

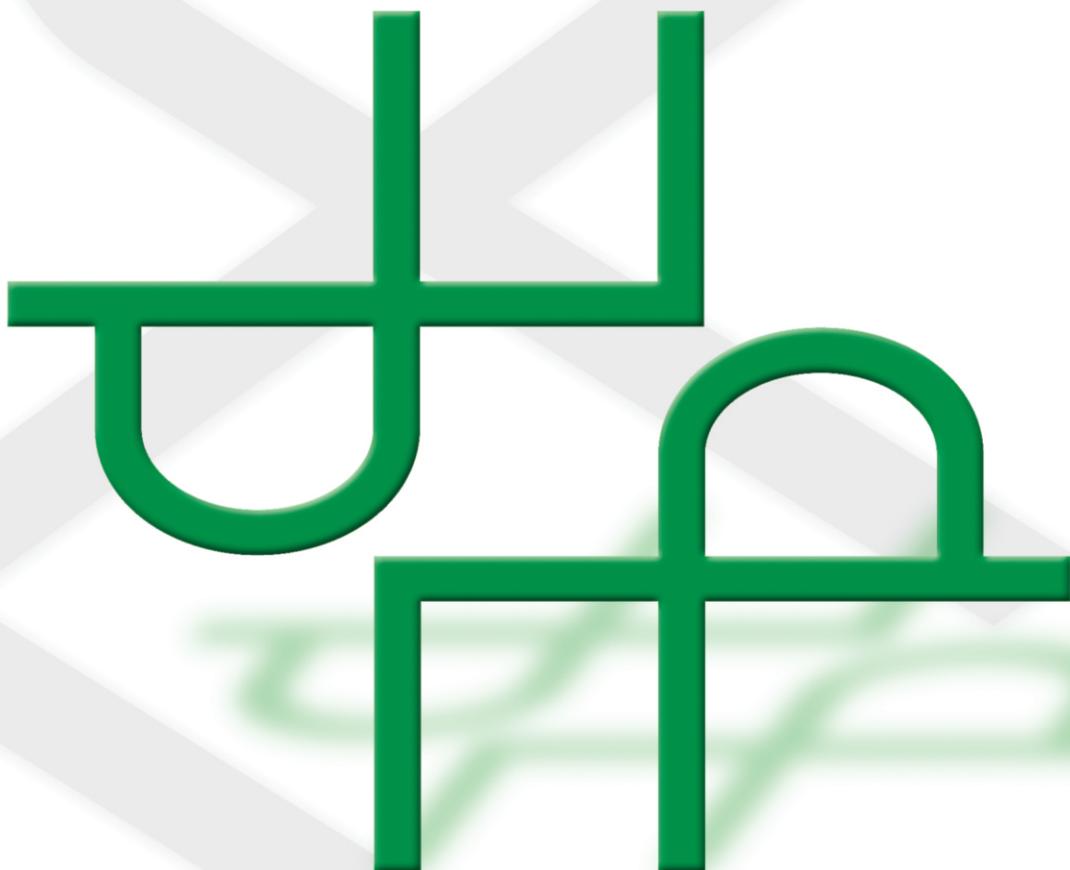
ISSN 0350-137X

UDK: 338 (497,1)

# ЕКОНОМИКА

# ЕКОНОМИКА

4



LXV

NIŠ, 2019

МЕЂУНАРОДНИ ЧАСОПИС  
ЗА ЕКОНОМСКУ ТЕОРИЈУ И ПРАКСУ И ДРУШТВЕНА ПИТАЊА



# ЕКОНОМИКА

Часопис излази четири пута годишње

Година LXV, X-XII 2019, број 4

ИЗДАВАЧ: Друштво економиста "Економика" Ниш

СУИЗДАВАЧИ: Институт за економику пољопривреде - Београд, Економски факултет у Суботици, Факултет за менаџмент - Сремски Карловци, Друштво економиста Ниша, Факултет за примењени менаџмент економију и финансије МЕФ - Београд

## ГЛАВНИ И ОДГОВОРНИ УРЕДНИК:

Доц. др Зоран Симоновић

## ИЗВРШНИ УРЕДНИЦИ:

Проф. др Бојан Крстић, Ниш (Србија)

Проф. др Славомир Милетић, Ниш (Србија)

Проф. др Александар Грубор, Суботица (Србија)

Проф. др Јонел Субић, Београд (Србија)

Проф. др Бобан Стојановић, Ниш (Србија)

Проф. др Драган Момировић, Београд (Србија)

Доц. др Никола Ђурчић, Београд (Србија)

Др Владимир Радивојевић, Ниш (Србија)

## РЕДАКЦИЈСКИ КОЛЕГИЈУМ

Академик Зоран Лакић, Подгорица (Црна Гора)

Академик Љубиша Папић, Чачак (Србија)

Др Рајмунд Мирдала, Кошице (Словачка)

Др Грег Рингер, Јуџин (САД)

Др Марија Павлова, Велико Трново (Бугарска)

Др Андреј Жан-Василе, Плоешти (Румунија)

Др Јуриј Књазев, Москва (Русија)

Др Андрес Карион Гарциа, Валенсија (Шпанија)

Др Рената Краковска, Варшава (Пољска)

Др Љубинка Јоксимовић, Београд (Србија)

Др Александру Неделеа, Сучева (Руманија)

Др Набиева У.Н., Махачкала (Русија)

Др Слободан Цветановић, Ниш (Србија)

Др Збигниев Пашек, Краков (Пољска)

Др Боривоје Прокоповић, Ниш (Србија)

Др Тадеуш Грабински, Краков (Пољска)

Др Јанко Радуловић, Подгорица (Црна Гора)

Др Паоло Цесар Чагас Родригес (Бразил)

Др Крис Пател, Сиднеј (Аустралија)

Др Андреј Арјамов, Москва (Русија)

Др Ливију Думитраску, Плоешти (Румунија)

Др Срећко Милачић, Косовска Митровица (Србија)

Др Милан Амброж, Ново Место (Словенија)

Др Марко Колаковић, Загреб (Хрватска)

Др Дејан Јакшић, Суботица (Србија)

Др Александар Ђурић, Београд (Србија)

Др Драго Цвијановић, Врњачка Бања (Србија)

Др Зоран Јеротијевић, Београд (Србија)

Др Дино Мартелато, Венеција (Италија)

Др Ајше Умит Гокдениз, Истанбул (Турска)

Др Иван Чарота, Минск (Белорусија)

Др Милица Вујичић, Нови Пазар (Србија)

Др Чи Вей Су, Кингдао (Кина)

Др Чор Фон Танг, Пенанг (Малезија)

Др Жаклина Спалевић, Бијељина (БиХ)

Др Дејан Петровић, Београд (Србија)

Др Весна Стојановић Алексић, Крагујевац (Србија)

Др Марија Станкова, Благоевград (Бугарска)

Др Андријела Витић-Џетковић, Котор (Црна Гора)

Др Bishwajit Bhattacharjee, Каримгањ (Индија)

Др Драган Михајловић, Зајечар (Србија)

Др Томислав Брзаковић, Београд (Србија)

Др Милош Крстић, Ниш (Србија)

Др Јозеф Пур, Годло (Мађарска)

Др Алиаксеи Букау, Минск (Белорусија)

Др Снежана Живковић, Ниш (Србија)

Др Срђан Лалић, Бијељина (БиХ)

Др Весна Јанковић-Милић, Ниш (Србија)

## ИЗДАВАЧКИ САВЕТ

Др Гордана Мрдак, Врање (Србија)

Мр Бранислав Јованчић, Ниш (Србија)

Др Живорад Лигоријевић, Ниш (Србија)

Др Софија Лихова, Кијев (Украјина)

Др Рајко Буквић, Београд (Србија)

Др Петар Веселиновић, Крагујевац (Србија)

Др Иван Ђурић, Хале (Немачка)

Мр Наталиа Плаголева, Белгород (Русија)

Др Миријана Кнежевић, Крагујевац (Србија)

Др Александар Костић, Косовска Митровица (Србија)

Др Соња Јовановић, Ниш (Србија)

Др Данијела Деспотовић, Крагујевац (Србија)

Др Марко Милојевић, Бијељина (БиХ)

Др Славко Ивковић, Београд (Србија)

Др Светлана Рољевић-Николић, Београд (Србија)

Др Немања Бербер, Суботица (Србија)

1. Часопис “Економика” покренут је јула 1954. године и под називом “ Нишки привредни гласник” излазио је до јуна 1957. године, а као “Привредни гласник” до краја 1969. године. Назив “Наука и пракса” носио је закључно са бројем 1/1973. год. када добија назив “Економика” који и данас има.

2. Часопис су покренули Друштво економиста Ниша и Друштво инжењера и техничара Ниша (остало као издавач до краја 1964. године). Удружење књиговођа постаје издавач почев од броја 6-7/1958. године. Економски факултет у Нишу на основу своје одлуке броја 04-2021 од 26.12.1991. године постао је суиздавач “Економике”. Такође и Економски факултет у Приштини постао је суиздавач од 1992. године. Почев од 1992. године суиздавач “Економике” је и Друштво за маркетинг региона Ниш. Као суиздавач “Економике” фигурирали су у току 1990-1996. године и Фонд за научни рад општине Ниш, Завод за просторно и урбанистичко планирање Ниш и Корпорација Винер Брокер Ниш.

3. Републички секретариат за информације СР Србије својим Решењем бр. 651-126/73-02 од 27. новембра 1974. године усвојио је захтев “Економике” за упис у Регистар новина. Скупштина Друштва економиста Ниша на седници од 24. априла 1990. године статутарном одлуком потврдила је да “Економика” има статус правног лица. На седници Скупштине Друштва економиста Ниш од 11. новембра 1999. године донета је одлука да “Економика” отвори посебан жиро-рачун.

4. Према Мишљењу Републичког секретариата за културу СР Србије бр. 413-516/73-02 од 10. јула 1973. године и Министарства за науку и технологију Републике Србије бр. 541-03-363/94-02 од 30. јуна 1994. године “Економика” има статус научног и ранг националног часописа “Економика” је поћев од 1995. добила статус међународног економског часописа.

5. УРЕДНИЦИ: др Јован Петровић (1954-1958), Миодраг Филиповић (1958-1962), Благоје Матић (1962-1964), др Драгољуб Стојиљковић (1964-1967), др Миодраг Николић (1967-1973), др Драгољуб Симоновић (1973-1984), др Миодраг Јовановић (1984-3-4/1988), др Драгољуб Симоновић (1990-2019), доц. др Зоран Симоновић (2019-до данас).

**ЧАСОПИС ЈЕ ИНДЕКСИРАН У СЛЕДЕЋИМ БАЗАМА:**

ERIH Plus	RePEc	DOAJ
Index Copernicus	Ulrichs web	SHERPA / ROMEO
EBSCO host	EconPapers	ProQuest
J-Gate	CABI	EZB
SSRN	ECONLIT	CNKI

Лектор за енглески језик

**ВЛАДИМИР ИВАНОВИЋ**

Компјутерска обрада текста и графике:

**МИЛАН Д. РАНЂЕЛОВИЋ**

Ликовна опрема:

**ПЕТАР ОГЊАНОВИЋ, ДРАГАН МОМЧИЛОВИЋ**

Адреса:

“Економика” Друштво економиста

18000 Ниш, Максима Горког 5/36

Телефон Редакције: +381 (0)18 4245 763; 211 443

е-маил: zoki@medianis.net; ekonomika@sbb.rs WEB: <http://www.ekonomika.org.rs>

Жиро рачун: динарски 160-19452-17

Штампа:

“MEDIVEST”

18000 Ниш

Тираж: 300 примерака

INTERNATIONAL JOURNAL  
FOR ECONOMIC THEORY AND PRACTICE AND SOCIAL ISSUES



# ЕКОНОМИКА

The Journal is issued four times a year.

Year LXV, X-XII 2019, Vol. 4

PUBLISHER: Society of Economists "Ekonomika", Nis

COPUBLISHERS: Institute of agricultural economics - Belgrade, Faculty of Economics - Subotica, Faculty of management - Sremski Karlovci, Economic Association of Nis, Faculty of Applied Economics and Management Finance MEF - Belgrade

EDITOR-IN-CHIEF:

Zoran Simonovic, Ph.D

## EXECUTIVE EDITORS:

Prof. Bojan Krstic, Ph.D, Nis (Serbia)  
Prof. Slavomir Miletic, Ph.D, Nis (Serbia)  
Prof. Aleksandar Grubor, Ph.D, Subotica (Serbia)  
Prof. Jonel Subic Ph.D, Belgrade (Serbia)

Prof. Boban Stojanović, Ph.D, Nis (Serbia)  
Prof. Dragan Momirovic, Ph.D, Belgrade (Serbia)  
Nikola Curcic, Ph.D, Belgrade (Serbia)  
Vladimir Radivojevic, Ph.D, Nis (Serbia)

## EDITORIAL BOARD

Academician Zoran Lacic, Podgorica (Montenegro)  
Academician Ljubisa Papic, Ph.D, Cacak (Serbia)  
Greg Ringer, Ph.D, Eugene, OR (USA)  
Rajmund Mirdala, Ph.D, Kosice (Slovakia)  
Mariya Pavlova, Ph.D, Veliko Trnovo (Bulgaria)  
Andrei Jean-Vasile, Ph.D, Ploiesti (Romania)  
Jurij Knjazev, Ph.D, Moskva (Russia)  
Andrés Carrión García, Ph.D, Valencia (Spain)  
Renata Krakowska Ph.D, Warsaw (Poland)  
Ljubinka Joksimovic, Ph.D, Belgrade (Serbia)  
Alexandru Nedelea, Ph.D, Suceva (Romania)  
Nabieva U.N., Ph.D, Mahackala (Russia)  
Slobodan Cvetanovic, Ph.D, Nis (Serbia)  
Chi Wei Su, Ph.D, Qingdao (China)  
Zbigniew Paszek, Ph.D, Krakow (Poland)  
Borivoje Prokopovic, Ph.D, Nis (Serbia)  
Tadeusz Grabinski, Ph.D, Krakow (Poland)  
Janko Radulovic Ph.D, Podgorica (Montenegro)  
Paulo Cesar Chagas Rodrigues, Campus Avaré, (Brazil)  
Andrey Aryamov, Ph.D, Moskva (Russia)  
Liviu Dumitrascu, Ph.D, Ploiesti (Romania)  
Srecko Milacic, Ph.D, K.Mitrovica (Serbia)  
Milan Ambrož Ph.D, Novo Mesto (Slovenia)  
Marko Kolakovic, Zagreb (Croatia)

Dejan Jaksic, Ph.D, Subotica (Serbia)  
Aleksandar Duric, Ph.D, Belgrade (Serbia)  
Drago Cvijanovic, Ph.D, Vrnjačka Banja (Serbia)  
Zoran Jerotijević, Ph.D, Beograd (Serbia)  
Dino Martello, Ph.D, Venice (Italy)  
Ayse Ümit Gökdeniz, Ph.D Istanbul (Turkey)  
Ivan Carota, Ph.D, Minsk (Belarus)  
Milica Vujcic, Ph.D, Novi Pazar (Serbia),  
Chor Foon Tang, Ph.D, Penang (Malaysia)  
Zaklina Spalevic, Ph.D, Bijeljina (BiH)  
Dejan Petrovic, Ph.D, Belgrade (Serbia)  
Vesna Stojanovic Aleksic, Ph.D, Kragujevac (Serbia)  
Mariya Stankova Ph.D, Blagoevgrad (Bulgaria)  
Andriela Vitic-Cetkovic Ph.D, Kotor (Montenegro)  
Chris Patel, Ph.D, Sydney (Australia)  
Bishwajit Bhattacharjee Ph.D, Karimganj (India)  
Dragan Mihajlovic, Ph.D, Zajecar (Serbia)  
Tomislav Brzakovic, Ph.D, Belgrade (Serbia)  
Milos Krstic, Ph.D, Nis (Serbia)  
József Poór, Ph.D, Godollo (Hungary)  
Aliaksei Bykau, Ph.D, Minsk (Belarus)  
Snezana Zivkovic, Ph.D, Nis (Serbia)  
Srdan Lalic, Ph.D, Bijeljina (BiH)  
Vesna Jankovic-Milic, Ph.D, Nis (Serbia)

## PUBLISHING COUNCIL

Gordana Mrdak, Ph.D, Vranje (Serbia)  
Branislav Jovancic, MSc, Nis (Serbia)  
Zivorad Gligorijevic, Ph.D, Nis (Serbia)  
Sofja Lihova, Ph.D, Kiev (Ukraine)  
Rajko Bukvic, Belgrade (Serbia)  
Petar Veselinovic, Ph.D, Kragujevac (Serbia)  
Ivan Djuric, Ph.D, Halle (Germany)  
Natalia Glagoleva, MSc, Belgorod (Russia)

Mirjana Knezevic, Ph.D, Kragujevac (Serbia)  
Aleksandar Kostic, Ph.D, K. Mitrovica (Serbia)  
Sonja Jovanovic, Ph.D, Niš (Serbia)  
Danijela Despotovic, Ph.D, Kragujevac (Serbia)  
Marko Mилоjevic, Ph.D, Bijeljina (BiH)  
Slavko Ivkovic, Ph.D, Belgrade (Serbia)  
Svetlana Roljevic-Nikolic, Ph.D, Belgrade (Serbia)  
Nemanja Berber, Ph.D, Subotica (Serbia)

1. The journal EKONOMIKA was initiated in July 1954. It was published as "Nis Economic Messenger" till June, 1957 and as "The Economic Messenger" till the end of 1969. The title "Science and Practice" it had till the issue 1/1973 when it changed its name into EKONOMIKA as it entitled today.

2. The Journal was initiated by the Society of Economists of Nis and the Society of Engineers and Technicians of Nis (the latter remained as the publisher till the end of 1964). The Society of Accountants became its publisher starting from the issue no. 6-7/1958. The Faculty of Economics, Nis, on the basis of its Resolution No. 04-2021 from December 26, 1991, became the co-publisher of EKONOMIKA. Likewise, the Faculty of Economics of Pristina became the co-publisher since in 1992. Starting from 1992, the co-publisher of EKONOMIKA has been the Society for Marketing of the Region of Nis. Other co-publishers of EKONOMIKA included, in the period 1990-1996, the Foundation for Scientific Work of the Municipality of Nis, the Institute for Spatial and Urban Planning of Nis and the Corporation Winner Broker, Nis.

3. The Republic Secretariat for Information of the Socialist Republic of Serbia, by its Resolution No. 651-126/73-02 from November, 27, 1974, approved of EKONOMIKA's requirement to be introduced into the Press Register. The Assembly of the Society of Economists of Nis, at its session on April 24, 1990, by its statutory resolution, confirmed the legal status of EKONOMIKA. At the session of the Assembly of the Society of Economists, Nis, on November 11, 1999, the resolution was adopted the EKONOMIKA was to open its own bank account.

4. According to the Opinion of the Republic Secretariat for Culture of the Socialist Republic of Serbia No. 413-516/73-02 from July 10, 1973 and the Ministry for Science and Technology of the Republic of Serbia No. 541-03-363/94-02 from June 30, 1994, EKONOMIKA has the status of a scientific and national journal. Starting from 1995, EKONOMIKA has been having the status of international economic journal.

5. EDITORS: dr Jovan Petrovic (1954-1958). Miodrag Filipovic (1958-1962), Blagoje Matic (1962-1964), dr Dragoljub Stojiljkovic (1964-1967), dr Miodrag Nikolic (1967-1973), dr Dragoljub Simonovic (1973-1984), dr Miodrag Jovanovic (1984-3-4/1988), dr Dragoljub Simonovic (1990-2019), doc. dr Zoran Simonovic (2019-till the present day).

THE JOURNAL IS INDEXED IN THE FOLLOWING BASES:

ERIH Plus	RePEc	DOAJ
Index Copernicus	Ulrichs web	SHERPA / ROMEO
EBSCO host	EconPapers	ProQuest
J-Gate	CABI	EZB
SSRN	ECONLIT	CNKI

Lector

VLADIMIR IVANOVIC

Prepress:

MILAN D. RANDJELOVIC

Cover:

PETAR OGNJANOVIC, DRAGAN MOMCILOVIC

Address:

"EKONOMIKA", Society of Economists  
18000 Nis, Maksima Gorkog 5/36

Phone: +381 (0)18 4245 763; 211 443

e-mail: zoki@medianis.net; ekonomika@sbb.rs    WEB: <http://www.ekonomika.org.rs>

Bank Account: 160-19452-17

Printed by:

"MEDIVEST"

18000 Niš

Copies: 300



ИЗДАТЕЛЬ: Общество экономистов „Экономика” Ниша.

СУИЗДАТЕЛИ: Институт экономики сельского хозяйства в Белград, Экономический факультете в Суботица, Факультет управления - Сремски Карловци, Ассоциация экономистов Ниша, Факультет прикладной экономики и управления финансами МEF - Белград.

ГЛАВНЫЙ И ОТВЕТСТВЕННЫЙ РЕДАКТОР  
д.н. Зоран Симонович

### ИСПОЛНИТЕЛЬНЫЕ РЕДАКТОРЫ

Проф. д.н. Бойан Крстич, Ниш (Сербия)  
Проф. д.н. Славомир Милетич, Ниш (Сербия)  
Проф. д.н. Александар Грубор, Суботица (Сербия)  
Проф. д.н. Йонел Субич, Белград (Сербия)

Проф. д.н. Бобан Стојанович, Ниш (Сербия)  
Проф. д.н. Драган Момирович, Белград (Сербия)  
д.н. Никола Чурчич, Београд (Сербия)  
д.н. Владимир Радивоевич, Ниш (Сербия)

### РЕДАКЦИОННАЯ КОЛЛЕГИЯ

Академик Зоран Лакич, Подгорица (Черногория)  
Академик Любиша Папич, Чачак (Сербия)  
д.н. Раймунд Мирдала, Кошице (Словакия)  
д.н. Грег Рингер, Јушин (США)  
д.н. Мария Павлова, Велико Търново (Болгария)  
д.н. Андрей Жан-Васильев, Плоешти (Румыния)  
д.н. Юурий Князев, Москва (Россия)  
д.н. Андрес Карион Гарциа, Валенсия (Испания)  
д.н. Рената Краковска, Варшава (Польша)  
д.н. Любинка Йокисимович, Белград (Сербия)  
д.н. Александру Неделеа, Сучева (Румыния)  
д.н. Набиева У.Н., Махачкала (Россия)  
д.н. Слободан Цветанович, Ниш (Сербия)  
д.н. Збигниев Пашек, Краков (Польша)  
д.н. Боривоје Прокопович, Ниш (Сербия)  
д.н. Тадеуш Грабински, Краков (Польша)  
д.н. Јанко Радулович, Подгорица (Черногория)  
д.н. Паоло Цесар Чагас Родригес (Бразилия)  
д.н. Крис Пател, Сидней (Австралия)  
д.н. Андрей Арямов, Москва (Россия)  
д.н. Ливиу Думитрасцу, Плоешти (Романия)  
д.н. Сречко Милачич, Косовска Митровица (Сербия)  
д.н. Милан Амброж, Ново Место (Словения)  
д.н. Марко Колакович, Загреб (Хорватия)

д.н. Дејан Јакшич, Суботица (Сербия)  
д.н. Александар Джурич, Белград (Сербия)  
д.н. Драго Цвијанович, Врњачка Бана (Сербия)  
д.н. Зоран Јеротијевић, Белград (Сербия)  
д.н. Дино Мартелато, Венеция (Италия)  
д.н. Ајше Умит Гокдениз, Станбул (Турция)  
д.н. Иван Чарота, Минск (Беларусь)  
д.н. Милица Вуйчич, Нови Пазар (Сербия)  
д.н. Чи Вей Су, Кингдао (Китай)  
д.н. Чор Фон Танг, Пенанг (Малайзия)  
д.н. Жаклина Спалевич, Бијељина (БиХ)  
д.н. Дејан Петровић, Белград (Сербия)  
д.н. Весна Стојановић Алексић, Крагујевац (Сербия)  
д.н. Мария Станкова, Благоевград (Болгария)  
д.н. Андриела Витич-Цеткович, Котор (Черногория)  
д.н. Bishwajit Bhattacharjee, Каримган (Индия)  
д.н. Драган Михајлович, Зајечар (Сербия)  
д.н. Томислав Брзакович, Белград (Сербия)  
д.н. Милош Крстич, Ниш (Сербия)  
д.н. Јозеф Пур, Годло (Венгрия)  
д.н. Алиаксеи Букау, Минск (Беларусь)  
д.н. Снежана Живкович, Ниш (Сербия)  
д.н. Срђан Лалич, Бијељина (БиХ)  
д.н. Весна Јанкович-Милич, Ниш (Сербия)

### СОВЕТ ИЗДАТЕЛЕЙ

д.н. Гордана Мрдак, Врање (Сербия)  
к.н. Бранислав Йованчич Ниш (Сербия)  
д.н. Живорад Глигоријевић, Ниш (Сербия)  
д.н. Софија Лихова, Кијев (Украина)  
д.н. Рајко Буквич, Белград (Сербия)  
д.н. Петар Веселиновић, Крагујевац (Сербия)  
д.н. Иван Джурич, Хале, (Германия)  
к.н. Наталиа Глаголева, Белгород (Россия)

д.н. Миријана Кнежевич, Крагујевац (Сербия)  
д.н. Александар Костић, Косовска Митровица (Сербия)  
д.н. Соња Јованович, Ниш (Сербия)  
д.н. Данијела Деспотович, Крагујевац (Сербия)  
д.н. Марко Милојевић, Бијељина (БиХ)  
д.н. Славко Ивкович, Белград (Сербия)  
д.н. Светлана Рольевич-Николич, Белград (Сербия)  
д.н. Немања Бербер, Суботица (Сербия)

1. Журнал „Экономика” начал издаваться с июля 1954 года и под названием „Нишский хозяйственный вестник” выходил до июня 1957 года, а как „Хозяйственный вестник” - до конца 1969 года. Название „Наука и практика” носил заключительно с № 1/1973 г., когда и получил название „Экономика”, которое имеет и сейчас.

2. Журнал основали Общество экономистов Ниша и Общество инженеров и техников Ниша (оставались издателями до конца 1964 года). Объединение бухгалтеров становится издателем начиная с № 6 - 7 / 1958 года. Экономический факультет в Нише на основании своего Решения № 04 - 2021 от 26.12.1991 года стал соиздателем „Экономики”. Также и Экономический факультет в Приштине стал соиздателем с 1992 года. Начиная с 1992 года соиздателем „Экономики” становится Общество маркетинга региона г. Ниша. Как соиздатели „Экономики” в течении 1990 - 1996 года фигурировали Фонд по научным работам, опщины Ниш, Институт урбанистического планирования Ниша и Корпорация Winner Broker Ниш.

3. Республиканский секретариат по информации СР Сербии своим Решением №651-126/73-02 от 27 ноября 1974 года принял заявление „Экономики” о входе в состав Регистра газет. Собрание Общества экономистов г. Ниша на заседании от 24 апреля 1990 г. Уставным решением подтвердил, что „Экономика” имеет статус правового лица. На заседании Собрания Общества экономистов г. Ниша от 11 ноября 1999 г. принято решение об открытии „Экономикой”, отдельного расчетного счета.

4. Согласно мнению Республиканского секретариата по культуре СР Сербии №413-516/73-02 от июля 1973 г. и Министерства науки и технологии Республики Сербии №541-03-363/94-02 от 30 июня 1994 г. „Экономика” имеет статус научного и ранг национального журнала. С начала 1995 года „Экономика” получила статус международного экономического журнала.

5. СОСТАВИТЕЛИ: д.н. Йован Петрович (1954-1956), Миодраг Филиппович (1958-1962), Благое Митич (1962-1964), д.н. Драголюб Стойилькович (1964-67), д.н. Миодраг Николич (1967-1973), д.н. Драголюб Симонович (1973-1984), д.н. Миодраг Йованович (1984 - 3-4/1988), д.н. Драголюб Симонович (1990-2019) и д.н. Зоран Симонович (1990 и в настоящее время).

ЖУРНАЛ ИНДЕКСИРУЕТСЯ В СЛЕДУЮЩИХ ОСНОВАНИЙ:

ERIN Plus	RePEc	DOAJ
Index Copernicus	Ulrichs web	SHERPA / ROMEO
EBSCO host	EconPapers	ProQuest
J-Gate	CABI	EZB
SSRN	ECONLIT	CNKI

Английский редактор  
ВЛАДИМИР ИВАНОВИЧ

Компьютерная обработка текста и графика:  
МИЛАН Д. РАНЂЕЛОВИЧ

Худ. оформление:  
ПЕТАР ОГНЯНОВИЧ, ДРАГАН МОМЧИЛОВИЧ

Адрес:  
„Экономика” Друштво економиста  
18000 Ниш, Максима Горког 5/36

Телефон редакции +381 (0)18 4245 763; 211 443  
е-mail: zoki@medianis.net; ekonomika@sbb.rs WEB: <http://www.ekonomika.org.rs>

Расчетный счет: 160-19452-17

Печать:  
„MEDIVEST”  
18000 Ниш  
Тираж: 300

# САДРЖАЈ / CONTENT

## ОРИГИНАЛНИ НАУЧНИ РАДОВИ / ORIGINAL SCIENTIFIC ARTICLE

<b>Aleksandar Grubor, Ksenija Leković, Slavica Tomić</b>	
RURAL TOURISM MARKETING OF THE DANUBE REGION .....	1
МАРКЕТИНГ РУРАЛНОГ ТУРИЗМА ДУНАВСКОГ РЕГИОНА .....	1
<b>Zoran Simonovic, Dejan Petrovic, Nikola Curcic</b>	
PRODUCTION OF GRAPES AND WINE IN SERBIA .....	11
ПРОИЗВОДЊА ГРОЖЂА И ВИНА У СРБИЈИ .....	11
<b>Almir Muhović, Jonel Subić</b>	
ANALYSIS AND IMPACT OF MAIN MACRO AND MICROECONOMIC FACTORS ON THE GROWTH OF NPL-S IN THE EMERGING FINANCIAL MARKETS .....	21
АНАЛИЗА И УТИЦАЈ ГЛАВНИХ МАКРО И МИКРОЕКОНОМСКИХ ФАКТОРА НА РАСТ НПЛ-А НА ФИНАНСИЈСКИМ ТРЖИШТИМА У РАЗВОЈУ .....	21
<b>Slobodan Cvetanović, Vladimir Nedić, Lela Ristić</b>	
SOURCES OF FUNDING FOR ACTIVITIES IN RESEARCH AND DEVELOPMENT IN THE SELECTED EUROPEAN COUNTRIES .....	31
ИЗВОРИ ФИНАНСИРАЊА АКТИВНОСТИ ИСТРАЗИВАЊА И РАЗВОЈА СЕЛЕКТОВАНИХ ЕВРОПСКИХ ЗЕМАЉА .....	31
<b>Marko Jeločnik, Jonel Subić, Vlado Kovačević</b>	
COMPETITIVENESS OF APPLE PROCESSING .....	41
КОНКУРЕНТНОСТ ПРЕРАДЕ ЈАБУКЕ .....	41

## ПРЕГЛЕДНИ ЧЛАНЦИ / SCIENTIFIC REVIEW ARTICLE

<b>Živković Aleksandar, Kristijan Ristić</b>	
ANALYSIS OF THE FUNCTIONAL DOMAIN OF DOCTRINAL APPROACHES IN MONETARY THEORY AND POLICY .....	53
АНАЛИЗА ФУНКЦИОНАЛНОГ ДОМЕТА ДОКТРИНСКИХ ПРИСТУПА У МОНЕТАРНОЈ ТЕОРИЈИ И ПОЛИТИЦИ .....	53
<b>Milan Palević, Bojan Milisavljević, Žaklina Spalević</b>	
ACTUS REUS OF GENOCIDE AND TYPES OF GENOCIDAL DESTRUCTION ....	63
АКТУС РЕУС ГЕНОЦИДА И ВРСТЕ ГЕНОЦИДНОГ УНИШТЕЊА .....	63

<b>Nataša Sokolov Milovančević, Nada Živanović, Ana Kitić</b>	
NEW SKILLS NEEDED FOR MANAGING THE HEALTH CARE SECTOR .....	75
НОВЕ ВЕШТИНЕ УПРАВЉАЊА У СЕКТОРУ ЗДРАВСТВЕНЕ ЗАШТИТЕ ....	75

**Milica Jovanović**

THE POLITICAL BEHAVIOR OF MANAGERS AND EMPLOYERS AS AN INSTRUMENT FOR ADVANCING CAREER - INFLUENCE AND FACTORS ON INDIVIDUAL AND ORGANIZATIONAL EFFECTIVENESS .....	87
ПОЛИТИЧКО ПОНАШАЊЕ МЕНАѢРА И ЗАПОСЛЕНИХ КАО ИНСТРУМЕНТ НАПРЕДОВАЊА У КАРИЈЕРИ – ФАКТОРИ И УТИЦАЈ НА ИНДИВИДУАЛНУ И ОРГАНИЗАЦИОНУ ЕФЕКТИВНОСТ .....	87

**BOOK REVIEW**

„COMPETITIVENESS OF RURAL TOURIST DESTINATION IN THE AREA OF LOWER DANUBE REGION IN THE REPUBLIC OF SERBIA“ .....	107
---	-----

Aleksandar Grubor<sup>1</sup>  
Ksenija Lekovic<sup>2</sup>  
Slavica Tomić<sup>3</sup>  
University of Novi Sad,  
Faculty of Economics in Subotica

ORIGINAL SCIENTIFIC ARTICLE  
doi:10.5937/ekonomika1904001G  
Received: November, 07. 2019.  
Accepted: December, 09. 2019.

## RURAL TOURISM MARKETING OF THE DANUBE REGION<sup>4</sup>

### Abstract

*Within tourism, as one of the largest and fastest-growing world industries, a prominent place is taken up by separate, selective forms of tourism. Rural tourism enables consumers to return to the natural setting and relief from pressure and stress emerging in urban environments. As eco-friendly travel into relatively well-preserved areas, rural tourism features as a significant element of sustainable tourism, economic and social development of rural areas. In view of this, the entire management, realization and implementation of the marketing strategy of developing rural tourism should be based on a compromise of interests of different and numerous stakeholders. The subject of this paper is the Danube Region and rural tourism of this region, and the objective is to emphasise the significance of further development of this special, selective form of tourism by applying marketing concept. Secondary data and methods of induction, deduction, synthesis and analysis were used for the purpose of this writing this paper*

**Keywords:** tourism, rural tourism, marketing, the Danube region

**JEL classification:** M31, Z32

## МАРКЕТИНГ РУРАЛНОГ ТУРИЗМА ДУНАВСКОГ РЕГИОНА

### Апстракт

*У оквиру туризма, као једне од највећих и најбрже растућих светских индустрија, издвајају се посебни, селективни облици туризма попут руралног туризма. Рурални туризам омогућава потрошачима повратак природном амбијенту и растерећење од притиска и стреса који настаје у урбаним срединама. Као еколошко путовање у релативно очувана подручја, рурални туризам представља значајан елемент одрживог туристичког, економског и социјалног развоја руралних области. При том, целокупно управљање, реализација и имплементација маркетинг стратегије развоја руралног туризма треба да се базира на компромису интереса различитих и многобројних стејхолдера. Предмет рада*

<sup>1</sup> agrubor@ef.uns.ac.rs

<sup>2</sup> ksenija.lekovic@ef.uns.ac.rs

<sup>3</sup> tomic@ef.uns.ac.rs

<sup>4</sup> The paper is prepared within the project III 46006 Sustainable agriculture and rural development in the function of accomplishing strategic objectives of the Republic of Serbia in the Danube region, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia in the period 2011-2019.

*представља Дунавски регион и рурални туризам тог региона а циљ се огледа у истицању значаја даљег развоја овог посебног, селективног облика туризма применом маркетинг концепта. За потребе писања рада спроведено је истраживање за столом, коришћени су секундарни подаци и методе индукције, дедуције, синтезе и анализе.*

*Кључне речи: туризам, рурални туризам, маркетинг, Дунавски регион*

## Introduction

Numerous changes on the market caused by industrialization have led to a significant trend – migration of inhabitants from villages to towns, resulting in the problem or deagrarization of numerous rural areas. A possible solution to the problem is to support sustainable rural development and to develop rural tourism as a special, selective form of tourism. The environmental aspects of rural tourism are one of the ways to contribute to solving this problem, the most important of them being: direct impact on preservation of and increase in agricultural areas, securing additional income to local population and job opportunities. (Franić & Grgić, 2002).

In accordance with the above, within the Danube Region, connection between sustainable agriculture, sustainable rural development and sustainable development of tourism, that is, its special form, rural tourism has a special significance. Such integrated approach to sustainable development of the Danube Region meets the basic objectives of the EU Strategy for the Danube Region – connectedness and communication, environmental protection, socio-economic and institutional development and strengthening regional cooperation (Štetić et al., 2014).

