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# FACTA UNIVERSITATIS

Series

## Economics and Organization

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## Contents

**Original Scientific Paper**

# THE DYNAMIC CAUSAL RELATIONSHIP BETWEEN OIL PRICE AND ECONOMIC GROWTH IN OIL-IMPORTING SSA COUNTRIES: A MULTIVARIATE MODEL

*UDC 622.323:338.5]:330.34*

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**Abstract**. *This study examines the causal relationship between oil price and economic growth in 14 oil-importing countries in sub-Saharan Africa during the period 1990 to 2018. The countries are further divided into two groups, namely seven low-income countries (LICs) and seven middle-income countries (MICs) in order to test whether the causality between oil price and economic growth depends on the countries' income levels. Unlike previous studies that used a bivariate model, this study employs a multivariate Granger-causality model, which incorporates oil consumption and real exchange rate as intermittent variables in a bivariate setting between oil price and economic growth. The study employs panel cointegration and the panel Granger-causality tests to examine this linkage. The results of the study show that in the short run, there is a bidirectional causality between oil price and economic growth for the entire dataset, and both for the LICs and MICs. However, in the long run, there is a bidirectional causal relationship between oil price and economic growth for the entire dataset and MICs, but a unidirectional causality from economic growth to oil price for the LICs. Overall, the study found a feedback relationship between oil price and economic growth to be predominant.*

**Key words**: *oil price, economic growth, panel analysis, Granger causality, low-income countries, middle-income countries*

**JEL Classification:** Q43; O55; C33

## 1. INTRODUCTION

Research on the cause of oil price shocks has developed away from the traditional exogenous political disruptions in Organization of the Petroleum Exporting Countries (OPEC) member countries. Since the early 1980s, research has shown that oil price shocks from 1973 have mainly been due to shifts in the demand for crude oil, especially shifts in the global business cycle (Baumeister and Peersman, 2013; Kilian and Murphy, 2014; Baumeister and Kilian, 2016a; Baumeister and Kilian, 2016b). Baumeister and Kilian (2016a) highlight two determinants for the price of oil. First, an increase in global economic activities raises the demand for production input of oil, in particular, thereby raising the price of oil. Secondly, a speculative demand for oil might arise against future shortages in the oil market. The speculative demand for oil puts upward pressure on the expected price of oil. A persistent increase in the price of international crude oil puts upward pressure on domestic prices. The foreign exchange reserves are also affected through the exchange rate channel and make the oil-importing Sub-Saharan African (SSA) countries highly vulnerable to oil price shocks. The complete reliance of SSA countries on imported oil increases its vulnerability. The share of oil in the total energy mix for SSA countries is energy-dependent. Energy generation from coal is becoming popular beyond South Africa, but oil is still the largest in the energy mix of SSA countries. The demand for oil in SSA countries is estimated to be 1.8 million barrels per day. South Africa accounts for the highest oil demand in Africa with approximately 30% of the total demand for Africa. Nigeria accounts for more than 20% (OECD/IEA, 2014). Other countries in the region collectively consume the remaining half.

The literature confirms that there is a relationship between oil price and economic growth (Narayan et al., 2008; Du & Wei, 2010; Aliyu, 2011; Romer, 2018; Sarwar et al., 2017). The existence of cointegration among the variables confirms the presence of a causal relationship among them in at least one direction; however, it does not explicitly state the direction of this causal relationship (Engle and Granger, 1987; Shahbaz et al., 2017). Moreover, findings on the causal relationship are mixed. In addition, some of the studies tend to suffer from omission-of-variable biases because they are based on bivariate analysis. Moreover, studies using panel data analysis for SSA countries are scanty. This study, therefore, uses a multivariate analysis to examine the causal relationship between oil price and economic growth in SSA countries during the period 1990 to 2018. The study further divides SSA countries into two groups, namely seven low-income countries (LICs) and seven middle-income countries (MICs)[2] in order to test whether the causality between oil price and economic growth depends on the countries' income levels. The study employs panel cointegration and panel ECM-based Granger-causality tests to examine this linkage. To our knowledge, this study may be the first of its kind to examine in detail the causal relationship between oil price and economic growth in oil-importing countries in sub-Saharan Africa, using a multivariate panel Granger-causality model.

The rest of this paper is organised as follows: Section 2 gives a summary of previous studies on the relationship between oil price and economic growth; Section 3 presents the estimation techniques, empirical analysis and the discussion of the results, while Section 4 concludes the paper.

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[2] The LICs include Ethiopia, Gambia, Mali, Mozambique, Senegal, Tanzania and Uganda. The MICs include Botswana, Kenya, Mauritania, Mauritius, Namibia, South Africa and Zambia.

## 2. LITERATURE REVIEW

The causality between oil price and economic growth has been empirically tested in some studies as well, though the results are far from being consistent. Studies on the causal relationship between oil price and economic growth can be divided into four categories. The first category found Granger-causality flow from oil prices to economic growth. The second category found the Granger-causal relationship flow is from economic growth to oil prices. The third category of studies found the flow to be feedback hypothesis (two-way causal relationship) while the fourth category is the neutrality hypothesis (where there is no causal relationship). While most studies that exist have been conducted on developed countries, particularly the US, most studies on developing countries have been in Asia and Latin America. Little attention has been given to SSA countries that are usually mostly hit by oil price shocks.

Studies on oil prices and economic growth are few in comparison to studies on energy consumption and economic growth. Few studies have examined the nexus between oil prices and economic growth. Some of the studies that have examined oil price and economic growth include Hooker (1996a), Lescaroux and Mignon (2008), Cunado and Perez-de-Gracia (2003), Rafiq et al. (2009) and Kumar (2009). While some studies found a unidirectional causal relationship, other studies found the feedback hypothesis. Some studies also found mixed results for studies conducted in more than one country. There is, therefore, either causality or no causality in some of the countries employed in the study and under different data periods.

The consensus in the literature shows that oil and its price is pivotal in the economic activities of the world. Similarly, the magnitude and direction of its causal relationship are widely still debated in the literature. Assessing the consequences of oil price fluctuation on economic growth is specifically relevant to the case of oil-importing countries in SSA. As most of the oil-importing countries are small open economies and they have no real power on the global price of oil, hence they are greatly influenced by the effect of oil price variation especially as an importer of refined oil.

On the one hand, some studies found a unidirectional causal relationship between oil price and GDP. These include Rafiq et al. (2009); Kumar (2009) and Odhiambo and Nyasha (2019). Rafiq et al. (2009) analyzed data from Thailand and found that oil price does Granger cause and have a significant impact on macroeconomic indicators in the country. Kumar (2009) confirmed similar results for India using linear and nonlinear specifications of multivariate VAR. Evidence showed that oil price does Granger cause macroeconomic activities. A one percent decrease in the growth of industrial production is attributed to a one hundred percent increase in the oil price. Another study that found a unidirectional causality is Jayaraman and Choong (2009) in an analysis of four selected Pacific Island countries. They found that the causality runs from oil price to economic growth. Odhiambo and Nyasha (2019) also found a unidirectional causal relationship between oil price and economic growth in Kenya. The causal relationship, however, flows from economic growth to oil prices. Other studies on African countries that found a unidirectional causality between oil price and economic growth include Mensah et al. (2019) for a panel of 22 African countries and Awunyo-Victor et al. (2018) for Ghana.

