal discipline in the future [25].

Eastern Europe has applied for an emergency assistance of 50 billion USD from the IMF's rapid financial support mechanisms [30]. There is no doubt, that developing countries were and are still facing similar and even greater economic shocks, thus international support is necessary. In developing countries and economies in transition, the dynamics are different but the basis for the implemented strategies and policies are same (due to excessive benchmarking of policies and strategies from countries who experience relative success in this time of crisis). Overall, the recovery pace of developing countries, transitional economies depends on the recovery rate of the "strongest" European economies (Germany). International trade plays a key role in economic growth of developing countries as these trade routes are an integral part of economic activity.

## China and South Korea

The Chinese Ministry of Finance prepared a total of 110.48 billion yuan (15.66 billion USD) for support programs and packages. In addition, 1.85 trillion yuan (262.11 billion USD) was issued in the form of government bond to help reduce the negative impact of the epidemic [28]. During the outbreak period, the Chinese government implemented various measures and policies including tax deduction, subsidies and fiscal policies, monetary policies, credit easing, loan rate cuts, debt rollovers, and deduction of insurance payments.

Further, after the outbreak started to subside, China reopened the stock market, introduced further tax cuts, cost reductions, fee exemptions, provided financial support

for SMEs, invested into large infrastructure in the domain of energy, IT and transportation, and introduced policies for stabilizing foreign trade and investments [28].

Overall, dramatic measures were introduced and this significantly reduced the spread of the virus. Some of these measures included closing down schools, limiting public gatherings, closing down public places including parks, social distancing and social quarantine, medical supplies on stand-by, promoting prevention among the population and increasing overall awareness of the public [34].

South Korea, due to its close ties to Chinese exports, and the dependency on the Chinese industry, faced strong economic shocks. People were mainly staying at home, and shopping was reduced to a minimum, severely affecting SMEs. Even though the health aspects were under control (thanks to the effective and voluminous testing), there was a high chance of increased unemployment rates after the economic shock [10]. According to the Global Health Security Index (GHS) South Korea ranks 9th in global security, and this high rank was demonstrated in the way it handled the COVID-19 outbreak [36].

Even though South Korea managed to take the outbreak under control, it still faced challenges similar to other developed and developing countries as well. It is necessary to apply strategies, which were shown to be effective in other countries. Benchmarking is an imperative in these circumstances. As SMEs are the cornerstone of economic growth, South Korea, (and other countries as well) had to make extraordinary measures to ensure as high as possible survival rates of SMEs. This included financial support as well as reestablishing international trade routes. It is important to analyze strategies, policies, and solutions across countries and different cultures, as this can contribute to developing strategies on national levels. Addressing South Korea's as well China's strategies and challenges on the pandemic, provides additional insight for other countries. Such analysis is an imperative as economies are interconnected on various levels through supply chains and globalized markets [26, 59]. South Korea, along with China, plays an important role in the global supply chain in various industries [19].

## United States

In the US, social distancing, business closures, travel restrictions, shelter-in-place mandates, and one-time payments to households were the first line from an economic shock. However, these kind of handouts were proven not so effective during the 2008 crisis, as people tend to save rather than spend in times of crisis. The federal government was encouraged to stimulate market transactions rather than bottlenecking economic activity [53]. Restaurants, bars, clubs, wineries, amusement parks, cafes, fitness centers and other non-essential businesses were closed down until the 1st of May [40].

The stock market suffered great losses, especially the transportation and energy related industries. Investors were generally worried about liquidity and corporate debt, and that the health crisis may further affect economic downturn [48]. Businesses in the US were advised to [9]:

- implement flexible sick leave and supportive policies and practices including giving advances on future sick leave, and connect employees and to employee assistance programs;
- prepare for changes of business practice regarding suppliers, alternative supply chains, temporary employment contracts, temporary suspend contracts if needed, and to talk with business partners about plans and strategies during the shutdown;
- plan and monitor absenteeism on the workplace and introduce cross-training for employees;
- establish policies for managing policies and procedures for social distancing through flexible worksites, work hours, downsizing operations, and delivering products and services remotely;
- provide necessary sanitizers and tissues for employees and increasing awareness of personal hygiene;
- conduct routine cleaning and disinfection of the workplace;
- conduct meetings remotely - online.

The US Congress has passed a tremendous stimulation package including handouts, unemployment insurance expansion, new spending support, and a 350 billion in loans for enterprises with less than 500 employees. If

enterprises don't lay off employees and don't cut wages, these loans are forgiven, effectively making them grants to businesses [39]. Comparing to other countries, the US has identical issues when it comes to enterprises, especially small business, and overall consumption of goods. The US economy was bound to a recession, and depth of recession depends on how effective will the implemented strategies and policies be.

### Policies, strategies and outcomes

The IMF outlined several policies for supporting the financial sector, enterprises and households. The noted policies are presented in Table 3.

In a recent study [55] key actions for the COVID-19 crisis were noted (implying that every country should take notice). These actions include preparation before an uncontrollable outbreak; importing healthcare products from China or Japan if there is a shortage; developing a contingency plan in order to ensure enough hospital beds (especially ICU beds); communicating crucial information early, clearly and strongly to the public; develop strategies to ensure social distancing; develop strategies for emergency assistance for enterprise and employees; develop strategies to move a large portion of economic activity online; increase the use of the Internet for long-term and permanent solutions for achieving economic sustainable growth; developing an internationally coordinated stimulus programs and packages for economic growth; and reducing tariffs and non-tariffs.

It was noted that heavier containment of new medical cases, significantly flatten the medical curve.