The subject of the paper is the Danube Region and development of a special form of tourism – rural tourism – in this area. The objective is reflected in pointing out the significance of development of rural tourism by applying marketing concept. Desk research was conducted for the purpose of writing the paper, and data from secondary sources were used. In addition to the introduction and the conclusion, the paper includes three wholes structured from general to specific content.

## Rural tourism

Tourism is one of the world's greatest and fastest-growing industries, the development of which has resulted in diversification of tourist products and tourist destination (Pato & Kastenzholz, 2017). New, selected forms of tourism have appeared as a consequence of the above mentioned processes. (Sharpley & Vass, 2006). The “new” forms of tourism aim to overcome problems generated by mass tourism (Weaver & Jin, 2016). As early as the in 1990s, Poon (1993) pointed to the emergence of the so-called “new, hybrid tourist”, seeking to experience something new and different, to travel independently and experience tourist destination without destroying them. Such “new” tourists differ from tourists – consumers of mass tourism. Table 1 shows the difference between the “new” and the “old” tourists.

Table 1. Characteristics of the “new” and the “old” tourists

Characteristics of the “new” tourists	Characteristics of the “old” tourists
Spontaneous behaviour with changes in the manner of choosing travel	Homogenous segments of predictable behaviour
With experience in travel and desire for adventure and entertainment	Travel is novelty for them
Have quality of the total experience in focus	Do not pay attention to the quality of tourist service
Wish to manage their own leisure time and willing to take risks	Feel secure as a part of a large group

*Source: Adapted from Štetić et al. (2014) Posebni oblici turizma Dunavskog regiona Srbije. Institut za ekonomiku poljoprivrede, Beograd, str. 17.*

In this sense, alternative, special forms of tourism such as eco-tourism, rural tourism, cultural tourism and others, fully targeted to consumers and their specific needs emerge as opposition to mass tourism (Mihailović & Moric, 2012). Demand for such, special forms of tourism has clearly manifest specific features: (a) expressed wish of tourists-consumers for authenticity; (b) expressed wish of tourists-consumers for experience in local setting and (c) expressed wish of tourists-consumers for appreciation of the host (Todorović & Štetić, 2009).

Rural tourism features as a significant element of sustainable tourist, economic and social development of rural areas (Krajnović et al., 2011). Sustainable development refers to a harmonious relationship between nature and ecology aimed at preserving natural resources for present and future generations, whereas sustainable tourism refers to tourist movements accompanied by meeting social and economic needs and preservation of cultural and historic heritage of destinations (Štetić, 2002). Given that sustainable tourism features as an essential element of socio-economic development of a country, Milenković (2006) finds the following to be necessary: (a) to base its development on the criterion of sustainability; (b) to raise the level of consumers’ awareness of tourism; (c) to define a program for providing sustainable development of tourism and (d) to disseminate knowledge on sustainable technologies in tourism.

The notion “rural” has transformed in recent decades from the traditionally “agrarian” notion into a notion increasingly related to social, cultural and economic context (Okech et al., 2012). Rural tourism can be defined as eco-friendly travel to relatively well-preserved areas for entertainment and enjoyment in nature (Radović et al., 2018). Similarly, Ružić (2009) states that rural tourism enables consumers to return to the natural setting and relief from pressure and stress appearing in urban environment. In addition to the above, the same author points out that developing rural tourism encompasses the entire rural environment connected with the comprehensive setting of rural life – architecture, plant and animal world, culture, tradition etc. On the other hand, rural tourism creates conditions for development of entrepreneurship and opens development opportunities for two groups of stakeholders. The first group comprises subject directly involved in this form of tourism (e.g. subjects involved in accommodation or food preparation), whereas the other group comprises subjects indirectly involved as part of rural tourism (e.g. variety shops) (Wilson et al., 2001). Okech, Haghiri & George (2012) state two basic reasons why it is essential to develop tourism in rural areas:

- Increasing the number of people (local population) involved in developing rural tourism – one of the ways to increase employment rates in rural areas is reflected in developing tourism in these areas.
- Providing wider benefits to rural areas – developing tourism in rural areas enables economic growth, stabilisation, employment, stops depopulation, builds infrastructure, revives old crafts, increases the opportunity of contact with local population, ensures environmental protection etc.

What separates rural tourism in comparison with other, special, selective forms of tourism is authenticity and tradition. Motives of consumers/tourists visiting rural tourism destination can be explained by push and pull factor theory (Dann, 1981). According to this theory, push factors are internal motives and urges driving consumers to travel, whereas pull factors includes all external forces and characteristics of a tourist destination attracting consumers to visit them. Thus, in the context of rural tourism, push factors represent consumers' desire to escape the everyday stressful urban life, whereas pull include peace, simplicity, authenticity, relaxation, greenery, clean air, local gastronomy and local customs (Urry, 2002). Similarly, Goeldner & Ritchie (2005) divide motives making rural tourism interesting to consumers/tourists into four groups: (1) physical (e.g. relaxation); (2) cultural (introduction to new cultures, customs and lifestyles); (3) interpersonal (meeting new people) and prestige (introspection and self-actualisation). However, one must bear in mind that although consumers/tourists enjoy the old-fashioned lifestyles during their visit to a rural tourist destination, its contents need to be adapted to their needs and expectation. Thus, the offer of the rural tourist destination should include a broad spectrum of activities such as hunting, fishing, horse riding, walking, eco-tourism, ethno-tourism, even elements of health and wellness tourism (Rodrigues et al., 2010).

### **The role of marketing in the development of rural tourism**

Technological development and increasingly important application of the Internet change the methods of communicating and establishing consumer relationships. This trend gains significance in a situation when the offer – the product/service is dislocated in relation to the target segment, as in the case of rural tourism (Gossling & Lane, 2015). Also, it must be pointed out that the offer of rural tourist destination is based on appeal, individual approach and tradition. On the other hand, under the influence of the aforementioned trend, consumers/tourists are becoming increasingly independent and increasingly involved in the process of selecting tourist destinations (King, 2002). The link between supply and demand in this case can be marketing with the task to connect consumers/tourists and local tourist destination, as well as achieving customer loyalty.

Dinis (2006) states two basic objectives to be achieved by applying marketing in rural areas:

- to enable rural areas to be more competitive and
- provide conditions for higher quality of life for economically active population of the areas

Similarly, Kostić-Stanković (2013) points out the following objectives of application of marketing within rural development:

- creating and improving competitiveness by emphasising the differential advantages of rural areas
- strengthening local infrastructure,
- developing and promoting rural areas by pointing out initiatives and strategies of rural development
- attracting, building and maintaining long-term relations with foreign partners/investors and
- protecting and improving the environment in accordance with sustainable rural development.

The specific features of applying marketing in rural tourism stems from the nature of tourist service (Mihailović, 2011). Above all, one must bear in mind the seasonal character of demand, where marketing's task is reflected in the attempt to extend the season, and the application of marketing method for adapting to its varying intensity. Furthermore, an unavoidable characteristic is high fixed costs arising from the attempt to satisfy consumers/tourists visiting rural destinations, so that marketing managers' task is to create an offer that will absorb sufficient income to cover them. Finally, consumers/tourists expect offer consisting of tourist offers that will meet all their expectations and needs. This is an offer comprising a combination of not only of various services but also physical products, events and experiences.

Appreciating the specific features of tourist offer, Pato & Kastenholz (2017) propose a useful marketing approach to rural tourism. It is the demand management strategy in the context of integrated and sustainable marketing approach. Such an integrated marketing approach should be based on: (a) attempt to discover what it is that a rural tourist destination has to offer (what?), (b) which segment of consumers/tourists has the time, money and desire to travel and visit such a type of tourist destination (who?) and how to reach such consumers/tourists, meet their expectations and needs and build loyalty (how?).

Marketing management in the area of rural tourism as a special, selective form of tourism is characterised by the following (Skoko & Jugo, 2007; Krajnović et al., 2011):

- The majority of subjects involved in tourist offer of rural areas are unable to apply various marketing methods, so that it is necessary to perform marketing networking of all stakeholders. Thus, marketing networking should be conducted at city or municipal levels, at tourist cluster level, at regional and national level.
- In addition to basic resources forming the tourist product and offer of a rural tourist destination – agricultural products, climate, natural attractions, local population, cultural landmarks, tradition, customs etc., - a very important role is also played by accompanying infrastructure – roads, signals, bicycle paths, walking paths etc. All of these lead to the conclusion on the importance of the role of the public sector in the development of rural tourism.

The entire management, realisation and implementation of marketing strategy of rural tourism development should be based on a compromise of interests of various stakeholders.

## The basic guidelines of further development of rural tourism of the Danube Region by application of marketing concept

The Danube Region is a functionally connected space defined by its basin (Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, downloaded from [https://ec.europa.eu/regional\\_policy/sources/docoffic/official/communic/danube/com2010\\_715\\_danube\\_sr.pdf](https://ec.europa.eu/regional_policy/sources/docoffic/official/communic/danube/com2010_715_danube_sr.pdf)). At its length of 2860 km, the Danube flows through 10 countries and extends to 19 countries, where the largest part of its basin belongs to Romania (29%). It is a region possessed of exceptional natural beauty, rich history, tradition and culture. The EU Strategy for the Danube Region (EUSDR) encompasses 14 countries along the Danube (Austria, Bulgaria, the Czech Republic, Croatia, Hungary, Germany, Slovakia, Slovenia, Romania, Bosnia and Herzegovina, Montenegro, Moldavia, Ukraine and Serbia), with over 112 inhabitants. The strategy is based on four pillars, within which specific actions for co-operation determine priority areas (Table 2). Table 2 clearly shows how promoting culture and tourism features as one of priority areas within the development of the Danube Region.

Table 2. 4 pillars of the EU Strategy for the Danube Region (EUSDR)

<b>1. CONNECTING THE REGION</b>
To improve mobility and transport connections
To encourage development of sustainable energy
<b>To promote culture and tourism</b>
<b>2. PROTECTING THE ENVIRONMENT</b>
To restore and maintaining the quality of waters
To manage environmental risks
To preserve biodiversity, landscapes and the quality of air and soils
<b>3. BUILDING PROSPERITY</b>
To develop knowledge society
To support competitiveness of enterprises
To invest in people and skills
<b>4. STRENGTHENING THE REGION</b>
To step up institutional capacity and cooperation
To work together to promote security and tackle organised and serious crime

*Source: [https://ec.europa.eu/regional\\_policy/sources/docoffic/official/communic/danube/com2010\\_715\\_danube\\_sr.pdf](https://ec.europa.eu/regional_policy/sources/docoffic/official/communic/danube/com2010_715_danube_sr.pdf)*

The issue of rural development in the European Union (the majority of countries encompassed by the Strategy are EU members) is of great importance, especially bearing in mind the fact that about 90% of the territory of the EU comprises rural and medium rural areas (Đokić, 2019). The importance of rural tourism is reflected in the interaction of agricultural production, production of traditional products, preservation of historic and cultural heritage, tradition and traditional, local gastronomy. Wilson et al. (2001) point out that the development of tourism in rural areas is based on the following elements: total physical product, good local governance, support of local government, sources of finance for tourism, strategic planning, coordination and cooperation between stakeholders and local government, coordination and

cooperation between rural tourist entrepreneurs and wide support of the local community to development of tourism. In addition to all of the above, one must add the fact that Europe, with over 200,000 households and over 2 million beds in rural tourism, has completed the phase of developing rural tourism and faces the challenges of the subsequent phase, the most important being lack of high-quality and preserved areas (with increasing competition, need for integration within rural areas and need for building partnerships between all stakeholders in rural tourism (Štetić et al., 2013).

The Danube represents exceptional tourist potential. In order to position it on the market as successfully as possible, it is necessary to apply a development model that would provide the Danube with competitive advantage in relation to other rivers. Such a model is based on customer/tourist satisfaction, satisfaction of the local tourist community, preserving the quality of environment and sustainable development of tourism (Štetić et al., 2014). Further development of rural tourism in the Danube basin and its integration into the rural space attains numerous economic and non-economic effects influencing the development of the total local community. The above is reflected through: (a) developing underdeveloped areas and their inclusion into the tourist offer; (b) employing as many household members as possible; (c) achieving “invisible” export by placement of surplus products of rural households (d) selling traditional products – handicraft products; (e) creating opportunities for return of population into abandoned rural areas; (f) extending the base for developing tourism and increasing income and (g) creating a basis for expanding the real circle of tourist demand (Štetić, 2007). Viewed like this, tourism (and local tourism as its special form) should be one of priority industries providing the Danube basin (including Serbia, which belongs to this region) an opportunity to earn income, open new jobs and develop underdeveloped areas (Tomić & Stoiljković, 2015; 2013).

## Conclusion

The role and importance for the economy of a country or a region are multiple. Its effects are expressed by showing tourist sales and income on the one hand and influence it achieves on complementary activities on the other (Štetić et al., 2014). Developing rural tourism features as one of the solution that would enable multiple positive effects in rural areas with appropriate economic, infrastructural, organisational, organisational and educational incentives.

Further development of rural tourism in the Danube region can, primarily, improve conditions of living in this area. Through an integrated approach and development model, this special, selective form of tourism connects agricultural production, services, restoration and maintenance of cultural, educational, communal and social infrastructure. This is a way to create a base for creating new jobs, additional income to local population, further improvement and education of local population and, generally, reviving the trend of return of population to smaller, rural areas.

## References

- Dann, G. (1981). Tourism motivation: an appraisal. *Annals of Tourism Research*, 8, 187-219.
- Dinis, A. (2006). Marketing and innovation: useful tools for competitiveness in rural and peripheral areas. *European Planning Studies*, 14(1), 9-22.
- Đokić, M. (2019). Sustainable agricultural and rural development in the European Union. *Economics of Sustainable Development*, 3, 29-43.
- Franić, R., Grgić, Z. (2002). Agroturizam na obiteljskom poljoprivrednom gospodarstvu u Hrvatskoj-Pretpostavke i izgledi razvitka, studija slučaja. *Agriculturae Conspectus Scientificus*, 67(3), 131-141.
- Goeldner, C.R., Ritchie, J.R.B. (2005). *Tourism: Principles, Practices, Philosophies*. John Wiley & Sons, Hoboken.
- Gossling, S., Lane, B. (2015). Rural tourism and the development of Internet-based accommodation booking platforms: a study in the advantages, dangers and implications of innovation. *Journal of Sustainable Tourism*, 23(8/9), 1386-1403.
- King, J. (2002). Destination marketing organizations – connecting the experience rather than promoting the place. *Journal of Vacation Marketing*, 8(2), 105-108.
- Kostić-Stanković, M. (2013). *Marketing i ruralni razvoj*. Stalna konferencija gradova i opština – Savez gradova i opština Srbije, Beograd.
- Krajnović, A., Čičin-Šain, D., Predovan, M. (2011). Strateško upravljanje razvojem ruralnog turizma – problem i smjernice. *Oeconomica Jadertina*, 1, 30-45.
- Mihailović, B. (2011). *Marketing in Tourism: Principles of Management*. CPI, Podgorica.
- Mihailović, B., Moric, I. (2012). The role of marketing philosophy in rural tourism development. *Tourism and Hospitality Management*, 18(2), 267-279.
- Milenković, S. (2006). *Međusobni odnosi turizma i životne sredine*. Ekonomski fakultet, Kragujevac.
- Okech, R., Haghiri, M., George, B. (2012). Rural tourism as a sustainable development alternative: an analysis with special reference to Luanda, Kenya. *Cultur*, 6(3), 36-54.
- Pato, L., Kastenholz, E. (2017). Marketing of rural tourism – a study based on rural tourism lodgings in Portugal. *Journal of Place Management and Development*, 10(2), 121-139.
- Poon, A. (1993). *Tourism, Technology and Competitive Strategies*. C.A.B. International, Wallingford.
- Radović, G., Košić, K., Demirović, D. (2018). Finansiranje kao ključni element strategije održivog razvoja ruralnog turizma u Republici Srbiji. *Ekonomika poljoprivrede*, 65(1), 413-426.
- Rodrigues, A., Kastenholz, E., Rodrigues, A. (2010). Hiking as a relevant wellness activity: results of an exploratory study of hiking tourists in Portugal applied to a rural tourism project. *Journal of Vacation Marketing*, 16, 331-343.

- Ružić, P. (2009). *Ruralni turizam*. Institut za poljoprivredu i turizam Poreč, Pula.
- Sharpley, R., Vass, A. (2006). Tourism, farming and diversification: an attitudinal study. *Tourism Management*, 27(5), 1040-1052.
- Škoko, B., Jugo, D. (2007). Uloga odnosa s javnošću u razvoju seoskog turizma: perspektive razvoja ruralnog turizma. *Hrvatski farmer*, 387-401.
- Štetić, S. (2002). *Uspostavljanje ravnoteže održivog razvoja i ekonomskog rasta kroz turizam*. Prirodno-matematički fakultet, Departman za geografiju, turizam i hotelijerstvo, Novi Sad.
- Štetić, S. (2007). *Posebni oblici turizma*. LI, Beograd.
- Štetić, S., Cvijanović, D., Šimičević, D. (2014). *Posebni oblici turizma Dunavskog regiona Srbije*. Institut za ekonomiku poljoprivrede, Beograd.
- Štetić, S., Šimičević, D., Ćurčić, N. (2013). *Specifični oblici turizma*. LI, Beograd.
- Todorović, M., Štetić, S. (2009). *Ruralni turizam*. Geografski fakultet, Beograd.
- Tomić, S., Stoilković, A. (2013). Turistička kretanja u Srbiji. *Anali Ekonomskog fakulteta u Subotici*, 49(30), 81-96.
- Tomić, S., Stoilković, A. (2015). The Competitiveness of Serbia on the International Tourism Market. *Strategic Management*, 20(3), 37-43.
- Urry, J. (2002). *The Tourist Gaze*. Sage, London, UK.
- Weaver, D.B., Jin, X. (2016). Compassion as a neglected motivator for sustainable tourism. *Journal of Sustainable Tourism*, 24(5), 657-672.
- Wilson, S., Fesenmeier, D.R., Fesenmeier, J., John, C. (2001). Factors for success in rural tourism development. *Journal of tourism research*, 40(2), 132-138.
- Saopštenje Komisije Evropskom parlamentu, Evropskom savetu, Evropskom socio-ekonomskom komitetu i Regionalnom komitetu, preuzeto: [https://ec.europa.eu/regional\\_policy/sources/docoffic/official/communic/danube/com2010\\_715\\_danube\\_sr.pdf](https://ec.europa.eu/regional_policy/sources/docoffic/official/communic/danube/com2010_715_danube_sr.pdf) (20.11.2019.)



**Zoran Simonovic<sup>1</sup>**  
*Institute for Agricultural Economics, Belgrade*

**Dejan Petrovic<sup>2</sup>**  
*University of Belgrade,  
Faculty of Organizational Sciences*

**Nikola Curcic<sup>3</sup>**  
*Institute for Agricultural Economics, Belgrade*

ORIGINAL SCIENTIFIC ARTICLE  
doi:10.5937/ekonomika1904011S  
Received: November, 14. 2019.  
Accepted: December, 09. 2019.

## PRODUCTION OF GRAPES AND WINE IN SERBIA<sup>4</sup>

### Abstract

*Grape and wine production in Serbia is one of the significant branches of agricultural production. Grapes and wine produced in Serbia have for many years a reputation of good quality products. Grapes and wine are recognizable agricultural products that market well in the international market. The consequences of the transition have left their mark on the production of wine in Serbia. The old agricultural combines were sold, or simply ceased to operate, and as a result, a several of well-known winemaking brands ceased to exist. From 2000 onwards, a new trend has emerged, that is, the formation of small private wineries in Serbia. They become the backbone in wine production. We have just paid attention to them in this paper. We believe that small wineries will be the backbone of wine production. For this reason, we conducted a survey to ask the producers themselves what problems they encountered with organizing the production, the association for the sake of easier placement of wine, as well as the sale of their products.*

**Key words:** grapes, wine, wineries, consumption, production, Serbia.

**JEL classification:** Q11, Q13, Q17

## ПРОИЗВОДЊА ГРОЖЂА И ВИНА У СРБИЈИ

### Апстракт

*Производња грожђа и вина у Србији представља једну од значајних грана пољопривредне производње. Грожђе и вино произведено у Србији има већ дуги низ година репутацију производа доброг квалитета. Грожђе и вино су препознатљиви пољопривредни производи који се добро пласирају на међународном тржишту. Последице транзиције оставиле су трага и на*

<sup>1</sup> zoki@medianis.net

<sup>2</sup> petrovic.dejan@fon.bg.ac.rs

<sup>3</sup> nikolavcurcic@yahoo.com

<sup>4</sup> This paper is part of the research project „Sustainable agriculture and rural development in the function of accomplishing strategic objectives of the Republic of Serbia within the Danube region“, No. 46006, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

*производњу вина у Србији. Стари пољопривредни комбинати су продати, или су једноставно престали да раде и због тога је читав низ до тада познатих брендова у винарству престао да постоји. Од 2000. године па надаље долази до новог тренда, односно до формирања малих приватних винарија у Србији. Оне постају окосница у производњи вина. Ми смо у овом раду управо посветили пажњу њима. Сматрамо да ће мале винарије бити окосница у производњи вина. Из тог разлога ми смо урадили анкету да би смо питали саме произвођаче на које проблеме наилазе у организовању производње, удруживању због лакшег пласмана вина, као и самој продаји својих производа.*

**Кључне речи:** *грожђе, вино, винарије, конзумација, производња, Србија*

## Introduction

Due to its geographical location, climatic and soil factors, the conditions for growing grapevines in Serbia provide opportunities for the production of different types of wine. From the north to the south, there are vineyards characterized by diversity. Many regions have gained a very rich tradition in wine production, and as such, are well known in Serbia and in the foreign market.

As a result of sanctions and transition, vineyards reduced in the late twentieth and early 21st centuries. According to the Statistical Office of the Republic of Serbia, vineyards in Serbia have been reduced 70,634 hectares to about 22.150 hectares by the last decade. This should be emphasized because in the 1980s, under vineyards in Serbia, there were 100,000 hectares (Republic Bureau of Statistics, 1998). The second trend, which characterized the first decade of the 21st century, is the formation of a significant area with modern assortment, as well as with varieties adapted to our conditions. It is necessary to point out that the establishment of new wineries and wine cellars, which is characterized by quality planted grapes and the production of high quality wines. It is expected that if Serbia manages to restore several thousand hectares of vineyards over the next seven to ten years, with continued state support and good development policies, wine production and exports can increase significantly. (Petrovic, et all, 814).

According to the Statistical Office of the Republic of Serbia, , in the period 2006-2014, exports of wine and other spirits produced based on grapes and more than doubled to EUR 17 million. This is a significant shift from 2006 years when exports amounted to only € 7 million.

The biggest problem for small wine producers is the fact that only those producers who accept state planting varieties have access to subsidies. In the case of traditional varieties, only the individual varieties by subsidized, and most of the traditional types are absent, which puts the producers of those varieties at a disadvantage. Family farms usually deal with indigenous varieties of the region, eliminating them from the subsidy system at the outset. The second biggest problem is administrative difficulties. They produce a very small number of bottles compared to large manufacturers, so the fixed costs per bottle are higher than the costs of large manufacturers. The third problem raised by the producers is that there are no laboratories for the propagation of autochthonous varieties and therefore it is difficult to increase the area under vines. (Lajko, Erdelj, 290).

If the demand for wine continues to grow, there is an opportunity for the EU to introduce incentive measures instead of controlling wine production. This assistance

would be extremely important to Serbia. She would then be able to reconstruct her previously built system and increase the areas under the vine. Serbia currently exports small quantities of wine, ranked 40th on the list of wine exporters. In addition, although according to statistics, Serbian residents consume wine in small quantities, the amount of wine imports still exceeds the level of exports. (Lajko, Erdelj, 301).

Viticulture production still has a modest annual share in the total value of agricultural production of only a few percent, recently the deficit in foreign trade is explained by the growing trend of domestic wine consumption. In our further presentations, we have decided to look at small and medium-sized manufacturers who are struggling to market their products.

### Wine production in Serbia

Wine is always associated with grapes, but wine and grapes do not match each other, which means that tasty grapes do not produce good wine. This is why fine wines are made from grape varieties that are not very good to eat. Wines are usually classified according to production method (common wines, special wines and distillation wines); color (white, rose and red); quality depending on the chemical composition and tasting value (table wine, table wine with registered geographical origin, quality wines with registered geographical origin, premium wines with registered geographical origin) 16; unfermented sugar content (dry, semi-dry, semi-dry and sweet wines); purpose and use value (special, sparkling and pradi-kats of wine); age (young, old, very old and archival wines). (Vlahovic et al). In Table 1, we have produced grape production of 1000 tonnes in Serbia and some Western Balkan countries.

In Table 1, we can see that the largest producers in the region are Northern Macedonia and Albania. Serbia is in third place. The output of all manufacturers varies from year to year and is mostly weather dependent.

Table 1. Grape production in the Western Balkan countries (in 000 tonnes)

Wine	2013	2014	2015	2016	2017
<b>Serbia</b>	<b>200,0</b>	<b>112,5</b>	<b>170,6</b>	<b>145,8</b>	<b>165,6</b>
Montenegro	24,1	17,1	23,1	28,9	22,2
N. Macedonia	292,1	159,9	324,8	333,3	180,3
BiH	31,8	26,2	32,8	36,9	28,0
Albania	204,0	203,7	205,0	205,1	202,9

Source: Statistical Office of the Republic of Serbia (Economic Accounts for Agriculture in the Republic of Serbia 2007-2016). MONSTAT, SSO (Statistical Yearbooks), Agency of Statistics of BH, Ministry of Agriculture, Food and Consumer Protection (Statistical Yearbooks).

On the territory of the Republic of Serbia (excluding AP Kosovo and Metohija), there is 22,150 ha under the vine. They are cultivated by 80,445 farms, of which 27,224 own less than 10 acres, which indicates the fragmentation of the parcels and, consequently, the production (0.275 ha of the size of the average vineyard). Wine varieties are grown on 17,483 ha (75% per acre), while fresh varieties are grown on 4,667 ha (24.3% acreage).

There are 975 family holdings on the territory of Topola municipality, which own vineyards on an area of 469 ha. (Denda, 85) The largest share is for eating varieties (318 ha), and almost equally common wine varieties (88 ha) and varieties with geographical origin (63 ha) (RZS, 2013a).

Depending on the geographical but climatic conditions, we can say that the territory of Serbia is divided into three regions: Vojvodina, Central Serbia, and Kosovo, and Metohija. Within them, 22 areas and as many as 77 vineyards, with a large number of vineyard oases have been single out. Small wineries and cellars, which have been opening a lot by up the last single years, we can say freely that they inherit the former state-owned large wineries. In that sense, we can say that, by bottle design, placement and especially taste, wines at the territory of Serbia do not lag behind the North Macedonian, French, Italian and Spanish, and wines of many other renowned producers to many other countries at the world. The territory of Serbia is covered with hilly terrains, which are mostly exposed to the sun throughout the year and are therefore very suitable for growing vines. The grapes from these grounds are of excellent quality. What we would like to emphasize is that wine production of the territory of Serbia has a very rich tradition, dating from Roman times.

Many regions of Serbia produce their own special wines. From the region of Vojvodina, through central Serbia to the southern regions, we find a variety of grapes and wines produced in these regions. In that sense, different types of wine are produced in Serbia by the north to the south. Of white wines, these are, first and foremost, Italian Riesling wines, Muscat wilt, Muscat croc, Semi, Sauvignon, Green Sylvanian, Traminer, Banat Riesling, Buvi, Slanamenka, Smederevka and Chassell, and partly Kevedinka. Of red wines are present burgundy, game, Merlo, redemption, and frank.

One of the vineyards of central Serbia, whose wine symbolizes the entire area, is Zupa with its small but very beautiful town of Aleksandrovac. Zupa is a wine-growing area in our country that can rightly be said to be Serbian Burgonja. Parish red wine and parish rose have been successfully presenting Serbia, both domestically and internationally. Typical wines of this area are red wine, parish rose, and white bile.

In the valley of the Morava River, from Stalac to Nis, there are the Aleksinac and Nis wine-growing areas. This is a predominantly white table wine, known as “noble”. This wine does not come from the grape variety of the same name, but rather it is a standard type of wine made from rennet and buoyancy. In the area of Nis, there are several small vineyard centers known for their wines, such as the surroundings of Matejevac, Malče, Kamenica, and especially Sićevo.

East of Nis is the Knjazevac, vineyard known for its wines both red and white, quality and ordinary table wines. The Knjazevac production red wine of game varieties and black burgundy rose wine called Muscat Hamburg is well known to the market. These are wines with very good color, pronounced varietal bouquet, and very pleasant taste.

Among the regional wines, the wine called “Dubravka” is especially notable. Drawing on a rich tradition in the past, landscape wines have gained a high reputation, which is still on the market today. With Negotin, as the center of this large area, we should mention other smaller ones, but very significant, such as in the vicinity of Rogljevo and Rajac, then the one beside the Danube around Mihajlovac and Kladovo.

Among the regional wines, red wines of the varieties: Prokupac, Game, and Black Burgundy have gained a great reputation. To ensure the good color of these wines, a spice

variety is cultivated in this area, as a coloring agent.

Even the white wines of this vineyard are not far behind the black ones. Until recently, wines of the bargain variety, golden yellow, and distinctive bouquet stood out among these wines.

However, there is less of this Krajina wine today, but it has mostly remained in Roglje and Raja.

In addition to red and white wines, Krajina produces wines of the type known by this region.

Southwest of Niš on the left side of the South Morava River, there are vineyards of the Toplica vineyards with the town of Prokuplje.

Along the South Morava on its right, there are vineyards of Vlasotinac, Leskovac and Vranje vineyards. White table wine of the breeding type is also produced in this area. This area is also characterized by a relatively large share of the Plovdiv variety, which, together with the buyer, dominates wine production.

In terms of red wine production, Vlasotinac is more prominent with one type known as “thunder”. In the area of Kosovo and Metohija, at the foot of the great mountain massifs of Šara, Koritnik, Pashtrik, Prokletije and Žleb, hilly terrain contains vineyards. Among the red wines of the area, the “Kosovo Peony” is particularly well known. (<http://www.zdravasrbija.com/Zemlja/Vinogradarstvo/116-Grozdja-i-vina-Srbije.php>).

## Sales and wine consumption in Serbia

Research on wine sales channels shows that large retail chains generally offer a large assortment of imported wines of different quality and local wines of lower and medium quality. However, there are very few quality local wines lately included in the offer. Most retail outlets, generally small shops, are poorly stocked with wines, mostly those of low quality. The most important distributors of high quality Serbian wines are shops and restaurants. Wine boutiques are owned by some wine producers and consist of their own and sometimes imported wines. (Salai et al, 109).

According to the economic accounts for agriculture, the production of wine at producer prices, which in millions of euros, is given only for Serbia and Northern Macedonia in Table 2. For other Western Balkan countries we did not find this data. Wine prices vary from year to year. According to the data in the table, wine production has increased in the last observed year.

Table 2. Production of wine at producer prices (in millions of euros)

Wine	2012	2013	2014	2015	2016
Serbia	167,3	243,4	295,1	188,8	313,3
N. Macedonia	38,1	51,0	43,8	64,2	50,5

Source: Statistical Office of the Republic of Serbia (Economic Accounts for Agriculture in the Republic of Serbia 2007-2016). SSO (Statistical Yearbooks)

Wine culture is defined as the cultivated, refined and civilized consumption of wine, which is not measured by the amount of wine drunk but gaining knowledge and procedures in the field of viticulture, wine production, and catering. Very often, a combination of food and wine makes a meal a unique gastronomic experience, while respecting the rule that

no wine cannot be combined with a particular meal, and enjoying a good wine from a connoisseur is always a solemn ceremony. The dominant part of the population in Serbia considers themselves consuming wine, so although wine is placed in a group of alcoholic beverages, by tradition and customs, it is often on the tables in many homes along with brandy and beer. (Vlahovic et al, 40). The best evidence for this claim is Serbia's share in total wine consumption, which is about 1 million hectoliters of wine a year on average (Table 3).

Table 3. World's major wine consumers (in millions of hl)

	2014	2015	2016	2017	2018
USA	30,6	30,9	31,7	32,6	33,0
France	27,5	27,3	27,1	27,0	26,8
Italy	19,5	21,4	22,4	22,6	22,4
Germany	20,3	20,5	20,2	19,7	20,0
China	17,4	18,1	19,2	19,3	17,6
UK	12,6	12,7	12,9	12,7	12,4
Russian Federation	11,1	10,8	10,5	11,1	11,9
Spain	9,8	9,8	9,9	10,5	10,5
Argentina	9,9	10,3	9,4	8,9	8,4
Australia	5,4	5,5	5,4	5,9	6,0
Romania	4,7	4,0	3,8	4,1	4,5
South Africa	4,0	4,3	4,4	4,5	4,3
Brazil	3,2	3,3	3,1	3,3	3,3
Greece	2,6	2,4	2,3	2,3	2,1
Croatia	1,2	1,1	1,2	1,1	1,1
Serbia	1,1	1,0	1,0	1,1	1,1
Bulgaria	0,9	1,0	1,0	0,9	1,0
World					

Source: <http://www.oiv.int/public/medias/6782/oiv-2019-statistical-report-on-world-vitiviniculture.pdf>

## Research related to wine production

The research was conducted with the main aim to look at the factors that determine the state of wine production in Serbia, as well as to present the general problems of domestic wine producers. To show the current state of the grape and wine production in Serbia, we have done a research, which concerned primarily wine producers. With the research we wanted to look at the current state of business, but also to see if there are opportunities for improving the work of wineries and cellars.

The method used is a survey based on a previously prepared application, made on a sample of 103 wineries from the territory of Serbia. Despite the number of questionnaires, into a relatively limited sample, the answers obtained are, in our opinion, indicative enough to be the basis for highlighting the primary factors in wine production in the Republic.

The document contains, in addition to internal documentation, all other available data sources (official statistics and actual literature). Data processing and data analysis based on standard statistical and mathematical methods.

In the 2019 survey, we included 103 wineries. A large number of questionnaires were completed by the authors themselves. During the filling in the interview was conducted with the interviewed persons. In this way, the authors became acquainted with the condition of the means of work, objects, plantings, etc. Thus, in addition to the survey method, the interview method (interview as a method of direct observation and insight into the work of wineries) was also represented in a far smaller case. Of course, this method was represented in only a few cases.

The first question is: Does your winery belong to a cooperative or a farmer's association? We received the following answers:

Table 4. Affiliation to a cooperative or farmer's association

respondents of the respondents	participation in %
yes	52,43
no	42,72
no answer	4,85
total n = 103	100,0

Source: Calculation of the author based on the survey

Almost half of the winery owners surveyed are members of an association with their area. To the surveyed producers that are members of an association, we asked which association or cooperative they belong to. We have received a list of a large number of associations. One gets the impression that all these associations by a small number of members. This is probably also their main problem when performing in the market. Members of the following associations were surveyed:

- Association of Serbian Winegrowers and Winemakers (51 winemakers and established producers).
- Sumadija Winemakers Association (17 wineries).
- Belgrade Wineries (14 wineries).
- Association of Producers of Grape and Wine with Geographical Indication Srem - Fruška Gora (34 wineries).
- Small Winery Association (2 winemakers).

The association of grape and wine producers through cooperatives and other associations is diverse. The most affiliated manufacturers are located in Vojvodina and the City of Belgrade.

Nearly 40% of the surveyed members of the associations provided written comments in the survey when filling in, referring to the benefits in the same.

Table 5. Written comments on the benefits for membership of the winery association of only those wineries that belong to them

respondents of the respondents	participation in %
did not write	37,86
wrote	62,14
total n = 103	100,0

Source: Calculation of the author based on the survey

About 15% of the surveyed members of the associations provided written comments in the survey when filling in, regarding the shortcomings therein.

Table 6. Written comments on the shortcomings for membership of only those wineries that belong to them

respondents of the respondents	participation in %
did not write	85,44
wrote	14,56
total n = 103	100,0

Source: Calculation of the author based on the survey

Only 21 surveyed wineries answered this question why they are not members of an association. Other respondents did not consider answering this question because they are already members of an association.

Table 7. What are the reasons for not being a farmer's association or cooperative

respondents of the respondents	participation in %
they cannot realize significant benefits	57,14
no association	14,29
no cooperative	19,05
something else	14,29
total n = 21	100,0

Source: Calculation of the author based on the survey

When asked, How do you sell your products? Most of the wineries surveyed stated that they market their products directly to various sales chains and through their associations. Few sell directly at the market.

Table 8. Product sales methods

respondents of the respondents	number of wineries	participation in %
through the association	39	37,86
personally at the market	6	5,83
enterprises	1	0,97
through purchasers	1	0,97
directly to sales chains	51	49,51
total	101	98,06
no answer	5	4,85
total n = 103	103	100,0

Source: Calculation of the author based on the survey

Concerning the greatest restrictions on wine production, the respondents responded as follows. (to over 50% of cases) cited financial reasons as the main problem to wine production, (31%) stated that they had problems with placing wine on the market (11%). Considers that because they did not belong to any association they had a problem with producing and selling wine. Just under (4%) believe that support from the agrarian budget for this type of production should be improved.