On the other hand, a bidirectional causal relationship was found between oil price and economic growth in studies such as Sarwar et al. (2017); Shahbaz et al. (2017); Jiménez-Rodríguez and Sánchez (2005); and Ebohon (1996). In a panel analysis of 157 countries, Sarwar et al. (2017) confirmed a bidirectional causal relationship in a multivariate analysis between oil price, GDP, electricity consumption, fixed capital formation and population. Shahbaz et al. (2017) found a similar result in a multivariate analysis of oil price, GDP and electricity

consumption in a panel of 157 countries. In another study for eight OECD countries, Jiménez-Rodríguez and Sánchez (2005) found a bi-directional relationship for five of the countries, namely: Japan, Canada, Germany, UK, and France. However, a unidirectional relationship (oil price Granger causes GDP) is found for the USA, Italy, and Norway. Ebohon (1996) also found a bidirectional relationship between energy and economic growth for both Nigeria and Tanzania.

Other studies found mixed results in their analysis. Hooker (1996a) found that oil price does not Granger-cause industrial production for the US using the VAR methodology from 1947 to 1994; however, oil price Granger causes unemployment and employment growth rates for data from 1947 to 1973 but not after 1973. Hooker (1996b) also found that oil price does not Granger-cause GDP for the US. Cunado and Perez-de-Gracia (2005) analyzed six Asian countries using VAR and quarterly data from 1975 to 2002. They found that oil price does not Granger-cause economic growth for half of the countries in the short-run but does granger cause economic growth in South Korea, Japan, and Thailand. Lescaroux and Mignon (2008) examined three panel groups of oil-importing, oil-exporting and OPEC countries, and posited that oil price Granger-causes GDP for the oil importers and OPEC countries. However, they do not Granger-cause GDP for other oil exporters. Cunado and Perez-de-Gracia (2003) analysed 14 European countries using quarterly data from 1960 to 1999, and a VAR technique. They observed that oil prices Granger-cause GDP for half of the countries, but do not Granger-cause GDP for the other half.

## 3. ESTIMATION TECHNIQUES AND EMPIRICAL ANALYSIS

### 3.1. Empirical Model Specification

The Granger-causality test as proposed by Engle and Granger (1987; 2004) is extended to examine the causal relationship between oil price, economic growth and oil consumption in a panel of 14 countries. Given the flaws of the bivariate causality framework (Dumitrescu and Hurlin, 2012), the current study uses a multivariate causality test to examine this linkage. According to Behmiri and Manso (2013), the omission of a vital variable in the causal link between two variables could result in omitted variable bias. To address this shortfall, a multivariate causality model is used to examine the causal relationship between real oil price (ROP) and economic growth (y). Oil consumption (OC) and real effective exchange rate (REER) are used as the intermittent variables in the multivariate models. The variables are expressed in their logarithm form. The model used in this study can be expressed as follows:

$$\Delta y_{it} = \propto_{1j} + \sum_{k=1}^{n} \partial_{11ik} \Delta y_{it-k} + \sum_{k=1}^{n} \partial_{12ik} \Delta ROP_{it-k} + \sum_{k=1}^{n} \partial_{13ik} \Delta OC_{it-k} + \sum_{k=1}^{n} \partial_{14ik} \Delta REER_{it-k} + \varphi_{1i} ECT_{1it-1} + \mu_{1it} \tag{1}$$

$$\Delta ROP_{it} = \propto_{2j} + \sum_{k=1}^{n} \partial_{21ik} \Delta y_{it-k} + \sum_{k=1}^{n} \partial_{22ik} \Delta ROP_{it-k} + \sum_{k=1}^{n} \partial_{23ik} \Delta OC_{it-k} + \sum_{k=1}^{n} \partial_{24ik} \Delta REER_{it-k} + \varphi_{2i} ECT_{2it-1} + \mu_{2it} \tag{2}$$

$$\Delta OC_{it} = \propto_{3j} + \sum_{k=1}^{n} \partial_{31ik} \Delta y_{it-k} + \sum_{k=1}^{n} \partial_{32ik} \Delta ROP_{it-k} + \sum_{k=1}^{n} \partial_{33ik} \Delta OC_{it-k} + \sum_{k=1}^{n} \partial_{34ik} \Delta REER_{it-k} + \varphi_{3i} ECT_{3it-1} + \mu_{3it} \tag{3}$$

$$\Delta REER_{it} = \propto_{4j} + \sum_{k=1}^{n} \partial_{41ik} \Delta y_{it-k} + \sum_{k=1}^{n} \partial_{42ik} \Delta ROP_{it-k} + \sum_{k=1}^{n} \partial_{43ik} \Delta OC_{it-k} + \sum_{k=1}^{n} \partial_{44ik} \Delta REER_{it-k} + \varphi_{4i} ECT_{4it-1} + \mu_{4it} \tag{4}$$

$ECT_{it}$ are the error correction terms (ECTs). The long-run causality is measured by the significance of the t statistics of the ECTs. The short-run Granger causality is tested by using F-statistics.

The regression analysis will be conducted in three steps. In the first step, the unit root test which is aimed at testing the order of cointegration is carried out. If the variables are integrated at I(0) or I(1), a cointegration test is conducted as the second step. Once the variables are found to be cointegrated, the ECM term will be included in the causality model leading to an ECM based Granger-causality test. The F-statistics captures the short-run causality and the ECM captures the long-run causality.

### 3.2. Data source

This study examined and analysed the causal relationship between real oil price and economic growth from 1990 to 2018 for a panel dataset of seven low-income and seven middle-income oil-importing countries in SSA. This study used the World Bank (2018) classification of economies to categorise the countries into LICs and MICs. The LICs include Ethiopia, Gambia, Mali, Mozambique, Senegal, Tanzania and Uganda. The MICs include Botswana, Kenya, Mauritania, Mauritius, Namibia, South Africa and Zambia. Annual data were employed in this study and were sourced from the World Development Indicator (WDI, 2019), the US Energy Information Administration (EIA) and the BP Statistical Report, 2019.

**Table 1** Data Description

| Variable | Definition | Source |
|---|---|---|
| y | The real GDP per capita at constant 2010 national prices (in millions 2010 US$) | World Development Indicators (WDI) |
| ROP | The real oil price is the spot price of crude oil, per barrel, sold on the international market which is adjusted for inflation (in US$) | BP Statistical Review |
| OC | Oil consumption is the quantity of oil consumed. It is measured in thousands of barrels per day (mb/d) | US Energy Information Administration (EIA) |
| REER | The real effective exchange rate is defined as the nominal exchange rate adjusted by the respective consumer price index of the trading partners. | Bruegel Dataset |

## 4. RESULTS AND DISCUSSION

### 4.1. Panel unit root tests

The estimation begins with the unit root test to determine the order of integration of the variables. To test the stationarity of the variables, five-panel unit root tests are employed. The tests are divided into the homogenous unit root process and the heterogeneous unit root process. The Levin, Lin & Chu t* (LLC) and Breitung t-stat are classified as the homogeneous unit root process, while the Im, Pesaran and Chin (2003), ADF-Fisher Chi-square and the PP-Fisher Chi-square tests assume the heterogeneous unit root process.