Governments should increase the intensity of testing rather than conducting them randomly as this would bring the best results [47]. However, heavier containment resulted in deeper and more severe economic recession. In addition, major cities / urban environments, where there is more economic activity, are at a higher risk from rapid spreading of the virus [52]. The world economy is expected to suffer immense losses due to store closures, travel bans, delivery restrictions, reduced working hours, layoffs, supply chain disruptions, financial crises and international demand shocks [59]. To reinstate the flow of international trade, the closure of economic ties between China and other countries, shouldn't last too long as this would further negatively affect the global economy [33, 34].

If the healthcare system is overwhelmed, and there is a 2% fatality rate, with 1% of the world's population contracting the virus, then over 76 million people would die. This is why flattening the curve is important [25]. However, if 50% of the economy is stopped for one month, and then 25% for another month, there would be an average of 6.5% decline in GDP. Now, if economic activity stays reduced for one additional month for 25%, then the GDP decline would be over 10% [25]. It is evident that softening the medical crisis worsens the economic crisis. A potential solution may arise in the form of targeted distancing instead of social distancing. More precisely, only the vulnerable sub-population should be conducting social distancing, which would have a lower economic and social burden [44].

The direct loss of GDP due to lower consumption will be bearable. However, if this is accompanied with high unemployment rates, then there is another problem,

**Table 3. IMF policies for liquidity and solvency**

	Policies for ensuring liquidity	Policies ensuring solvency
Financial sector	Supporting financial intermediaries through liquidity provision; Market liquidity preservation actions	Equity injections; Government guarantees
Enterprises	extending loan maturities; credit guarantees tax rate cuts purchase of commercial paper purchase of bonds	employment maintenance subsidies direct subsidies which are based on past sales equity injections
Household	deferring tax and social security contributions suspension of mortgage payments (including student loans)	cash transfers unemployment insurance meal vouchers.

Source: [13]

as people would be at risk of not affording rent, mortgage or interest, thus turning to banks for loans. On the other hand, banks will be reluctant to provide loans, as these would be at high probability of default, meaning losses in their books [23].

The banking system should avoid changing the rules regarding new initiatives and ongoing operations. Further, capital liquidity buffers should be implemented to support bank lending. Bank managers should advise their employees to optimize portfolios of clients which suffered hard hits. Banks should be transparent when it comes to their losses in order to prevent stakeholder surprise and panic behavior. Strengthening communication and coordination is necessary as banking is a global economic activity [1].

Governments could directly support enterprises through cheap loans of grants, especially enterprises who are the most affected by the crisis. However, this would transfer the issue from enterprises to the governments. As Central banks have the ability to create money in the form of currency, they should lend to governments in the form of not repayable credit. From an accounting standpoint central banks would note his credit as reduction of their capital and it wouldn't affect direct profits [23].

## Overview of findings

An overview of the noted findings and notes on other studies is given in Table 4.

## Discussion

Economic shocks due to the COVID-19 pandemic were inevitable, and governments around the world had to implement policies and strategies which had to suffice in the “battle” for the wellbeing of the people, and for the wellbeing of the economy. The main issue for every country is similar - SMEs have to be “spared” from the economic turmoil, which “feeds” on the pending crisis. Financial support and incentives are an imperative. However, as every country is somewhat different, the financial policies, financial support and the way that they are implemented, also differ. Developed countries may find

monetary relief to be more accessible and with less ties, while struggling economies, and transitional economies may have to agree to “act now, think later” type of support, meaning that after the crisis strict financial policies have to be implemented in order to reduce excessive spending. Namely, on a macro level, if governments are supported by loans from central and regional banks, then, after the COVID-19 pandemic subsidies, a new issue arises - debt. During a recession, governments in debt will have to work hard on developing strategies which would initiate economic growth. To summarize, the research questions are addressed:

### 1. *How does the COVID-19 pandemic affect the Serbian economy and the global economy?*

As previously noted, disrupted supply chains brought bottlenecks in manufacturing enterprises which depend on international trade. Further, these bottlenecks stifle economic growth. As people are urged to practice social distancing and unemployment rates rise, consumption is reduced, which severely affects enterprises, especially MSMEs. High unemployment rates, accompanied with business shutdowns act as a “handbrake” of the economy, urging governments to implement policies and strategies which would reduce further economic shock and soften the post-recession negative effects. In Serbia, the current outlook regarding GDP growth is positive. There is a high risk of spillover of negative effects from neighboring countries. The largest impact of such spillovers can be expected from countries to which Serbia exports the most goods.

### 2. *What policies and strategies are implemented by governments and how effective are they?*

The main strategy is financial support for enterprises, and under certain conditions, these financial handouts are non-repayable. From the health and medical aspects, there are emergency measures implemented to reduce the spread of the virus, and to effectively manage the ill. Hospitals are equipped with ICU beds and additional temporary hospitals are improvised in various forms (parks, stadiums, hotels etc.). Such measures are relatively effective and the main issue is the spread of the virus through disobedient individuals and groups who are not practicing social distancing and adequate personal