Table 9. Major restrictions on wine production

respondents of the respondents	number of wineries	participation in %
placement	32	31,07
financial resources	56	54,37
not belonging to an association	11	10,68
low support from the agrarian budget	4	3,88
total n = 103	103	100,0

Source: Calculation of the author based on the survey

## Conclusion

If we look at the regions where grapes and wine produced, we can see that there is a great deal of variety between the regions. There are also many regions within these regions, each of which is unique. We believe that at this moment, that all regions have a chance to organizing productions into the agrarian business, i.e. in agrarian firms or to redefine the already acquired comparative advantages in their production. Of course, state support to organize such production would also be necessary at this stage by creating subsidy conditions that would be as similar as possible to those practiced in the EU.

Considering the trends in the EU market, but more broadly, taking into account the achieved level of production and competitiveness of domestic producers of grapes and wines, it can be concluded that, assuming that the quality control standards in the world market for grape and wine exports are met, it can only be competitive if it differentiates offer in terms of export of high quality products, with brand and indigenous origin marking.

The results of a research conducted with producers in the Republic of Serbia to the possibilities of organizing production indicate that there is an interest of local winemakers to improve their production, but also with the desire to market their products. It can be concluded that winemakers should more actively and more benefit from the benefits of association. Engaging winemakers in this direction would certainly help to increase the potential customers for the products they offer in the market.

## References

- Denda, S., & Denda, B. (2016). Proizvodnja i robna razmena grožđa i vina: stanje u svetu i Srbiji (šumadijski region). *Agroekonomika*, 45(70), 81-93.
- Livaja, T., Marašević, N., & Zarić, V. (2018). Prodaja vina malih proizvođača – mogućnosti i ograničenja. *Zbornik savetovanja poljoprivrednika i agronoma Srbije*, 15.
- Jakšić, D., Ivanišević, D., Đokić, V., & Brbaklić Tepavac, M. (2012). Vinski atlas. *Republički zavod za statistiku, Beograd, Srbija*.
- Jovanović, O., & Zubović, J., (2019). The Importance of Subsidies for SME Development in the Agricultural Sector of Serbia, *WBJAERD, Vol. 1, No. 1*, 1-84.

- Lajko, B., & Erdelji, T. (2015). The development strategy of the wine industry of Vojvodina in the global economic sphere. *Anali Ekonomskog fakulteta u Subotici*, (34), 289-308.
- Mihailović, B., Simonović, Z., & Cvijanović, D. (2008). Voćarsko-vinogradarska proizvodnja u Srbiji. *Ekonomika*, 54(5-6), 157-164.
- Mojović, L., Pejin, D., Rakin, M., Pejin, J., Nikolić, S., & Djukić-Vuković, A. (2012). How to improve the economy of bioethanol production in Serbia. *Renewable and Sustainable Energy Reviews*, 16(8), 6040-6047.
- Overton, J., & Murray, W. E. (2016). Investing in place: articulations and congregations of capital in the wine industry. *The Geographical Journal*, 182(1), 49-58.
- Petković, G., Werner, M., & Pindžo, R. (2019). Iskustvo putovanja - put rimskih imperatora i dunavski put vina. *Ekonomika preduzeća*, 67(1-2), 181-192.
- Petrović, J., Krstić, B., & Stanišić, T. (2015). Analiza proizvodnih potencijala i konkurentne pozicije Srbije na međunarodnom tržištu vina. *Ekonomika poljoprivrede*, 62(3), 813-829.
- Salai, S., Gašović, M., & Čelić, M. (2013). Marketing research into wine consumption determinants in Vojvodina. *Marketing*, 44(2), 103-114.
- SgROI, F., Di Trapani, A. M., Testa, R., & Tudisca, S. (2014). Strategy to increase the farm competitiveness. *Am. J. Agric. Biol. Sci*, 9(3), 394-400.
- Sredojević, Z., Svirčev, B., & Peco, E. (2015). Rentabilnost ulaganja u podizanje i eksploataciju zasada vinograda kao izazov za investitore. *Agroekonomika, Poljoprivredni fakultet u Novom Sadu*, 44(68), 89-102.
- Ruml, M., Vuković, A., Vujadinović, M., Djurdjević, V., Ranković-Vasić, Z., Atanacković, Z., ... & Petrović, N. (2012). On the use of regional climate models: implications of climate change for viticulture in Serbia. *Agricultural and forest meteorology*, 158, 53-62.
- Vlahović, B., Tomić, D., & Puškarić, A. (2008). Proizvodnja vina u Republici Srbiji. *Ekonomika poljoprivrede, Institut za ekonomiku poljoprivrede, Beograd, Srbija*, 55(3), 277-288.
- Vlahović, B., Potrebić, V., & Jeločnik, M. (2013). Preferences of wine consumers on Serbian market (vol. 59, pg. 37, 2012). *Ekonomika poljoprivrede*, 60(3), 676-676.
- Републички завод за статистику, (1998). Статистички годишњак. Београд.
- RZS. (2013a). Poljoprivreda u Republici Srbiji I - popis poljoprivrede 2012. godine. Beograd: Republički zavod za statistiku.
- <http://www.zdravasrbija.com/Zemlja/Vinogradarstvo/116-Grozdja-i-vina-Srbije.php> (25.11.2019).
- <http://www.oiv.int/public/medias/6782/oiv-2019-statistical-report-on-world-vitiviniculture.pdf> (25.11.2019).

**Almir Muhović<sup>1</sup>**  
*University Business Academy in Novi Sad,  
Faculty of Applied Management,  
Economics and Finance, Belgrade, Serbia*

ORIGINAL SCIENTIFIC ARTICLE  
doi:10.5937/ekonomika1904021M  
Received: November, 12. 2019.  
Accepted: December, 09. 2019.

**Jonel Subić<sup>2</sup>**  
*Institute of Agricultural Economics, Belgrade, Serbia*

## ANALYSIS AND IMPACT OF MAIN MACRO AND MICROECONOMIC FACTORS ON THE GROWTH OF NPL-S IN THE EMERGING FINANCIAL MARKETS

### Abstract

*Starting from contemporary theoretical and practical knowledge in the field of banking and contemporary financial theory, this paper investigates the impact of major macroeconomic and microeconomic factors on the growth rate of non-performing loans. The theoretical views expressed have been tested in the financial markets of developing Western Balkan countries; Serbia, Montenegro and Bosnia and Herzegovina. The survey period covered the period 2000 to 2015.*

**Key words:** Loans, Gross Domestic Product (GDP), Unemployment Rates, Inflation Rates, Return on Assets (ROA) and Return on Equity (ROE).

**JEL classification:** E65, G21, H81

## АНАЛИЗА И УТИЦАЈ ГЛАВНИХ МАКРО И МИКРОЕКОНОМСКИХ ФАКТОРА НА РАСТ НПЛ-А НА ФИНАНСИЈСКИМ ТРЖИШТИМА У РАЗВОЈУ

### Апстракт

*Полазећи од савремених теоријских и практичних знања из области банкарства и савремене теорије финансија, овај рад истражује утицај главних макроекономских и микроекономских фактора на стопу раста неквалитетних кредита. Изражена теоријска стајалишта тестирана су на финансијским тржиштима земаља западног Балкана у развоју; Србија, Црна Гора и Босна и Херцеговина. Период истраживања обухватио је период од 2000 до 2015.*

**Кључне речи:** Кредити, бруто домаћи производ (БДП), стопа незапослености, стопа инфлације, Принос на средства (РОА) и принос на сопствени капитал (РОЕ).

<sup>1</sup> amuhovic@gmail.com

<sup>2</sup> Ionel.s@iep.bg.ac.rs

## Introduction

Financial institutions play an important role in the development of every economy. Banks play a particularly important role in this process because economic growth requires an efficient and sound banking sector that provides macroeconomic stability. However, in the other side the banks face with a credit risk and as much the economy in one country is less developed there is higher credit risks for banks. Therefore, one of the main problems which are facing developing countries is instability of the financial and banking sector in particular, due to the credit risks which is defined as the risk that debtors will not be able to repay the loan within the terms and conditions under which they have borrowed. In the modern banking the process of approving the credits has become more complex than before. Technology of crediting begins with filing the credit request which is then processed with the goal to determine accurate height of the credit risk. Bank brings credit estimate based upon the information which are presented by the loan applicant, based upon his or her own data as well as based upon the appropriate outside information. After credit approval the bank not only does the technical business regarding the charging the loan payments and interests but also monitors all credits which are in operational function. (Zipovski, Lj., et.al. 2013). There are three common ways of solving the problem of non-performing loans and as presented by (Popović, K., 2018) in case the bank and the borrower cooperate and mutually agree on a way of solving problem in the interest of both parties. The most common is one of the three following ways:

- refinancing: the other bank takes over the borrower's loan, usually a bank with a higher risk appetite;
- rescheduling: extension of the loan maturity, which reduces the monthly repayment for the borrower; and
- restructuring: a significant change in some of the existing loan terms and conditions - e.g. introduction of a grace period and extension of loan maturity against additional collateral; write-off of all or part of (regular and/or default) interest against immediate repayment of the agreed loan amount; sale of a part of the borrower's assets after which the received funds are shared between the bank and the borrower. (Popović, K., 2018).

Banking sector in Serbia and in other countries is characterized as quite turbulent, with many changes and uncertainty, so a specific style of leadership is the need and not the choice. (Berber, N., et.al. 2019). Also, as of 1990 the banking sector in these countries recognized that poor environmental performance of its clients represent a threat to their business success and that their clients' risks are also those of banks risks as well. The transformation of environmental risk into credit risk can occur for the following reasons:

deterioration of customer liquidity due to changing consumer preferences as a result of striving to achieve sustainability and due to the decrease in the value of the collateral. (Kostadinović, I., Radojičić, J., 2017)

In the process of overall economic reforms in the transition process in Serbia and other CEE countries, the key role was the reform of the banking sector, which was rated at the high-risk in the 1990s, with a number of accumulated problems such as: high indebtedness, uncollectability of receivables, connectedness of persons, the largest debtors were at the same time were the owners of banks, the problem of

undercapitalization, lack of central bank independences and poor regulation and control of banks, which contributed to a significant lack of confidence in the financial system in Serbia. (Ercegovac, D., et.al. 2019). Most countries of the former planned economies in the Central and Eastern Europe have entered and finished the process of economic reform in the past 25 years and thus deepen the integration with the global financial market. As a result, linkages among national financial markets gradually strengthened, and an integrated regional capital market was starting to emerge. A theoretical approach suggests that investors should be able to allocate their capital freely in a one-world market, thereby reducing arbitrage opportunities across countries. (Živkov,D., et.al. 2016).

In this paper, the focus was on analyzing the impact of the unemployment rate, the inflation rate and the growth rate of the Gross Domestic Product on the emergence and movement of NPL-s, from one side and return on assets, the return on total bank equity and the capital adequacy ration, on the other sides.

## Research methodology

In accordance with the goals of this research, as well as formulated basic scientific hypotheses in the paper, qualitative and quantitative methodology was applied. The result of the applied research methodologies is to understand the subject matter of the research, through determining the structure of the relationship between the variables and their outcomes. Starting from contemporary theoretical and practical knowledge in the field of banking and contemporary financial theory, the influence of major macroeconomic and microeconomic factors on the growth rate of non-performing loans has been analyzed. The theoretical views expressed have been tested in the financial markets of developing European countries; Serbia, Montenegro and Bosnia and Herzegovina. The NPL analysys covered the from 2000 to 2015 year . Data were collected from the official website of the World Bank and the Bank for International Settlement. (<https://www.bis.org>)

Researching such complex issues requires the use of appropriate research methods - analysis, synthesis, induction and deduction. In the conceptual definition of non-performing loans and the identification of relevant factors that determine its occurrence and the rate of movement, an analytical scientific method was used, which involves a detailed analysis of certain phenomena, effects, movements of selected indicators and their classification. The descriptive method was used to represent the theoretical underpinnings of banking, the concept of non-performing loans, and factors that influence the rate of movement of non-performing loans. The characteristics of the data series related to the NPL factors and the NPL rate in these countries were analyzed using various descriptive statistical and econometric methods and models for the correlation analysis and unit root tests.

Testing of the formulated hypotheses were carried out using various econometric methods, first of all least squares, random effect, fixed effect, ordinary least squares and two-stage ordinary least squares methods. The least squares method, as well as the fixed effect and random effect methods, were used to estimate the parameters of a static model that examines the impact of key macro and microeconomic variables, which are included in the model as regressors.

## Discussion of research results

Below Figure no. 1 shows an overview of the data collected for the reporting period between 2000 to 2015 years. NPL ranges from 2,9 % to 24.10%. The average value of the NPL is approximately 12,75 %, which emphasizes the need to pay more attention to credit policy in the region in the future. GDP shows both negative and positive values. In the observed period, the GDP rate in the region ranged from negative 3,12% to positive 17,29 %. However, the average value of this indicator indicates that these countries achieved economic growth in the observed period.

The average value of the unemployment indicator is extremely high, indicating the problem of unemployment in this region. This unemployment rate is well above the unemployment rate in the European Union. In the observed period, inflation ranged from -0.91% to as high as 95%, which was recorded since the beginning of the observation period in Serbia. BiH and Montenegro were also faced with a negative inflation rate in the observed period.

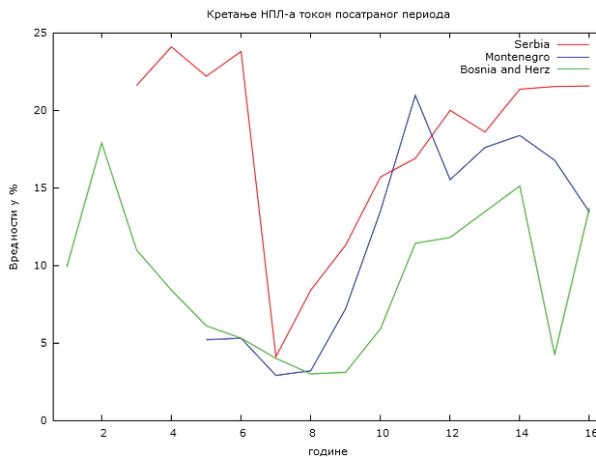


Figure no. 1. NPL movement over the observed period

Source: Author

The high rate of standard deviation of macroeconomic variables can be interpreted, as a consequence of large fluctuations in economy and economic activities in these countries over the past fifteen years. This is particularly evident in the standard deviation of inflation, The ROA value illustrates the relatively low discrepancy between countries, although the minimum value reached a negative value of about 4.8%.

This is primarily due to the negative and low profitability in Montenegro. On the other hand, although the average value of ROE, the discrepancy between countries is relatively large, which is a consequence of the negative profitability in Montenegro, more precisely the fact that for several years a significant number of banks recorded losses. Despite the various prudential requirements and standards prescribed by central banks, the high average CAR value is encouraging and indicates the resilience of the banking sector to extreme shocks and macroeconomic instability.

On the other hand, the relatively high standard deviation value of this parameter may also be an indication of changes in prudential requirements over the period under this

review. Statistically significant variables are unemployment rate, ROA and CAR. A statistically significant and negative relationship was found between the unemployment rate and the NPL. More specifically, the results show that a 1% rise in unemployment results in a NPL drop of about 0,19 percent. This can be explained by the fact that people who lose their jobs do not take loans or that the bank does not issue loans to such people. The reason is also found in the fact that in these countries there are mechanisms for securing credit in the case of a debtor's joblessness.

It was also found that there was a negative and significant relationship between the growth of ROA and NPL. An increase in ROA of 1% leads to a decrease in NPL of about 2%, as well as a positive relationship between CAR and NPL. Such findings are reported in the literature and are explained by the fact that banks with larger CARs enter into riskier credit arrangements and thus make riskier loan portfolios, which is reflected in the emergence of the NPL as well as its growth. The surprising result is that the NPL from the previous period does not affect the movement of the current NPL. Also, in this case the results of the assessment show that the inflation rate has no effect on the NPL.

This paper analysed the influence of the main macroeconomic and microeconomic factors on the growth rate of non-performing loans during the observed period and during the observed period we obtained the following trends shown in the below Figures no. 2, 3,4,5,6 and 7.

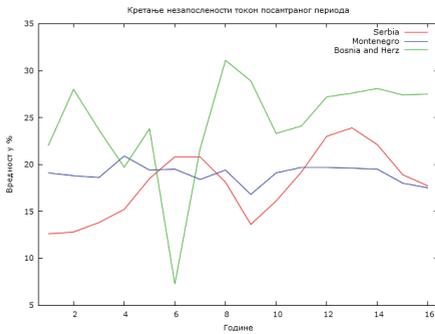


Figure no. 2. UNR movement during the observed period  
Source: Author

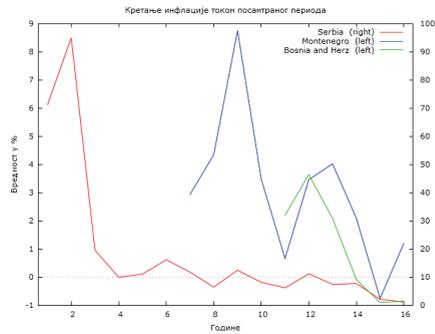


Figure no. 3 INF movement during the observed period  
Source: Author

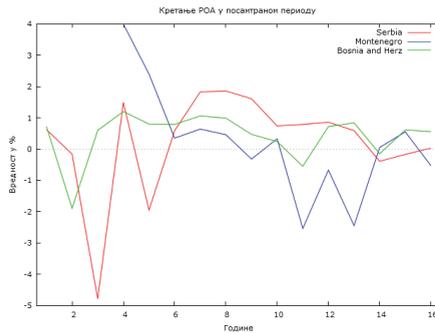


Figure no. 4. ROA movement during the observed period  
Source: Author

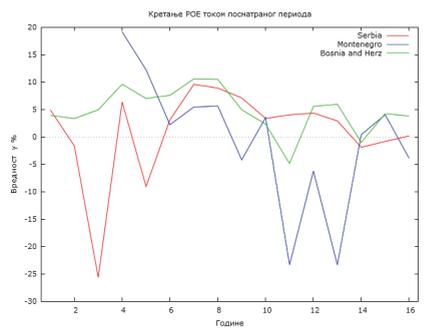


Figure no. 5. ROE movement during the observed period  
Source: Author

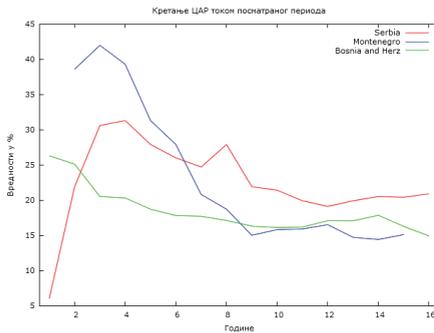


Figure no. 6. CAR movement during the observed period  
Source: Author

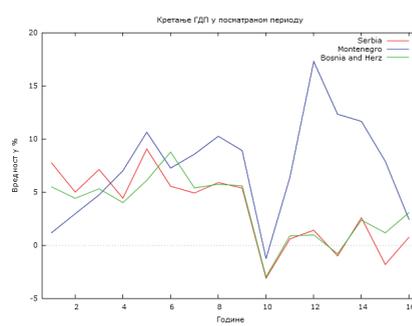
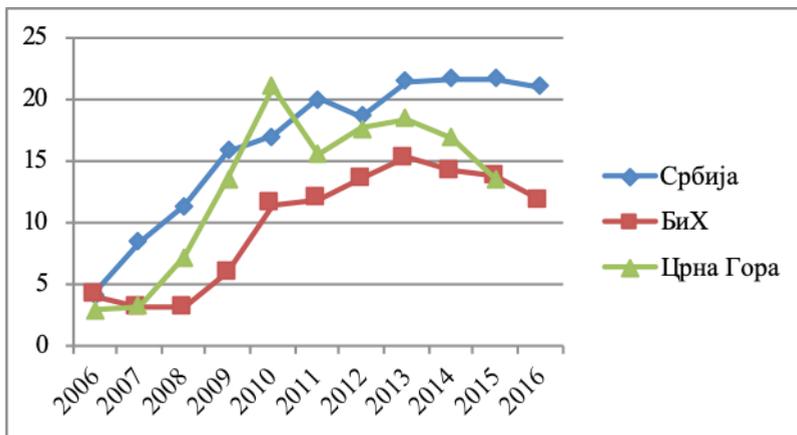


Figure no. 7. GDP trends over the observed period  
Source: Author

And at the end, if we enforce a comparative analysis of the share of NPL to total loans in all three countries, it can be concluded that the share of NPL to total loans has Serbia with the participation of over 20% in 2016 year, as illustrated into the graph 1:



Graph 1 . Comparative analysis of the share (%) of NPLs in total loans of banks in Serbia, BiH and Montenegro. Source: World Bank

Based on the presented data shown in Figure 1, it can be concluded that there are conflicting interpretations of the obtained results that can lead to conflicting conclusions regarding the influence and significance of certain macro and micro variables on the NPL rate, and thus on the acceptance or rejection of the hypotheses set in this paper here. Therefore, drawing conclusions about the significance and type of relationship requires caution and consideration of all the results and characteristics of the model, as well as the various tests that speak in favor of the validity of the selected models.

Bearing in mind the above, conclusions are made below in the context of the obtained results of species testing and the significance of the relationships between the selected variables and the NPL.

The research results brought us to the following:

1) that there is a negative and statistically significant relationship between unemployment and the NPL rate. This finding contradicts the view that unemployment reduces household disposable income and impairs the borrower's ability to pay its loan installments. This result contradicts the findings presented by Nkusu (2011), Louzis et al. (2012), Makri (2014) and others. This can be explained by the fact that people who lose their jobs do not take loans or that the bank does not issue loans to such people. This is also due to the fact that in these countries there are mechanisms for securing credit in the event of a debtor's joblessness;

2) to achieve a negative and significant relationship between gross domestic product and the NPL rate. This finding indicates that macroeconomic fluctuations are rapidly being transferred to the problem of bank lending in emigrating countries. Including the lagging GDP in the model, it can be concluded whether the impact of current GDP on the NPL is higher or lower compared to the lagged GDP. However, this is not the subject of the paper. Such a finding is consistent with the prevailing theoretical views;

3) that there is a negative and significant correlation between the inflation rate and the NPL rate. This result indicates that inflation in selected developing countries has a positive effect on the quality of banks' assets. This finding suggests that the effect of higher interest rates due to inflation and declining economic conditions, which are usually associated with rising inflation, do not outweigh the positive impact that inflation can have on a borrower's debt servicing capacity. This conclusion is in contrast to Mileris (2012) and Nkusu (2011), but is consistent with Tabak (2012), who also showed that there is a negative relationship between inflation and the NPL rate;

4) that there are negative and significant relationships between ROA and NPL rates. This result is consistent with the prevailing theoretical view that mismanagement leads to risky activities and poor performance. Radivojevic and Jovovic (2017) have presented this result in their research as well as many other authors such as Dimitrios (2012) who points out that this is in fact an examination of the “mismanagement” hypothesis. According to him, that efficiency based on low cost is positively associated with an increase in the rate of future NPLs. “Mismanagement” with poor credit rating skills, collateral valuation, and lender monitoring can lead to higher levels of NPLs. These results are in line with the studies of Radivojević and Jovović (2017), Gdlevski (2004), Stakić et al. but contrary to the findings of Garcia and Fernandez (2007), who point out that the increase in returns on bank equity, is accompanied by the growth of NPLs. This negative link is also consistent with the argument that mismanagement leads to risky activities and poor performance.

5) that there are negative and significant relationships between CAR and NPL rates. This finding is against the attitude of banks towards risk-taking activities in cases of favorable capital adequacy. High CAR banks are involved in high risk activities, creating risky loan portfolios and thus high NPL rates. Encouraged by the prospect of higher profits, banks conscientiously engage in risky activities while raising the level of capital adequacy well above the prescribed minimum. This means that their lending activities also targeted smaller debtors of solvency.

## Conclusion

The dependent variable during this research process was the rate of Non performing Loan (NPL), which is the sum of borrowed money which by definition means that the borrower is unable to repay the loan within more than 90 days from the due date for payment. Gross Domestic Product (GDP), Unemployment Rate (UNR), and Inflation Rate (INF) and Return on Equity (ROE), Return on Assets (ROA), and Capital Adequacy Rate (CAP between Capital and Assets (CAR)) are used by me as explanatory variables. However, in this paper, these types of variables were used in one model for all three countries.

Empirical research shows that NPLs are closely linked to the economic and business cycles, i.e. behind each financial crisis, there are macroeconomic factors, such as falls in aggregate economic activity. When growth slows or becomes negative, borrowers reduce their cash inflows, making it difficult for them to pay interest and principal. Under these circumstances, borrowers will face a lack of liquidity and delays in meeting their financial obligations to banks are likely to increase. Hence, GDP was used as a proxy for aggregate economic activity, as it is very informative about other relevant macroeconomic variables. For labor research purposes, the GDP variable has been converted to a logarithmic function and represents GDP growth over the years. GDP growth is expected to lead to a decrease in the NPL rate.

The inflation rate is also a significant indicator of the macroeconomic situation of an economy and is one of the biggest problems of central banks in many developing countries. In conditions of inflation, households face difficulties in repaying loans because as a rule prices rise faster than their income. Therefore, in the context of rising inflation it is expected that there will be an increase in the NPL rate. However, there are studies that indicate the opposite relationship between. In theory, inflation should reduce the real value of debt and thus facilitate debt service (Skarica, 2013).

When it comes to selected variables, the main criterion for their choice, in addition to their availability of data and their relevance to bank operations, was that there are conflicting conclusions in the literature regarding their effect on rates. For example, some authors such as Godlevsky (2004) and Stacic (2014), ROA and ROE show a significant and negative relationship between these variables and NPL. In other words, their findings show that banks with high efficiency (ROA) and high rate of profitability (ROE) have less pressure to make profits and thus less dependence on investing in risk-bearing placements and thus a lower NPL rate. At the same time, banks with low levels of profitability have more problems with high rates of NPL. However, research by Garsia and Fernandez (2007) suggests the opposite. Banks that had high rates of ROA and ROE were at higher risk and thus faced a higher NPL rate. A similar turn was reached by Boudrig and colleagues (2009). They identified a positive correlation between the variables mentioned and the NPL.

## References

- Berber, N., et al. (2019), “A Survey on Relationship between Leadership Styles and Leadership Outcomes in the Banking Sector in Serbia“, *Acta Polytechnica Hungarica*, Vol. 16, No. 7, pp. 167 – 184.

- García-Marco, T., Robles-Fernandez, M.D. (2007), „Risk taking behavior and ownership in the banking industry: The Spanish evidence“, *Journal of Economics and Business*, Vol. 60, no. 4, 2007, pp. 332-354.
- Kostadinović, I., Radojičić, J., (2017), “Banking sector in the context of sustainable development”, *Economics of Sustainable Development*, Vol. 1, No. 2, pp 109-119.
- Louzis, P. D., Vouldis, A. T., Metaxas, V. L. (2012), “Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios.” *Journal of Banking and Finance*, Vol. 36, No. 1, pp. 1012-1027.
- Monetary Developments (2016), Central Bank of Montenegro, *Macroeconomic Report 2016* pp . 52;
- Makri, V., Tsagkanos, A., Bellas, A. (2014), “Determinants of Non-Performing Loans: The Case of Eurozone“. *Panoeconomicus*, No. 2, pp. 193-206.
- Makri, V., Papadatos, K. (2012), “How accounting information and macroeconomic environment determine credit risk, Evidence from Greece. *International Journal of Economic Sciences and Applied Research*, Vol. 7, No. 1, pp. 129-143.
- Muhović, A. et.al. (2018), “Empirical research determinant of NPL in emerging markets by using the fixed effects method: Study of the case of Serbia, Montenegro and Bosnia and Herzegovina, *Vojno delo*, No. 7., pp. 335 – 344.
- Mileris, R. (2014), “Macroeconomic factors of non-performing loans in commercial banks“, *Ekonomika*, 2014, Vol. 93(1), pp. 22-39.
- Nkusu, M.(2011), “Nonperforming Loans and Macrofinancial vulnerabilities in Advanced Economies.“ *IMF Working Paper 161*.
- Програм економских реформи за Црну Гору 2017-2019, стр. 20;
- Radivojevic, N., et. al. (2019), „Econometric model of non-performing loans determinants“, *Physica A: Statistical Mechanics and its Applications*, Vol. 520, April, pp. 481-488.
- Radivojevic, N., Jovovic, J., (2017), „Examining of determinants of non-performing loans“, *Prague economic paper*, Vol. 26, No. 3, pp. 300-316.
- Skarica, B. (2013), “Determinants of Non-Performing Loans in Central and Eastern European Countries“, *Working Paper*.
- Tabak, B. et al. (2005), “The Stability-Concentration Relationship in the Brazilian Banking System.” *The Banco Central do Brazil Working Papers*, 145.
- Vučinić, M. (2014), Financial Stability – Comparative Analysis: Montenegro, Serbia and the Netherlands, *Journal of Central Banking Theory and Practice*, 2015, 1, pp. 63-93.
- Cvejić, A., (2016),” Effects of Nonperforming Placements on Equity and Capital Adequacy of Commercial Banks“, *Andrejevic Endowment*, Belgrade, pp. 13
- Cvejić, A., (2016), “Effects of Nonperforming Placements on Equity and Capital Adequacy of Commercial Banks“, *Andrejevic Endowment*, Belgrade, pp. 19
- Recegovac, D., et.al. (2019),” The analysis of the key indicators of the Republic of Serbia banking sector“, *Anali Ekonomskog fakulteta u Subotici*, Vol. 55, No. 41/2019, pp. 081-094.

- Simonović, Z., Jeločnik, M., & Subić, J. (2013). Tax policy in Serbian agriculture. *Ekonomika poljoprivrede*, 60(3), 637-651.
- Stakić, N., (2014), “Determinants of trends in the level of non-performing loans in the banking sector in Serbia. *Bankarstvo*, No. 4. pp. 122 -146.
- Jovovic, J. (2014), “Determinants of Non-Performing Loans: Econometric Evidence Based on 25 Countries.” *Master thesis, City University, London*.
- Muhović, (2018), “Analysis of the factors of occurrence and movement of the level of nonperforming loans in the financial markets in development”, *Doctoral thesis, Faculty of Applied Management, Economics and Finance, Belgrade*.
- Methodology for Developing IRP and NPL Forms 1-5, National Bank of Serbia, p. 4, available at: <https://www.nbs.rs/internet/cirilica/55/metodologija/index.html> , (accessed: 01/09/2018).
- National Bank of Serbia, Banking Sector of Serbia 3rd Quarter 2017, p. 15, available at: [https://www.nbs.rs/internet/latinica/55/55\\_4/index.html](https://www.nbs.rs/internet/latinica/55/55_4/index.html) , (accessed on: 01/15/2018)
- Popović, K., (2018),” Rešavanje problematičnih kredita“, *Bankarstvo* , 2018, vol. 47, No. 3, pp 76-86.
- Vučković, B., Veselinović, B., & Drobnjaković, M. (2017). Financing of permanent working capital in agriculture. *Ekonomika poljoprivrede*, 64(3), 1065-1080.
- World Bank, available at: <https://data.worldbank.org/indicator/FB.AST.NPER.ZS?end=2016&locations=BA&start=2006&view=chart>, (accessed on: 01/06/2018).
- Žipovski, Lj., et.al. (2013),” Credit Activities of Commercial Banks In Serbia: Causes And Consequences”, *Faculty of Business Economics and Entrepreneurship, International Review*, (2013 No.3-4),pp 41-54.
- Živkov, D., et.al. (2016),” Exchange Rate Volatility and Uncovered Interest Rate Parity in the European Emerging Economies”, *Prague Economic Papers*, Vol. 25 , No. 3, pep.562

**Slobodan Cvetanović<sup>1</sup>**  
*University of Niš, Faculty of Economics*

**Vladimir Nedić<sup>2</sup>**  
*Academy of Professional Studies Sumadija., Serbia*

**Lela Ristić<sup>3</sup>**  
*University of Kragujevac, Faculty of Economics*

ORIGINAL SCIENTIFIC ARTICLE  
doi:10.5937/ekonomika1904031C

Received: November, 12. 2019.

Accepted: December, 09. 2019.

## SOURCES OF FUNDING FOR ACTIVITIES IN RESEARCH AND DEVELOPMENT IN THE SELECTED EUROPEAN COUNTRIES

### Abstract

*One of basic indicators of a country's commitment to technological progress certainly includes the expenditures on research and development (R&D). The investments in R&D, i.e. the investment in research and commercial application of innovations are decisively significant for profitability of an enterprise and economic growth of the countries. In EU19, the total realisation of funding for R&D activities predominant is participation of business sector with 57%, followed by state sector with 21%. Contrary to this, public sector is a key source of funding for R&D activities in the Western Balkan countries, which is one of weaknesses of national innovation systems in these countries.*

**Key words:** knowledge, research and development, innovations, sources of funding, EU, the Balkan countries

**JEL classification:** O32

## ИЗВОРИ ФИНАНСИРАЊА АКТИВНОСТИ ИСТРАЖИВАЊА И РАЗВОЈА СЕЛЕКТОВАНИХ ЕВРОПСКИХ ЗЕМАЉА

### Апстракт

*Један од елементарних показатеља опредељености земље за технолошки напредак свакако су издаци за истраживање и развој (И&Р). Инвестиције у И&Р, односно шире улагања усмерена на истраживање и комерцијалну примену иновација су од пресудне важности за профитабилност предузећа и привредни раст земаља. У ЕУ19 у укупној реализацији средстава за И&Р активности доминира пословни сектор са учешћем од 57%, а следи га сектор државе са 21%. Супротно, у земаљама Западног Балкана јавни сектор је кључни извор финансирања истраживачких и развојних активности, што представља једну од слабости националних иновационих система ових земаља.*

**Кључне речи:** знање, истраживање и развој, иновације, извори финансирања, ЕУ, Балканске земље

<sup>1</sup> slobodan.cvetanovic@eknfak.ni.ac.rs

<sup>2</sup> vnedic@kg.ac.rs

<sup>3</sup> lristic@kg.ac.rs

## Introduction

In contemporary conditions, it is possible to search for the answers to numerous complex and contradictory issues of funding for technological changes in various ways and within the context of various approaches. Besides, it is also possible to investigate the place and role of predominant forms and models of funding for technological changes, while considering importance of private and public sources of investment in continually increasing expenditures of research and development activities. The statement that this is an essentially significant aspect for the functioning of contemporary economy is confirmed by numerous data on participation of expenditures for research and development in gross domestic product in certain countries, together with the amounts of expenditures aimed at activities in research and development in leading world corporations (Cvetanović, Despotović, & Ribać, 2019).

Knowledge that is immanent to a human being has always been a driver of economic development. However, only in the last few decades knowledge was taken as a key driver of economic growth and development. In historical perspective of development of economic science, besides traditional factors of production that include labour, fund and natural resources, the effects of powerful factors of economic progress such as technology, innovations, intellectual capital and renewable sources of energy have been noticeable since the twentieth century. The applicable knowledge is a common denominator of all stated factors. Historically reviewing the role of knowledge in economy, we cannot say that it is an entirely new idea. On the contrary, historical context modified this, originally intangible phenomenon, whose outcomes included the products that were significant for human society. Bearing in mind the fact that the application of knowledge has always followed a man in his development with different “specific weight” for various periods and epochs, the topic of contemporary “society of knowledge” has become even more challenging.

### **Private and social benefits of commercialisation of knowledge in innovations**

The term “society of knowledge” was first used by Peter Drucker in 1959 (Drucker, 2014; 2012). Drucker described the society of knowledge as a society of mobility, considering it the most competitive society in the history of humanity so far. Globalisation has intensified these processes (Greenhalgh, & Mark, 2012). Today, the society of knowledge and economy of knowledge have globally become recognisable and very popular terms (Pokrajac, 2002). After a series of occasional mentions of the economy based on knowledge, European Union pointed out in Lisbon Strategy (2000) that by 2010, it should become the most competitive and most dynamic world economy based on knowledge, capable of sustainable economic development with increased number of labour positions and better pay (Djurovic, 2012; De Bruijn, & Arnoud, 2005).

The importance of commercialisation of knowledge in innovations in economic processes has rapidly increased in recent years (Nijkamp, Iulia, & Donal, 2011). Namely, the growth of production during this period has been predominantly led by commercialisation of knowledge in innovations (Barro, & Sala-i-Martin, 2004). With the worries about the environment, the limitations for exploitation of natural resources has become increasingly evident (Caviglia-Harris, et al., 2009). To overcome this limitation it is necessary to increasingly apply knowledge, which provides development of new goods and services (Huggins, & Hiro, 2007; 2008). Both developed and developing economies are focused on

innovations, thus globally competing in talents, resources and market shares. Information courses and networks are spreading over borders in the ways that could not have been imagined before the appearance of the Internet, global use of mobile phones and social networks and fast growth of broadband approach to the Internet (Nedić, & Ilić, 2013).