**Table 2** Panel Unit root tests

|  | Method | At level | | At first difference | | Order of Integration |
|---|---|---|---|---|---|---|
|  |  | Intercept | Trend | Intercept | Trend |  |
| y | LLC | 0.32 (0.626) | 1.36 (0.913) | $-7.24^{***}$(0.000) | $-6.80^{***}$(0.000) | I(1) |
|  | Breitung | - | 1.08 (0.859) | - | $-3.45^{***}$(0.000) |  |
|  | IPS | 5.00 (1.000) | -1.05 (0.147) | $-8.91^{***}$(0.000) | $-7.23^{***}$(0.000) |  |
|  | ADF-Fisher | 6.31 (1.000) | $39.37^{*}$ (0.075) | $133.19^{***}$(0.000) | $106.48^{***}$(0.000) |  |
|  | PP-Fisher | 6.34 (1.000) | $48.74^{***}$(0.009) | $210.57^{***}$(0.000) | $426.75^{***}$(0.000) |  |
| ROP | LLC | $-4.98^{***}$ (0.000) | $-1.77^{**}$ (0.039) | - | $-8.60^{***}$(0.000) | I(1) |
|  | Breitung | - | -0.85 (0.199) | - | $-6.09^{***}$(0.000) |  |
|  | IPS | $-3.61^{***}$ (0.000) | $-1.59^{*}$ (0.056) | - | $-8.13^{***}$(0.000) |  |
|  | ADF-Fisher | $61.18^{***}$ (0.000) | 36.19 (0.138) | - | $110.94^{***}$(0.000) |  |
|  | PP-Fisher | $61.30^{***}$ (0.000) | 32.23 (0.265) | - | $109.34^{***}$(0.000) |  |
| OC | LLC | 0.51 (0.695) | $-2.39^{***}$(0.008) | $-8.67^{***}$ (0.000) | - | I(1) |
|  | Breitung | - | $-2.19^{**}$ (0.014) | - | - |  |
|  | IPS | 3.80 (1.000) | $-3.01^{***}$(0.001) | $-11.14^{***}$(0.000) | - |  |
|  | ADF-Fisher | 11.79 (0.997) | $55.28^{***}$(0.002) | $167.54^{***}$(0.000) | - |  |
|  | PP-Fisher | 29.51 (0.387) | $61.70^{***}$(0.000) | $285.02^{***}$(0.000) | - |  |
| REER | LLC | 0.19 (0.574) | $-1.44^{*}$ (0.075) | $11.85^{***}$(0.000) | - | I(1) |
|  | Breitung | - | $-3.32^{***}$(0.000) | - | - |  |
|  | IPS | $-1.48^{*}$ (0.070) | $-2.51^{***}$(0.006) | $-12.55^{***}$(0.000) | - |  |
|  | ADF-Fisher | $39.94^{*}$ (0.067) | $46.64^{**}$ (0.015) | $195.54^{***}$(0.000) | - |  |
|  | PP-Fisher | 34.31 (0.191) | 26.52 (0.545) | $250.62^{***}$(0.000) | $589.47^{***}$(0.000) |  |

For all probability values, $^{*}$, $^{**}$ and $^{***}$ denote significance at 10%, 5% and 1% level of significance, respectively.

### 4.2. Panel Cointegration Test

Before establishing the direction of causality between the variables, the panel cointegration test is performed to confirm the existence of a cointegrating relationship among the variables of interest. Tables 3 and 4 present the results of the panel cointegration test for the entire dataset, and the panel of LICs and MICs.

The results in Table 3 show that there is a cointegrating relationship among the variables used in this study. These variables are real GDP per capita, real oil price, oil consumption and real effective exchange rate. In the entire dataset, four statistics out of seven reject the null hypothesis of no cointegration. For the country groups, five statistics reject the null hypothesis of no cointegration in the panel of LICs, while four statistics reject the null hypothesis in the panel of MICs.

The presence of a cointegrating relationship is further buttressed by the results of the Kao cointegration test reported in Table 4, which reject the null hypothesis of no cointegration for all the datasets used in this study at the 5% level of significance.

**Table 3** Results of Pedroni Cointegration test

| Test | Statistic | Prob. | Weighted Statistic | Prob. |
|---|---|---|---|---|
| | Entire dataset | | | |
| | Within-dimension | | | |
| Panel v-Statistic | 9.370*** | 0.000 | 4.943*** | 0.000 |
| Panel rho-Statistic | 0.274 | 0.608 | 1.749 | 0.960 |
| Panel PP-Statistic | -3.660*** | 0.000 | -0.717 | 0.237 |
| Panel ADF-Statistic | -4.275*** | 0.000 | -1.684** | 0.046 |
| | Between-dimension | | | |
| Group rho-Statistic | 2.808 | | | 0.998 |
| Group PP-Statistic | -0.551 | | | 0.291 |
| Group ADF-Statistic | -2.763*** | | | 0.003 |
| | LIC | | | |
| | Statistic | Prob. | Weighted Statistic | Prob. |
| | Within-dimension | | | |
| Panel v-Statistic | 7.195*** | 0.000 | 3.568*** | 0.000 |
| Panel rho-Statistic | -0.572 | 0.284 | 0.949 | 0.829 |
| Panel PP-Statistic | -4.129*** | 0.000 | -1.052 | 0.146 |
| Panel ADF-Statistic | -4.769*** | 0.000 | -2.308** | 0.011 |
| | Between-dimension | | | |
| Group rho-Statistic | 1.902 | | | 0.971 |
| Group PP-Statistic | -0.378 | | | 0.353 |
| Group ADF-Statistic | -2.024** | | | 0.022 |
| | MIC | | | |
| | Statistic | Prob. | Weighted Statistic | Prob. |
| | Within-dimension | | | |
| Panel v-Statistic | -1.603 | 0.946 | -1.727 | 0.958 |
| Panel rho-Statistic | -0.284 | 0.388 | -0.324 | 0.373 |
| Panel PP-Statistic | -1.552* | 0.060 | -1.575** | 0.058 |
| Panel ADF-Statistic | -1.810** | 0.035 | -1.776** | 0.038 |
| | Between-dimension | | | |
| Group rho-Statistic | 0.270 | | | 0.607 |
| Group PP-Statistic | -2.346** | | | 0.010 |
| Group ADF-Statistic | -2.980*** | | | 0.001 |

For all probability values, *, ** and *** denote significance at 10%, 5% and 1% level of significance, respectively.

**Table 4** Results of Kao Cointegration test

| Statistics | Prob | Cointegration Status |
|---|---|---|
| | Entire dataset | |
| -2.243** | 0.013 | Cointegrated |
| | LIC | |
| -1.952** | 0.025 | Cointegrated |
| | MIC | |
| -2.243** | 0.012 | Cointegrated |

For all probability values, *, ** and *** denote significance
at 10%, 5% and 1% level of significance, respectively.

### 4.3 ECM-Based Causality Model

This study analyses the causality between oil price and economic growth for the entire dataset and compares the causality in the two country groups, namely LICs and MICs. The cointegrating regressions indicate the presence of causality at least in one direction. However, they do not indicate the direction of causal relationships between the variables (see Granger, 1988; Narayan and Smith, 2008; Odhiambo, 2009; Saidi et al., 2017). The direction of the long-run causal relationship can be observed from the error-correction model (ECM) obtained from the long-run cointegrating vectors (Apergis and Payne, 2010; Saidi and Mbarek, 2016; Saidi et al., 2017). The long-run causal relationship is, therefore, observed through the significance of the t-statistics of the error correction terms (ECTs) in the cointegrating equation (Asongu *et al.,* 2016). The statistical significance of the F-statistics, on the other hand, determines the short-run causal relationship between the variables used in the model (see Saidi and Mbarek, 2016; Apergis and Payne, 2010). The acceptance or rejection of the null hypothesis for the causal relationships is confirmed at 1%, 5% and 10% significance levels. Table 5 presents the causal relationship between oil price and economic growth for the entire dataset.