Table 4. Brief notes on findings

No.	Summary	Info. category	Ref.
1.	As 25th of June 2021, there are and were in sum 180,777,842 confirmed COVID-19 cases, from which 11,352,865 are active, 165,427,681 recovered, and 3,916, 268 lives were lost.	Statistics	[58]
2.	Global trade channels were affected by the pandemic, and global supply chains were disrupted.	Economy	[31]
3.	Fiscal policies, financial regulation policies, monetary policies, social insurance policies, industry policies, and trade policies are implemented around the globe.	Policies	[6]
4.	Governments had to implement effective strategies and optimize efforts in order to reduce the negative economic impact and at the same time to ensure the safety of citizens.	Policies and economy	[37]
5.	In Central and Eastern Europe (CEE) and Western Balkans (WB), Serbia was among the lowest ranking countries when it comes to public investments (an average of 2.6% of GDP) and total public capital.	Economy	[49]
6.	In Serbia, economic risks due to structural imbalances were present even before the epidemic.	Economy	[13]
7.	The globalization of markets and conducting business in within the frameworks of Industry 4.0 brings challenges to domestic enterprises when it comes to achieving competitiveness.	Business and economy	[5]
8.	Estimations of GDP growth in 2020 for Serbia by the National Bank of Serbia were between -1.5% to -1.0%. The GDP in Serbia in 2020 declined by 1%. The potential growth in 2021 is estimated to be 6%.	Economy	[42, 43]
9.	The World Bank forecasts a 5% GDP growth in Serbia in 2021. The mild recession in 2020 was achieved via timely government stimulus packages.	Economy	[57]
10.	The Serbian government prepared financial support for SMEs through various packages in the amount of 5.1 billion euros	Policies - financial support	[3]
11.	In Serbia, tax cuts were proposed for the SME sector where more than 900,000 people are employed.	Policies- taxation	[2]
12.	Four main groups of economic measures for reducing the negative impact of the pandemic were introduced. These were tax measures, direct support for enterprises and employees, economy liquidity measures, and other measures (policies).	Economic measures	[21]
13.	The European Central Bank predicted that the European GDP would decline as much as 4% in 2020. It declined by -7.3%.	Economy	[21, 22]
14.	The ECB had to act, as a euro crisis would further deepen the recession. Large set of various plans and strategies considered by many governments could cost 5% (and more likely much more) of their GDP.	Government strategies	[49]
15.	The concept of introducing the Eurobond alongside with a 10 to 20 percent of GDP had the potential risks that several countries would lack fiscal discipline in the future.	Economic measures	[25]
16.	Eastern Europe has applied for an emergency assistance of 50 billion USD from the IMF's rapid financial support mechanisms.	Strategy - financial support	[30]
17.	The Chinese Ministry of Finance prepared a total of 110.48 billion yuan (15.66 billion USD) for support programs and packages. In addition, 1.85 trillion yuan (262.11 billion USD) is issued in the form of government bond to help reduce the negative impact of the epidemic.	Fiscal plan - financial support	[27]
18.	Some of the conducted measures to reduced the negative impact of the pandemic included closing down schools, limiting public gatherings, closing down public places including parks, social distancing and social quarantine.	Measures	[34]
19.	South Korea, due to its close ties to Chinese exports, and the dependency on the Chinese industry, faced strong economic shocks. However, South Korea managed to handle the outbreak rather effectively.	Economy	[8, 29]
20.	Addressing South Korea's as well China's strategies and challenges on the pandemic, provides additional and important insight as economies are interconnected on various levels through supply chains and globalized markets.	Strategies	[24, 25, 60]
21.	In the US the federal government was encouraged to stimulate market transactions rather than bottlenecking economic activity.		[53]
22.	The stock market suffered great losses, especially the transportation and energy related industries.	Economy	[48]
23.	The US Congress has passed a tremendous stimulation package including handouts, unemployment insurance expansion, new spending support, and a 350 billion in loans for enterprises with less than 500 employees.	Strategy - measures	[39]
24.	The IMF introduced policies for liquidity and solvency including supporting financial intermediaries through liquidity provision; market liquidity preservation actions; equity injections; government guarantees; enterprises extending loan maturities etc.	Policies	[11]
25.	Actions for preparation before an uncontrollable outbreak occurs include importing healthcare products from China or Japan if there is a shortage; developing a contingency plan in order to ensure enough hospital beds (especially ICU beds); communicating crucial information early, clearly and strongly to the public; develop strategies to ensure social distancing; develop strategies for emergency assistance for enterprise and employees etc.	Measures	[55]
26.	In case of a pandemic, governments should increase the intensity of testing rather than conducting them randomly as this would bring the best results.	Measures	[47]
27.	Major cities / urban environments where there is more economic activity, were at a higher risk from rapid spreading of the virus.	Measures	[52]
28.	The closure of economic ties between China and other countries, shouldn't last too long as this would further negatively affect the global economy.	Economy	[36]
29.	If 50% of the economy is stopped for one month, and then 25% for another month, there would be an average of 6.5% decline in GDP. Now, if economic activity stays reduced for one additional month for 25%, then the GDP decline would be over 10%.	Economy	[31]
30.	A potential solution may arise in the form of targeted distancing instead of social distancing. More precisely, only the vulnerable sub-population should be conducting social distancing, which would have a lower economic and social burden.	Measures	[44]
31.	As Central banks have the ability to create money in the form of currency, they lend to governments in the form of not repayable credit.	Measures	[23]



hygiene. As for the economic measures, Serbia has managed to timely execute adequate policies. However, based on projections from developed countries, a mild to deep recession is almost inevitable.

### 3. *What future economic trends can be expected in Serbia and in other countries after the crisis has subsided?*

The majority of countries has experienced a reduction in their GDP growth rates. With adequate use of handouts to MSMEs, the number of permanently shut down business should be bearable. The main issue is unemployment. It will put an additional toll on governments' financial resources, and reduce consumption further affecting businesses. A linear rise in prices in most affected industries such as tourism, transport, services, entertainment can be expected [4, 7, 31, 39, 51]. Governments have to put in efforts to reinstate international trade to reduce supply chain bottleneck-caused economic downturn. As the COVID-19 virus is novel, there are still uncertainties when it comes to how long will the global recession last, and will this pandemic subside and disappear, or transform into a seasonal issue. The problem of the present industrial gap in Serbia, and the lack of competitiveness boosting strategies have to be addressed and countered with new industrial policies and macroeconomic stabilizers [14]. This also includes a circular model of growth, stakeholder capitalism, and heterodox economic policy on which the previously noted industrial policies are based [14].