In the assessment of social benefits of new technologies, conceptual problems are pronounced. Innovations, especially radical, are effective in enterprises and many industries that can hardly be quantified precisely, especially in terms of total social benefits. The rate of social returns denotes the rate of returns on technological change in society as a whole. The rate of social returns on investment in new technology is important in the consideration of contribution of certain innovations, since it points to total effects of investment in the domain of research and technological development. High rate of social contribution illustrates the fact that the resources are effectively used in a society, and that such investment should be practiced more.

Practically, all considerations show that the average rate of private returns on research and development in industry is very high. The rate of social returns is also very high. The difference between the rates of private returns on the development of new technologies is very significant for theoretical explication of effects of investment in the development of new technologies. The reason why the state should support the investments in a new technology in various ways lies in the fact that certain research projects achieve significantly higher rate of social returns in comparison to the rate of private returns.

If an innovator is faced with very competitive environment, it is less possible that his results will provide large part of social benefit, otherwise, when he has monopolistic position or is a part of oligopoly, it is realistic to expect the rate of social returns at incomparably higher level. Normally, the measure to which the innovator is subject to competition may depend on the fact whether the innovation is protected by patent. The question is how expensive it would be for potential competitors to “avoid” patent protection, if it exists, and to purchase the equipment that is necessary for manufacturing a new product (or the use of new process). In a number of cases it is very difficult to speak of the possibility to imitate. In other cases, a potential competitor could either succeed in manufacturing certain product or use certain technological process at relatively low cost.

The question that is marked as significant for identification of difference between the rates of private and social returns is whether the technological change is big or small. According to some theories the degree of utilisation is probably smaller for greater technological inventions, because they can be imitated. Long ago, Kenneth Arrow shared similar viewpoint by saying that an inventor received whole social benefit for moderate innovation that reduced the expenditure, but not for radical technological changes (Arrow, 1971).

The enterprises in industry provide about two thirds of the amount of total costs of research and development activities, while the rest is funded by state. The industry invests in majority of research related to manufacturing new products, while the state mostly invests in fundamental research. Although a great part of state funds invested in research and development goes to the projects aimed at specific needs of public character, state investment in research and development of technology has enormous influence on economic growth because, looking from social perspective, the market failures result in insufficient investment of enterprises in research and development. The largest number of empirical studies, however, show that private sector invests considerably less than optimum in research and development. Insufficient investments are a result of the fact that enterprises cannot invest their whole profit in funding for research and development, partly because the imperfection of capital market can make funding for R&D more expensive, and incomparably more risky in comparison to other investments.

From the perspective of enterprises, the issue of attractiveness of investments in the activity of research and development can be treated in the same way like all other forms of investments. The enterprise will invest as long as it expects the income of a research project at least to cover its expenditures. Average returns on research and development projects for an enterprise are 20-30%, but the returns for the society are even higher, often over 50%. These spillovers occur due to external use of research results, which thus expand in the directions that cannot often be devised by innovators. Those spillovers mean that the innovator made effective only a part of returns, realised on the basis of certain research and development project. As a result, the enterprises invest less in research and development activities than they would do in the case they could acquire total profit of their research. In other words, some research projects that could have positive net profit (i.e. the sum of private and social income, reduced for the project expenditures) are privately unprofitable since the investor logically does not effectuate social benefits. If, in this case, there were not certain interventions on the market, private sector would not do research projects, although they are to the best interest of society. If the enterprises in industry create certain knowledge, other companies may also use it without paying, in fact, the industry produces a certain product – bordering social benefit based on knowledge, which is not expressed in the stimuli for enterprises. Where those externalities (the benefits shared by other enterprises besides the one that produces them) are shown as significant, there is a good reason for subventions to industry. This reason is the same in both younger industries in less developed countries and developed countries. However, in developed countries this possibility gains significance simply for the reason of their industries based on continuous innovations where certain generation of knowledge is in fact the central aspect of an enterprise. In the high tech industries, the enterprises dedicate a great part of their resources to the improvement of technology by direct investment in research and development, or by being ready to endure initial losses due to placement of new products or introduction of new processes in order to gain necessary experience.

Although the investment in research and development is lower than the society would like, the enterprises invest even less than they wish in case they do not have appropriate access to the budget necessary for funding to these activities. On capital market, possible problems may arise for the innovators in case they do not want, or are not capable of providing enough information to the investors, due to their fear of revealing too many details on the proposed idea, which could be practically assessed by investors related to cost-effectiveness of the research project. Mortgage cannot include the investments in research and development, as the investments in machines or buildings can be mortgaged. Thus it happens that enterprises are forced to pay higher interest for the loans intended to finance research and development, in comparison to the utilisation of loans for the realisation of other forms of investments, which can be on mortgage or have to rely upon internal sources of funding. Since the funds are fungible, the enterprises with sufficient internal cash flows normally use them for funding to research and development, while mortgage loans are allocated to funding for investments in buildings and equipment. In fact, many enterprises that deal with modern technologies would like to invest in research more than they could from their cash flows or mortgage loans. Schumpeter pointed to these limitations long ago (Schumpeter, 1968). The proofs of the influence of changes on cash flows in the resources directed towards research and development, however, have to be considered carefully, because the events that have limiting influence on cash flow can also have negative impact on net value of the enterprise and its ability to take over risks.

The fact that investment in research and development is globally insufficient certainly does not mean the absence of excessive investment in specific kinds of research. The most

obvious example is allegedly pharmaceutical research that is conducted in order to innovate some already patented products. The aim of enterprises involved in such research is not to find better medication (although it may appear as a non-intended product) but to take over the monopole rent from the patent owner. Also, the rush for patents may lead to enormous expenditures where marginal contribution – the previously launched innovations on the market can be small in comparison to the average returns. This is a variant of problem of unity. A share of income is materialised in the patent of generally available knowledge.

In market economy, competition is taken as a basic factor of motivation of business entities in their expression of innovation activity. Conceptually, without denying this statement, it can be noticed that in contemporary manufacturing conditions, characterised by unwitnessed scientific and technological invasion of leading world corporations and countries, internal motivation is not the only significant factor of development of their innovation activity (in the case of the law on competition); they receive external stimulation, i.e. support of the state.

### **Basic sources of funding for research and development**

Research and development have an immediate task to generate technological innovations. There is a direct connection between research and development potential and the realised innovation potential of enterprises and countries. It should be emphasized that most countries do not create larger part of knowledge, but the budget for research and development is directed towards the application of technological knowledge, which is the property of other subjects in domestic enterprises, not necessarily towards the creation of new technology.

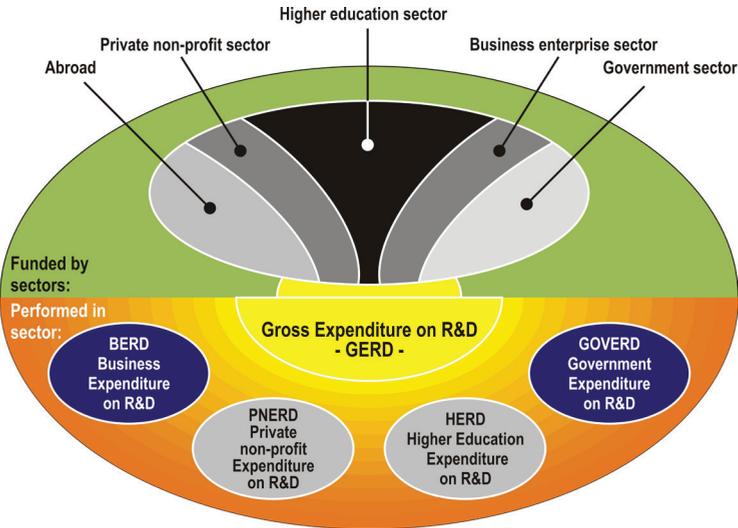
The main failure of indicators related to investment in R&D is that their monetary expression decreases the possibility of relevant comparison between countries, because of the difference in price levels between countries at a given moment and in time. In order to overcome this shortcoming, it is recommended to observe the investments in R&D as a share in gross domestic product (GDP). Organisation of Economic Cooperation and Development (OECD) suggests that investments in R&D should be followed at the level of sector so the list of indicators which point to scientific and technological progress of a country should be grouped as follows:

1. *Gross domestic expenditure on research and development – GERD,*
2. *Business Enterprise Expenditure on R&D – BER,*
3. *Higher Education Expenditure on R&D – HERD*
4. *Government Expenditure on R&D – PNERD,*
5. *Private non-profit Expenditure on R&D – GOVERD*
6. *Government Budget Appropriations or Outlays for R&D – GBAORD.*

Leading economies and scientific organisations invest enormous funds in investing increasingly demanding research and development activities (Cvetanović, Nedić, 2018, p.45-55). For illustration, global investment in R&D in current conditions is estimated to amount about 2,300 billion dollars. Concerning the countries that are R&D global leaders, the situation has not changed much, but the slight trend towards extruding European economies can be discussed. In 2009, top five countries with the greatest investments in R&D (by absolute values) were the USA, Japan, China, Germany and France. This year (2019) they are the USA, China, Japan, Germany and India. Their collective amount of investments for R&D reached

the amount of 1,510 billion dollars in 2019, in comparison to 786 billion in 2009 (Government and Industry Continue to Grow Global R&D, n.d.). Figure 1 shows basic sources of funding for research and development activities.

Figure 1: Sources of funding and sector of realizatons of R&D activities



Source: Author, according to EuroStat, n.d.

### Sources of funding for the activities in research and development in the selected European countries

The sources of funding for R&D of the selected European countries in 2016 are given in Table 2 (no data are available for 2017). The data in the Table 5 show that in both EU28 and EU19 (Euro zone), business sector has a predominant role in investment in R&D activities, with the participation of 57%. Public sector invests about 30% in R&D activities, about 10% is from foreign sources while sectors of higher education and private non-profit sector participate in R&D activities with only 1% each.

Table 2: Sources of funding for R&D activities in the selected European countries in 2016

Sector Country*	Abroad	Private non-profit sector	Higher education sector	Government sector	Business enterprise sector
EU28	10%	1%	1%	31%	57%
EU19 (Euro)	9%	1%	1%	32%	57%
<b>EU countries of the Balkan Peninsula</b>					
Bulgaria	35%	0%	0%	22%	44%
Greece	14%	0%	2%	43%	41%
Croatia	10%	0%	5%	42%	43%
Romania	10%	0%	2%	39%	49%
Slovenia	10%	0%	0%	20%	69%
<b>Countries of the Western Balkans (Western Balkan countries)</b>					
Montenegro	5%	0%	5%	59%	30%

N. Macedonia	6%	0%	6%	59%	29%
Serbia	13%	0%	32%	45%	10%

Source: authors, based on Eurostat data, Database. EuroStat, n.d.

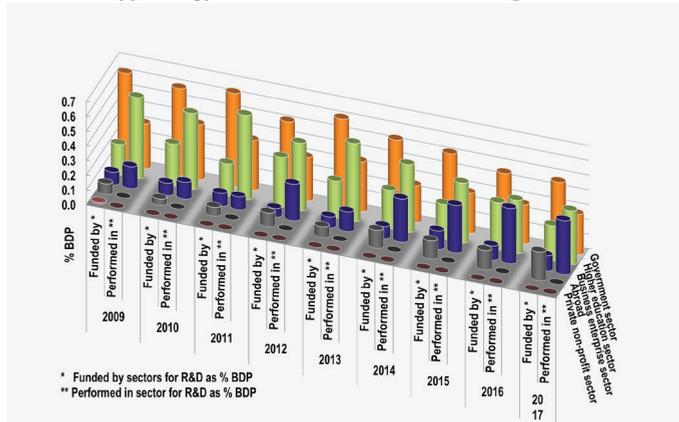
Table 3 shows the data on sector structure of investment in R&D, i.e. realisation of R&D activities of the selected European countries in 2017. Sector structure of investment in R&D activities shows relative advantages and shortcomings of innovation system of a country on the side of expenditure. The data in Table 6 show that in EU28 and EU 19, business sector predominantly participates with 66% in total realisation of investment in R&D activities, followed by higher education sector with 21% and 22% respectively. In European countries, public sector realised on average only 11% in R&D activities, while in Euro zone (EU19), it is somewhat higher (13%). Private non-profit sector participates in R&D activities with only 1% in EU28 and 0.5% in EU19.

Table 3: Structure of R&D investments realisation in the selected countries by sectors - 2016

Sector Country*	Private non-profit sector	Higher education sector	Government secto	Business enterprise sector
EU28	1.0%	22%	11%	66%
EU19(euro)	0.5%	21%	13%	66%
<b>EU countries of the Balkan peninsula</b>				
Bulgaria	1.3%	5%	23%	71%
Greece	0.9%	28%	22%	49%
Croatia	0.0%	29%	22%	49%
Romania	0.0%	10%	32%	58%
Slovenia	0.5%	11%	14%	74%
<b>Country of the Western Balkans</b>				
Montenegro	6.1%	58%	21%	15%
N. Macedonia	2.8%	61%	11%	25%
Serbia	1.0%	36%	27%	36%

As it can be seen in Figures 7 and 8, Serbia had increasing investments in R&D in absolute amount during the observed period. However, GERD sources are predominantly based on public investments and the investment of higher education, which are in Serbia predominantly in the competence of the state.

Figure 8: Sources of funding for R&D activities in Serbia in the period 2009-17 as % of GDP



In the figure 8 a slight but very unfavourable fall of sources for R&D is noticed by public sector, which is not followed by adequate growth of sources generated from business sector. It per se shows insufficient strategic dedication of innovation policies and insufficient efficacy and effectiveness of Serbian national innovation system.

When the structure of sources and realisation of GERD in Serbia is shown relatively, as a percentage of total GERD, the relationship of its input and output components is more clearly perceived (Table 4, Figure 9).

Table 4: Structure of sources of funds versus their realisation for Serbian R&D in the period 2009-2017 expressed as % of GERD

Year	Abroad	Private non-profit sector		Higher education sector		Government sector		Business enterprise sector	
	F	F	P	F	P	F	P	F	P
2009	7.3%	1.2%	0.0%	20.7%	54.9%	62.2%	30.5%	8.5%	14.6%
2010	4.2%	0.0%	0.0%	28.2%	51.4%	59.2%	37.1%	8.5%	11.4%
2011	5.9%	0.0%	0.0%	22.1%	57.4%	63.2%	33.8%	8.8%	8.8%
2012	9.3%	0.0%	0.0%	33.7%	45.9%	51.2%	29.4%	5.8%	24.7%
2013	7.4%	0.0%	0.0%	25.0%	52.9%	60.3%	33.8%	7.4%	13.2%
2014	12.3%	0.0%	0.0%	26.0%	45.8%	53.4%	25.0%	8.2%	29.2%
2015	12.5%	0.0%	0.0%	23.8%	40.7%	51.3%	27.2%	12.5%	32.1%
2016	13.1%	0.0%	0.0%	32.1%	36.1%	45.2%	26.5%	9.5%	37.3%
2017	19.3%	0.0%	0.0%	23.9%	36.4%	46.6%	27.3%	10.2%	36.4%

**F Funded by sectors for R&D; P – Performed in sector for R&D**

In Serbia, Ministry of Science is responsible for the policy in the domain of science and research. In order to include scientific and research community in elaboration of strategic guidelines in science, the Council for Scientific and Research Activity was formed, aimed at supporting the Ministry in the promotion of scientific and research activities, analysis of conditions and achievements in science, preparing professional advice etc.

Strategy of Scientific and Technological Development of Serbia for the period 2016-2020 – Research for Innovations is a document which defines measures and programmes for promotion of excellence in science and targetable research for the development of economy and society as a whole (R. Serbia, 2016a). The vision of Strategy is to make science in Republic of Serbia based on the system that supports excellence of science and relevance for economic development, competitiveness of economy and the development of the society as a whole. The mission of Strategy is the establishment of effective national research and innovation system, integrated in European research area, which relies on partnership in the country and abroad and contributes the economic growth, social and cultural progress, rise of standard of citizens and quality life. Therefore, the document completely recognises the necessity of existence of effective R&D as a significant assumption on the European pathway of Republic of Serbia (R. Serbia, 2016b).

The Strategy represents national map of the road to integration in European research area, since it accepts and precisely defines measures for achieving priorities and aims defined by the map of roads in European research area. Basic novelty of the strategy is “research for innovations” in its core, in the function of economic and total social development of the country. Legally, the Strategy is in accordance with the Law on Scientific and Research Activity and the Law on Innovation Activity and sub-legal

documents made according to these Laws, the Law on Higher Education and other effective laws and documents (R. Serbia, 2005; 2010; 2013).

The fact is, however, that independently of passing a large number of legal solutions in the domain of scientific and developmental research and the support to promotion of innovations, R&D in Serbia is still insufficiently developed and basically ineffective. There are many causes of inefficiency of innovation system in the Republic of Serbia, and they all can be marked as limiting factors on the European pathway of our country. They were described in detail by Serbian authors (Kutlača, & Semenčenko, 2015; Cvetanović, et al., 2015).

By elaborating appropriate strategic documents and shaping legal framework in this domain in the Republic of Serbia, further development and progress of scientific and research activity was made possible. The issues in the domain of science and research are defined by the Stabilisation and Association Agreement, Chapter 8 (Cooperation Policies), i.e. Article 112 (Cooperation in Research and Technological Development).

By signing Stabilisation and Association Agreement (SAA), Serbia is bound to cooperate with EU on stimulation of cooperation in civilian scientific research and technological development, based on mutual benefit, availability of funds and appropriate approach to their relevant programmes. The Agreement points out that the cooperation will especially include preferred domains related to acquisition in the domain of research and technological development (Delegacija EU u Republici Srbiji, n. d.).

## Conclusion

The EU countries invest significant funds in the domain of research and development. Thus they try to promote significance of commercial valorisation of knowledge in innovations. The share of expenditures for R&D in GDP ranks about 20%. Nearly a half of the expenditures originate from private sector.

In the countries of the Balkan Peninsula that are the EU members, the investment in activities of research and development is significantly lower in comparison to EU average. Nearly a half of these expenditures originate from public sector, which can be characterised as pronounced weakness of national monetary systems in these countries.

## References

- Arrow, K. (1971) *The economic implications of learning by doing*. In *Readings in the Theory of Growth*: Palgrave Macmillan UK; 131–149.
- Barro, R. J., Xavier Sala-i-Martin (2004). “*Economic Growth*: MIT Press.” Cambridge, Massachusetts.
- Caviglia-Harris, Jill L., Dustin C., James R. Kahn. (2009). “Taking the “U” out of Kuznets: A comprehensive analysis of the EKC and environmental degradation.” *Ecological Economics*, 68.4, 1149-1159.
- Cvetanović, S., Despotović, D., & Ribać, S. (2019). Place of public-private partnerships in financing technological changes. 11th International Scientific Conference, ‘*Science and Higher Education in Function of Sustainable Development – SED 2019*. Mokra Gora.
- Cvetanović, S., Ilić, V., Despotović, D., & Nedić, V. (2015). Knowledge economy readiness, innovativeness and competitiveness of the Western Balkan countries. *Industrija*, 43(3), 27-53.

- De Bruijn, P., & Arnoud L. (2005). Regional innovation systems in the Lisbon strategy. *European Planning Studies* 13.8, 1153-1172.
- Delegacija EU u Republici Srbiji. (n.d.). Sporazum o stabilizaciji i pridruživanju. Retrieved June 30, 2019, from <https://europa.rs/srbija-i-evropska-unija-kljucni-dokumenti/sporazum-o-stabilizaciji-i-pridruzivanju/>. Delegacija EU u Republici Srbiji.
- Djurovic, G. (2012). *Evropska unija i Crna Gora: politika proširenja*. Ekonomski fakultet, Podgorica, 549-550.
- Drucker, P. (2014). *Innovation and entrepreneurship*. Routledge.
- Drucker, P. (2012). *Post-capitalist society*. Routledge.
- EuroStat. (n.d.). European Innovation Scoreboard 2018. Retrieved April 19, 2019, from <https://interactivetool.eu/>. Your key to European statistic.
- Government and Industry Continue to Grow Global R&D. (n.d.). Retrieved April 17, 2019, from [https://digital.Government and Industry Continue to Grow Global R&D.com/researchanddevelopment/2019\\_global\\_r\\_d\\_funding\\_forecast?pg=4#pg4](https://digital.Government and Industry Continue to Grow Global R&D.com/researchanddevelopment/2019_global_r_d_funding_forecast?pg=4#pg4). R&D Magazine 2019.
- Greenhalgh, C., & Mark R. (2012). “Trade marks and performance in services and manufacturing firms: evidence of Schumpeterian competition through innovation.” *Australian Economic Review* 45(1), 50-76.
- Huggins, R., & Hiro I. (2008). “Benchmarking the knowledge competitiveness of the globe’s high-performing regions: A review of the World Knowledge Competitiveness Index.” *Competitiveness Review: An International Business Journal* 18.1/2, 70-86.
- Huggins, R., & Hiro I. (2007). *Competing for knowledge: creating, connecting and growing*. Routledge.
- Kutlača, Đ., & Semenčenko, D. (2015). *Nacionalni inovacioni sistem u Srbiji: prošlost, sadašnjost, budućnost*.
- Nedić, V., & Ilić V. (2013). The western Balkan countries’ readiness to network. *Ekonomika*, 59(3), 221-232.
- Nijkamp, P., Iulia S., & Donal, S. (2011). “Economic growth, innovation and competitiveness in a knowledge-based world economy: introduction.” *Innovation, Growth and Competitiveness*. Springer, Berlin, Heidelberg, 1-11.
- Pokrajac, S. (2002). *Tehnologija, tranzicija i globalizacija*. Savez naučnih stvaralaca Srbije.
- R. Srbija. (2005). Službeni glasnik Republike Srbije 110/2005.
- R. Srbija. (2010). Službeni glasnik Republike Srbije 18/2010.
- R. Srbija. (2013). Službeni glasnik Republike Srbije 55/2013.
- R. Srbija. (2016a). Službeni glasnik Republike Srbije 25/2016.
- R. Srbija. (2016b). Strategija naučnog i tehnološkog razvoja Republike Srbije za period od 2016. do 2020. godine—Istraživanje za inovacije (“Strategy of Scientific and Technological Development of Republic of Serbia for the Period from 2016 to 2020”).
- Shumpeter, J. A. (1968). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and Business Cycle*. Harvard University Press.

Marko Jeločnik<sup>1</sup>

Jonel Subić<sup>2</sup>

Vlado Kovačević<sup>3</sup>

*Institute of Agricultural Economics, Belgrade*

ORIGINAL SCIENTIFIC ARTICLE

doi:10.5937/ekonomika1904041J

Received: October, 12. 2019.

Accepted: November, 09. 2019.

## COMPETITIVENESS OF APPLE PROCESSING<sup>4</sup>

### Abstract

*Fruit production has important role in development of the Serbian agriculture. Within the structure of grown fruits, apple takes remarkable share. As a fruit species suitable for processing and longer storage, apple is traditionally use in households as fresh or processed. One of the alternatives for apple processing that could be a good solution for small family agricultural holdings represents the production of apple chips. Implementation of mentioned processing is suitable as from the aspect of size of needed investments and relatively simple technological requirements, as well as towards the quit a short period of return on invested assets, or possibility to engage installed equipment and farm members out of apple processing campaign. On the other hand, apple processing would certainly ensure the creation of added value and continuity of the farm income, what would primarily have a positive effect on farm sustainability. The main goal of paper is to consider the power of contribution margin obtained in apple chips production at farm level. Research involves one production cycle (three-month campaign), where presented data and results are referring to 2018. According to gained results, derives a conclusion that processing of apples into the apple chips could be a good alternative for small farms concerning the creation of its additional income.*

**Key words:** *agro-food processing, apple chips, contribution margin.*

**JEL classification:** Q12, Q19

## КОНКУРЕНТНОСТ ПРЕРАДЕ ЈАБУКЕ

### Апстракт

*Производња воћа има значајну улогу у развоју српске пољопривреде. У структури производње воћа, јабуке имају сразмерно велики удео. Као воћна врста погодна за прераду и дуже складиштење, јабука је традиционално присутна у домаћинствима у свежем или прерађеном стању. Један од видова прераде*

<sup>1</sup> marko\_j@iep.bg.ac.rs

<sup>2</sup> jonel\_s@iep.bg.ac.rs

<sup>3</sup> vlado\_k@iep.bg.ac.rs

<sup>4</sup> Paper is a part of research at the project no. III 46006, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia, as well as the Project - Advancement of knowledge transfer towards the approaching to safer and more competitive agricultural products gained by processing at small farms within the sector of milk, meat, fruit and vegetable, financed by the Ministry of Agriculture, Forestry and Water management of the Republic of Serbia.

јабуке који би могао бити добра солуција за мала породична пољопривредна газдинства је производња чипса од јабуке. Имплементација поменуте прераде је погодна како из угла величине потребних инвестиционих улагања и релативно скромних технолошких захтева, тако и у погледу кратког поврата уложених средстава, или могућности да се уопле инсталирана опрема и чланови газдинства ван кампање прераде јабуке. Са друге стране, прерада јабуке би сигурно обезбедила стварање додатне вредности и континуитет прихода на газдинству, што ће примарно имати позитиван утицај на његову одрживост. Основни циљ рада је да размотри снагу генерисане марже покрића у производњи чипса од јабуке на нивоу малих газдинстава. Истраживање се базирало на једном производном циклусу (тримесечној кампањи прераде јабуке), при чему се приказани подаци и резултати односе на 2018. годину. Сходно добијеним резултатима проистиче закључака да прерада јабуке у чипс може представљати добру алтернативу малим газдинствима у циљу стицања додатних прихода.

**Кључне речи:** прерада, чипс од јабуке, маржа покрића.

## Introduction

Apples are sweet-sour, tasty, healthy and edible fruits gained as a product of apple tree (*Malus Domestica*) that represents perennial, cultivated, woody plant. Apple belongs to the rose family, and originated from the area in-between the Caspian and Black Sea. Certain archaeological evidences show that human population is in contact with apples since 6,500 B.C. Today, apple production is widely spread worldwide. So, currently is grown around 7,500 varieties, while just couple hundreds of them are grown commercially. Fruit of known apple varieties mutually differs in size from a little larger than a cherry to a size of grapefruit. Besides, commercially grown varieties largely differ in taste, so it's possible to find the apples that leave aftertaste of pears, citrus, cinnamon, cloves, coconut, strawberries, grapes, or pineapple (IAC, 2019).

In human diet, apples have highly expressed nutritional and medicinal value. They are rich in fibre (up to 4 gr, what represents 1/6 of required daily value in human nutrition), but low in calories, as 100 gr of apples usually generate just around 50 kcal (up to 14 gr of carbs, where more than 10 gr come from fructose). Content of fat and proteins is up to 0.5 gr. Although involves many vitamins and minerals in small doses, they are primarily solid source of vitamin C and potassium. Besides, apples are full of different phytochemicals in function of strong antioxidants, as are quercetin, catechin, phloridzin, or chlorogenic acid. It was detected that their storing for a longer period do not have any effect on level and quality of phytochemicals, otherwise they could be greatly affected by processing activities. Several scientific research have been shown that apples carry out the large impact against diabetes, asthma, heart diseases, cancer and other diseases (Boyer, Liu, 2004; Arnarson, 2019).

In human nutrition, apple could be used as a fresh or processed (valuable input in food industry), like ingredient within the certain food products. It has to be noted that apples and grapes are two the most processed fruits (Bolarinwa et al., 2015). Apples represent the most widely grown fruit. They could be produced wherever around the globe, but primarily are

concentrated in the Northern hemisphere. Around 95% of all produced apples originated from the zones framed by the 35-50°N and 30-45°S latitudes (Barrett et al., 2004).

In line to change in weather conditions, volume of apple production can annually oscillate for up to 20%. Besides the fact that nowadays are grown number of apple cultivars, just 20 of them have certain commercial importance, or much narrower, only 5 of them covers the majority of worldwide production (Delicious, Golden Delicious, McIntosh, Rome Beauty and Granny Smith), (Bates et al., 2001).

Apples are the fruit that could be stored for a long time before being consumed. Storing could last up to 9, or even 12 months in the conditions of controlled atmosphere (automatized controlling and levelling of temperature, oxygen, carbon dioxide and humidity in line to fruit requirements). Nowadays, the high-tech storage facilities enable buying of crisp and juicy apples throughout the whole year (Hickey, 2007). At the same time, they enable the producers to achieve the higher fruit prices (or profits) out of harvesting season (Ivanović et al., 2009).

In modern economies apples are usually marketed throughout the wholesale to a fruit packers or processors. First one sorts the apples according to their quality packing them for the fresh apples' market (this contingent of apples yields the higher return than processed apples). Meanwhile, processors use apples to produce apple sauce, or juice, spirits and cider, as well as to can, dry or freeze them, etc. (Crassweller et al., 2017).

Globally observed there is no strict line between the volume of apples that goes to market as a fresh or processed. This is framed by cultural, technological, economic and other aspects within the certain country. For example, during the 2018, within the territory of USA, 67% of nationally produced apples are consumed as fresh, while 33% are processed. In last few decades consumption of fresh apples has moderately increasing tendency (USApple, 2019).

On the other hand, this structure highly differs across the states (related to producers and consumers affinity). For example, Pennsylvanian growers are producing around 70% of apples for processing, what is much higher than in state of NY, around 60/40, or Michigan state, around 50/50. All previously mentioned does not mean that processed apples do not have a future, as in average Americans annually consume more than 12 kg of applesauce, apple pie, or apple juice, while less than 10 kg of apples in fresh condition (Lenhart, 2015).

According to total production, harvested areas and export potential, globally observed in long term period apples are among top 3 fruits (by production volume after bananas and melons), (van Rijswijk, 2018).

Main elements linked to global, European or EU apple production could be seen in next table (Table 1.).

Table 1. Apple production at global, regional and national level

Element/year/territory	Harvested area (in mil ha)*			Yields (in t/ha)			Production (in mil t)*		
	2015.	2016.	2017.	2015.	2016.	2017.	2015.	2016.	2017.
World	5.10	5.16	4.93	16.18	16.50	16.85	82.44	85.20	83.14
Europe	1.0	1.0	0.96	17.10	17.26	14.85	17.21	17.41	14.25
EU	0.54	0.53	0.53	23.81	23.75	19.20	12.78	12.64	10.11
Serbia	24.70	24.82	25.13	17.48	16.14	15.06	431.8	400.5	378.6

Source: FAOSTAT, 2019.

Note: \*harvested area in thousands hectares and total production in thousand tones.

It could be seen that 20% of global production potentials are located in Europe, while half of them are possessed by EU countries. Similar relations exist between the world and European volume of apple production, while in this case EU has better position, as in line to higher average yields it takes more than 70% of European apple production. Although Serbia takes a role of the regional leader (within the Balkan), actually it's a small European producer that has just around 2.4% of total European production capacities, and achieves apple yields close to global average.

As world top-ten producers could be listed: China, USA, Poland, Turkey, India, Iran, Italy, Russian Federation, France and Chile. Among them, China is real super star, with total production (almost 44.5 million t) higher than half of total world production (Khushboo, 2018).

Some estimation assume decrease in current world production (2018/19), even the lowest production level in last eight years, caused by China's losses under the damaging weather (decrease in yields for around 25% affected by spring frost and heavy rains and hail in May in leading production provinces). Squeezed global output will certainly press down export quotas, while reduced quality in export supplies will cut down final consumption of fresh apples and boost their processing (USDA, 2019).

Focusing to Serbia, by the production surface, apple is positioned as the second fruit species just behind the plums. Within the total surfaces under the orchards, it takes the share of above 15% (what is insufficiently given the favourable climate and soil conditions for fruit growing). The largest areas under the apples are located in Subotica, Smederevo, Grocka, Čačak and Arilje (Keserović et al., 2014).

During the last couple decades, apple production in Serbia is expanding. Until recently, producers were dominantly family farms who grown apples in orchards up to 5 ha, while today there are a lot of commercial farms that organize production on more than 10 ha and use the ULO coolers. Besides, there are several large-scale companies that cultivate plantations up to 250 ha. Average apple producer gradually advance and intensify his production, introducing the new technologies (cultivation systems and agro-technics) and competitive varieties under the constant irrigation (Maric, 2018).

Today, we are witnessing the struggle between the small and large commercial producers. Confrontation is based on economic differences that rise from available capacities. The most often small orchards cannot compete with the bigger ones in terms of applied agro-technics and technology, reached apple yields and prices, etc. In return, they can achieve certain level of farm income sustainability by organizing apple processing and like this created additional value.

Some research showed that it is justified and economically efficient to develop short value chain models for apples, after investing in fruit marketing and processing cooperative. The short value chain is defined as a business in which post-harvest activities are integrated and conducted within the single economic unit (family farm or cooperative). Post-harvest activities assume collecting and processing the fruits, as well as selling the processed food products (Ion, 2017).

The largest part of apples produced in Serbia is consumed fresh. Certain contingent of apples is processed, usually into the juice, brandy, compote or jam. In the last several years, drying of apples (in the form of cubes or chips) has been increasingly present, as by this process many of apple nutrients could be preserved and energy successfully concentrated. Generally, all apple products can be available to consumers throughout the whole year, while the period of presence of fresh ones is certainly narrower.

The benefits of apples drying are also coming from lower costs of products storing, transport and packaging (Vučićević, Vukoje, 2016).

There is certain number of factors affecting the farm income and sustainability. Among them as the crucial could be reconsidered initiating of added value throughout the processing of previously produced primary products, even implementation of the part or complete value chain from any sector of agriculture at the farm (Kahan, 2012; FAO, 2014).

So, boosting of small farm sustainability could be turned to production of specific food product as the result of processing of locally available inputs that could be later easily distributed to local consumers. Related to apples, one of profitable solutions could be their drying into the form of apple chips.

This product has several attributes potentially suitable for practicing of niche marketing. So throughout the apple chips farm could offer to limited but precisely determined segment of market, which prefer quality than quantity, new, absolutely valuable food product. Apple chips represents excellent food product for following consumers' groups: vegetarians, sportsmen, older population or kids, consumers turned to healthy, or organic products, etc.

Globally, specialization in production of particular food product can help farmer in spreading of list of potential consumers and getting of positive feedback from the targeted market. Farmer will gradually build his market reputation related to specialized knowledge expressed through the offered product. Some studies shows that approximately 70% of producers would like to operate in niche market, as turning themselves to specialists will enable them to expand previously used practice, or by new product (processing concept) they can enlarge possibilities to reach higher incomes (Kallenbach, 2011).

## Methodology and data sources

Data used for economic estimations are gained throughout the in-depth interview with the members of one small family farm turned to fruit production and processing within the couple generations. Farm is located at the territory of Lazarevac municipality. Farm was previously involved both in fruits growing and processing, while in last several years it mainly practice the fruit processing. It produces various dry fruits and fruit brandies, while in certain volume it also dries medicinal herbs, mushrooms and vegetables for third persons. Gained data relates to production cycle of 2018. Additionally, certain secondary data provided by FAO, or scientific and professional sources turned to area of apple growing and processing are used.

Primary goal of the paper is to estimate the potential of economic effects generated in apple processing (production of apple chips) organized at the small family farms. Estimation considers one calendar year, or more precisely three months processing campaign of conventionally grown apples (from August to October).

Like in some previous research (Ivanović et al., 2010; Jeločnik et al., 2011) economic justification of fruit processing is done according to analytical calculations based on variable costs (contribution margin). Simplified, a calculation could prove the farmer that entering into the certain line of agricultural production (including fruits growing) or production of food product (agricultural products processing) is justified.

It implies deduction of incurred variable costs from the sum of generated incomes related to previously specified production (processing) line. Variable costs in fruit (apple) processing are mainly framed by used inputs and services, as are: fresh fruit, citric acid, packaging material, fresh water, engaged labour, certain fees and taxes, energy, outsourced services, etc.

Calculation is based on assumption that total volume of produced apple chips (volume of processed fresh apples) at the family farm is in line to the capacity of production facilities and installed equipment. All data are presented in tables (in RSD and EUR).

## Results with discussion

Economic analysis of apple processing relies to data received throughout the in-depth interview with small, primarily fruit processor located in Lazarevac municipality. Farm is registered, but last several years it is not active in fruit growing. It is dominantly oriented to processing of purchased fruit (fruit drying and brandy production). The largest share within the dried fruits production takes the apple chips. Final products are usually sold at the farm gate, or to local health food shops.

Initiation of apples processing (production of apple chips) at the small farm in the volume of around 15 t of fresh apples per year requires significant level of investments for equipping the processing facility and purchasing the needed equipment. Mentioned facility and large part of equipment could be also used in drying of other fruits, vegetables, mushrooms, medicinal and aromatic herbs, etc. during the rest of calendar year. At the total investment amounts around 22,500 EUR.