**Table 5** Results of Panel Granger causality for the entire dataset

| Dependent Variables | Sources of causality (independent variables) | | | | |
|---|---|---|---|---|---|
| | Short-run | | | | Long-run |
| | $\Delta y$ | $\Delta ROP$ | $\Delta OC$ | $\Delta REER$ | ECT |
| $\Delta y$ | - | 4.648** | 10.261*** | 24.906*** | -0.001*** |
| | | (0.032) | (0.002) | (0.000) | [-4.583] |
| $\Delta ROP$ | 3.622** | - | 4.126** | 25.544*** | -0.119*** |
| | (0.058) | | (0.043) | (0.000) | [-7.374] |
| $\Delta OC$ | 12.052*** | 7.887*** | - | 0.126 | -0.001*** |
| | (0.001) | (0.005) | | (0.723) | [-3.298] |
| $\Delta REER$ | 11.018*** | 9.594*** | 5.766** | - | -0.067*** |
| | (0.001) | (0.002) | (0.017) | | [-4.495] |

For all probability values, *, ** and *** denote levels of significance at 10%, 5% and 1%, respectively.

The results reported in Table 5 show that there is evidence of a short-run causality running from real oil price to real GDP per capita and from real GDP per capita to real oil price for the entire dataset. The results are supported by the corresponding F-statistics in the real GDP and oil price equations, which are statistically significant. This finding, therefore, supports a short-run bidirectional causality between oil price and economic growth. Similarly, the long-run results show that there is a bidirectional causality between oil price and economic growth for the entire dataset. This is confirmed by the coefficients of the ECTs in the real GDP and oil price equations, which are negative and statistically significant. The results of the causality test between oil price and real GDP for LICs and MICs datasets are reported in Table 6.

The results reported in Table 6 show that for the LICs, there is a bidirectional causal relationship between real oil price and real GDP in the short run, but a unidirectional causality running from economic growth to real oil price in the long run. A short-run bidirectional is confirmed by the corresponding F-statistics in the real GDP and oil price equations, which have been found to be statistically significant. A long-run unidirectional

**Table 6** Comparison of the Panel Granger causality for the panel of LICs and MICs

| Dependent Variables | LIC | | | | | MIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sources of causality (independent variables) | | | | | Sources of causality (independent variables) | | | | |
| | Short-run | | | Long-run | | Short-run | | | Long-run | |
| | $\Delta y$ | $\Delta ROP$ | $\Delta OC$ | $\Delta REER$ | ECT | $\Delta y$ | $\Delta ROP$ | $\Delta OC$ | $\Delta REER$ | ECT |
| $\Delta y$ | - | 7.919*** | 1.808 | 4.167** | -0.039 | - | 3.379* | 5.413** | 14.452*** | -0.151*** |
| | | (0.006) | (0.181) | (0.043) | [-1.488] | | (0.069) | (0.022) | (0.000) | [-3.195] |
| $\Delta ROP$ | 7.984*** | - | 3.396* | 22.671*** | -0.056*** | 4.524** | - | 1.022 | 12.521*** | -0.055*** |
| | (0.005) | | (0.067) | (0.000) | [-3.233] | (0.035) | | (0.314) | (0.001) | [-3.211] |
| $\Delta OC$ | 2.046** | 10.693*** | - | 2.538 | -0.175** | 15.433*** | 0.010 | - | 17.608*** | -0.004*** |
| | (0.043) | (0.001) | | (0.113) | [-2.607] | (0.000) | (0.920) | | (0.000) | [-2.868] |
| $\Delta REER$ | 4.136** | 2.561 | 3.429* | - | -0.035*** | 0.322 | 2.107 | 6.352** | - | -0.042*** |
| | (0.044) | (0.112) | (0.066) | | [-3.736] | (0.572) | (0.149) | (0.013) | | [-3.311] |

For all probability values, *, ** and ***, denote significance at 10%, 5% and 1% levels of significance, respectively.

causality running from economic growth to real oil price is confirmed by the coefficient of the ECT in the oil price equation, which is negative and statistically significant. For the MICs, the results show that there is a bidirectional causality between oil price and real GDP in the short run and the long run. The short-run result is confirmed by the corresponding F-statistics in the real GDP and oil price equations, which have been found to be statistically significant. The long-run result, on the other hand, is confirmed by the corresponding coefficients of the ECT in the real GDP and oil price equations, which have been found to be negative and statistically significant.

**Table 7** Summary of causality tests

| Panels | Causality | General conclusion |
|---|---|---|
| LIC (in the short run) | There is a bidirectional causality between real oil price and economic growth | y ↔ ROP |
| LIC (in the long run) | There is a unidirectional causality from economic growth to real oil price | y → ROP |
| MIC (in the short run) | There is a bidirectional causality between real oil price and economic growth | y ↔ ROP |
| MIC (in the long run) | There is a bidirectional causality between real oil price and economic growth | y ↔ ROP |

Note: y ↔ ROP represents a bidirectional causality; y → ROP represents a unidirectional causality from economic growth to real oil price

## 5. CONCLUSION

In this study, the causal relationship between oil price and economic growth has been examined in 14 oil-importing sub-Saharan African (SSA) countries during the period 1990–2018. Although the causal relationship between oil price and economic growth has been examined in a number of studies, very few studies have been conducted in Africa in general and in SSA in particular. Moreover, the majority of studies conducted suffer from methodological weaknesses. As an example, some studies used bivariate Granger-causality,

yet studies have shown that bivariate causality suffers from omission bias. Moreover, the majority of the previous studies lumped low-income and middle-income countries together; however, studies have shown that the relationship between oil price and economic growth could be dependent on the level of income of the countries. These findings have important policy recommendations. For the low-income countries, energy conservation policies are necessary in the long run to ensure that energy is used efficiently as a result of the increase in economic growth. Middle-income countries should pay attention to the efficient use of energy while pursuing economic trajectories. In particular, they may consider regulatory policies aimed at normalising oil prices, especially in the long run. Unlike some of the previous studies, this study uses a multivariate Granger-causality model, which incorporates oil consumption and real exchange rate as intermittent variables between oil price and economic growth. The study employed panel cointegration and the panel Granger-causality tests to examine this linkage. In addition, the study countries were divided into two groups, namely LICs and MICs in order to test whether the causality between oil price and economic growth depends on the countries' income levels.

The results from this study show that the causality between oil price and economic growth depends on the countries' income levels. Specifically, the results show that for the LICs, a bidirectional causality between oil price and real GDP tends to prevail in the short run, while a unidirectional causality running from economic growth to real oil price predominates in the long run. However, for MICs, the results show that there is a bidirectional causality between oil price and real GDP in the short run and the long run. Other results show that in LICs, there is: i) a bidirectional causality between real exchange rate and economic growth, and between oil consumption and oil price; ii) a unidirectional causality from real exchange rate to oil price; iii) a unidirectional causality from economic growth to oil consumption. These results apply irrespective of whether the causality is estimated in the short run or the long run. The results for MICs, on the other hand, show that there is: i) a bidirectional causality between oil consumption and economic growth, and between oil consumption and exchange rate; and ii) a unidirectional causality from real exchange rate to oil price and economic growth. Overall, the study found a feedback relationship between oil price and economic growth to predominate in the countries under study.