The significance of this review paper lies in its concise approach towards highlighting the crucial aspects of the COVID-19 pandemic. Research applications of this paper may be in the form as a basis for future research. Fellow scholars can address this review in order to obtain concise and key information as it is more practical compared to looking through various sources. Social implications may manifest in the form of increased awareness on potential pandemic situations, and the necessity for increased levels of preparedness.

## Conclusion

COVID-19 shed light on the inadequacies in the preparedness of the majority of governments when it comes to a

global crisis. However, the speed of which new policies and strategies were implemented managed to dampen the negative sides of those inadequacies. It is evident that after this crisis subsides, governments will have to develop long-term strategies for a more effective pandemic readiness plan. Based on the so far available data, it can be concluded that the cumulative efforts of developed and developing countries are managing the pandemic crisis challenges appropriately. Strategies and measures implemented in Serbia are adequate and timely. There are extremes, where the COVID-19 virus rampages, and where it is under total control. However, the majority of countries are somewhere between. Outbreak locations are quarantined, people are advised to practice social distancing and predictions by experts start to arise regarding when the crisis will subside. Now, even when the COVID-19 will be under control, there is the matter of the global economy. Large institutions (ECB, IMF, Federal Reserve) and other central banks are providing loans to governments which further use those resources to keep business afloat in a state of recession.

Currently, it is hard to predict just how deep the recession will be. Undoubtedly, the global economy faces challenges, and this time the downturn is the result of multiple integrated mechanisms (unemployment, supply chain disruption, reduced consumption, business shutdown, tourism-transport-service industry hit, foreign and international trade size reduction). This makes it little more challenging for governments to resolve these issues.

The main limitation of this paper is the lack of enterprise survey research as this would shed additional light on the challenges of enterprises in the time of crisis. Currently, the situation regarding enterprise bailout strategies is unclear, thus for future research it is recommended to analyze enterprise managers on how the government's financial support helped them save (or not save) their business.

## Acknowledgement

This paper was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia As a part of the current project TR-35017.