Establishment of apple chips production at the small family farm requires a production facility larger than 80 m<sup>2</sup> that consists from several rooms: space for power plant (installed solid fuel thermo-generator), stockroom of final products and packaging material, locker room with toilet, space for inputs manipulation, space for drying and space for cooling, measuring and packaging of final products, etc. Facility should be electrified, with access to fresh water and sewage system, tiled and equipped with natural lightening and ventilation. As the cold storage could be used the truck cooler additionally insulated with thermal panels (with the total capacity of 5 t and operating temperature of 2-4°C). Recommended equipment considers: standalone container dryer (dimensions 6.5 m x 2.5 m x 2.9 m) delivered with stainless steel trolleys and 24 trays, as well as with thermo-generator, power fans and system for hot air circulation; two weighing scales (up to 200 kg and 5 kg); stainless steel container with shower and drainage for apples washing; machine for the seed removing; fruit chopper; stainless steel container for soaking of apples in citric acid; stainless steel worktables and chairs; cart; set of knives; plastic bag welder; etc. (Subić, Tomić, 2019).

In next table (Table 2.), it could be seen brief description of technological approach in apple chips production, as gained incomes and costs, or value of contribution margin derived throughout the apples drying. Further, there is a need for clarification of some elements presented in table above.

The season of apples processing at the farm is enclosed by the three month period (August - October). Volume of processed apples depends on the capacity of available cold storage (5 t) and capacity of dryer (80 kg per one load). Drying of one load lasts for

5 hours (at the temperature of 50-60 °C), so daily capacity of dryer is two loads (160 kg of fresh apples or 12 working hours). According to presented dynamics, the campaign of drying of one fully loaded cold storage lasts approximately for one month, while processor should fill in and empty the cold storage three times during the season of apple processing (in total 15 t of fresh apples).

For processing is used Idared cultivar, as its medium intense sweet-sour taste matches the requirement of final consumers. Farmer has been mostly purchased the II quality class of apples (with fruit diameter from 5 to 7 cm and without visible spots) from local fruit growers at average price of 14 RSD/kg.

Through one load of fresh apples (80 kg), after the previous cleaning, removing of seeds and unwanted parts of apple, around 75 kg of fresh and prepared apples are chopped into the 4 mm thick rings and later dried. As result, it's got around 10 kg of apple chips (with 96% of dry matter). After the calculation of 5% of breakage during the product handling and packaging, there are around 9.5 kg of final product ready for market per each load. In total, there are approximately 188 loads for drying per season, or around 1,781 kg of produced apple chips and around 94 kg of broken final product.

Apple chips is packing and selling in 50 gr plastic bags. Wholesale price is 48.5 RSD/bag (including VAT), or 970 RSD/kg (product delivered at the farm gate). Part of broken product is selling in bulk for 675 RSD/kg (packing in 5 kg plastic bags).

Table 2. Contribution margin in apple chips production

Element	U.M.	Quantity	Price/U.M. (in RSD)	Total (in RSD)	Total (in EUR)
<b>I Incomes</b>					
Apple chips (final)	kg	1,781	970	1,727,570	14,702.7
Apple chips (breakage)	kg	94	675	63,450	540
Subsidies	pack.			-	-
Value of production (total I)				1,791,020	15,242.7
<b>II Variable costs</b>					
Fresh apples	kg	15,000	14	210,000	1,787.2
Citric acid	kg	15	725	10,875	92.5
Plastic bags (50 gr)	pcs	35,620	2.25	80,145	682.1
Plastic bags (5 kg)	pcs	20	20	400	3.4
Transport box (5 kg)	pcs	360	45	16,200	137.9
Bags designing	-	-	-	5,875	50
Declarations' verification	times	3	11,750	35,250	300
Labour	h	2,880	275	792,000	6,740.4
Electricity	-	-	-	47,250	402.1
Energy (pellets)	kg	9,375	20	187,500	1,595.7
Water and sewage	-	-	-	1,915	16.3
Disinfection	-	-	-	17,625	150.0
Pest control	-	-	-	5,875	50.0
Bookkeeping	-	-	-	10,575	90.0
Certification	-	-	-	7,200	61.3
Garbage	-	-	-	9,150	77.9
Taxes	-	-	-	5,250	44.7
Other costs	-	-	-	7,500	63.8
Sum of variable costs (total II)				1,450,585	12,345.4
<b>III Contribution margin (I-II)</b>				340,435	2,897.3

Source: IAE, 2019.

Note: middle exchange rate for 1 EUR = 117.5 RSD (NBS, 2019).

Entire cycle of apple processing involves following operations: periodical purchase and storing of fresh apples; withdrawal of fresh apples from the cold storage on daily basis in line to dryer capacity; washing and extraction of seeds; chopping apples into the rings and soaking in citric acid; placing the fresh rings on trays and carts; inserting the cart into dryer and drying; cooling the apple chips after the process of drying; packaging (in bags and transport boxes) and storing the final product in dry storage (for maximally 5-6 months).

According to required inputs, except fresh apples, processor should also purchase the citric acid that is used as antioxidant in prevention of final products darkening. It is usually purchased the 1 kg of citric acid per 1 t of processed apples.

Packaging of final products' requires small plastic bags (50 gr) and large plastic bags (5 kg) with double print (farm logo and products' declaration), as well as cardboard transport boxes (capacity of 100 small bags/box). Designing of farm logo and declarations printed on the bags have been done before the processing campaign of apples. Each month during the processing campaign, final products are taken to the local Public Health Institute in order to verify the content of products' declaration (quality control).

Costs of engaged labour considers employment of 5 persons (farmer and external labour) in two to some extent overlapping shifts. External employees have 8 hours working day, covering just processing activities. Calculation covers just costs of external labour, so at total monthly paid labour engagement is 960 working hours, while gross wage is around 275 RSD/hour.

Costs of electricity that covers the function of cold storage and needs of processing facility are around 15,750 RSD/month. Source of energy used for drying process is pellets, while usually is combusted 50 kg of pellets/load.

Disinfection of facility and used equipment is doing on monthly basis. Pest control within the facility is conducting twice per processing season.

Costs of bookkeeping are paid monthly. Implementation of HACCP is paid once, while annual inspection is free of charge, so it's assumed that calculation should be burden with 20% of total costs of certification.

Process of apple chips production requires daily consumption of around 250 l of fresh water (22.5 m<sup>3</sup> for whole season), while monthly costs of garbage collection considers flat rate amount determined by local utility company. Besides, apple processing also involves monthly costs of certain local and national taxes and fees, and some other production costs.

In line to presented calculation there are following conclusions:

- Gained incomes derived from selling of the apple chips are for around 23% higher than expenditures for used inputs and services. Similar results are gained in some previous researches related to production of apple chips, as there were calculated income - expenditures ratio of over 1.5 and gross income of over the 3.5 thousands EUR for the processing season (Vučićević, Vukoje, 2016);
- Apple chips production results positive contribution margin (around 113,480 RSD per month) that could provide the processor enough space for covering all fixed costs. It has to be mentioned that after finishing the apple processing campaign installed equipment could be also used for drying of other seasonal fruits, vegetables, medicinal herbs, etc.;

- Within the structure of variable costs dominates the labour costs (over the 54%). Having in mind that initial assumption was directed to engagement of 4 external workers, changing of each external employees with one farm member could boost the value of contribution margin for additional 198,000 RSD (1,685.1 EUR) per processing campaign.

## Conclusion

Apples are among the most grown and used fruit species in Serbia. In human nutrition, besides in fresh condition, apples are presented in wide range of processed products. Apple chips could be one of the apple food products whose production at the farm level might have good impact on diversification of farm activities and growth of gained incomes. Some facts are supporting previously mentioned, such as: availability of cheap major input (apples) of good quality, relatively low level of investment even for small farms, quite a seasonal character of apples processing, technologically simple process that could be easily organized and that does not require specific skills and knowledge, available equipment could be used later for drying of other fruits species, vegetables, mushrooms, spices or medicinal plants, final product (apple chips) could be easily realized at local market niche, etc.

In paper are evaluated the economic effects of establishing of apple chips production at the farm, considering the use of method of contribution margin (analytical calculation based on variable costs). Gained results show certain level of economic justification in organization of this processing line at the farm, as the achieved contribution margin is positive, as well as gained incomes surpass the incurred variable costs for over the 20%.

Certain risk is concentrated in fact that apple processing requires a considerable volume of engaged labour (over the half of total variable costs are the expenditures for the labour). Noticed risk could be considered from two sides: 1) Labour as a problem could occur if farm does not have on disposal larger part of required labour in form of its own labour force (farm members), and there is a local shortage of working population. In that case farm could or reduce the volume of processing, skip to processing of plants that are not labour intensive, or just quit the processing for some period (if processor has to offer higher wage than usual for this activity in order to attract potential workers, what will endanger gaining of positive economic results). 2) Other situation could be seen through the fact that with diversification of its economic activities farm is luring the local working population with new activity affecting the reduction of unemployment, as well as the economic growth of local rural community.

Certainly, there are some market expectations that apple chips production in limited quantities could successfully establish, penetrate and cover certain niche market at national level towards the consumers of wine (it perfectly match the drinking of white and rose wines), health food, sportsman, etc. Mentioned is crucial for two reasons: 1) At first place, it can affects diversification of activities at farms oriented to fruit growing, but limited by area under apple plantations. They will be in position to reach the higher farm incomes throughout the created value added within apple processing. 2) Secondly, the current processors that deal with dry food products could find in apple chips the product that will extend their season of drying up to the full capacity of installed equipment (even

with introduction of second or third shift). Of course it will happen only if characteristics of used inputs (agricultural products) are complement to equipment used for processing.

### Literature

- Arnarson, A. (2019). Apples 101: Nutrition Facts and Health Benefits. Portal Health-line, NY, USA, retrieved from: [www.healthline.com/nutrition/foods/apples#vitamins-and-minerals](http://www.healthline.com/nutrition/foods/apples#vitamins-and-minerals)
- Barrett, D. M., Somogyi, L. & Ramaswamy, H. S. (2004). Processing fruits: Science and technology. Boca Raton, USA: CRC Press.
- Bates, R. P., Morris, J. R. & Crandall, P. G. (2001). Principles and practices of small-and medium-scale fruit juice processing. FAO Agricultural Services Bulletin, no. 146, Food and Agriculture Organization of the UN, Rome, Italy.
- Bolarinwa, I. F., Orfila, C. & Morgan, M. R. (2015). Determination of amygdalin in apple seeds, fresh apples and processed apple juices. *Food Chemistry*, 170, 437-442.
- Boyer, J., Liu, R. H. (2004). Apple phytochemicals and their health benefits. *Nutrition journal*, 3(1/5), 1-15.
- Crassweller, R. M., Kime, L. F. & Harper, J. K. (2017). Apple production. Agricultural Alternatives Series, Penn-State Extension, Pennsylvania State University, University Park, USA, pp. 1-12, retrieved from: <https://extension.psu.edu/apple-production>
- FAO (2014). SAFA: Sustainability Assessment of Food and Agriculture Systems - Guidelines. Food and Agriculture Organization of the UN (FAO), Rome, Italy.
- FAOSTAT (2019). Elements of global apple production (period 2015-2017). Database of FAOSTAT, FAO, Rome, Italy, available at: [www.fao.org/faostat/en/#data/QC](http://www.fao.org/faostat/en/#data/QC)
- Hickey, P. (2007). Maintaining harvest fresh apples. Vaisala News, no. 175, Vaisala Ltd., Helsinki, Finland, pp. 4-5, retrieved from: [www.vaisala.com/sites/default/files/documents/vn175\\_Maintaining\\_harvest\\_fresh\\_apples.pdf](http://www.vaisala.com/sites/default/files/documents/vn175_Maintaining_harvest_fresh_apples.pdf)
- IAC (2019). Apple Uses. Portal of Illinois Agriculture in the Classroom (IAC) sponsored by the USDA, Bloomington, USA, retrieved from: [www.agintheclassroom.org/TeacherResources/TerraNova/bw\\_applenews.pdf](http://www.agintheclassroom.org/TeacherResources/TerraNova/bw_applenews.pdf)
1. IAE (2019). Field data related to apple processing (production of apple chips). Internal data, Institute of Agricultural Economics (IAE), Belgrade, Serbia.
- Ion, R. A. (2017). Models for short fruits' chain. In: Ursu, A., (Edt.), Agrarian Economy and Rural Development-Realities and Perspectives for Romania. 8<sup>th</sup> edition, proceedings (November 2017), Research Institute for Agricultural Economy and Rural Development (ICEADR), Bucharest, Romania, pp. 290-295, retrieved from: [https://mpira.ub.uni-muenchen.de/85176/1/MPRA\\_paper\\_85176.pdf](https://mpira.ub.uni-muenchen.de/85176/1/MPRA_paper_85176.pdf)
- Ivanović, L., Milić, D. & Ivanović, S. (2009). Investiranje u hladnjače za voće kao oblik razvojne politike preduzeća. *Ekonomika poljoprivrede*, 56(4), 589-599.

- Ivanović, L., Jeločnik, M. & Subić, J. (2010). Pokriće varijabilnih troškova u proizvodnji grožđa. *Zbornik naučnih radova Instituta PKB Agroekonomik*, 16(5), 89-95.
- Jeločnik, M., Ivanović, L. & Subić, J. (2011). Analiza pokrića varijabilnih troškova u proizvodnji jabuke. *Škola biznisa*, 4(2), 42-49.
- Kahan, D. (2012). *Entrepreneurship in Farming*. Food and Agriculture Organization of the UN (FAO), Rome, Italy.
- Kallenbach, S. (2011). Niche Marketing: Where Quality is Better than Quantity. *LIMRA's Market Facts Quarterly*, 11(1), 24-30.
- Keserović, Z. Magazin, N., Kurjakov, A., Dorić, M. & Gošić, J. (2014). Popis poljoprivrede 2012 - Poljoprivreda u Republici Srbiji: Voćarstvo. Republički zavod za statistiku (RZS), Beograd, Srbija.
- Khushboo, S. (2018). Top Apple Producing Countries in the World. Portal of World-atlas, St. Laurent, Canada, retrieved from: [www.worldatlas.com/articles/top-apple-producing-countries-in-the-world.html](http://www.worldatlas.com/articles/top-apple-producing-countries-in-the-world.html)
- Lenhert, R. (2015). Processed apples have a future. Portal of the magazine Good Fruit Grower, Washington State Fruit Commission, Washington, USA, retrieved from: [www.goodfruit.com/apples-for-processing/](http://www.goodfruit.com/apples-for-processing/)
- Maric, V. (2018). Serbia's Fruit Offering. *Agriculture Today: Agriculture Year Book - 2018*, New Delhi, India, pp. 24-27, retrieved from: [www.agriculturetoday.in/year-book/yb-2018.pdf](http://www.agriculturetoday.in/year-book/yb-2018.pdf)
- NBS (2019). Middle exchange rate: Exchange rate list no. 195 for the 10<sup>th</sup> October 2019. National Bank of Serbia (NBS), Belgrade, Serbia, retrieved from: [www.nbs.rs](http://www.nbs.rs)
- Subić, J., Tomić, V. (2019). Programi investicija u preradu bezbedne hrane na malim poljoprivrednim gazdinstvima za mleko, meso, voće i povrće. In: Kovačević, V. (Edt.), *Unapređenje transfera znanja radi dobijanja bezbednih i konkurentnih poljoprivrednih proizvoda, koji su dobijeni preradom na malim gazdinstvima u sektorima mleka, mesa, voća i povrća*, Institute of agricultural economics, Belgrade, Serbia, pp. 93-158.
- USApple (2019). *Production and Utilization Analysis - 2019*. U.S. Apple Association (USApple), Falls Church, USA.
- USDA (2019). *Fresh Apples, Grapes, and Pears: World Markets and Trade*. United States Department of Agriculture (USDA), Washington, USA, retrieved from: <https://apps.fas.usda.gov/psdonline/circulars/fruit.pdf>
- van Rijswijk, C. (2018). *World Fruit Map 2018: Global Trade Still Fruitful*. The portal of Rabobank, Utrecht, the Netherlands, retrieved from: [https://research.rabobank.com/far/en/sectors/regional-food-agri/world\\_fruit\\_map\\_2018.html](https://research.rabobank.com/far/en/sectors/regional-food-agri/world_fruit_map_2018.html)
- Vučićević, V., Vukoje, V. (2016). Ekonomska opravdanost proizvodnje čipsa od jabuka. *Agroekonomika*, 45(69), 79-86.



**Živković Aleksandar<sup>1</sup>**  
*University of Belgrade, Faculty of Economics*

**Kristijan Ristić<sup>2</sup>**  
*University Union – Nikola Tesla, Belgrade,  
Business and law faculty*

SCIENTIFIC REVIEW ARTICLE  
doi:10.5937/ekonomika1904053Z

Received: September 04. 2019.

Accepted: October 14. 2019.

## ANALYSIS OF THE FUNCTIONAL DOMAIN OF DOCTRINAL APPROACHES IN MONETARY THEORY AND POLICY

### Abstract

The genesis and development of economic and financial thought are characterized by the past and yet still ongoing struggle and confrontation between monetarists and Keynesians, their mutual polarization, and the long-standing debate “for and against” new theories, which has demonstrated that theoretical and analytical disagreements essentially do not exist, especially not between the leading monetarists and keynesians. The opposing theses “money is not important” and “only the money is important” have been transmitted, after a decade of theoretical and empirical testing, into the official common thesis that “money is important”. In this paper, using the desk research method, we start from an aspiration to present the genesis of these different approaches, however avoiding to reduce it to the synthesis of approaches, but rather striving to point to valuable contribution of such polemics in order to reconsider global tendencies in implementing monetary and general macroeconomic policies. In generic terms, the ongoing global financial crisis has justified the validity of such reconsiderations, since monetary and fiscal policies are the most suitable instruments for macroeconomic policy of growth management.

**Key words:** *monetary theory, money, economic policy, growth.*

**JEL classification:** *G 32, E44, E52.*

## АНАЛИЗА ФУНКЦИОНАЛНОГ ДОМЕТА ДОКТРИНСКИХ ПРИСТУПА У МОНЕТАРНОЈ ТЕОРИЈИ И ПОЛИТИЦИ

### Апстракт

Генезу и развој економске и финансијске мисли карактерише некадашња а и данас врло актуелна борба и конфронтација монетариста и кејнзијанаца, њихова међусобна поларизација те и дугогодишња дебата „за и против” нових теорија, чиме се показало да теоријска и аналитичка неслагања у суштини не постоје, нарочито између водећих монетариста и кејнзијанаца. Супротстављене тезе „новац није важан” и „само је новац важан” преточене су, након деценијског те-

<sup>1</sup> aca@ekof.ac.bg.rs

<sup>2</sup> kristijanristic.fpim@yahoo.com

*оријског проверавања и емпиријског тестирања, у „официјелну заједничку тезу“ „новац јесте важан“. У овом раду, користећи се методом деск истраживања полазимо од тезе да, приказујући генезу различитих приступа, исте не сводимо на њихову синтезу већ утврђујемо допринос оваквих полемика у циљу преиспитивања глобалних тенденција у вођењу монетарне и генерално макроекономске политике. Генерички посматрано и актуелна светска финансијска криза утемељила је валидност оваквих преиспитивања јер су монетарна и фискална политика најпогоднији инструменти макроекономске политике управљања растом.*

**Кључне речи:** монетарна тераја, новац, економски политика, раст.

## Introduction

The monetarist and Keynesian system is very difficult to present in the form of a catalogue of relatively accepted theses, because the spectre of Keynesian doctrine is wide, rather diffused and more prevalent in the earlier economic theory and research. Unlike monetarists, who find the changes in money supply to be the most important determinant of change in nominal income, in Keynesian doctrine no dominant macroeconomic size can be found for determining the general price level. Most Keynesians do not think that the money supply is of no significance for the movement of a general price level, just as most monetarists do not believe that money is the sole determinant of changes in nominal income, or the value of money. The key difference between monetarists and Keynesians is, however, that monetarists claim that the general price level is a macroeconomically determined size, while Keynesians find that the total price level is derived from individual prices, which are determined by the level of wages, increasing profits, tax level, progress in production and prices of imported goods. Formation and use of income represent the key points in the process of individual prices deriving from general level of prices, because incomes are the basis of monetary demand and a component that is included in supply prices as a cost factor or an increase in profit. The increase in profit, as a rule, serves to increase additional investments, and consequently increase demand, while the increase in wages serves to increase demand in consumer goods. Progress in production strives to reduce costs and increase productivity, and the change in tax rates correlates with predefined public sector expenditures (direction of which is often countercyclical). The Keynesian thesis on the microeconomic determination of the general price level incorporates the assumption that the change in individual prices affecting the level of prices is not compensated with opposite movements. In this context, the Keynesians assume (1) that the money supply is elastic (i.e. it does not represent a factor of restriction in the economy) and (2) that the restrictive character in the case of insufficient elasticity of the money supply primarily impacts the direction of decline in production and employment. (Cencini, 1997; Brunner and Meltzer, 1997)

The thesis on the endogeneity of money supply, represented by Keynesians, derives from the banking theory. However, modern monetary economies rely on several components in their mechanisms of money creation (refinancing component, external-economy component and fiscal component), in which the central bank, commercial

banks and non-banking sectors participate. The thesis on the endogenous character of the money supply, as a rule, comes to attention in systems in which central banks are unable to influence the increase in wages, which, rather than increasing the productivity of labour, induce an increase in prices. Commercial banks are forced to make available additional loans to companies to finance the increase in wages. Also, experience suggests that central banks, in times of stagnation of economic growth or recession, have been forced to obtain liquidity for commercial banks and companies in order to create the preconditions for the economic growth revival. (Cencini, 1997)

Monetarists interpret the stability of money demand as “the stable function of a finite number of variables that illustrate it”, while Keynesians, due to their belief in the instability of money demand, are focusing on the fluctuations in the velocity of money circulation that are noticeable in conjunctural trends. Keynesians, from their concept of the instability of demand for money in a conjuncture, derive the need for an anti-cyclical monetary policy. Monetarists, however, from their concept on the stability of money demand, generate monetarist “beliefs” in linking money supply to “rules of the game” in order to mitigate conjunctural fluctuations. As a rule, monetarists explain the thesis on the stability of the private sector by empirical researches of money, prices, production, and income, the results of which show a parallelism between the movement of money and nominal income. Therefore, the monetarist thesis of stability, or the Keynesian thesis of instability, both have two aspects: (1) the aspect of stability, that is, the instability of money demand that is considered within the transmission process, and (2) the aspect of stability, or the instability of the economic sector, which is considered from the point of view of demand.<sup>3</sup> (Ristic, Zivkovic, 1998)

### **Overview of macroeconomic literature in light of differentiating approaches in monetary theory**

Analysing the development of macroeconomic theory through a paradigm of interest theory development, Leijonhufvud points out that the principle of “saving is investing” was dominant until Friedman revived the quantitative theory of money. Therefore, the difference between Keynesian and monetary advocates lies solely in the assessment of whether the interest rate can coordinate savings and investments, and thus the level of economic activity. (Brunner, 1968; Friedman, 1972; Mayer, 1978)

Following the neo-Keynesian stances, Tobin has pointed out that the primary cause of declining production, productivity and employment, stagflation lies in the reduced attractiveness of investment. Tobin, as a theorist of money, conjuncture, production, employment, prices, financial markets and transmission mechanism, destroys the weak points of monetarism, i.e. the thesis about the inherent stability of the economic sector (which, after every disorder, from the outside or from the inside, in itself, regains its balance with full employment), the thesis of the exclusive monetary phenomenon of inflation (the causes of which are always excessive multiplication of money) and the thesis of strict control of growth of money supply (which, when stabilized, automatically contributes to the stabilization of prices) from the point of view of catastrophic economic-

---

<sup>3</sup> Adapted form from cited literatyre.

social consequences of a one-sided monetarist anti-inflation policy. Tobin, therefore, advocates the formulation of a modern policy of conjuncture, which, along with monetary suppression of inflation and income policy, would consistently and systematically suppress the development of income, along with the aggregate demand (boosted by inflation). The essence of the harmonized program is reflected in the simultaneous suppression of inflation and unemployment and the promotion of growth. (Tobin, 1972)

The nominal interest rate can deviate from the natural one only if the amount of money increases so much as to disrupt its “neutrality”. In Hayek’s opinion, banks are responsible for such movements, because if the nominal interest rate is below the natural one, there is a surplus of investments that can be settled only by reducing the level of production and employment until the natural and nominal interest rate is equalized. But if the natural interest rate is expressed in commodity, not in money, as Sraffa thinks, there will be as many natural interest rates as there are goods. And if, however, there is no natural level of interest rates, there will be no neutral amount of money, which means that Hayek’s theory of business cycles, according to Sraffa, was wrong. (as Tobin interpreted, 1972) <sup>4</sup>

The revival of neoliberalism, the rise of monetarism and the crisis of the state of prosper have led to the emergence of a special synthesis of the neo-Keynesian doctrine and the monetarist paradigm into so-called structuralism (and the new industrial state), whose liberal-conservative measures correspond to capital and capital-wise relation.

Theory of the so-called supply economy, by its constituent elements, is closer to monetarist theory than to Keynesian theory, although it incorporates certain fiscal elements. The “Supply-Side Economics” theory is born as a reaction to the traditional macroeconomic policy that relies on demand. Disappointment in the dilemma of demand theorists: less inflation - more unemployment (monetarists) or less unemployment - more inflation (Keynesians) has contributed to an accelerated resurrection of the theory of supply and the arrival of structuralists. (Ristic, Zivkovic, 1998) The supply theory based on the microeconomic approach advocate to increase profits, savings and investments (in the conditions of eliminating uncontrolled socialization of income and imposed state regulation), and to reduce unemployment by growth in production. (Ibidem)

Only in the short term, it is necessary to provide realistic preconditions for economic growth by removing the installed inflationary disturbances, whereas in the long term we should strive for increased production and reduction of unemployment. A restrictive monetary policy, in this context, would aim only to curb the inflation rate. The monetary tightening (determining the rising interest rate trend) must yield the expected results in terms of the deceleration of the growth rate of the general price level, even with the relatively high price of the recession. For only recession-induced purification can break down the rigidity of wages and change the functioning of the labour market. (Tobin, 1972; Ristic, Zivkovic, 1998)

Monetarism, therefore, is not a monolithic and homogeneous block, but a school with convergent and divergent stances and common fundamental elements. Namely, the common elements of the monetarist propositions consist in the following: (1) the monetary factor has a determining effect, that is, variations of the monetary mass have a dominant influence on the evolution of the level of nominal national income, (2) the

---

<sup>4</sup> More in monetary elaboracion, Smithin, 2003.

private sector is inherently stable, and perturbations in the level of economic activity results from the shock caused by the growth of the monetary mass, and (3) there is no relation between inflation and unemployment in the long term (as indicated by the long-term vertical Phillips curve), because the perfectly anticipated inflation has no effect on the level of unemployment, which has already been “placed” in an equilibrium position under the hypothesis of the so-called “rates of natural unemployment. Beyond these propositions, significant differences are revealed between the variations of monetarism with different implications for economic policy (Barton), although Brunner, Mayer, Vanne, Thompson and Friedman claim that there are other common elements in monetary variants. ((Brunner, 1968; Friedman, 1972; Mayer, 1978, Ristic & Zivkovic, 1998, Zivkovic & Lakic & Ristic, 2019)

The monetarist credo rests basically on two hypotheses: first - inflation results from uncontrolled expansion and fluctuation of money, and, second, the expansion of money supply can be controlled by raising the level of interest rates, tightening the lending policy and managing reserves. Since there is a close connection between reserves and monetary goods, in implementing the rules of constant growth of money supply, reserves represent an essential instrument of monetary policy. However, while observing the monetary policy of the United States, we find the argues that it is wrong to prescribe its failure to their monetary authorities being indecisive whether to achieve quantitative targets for primary emissions, or to achieve interest rate targets. In support of this, in contemporary conditions the central authorities do not have absolute control over the emission of primary money and that the fluctuations between the amount of primary money and money supply are contrary to the one argued by the monetarists. In the context of function of the monetary fund reaction tested in the IS-LM model, the results show that the recent large increase in the amount of primary money can be ascribed to the increase in government debt, while the increase in the amount of primary money is due to higher inflationary expectations and earlier increases in the amount of primary money. Therefore, the argument that the effect of money on nominal income refers to the real income, rather than to the price component, constitutes a Keynesian alternative to a monetarist position. (Brunner, 1968; Friedman, 1972; Tobin, 1972; Mayer, 1978)

### **Evolution of monetary theory and reflecting on monetary analysis of today**

in the evolution of monetary theory, periodization is commonplace, which facilitates the creating of roads and development of thought from the point of view of theoretical rights, time horizons and spatial location. Namely, in the monetarist economics literature, the following phases of the development of monetarist theory have emerged: (1) the period of classical and neoclassical quantitative money theory, which ruled until the mid-1930s (2), the period of the Keynesian revolution in the form of Keynesian income monetarist theory (with the emergence of “General Theory”), the differentiation of Keynesian theory with the tendency of neoclassical synthesis and the emergence of monetarist theory of property approach, which became important especially since the mid-1950s, when Keynesian income monetarist theories began to erode and collapse, (3) the period of monetarist counter-revolution of quantitative money theory that

overcomes Keynesian monetarist theory in parallel with monetarist theory of the assets approach until the 1960s (4) the period of harsh polarization of monetarists and non-monetarists (Keynesians, post-Keynesians, neo-Keynesians and fiscalists) in the form of the already traditional controversy of monetarism and Keynesianism from the mid-1950s to the mid-1970s, (5) the period of a new counter-revolution of Keynesians in the form of returning to original Keynes' ideas, starting from the mid-1970s and early 1980s, when monetarism, mixed with structuralism (the economy of supply), practically removed Keynesianism in creating the operational economic policies of most of the developed countries.<sup>5</sup> The presented genesis and periodization of monetarist thought, the reclassification of monetarist theory, the differentiation of monetary analysis and the diversification of theoretical models of the monetary economy are certainly not exact, since there has never existed one dominant theory, but there have always been several so-called parallel, competitive, polarized theories. We do not strive to present the history of monetarist theory nor a detailed overview of monetarist theories, (but rather to paint a picture of the development of monetarist thought in a compressed form. From the point of view of economic theory, quantitative monetary theories are included in classical and neoclassical economic theories. Keynesian income monetary theory is an integral part of Keynesian economic theory; while modern monetary theories of property approach fall within the context of the synthesis of Keynesian and neoclassical economic theory. The classical quantitative theory incorporates the Fischer transaction variant and the income variants of Walras, Marshall, Wicksell, and Pigou, as segments of neoclassical economic theory. Keynesian income monetary theory comprises theories with different variants and various interpretations of the role of money (Hicks theory of IS-LM lines of equality of savings and investment, demand and supply of money, Samuelson, Klein, Modigliani, Clower, Dusenberry, etc.).<sup>6</sup> Theory of the real money effect, Friedman's "monetarist counter-revolution" of reformulated quantitative money theory (with the so-called Chicago school and its representatives), which is today advocated (albeit with certain modifications) by many contemporary monetarists (Brunner, Meltzer, Cagan, Mayer, Johnson, Laidler, Anderson, Lukas, etc.) and Tobin's monetary theory (with the so-called Yale school and its supporters) underpin the contemporary trends in the development of monetary thought, which simultaneously diverges and converges in the range between Keynesianism and monetarism. (taken from: Zivkovic, Lakic, Ristic, 2019)

The monetarist direction, from the point of view of short-term observation, points out that the amount of money is the prevailing determinant of production and prices, while the Keynesian direction argues that the amount of money is no more relevant determinant than other forms of financial and real assets. However, monetarist and Keynesian theory have far more in common than monetarist theory has in common with classical quantitative theory, as well as monetarist theory of the so-called Yale school with Keynesian income monetary theory. The reason behind this lies in the fact that the Keynesian revolution did

<sup>5</sup> More in: Monetary management, Zivkovic, Lakic, Ristic, 2019.

<sup>6</sup> K. Brunner, Commentary of the State of the Monetary Debate, Federal Reserve Bank of St. Louis, Review, September 1973, pg. 14. and more in Financial acroeconomy, Ristic & Zivkovic, 1998). As authors said: *"Monetary Theories of Property Approach have basically contributed to the development of the understanding of money as a part of property and the interpretation of the operation of the amount of money on eco-movements as a process of harmonizing the scope and structure of assets with the propensity to hold assets in the form of money and other forms of property."*

not completely reject the quantitative theory of money, nor did the monetarist counter-revolution completely reject Keynesian income theory. Short-term aspects of observation mostly bring together monetarists and Keynesians. On the other hand, it is unjustifiable to put the monetary theory of the so-called Chicago and Yale schools of thought in the context of monetary theories of property approach because the monetary theory of the Yale school of thought embodies the Keynesian theory, and the monetary theory of the Chicago school of thought gravitates towards the pre-Keynesian quantitative money theories. In addition, the usual division of modern monetary theories into monetarism and Keynesianism, and the division of economists into monetarists and Keynesians is not precise, since the Tobin monetary theory, based on a property approach, is classified as Keynesian income monetary theory and monetarists do not accept Keynesian theory. (Ibidem, adapted form)

Empirical analyses show that the monetary policy effects do not emerge immediately and completely, but unevenly and after a certain period of time. Therefore, it is a timelag, i.e. a delayed effect of a monetary policy. There are many divisions and systematizations of timelags in the literature. Within the first form of delay, we can differentiate between the recognition lag (i.e. the time span between the moment in which monetary action is required and the moment in which the need for monetary action is required) and administrative lag (i.e. the period of time needed to adopt monetary decisions and start actions through instrumental variables of monetary policy), whereas within the second form of delay, we can make a distinction between an indirect delay or intermediate lag (i.e. the period of time between the monetary actions taken and the beginning of having effect on the money and the level of the interest rate, as variables of indirect objectives) and external delay or outside lag (i.e., a period between changing variables of indirect objectives and changing the variables of the final objectives, such as prices, employment, growth), that is, the delay in the effect generation or production lag (i.e. the interval between effected changes in expenditures and the moment they start having effect on the employment, growth and prices) and delay of decision-making or decision lag (i.e. a delay between changing the variable of the indirect objective and changing the level and structure of expenditures). (Zivkovic, Lakic, Ristic, 2019) Friedman distinguishes, inter alia, the delay in execution or implementation lag (i.e., the interval between the moment when the need for monetary action to be taken arises and the moment when the monetary action is taken) and the performance delay or operation lag (i.e. the interval between the moment the monetary policy instruments are introduced and the moment when monetary policy starts having effects on the final objectives), while other authors distinguishes the first delay or first time lag (i.e. interval between the moment the need for action arises and the actual undertaking of a monetary action) from another delay or second time lag (i.e. the time between undertaking monetary action and the effects of a monetary action on changes in the financial and the real sphere). Finally, we find that many authors differentiate between internal forms of delay i.e. inside lag encompassing recognition delay or recognition lag (i.e. the interval between the moment the need for applying monetary policy arises and the moment of taking monetary measures), the delay of the monetary action or action lag (i.e. the interval between the moment of undertaking monetary action and the moment when the banking system faces changed conditions), and external forms of delay i.e. outside lag (i.e. the interval between the functioning of the banking system in changed conditions and the moment when non-banking sectors are faced with changed money supply and loans). (Zivkovic, Lakic, Ristic, 2019)

## Financial stability in light of monetarist-keynesian duels

Keynesians basically believe that the economic sector is unstable, while monetarists claim that the economic sector is stable (provided that the unstable growth rate of the money supply does not provoke disruptions). The instability of the private sector according to Keynesians is mainly caused by changes in the marginal efficiency of investments, although in fact there are many factors that cause changes in aggregate demand. Monetarists, however, consider the total demand as a result of a stable demand for money and an unstable supply of money. According to them, the economic sector is stable because the demand for money in the sector is stable. Therefore, instability is mainly explained by the fluctuations in money supply. Consequently, the polemics of monetarists and fiscalists on the stability of the economic sector largely revolve around whether changes in the effective demand are caused by changes in money supply or changes in marginal efficiency and investment and whether the time needed to create the stability of the economic sector in the circumstances of economic disturbances. (Ristic, Zivkovic, 2018) The relationship between the stability of the economy and the quantitative money theory is not complete or solid. Namely, a fiscalist could consider the economic sector to be more stable than the analyses of the oscillations of the national product demonstrate, and therefore, could conclude that fiscal policy measures in disrupted conditions record the destabilizing effects in the same way that the monetary policy does not lead to stabilization in the given conditions. Such a position is not in contradiction to the basic settings of fiscalism, or Keynesian theory. In that case, an economist can believe that the economic sector is more stable, although he is not a monetarist by his or her conviction. However, it is simply impossible to persuade a monetarist in the Keynesians' stance on the instability of the economic sector.