These findings have important policy recommendations. For the low-income countries, energy conservation policies are necessary in the long run to ensure that energy is used efficiently as a result of the increase in economic growth. Middle-income countries should pay attention to the efficient use of energy while pursuing economic trajectories. In particular, they may consider regulatory policies aimed at normalizing oil prices, especially in the long run.

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# DINAMIČKA UZROČNA VEZA IZMEĐU CENE NAFTE I EKONOMSKOG RAZVOJA U PODSAHARSKIM ZEMLJAMA UVOZNICAMA NAFTE: MULTIVARIJANTNI MODEL

*Ovaj rad istražuje uzročnu vezu između cene nafte i ekonomskog razvoja u 14 zemalja –uvoznica nafte u PodsaharskojAafrici u preiodu od 1990 do 2018. Zemlje se dalje dele u dve grupe, naime sedam zemalja sa niskim prihodima (LIC) i sedan zemalja sa srednjim prihodima (MIC) kako bi se testiralo da li uzročnost između cene nafte i ekonomskog razvoja zavisi od nivoa prihoda zemlje. Za razliku od prethodnih istraživanja koja koriste bivarijantni model, ova studija koristi multivarijantni Grendžerov model uzročnosti, koji uključuje potrošnju nafte i realni devizni kurs kao naizmenične promenljive u bivarijantnom okruženju između cene nafte i ekonomskog razvoja. Studija koristi panel kointegracijske i panel Grendžer-uzročne testove da bi ispitala ovu vezu. Rezultati studije pokazuju da kratkoročno postoji dvosmerna uzročnost uzmeđu cene nafte i ekonomskog razvoja za čitav skup podataka, za LIC i MIC podjednako. Međutim, dugoročno, postoji dvosmerna uzročna veza između cene nafte i ekonomskog razvoja za ceo skup podataka i MIC, ali jednosmerna uzročnost od ekonomskog razvoja do cene nafte za LIC. Sveukupno, studija je utvrdila da je povratni odnos između cene nafte i ekonomskog razvoja dominantan.*

Ključne reči:  *cena nafte, ekonomski razvoj, panel analiza, Grendžer uzročnost, zemlje sa niskim prihodima, zemlje sa srednjim prihodima*

**Original Scientific Paper**

# HOW DID COVID-19 PANDEMIC AFFECT THE TOURISM INDEX IN BORSA ISTANBUL?

*UDC 338.48:[616.98:578.834(560)*

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**Abstract**. *This study aims to determine how and to what extent the Covid-19 pandemic impacted the Turkish tourism sector index in Borsa İstanbul. Daily data for the period from March 27th 2020 to December 31st 2020 were used to find the relationship between the dependent variable (BIST tourism stock index) and the independent variables (Covid-19 cases and deaths in Turkey). The cointegration relationship between the Covid-19 pandemic and the BIST tourism index was investigated with the ARDL bound test. In addition, the effect of the Covid-19 pandemic on the BIST tourism index was tested with the Cointegrating Regression Models. As a result of the ARDL bound test, it was determined that there is a long-term cointegration relationship between the Covid-19 pandemic and the BIST tourism index. In addition, it has been determined that the impact of the short-term shocks caused by Covid-19 on the BIST tourism index will disappear in the long term and will balance again in about a week. According to the Cointegrating Regression Models (FMOLS, DOLS and CCR) results, it is seen that the deaths from Covid-19 significantly affect the tourism index. According to the models, a 1% increase in the number of deaths causes the BIST tourism index to decrease by 0.08%, 0.06% and 0.08%, respectively. The coefficient of the number of Covid-19 cases is not significant, showing that the number of cases does not have a sufficient effect on the tourism index. The findings of the paper have some implications for stock investors, policy makers, academicians and the company owners in the tourism index of Borsa Istanbul.*

**Key words**:  *Covid-19 Pandemic, BIST Tourism Index, ARDL Bound Test, Cointegrating Regression Models*

**JEL Classification:** G10, D53, Z33

## 1. INTRODUCTION

With the outbreak of Covid-19, which was declared as an epidemic by the World Health Organization (WHO) on March 11th, 2020, Turkey, along with the whole world, entered a serious crisis environment. As of January 15th, 2021, there are more than 94 million confirmed COVID-19 cases and over 2 million deaths in 221 countries. As of this date, it is seen that the five countries most affected by COVID-19 are the USA, India, Brazil, Russia and UK, respectively. Turkey, among countries affected by the pandemic Covid-19 is located as 9th.. On January 15th 2021, a total of 2,373,115 people were infected and 23,664 people died (www.worldometers.info).

As seen in Figure 1, the first wave was experienced in Turkey in April 2020, with the number of infected reaching 10,000 per day. The daily number of cases, which remained low from June to November, reached its second peak in December 2020 (35,000 per day). The number of cases, which decreased again, exceeded 63,000 daily at the end of April 2021, and the third wave was seen. With the intense restrictions applied in the same period and the start of vaccination, the number of daily cases decreased to 5,000 at the end of June 2021 (Figure 1).
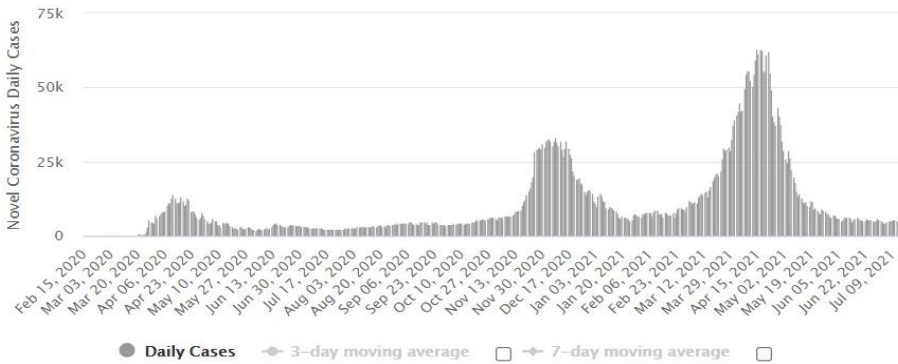


**Fig. 1** Daily Covid-19 Cases in Turkey
*Source*: Derived from www.worldometers.info, 2021.

The continuation of the pandemic has also negatively affected the Turkish tourism sector. As of 2019, Turkey was among the top 5 countries in the world with 51 million annual visitors and 34 million USD tourism income. Tourism revenues are of vital importance in terms of Turkey's balance of payments. However, as can be seen in Table 1, 2020 has had profound effects on the Turkish tourism sector. According to Table 1, the number of tourists and tourism income decreased to zero in April-May and June immediately after the Pandemic declaration. After this dramatic situation, annual tourism income remained at the level of 12 million USD (65% decrease) and the number of tourists remained at the level of 15.8 million (69% decrease).

Although decreases are seen in the tourism index due to the number of cases and deaths caused by Covid-19, upward movements have emerged in the index again with the expectations that vaccine development and vaccination activities will start in the world.

In 2020, there were 8 tourism companies (Avtur, Ayces, Maalt, Martı, Metur, Tektu, Ulas and Utopia) in the tourism index of Borsa Istanbul[2]. These companies are largely hotels that

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[2] https://www.kap.org.tr/tr/Endeksler, Accessed on 31.12.2020

provide for customers from abroad. Therefore, these companies were significantly negatively affected by the pandemic.