## References

- Adrian, T., & Narain, A. (2020). *Maintaining Banking System Safety amid the COVID-19 Crisis*. Retrieved from <https://blogs.imf.org/2020/03/31/maintaining-banking-system-safety-amid-the-covid-19-crisis/>
- Anđelković, N. (2020). *Korona virus, Srbija i privreda: Odlaganje plaćanje poreza za manja preduzeća, a svakom punoletnom građaninu 100 evra*. BBC. Retrieved from <https://www.bbc.com/serbian/lat/srbija-52107193>
- B92. (March 2020). *Program ekonomskih mera za podršku privredi Srbije pogođenoj posledicama epidemije (korona virus – COVID-19)*. Retrieved from <https://www.propisi.net/program-mera-za-pomoc-privredi-srbije-pogodjenoj-posledicama-epidemije-korona-virus-covid-19/>
- Bakar, N. A., & Rosbi, S. (2020). Effect of Coronavirus disease (COVID-19) to tourism industry. *International Journal of Advanced Engineering Research and Science*, 7(4), 189-193.
- Bakator, M., Đorđević, D., & Čočkalović, D. (2019). Developing a model for improving business and competitiveness of domestic enterprises. *Journal of Engineering Management and Competitiveness (JEMC)*, 9(2), 87-96.
- Baldwin, R., & Weder di Mauro, B. (2020). *Introduction. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 1-24. CERP Press
- Baum, T., & Hai, N.T.T. (2020). Hospitality, tourism, human rights and the impact of COVID-19. *International Journal of Contemporary Hospitality Management*, 32(7), 2397-2407. doi: 10.1108/IJCHM-03-2020-0242
- Blanchard, O. (2020). *Italy, the ECB, and the need to avoid another euro crisis. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 49-50. CERP Press
- Centers for Disease Control and Prevention - CDC (2020). *Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 (COVID-19)*. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html>
- Cheong, I. (2020). *The experience of South Korea with COVID-19. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 113-120. CERP Press
- Dell'Ariccia, G., Mauro, P., Spilimbergo, A., & Zettelmeyer, J. (April 2020). *Economic Policies for the COVID-19 War*. Retrieved from <https://blogs.imf.org/2020/04/01/economic-policies-for-the-covid-19-war/>
- Deutsche Welle. (2020). *German GDP to drop by 6.5%*. Retrieved from <https://www.dw.com/en/german-gdp-to-drop-by-65-in-2020/a-53910951>
- Đuričin, D., & Lončar, D. (2020). Shaping the future of Serbia's economy: The new growth model and related economic policy platform. *Ekonomika preduzeća*, 68(1-2), 1-21. doi:10.5937/EKOPRE2002001D
- Đuričin, D., & Vuksanović-Herceg, I. (2021). The great reset of Serbia's economy during and after the COVID-19 crisis. *Ekonomika preduzeća*, 69(3-4), 117-136. doi: 10.5937/EKOPRE2103117D
- European Central Bank - ECB. (2020). *Monetary policy decisions*. Retrieved from <https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp200312~8d3aec3ff2.en.html>
- European Central Bank (2021). *Economic and monetary developments*. Retrieved from <https://www.ecb.europa.eu/pub/economic-bulletin/html/eb202008.en.html>
- European Commission (2020). *Economic performance and forecast*. Retrieved from [https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts\\_en](https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts_en)
- European Commission (2021). *Winter 2021 Economic Forecast: A challenging winter, but light at the end of the tunnel*. Retrieved from [https://ec.europa.eu/info/sites/default/files/economy-finance/ecfin\\_forecast\\_winter\\_2021\\_statistical\\_annex\\_en.pdf](https://ec.europa.eu/info/sites/default/files/economy-finance/ecfin_forecast_winter_2021_statistical_annex_en.pdf)
- Feinmann J. (2020). PPE: what now for the global supply chain? *BMJ*, 369, 1910 doi:10.1136/bmj.m1910 X6
- Fernandes, N. (2020). *Economic Effects of Coronavirus Outbreak (COVID-19) on the World Economy*. Retrieved from SSRN: <https://ssrn.com/abstract=3557504> or <http://dx.doi.org/10.2139/ssrn.3557504>
- Financial Times. (2020). *Christine Lagarde apologises for botched communication of ECB strategy*. Retrieved from <https://www.ft.com/content/ce39716e-66c0-11ea-a3c9-1fe6fedcca75>
- Fiskalni Savet (2020). *Ocene predloga rebalansa budžeta Republike Srbije*. Retrieved from [http://www.fiskalnisavet.rs/doc/ocene-i-misljenja/2020/FS\\_Ocena\\_predloga\\_rebalansa\\_budzeta\\_Republike+preporuke\\_za\\_2021.pdf](http://www.fiskalnisavet.rs/doc/ocene-i-misljenja/2020/FS_Ocena_predloga_rebalansa_budzeta_Republike+preporuke_za_2021.pdf)
- Gali, J. (2020). *Helicopter money: The time is now. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 57-61. CERP Press
- Garicano, L. (2020). *The COVID-19 Bazooka for jobs in Europe*. Retrieved from <http://www.igmchicago.org/wp-content/uploads/2020/03/2020.03.16-Garicano-The-COVID-19-European-Bazooka-vFF-LG.pdf>
- Gourinchas, P.O. (2020). *Flattening the pandemic and recession curves. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 31-39. CERP Press
- Guan, D., Wang, D., Hallegatte, S. et al. (2020). Global supply-chain effects of COVID-19 control measures. *Nature Human Behavior*, 4, 577-587. doi:10.1038/s41562-020-0896-8
- Huang, Y. Lin, C., Wang, P., & Xu, Z. (2020). *Saving China from the coronavirus and economic meltdown: Experiences and lessons. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 77-91. CERP Press
- Hutt, R. (2020). *Act fast and do whatever it takes' to fight the COVID-19 crisis, say leading economists*. Retrieved from <https://www.weforum.org/agenda/2020/03/covid-19-economic-crisis-recession-economists>
- Ilzetzki, E. (2020). *COVID-19: The economic policy response*. Retrieved from <https://voxeu.org/article/covid-19-economic-policy-response>
- IMFBlog. (2020). *Europe's COVID-19 Crisis and the Fund's Response*. Retrieved from <https://blogs.imf.org/2020/03/30/europes-covid-19-crisis-and-the-funds-response/>
- Jandoc, K., Mendoza, A., & Quimbo, S. L. (2020). *Vulnerable to the Virus: Globally-Oriented Manufacturing Firms at Risk From the Spread of COVID-19*. UPSE Discussion Papers.
- Khurshid, A., & Khan, K. (2021). How COVID-19 shock will drive the economy and climate? A data-driven approach to model and forecast. *Environmental Science and Pollution Research*, 28, 2948-2958. doi:10.1007/s11356-020-09734-9