Keynesian models, according to Brunner, emphasize the instability of the corporate sector and reject the hypothesis about the natural rate. Implications of the fundamental instability of the economic sector are determined by the activist and interventionist concept of fiscal policy, since the public sector is inevitably the “ultimate stabilizer”. Therefore, in various textbook versions of the Keynesian analysis, it is claimed that the estimates of economic trends in the short run mostly depend on the movement and changes in fiscal variables and the dominant role is bestowed on fiscal policy. (interested analysis in paper of Richard and Penny Musgrave in period 1992-1997). In econometric models, an influential monetarist does not support the Keynesian thesis on the instability of the private sector, on the contrary, the sector's stability is empirically described, as well as its ability to absorb disruptions and to self-stabilize. The instability of the private sector is mainly caused by public sector measures. The supporters of the natural rate hypothesis and stability hypothesis, as a rule, deny the viewpoints of “public interest” to stabilize the real public sector and point out that the fluctuations of real variables depend on monetary impulses. However, the hypothesis of the “dominant impulse” is already being challenged and negated by emphasizing systemic combination of alternative impulses.

Brunner - Meltser's analysis of the combined monetary and fiscal policy emphasizes the role of fiscal policy and the behaviour of the public sector. Tobin argued that autonomous changes in demand and supply of different types of financial assets limit the impulses that affect the level of production and price levels. However, Tobin's conclusion on the possibility of unstable demand for money, which, as a doctrine, has

replaced the concept of free reserves, negates the empirical work of monetarists, who deny the thesis of instability. From the point of view of the inclusion of “cost inflation” in the analysis, the problem of impulse and stability further complicates, since different points of view lead to alternative interpretation of price and wage movements. In this context, the movement of prices and wages depends on the market situation (theory of prices stance), that is, the functioning of the autonomous powers (the standpoint of the institutional frameworks and sociological factors). According to the first point of view, the movement of prices and wages is under the influence of the transmission mechanism, whereby the decelerations in the circumstances of inherited inflation lead simultaneously to a rise in prices, an increase in unemployment and a delay in production. According to the second point of view, the movement of prices and wages does not respond to the market conditions, but to the changes in the institutional frameworks and sociological factors that are outside the framework of the response patterns given in the theory of prices from the point of view of cost inflation. While creating the theory of cost-based inflation and unemployment, Gordon empirically proved that costs are independent from changes in the market conditions and the expected policy direction. The cost factor fully autonomously determines wages, unemployment and prices, although prices and wages systematically react.

The private sector stability hypothesis, is an essential determinant of monetarism, which is welcomed by all monetarists (Mayer, Friedman, Brunner, Meltzer), since monetarists generally believe in the inherent stability of the economic sector, provided that it is left to itself and protected against irregular monetary growth. Monetarist theory is fundamentally different from Keynesianism because monetarists believe that the economic system shows a tendency to converge towards the equilibrium of its real variables. (Zivkovic, Kozetinac, Popovic, 2019) Lending expansion, which induces an increase in money supply, affects the reduction of the market interest rate in comparison with the natural interest rate at the given equilibrium between voluntary savings and planned investments. Issuing money through bond loans for the purchase of investment goods induces inflationary effects and changes in the real sector (through the rise in relative prices of investment goods in relation to consumption goods, over-demand in the labour market trends, declining production of consumer goods and the increase in monetary wages). If the propensity to savings at the point of an expansionary process (in which the market interest rate begins to rise) does not show a tendency to grow, then additional money issuing is required (accelerating the expansion of the money offer), or permanent money issuing at a rising rate in order to maintain the cumulative process.

## Conclusion

The theoretical and empirical experiment with monetarism, neoclassicism and economics of the supply, has apparently helped us regain some faith in the Keynesian recipe (theory), but not in the old-fashioned Keynesianism of the 1960s. Rehabilitation of the Keynesian economics is therefore increasingly attractive due to the lack of theoretical fundamentals of monetarism, the empirical bases of the theory of rational expectations and the theoretical-empirical evidence of supply-siders. On the other hand, the Keynesian renaissance at the beginning of the 1980s is the result of the fact that

each of the “new” theories left its own mark on Keynesianism. The latest financial crisis testifies to this. Modern Keynesianism has therefore begun to emphasize the importance of monetary policy, to include rational expectations as a working hypothesis and to respect the significance of the supply. Nevertheless, in terms of these macroeconomic reinterpretations, it is premature to claim that the complete rehabilitation of the Keynesian economics is on the horizon. The aim of this paper is not an attempt to synthesize Keynesianism and monetarism, but rather to present the convergent and divergent theoretical stances by exploring and examining the range of earlier empirics, and to expose the settings explained in opposing discussions and controversies, and present the parallel theories of Keynesianism and monetarism on key macroeconomic indicators. In this regard, the catalogue of elaborations presented in this paper can be used as a basis for further methodological rethinking of tendencies in monetary analysis and macroeconomic policy.

### Bibliography

- Brunner, K., & Meltzer Allan H. (1997). (1) *Money and the Economy: Issues in monetary analysis*. New York, Press Syndicate of the University of Cambridge.
- Brunner K. (1968). (3) *The Role of Money and Monetary Policy*. Federal Reserve Bank of St. Louis, Review.
- Cencini A. (1997). (2) *Monetary theory*. New York, Mackays of Chatman PLC.
- Friedman M. (1968). (3) *The Role of Monetary Policy*. American Economic Review.
- Knežević, S., Mitrović, A., & Sretić, D. [2018]. Specifics of reporting on cash flows in insurance companies. *Menadžment u hotelijerstvu i turizmu*, 6(2), 21-33.
- Lukić, V., & Živković, A. (2018). The consequences of digital revolution in monetary realm. *Anali Ekonomskog fakulteta u Subotici*, (39), 157-170.
- Mayer T. (1977). (3) *The Structure of Monetarism*. Duncher und Humblot.
- Petrović, P., & Živković, A. (2015). The monetary policy and cheap money. *Anali Ekonomskog fakulteta u Subotici*, (33), 237-245.
- Ristic Z., & Živkovic A. (1998). (5) *Financial macroeconomy*. Belgrade, Cigoja.
- Smithin J. (2003). (1) *Controversies in monetary economics*. Massachusetts USA, Edward Elgar Publishing Limited.
- Šoškić, D. (2015). Inflation impact of food prices: Case of Serbia. *Ekonomika poljoprivrede*, 62(1), 41-51.
- Tobin J. (1972). (3) *Inflation and Unemployment*. American Economic Review.
- Živkovic, A., Kozetinac, G., & Popovic, S. (2019). (1) *Monetary economy*. Belgrade. Faculty of economics.
- Živkovic, A., Lacic, S., & Ristic, K. (2019). (4) *Monetary management*. Belgrade. Faculty of economics.

**Milan Palević<sup>1</sup>**  
University of Kragujevac  
Faculty of Law Kragujevac, Serbia

SCIENTIFIC REVIEW ARTICLE  
doi:10.5937/ekonomika1904063P

Received: Jul 09. 2019.

Accepted: September 19. 2019.

**Bojan Milisavljević<sup>2</sup>**  
University of Belgrade  
Faculty of Law Belgrade, Serbia

**Žaklina Spalević<sup>3</sup>**  
Singidunum University  
Belgrade, Serbia

## ACTUS REUS OF GENOCIDE AND TYPES OF GENOCIDAL DESTRUCTION

### Abstract

*A model of genocidal destruction implies the manner in which genocide is carried out. Questions deriving from my fundamental point at issue are whether mass killings, cultural repressions, starvation, prevention of birth, politicide constitute genocide or whether genocide, in that sense, is limited to biological or physical destruction of a protected group? The post-war development of international law, especially as a result of the adoption of the Universal Declaration of Human Rights and Convention on Human Rights, and a number of conventions related to human rights, as well as jurisprudence of the two tribunals, signaled the existence of a wider concept of a customary-legal concept of genocide, that could intrinsically involve a prerogative of cultural destruction. The modern theoretical views have expressed such a tendency. From a „de lege ferenda“ perspective, this could be interpreted and understood as a positive tendency, but at the same time it is questionable from the perspective of a legislative and formal-legal character of the Convention on the Prevention and Punishment of the Crime of Genocide. This paper elaborates material acts of genocide and their position within the concept of genocide considering the controversies of the models of genocidal destruction.*

**Key words:** genocide, convention, actus reus of genocide, forms of destruction.

**JEL classification:** K14, K33, K38.

## ACTUS REUS ГЕНОЦИДА И ВРСТЕ ГЕНОЦИДНОГ УНИШТЕЊА

### Апстракт

*Модел геноцидног уништења подразумева начин на који се геноцид врши. Изведена из тог основног су и питања да ли су масовна убиства, културне*

<sup>1</sup> mpalevic@jura.kg.ac.rs

<sup>2</sup> bojan@ius.bg.ac.rs

<sup>3</sup> zspalevic@singidunum.ac.rs

репресије, изгладњивање, превенција рађања или политоцид све начини извршења геноцида или се геноцид у том погледу лимитира на биолошко односно физичко уништење заштићене групе. Послератни развој међународног права, пре свега декларације и Пактови УН-а, те бројне конвенције везане за људска права као и судска пракса два трибунала, сигнализирани су постојање ширег обичајноправног концепта геноцида који би у себи могао инволвирати и прерогативе културног уништења. У модерним теоријским схватањима испољена је слична тенденција. С аспекта *de lege ferenda*, то се може разумети и тумачити као позитивна тенденција, али је истовремено дискутабилно са становишта легислативног и конзервативног карактера Конвенције. У раду се елаборирају материјални акти геноцида и позиционирање истих унутар идејног концепта злочина геноцида у светлу контроверзи модела геноцидног уништења.

**Кључне речи:** геноцид, конвенција, *actus reus* геноцида, облик уништења.

## Introduction

On the day of its adoption the Convention on the Prevention and Punishment of the Crime of Genocide (Resolution 260 (III) at the UN General Assembly, 1948) became the subject of numerous criticism and disputes. The criticism aimed at the Convention rests largely on the hypothesis that, due to failure to include cultural genocide and due to exclusion of political groups from the set of protected groups, its definition of genocide is too narrow to cover all cases of genocide, especially modern types of genocide. However, the viewpoint that the UN definition of genocide is too broad also seems legitimate. For example, a campaign against a “part of a group” causing “serious harm to physical and mental integrity of members” could encompass a large number of cases, and that type of ambiguity to a large extent blurs the concept of genocide, questions its distinctive attributes and contributes to the inapplicability of the Convention itself.

In the process of adoption of the Convention a question was raised as to whether the concept of genocide should be limited only to the physical and biological genocide or it should include cultural genocide, i.e. acts of spiritual destruction of the essential characteristics of a group. A part of the Resolution 96/1 provided support to the view on the normative sanctioning of cultural genocide, stating that “physical destruction of the group impoverishes humanity and deprives it of the cultural contribution of a given group.” Pella and de Vabres held that “cultural genocide represented an undue extension of the notion of genocide and amounted to reconstituting the former protection of minorities (which was based on other conceptions) under cover of the term genocide”. Lemkin in turn, made a decisive and uncompromising stand on the need for inclusion of cultural genocide in the criminal classification of the concept of genocide, seeing it as an initial litmus link in the complex process of suppression of the physical and spiritual integrity of protected groups, which certainly is a reasonable reason for the inclusion of cultural genocide in the formal definition of genocide. Socialist countries, led by the Soviet Union and some of the countries of Latin America and Asia, were particularly interested

in the problem and were resolutely persistent in the inclusion of cultural genocide in the definition of the crime. The negative historical experiences of the last war were still fresh and provided representative evidence on the extent and consequences of Nazi barbarity directed to the devastation of the spiritual integrity of individual nations. Delegates from Ukraine, Belarus, Poland and Czechoslovakia presented numerous examples of this form of destruction. Representatives of Latin American countries reminded of the crimes of the colonial period, which they claimed to have been largely focused towards the "destruction of civilizational identity" of indigenous peoples, which was decisive in their almost complete disappearance from the area which they have inhabited for centuries. "The crime always begins with the destruction of religious and cultural symbols of the persecuted groups" said the delegate from Peru, "which is then taken as a pretext for its obvious mental inferiority" which in consequence leads to the physical destruction of those groups. In this discussion, representative from Pakistan said that the physical and cultural genocide have the same motives and the same object of destruction, whether it is about physical destruction, or destruction of specific characteristics of the group (Avramov, 1992, p. 80.). In his opinion, "cultural genocide is the goal, while physical genocide is only a means" (Avramov, 1992, p. 80.) of execution.

Representatives of the leading Western countries and some countries of the Asian continent had a completely opposite view. The US explicitly opposed any option that would include the establishment of such a form of genocide. The US delegate expressed the view that the preservation of culture is best achieved through freedom of thought and expression. France had also expressed reservation towards the concept of cultural genocide, arguing that cultural rights must be protected, but that the issue of protection of cultural heritage, and culture in general, falls within the scope of protection of fundamental human rights. The Iranian delegate, after pointing out that it would be necessary to specify the properties of a culture that enjoyed protection, asked an interesting question: "Do all cultures, even the most barbarous, deserve protection and does assimilation, that is the product of a civilized action of a country, also constitutes genocide?" Instead of answering he made a logical assumption that extreme interpretation of the given assumption can produce such an attitude by which "an opposition to a political party could also be described as cultural genocide" (Avramov, 1992, pp. 80-81.).

Finally, cultural genocide was after all excluded from the categorization of genocidal acts, with the argument that the concept is too vague and broad, and that it is the subject matter of basic human rights. The Commission for International Law supported the viewpoint of the authors of Convention. In the 1996 report it was pointed out: "As clearly shown during the drafting of the Convention, the destruction in question is the material destruction of a group only in the physical and biological meaning, not the destruction of the national, linguistic, religious, cultural or other identity of a special group. The national or religious element and the racial or ethnic element should be considered within the definition of the word 'destruction', which should be taken only in its material sense, its physical or biological sense" (Report of the International Law Commission 1996, p. 102, para 4).

## Material acts of genocide

As Aksar remarked, to consider an act as constituting the crime of genocide, there must be three elements present: commission (*actus reus*), the victimized group, and the intention (*mens rea*) (Aksar, 2003, p. 212.).

The crime of genocide presupposes some of the following acts that can be subsumed under the act of criminal offense (Article II Convention on the prevention and Punishment of the Crime Genocide):

- a. Killing members of the group;
- b. Causing serious bodily or mental harm to members of the group;
- c. Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;
- d. Imposing measures intended to prevent births within the group;
- e. Forcibly transferring children of the group to another group.

Taken together these acts constitute *actus reus* or material element of the genocide..

## Killing members of the group

Killing members of the group is certainly the most characteristic form of committing genocide and most befitting to its nature and purpose. Unlike the Convention, some of the leading authors in the field of genocide theory (Carmen, Cooper, Chuck, Jonasson et al.) consider “killing” as the only way to commit genocide. According to the meaning given by the Convention on Genocide, of which the French and English translations are equally authentic, “killing” must be interpreted as “killing members of the group committed with the intent to cause death” (Jones & Powles, 2005, p. 151). In fact the term “members of the group” should not be interpreted narrowly, in its literal grammatical sense, by which the act of killing must include at least two members of the group. Such a conclusion would be absurd and contrary to the logic of the concept of genocide and the protective nature of the Convention. The quantitative dimension of genocide belongs to the psychological, not material element of genocide. The key, then, is genocidal intent and its orientation towards the destruction of the group “fully or partially” and not the actual scope of destruction.

“Killing” is arguably distinguishable from other modes of violence and might be considered the definitive mode of genocide. Even if publicly outlawed, language, custom, and arts can survive in private. Starvation and other forms of imposing hardship on a given group may, but not necessarily, bring about annihilation, if designed to bring a group into submission (Straus, 2001, p. 364.). By contrast, ending life is an irreversible, direct, immediate, and unambiguous mode of annihilation. Victim’s death as a consequence of killing is the ultimate act of irreversible character. It is the essential element of the act of killing. Unlike “killing” all other acts constituting *actus reus* of genocide, which do not lead to actual annihilation, only have a “genocidal potential”. Accordingly, these could be *stricto sensu*, qualified as attempted genocide rather than acts of genocide per se. Unlike killing, premeditation is not strictly required but, as noted before the International

Criminal Tribunal for Rwanda in case of Akayesu, by its constitutive physical elements, the very crime of genocide, necessarily entails premeditation (Trial Judgement, ICTR-96-4-T, International Criminal Tribunal for Rwanda, 1998,)

### **Causing serious bodily or mental harm to members of the group**

Causing serious bodily injury that resulted in the physical destruction of one or more members of the target group is considered a definitive physical form of execution of genocide. Opposite to that, such bodily injuries that do not have or cannot have deadly consequences as the end result will not be considered acts of genocide. In this case, these acts fall under crimes against humanity or torture. In the case of Eichmann, the Jerusalem district court found that serious bodily or mental harm to members of the group can be caused by “enslavement, starvation, deportation, persecution..., imprisonment in ghettos, concentration camps, in conditions whose ultimate goal is to cause their humiliation, deprivation of rights enjoyed as human beings, to suppress them and cause inhumane suffering and torture.” According to the International Criminal Tribunal for Rwanda (ICTR) “serious bodily or mental harm” includes torture, inhuman or degrading treatment and persecution, but is not limited to them (Trial Judgement, ICTR-96-4-T, International Criminal Tribunal for Rwanda, 1998, para..504.).

As regards the second part of the formulation, there is some uncertainty caused by the presence of, conditionally speaking, a psychological element. It refers to mental pain or mental injuries. The term “mental harm” is included in the Convention on Genocide at the request of China. Pointing to the practice of using drugs and other suggestive psychological substance by Japanese occupation forces against the Chinese people during the Second World War, representatives of China insisted that this form of acts are included in the concept of genocide. The proposal was partially accepted, and in paragraph (b) of Article II, in addition to serious physical injuries, mental injuries were added. However, in the absence of precise criteria it can be difficult to identify genocidal acts from such a generalized formulation (Avramov, 1992, pp. 82-83.). Mental disorders can occur in different ways, by means of torture, political indoctrination rather than just using opiates. In any case, not every type of physical or mental harm constitutes the material element of genocide. It must be sufficiently severe to cause destruction of the group, in terms of destruction as foreseen by the Convention i.e. physical and biological destruction.

### **Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part**

This is about a set of manners of destruction by which the perpetrator of genocide “does not immediately kill members of the group”, but whose ultimate goal is the physical destruction of the group, such as starvation, systematic expulsion from homes, reducing the level of health services below the minimum level etc. The term “destruction”, interpreted in terms of the ultimate goal, and the term “should” as an element of premeditation, or direct intent (*dolus directus*), indicate the type of conditions that solely bring about physical destruction. All others, which do not produce physical destruction as the final

result, or which in terms of intention do not qualify as having enough capacity to produce such an outcome, cannot be considered genocide. The difference between the “killing of members of the group” and this method of physical destruction comes to the temporal dimension of the occurrence of lethal consequences. In the case of “killing members of the group”, the act of destruction is accompanied by the material act and coincides with it, while “intentionally subjecting to conditions which would cause physical destruction of the group”, the act of destruction is “deferred”, therefore it does not coincide temporally with the act of execution.

### **Measures intended to prevent births within the group**

The third form of physical exposure of destruction, “measures intended to prevent births within the group” is a typical form of the so-called biological genocide. The Convention provides that the crime of genocide may have been committed by biological extermination of the born, as well as the unborn members of the group (Convention on the prevention and Punishment of the Crime Genocide, Article II (d)) Acts which prevent biological reproduction groups are difficult to classify but it is generally accepted that these may include sterilization, genital mutilation, birth control in the group, the ban on marriage and the like. In *Prosecutor v. Akayesu*, the said act includes “sexual mutilation, the practice of sterilization, forced birth control, separation of the sexes and prohibition of marriages” (Trial Judgement, ICTR-96-4-T, International Criminal Tribunal for Rwanda, 1998, para. 507.).

The words “intended to” suggest that mere subjective tendency to prevent births is sufficient to constitute *actus reus* of the crime. In that sense, Kreß believes that measures must be objectively capable of preventing births (Kreß, 2006, p. 843.). According to him, words “imposing a measure” require that the act has been initiated (that the planning stage has been left) (Kreß, 2006, p. 843.). The wording, however, does not require that the intended result of birth prevention has actually been achieved (Kreß, 2006, p. 843.). For genocide to exist, it is not required to have proof that the perpetrator had chosen the most efficient method to achieve annihilation of the targeted population (Trial Judgement, International Criminal Tribunal for the former Yugoslavia, 2001, para 36.). “In a sense, this indicates that all crimes of genocide should be better characterized as an attempt to commit genocide.” (Trial Judgement, International Criminal Tribunal for the former Yugoslavia, 2001, para 36.). Otherwise, the genocide could be prosecuted only when the group is actually annihilated, which is contrary to the objective of the relevant international instruments.

This form of genocidal acts, in the context of conventionally recognized ways of committing genocide, physical and biological, is characterized by the unreliability in achieving the targeted effects or intention of destroying the group. On the one hand, mass sterilization of the group can lead to the future destruction of the group, but on the other hand, this kind of genocidal act allows the element of chance that the group might not be destroyed completely and all at once. In any case, it should not be brought into connection with the practice of family planning, which can be legitimately carried out within national boundaries in the form of national programs and plans to define population policies, providing a complete non-discrimination.

## **Forcibly transferring children of the group to another group**

“Forcibly transferring children of the group to another group” does not represent a form of physical and biological destruction in the full sense. It refers more to cultural or sociological genocide, the forms of genocide which the Convention did not accept. It is included in the Convention as a compromise compensation for those requirements in favor of adoption of the concept of “cultural genocide”. Ultimately, as understood by its authors, “forcible transfer” as a surrogate of cultural genocide, should and could, under certain conditions, bring about physical or biological destruction of the group.

In the grammatical interpretation, it does not seem that the transfer of children is carried out with the intention to annihilate them. Such a transfer would constitute an act of genocide only if the intent of the perpetrator was to annihilate these children as part of a broader intention to completely or partially annihilate the group to which the children belong. In the practice of the ICTR the initial action of this material act of genocide is not limited exclusively on the notion of “transfer”, but is also extended to the “threat and trauma that lead to the forcible transfer of children from one group to another”. (Trial Judgement), ICTR-96-4-T, International Criminal Tribunal for Rwanda, 1998, para.509.). In certain situations, transferring children can seem like a way to save a part of the group from physical destruction, regardless of it being carried out in conditions that are associated or strongly indicate the intention to commit genocide against the group to which the children concerned belong. Such an example would be a case of transferring children from ethnically mixed marriages when the salvation for a child or a group of children is seen in that part of their being which the perpetrator considers “pure blood”.

The Convention does not define the meaning of the term “children” nor was this issue discussed by the preparatory bodies in the course of drafting. At first glance, it seems that this deficiency may not be crucial to understand the problem. The current international instruments in the field of children’s rights, (Convention on the Rights of the Child, UN Doc. A/RES/44/25, annex, art. 1) as well as the vast majority of national legislations worldwide contain almost identical statutory provisions under which the legal boundary between children and adults is the age of 18. “The elements of crimes” of the International Criminal Court (hereinafter ICC) states that “the perpetrator knew or should have known” that a person is under the age of 18. (Rome Statute, Article 6 (f)) However, the adoption of this general standard of qualification of legal division of human beings to juveniles and adults does not solve the issue of perception of the acts of genocide contained in paragraph (d). The “forcible transfer” when it comes to the constitution of the crime of genocide, may have different effects on children of different ages. There is a big difference in the mental and psychological set of a 5-year old and that of, say, 12-year old child, and this fact can have a crucial impact on the perception of effects of forced transfer. For example, younger children forcibly transferred from one group to another can easily, over a period of time, lose the cultural identity of the group to which they belong by birth. Growing up in a different group, these children would speak their language, participate in cultural activities and practiced its religion. However, things are quite different when it comes to “older children”. It is unlikely that these children would want to make a definitive break with the cultural history that binds them with their genetic parents. If, in order to constitute an act of genocide, the “forcible transfer of children” requires particularly serious consequences for the future viability of

the group as such (Report of the International Law Commission, 1996, p. 92.) can such a sequence of events be considered as genocide as defined in paragraph (e) of article II of the Convention? From a purely legal point of view it would not be possible. This brings a logical question - what is the limit (age or psychosomatic) that is essential in order to constitute an act of genocide of forced transfer, which qualitatively separates a young, mentally immature and incompetent human being from adult, self-conscious and legally competent human being? Is it 16, 18, 21 or some other age and can we rely on stable quantitative criteria? It seems impossible to set up an ideal system in this regard. Although not prescribed by the Convention, the genocidal act of “forcible transfer” only makes sense in relation to the relatively young children, (Schabas, 2000. p. 176.) so the limit of 18 years of age seems too high.

Physical and biological capacity of annihilation contained in the formulation in paragraph (e) of article II of the Convention calls for restrictive interpretation, and should be concerned only with cases involving fatal consequences stemming directly from physical and mental injuries, as side effects of “forcible transfer”.

### **Relation between actus reus and mens rea of genocide**

The above discussed and material acts become the acts of genocide only under strictly defined conditions. Firstly, there must be intent to destroy the group in whole or in part. Acts that result in the same consequences but which are not accompanied by the intention, do not fall under the definition of genocide. The intention must be directed to the group as the main object of genocide. The lack of intent “reiterates” the quality of the criminal act to the level of an ordinary crime or homicide. Secondly, the intention must be directed to the “national, ethnic, religious and racial groups” and not on the political, social, economic or any other group not defined by the Convention as a “protected group”. And thirdly, annihilation must be directed to the group “as such”. In terms of the Convention on Genocide, the word “as such”, in terms of national, ethnic, racial or religious groups, is a qualification of character and refers to the requirement that the intended annihilation must be aimed directly against the group as a protected group. The International Court of Justice in the case brought by Bosnia and Herzegovina against Yugoslavia (Serbia and Montenegro) noted that “genocide, as defined in Article II of the Convention, comprises “acts” and “intent”. It was well established that the acts - “(a) Killing members of the group; (b) Causing serious bodily or mental harm to members of the group; (c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part; (d) Imposing measures intended to prevent births within the group; and (e) Forcibly transferring children of the group to another group” - themselves include mental elements (ICJ, Bosnia and Herzegovina v. Serbia and Montenegro, Judgment, 2007. note 8, par. 186.). Therefore, all material acts of genocide committed individually must be accompanied by a general purpose, covered by the umbrella sentence of Article II of the Convention, “to destroy in whole or in part a national, ethnic, racial or religious group, as such”. To constitute a crime of genocide, it suffices to take any of the actions listed in Article II “with clear intention of bringing a total or partial destruction of the protected group as such.” (Report of the International Law Commission on the work of its forty-eight session, May-July 1996, note 111, p.102,

para. (b)). And vice versa, “to prove specific intent, it must be established that the said acts were on the one hand directed against the targeted protected group, and on the other hand that they were committed with the intention to completely or partially destroy the group as such.”

It seems that the mens rea contained in the umbrella reference of Article II of the Convention, has a “stronger” intention capacity, in terms of the degree of culpability, compared to mens rea that accompanies the acts of genocide. The words “with intention to” offer more than a simple repetition that genocide was a deliberate crime. On the other hand, the level of the required genocidal intent varies from case to case and is not the same for each of the listed material acts of genocide. Paragraphs (a) and (b) include the ultimate result, so special intention is implied in itself. The perpetrator must have a specific intent to achieve the end result. The crime of murder (paragraph a) requires a specific intent to kill the victim. Also, in “serious violations of physical and mental integrity” this type of intent is included. On the other hand, the content of paragraphs (c) and (d) does not refer to acts or actualization of intentions in the form of concrete results. In these paragraphs the genocidal intent suggests the introduction of additional elements of conscious will, such as “deliberately” and “necessary”. In the case of “being subjected to conditions of life...” it must be “calculated” to bring about physical destruction in whole or in part”, while “measures to prevent births...” must be specifically aimed at preventing births within the group. “Forcible transfer of children...” in paragraph (e) does not bear in itself the obvious requirement of specific genocidal intent.

Overall, the “intent to destroy” the protected group as such requires specific intent, *dolus specialis*, as a condition inherent to genocide, while *mens rea* of material acts of genocide may exist in the form of direct intent.

## Conclusion

The Convention on Genocide identifies the model of destruction, in paragraphs a, b, c, d and e of Article II, clearly reducing it to its biological and physical aspects, and does not adopt the concept of cultural genocide. A strict application of the principle of *nullum crimen sine lege* in the interpretation of provisions of the Convention does not support the expansion of the scope of genocidal destruction outside the given physical and biological framework. Therefore, in accordance with these acts, genocide is tantamount to physical and biological destruction of the group.

Physical genocide is specified in paragraphs (a), (b), (c), while the biological genocide is covered by paragraph (d). *Prima facie*, only the “Forcible transfer of children” in paragraph (e) does not quite fit into the envisaged physical and biological determinant of genocide. In the case of “killings of members of the group” (paragraph a), and “being subjected to conditions of life...” (paragraph c) things are self-evident. Here is a typical form of biophysical destruction. Discussions by the UN bodies, regarding the formulation of paragraph (b) on “severe physical and mental injuries” were also conducive to establishing a primarily physical form of genocide. As for the provision the “imposition of conditions of life calculated to bring about the destruction of the group” it can only be conditionally said that it meets the standards of accepted forms of destruction, while the “forcible transfer of children” as an act of material destruction, remains controversial.

The conventional concept of the model of destruction, which is based on physical and biological determinants of genocide, raises the question of the necessity of mutual complementarity between the concept of destruction, which exists in the first part of the said Article, as part of the intention and, on the other hand, the material acts of genocide, contained in its second part. In other words, if the intention of the agent of violence is to bring about destruction of the protected group by means of attacking its cultural and economic prerogatives, not by direct physical destruction of its members, will such a behavior be treated as genocidal or not? Will spontaneous and unorganized mass killings of members of the targeted group be deemed as a genocidal act in case when “killing”, as such, is not the intended form of achieving genocidal intent? *Stricto sensu* interpretation of Article II of the Convention yields a negative answer. Historical facts, however, indicate that the almost complete disappearance of Native American people and Aboriginal communities in Australia occurred mainly as the result of a planned and long-term devastation of cultural, economic and social conditions of life, and not as a result of specific actions aimed at their physical destruction. Mass killings, which undoubtedly took place, did not reflect a clearly defined genocidal intent to bring about physical destruction, but were largely carried out in the form of sporadic massacres devoid of factual and logical continuity that suggests the existence of an ultimate plan. However, the ultimate effect of this “silent” or “missionary” genocide had the same devastating effect of modern day genocide. The issue does not carry only a legal but also a moral dimension. Condemnation of genocide at the international level should not be obstructed by a mere fact of strict discrepancy between the intention and the manner of execution of such acts, even when the ultimate quantitative and qualitative parameters point to the obvious conclusion about its existence or execution. The spirit and intent of the Convention on Genocide appears to allow such a possibility. This could be confirmed by extensive interpretation of provisions of Article II, which, in our opinion, carries the essence of solution to this logical absurdity. Namely, observed from the perspective of formal positioning of the intention of destruction, (the umbrella structure of Article II), with respect to material acts of genocide, a conclusion may be drawn on the existence of domination of the legal effect of the first, relative to the second element of the crime. Provided a broader interpretation of the meaning of intention of destruction, this could mean that the murder of members of the group, which does not strictly represent the intended form of committing genocide (killing members of the group, paragraph a) also falls under the acts of genocide even if they are carried out as part of a genocidal plan where *mens rea* is marked by economic and social logic of destruction. Naturally, extensive interpretation of the corresponding latent capacity of the Convention should not go beyond reasonable limits prescribed by the principle of legality and the rules of interpretation of treaties under the Vienna Convention of 1969.

## References

- Aksar, Y. *The “victimized group” concept in the Genocide Convention and the development of international humanitarian law through the practice of ad hoc tribunals* *Journal of Genocide Research*, 2003.

- Avramov, S, *Genocid u Jugoslaviji u svetlosti medjunarodnog javnog prava*, Beograd, 1992.
- Avramov, S, Kreća, M. *Medjunarodno javno pravo*, Belgrade, 1999.
- Chalk, F. and K. Jonassohn, *The History and Sociology of Genocide*, New Haven, 1990.
- Straus, S, *Contested meanings and conflicting imperatives: a conceptual analysis of genocide*, *Journal of Genocide Research*, 2001, 3/3.
- Schabas, A. W, *Genocide in International Law-The Crimes of Crimes*, Cambridge, 2000.
- Lemkin, R, *The Letter proclaimed in Executive Sessions of the U. S. Senate Foreign Relations Committee*, Historical Series 781-805, 1976.
- Lemkin, R, *Axis Rule in Occupied Europe*, Washington, 1944.
- Vabres, D. De, *Les principes modernes du Draft Penal International*, Paris, 1928.
- Drost, P, *The Crime of State*, Leyden, 1959.
- Straus, S, *Contested meanings and conflicting imperatives: a conceptual analysis of genocide*, *Journal of Genocide Research*, 2001, 3/3.
- Schabas, A. W, *An introduction to the International criminal Court*, Cambridge.
- Schabas, A. W, *Genocide in International Law-The Crimes of Crimes*, Cambridge, 2000.
- Fein, H, *Genocide: A Sociological Perspective*, London, 1993.
- Kpeß, C. *The Crime of Genocide under International Law*, *International Criminal Law Review*, 2006.
- Triffterer, O, *Genocide, Its Particular Intent to Destroy in Whole or in Part the Group as Such*, 2001.
- J. Jones / S. Powles, *International Criminal Practice*, translation, Belgrade, 2005.
- ICJ, *Case concerning the application of the Convention on the prevention and punishment of the crime of genocide, Bosnia and Hertyegovina v. Serbia and montenegro*, Judgment, 26. february 2007.
- Convention on the prevention and Punishment of the Crime Genocide, <https://treaties.un.org/doc/publication/unts/volume%2078/volume-78-i-1021-english.pdf>
- Draft Convention for the prevention and Punishment of Genocide presented by the Secretary-General, 1947.
- Report of the Commission International Law Commission on the work of its forty-eight session, may-july 1996
- Convention on the Rights of the Child, UN Doc. A/RES/44/25.
- Prosecutor v. Jean-Paul Akayesu (Trial Judgement)*, ICTR-96-4-T, International Criminal Tribunal for Rwanda (ICTR), 2 September 1998, available at: <http://www.refworld.org/docid/40278fbb4.html> [accessed 1 April 2016].
- The Prosecutor v. Radislav Krstic (Trial Judgement)*, International Criminal Tribunal for the former Yugoslavia (ICTY), 2 August 2001, available at: <http://www.refworld.org/docid/414810d94.html> [accessed 1 April 2016]
- Vienna Convention on Law Treaties, Source: *International public law – A collection of documents*, Belgrade, 2005.



**Nataša Sokolov Milovančević<sup>1</sup>**  
**Nada Živanović<sup>2</sup>**  
*Faculty of Business and Law,  
"Union - Nikola Tesla" University*

SCIENTIFIC REVIEW ARTICLE  
doi:10.5937/ekonomika1904075S  
Received: September 01. 2019.  
Accepted: October 03. 2019.

**Ana Kitić<sup>3</sup>**  
*Faculty of Mechanical Engineering, University of Nis*

## NEW SKILLS NEEDED FOR MANAGING THE HEALTH CARE SECTOR

### Abstract

*In this moment in the health sector of Serbia, the need for reform is specially high in the sector of management and organization of the health care on all levels. Today, Serbia country context is extremely difficult and changing due to rapid process of reforms following the EU accession requirements. EU reports alert on the public administration/public sector human resource capacity weaknesses as one of the key areas for improvement. This paper investigated HR skills, skills of managers in health sector – Clinical center Nis – 11 Surgery clinics – as HR capacity to implement reforms within the process. The aim of present study was to identify key managerial skills based on opinion and attitudes of medical staff following the WHO HR managerial framework. Data collection was done through field study/questionnaire. Sample size comprise of 25% of employed medical staff at 11 surgery clinics at Clinical center Nis. Frequency analysis and Chi-square test were used as statistical analysis.*

**Key words:** health managers, human resource skills, public sector

**JEL classification:** H0, O1, O5, I1, I2

## НОВЕ ВЕШТИНЕ УПРАВЉАЊА У СЕКТОРУ ЗДРАВСТВЕНЕ ЗАШТИТЕ

### Апстракт

*У овом тренутку у здравственом сектору србије потреба за реформом је посебно висока у области управљања и организације здравствене заштите на свим нивоима. Данас је контекст државе изузетно тежак и мења се због брзог процеса реформи које су узроковани захтевима за приступање еу. Еу упозорава на слабости капацитета запослених у јавној управи / јавном сектору као једну од кључних области за побољшање. У овом раду су истражене вештине људских ресурса, вештине менаџера у здравственом сектору - клинички центар ниш - 11 клинике за хируршку ординацију - капацитета мљр-а за спровођење реформи у оквиру*

<sup>1</sup> natasasokolov@gmail.com

<sup>2</sup> nada.zivanovic@ppf.edu.rs

<sup>3</sup> kitic.ana4@gmail.com

*процеса. Циљ ове студије је био да се идентификују кључне менаџерске вештине засноване на мишљењу и ставовима медицинског особља који прате менаџерски оквир мљр. Прикупљање података вршено је путем теренске студије / упитника. Величина узорка чини 25% запослених медицинског особља на 11 хируршких ординација у клиничком центру ниш. Као статистичка анализа коришћена је фреквентна анализа и  $\chi^2$ -квадрат тест.*

**Кључне речи:** здравствени менаџери, вештине људских ресурса, јавни сектор

## Introduction

Over the recent years, medical practice in Serbia has evolved in scope and practice in terms of changing diseases patterns and social expectations. In addition, there is a growing sentiment especially among the general public and some health workers that most doctors are bad managers.