**Table 1** Tourism income and number of visitors by months in Turkey, 2019-2020

| Months | 2019 | | | 2020[(1)] | | |
|---|---|---|---|---|---|---|
| | Tourism income (000 $) | Number of visitors | Average expenditure per capita ($) | Tourism income (000 $) | Number of visitors | Average expenditure per capita ($) |
| Total | 34,520,332 | 51,860,042 | 666 | 12,059,320 | 15,826,266 | 762 |
| January | 1,585,517 | 2,226,288 | 712 | 1,834,008 | 2,529,423 | 725 |
| February | 1,359,194 | 1,944,957 | 699 | 1,479,447 | 2,051,923 | 721 |
| March | 1,684,968 | 2,473,147 | 681 | 787,750 | 1,058,068 | 745 |
| April | 1,996,446 | 3,266,256 | 611 | - | - | - |
| May | 2,639,675 | 4,219,837 | 626 | - | - | - |
| June | 3,337,843 | 5,276,253 | 633 | - | - | - |
| July | 4,384,887 | 6,703,045 | 654 | 561,409 | 777,043 | 722 |
| August | 5,244,124 | 8,167,150 | 642 | 1,622,303 | 2,192,917 | 740 |
| September | 4,402,111 | 6,741,769 | 653 | 1,860,644 | 2,634,195 | 706 |
| October | 4,101,484 | 5,437,494 | 754 | 2,054,889 | 2,355,124 | 873 |
| November | 2,138,195 | 3,005,517 | 711 | 1,051,951 | 1,262,757 | 833 |
| December | 1,645,890 | 2,398,329 | 686 | 806,918 | 964,816 | 836 |

Note: Figures in table may not add up to totals due to rounding.
(1) Annual data for 2020 include the data for 1st, 3rd and 4th quarters.
'- Data related to the 2nd quarter of 2020 was not published because survey could not be conducted at border gates due to coronavirus (COVID-19) pandemic.
Calculations are made by extracting the departures of Syrians from the Gaziantep Kargamış, Hatay Cilvegözü and Yayladağı, Kilis Öncüpınar and Şanlıurfa-Akçakale border gates from the border figures of General Directorate of Security.
*Source*: Turkish Statistical Institute, TurkStat Departing Visitors Survey, 2021.

Globally, the Covid-19 pandemic causes many businesses to close, production to stop, consumption to decline, and unemployment to rise. The economic effects of the epidemic are being felt decidedly between countries and sectors, which negatively affects financial markets. The Covid-19 pandemic did not affect sectors at the same level. While some sectors are turning this into an opportunity, companies in some sectors are at risk of bankruptcy. Companies in areas such as pharmaceuticals, food, cleaning, chemicals and telecommunication are among those positively affected by the pandemic.

While human mobility was a major factor in the spread of the Covid-19 epidemic, tourism was one of the sectors most affected due to measures taken to restrict this mobility. Covid-19 pandemic causes significant damage to the tourism sector, therefore its effects on the tourism index need to be investigated. Because, in terms of trading volume and market value, Borsa İstanbul is among the top 30 stock exchanges in the world and the top 3 stock exchanges in terms of trading turnover rate. The high speed of trading turnover indicates that Borsa Istanbul is one of the most liquid stock markets in the world. On the other hand, there are thousands of active and potential investors who have invested in the stocks of tourism companies traded on this exchange. In order for investors to decide to invest in companies included in the tourism index, it is also necessary to analyze the relationship between the number of cases and deaths related to the pandemic and the tourism index.

The purpose of this study is to investigate the impact of the Covid-19 pandemic on the tourism industry. For this purpose, in order to see the impact of the Covid-19 pandemic, the

daily total number of cases and deaths and the BIST tourism sector stock index representing the tourism sector were included in the analysis. In the study, it was tried to determine whether there is a long-term relationship between Covid-19 and the tourism index by ARDL bound test using daily data for the period of 27.03.2020 - 31.12.2020. In addition, the impact of the Covid-19 pandemic on the tourism index was investigated using the Cointegrating Regression Models (FMOLS, DOLS and CCR).

In this study, the current literature investigating the impact of the Covid-19 pandemic on markets is included in section two. The research methodology is presented in the section three and the data in the section four. The study is completed with the fifth  section, where the results of empirical analysis are evaluated.

## 2. Literature Review

The Covid-19 pandemic has had profound effects on the world economy and financial markets. Numerous academic studies published since the first cases and deaths have sought to guide policymakers by analyzing the effects of the pandemic on the economy and financial markets. Zeren and Hızarcı (2020) found that all stock market indices involved in their study with deaths caused by Covid-19 move together in the long term. However, while there is a long-term relationship between the total number of Covid-19 cases and the SSE, KOSPI and IBEX35 markets, there is no long-term relationship between the FTSE, MIB, CAC40 and DAX30 markets. Liu et al. (2020) determined that the indices declined rapidly after the Covid-19 outbreak. In their study, Zhang, et al (2020) determined that a high correlation emerged between stock returns and the Covid-19 pandemic after the outbreak of the pandemic.

Al-Awadhi et al. (2020) found that stock returns were significantly negatively correlated with daily increases in both cases and deaths. Similarly, Şenol and Zeren (2020) found that there is a long-term relationship between the stock markets and Covid-19 data. Yan (2020) and Liew (2020) revealed in their study that the COVID-19 outbreak caused stock prices to fall sharply.

Saka Ilgın & Sarı (2020) determined a causal relationship from the number of cases and deaths to stock markets in the USA, India, Brasil, Colombia and Turkey. On the other hand, the studies of Alber (2020) and Ashraf (2020) show that the sensitivity of the indices to the number of cases is stronger than the number of deaths.

Lin & Falk (2021) investigated the changes in the return and volatility of travel and entertainment indices of 3 Nordic countries due to Covid-19 during the period of June 2018 to June 2020. The authors determined that there was a regime change during the study period. According to the results of the study, while Pandemic increased the performance of gambling businesses, it had a negative impact on international transportation, the hotel and restaurant businesses. Lee et al (2020) stated that during the first wave of the pandemic, the KLCI index and all sub-indices were adversely affected, except for the Real Estate sector index in Malaysia.

There are also studies in the literature examining the impact of the Covid-19 pandemic on Turkish financial markets (Kandil Göker et al., 2020; Öztürk et al., 2020; Tayar et al., 2020; Kılıç, 2020; Özdemir, 2020; Korkut et al., 2020). Kandil Goker et al. (2020) found that the highest decreases in the Covid-19 period were in the Sports, Tourism and Transport indices. Ozturk et al. (2020), in his study, especially metal products, machinery, sports, tourism, transportation, banking and insurance sectors were determined to be among the most affected sectors, while food, beverage, wholesale and retail trade were determined as less affected

sectors. In the study of Kılıç (2020) it was determined that the textile and tourism sectors were exposed to the highest negative impact, while it was concluded that the trade sector provided positive returns during the epidemic process. Tayar et al. (2020), in their study, determined that the Covid-19 epidemic had significant and negative effects on the Electricity, Transportation, Financial, Industrial, Technology Sectors, while significant effects were not reached in the Food-Beverage, Trade, Textile, Tourism and Services sectors.

Korkut et al. (2020) determined that both the daily number of Covid-19 cases and the number of daily deaths from Covid-19 have a cointegrated structure with the BIST Tourism index. It has been understood that the pandemic data has a negative relationship with the BIST tourism index in the short term, and a positive relationship in the long term. Ege & Metin (2021), on the other hand, investigated the impact of the first Covid-19 news in Turkey. According to the study, on food and tourism indexes, the first news of Covid-19 had a positive effect on the food index and a negative effect on the tourism index.