33. Kingsly, K., & Henri, K. (2020). *China Sneezes the World Catches a Cold*. CEMAC. Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3557298](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3557298)
34. Liu, W., Yue, X.-G., & Tchounwou, P. B. (2020). Response to the COVID-19 Epidemic: The Chinese Experience and Implications for Other Countries. *International Journal of Environmental Research and Public Health*, 17(7), 2304. doi:10.3390/ijerph17072304
35. MacIntyre, C. R. (2020). On a knife's edge of a COVID-19 pandemic: is containment still possible. *Public Health Res Pract*, 30(1), 3012000. doi: 10.17061/phrp3012000
36. McAleer, M. (2020). Prevention Is Better Than the Cure: Risk Management of COVID-19. *Journal of Risk and Financial Management*, 13(3), 46. doi:10.3390/jrfm13030046
37. McKibbin, W. J. & Fernando, R. (2020). *The Global Macroeconomic Impacts of COVID-19: Seven Scenarios*. CAMA Working Paper No. 19/2020. Retrieved from SSRN: <https://ssrn.com/abstract=3547729> or <http://dx.doi.org/10.2139/ssrn.3547729>
38. Mekinjić, B., Grujić, M., & Vujičić-Stefanović, D. (2020). Influence of digitalisation and technological innovations in the financial market on the development of the financial market. *Ekonomika preduzeća*, 68(3-4), 269-279. doi: 10.5937/EKOPRE2004269M
39. Miller, C. (2020). *The effect of COVID-19 on the U.S. Economy*. Retrieved from <https://www.fpri.org/article/2020/03/the-effect-of-covid-19-on-the-u-s-economy/>
40. Minnesota Department of Health (MDH). (2020). *Strategies to Slow the Spread of COVID-19 in Minnesota*. Retrieved from <https://www.health.state.mn.us/diseases/coronavirus/action.html>
41. Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, P. (2010). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *International Journal of Surgery*, 8(5), 336-341.
42. National Bank of Serbia (2021). *Macroeconomic Developments in Serbia*. Retrieved from [https://www.nbs.rs/export/sites/NBS\\_site/documents-eng/finansijska-stabilnost/presentation\\_invest.pdf](https://www.nbs.rs/export/sites/NBS_site/documents-eng/finansijska-stabilnost/presentation_invest.pdf)
43. National Bank of the Republic of Serbia (2020). *Uporedni pregled i poređenje projekcija Narodne Banke Srbije i pojedinih međunarodnih finansijskih institucija - objektivnost, namera, ili nešto treće*. Retrieved from [https://www.nbs.rs/sr\\_RS/scripts/showcontent/index.html?id=16041&konverzija=yes](https://www.nbs.rs/sr_RS/scripts/showcontent/index.html?id=16041&konverzija=yes)
44. Neufeld, Z., Khataee, H. & Czirok, A. (2020). *Targeted adaptive isolation strategy for Covid-19 pandemic*. Retrieved from <https://www.medrxiv.org/content/10.1101/2020.03.23.20041897v2>
45. OECD. (2020) *New OECD outlook on the global economy*. Retrieved from <https://www.oecd.org/coronavirus/en/>
46. Ozili, P., & Arun, T. (2020). *Spillover of COVID-19: Impact on the Global Economy*. Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3562570](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3562570)
47. Piguillem, F., & Shi, L. (2020). *The Optimal COVID-19 Quarantine and Testing Policies (No. 2004)*. Einaudi Institute for Economics and Finance (EIEF).
48. Ramelli, S., & Wagner, A. F. (2020). *Feverish Stock Price Reactions to COVID-19 (March 2020)*. CEPR Discussion Paper No. DP14511. Retrieved from SSRN: <https://ssrn.com/abstract=3560319>
49. Randelović, S. (2020). Pro-growth public investment policy in Serbia: Sufficiency and efficiency. *Ekonomika preduzeća*, 68(1-2), 137-146. doi:10.5937/EKOPRE2002137R
50. Shan, C., & Tang, D. Y. (2020). *The Value of Employee Satisfaction in Disastrous Times: Evidence from COVID-19*. Retrieved from SSRN: <https://ssrn.com/abstract=3560919> or <http://dx.doi.org/10.2139/ssrn.3560919>
51. Škare, M., Riberio Soriano, D., & Porada-Rochoń, M. (2021). Impact of COVID-19 on the travel and tourism industry. *Technological Forecasting and Social Change*, 163, 120469. doi:10.1016/j.techfore.2020.120469.
52. Stier, A., Berman, M., & Bettencourt, L. (2020). *COVID-19 Attack Rate Increases with City Size*. Mansueto Institute for Urban Innovation Research Paper. Retrieved from SSRN: <https://ssrn.com/abstract=3564464>
53. Taylor, B. J. (2020). *Toward a Coherent Economic Strategy for COVID-19*. Retrieved from <https://www.project-syndicate.org/commentary/us-covid-pro-market-strategy-by-john-taylor-5-2020-03>
54. The World News (2020). *Imaćemo i četvrti talas korone*. Retrieved from <https://theworldnews.net/rs-news/imacemo-i-cetvrti-talas-korone-prof-kocovic-otkrio-kada-se-ocekujenovi-pik-ali-i-kraj-treceg-udara>
55. Wei, S.J. (2020). *Ten keys to beating back COVID-19 and the associated economic pandemic. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 71-76. CERP Press
56. World Bank (2020). *GDP annual growth*. Retrieved from [https://datacatalog.worldbank.org/search?sort\\_by=field\\_wbddh\\_modified\\_date&sort\\_order=DESC](https://datacatalog.worldbank.org/search?sort_by=field_wbddh_modified_date&sort_order=DESC)
57. World Bank (2021). *Recent Economic Developments*. Retrieved from <https://www.worldbank.org/en/country/serbia/overview#3>
58. Worldometer. (2021). *Coronavirus Cases*. Retrieved from [https://www.worldometers.info/coronavirus/?utm\\_campaign=homeAdvegas1?%20](https://www.worldometers.info/coronavirus/?utm_campaign=homeAdvegas1?%20)
59. Wyplosz, C. (2020). *So far, so good: And now don't be afraid of moral hazard. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever*, 25-30.
60. Xu, Z., Elomri, A., Kerbache, L., & El Omri, A. (2020). Impacts of COVID-19 on Global Supply Chains: Facts and Perspectives. *IEEE Engineering Management Review*, 48(3), 153-166. doi: 10.1109/EMR.2020.3018420.



**Mihalj Bakator**

is a Teaching Assistant at the Technical faculty "Mihajlo Pupin" in Zrenjanin, University of Novi Sad. He received his Ph.D. degree from the University of Novi Sad, Technical faculty "Mihajlo Pupin", in Zrenjanin. He participates on the project funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia. His areas of research interest are: marketing management, market research, entrepreneurship, and quality management.



**Dragan Ćockalo**

has a Ph.D. in technical sciences. He is a Full Professor of Entrepreneurship and Quality Management at the University of Novi Sad, Technical faculty "Mihajlo Pupin" in Zrenjanin, Republic of Serbia. His main areas of research interest are Quality management, Entrepreneurship and Regional business development.