The relevance of exploring this topic in Serbia is underlined in the current situation in the country that is very complex and very challenging due to rapid accession process to EU. Besides that the annual EU accession reports alert on weaknesses in area of human resource capacities within the public administration/public sector, as one of very key components for its improvement (Progress report accompanying the document communication from the commission to the European parliament, the Council, 2014),.

Management as a concept for decades has attracted attention of scientists, researchers, and practitioners (Basic management models and theories associated with motivation and leadership and be able to apply them to practical situations and problems, 2015) Health management brings up the attention due to its sensitivity and complexity, and involving human and social factors (O'Rourke, Novak 2011). World trends in economy, security, technology, innovations reflects on health sector as well. New trends require changes and reforms in health sector and building up "new hospitals – of the future" (Rechel, 2009). New hospitals needs to be run by skillful managers. Therefore it became very important topic of research focusing on identification the needs of the future health managers, their knowledge and competences.

In parallel with the development of the general concept of management in Western countries (UK, Australia, Canada, USA) it was developed the concept of New Public Management (NPM) in 1980s placing the citizen in the center of public sector administration and service provision. In Serbia its application started after the regime replacement (mild revolution) in 2000. NPM concept represents, 'borrowed from the private sector', a set of management tools and techniques being used in the public sector (Subotić 2010) aiming to increase its efficiency and effectiveness. With technological development, the increase in the number of educated people, by raising awareness of the population, improvement of human rights, civil society, the stronger and expectations of individuals in health services are becoming larger, while the economic limits make it difficult for financial allocations per capita.

Health managers are expected to perform complex managerial duties in a complex situation caused by the economic instability, poor economy, low allocations for health, old - inherited models of health care and old health care institutions, mostly not-for-the-purpose-built (Gutić 2015). The position of Director/Manager of healthcare institution

is defined by the Law on Health Protection, Article 131 – he is expected to ‘organize and manage the work process, represent health institutions and is responsible for the legality of medical institutions’ (Zakon o Zdravstvenoj zaštiti). Those skills are not thought neither trained within the full-time regular medical study curricula. Also, Article 132 of the same Act says: “director of medical institution may be a person who has a university degree in health profession or a university degree in other professions who have completed training in the field of health management”, which implies that being a medical doctor is the sufficient precondition for managerial position (knowledge and skills in management) while if not, then degree in health management is necessary. In practice, almost the absolute majority of physicians hold positions of directors without prior training in management. There is always dilemma whether a medical doctor should/could be director of the clinic or not (Novak 2010), and what are the skills that health manager needs to gain in order to be a successful manager. During the formal medical study physicians do not receive education in the field of management and the question is whether it is important to be included into the regular curricula, and to what extent. A set of necessary or essential skills in this area is not yet generally adopted, but the necessity of acquiring managerial skills within academic education is considered a necessity in the complex situation of comprehensive reforms and demanding EU accession process.

This study aims to investigate views and opinions, of medical personnel at surgical clinics in KC Niš, on management in healthcare. The results would guide to the most important skills of managers from the perspective of those whose work should be managed in order to achieve the maximum of performance. The findings provide important information about the direction of formal and informal education of health management to focus on. Managerial skills have a direct impact on the successful management of health institutions (Stefane et al., 2006). Beside the direct indicators of their work, the most important performance indicators are those of health of population. This paper explores the skills of health managers at 11 surgical clinic Clinical Center Niš and their capacity for implementing sectoral reforms. The work will identify key managerial skills, based on the opinion and attitudes of medical staff, using the managerial framework of the World Health Organization’s human resources (WHO global competency model, 2015). Data was collected through questionnaires in the field. The sample consisted of 30% of the medical staff at 11 surgical clinics in KC Niš. Statistical analysis includes frequency analysis and chi-square test.

## Methods

This descriptive analytical study was done in 2015. The research sample included medical doctors and nurses at eleven surgery clinics of Clinical Centar Nis a teaching hospital of University of Nis, Serbia. The research clinics were selected as one of two group of clinics that CC Nis comprise of (internal clinics group of medicine and surgery group of medicine). Sample size is 30% of employed medical staff on clinics. Respondents were selected randomly and included those who wanted to attend the study. The research tool was a questionnaire examining opinion and attitudes of medicals staff on management. It is closed questionnaire with some statements about managers followed by a 5-choice Likert scale answer including completely disagree, disagree, no idea, agree, and completely agree; and some questions with closed ended answers.

A questionnaire was designed based on the management theories and WHO framework on health management. It was designed by the multidisciplinary team of psychologist, sociologist, and 2 medical doctors, affiliated with different institutions such as Business school, Department for Sociology, Consultancy agency. The survey questions were not validated, but several were based on a previous Master theses study (xref).

In order to ensure the anonymity in the study, questionnaires with envelopes were distributed to eleven surgery clinics of the Clinical center Nis (tertiary level healthcare institution) using a network of nurses. At the front page there was introduction with instructions. The questionnaire included three sections, one for getting personal information (demographics), the second one on opinion and attitude, and the third one, on skills in management. All eleven clinics agreed to attend the study. Finally, 169 valid questionnaires were collected from 220. For analyzing the collected data and confirming the hypothesis, we used the descriptive and analytical statistical methods. Data were analyzed in SPSS. For the descriptive statistics we had the tables of frequency distribution, percent, mean and standard deviation.

## Results

Sample size was 30% of the employed medical staff at each clinic. Response rate was 77%. The characteristics of study respondents are summarized in Tables 1 to 5.

*Table 1. Distribution per clinic*

Clinic 1 to 11	Frequency	Percent	Valid Percent
Valid 1	16	9.5	9.5
2	12	7.1	7.1
3	19	11.2	11.2
4	46	27.2	27.2
5	14	8.3	8.3
6	8	4.7	4.7
7	12	7.1	7.1
8	6	3.6	3.6
9	13	7.7	7.7
10	9	5.3	5.3
11	14	8.3	8.3
Total	169	100.0	100.0

*Table 2. Demographic characteristics - age*

Age	Frequency	Percent	Valid Percent
Valid 1	1	.6	.6
2	43	25.4	25.7
3	59	34.9	35.3

	4	48	28.4	28.7
	5	16	9.5	9.6
	Total	167	98.8	100.0
Missing	System	2	1.2	
Total		169	100.0	

Table 3: Demographic characteristic - gender

Gender		Frequency	Percent	Valid Percent
Valid	1	32	18.9	19.2
	2	135	79.9	80.8
	Total	167	98.8	100.0
Missing	System	2	1.2	
Total		169	100.0	

Table 4: Demographic characteristic - working experience

Working experience		Frequency	Percent	Valid Percent
Valid	1	17	10.1	10.2
	2	48	28.4	28.7
	3	38	22.5	22.8
	4	27	16.0	16.2
	5	22	13.0	13.2
	6	13	7.7	7.8
	7	2	1.2	1.2
	Total	167	98.8	100.0
Missing	System	2	1.2	
Total		169	100.0	

Table 5: Distribution medical doctor and nurse

MD/Nurse		Frequency	Percent	Valid Percent
Valid	2	49	29.0	29.2
	4	119	70.4	70.8
	Total	168	99.4	100.0
Missing	System	1	.6	
Total		169	100.0	

Among the 169 respondents in this study, 80% were women and the others were men. More than one third were between 36 to 45 years old (40.5) and the last age group was for the people less than 26 (0.6). The least frequency for the work experience was between 31 to 35 years (1.2%) and the most amounts were between 6 to 15 years (28.4%).

Table 6: QA1 Are you familiar with the concept of “health management”?

		Frequency	Percent	Valid Percent
Valid	1 yes	88	52.1	56.1
	2 no	12	7.1	7.6
	3 partial.	57	33.7	36.3
	Total	157	92.9	100.0
Missing	System	12	7.1	
Total		169	100.0	

Table 7: QA2 Would you like to get introduced with?

		Frequency	Percent	Valid Percent
Valid	1 da	75	44.4	76.5
	2 ne	22	13.0	22.4
	3	1	.6	1.0
	Total	98	58.0	100.0
Missing	System	71	42.0	
Total		169	100.0	

Table 8: QA3 Are you familiar with the concept of “leadership”?

		Frequency	Percent	Valid Percent
Valid	1 da	58	34.3	68.2
	2 ne	27	16.0	31.8
	Total	85	50.3	100.0
Missing	System	84	49.7	
Total		169	100.0	

Table 9: QA4 Would you like to get introduced with?

		Frequency	Percent	Valid Percent
Valid	1 da	20	11.8	57.1
	2 ne	14	8.3	40.0
	3	1	.6	2.9

	Total	35	20.7	100.0
Missing	System	134	79.3	
	Total	169	100.0	

Table 10: Q5 All medicals staff should be introduced with basics of health management. (1 – absolutely not agree, 5 – absolutely agree)

		Frequency	Percent	Valid Percent
Valid	1	9	5.3	7.9
	2	24	14.2	21.1
	3	14	8.3	12.3
	4	31	18.3	27.2
	5	36	21.3	31.6
	Total	114	67.5	100.0
Missing	System	55	32.5	
	Total	169	100.0	

Q6 Director of clinic should be a medical doctor.

		Frequency	Percent	Valid Percent
Valid	1	17	10.1	14.9
	2	8	4.7	7.0
	3	11	6.5	9.6
	4	16	9.5	14.0
	5	62	36.7	54.4
	Total	114	67.5	100.0
Missing	System	55	32.5	
	Total	169	100.0	

Q7 Director of clinic should be someone not of medical profession.

		Frequency	Percent	Valid Percent
Valid	1	65	38.5	60.7
	2	8	4.7	7.5
	3	11	6.5	10.3
	4	8	4.7	7.5
	5	15	8.9	14.0
	Total	107	63.3	100.0
Missing	System	62	36.7	
	Total	169	100.0	

Q8 A19 For successful running of the clinic director should have those skills:

	N	Minimum	Maximum	Mean	Std. Deviation
A19.1	86	0	5	4.76	.811
A19.2	97	0	5	4.82	.722
A19.3	86	0	5	4.69	.815
A19.4	88	1	5	4.69	.667
A19.5	92	1	5	4.73	.743
A19.6	86	1	5	4.65	.851
A19.7	84	1	5	4.73	.700
A19.8	83	1	5	4.66	.753
A19.9	89	1	5	4.64	.869
A19.10	85	1	5	4.87	.573
A19.11	18	0	5	4.67	1.188
Valid N (listwise)	13				

Q9 A20 One person could not have all skills of good manager.

	N	Minimum	Maximum	Mean	Std. Deviation
A20	107	1	5	3.68	1.378
Valid N (listwise)	107				

Q10 D2 Director position requires trening/education in the field of health management.

		Frequency	Percent	Valid Percent
Valid	1 da	113	66.9	77.4
	2 ne	33	19.5	22.6
	Total	146	86.4	100.0
Missing	System	23	13.6	
	Total	169	100.0	

Q12 D91 Has data been used for problem solving? (never-1 rare - 2 often-3)

		A5		Total
		2	4	2
1.00	Count	13	15	28
	% within A5	29.5%	16.0%	20.3%
D9.1 2.00	Count	19	56	75
	% within A5	43.2%	59.6%	54.3%
3.00	Count	12	23	35
	% within A5	27.3%	24.5%	25.4%
Total	Count	44	94	138
	% within A5	100.0%	100.0%	100.0%

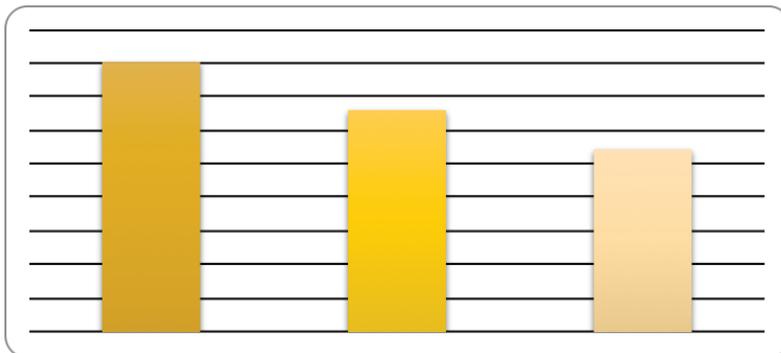
*D9.2 Has data been used for awarding/punishment? (never-1 rare - 2 often-3)*

			A5		Total
			2	4	2
D9.2	1.00	Count	19	25	44
		% within A5	50.0%	28.7%	35.2%
	2.00	Count	16	45	61
		% within A5	42.1%	51.7%	48.8%
	3.00	Count	3	17	20
		% within A5	7.9%	19.5%	16.0%
Total		Count	38	87	125
		% within A5	100.0%	100.0%	100.0%

### Discussion

Data were collected on a sample of 30% of the medical staff (doctors and nurses) at surgical clinics CC Niš (institution of tertiary health care). The full sample consists of 169 medical staff in the following clinics: General Surgery, Minimally Invasive Surgery, Orthopedics, Urology, Neurosurgery, Cardiovascular Surgery, Plastic Surgery, ENT, Eye Clinic, GYN, Pediatric Surgery. The data collected refer to the views and opinions of the medical staff on health management, that indirectly reflect, following the theoretical WHO framework, what are key points in improving the human resources in the process of reform and change. Respondents answered 15 closed-ended questions.

Results show that only 1/3 of respondents know the meaning of “ Health Management ”, while 2/3 does not know or partially know. The encouraging result is that a significant majority expressed interest and desire to learn more about it. Almost the identical result we get on question on “ leadership in health ”. Employees have opinion that it is extremely important that every employee in the health sector has the basic information in the field of health management. Also, they expressed the manager need to be a doctor, but a “ side ” who would have ‘more time to devote to business management’.



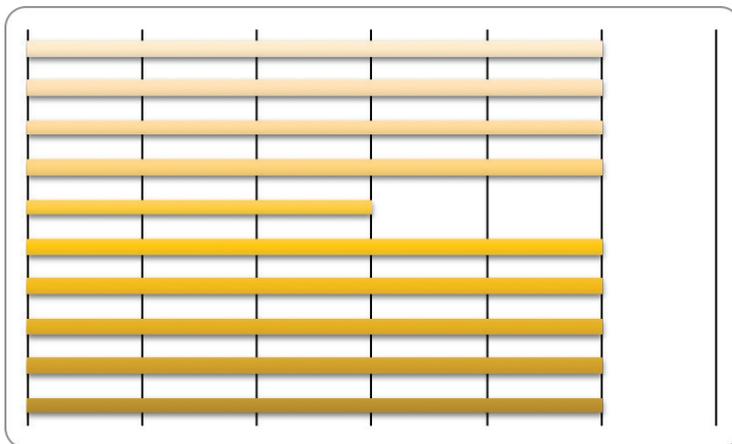
When stated that one man - the manager – cannot have all the necessary skills to successfully manage, respondents indicated surprisingly assertion uncertainty and

thus further demonstrate the necessity of introducing the concept of management and its dimension - teamwork. As expected, respondents recognize the need for professional training and additional formal and non-formal education in the field of health management, especially for the position ‘director of the clinic’.

In open-ended question - which are key skills of a successful manager, singled out two: communication and planning. This result opens up a broader discussion of the formal education of doctors and potential measures for the improvement of programs and the acquisition of managerial skills. Questions on division of tasks and use of information for reward and punishment, those that determined disparity and the lack of ‘system for data use’, further confirms the lack of mechanisms for successful management.

Respondents answers, by ranking, on the question what is crucial for a good manager, clearly indicate that the experience and training in the profession gained low ranking, while the priority is given to skills of planning, forecasting, entrepreneurial spirit and modernization of the governance model. On the other hand, the answers about the problem issues in the organizational unit (OU) gave a different picture than the previous obtained – since the respondents indicate as very big problems the following four categories - the purchase of equipment, maintenance, financing and relations with the Fund (from the offered: Planning , organization of work, coordination of services, changing the structure of personnel, equipment procurement, maintenance, financing, labor discipline, interpersonal relationships, communication, relations with the Fund, relations with socio-political communities).

Ranking the most important abilities of a good manager in health care (based on the theoretical framework of the WHO, management theory and research), according to the respondents, has the following sequence and character: the ability to precisely define the objectives and tasks, initiative, vision, knowledge of modern management methods, accuracy, knowledge organization of health services, the ability to create a positive psychological atmosphere, qualifications and length of service. The innovation is the only one recognized as partially important.



The analysis of the results show that medical staff in surgical clinics KC Niš are not familiar enough with the concept and importance of management in health care,

but there is clear view of their necessity and highly ranked necessity for acquisition of managerial skills.

Unfortunately, the current concept of education of future doctors and health managers does not include the acquisition of managerial skills, knowledge and competences, those subjects we can see in business studies. Trends rising from the current business environment and social change justify the need for it. Planned and intensive informal education or vocational extra-academic programs and study tours could bridge the gap.

The necessity of acquiring and possessing managerial skills, has been proved, also by the key players themselves.

## Conclusion

The results presented in this paper, as part of a broader empirical research, are practical contribution to research community in the field of health management in Serbia. Findings provide guidelines and direct to measures to be taken in improving the situation in this area. The results show that, despite some initiatives for the introduction of health management, there remains a large percentage of medical staff who are not familiar with the concept, but they are aware of its necessity.

Managerial skills, recognized by the medical staff at the surgical clinics CC Niš, as necessary for the management of the clinic (communication, planning, organization of work) are in compliance with all the theories of management. In this connection, it is necessary and recommended to introduce a rapid intervention programs and training, and establish centers for acquiring knowledge and skills in health management, or apply other mechanisms (study tours, learning best practices, transfer of know-how from the private sector, etc.). Professional profile of manager in health care must be defined by the set of skills and knowledge based on the recommendations of the EU and the principles of new public management.

The ultimate contribution of this research is the improvement of health care facilities, health service delivery, and efficiency of the health sector and the improvement of the health status of the population.

## References

- Basic management models and theories associated with motivation and leadership and be able to apply them to practical situations and problems (2015) <http://www.healthknowledge.org.uk/public-health-textbook/organisation-management/5c-management-change/basic-management-models>, 25.08.2015.
- Gutić D., (2015) Menadžment u zdravstvu, <http://univerzitetpim.com/infostudent/wpcontent/uploads/sites/3/2014/03/Menad%C5%BEment-u-zdravstvu-prezentacije.pdf>, 10.9.2015.
- [http://www.who.int/employment/WHO\\_competencies\\_EN.pdf](http://www.who.int/employment/WHO_competencies_EN.pdf), 15.07.2015.

- Ljubisavljević, T., & Radosavljević, Z. (2018). Ownership transformation of spa resorts in the Republic of Serbia: The model of the privatization of Gornja Trepča Ltd., Gornja Trepča. *Menadžment u hotelijerstvu i turizmu*, 6(2), 47-59.
- Novak, S., (2010) Lekari kliničari u procesu upravljanja, Zdravstvena zaštita: časopis za socijalnu medicinu, javno zdravlje, zdravstveno osiguranje, ekonomiku i menadžment u zdravstvu. Komora zdravstvenih ustanova Srbije. broj 1, Beograd, str. 49-54.
- O'Rourke, M, Novak, S., (2011) Health Human Resources Management, In: Health Management Guides, Readings and References for Serbia. Project Training in Health Service Management (ISBN: 978-86-83607-61-7)
- Serbia (2014) Progress report accompanying the document communication from the commission to the European parliament, the Council, the European economic and social committee and the Committee of the regions enlargement strategy and main challenges 2014-2015, (2014) Brussels
- <http://www.sepa.gov.rs/download/strano/serbia-progress-report14.pdf>, 10.9.2015.
- Stefane, M K, Carole, O., Howard, M.J., Soriano, M. and Leduc, R., (2006), The importance of human resources management in health care: a global context, *Human Resources for Health* 2006, 4:20 doi:10.1186/1478-4491-4-20 ,<http://www.human-resources-health.com/content/4/1/20>
- Subotić, D., (2010) Novi javni menadžment u političkom sistemu Srbije, *Politička revija*, godina (XXII) IX, vol=23, br 1/2010 , str. 91-114. [http://www.politickarevija.rs/pr/pr\\_1\\_2010.pdf](http://www.politickarevija.rs/pr/pr_1_2010.pdf), 30.08.2015.
- SZO "Opšti model kompetencija SZO" (WHO global competency model)
- Zakon o Zdravstvenoj zaštiti, (2015) ("Sl. glasnik RS", br. 107/2005, 72/2009 - dr. zakon, 88/2010, 99/2010, 57/2011, 119/2012, 45/2013 - dr. zakon i 93/2014) [http://www.paragraf.rs/propisi/zakon\\_o\\_zdravstvenoj\\_zastiti.html](http://www.paragraf.rs/propisi/zakon_o_zdravstvenoj_zastiti.html), 5.9.2015

Milica Jovanović<sup>1</sup>  
Innovation Center, University of Nis

SCIENTIFIC REVIEW ARTICLE  
doi:10.5937/ekonomika1904087J

Received: September 09. 2019.

Accepted: October 14. 2019.

## THE POLITICAL BEHAVIOR OF MANAGERS AND EMPLOYERS AS AN INSTRUMENT FOR ADVANCING CAREER - INFLUENCE AND FACTORS ON INDIVIDUAL AND ORGANIZATIONAL EFFECTIVENESS

### Abstract

*The concept of political behavior within organizations is a topic of research in a lot of fields, such as management, human resources, psychology, sociology. It is dealing with a type of informal behavior within an organization, meaning that such activities are not approved formally by the organization itself, but the individuals would still often undertake them in order to achieve personal interests or protect the interests of others. The main goal of this paper is to point out to the reasons of political behavior within a company, as well as the consequences of such behavior. A crucial importance will be given to the importance of political skills for increasing the control and power and influencing others to behave in accord with the goals of individuals or groups within such companies. Such skills have a very important role in terms of organizational changes, leadership and understanding organizational politics.*

**Key words:** political behavior, political skills, factors, effects

**JEL classification:** L29

## ПОЛИТИЧКО ПОНАШАЊЕ МЕНАџЕРА И ЗАПОСЛЕНИХ КАО ИНСТРУМЕНТ НАПРЕДОВАЊА У КАРИЈЕРИ – ФАКТОРИ И УТИЦАЈ НА ИНДИВИДУАЛНУ И ОРГАНИЗАЦИОНУ ЕФЕКТИВНОСТ

### Апстракт

*Концепт политичког понашања у организацијама, предмет је изучавања различитих дисциплина, као што су менаџмент, људски ресурси, психологија, социологија. Реч је о неформалном облику понашања у организацији, што подразумева да ове активности нису званично одобрене од стране организације, али их појединци предузимају како би остварили сопствене или заштитили нечије интересе. Циљ рада је да се укаже на разлоге политичког понашања у предузећу као и последице оваквог понашања. Посебно ће се указати на значај политичких вештина за повећање контроле и моћи и утицај на друге да се понашају у складу са циљевима појединца или групе у предузећу. Ове вештине имају важну улогу у организационим променама, лидерству и разумевању организационе политике.*

**Кључне речи:** политичко понашање, политичке вештине, фактори, ефекти

<sup>1</sup> jovanovicmilicaa90@gmail.com

## Introduction

The members of an organization use different tactics of political behavior as to fulfill certain goals in their careers. Such tactics are called influence tactics. They deal with different methods of working within an organization in order for someone to advance in their career, secure a better position within the organization, increase control, power and benefits. Such behavior does not necessarily need to impact the organization in a negative way. For this reason alone, there are literary talks about both positive (Mintzberg, 1977; Dix and Savickas, 1995; Ferris et al., 2007; Coopey & Burgoyne, 2000; Kapoutsis & Thanos, 2016) and negative sides (Kumar & Rehana, 1989; Valle & Witt, 2001; Sussman, 2002; Semmer, 2006; Chang, Rosen & Levy, 2009; Olorunleke, 2015) of employees' behavior. In case such behavior secures better interests for the company as well as for the employees, such behavior has generally positive effects from the aspect of the organization as a whole. However, it is often the case when political tactics are used that the interests of certain members or groups are focused on, neglecting and working against the interests of the organization as a whole.

Political behavior is the reality of modern enterprises. Although, the certain factors influencing such behavior of the organization's employees can be debated. These factors can be individual, that is, related to the personal characteristics of employees, as well as organizational, or in relation to uncertainties in the functioning of the organization (Bauer & Erdogan, 2016). With this we have in mind the system of performance assessment and the promotion of employees and, also, vaguely defined responsibilities of members in the functioning of the organization. Organizational politics and culture with a system of values and employee's beliefs play an important role in both stimulating and discouraging members to adopt such behavior.

The consequences of different aspects of political behavior of the employees can be monitored from both the individual and organizational aspect. Also, both positive and negative effects can be taken into consideration when it comes to the usage of different tactics of political behavior. Many researchers point out to the decrease in motivation of the employees, the incline of dedication to the organization (Chang, Rosen & Levy, 2009) and increased stress (Semmer, 2006) and agitation at work as key consequences of excessive use of political behavior tactics within an organization. However, the positive effects cannot be disregarded, primarily when it comes to increase in earnings, promotion and other types of employee stimulation as key benefits from the individual aspect (Kumar & Rehana, 1989; Kapoutsis & Thanos, 2016). The enterprise itself can benefit as well, for by using such techniques there can be an increase of productivity of the employees, the increase of their dedication, finding new methods to compete with other members, which can influence the healthier competition inside the organization, which becomes an important factor of their efficiency at work.

The main goal of this paper is to explain the concept of political behavior in an enterprise and to emphasize the importance of these tactics for career advancement as well as effects from an organizational perspective. In addition, the aim is to analyze not only the positive aspects of this concept, but also the possible negative effects from both the individual and organizational level.

The first part of this paper explains the concept of political behavior in business and typology. The second part presents various aspects of political behavior in an

organization. After that, the factors of political behavior are analyzed, while the last part gives the positive and negative consequences of the implementation of such tactics in the company.

### **Conceptual determination of the political behavior concepts within the enterprise**

The approach to the organization as the political entity is not new, having in mind that March (1962) noticed in the year of 1962 “that the organizations are political coalitions within which decisions are made and goals set in the process of negotiation”. Politics is involved in the business of every enterprise, having in mind that the enterprises being organizations need to adapt to the interests of numerous stakeholders. “Even 93% of the surveyed managers said that they believe that there is political behavior within their organizations, while 70% thinks that involvement in such behavior is required for the individual to become successful” (Gandz & Murray, 1980). Namely, within the enterprise as an organization there are interests of different groups while the resources are often limited, making the employees resort to the various tactics of political behavior as to make their career goals easier and become more successful in general.

The concept of political behavior is the topic of research of different authors for more than three decades already. “Political behavior is either individual or group behavior which is informal, seemingly legitimate, usually destructive for the organization and, in technical sense, illegal, but unsanctioned neither by the formal authority, accepted ideology, nor confirmed expertise” (Mintzberg, 1977). “It represents the tactical influence of the employee who is led by the strategic goal, being both rational and conscious, leaning towards the fulfillment of his personal interests which are in accord or discord with the interests of others within an organization” (Valle & Perrew, 2000). “Political behavior within an organization can be defined as such activities which are not required within the frame of the organizational role of the individual, but they influence or attempt to influence the pros and cons of the organization” (Farrell & Patterson, 1982). This means that such influences can be aligned with the interests of the other members of the organization or with the goals of the organization itself as well as with the values, but they can be opposite with them as well. That will primarily determine the influence of such behavior of the employees when it comes to the business of the organization. It allows the employees and managers to create an impression of fulfilling the standards that are highly valued by the enterprise, which directly influences the possibility of career advancements.

Political behavior is a term more narrow than the term organizational politics. Organizational politics allows the usage of resources at hand for the completion of required goals, in such conditions in which the interests of the members of the organization are conflicted. “Organizational politics has three levels - individual, group and organizational. Such politics is imposed by the organization, and not the individual, which differs greatly from the political behavior. This implies that the key difference between organizational politics and political behavior lies in the fact that the former derives from the organization and latter from the individual” (Jafariani, Mortazavi, Nazemi & Bull, 2012). Organizational politics is determined by the organizational culture, that is, by the system of values and principles which are accepted within an organization and which leans towards directing

the members in order to fulfill the organizational goals, while the political behavior is focused on the completion of personal goals and interests within a certain organization.

“The important characteristic of the political behavior is that it occurs within conditions of vaguely set goals in the organization, scarce resources, changeable environment and technology, unprogrammed decisions” (Miles, 1980). Within stable conditions of business, with clearly-defined organizational structure of the enterprise and innovative culture, the employees will be more dedicated to the organization and they will align their goals with the goals of the organization. This will demotivate their political behavior. However, political behavior has become conventional for the functioning of the contemporary enterprises, but not an exception. The probability of expressing the political behavior within organization increases with major disagreements when the goals of the organization are concerned, vaguely determined goals, different and conflicting ideas of the employees and interpersonal problems, as well as with the inadequate information.

The research shows that the political behavior is more closely connected with the employees holding higher positions within the enterprise and that it is less closely connected with the employees holding lower positions within the enterprise (Appelbaum & Hughes, 1998, p. 85). This means that managers and employees working on higher hierarchical levels of the organization use their political skills more profanely in order to influence other members for the completion of certain benefits. Such behavior is especially important for influencing their subordinate colleagues to work in accordance with the interests of the organization, while at the same time for it not to seem like manipulative behavior. Besides that, they need to be skilled in motivating and understanding their employees.

Szoc (1999) indicates that both managers and employees would rather engage in political behavior when the procedures of decision-making and performance evaluation within the organization are complex and unclear and when the competition between the members within the organization is strong in terms of scarce resources of the organization. Contrary to this, in a stable and less complex environment, with a clear decision-making process and lesser presence of competitive behavior, excessive political behavior is highly unlikely.

Farrell and Petersen (1982) saw political behavior through three dimensions. Those dimensions point out to methods of ensuring that the employees have sufficient resources in order to influence the benefits within the organization, that is, the management tactics of available resources. Internal - External dimension includes the external dimension which deals with the usage of external resources for the purpose of achieving goals (spying, important information leaking, cooperation with people outside the organization) and the internal dimension or the usage of already available resources within the organization (cooperation with the employees, taking revenge, revolting, remonstrating). Horizontal - Vertical dimension deals with the political behavior that manifests between the subordinates and superiors, as well as in between colleagues on the same hierarchical level. Legitimate - Illegitimate dimension includes the legitimate dimension of political behavior, or, launching complaints about the superiors, disrespecting the decisions of the superiors, doing professional activities outside the boundaries of the enterprise and illegitimate political behavior, or, behavior which contradicts the politics and functions of the organization (breaking and sabotaging rules, revolting, disorder, snitching).

Table 1: Typology of the political behavior within an organization

		Legitimate		Illegitimate	
		Vertical	Lateral	Vertical	Lateral
Internal	Internal	I Obstruction	II Building coalitions	V Sabotage, protest	VI Threats
	External	III Accusations	IV External professional activity	VII Whistle blowing	VIII Resign

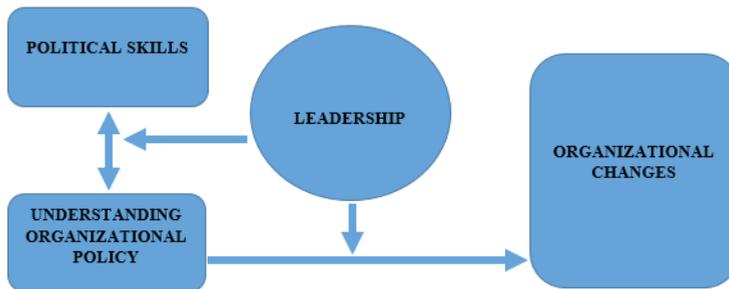
Source: According to Latif, A., Abideen, U. Z., Nazar, S. M., 2011

Based on the previously explained dimensions of the political behavior of the employees, a multidimensional review of the political situation became enabled, as it can be seen in Table 1. Field I is characteristic for the organizations with a broad range of rewards within the enterprise and with limited influence of the employees in the decision-making processes. Field II includes the employees on the same hierarchical levels who, by forming coalitions, can contribute to the goals of the enterprise. External vertical political behavior includes the accusations of the employees, but also the situations that can settle the disputes within the organization by discussion. The employees and managers can even use certain information or contacts outside of the organization which may help them in their fulfillment of goals within the organization. On the other hand, fields V, VI, VII and VIII include the illegitimate political behavior which can be sanctioned within the enterprise, and can also lead to getting fired.

Political skill is the key determinant of political behavior. “It represents the ability of effectively understanding other people at work and using such understanding to influence others towards fulfilling its own personal goals or those of the organization” (Ferris, Treadway, Kolodinsky et al., 2005). “Political skill allows individuals characterized by a high degree of understanding interactions to use such understanding to influence social results at the working environment” (Todd, Harris, Harris, & Wheeler, 2009, p. 183). “Political skill is not the tactic of influence - political skill makes the tactic of influence effective. Having political skills increases managerial and organizational effectiveness” (Perrewe & Nelson, 2004, p. 376).

This is about the ability of adapting the behavior of an individual to different and variable situations. Political skills increase the predictability within an organization, lower uncertainty and increase the control over events taking place within the organization. There is an understanding that individuals with developed political skills have larger self-confidence and personal security at the workplace, having in mind that they achieve a higher degree of interpersonal control and also the control over activities happening in social interactions at work. Besides that, such people are more unburdened, stress is not present as much while they work and they can also possess manipulative skills. Without developed political skills, political behavior will not be as efficient.

Picture 1: The relationship of political skills, organizational politics and organizational changes



Source: According to Cheema, I. Q., Cheema, H. A., Ashraf, K., 2008, available at: [http://www.regent.edu/acad/global/publications/sl\\_proceedings/2008/cheema-ashraf.pdf](http://www.regent.edu/acad/global/publications/sl_proceedings/2008/cheema-ashraf.pdf) (retrieved 17.09.2016.)

Picture 1 shows that the leaders with developed political skills and who understand organizational politics are more capable to manage organizational changes in the effective way. Besides that, a close connection between political skills of the leaders and understanding the organizational politics of the enterprise is being highlighted. According to this model, the leaders with political skills could cope easier with the negative effects of the organizational politics, but also to use the positive effects for their benefit or for the benefit of the organization. They are especially successful in using that with the goal of promoting themselves within the organization. Such leaders have no aversion towards the changes in the enterprise, but they use such changes to advance their careers further. This is a key trait for all leaders in contemporary and innovative enterprises.

Understanding subordinates and their hidden intentions is especially important for leaders in the enterprise. Besides that, political behavior of the employees without developed political skills can be scorned by the other colleagues and superiors and be misunderstood for not acceptable behavior, or, a behavior that is not accord with widely-accepted standards within an enterprise. Such employees and managers not only do not possess the ability to develop connections with other employees and using such connections in their workplace, but they are also characterized by having problems in communication and the inability to motivate others.

### Different aspects of political behavior of the employees

In case political behavior is done by using legitimate means and goals, such behavior is legitimate; it can be developed and to positively influence the interactions between the members of the organization. Contrary to that, in case members of the organization use illegitimate means and goals, such behavior is illegitimate (Jafariani, Mortazavi, Nazemi & Bull, 2012, p. 2991). This means that political behavior does not need to be dysfunctional on its own. Having in mind that the goals of political behavior can be both group and individual, and that they are both intertwined, there are some difficulties in determining whether the political behavior is legitimate or not. Such approach to the political behavior is shown in Picture 2.

Picture 2: Types of behavior within the organization

		Influence of goals	
		Approved	Not approved
Influence of means	Approved	I Business behavior	II Organizationally dysfunctional behavior
	Not approved	III Potentially organizationally functional behavior	IV Organizationally dysfunctional behavior

Source: According to Jafariyani, H., Mortazavi, S., Nazemi, S. and Bull, P., 2012

Picture 2 points out that field I represents non-political behavior, or rather, represents business behavior, which is approved by the organization. Field II includes political behavior which is based around the abuse of power within the position in the enterprise in which the person is employed. Such behavior is dysfunctional with the aspect of the organization due to the fact that internal resources are used for the fulfillment of goals which are independent from the goals of the organization. Clearly-defined responsibilities, rules and principles could prevent this form of political behavior. Such behavior is included in the field IV as well because such behavior is opposing the goals of the organization, but also the resources used as well. This table points out that the political behavior is neither positive nor negative on its own. Mayes and Allen (1977) have also made this conclusion and they believe that both the goals and means, two very important criteria for classifying a behavior as legitimate or illegitimate<sup>2</sup>. Also, they conclude that legitimate political behavior within a specific culture is not necessarily legitimate in another. More precisely, the legitimacy of the political behavior is context-dependent. All of this points out to the complexity of the term political behavior.