## 3. METHODOLOGY

In order to examine the impact of the Covid-19 pandemic on the tourism index, it was first tested whether there was a long-term relationship between the variables. Later, the Cointegrating regression models were established to see the impact levels of the Covid-19 pandemic on the tourism index.

### 3.1. Auto Regressive Distributed Lag (ARDL) Bound Test

Cointegration implies that variables move together in the long run. Engle and Granger (1987), Johansen (1988) and Johansen & Juselius (1990) cointegration tests, which are called classical cointegration tests, test the long-term relationship between stable variables of the same order. On the other hand, in the ARDL bound test approach developed by Peseran et al. (2001), it is possible to test the cointegration relationship between variables regardless of the constraint of the variables being stationary to the same degree. Since the variables used in the study are stationary at different levels, the ARDL bound test was used as a cointegration test.

In order to determine whether there is cointegration between variables with the ARDL bound test, it is necessary to establish an unrestricted error correction model first. Equation 1 based on the Error Correction Model used in this study is as follows (Polat and Gemici, 2017):

$$
\begin{aligned}
\Delta lnTourism = \ &\beta_0 + \sum_{I=1}^{M} \beta_{1i}\,\Delta lnTourism_{t-i} + \sum_{I=1}^{M} \beta_{2i}\,\Delta lnCase_{t-i} \\
&+ \sum_{I=1}^{M} \beta_{3i}\,\Delta lnDeath_{t-i} + \beta_4 lnTourism_{t-1} + \beta_5 lnCase_{t-1} \\
&+ \beta_6 lnDeath_{t-1} + \mu_t
\end{aligned}
\tag{1}
$$

This equation shows that is the first difference and m is the appropriate number of lags. Here, whether there is cointegration between variables is determined by the F test. The calculated F statistic is compared with the critical values in Peseran et al.'s (2001) studies. If the F statistic is greater than the lower and upper critical values, it is decided that there is cointegration, if it is between two critical values, the situation is uncertain, if it is below the critical values, it is decided that there is no cointegration. After the cointegration relationship is found, the long-term relationship between the variables is predicted with the conditional ARDL model shown in equation 2.

$$\Delta lnTourism = \beta_0 + \sum_{i=1}^{M} \beta_{1i} \Delta lnTourism_{t-i} + \sum_{i=1}^{M} \beta_{2i} \Delta lnCase_{t-i}$$
$$+ \sum_{i=1}^{M} \beta_{3i} \Delta lnDeath_{t-i} + \mu_t \tag{2}$$

The variables in the above equation have already been defined in the section above. This step involves finding the most suitable ARDL (p, q) model with the help of Akaike information criterion (AIC). In the last stage, short term parameters are obtained by estimating the error correction model associated with long term parameters. This relationship is given as follows in Equation (3):

$$\Delta lnTourism = \beta_0 + \sum_{i=1}^{M} \beta_{1i} \Delta lnTourism_{t-i} + \sum_{i=1}^{M} \beta_{2i} \Delta lnCase_{t-i}$$
$$+ \sum_{i=1}^{M} \beta_{3i} \Delta lnDeath_{t-i} + \theta ECM_{t-1} + \mu_t \tag{3}$$

The $\theta$ in the above equation is speed of adjustment and ECM represents the error correction term, which is calculated from the estimated equilibrium relationship established in equation (1). The speed of adjustment constitutes the speed at wich disturbance created by short run shock reaches back to long run equilibrium.

### 3.2. Cointegrating Regression Models

When the variables are cointegrated, a relationship occurs between explanatory variables and error terms, and this situation creates an endogeneity problem. In this case, the variables lose their asymptotic properties. Three methods, Full Modified Ordinary Least Square (FMOLS), Dynamic Ordinary Least Square (DOLS) and Canonical Cointegration Regression (CCR) have been proposed to overcome these problems. All of these methods make various transformations about variables in order to eliminate the endogeneity problem (Berke, 2012).

In the FMOLS estimator, asymptotic bias and externality assumption is used to compensate for the inability of the OLS estimator to calculate optimal values of the cointegrated equations (Chen & Huang, 2013). FMOLS estimator assumes the existence of a single cointegrated vector (Phillips and Hansen, 1990). The FMOLS estimator uses a quasi-parametric correction method to avoid prediction problems caused by the long-term correlation between the cointegrated equation and stochastic shocks. Consequently, the estimator is fully efficient and asymptotically neutral, allowing standard Wald tests using the asymptotic $\chi2$ distribution.

The canonical least squares method (CCR) expressed by Park (1992) is similar to the FMOLS estimation. The CCR method uses the stationary transformations of the data to eliminate the long-term correlation between shocks in the cointegration equation and stochastic variables in determining the least squares estimation.

Dynamic Least Squares Method (DOLS) was developed by Stock and Watson (1993). The DOLS method is a method that can eliminate the deviations in static regression (especially caused by endogeneity problems) by including dynamic elements in the model. In addition, the method determines the long-term coefficients between variables by adding the preliminary and lagged values of the difference of independent variables to the model.

## 4. DATA

The purpose of the study is to determine how and to what extent the Covid-19 pandemic impacted the tourism sector. For this purpose, the number of cases caught in the Covid-19 pandemic and the number of people who died from the pandemic in Turkey with the BIST Tourism sector stock index are included as variables. In the study, it was analyzed using daily data for the period 27.03.2020 - 31.12.2020. The reason for the data period to start from 27.03.2020 is that the Covid-19 virus was first seen in Turkey in March. The data of the Covid-19 pandemic was taken from the Turkish Republic Ministry of Health Covid-19 information platform and stock index data was taken from the investing.com database. The relationship between the Covid-19 pandemic and the tourism stock index was analyzed using the Eviews package program by taking the logarithm of the daily data of the variables. Graphical representation of the variables used in the study is given in figure 2.
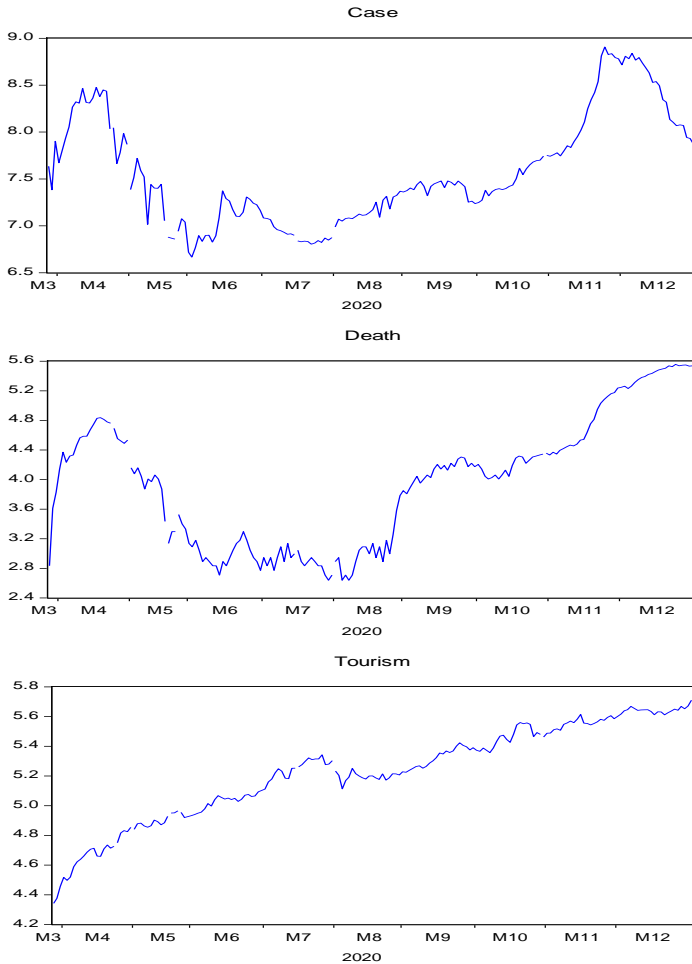


**Fig. 2** Graphics of Covid-19 Incident and Death Numbers and Tourism Index Series
*Source*: Prepared by the author

The statistical characteristics of the Covid-19 case and death and BIST Tourism index series are shown in Table 2. It is seen that the number of Covid-19 deaths has a high standard deviation according to the number of cases. This situation indicates that the number of deaths exhibit high volatility. The fact that the calculated Jarque-Bera values of the series are statistically significant indicates that the series are not normally distributed.