**Dejan Đorđević**

has a Ph.D. in Economy from the University of Belgrade, Faculty of Economics (1999). MA in Economy (1994) and BA in Economy (1990) from the same faculty. He is a Full Professor of Management at University of Novi Sad – Technical Faculty Mihajlo Pupin Zrenjanin. Head of Management department at Technical Faculty Mihajlo Pupin. Over 25 years of experience in the field of consulting (quality management, marketing management, development of SMEs, business planning). Participated in over 100 seminars, Round Tables, Scientific and Technical Meetings and Conferences and published over 100 scientific and technical papers in the field of: management concepts (Quality Management System, TQM, Management, Marketing Management), development of entrepreneurship and SMEs and social development, as well as 15 text books and 3 manuals.



**Srđan Bogetić**

is a professor of vocational studies at the Belgrade Business and Arts Academy of Applied Studies, Belgrade. In 2009. he acquired his Ph.D. degree in the domain of quality management in small and medium-sized enterprises. His areas of interest are Small and medium-sized enterprise management, Entrepreneurship, Quality management, and Business process management.

**Addiko Bank**

**ADDIKO BANK A.D. BEOGRAD**  
BEOGRAD, MILUTINA MILANKOVIĆA 7V  
TEL: 011/222-67-13  
FAX: 011/222-67-98  
[www.addiko.rs](http://www.addiko.rs)



Deposit  
Insurance  
Agency

**AGENCIJA ZA OSIGURANJE DEPOZITA**  
BEOGRAD, KNEZ MIHAILOVA 2/I  
TEL: 011/2075 102  
FAX: 011/3287 741  
[www.aod.rs](http://www.aod.rs)



**ATLANTIC**  
GRUPA

**ATLANTIC GRUPA**  
BEOGRAD, KUMODRAŠKA 249  
TEL: 011/395 6007  
FAX: 011/2472-628  
[www.atlanticgrupa.com](http://www.atlanticgrupa.com)



**BANCA INTESA**

**BANCA INTESA AD BEOGRAD**  
NOVI BEOGRAD, MILENTIJA POPOVIĆA 7B  
TEL: 011/2011-200  
FAX: 011/2011-207  
[www.bancaintesabeograd.com](http://www.bancaintesabeograd.com)



БАНКА  
ПОШТАНСКА ШТЕДИОНИЦА

**BANKA POŠTANSKA ŠTEDIONICA AD**  
BEOGRAD, ULICA KRALJICE MARIJE BROJ 3  
TEL: 011/2020-292  
FAX: 011/3376-777  
[www.posted.co.rs](http://www.posted.co.rs)



**BISNODE doo**

NOVI BEOGRAD, MILUTINA MILANKOVIĆA 7V  
TEL: 011/2252-740  
[www.bisnode.rs](http://www.bisnode.rs)

**BUCK**

**BUCK**

11147 BEOGRAD, p.f. 2, SRBIJA  
TEL: 011/2052-400  
FAX: 011/2052-401  
[www.buck.rs](http://www.buck.rs)



**CROWNE PLAZA®**

AN IHG® HOTEL  
BELGRADE

**NBGP PROPERTIES**

**Ogranak Crowne Plaza Beograd**  
BEOGRAD, Vladimira Popovica 10  
TEL: 011/2204-004  
Fax: 011/2204-104  
[www.crowneplaza.com](http://www.crowneplaza.com)

MEMBERS OF THE SERBIAN ASSOCIATION OF ECONOMISTS



**"DDOR NOVI SAD" A.D.O. Novi Sad**  
**Deo Unipol Gruppo S.p.A.**  
NOVI SAD, BULEVAR MIHAJLA PUPINA 8  
TEL: 021/4871-000  
0800/303-301  
[www.ddor.co.rs](http://www.ddor.co.rs)



**ELEKTROPRIVREDA SRBIJE**  
BEOGRAD, CARICE MILICE 2  
TEL: 011/2628-622  
FAX: 011/2623-984  
[www.eps.rs](http://www.eps.rs)



NOVI BEOGRAD, ANTIFAŠISTIČKE BORBE 13a  
TEL: 011/2095-808  
FAX: 011/2095-890  
[www.ey.com/rs](http://www.ey.com/rs)



**ERSTE BANK**  
NOVI SAD, BULEVAR OSLOBOĐENJA 5  
NOVI BEOGRAD, MILUTINA MILANKOVICA 11B  
TEL: 0800 201 201  
FAX: 021/480 97 00  
[www.erstebank.rs](http://www.erstebank.rs)



Srbija  
**EUROBANK**  
BEOGRAD, VUKA KARADŽIĆA 10  
TEL: 011/206-5816  
FAX: 011/302-8952  
[www.eurobank.rs](http://www.eurobank.rs)



**FOND ZA RAZVOJ REPUBLIKE SRBIJE**  
BEOGRAD, KNEZ MIHAILOVA 14  
NIŠ, BULEVAR NEMANJIĆA 14A  
TEL: 011/2631-239  
[www.fondzarazvoj.gov.rs](http://www.fondzarazvoj.gov.rs)



**JEDINSTVO**  
UŽICE, PRVOMAJSKA BB  
TEL: 031/533-681  
FAX: 031/533-685  
[www.mppjedinstvo.co.rs](http://www.mppjedinstvo.co.rs)



KOMERCIJALNA BANKA AD  
BEOGRAD  
**KOMERCIJALNA BANKA AD**  
BEOGRAD, SVETOG SAVE 14  
TEL: 011/3080-100  
FAX: 011/3440-033  
[www.kombank.com](http://www.kombank.com)



**HOLDING KORPORACIJA „KRUŠIK“ A.D.**  
VALJEVO, VLADIKE NIKOLAJA 59  
TEL: 014/221-121  
FAX: 014/220-516  
[www.krusik.rs](http://www.krusik.rs)