“Political behavior is positive when it serves the vision and goals of the organization, develops teamwork and boosts self-confidence of the employers, while being ethically well-balanced” (Vigoda-Gadot & Drory, 2006, p. 337). Vigoda-Gadot i Kapun (2005) think that “there is a set of positive outcomes of political behavior:

<sup>2</sup> The most common types of illegitimate behavior include talking behind the backs of other employees or spreading false information about them, accepting credit for other people's work, keeping important information for oneself or spreading false information, favoring of individuals, that is, the behavior that satisfies the personal interests of the individual and not those of the organization.

career advancement, recognition and status, enhanced position and power, fulfillment of personal and organizational goals, successful realization of tasks at work, the feeling of control, success and accomplishment” (p.256). Political behavior is most commonly included in accomplishing such results, especially when one wants to achieve advanced within an organization or to get appraised by their associates. Some tactics can influence acquiring of new knowledge within the organization over different types of connecting and linking with the members of the organization, but also with the subjects outside of the organization.

Some authors, however, point out to the negative side of the political behavior. Curtis (2003) points out that “political behavior restricts information-sharing and communication within an organization, which is an important obstacle to organizational learning” (p.296). Various tactics of political behavior which allow the fulfillment of individual goals based on the possession of the important information can be used in order to keep the power, which is contrary to the interests of the organization. This is especially the case within organizations in which exists a low level of trust between their members, which may lead to their decrease in dedication. This way, the information are being manipulated with in order for someone to acquire personal gain or to acquire the gain of the group that person belongs to, but this does not necessarily mean that it goes against the interests of the enterprise itself. This means that political behavior can include both benefits and expenses.

In conditions of intensive competition within and enterprise in which resources are limited, political behavior is more common. Such behavior might “distort” the image of employees’ performances at work, which points out to the negative side of the political behavior of the employees. This means that an unjust system of rewarding and stimulating the employees can be established. The leaders play an important role in preventing such situations. They should encourage teamwork and rewarding based on the real performances. That way, it will be shown that excessive political behavior will not be rewarded and that it can find disapproval among the others.

### **Factors of political behavior**

The sources of political behavior are based on managerial, organizational, individual and group reasons (Akgemci & Gok Gokce, 2015, p. 184). Managerial-organizational reasons include the relationship towards the unjust resource sharing or, in other words, affectionate behavior towards certain members of the organization who, by using their tactics of political behavior, adulate to their superiors or colleagues. In that regard, the employees could manage information, form close relationships with colleagues or superiors, connected with people outside of the organization, all in the purpose of using such contacts to achieve career success. Individual reasons include that some members of the organization have character traits which lean towards the political behavior. That way, they are trying to protect themselves from unacceptance by the managers and other employees, wish to progress their career in a short time period and try to convince others that they are important for the organization. Group reasons include separation of the strong organizational groups with which the individual avoids getting into conflict and the existence of informal relationships that are even far powerful than formal ones. The

individual uses certain tactics in order to become a part of such groups or in order to gain their allegiance and trust.

In case the enterprise does business in an uncertain environment, in terms of organizational changes and strategic decision making, there are no objectively-defined standards of performance, there is a branched-out hierarchical structure with the concentration of power in the highest administrative levels and non-developed social intelligence of the leader, there are great opportunities for expressing political behavior and manipulative efforts of employees and managers. Such conditions can be characterized as factors that encourage the expression of political skills in an enterprise.

Some authors make a difference between individual and organizational factors of political behavior. They include certain prerequisites for the manifestation of the political behavior on individual and organizational levels. The character of the individual or, rather, his/her characteristics, greatly influences whether they will engage in the political processes in the enterprise or not. We can classify the individual factors by the following:

- Political skills;
- Internal control locus;
- Investing in an organization;
- Expectations concerning success (Bauer & Erdogan, 2016).

“Political skills are referred as the interpersonal style of people, including their ability to behave well towards others, self-monitor, and to change their reactions in accordance with the situation they are in and to boost reassurance and self-confidence“ (Ferris et al., 2000). Research (Ferris, Fedor & King, 1994; Kilduff & Day, 1994) show that the individuals who have developed political skills are more effective in the workplace and they have a stronger influence on their ratings given to them by their supervisors concerning their performances. Individuals with the internal control locus believe that they can make a difference in the organizational results. Such people leave nothing to chance and they use different means to enhance the impression whenever their performance is concerned by the superiors. They believe that external factors have no impact on their personal results. Because of this, people with internal control locus are much more likely to engage in political behavior, believing that everything that revolves around them is in their hands alone. Research shows that such persons are more successful in perception of the political behavior in their environment (Valle & Perrewe, 2000). The level of investment in the organization also affects political behavior. If investments in the organization of an individual are great, whether financial or emotional, they will become more and more motivated to engage in political behavior, because they are more interested in the fate of the organization than others are. Such individuals identify themselves with the organization and they are characterized by organizational commitment. Also, expectations concerning success are an important factor. In case an employee believes that it can influence the results of the enterprise and that it will directly affect its rewarding system, than individual will become more motivated to engage in the political behavior. If they believe that chance does not affect the outcome, the individual would not waste time and precious resources to influence the change.

A bit different classification of the individual factors of political behavior within the enterprise was given by Robbins (2001). He included the following factors: “self-

control, internal control locus, lust for power, macchiavelism<sup>3</sup>, contributing into the organization by the members of that organization, the alternative possibilities, inclination towards accepting risks by the members of the organization and the individual value system” (p.366). Namely, people leaning towards self-control are more likely to engage into political behavior, having in mind that they wish their subordinates and resources remain under their control and they also believe that they can affect the impression they leave onto others. Also, the employees possessing lust for power are also more likely to engage into such behavior. Managers and employees with more experience have a lot of business alternatives and they do not want to risk their position, so they are less likely to engage into political behavior in order to advance their careers. Besides that, employees who have aversion towards risk will not be prone to political behavior, having in mind that such behavior includes a certain risk and that they will face the judgement or disapproval of their colleagues. Job satisfaction<sup>4</sup> can play an important role. The more satisfied an employee is, the less willing they are to take the risk and apply political behavior tactics.

Besides individual factors, the important part in the manifestation of political behavior is also played by the organizational factors. Organizational factors include: “lack of resources, vaguely-specified roles, performance assessment, promotions and democratic decision-making” (Bauer & Erdogan, 2016). The lack of resources encourages the political behavior within the organization. When resources, as much as the monetary incentives or promotions, become limited, the employees regard their working environment as a political arena. Vaguely-specified roles, in terms of vaguely-defined tasks and positions of the members of the organization, make political behavior imminent within the organization. Research (Muhammad, 2007, p. 234) shows that when responsibilities of the employees are not clearly defined, they lean towards the political behavior more. Ambiguity can occur even when assessment of performance and promotion of the organization members are concerned. Such ambiguities often lead to the showcase of the political behavior within the organization, for example via impression management or information management. Also, democratic decision-making within the organization is an important initiator of political behavior. This happens due to the number of people who are included in the decision making; the more they are the more influencing in various ways employees need.

Uncertainty concerning the business of the enterprise is connected with the organizational factors of political behavior of the employees and managers. Uncertain standards and goals of the enterprise, manipulative and political behavior of the superiors, unclear responsibilities of the employees, unclear possibilities of advancements, high targets and intensive competition with scarce resources represent the most important organizational factors.

Every uncertainty within the organization makes space for the political behavior of the employees. The goal is creating the collegial organizational climate that eliminates the barriers in the communication between the members, as well as distrust and conflicts.

---

<sup>3</sup> For such people is standard to talk to others what the others wish to hear, they usually use the tactic of adulation to their superiors and colleagues and they do not believe other people.

<sup>4</sup> Research shows that the key determinants of job satisfaction can be: salary, the type and quality of training provided by the organization, the scope of work and the employee's ability to express their opinions openly (Zubović, Boškov & Bešlin Feruh, 2013).

Each individual should have clearly-specified responsibilities and work tasks, should know the desired results and assessment of such results should be based on objective and rational criteria in order to avoid unfair behavior, inequality and favoring which, in the end, results in the decrease of organizational effectiveness and efficiency.

### **The consequences of political behavior of the employees**

The consequences or effects of the political behavior of the employees within the organization can be positive and negative. Also, such effects can be differed from the aspect of manifestation as well; in other words, individual, affecting the individuals, and organizational, affecting the interests of the organizations in which political behavior is being manifested. For a long period of time the dominating attitude of the researchers in the field of management was that the political behavior was ever more present within the organizations, but that it was also not beneficial for the majority of the organizations, teams and individuals. This is due to the belief that leaning towards accomplishing personal interests creates expenses for the organization as a whole. However, many newer research (Kapoutsis & Thanos, 2016, p. 310) show that such behavior leads to the increase in productivity, career advancements, larger innovations of the organizations and decision-making via consensus.

“Political behavior refers to deliberate activities which include a wide repertoire, including the tactics of influencing, self-promotion, impression management; or rather, behavior which helps the achievement of desired goals which would otherwise not be possible“ (Kapoutsis, 2016, p. 41). Besides that, “political behavior uses the tactics such as impression management, information management, and similar, to secure desired results for the individual, as well as the success at their workplace” (Kimura, 2015). Such definitions of political behavior point out to the usefulness of such behavior of the employees from their career aspects. From this, it can be concluded that the individuals engage in the political behavior in order to fulfill their personal goals which they would not be able to do otherwise, having in mind that the employees manage to gain benefits both in financial and non-material sense. In case the personal goals are in accord with the goals of the enterprise, such behavior by the employees will lead to the organizational interests and vice versa.

Having in mind that the organization is a political environment, it is necessary for the individual to engage in the political behavior for their career success. The studies conducted by Dix and Savickas (1995) imply a strong influence of political skills employees possess on their careers. They have been doing research about the success of the employees at different phases of their careers and they have concluded that making quality contacts with people within the organization, being honest in such relationships, listening to advice and spending time with colleagues outside of the working hours, can have a strong positive influence on the employees’ career and such activities are closely related to certain tactics of political behavior. Creating close relationships with the colleagues and especially with the superiors can secure a “privileged treatment”.

The individuals with developed political skills who are engaged in the political behavior are at an advantage when compared with other members of the organization

in terms of getting rewarded and making good quality relationships with the colleagues, superiors, but also with employees on lower hierarchical levels. Such individuals are capable to influence the distribution of the rewards within the organization to their own benefit, by overemphasizing their accomplishments and creating an effective influence toward other members of the organization for their own personal gain (Dix and Savickas, 1995). Political behavior in the organization can influence the increase of the motivation of the employees, their higher production and higher dedication, but only if it is not excessive and illegitimate type of political behavior which has negative outcomes, both for the individual and the organization as a whole. Also, such people have a lot of self-confidence and they are able to gain the trust of others and to use that in order to achieve their own personal goals or the goals of the organization. They are successful in adapting to the variable environmental conditions, making them the usual choice for leadership roles within the organization.

“The individuals who choose the tactic of the political behavior in correspondence with the situation and use it efficiently, directly influence others through boosting self-confidence, trust and credibility. Also, politically skilled people are adaptable by nature, which is of the crucial importance for contemporary organizations. The ultimate goal is causing a positive reaction of the person to whom it is intended to influence by using certain tactics of political behavior. This enables positive estimates of the target person in relation to the enhanced reputation of the political behavior “carrier, better performance assessment and having more opportunities for advancement” (Ferris et al., 2007, p. 307). Politically skilled people are capable to self-regulate their behavior in a way that governs the behavior and reactions of others, and they are also skilled in hiding their intentions. Therefore, social wisdom is an important individual characteristic of the employees who are successful in the usage of the political behavior with a goal of career advancement.

Political behavior can help even the employees at lower hierarchical levels, but also the managers holding high positions. On one side, the employees can affect their superiors and to increase their earnings if they manage to make an impression that their personal contribution is higher than their real contribution. Also, they can use this way to draw attention to their results which can otherwise go unnoticed. On the other side, the leaders could spread their influence on their subordinates easier and gain their allegiance. This can ensure the larger individual efficiency and effectiveness, which contributes to the larger organizational efficiency and effectiveness as well. This is especially important in the conditions when organizational changes occur - when the leader needs to convince his subordinates that the changes are good for them. In such environments, the leader needs all the support in order for the changes to succeed.

Some authors (Coopey & Burgoyne, 2000) point out to the importance of some forms of political behavior for learning within the organization, especially through establishing relationships with more experienced people and making coalitions with subjects both within and outside of the organization, creating positive effects even from the aspect of the individual who acquires new knowledge and new information, but also from the aspect of the organization as well. Such knowledge could be a base of innovation and acquiring the competitive advantage of the company. Such explanation of the consequences of the political behavior of the employees emphasizes the positive side of such tactics, having in mind that by following this method, the relationship based upon trust and reliance is formed, which enables the easier acquirement of knowledge

and information exchange, which in turn opens a new way of creating knowledge within the organization. Establishing close connections among the colleagues is an important prerequisite of experience exchange and unhindered flow of information within the establishment.

Political behavior is standard for those individuals or groups within the organization who worry about their own interests. “The positive results of such behavior are related to the completion of goals in career, acquiring status and recognition within the organization, power and better position at work, realization of personal goals and completing key tasks. The negative consequences refer to losing of strategic power, reliance and job, losing the higher position, negative feelings towards others, internal feeling of guilt, promotion at insufficient levels and weak performance at work” (Kumar & Rehana, 1989, p. 306). Both the groups and individuals, in order to achieve their career goals and in order to become promoted to a higher position, use various techniques of political behavior in order to pose competition to other members of the groups or individuals in the organization. The competition is formed by having scarce resources and having limited possibilities of advancement within the enterprise and as competition between members of the organization becomes stronger, engaging in political behavior will be more intense. However, it is of key importance for the individual to evaluate if a certain tactic is justified, in terms of influencing the benefits for the individual because, in some cases, the wish for accomplishment of benefits by using political behavior can have negative effects, for example, in terms of a criticism, judgment and even the loss of job.

Political behavior, in the end, affects the effectiveness of the organization. If the employee manages to gain influence by following this method, this will have repercussions to both individual and group effectiveness. In case the individual refrains from political behavior, in the conditions of extreme competitiveness with scarce resources, that individual will be the victim of that fight. “Having in mind that the organizations are by nature political systems, political behavior is quite normal. Having in mind that the resources of the organization are limited, it is necessary to sacrifice somebody’s demands when making decisions for achieving your goals. The members of the organization join the fight as to prevent their part being sacrificed” (Akgemci & Gok Gokce, 2015, p. 186). It can be deduced that political behavior is sometimes necessary, especially in contemporary methods of doing business.

According to Mintzberg (1977), “positive consequences of the political behavior from the aspect of the organization are: organizational flexibility, introducing organizational changes, getting rewarded according to merit”. In modern business conditions and especially for innovative businesses, organizational flexibility is a prerequisite for successful functioning. This implies flatter organizational structures, flexible employees who are not resisting changes within the company, but regard those changes as means of personal advancement, but also the development of the company. In order to ensure organizational flexibility, the key role is being led by the managers who, using their tactics of political behavior, can influence others to follow and support the changes in the organization. Such behavior from the superiors might influence the subordinate employees to contribute with their own ideas, which would result in the increase of their productivity. A special role here is played by tactics which are used to build trust and credibility of the managers as to make it easier for changes to take roots in the organization. One of the key element of the organizational culture of the successful

organizations is rewarding by merit. Political behavior can be an important factor for the realization of this system of rewarding the employees, which implies that skillful political managers could objectively assess the results of the members who will achieve their benefits by their merits. In the same manner, political behavior can be a factor of inadequate assessment of the employees' performance, but also some of the best members can leave the organization due to the lack of motivation to engage into political behavior.

Some studies (Sussman et al., 2002) show that political behavior leads to dysfunctional results, such as conflicts, dissatisfaction with the job and decreased productivity. Especially under the conditions of excessive political behavior can some of those events occur; the decline of dedication to the establishment, stress at work, fear of losing the job, bad interpersonal relations, troubled flow of information and knowledge within the organization, the feeling of mistrust and bad environment for the development of the innovative activities. The dedication to the organization decreases due to the lack of motivation by the employees. It has been confirmed by research that older employees are less dedicated to the organization within which excessive political behavior has taken its roots than the younger employees are" (Miller, Rutherford & Kolodinsky, 2008). One of the reasons can also be the leaning of the younger employees towards advancing in their position in the company by using tactics of political behavior, while the older employees tend to care more for the safe position. An unclear system of performance assessment and rewarding the employees, which is affected by the political behavior of the members of the organization and their various tactics, leads to the decrease of motivation with an increase of the chance that such members would leave the organization after that. This is especially the case with competent employees who are less motivated to engage in political behavior in order to achieve their goals. As a result, the organization can remain without the important human resources, and the biggest problem can be the outflow of important implicit knowledge in the minds of competent employees. Having in mind that the experts are less likely to be motivated with such behavior, there is a risk that they will leave the organization that tolerates excessive political behavior. The loss of their expertise is an important negative consequence of using such tactics.

The organization with a low degree of satisfaction of the employees would hardly achieve their goals (Valle & Witt, 2001). If there is political behavior within an organization, especially illegitimate which is not sanctified, it will affect the members of the organization by lowering their productivity, the employee satisfaction index, and especially under the influence of increased stress and tension at the workplace. In such conditions, the employees must make a decision whether to engage in the political behavior, use certain defensive mechanisms such as transferring responsibility to another person, excessive conformity, procrastination at work and similar, or leave the organization. Usually other members of the organization resort to this kind of behavior; there is an increase of distrust between the employees, there are conflicts between the members of the organization which in the end results with the decrease of the level of the performance and, with that, the decline in the results of the organization as a whole.

Besides that, some newer researches (Chang, Rosen & Levy, 2009) of the effects of political behavior from the aspect of the organization members show that individuals react negatively, which might lower their performance, job satisfaction and commitment, with the increase of employee turnover, neglect, absence from work and stress. Stress at work can occur via many different factors, such as high pressure situations, barriers to

complete tasks and the lack of recognition by managers. The managers play the key role in eliminating the stress that occurs by the excessive use of political behavior within an organization. The environment with poor social relationships between the employees, with a lot of conflict and the lack of support between colleagues is characterizing the presence of extremely stressful situations that distort the working environment (Semmer, 2006).

The individuals who are engaged in political behavior dedicate a lot of attention to this process, having in mind that that process is risky and that failure can easily occur, as well as some negative consequences for the employee. This is the reason they dedicate a lot of their time and energy which can reduce their productivity in the workplace and reduce their commitment to the work assignment. This can affect the reduction of employees' performance, postponement of deadlines and other negative consequences, which ultimately reflect the inability to fulfill the goals of the organization and organizational effectiveness. Although it is possible, political behavior that contributes to the fulfillment of goals of both the individuals and the organization, the use of tactics of political behavior that leads to reduced trust among employees, the creation of fear in the organization, developing a hostile work environment that deteriorates business performance and productivity at the organization level. This creates a barrier in communication, limits the sharing of information and thus reduces organizational efficiency.

Mintzberg (1977) thinks that the key negative consequences of the political behavior within the organization are the unequal distribution of power between the individuals or groups, which leads to inequality, discrimination and the setting of personal goals ahead of organizational interests, which results in inefficiency and time loss on the level of the organization.

According to one research (Olorunleke, 2015, p. 69), political behavior has a negative influence on the fulfillment of the organizational goals. It has been concluded that the organizational performances can be enhanced by liberating the working environment from the political behavior. It is being thought that, this way, the effectiveness and efficiency of completing tasks at work will increase and that the employees would not waste their time on political behavior tactics. The decision-making process is more effective if it is free of political behavior influence, thus emphasizing the direct connection of responsibilities with the initiatives employed managers have. The importance of understanding the employees is being pointed out, for they are the stakeholders of the enterprise and they work for the interest of each and every member of the organization. Also, excessive political behavior in the organization leads to a decline in morale among employees, a greater fluctuation of employees, spending time and effort, which can result in a lower performance of the organization. The managers and leaders play a key role in this environment. They are expected to encourage open and clear communication, to develop the culture of trust between the employees, as well as the team work, avoid any way of making certain individuals seemingly favorite, based only on the factors that are not directly connected with their results, they need to be familiar with the key tactics of political behavior and learn how to recognize such behavior if it occurs within their subordinate employees. It is especially important to ensure the understanding of the organizational goals by every member of the organization and getting agreement with those goals, as well as emphasizing that certain tactics of political behavior are unprofessional and can be sanctioned. The end goal is to prevent the decline of the organizational effectiveness and efficiency.

Organizations with highly expressive political behavior of their members base the rewarding system on factors such as group memberships or the power of the group members, and not as much on the merits of the individuals (Chang et al., 2012). This creates an unstable working environment and increases insecurities by the employees, which affects them by forcing them to spend more time enhancing their political skills and using the tactics of political behavior, and less time on the realization of the organizational goals.

The political action is of great importance for both the every member of the organization on all levels of hierarchy and for the organization as a whole. Having in mind that such activities influence the effectiveness and efficiency of the organization, the expectations of the individuals and their career goals as well, it can be concluded that politics plays an important role for the organization. If an enterprise cannot manage the political behavior of their members, the negative consequences will occur both from the individual and organizational aspects. Managers must strengthen their attitudes and manage such activities in the organization as to take a preventive reaction for the situations that might occur due to the political behavior of the employees.

## Conclusion

In contemporary organizations, political behavior is bound to happen. The members of the organization are motivated for this behavior so that they could achieve better material and non-material benefits. Such behavior of the employees is not negative only from the aspect of the organization, but the full consequences will depend on the goals and means of such behavior, and on the organizational culture as well. The use of some tactics of political behavior can positively affect the efficiency and effectiveness of the organization and lead to the fulfillment of the organizational goals.

Political behavior involves behavior of social influence that individuals tend to realize their interests which are in accord or against the goals of the organization. In order for someone to achieve career goals by using political behavior, the political skills of that individual are of the biggest importance.

The effects of including the employees into the political behavior can be both positive and negative and they can be observed from the aspect of the individual and from the aspect of the organization as a whole. The most common negative effects of such behavior are connected with the increase of tension and stress at work, the decrease of dedication to the organization, the decline in productivity, the loss of morale, distorting the work atmosphere, limiting communication and exchange of information within the organization, which all contributes to weaker performances on the organizational level. However, we can also talk about certain positive results of the political behavior of the employees. Leaders can use some of those tactics of political behavior to increase motivation of the employees and to boost their effectiveness and efficiency, increase organizational flexibility and make sure that the organizational changes are adapted to quickly.

Political behavior is manifested in the employees on the lower hierarchical levels of the organization as well, in order to boost their position within the organization, but it is the more often the case of higher managerial levels in order to direct their subordinate

employees. This is the effective way of creating good trusty relationships between the members of the organization, but the excessive use of the tactics of political behavior, especially the illegitimate ones, will have important negative outcomes in the end from the aspect of the organization, and from the aspect of the individual as well. The key role in this process is played by experienced and skillful managers who must be aware of the presence of such activities within the organization and also must find defensive tactics in order to evade the negative consequences of the unavoidable political behavior of the employees.

## References

- Akgemci, T., Gökçe Gök, S. L. (2015), The Effects of Political Behavior on the Level of Reaching Individual Career Goals, *International Journal of Business and Social Science*, 6 (5), 182-193.
- Appelbaum, S. H., Hughes B. (1998), Ingratiation as a Political Tactic: Effects within the Organization, *Management Decision*, 36 (2), 85-95.
- Bauer, T., Erdogan, B. (2016), Organizational Behavior, dostupno na: [http://catalog.flatworldknowledge.com/bookhub/3?e=bauer-ch13\\_s03](http://catalog.flatworldknowledge.com/bookhub/3?e=bauer-ch13_s03) (preuzeto 21.09.2016.)
- Chang, C. H., Rosen, C. C., Levy, P. E. (2009), The relationship between perceptions of organizational politics and employee attitudes, strain, and behavior: a metaanalytic examination, *Academy of Management Journal*, 52 (4), 779-801.
- Chang, C. H., Rosen, C. C., Siemieniec, G. M., Johnson, R. E. (2012), Perceptions of Organizational Politics and Employee Citizenship Behaviors: Conscientiousness and Self-Monitoring As Moderators, *Journal of Business and Psychology*, 27 (4), 395-406.
- Cheema, I. Q., Cheema, H. A., Ashraf, K. (2008), Leaders' Political Skill, Organizational Politics Savvy, and Change in Organizations - A Constellation, dostupno na : [http://www.regent.edu/acad/global/publications/sl\\_proceedings/2008/cheema-ashraf.pdf](http://www.regent.edu/acad/global/publications/sl_proceedings/2008/cheema-ashraf.pdf) (preuzeto 17.09.2016.)
- Coopey, J., Burgoyne, J. (2000), Politics and Organizational Learning, *Journal of Management Studies*, 37 (6), 869-885.
- Curtis, S. (2003), Lies, damned lies and organizational politics, *Industrial and Commercial Training*, 35 (7), 293-297.
- Dix, J. E., Savickas, M. L. (1995), Establishing a career: Developmental tasks and coping responses, *Journal of Vocational Behavior*, 47 (1), 93-107.
- Farrell, D., Patterson, J. C. (1982), Patterns of political behavior in organizations, *Academy of Management Review*, 7, 403-412.
- Ferris, G. R., Fedor, D. B., King, T. R. (1994), A political conceptualization of managerial behavior, *Human Resource Management Review*, 4, 1-34.
- Ferris, G. R., Perrewé, P. L., Anthony, W. P., Gilmore, D. C. (2000), Political skill at work, *Organizational Dynamics*, 28, 25-37.

- Ferris, G. R., Treadway, D. C., Kolodinsky, R. W., Hochwarter, W. A., Kacmar, C. J., Douglas, C., Frink, D. D. (2005), Development and validation of the political skill inventory, *Journal of Management*, 31, 126–152.
- Ferris, G. R., Treadway, D. C., Perrewé, P. L., Brouer, R. L., Douglas, C., Lux, S. (2007), Political Skill in Organizations, *Journal of Management*, 33 (3), 290-320.
- Gandz, J., Murray, V. V. (1980), The experience of workplace politics, *Academy of Management Journal*, 23, 237–251.
- Jafariani, H., Mortazavi, S., Nazemi, S. and Bull, P. (2012), Political behavior in organizational context: nature, research and paradigm, *Management Science Letters*, 2, 2987–3000.
- Kapoutsis, I., Thanos, C. I. (2016), Politics in organizations: Positive and negative aspects of political behavior, *European Management Journal*, 34, 310-312.
- Kilduff, M., Day, D. (1994), Do chameleons get ahead? The effects of self-monitoring on managerial careers, *Academy of Management Journal*, 37, 1047–1060.
- Kimura, T. (2015), A review of political skill: current research trend and directions for future research, *International Journal of Management Reviews*, 17 (3), 312-332.
- Kumar, P., Rehana, G. (1989), Organizational Politics and Its Effects on Members of Organizations, *Human Relations*, 42 (4), 305-314.
- Kordić, N., & Miličević, S. (2018). Human resources in the hotel industry of Serbia. *Menadžment u hotelijerstvu i turizmu*, 6(1), 93-103.
- Latif, A., Abideen, U. Z., Nazar, S. M. (2011), Individual Political Behavior in Organizational Relationship, *Journal of Politics and Law*, 4 (1), 199-210.
- March, J. G. (1962), The Business Firm as a Political Coalition, *Journal of Politics*, 24, 662-678.
- Mayes, B. T., Allen, R. W. (1977), Toward a Definition of Organization Politics, *Academy of Management Review*, 2, 672-678.
- Miles, R. H. (1980), *Macro organizational behavior*, Santa Monica, Cal.: Goodyear Publishing.
- Miller, B. K., Rutherford, M. A., Kolodinsky, R. W. (2008), Perceptions of Organizational Politics: A Meta-Analysis of Outcomes, *Journal of Business and Psychology*, 22 (3), 209-222.
- Mintzberg, H. (1977), Policy as a Field of Management Theory, *Academy of Management Review*, 2 (1), 88-103.
- Muhammad, A. H. (2007), Antecedents of organizational politic perceptions in Kuwait business organizations, *Competitiveness Review*, 17 (14), 234-247.
- Olorunleke, G. K. (2015), Effect of Organizational Politics on Organizational Goals and Objectives, *International Journal of Academic Research in Economics and Management Sciences*, 4 (3), 59-70.
- Perrewe, P. L., Nelson, D. L. (2004), Gender and Career Success: The Facilitative Role of Political Skill, *Organizational Dynamics*, 33 (4), 366–378.
- Robbins, S. P. (2001), *Organizational Behavior*, Prentice Hall, Inc., New Jersey.

- Semmer, N. K. (2006), Job Stress Interventions and the Organization of Work, *Scandinavian Journal of Work, Environment & Health*, 515-527.
- Szoc, R. (1999), Power and Political Behavior, dostupno na: [http://www.swlearning.com/management/hellriegel/ob10e/isc/web\\_chapters/00-032C09.pdf](http://www.swlearning.com/management/hellriegel/ob10e/isc/web_chapters/00-032C09.pdf) (preuzeto 24.09.2016.)
- Todd, Y. S., Harris, J. K., Harris, B. R., Wheeler, R. A. (2009), Career Success Implications of Political Skill, *The Journal of Social Psychology*, 149 (3), 179-204.
- Valle, M., Perrewe, P. L. (2000), Do politics perceptions relate to political behaviours? Tests of an implicit assumption and expanded model, *Human Relations*, 53 (3), 359-386.
- Valle, M., Witt, L. A. (2001), The Moderating Effect of Teamwork Perceptions on the Organizational Politics-Job Satisfaction Relationship, *The Journal of Social Psychology*, 141 (3), 379-388.
- Vigoda-Gadot, E., Drory, A. (2006), *Handbook of Organizational Politics: Looking Back and to the future*, Cheltenham, UK: Edward Elgar.
- Vigoda-Gadot, E., Kapun, D. (2005), Perceptions of politics and perceived performance in public and private organisations: a test of one model across two sectors, *Policy & Politics*, 33 (2), 251-276.
- Zubović, J., Boškov, V., Bešlin Feruh, M. (2013), Job satisfaction in public sector companies in Vojvodina, *Ekonomika*, X-XII, No. 4, 32-38.



## BOOK REVIEWS

Author:

Dr Predrag M. Vuković sci.

### **„COMPETITIVENESS OF RURAL TORUIST DESTINATION IN THE AREA OF LOWER DANUBE REGION IN THE REPUBLIC OF SERBIA“**

published by the Instiute of Agricultural Economics, Belgrade  
Monography, 2019.

Author Predrag M. Vuković Ph.D., a research associate in the Institute of Agricultural Economics, Belgrade has just published Monography under the title „*Competitiveness of rural toruist destination in the area of lower Danube region in the Republic Of Serbia*“. Monography could have significant impact on the theory and practice of competititvness of rural tourism Monography is result of research on the project „Sustainable agriculture and rural development in the function of accomplishing strategic objectives of the Republic of Serbia within the Danube region“, No. III - 46006, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia“.

Author has been researching topic many yerars and studing various aspect of rural tourism in the theory and also in the Republic of Serbia. The monograph is conceptualized in six chapters with a total of 301 pages. The author approaches the problem of rural tourism in a systematic way using all relevant scientific methods.

The complexity of rural tourism issues coming from the fact that it touches two important branches of national economy - agriculture and tourism. This led to the fact that to date there is no single universally accepted definition, both in the literature and by the important international organizations that monitor its development.

Historically, the expansion in rural tourism development began after Second World War. Practically, growth of the interest has been recorded since the car became available to a large number of people, making possible for many rural areas to become accessible to city urban populations interested in vacationing in rural areas. The development of rural tourism was recorded first in the countries of Western Europe and North America, and then in others.

The trend of rural tourism development and expansion is present almost throughout Europe today. The reasons are many. Rural tourism has managed to slow down some of the major problems that have plagued people's lives in rural areas (such as accelerated aging of rural population, migration to cities urban centers, unemployment, declining macroeconomic indicators, etc.) or to stop them completely in individual cases. The cases have been reported in some Western European countries that rural tourism has triggered these negative trends which burdened rural areas in the opposite direction. Moreover, recognizing the positive consequences of rural tourism, some rural households have shifted from primary agricultural production to exclusively rural tourism. Such examples have been reported in Germany, Austria, Italy, France, etc. Following the positive examples, a large number of countries in Europe and the Americas seek to use their natural and social, or anthropogenic, resources in rural areas to put them at the service of rural tourism development.

The Republic of Serbia has respectable resources to develop various types of rural tourism, such as natural, anthropogenic and other. One of the large and so far underused natural tourist attractions is the Danube River.

The Danube, after the Volga, is the second longest river in Europe. It flows through eleven countries over 3,505 km in length. It is an integral part of the trans-European navigation system Rhine - Main - Danube, connect Atlantic and Mediterranean. In the Europe's traffic system, the Danube River was selected as the European traffic Corridor user VII. In the Republic of Serbia, it covers length of 588 km has been navigated and three simply geographical units have been formed: the Upper Danube, the metropolitan areas of Belgrade - Novi Sad and the Lower Danube Region.

The focus of the research on this monograph is the areas of the Lower Danube region in the Republic of Serbia, its rural areas, i.e., monograph analyses of the situation and opportunities for the development of rural tourism in them. This paper analyzes the theoretical and practical aspects of the competitiveness of rural tourist destinations and examines the possibilities for increasing them. Factors affecting the management of rural tourist destinations are also analyzed. The problems of rural tourism development are considered. On the basis of the empirical research which was conducted and gained results, it has done Annalise of the elements of tourist supply that have influence on competitiveness of rural tourist destinations and it has defined strategic directions for the future development of rural tourism in the Lower Danube region. Having in mind the numerous factors that have negatively influence on the rural area and their development, the subject of the research were also conceptual measures for the proper management of rural tourist destinations.

The author successfully connect theoretical issues with practical results of conducted research. This is reflected in the fact that the author in monograph, with his overall interdisciplinary research and results, systematically and analytically approaches the analysis of factors of development of rural tourist destinations in of the Lower Danube region. Conceptually he defines rural tourist destinations and creates a typology of rural tourist destinations based on the character and specific features of the rural tourist offer.

The monographs have carried out a critical evaluation of the impact of relevant social, environmental, economic and political factors on the development of rural tourism in the Lower Danube region in the Republic of Serbia so far, and the levels of development are specified, with descriptions individually. Through an empirical research stemming from an extensive theoretical approach, an analysis of the complete value chain of rural tourism supply in the Lower Danube region has been made; so that the strongest and weakest links in the value chain of tourist supply can be clearly identified. Also, the author suggests key factors that enable complementary development of rural tourism with other types of tourism that can be implemented in rural areas of the Lower Danube region.

Practical contribution of the monograph written by the author Predrag M. Vukovic Ph.D. steems from the results of the original conducted survey which conclusions represent the basis for the definition of the directions, streaming and propose of practical measaures how to improve development of rural tourism in the area of the Lower Danube region.

Having in mind all the above, all stakeholders interested in the issue of the competitiveness of rural tourist destinations in this monography can find a very interesting

and useful theoretical and practical reading material. A particular contribution to the development of tourism can be found by local stakeholders who are practically interested in the development of rural tourism in the Lower Danube Region.

Zoran Simonovic  
Institute of Agricultural Economics, Belgrade



## ШАБЛОН / ТЕМПЛАТЕ ЗА ПИСАЊЕ РАДОВА

Име аутора (Font size 10 Normal) Times New Roman (SR-Cyrilic)  
Факултет или институција и Град (Font size 10 *Italic*)

### НАСЛОВ СРПСКИ (Font size 11 Bold)

#### Апстракт

*Текст апстракта на српском ...*

**Кључне речи:**

### NASLOV ENGLISKI ili neki drugi jezik (Font size 11 Bold)

#### Abstract

*Tekst apstrakta na engleskom ili na nekom drugom jeziku...*

**Key words:**

### НАСЛОВ (Font size 11 Bold)

Текст (Font size 10).....

## Литература

### 1. Списиак литературе

Veličina strane 170mm x 240mm  
Margine: Top 30mm Bottom 20mm  
Left 22mm Right 22mm

CIP – Каталогизација у публикацији  
Народна библиотека Србије, Београд

338 (497,1)

**ЕКОНОМИКА** : Часопис за економску теорију и праксу и друштвена питања / главни уредник Драгољуб Симоновић. – Год. LXV. бр. 4 (2019) - Ниш (Максима Горког 5/36) : Друштво економиста ЕКОНОМИКА, 2019 – (Ниш : MEDIVEST). – 120 стр. : 24 см.

Часопис излази четири пута годишње  
ISSN 0350-137X = Економика  
COBISS.SR-ID 26903