**MEDIGROUP SEE**  
NOVI BEOGRAD, PARISKE KOMUNE 26  
TEL: 011/4040-100  
<http://bolnica.medigroup.rs/>



**MEĐUNARODNI CENTAR ZA RAZVOJ  
FINANSIJSKOG TRŽIŠTA DOO**  
BEOGRAD, NEBOJŠINA 12  
TEL: 011/3085-780  
FAX: 011/3085-782  
[www.mcentar.rs](http://www.mcentar.rs)



**НОВОСАДСКИ САЈАМ**  
**AD "NOVOSADSKI SAJAM" NOVI SAD**  
NOVI SAD, HAJDUK VELJKOVA 11  
TEL: 021/4830-310  
FAX: 021/4830-263  
[www.sajam.net](http://www.sajam.net)



**OTP BANKA SRBIJA AD BEOGRAD**  
NOVI BEOGRAD, BULEVAR ZORANA ĐINĐIĆA 50a/b  
TEL: 011/3011-555  
[www.otpsrbija.rs](http://www.otpsrbija.rs)

**POINT GROUP INT** d.o.o.

**POINT GROUP Int doo**  
BEOGRAD, FRANCUSKA 6  
TEL: 011/7346 661  
FAX: 011/7234 431  
[www.pointint.com](http://www.pointint.com)



**RAIFFEISEN FUTURE A.D. BEOGRAD**  
**DRUŠTVO ZA UPRAVLJANJE**  
**DOBOVOLJNIM PENZIJSKIM FONDOM**  
NOVI BEOGRAD, ĐORĐA STANOJEVIĆA 16  
TEL: 011/220-7180  
FAX: 011/220-7186  
[www.raiffeisenfuture.rs](http://www.raiffeisenfuture.rs)



РЕПУБЛИЧКИ ФОНД  
ЗА ПЕНЗИЈСКО И  
ИНВАЛИДСКО ОСИГУРАЊЕ

**REPUBLIČKI FOND ZA PENZIJSKO  
I INVALIDSKO OSIGURANJE**  
BEOGRAD, DR ALEKSANDRA KOSTIĆA 9  
TEL: 011/206-1102  
FAX: 011/206-1127  
[www.pio.rs](http://www.pio.rs)



**ROCHE SRBIJE**  
NOVI BEOGRAD, MILUTINA MILANKOVIĆA 11A  
TEL: 011/2022-860  
[www.rochesrbija.rs](http://www.rochesrbija.rs)



**SAVA NEŽIVOTNO OSIGURANJE a.d.o.**  
BEOGRAD, BULEVAR VOJVODE MIŠIĆA 51  
TEL: 011/3644-801  
FAX: 011/3644-889  
[www.sava-osiguranje.rs](http://www.sava-osiguranje.rs)



**JP SRBIJAŠUME**  
NOVI BEOGRAD, BULEVAR MIHAJLA PUPINA 113  
TEL: 011/311-5036  
FAX: 011/311-5036  
[www.srbijasume.rs](http://www.srbijasume.rs)



**Transnafta**  
**TRANNAFTA AD**  
NOVI SAD, Bulevar oslobođenja 5  
TEL: 021/3861-000  
[www.transnafta.rs](http://www.transnafta.rs)



**TRIGLAV OSIGURANJE A.D.O.**  
NOVI BEOGRAD, MILUTINA MILANKOVIĆA 7a  
TEL: 011/3305-100  
FAX: 011/3305-138  
[www.triglav.rs](http://www.triglav.rs)



УНИВЕРЗИТЕТ У БЕОГРАДУ  
Економски факултет

**UNIVERZITET U BEOGRADU**  
**EKONOMSKI FAKULTET**  
BEOGRAD, KAMENIČKA 6  
TEL: 011/3021-240  
FAX: 011/2639-560  
[www.ekof.bg.ac.rs](http://www.ekof.bg.ac.rs)



ВИСОКА  
ПОСЛОВНА  
ШКОЛА  
СТРУКОВНИХ  
СТУДИЈА  
НОВИ САД

**VISOKA POSLOVNA ŠKOLA**  
**STRUKOVNIH STUDIJA NOVI SAD**  
NOVI SAD, VLADIMIRA PERIĆA VALTERA 4  
TEL: 021/450-101  
FAX: 021/334-055  
[www.vps.ns.ac.rs](http://www.vps.ns.ac.rs)



**VOJVODINAŠUME**  
**JAVNO PREDUZEĆE „VOJVODINAŠUME“**  
PETROVARADIN, PRERADOVIĆEVA 2  
TEL: 021/431-144, lokal 125  
FAX: 021/431-144, lokal 217  
[www.www.vojvodinasume.rs](http://www.www.vojvodinasume.rs)



**WIENER STÄDTISCHE**  
VIENNA INSURANCE GROUP  
**WIENER STÄDTISCHE OSIGURANJE A.D.O. BEOGRAD**  
**VIENNA INSURANCE GROUP**  
BELGRADE, TREŠNJINOG CVETA 1  
TEL: +381 11 2209 800  
FAX: +381 11 2209 900  
<http://www.wiener.co.rs>



**GASOVI ZA ŽIVOT**



Dodir života i vazduha.  
Iako ih ne vidimo,  
**Gases for Life** su sastavni  
deo našeg svakodnevnog  
života. Sečenje, zavarivanje,  
mlevenje, gaziranje,  
hladenje, čak i spašavanje  
života: sve je moguće uz  
odgovarajući gas.

# Tango Classic Oak Almond

Inovativna  
podna rešenja  
za moderno  
opremljen prostor.

[www.tarkett.rs](http://www.tarkett.rs)

 **Tarkett**