**Table 2** Descriptive Statistics

|                 | Tourism   | Case      | Death     |
|-----------------|-----------|-----------|-----------|
| Mean            | 5.224974  | 7.574138  | 3.971848  |
| Median          | 5.251278  | 7.421178  | 4.060443  |
| Maximum         | 5.710195  | 8.906664  | 5.556828  |
| Minimum         | 4.342506  | 6.666957  | 2.639057  |
| Std. Dev.       | 0.316691  | 0.581665  | 0.869617  |
| Skewness        | -0.549196 | 0.659028  | 0.146325  |
| Kurtosis        | 2.594380  | 2.447038  | 1.923885  |
| Jarque-Bera     | 10.91080  | 16.25920  | 9.897532  |
| J-B Probability | 0.004273  | 0.000295  | 0.007092  |
| Observations    | 191       | 191       | 191       |

*Source*: Compiled by the authors

## 5. ANALYSIS AND FINDINGS

Before looking at the relationship between the Covid-19 case and death numbers and industry stock indices, it was examined whether the series were stationary or not. For stationarity analysis, ADF (Extended Dickey-Fuller) unit root test developed by Dickey and Fuller (1979) and PP (Phillips-Perron) unit root test developed by Phillips Perron (1990) were used. The unit root test results for the regression models in which the series have constant terms, constant terms and trend terms are presented in Table 3.

**Table 3** ADF and PP  Unit Root Test Results

| Variables |            | Augmented Dickey-Fuller (ADF) Test | | Philips-Perron (PP) Test | | Stationary Level |
|-----------|------------|-----------|-------------------|-----------|-------------------|-------|
|           |            | Intercept | Trend and Intercept | Intercept | Trend and Intercept |       |
| Tourism   | Level      | -3.0204** | -4.4889***        | -3.1046** | -4.4791***        | I(0)  |
| Case      | Level      | -1.4357   | -1.6630           | -1.3753   | -1.6028           |       |
|           | Difference | -15.1533***| -15.1066***      | -15.1127***| -15.067***       | I(1)  |
| Death     | Level      | -0.6815   | -1.0382           | -0.9458   | -1.3054           |       |
|           | Difference | -14.2892***| -14.3409***      | -14.2580***| -14.431***       | I(1)  |

** and *** indicate respectively statistical significance at the 5 and 1percent levels.
*Source*: Compiled by the authors

When Table 3 was examined, according to the unit root test results, it was revealed that the Tourism index series did not have a unit root in both the ADF test and the PP test. Thus, the null hypothesis that there is a unit root in the series is rejected and it is concluded that the level value of the series is stationary I(0). It has been revealed that the

Covid-19 case and death series have a unit root. Thus, it is concluded that the null hypothesis that there is unit root in the series is accepted and that the series are not stationary in the level values. When the first difference of the series is taken, the null hypothesis that it has unit root is rejected at the 1% significance level. Thus, the series has become stationary I(1) in the first difference.

### 5.1. ARDL Method

In the ARDL method, first of all, it should be tested whether there is a long-term relationship between variables. To perform the ARDL test, an appropriate lag number is selected according to the Akaike information criterion (AIC). The most suitable lag number was chosen by taking the maximum lag 4. It has been determined that it is the most suitable ARDL (1,0,3) model according to the AIC information criterion. The most appropriate ARDL(1,0,3) bound test model and F statistics created to measure whether there is a cointegration relationship between Covid-19 case and death numbers and tourism index are given in Table 4.

**Table 4** Results of ARDL Bound Test

| Model | F-statistic | Significance | I(0) Bond | I(1) Bond |
|---|---|---|---|---|
| ARDL(1,0,3) | 7.099779** | %10 | 4.307 | 5.223 |
| | | %5 | 5.067 | 6.103 |
| | | %1 | 6.73 | 8.053 |

** indicate statistical significance at the 5 percent levels.
*Source*: Compiled by the authors

Since the calculated F statistic is greater than the critical values at the 5% importance level, it is understood that the Covid-19 case and death numbers and the tourism index are long-term co-integrated in the relevant period. After confirming that there is a long-term relationship between variables, it is possible to examine the long and short-term effects. Long and short term coefficient estimates calculated for ARDL (1,0,3) model are presented in Table 5.

The term shown by ECM (Error Correction Model) in the table is the error correction term. The error correction coefficient of the model (-0.139) is negative and statistically significant at 1% significance level. This shows that the error correction model of the model works and the model is meaningful. This situation shows that in the case of a shock occurring in the short term, 14% of this shock will disappear in each period in the long term and it may return to balance in about seven periods (about a week).

In order for the results obtained from the model to be reliable, it must provide some assumptions. Diagnostic tests performed to test these assumptions are given in Table 6. Here; Breusch - Godfrey is used to test the autocorrelation problem, ARCH value is used to test the variance problem and the Ramsey Reset test is used to test the error of setting up the model. Since the probability values of all tests are not significant at the significance levels, it is understood that the model does not contain autocorrelation and changing variance and does not contain modeling errors. In other words, since the model provides the necessary assumptions, it can be stated that the results obtained are reliable.

**Table 5** Results of ARDL Long-Term and Short-Term

| Long Run Coefficients | | | | |
|---|---|---|---|---|
| Variable | Coefficient | Std. Error | t- statistic | Prob. |
| lncase | -0.016166 | 0.048660 | -0.332229 | 0.7401 |
| lndeath | -0.021977 | 0.035653 | -0.616407 | 0.5384 |
| c | 4.974469*** | 0.261871 | 18.995859 | 0.0000 |
| @trend | 0.005388*** | 0.000318 | 16.917399 | 0.0000 |
| Error Correction Form | | | | |
| Variable | Coefficient | Std. Error | t- statistic | Prob. |
| D(lncase) | -0.002255 | 0.006770 | -0.333037 | 0.7395 |
| D(lndeath) | -0.018114 | 0.017679 | -1.024576 | 0.3069 |
| D(lncase(-1)) | -0.009536 | 0.022540 | -0.423047 | 0.6728 |
| D(lncase(-2)) | -0.019192 | 0.015399 | -1.246353 | 0.2143 |
| D(@trend) | 0.000751*** | 0.000197 | 3.806344 | 0.0002 |
| ECM | -0.139470*** | 0.032360 | -4.309980 | 0.0000 |

*** indicate statistical significance at the 1 percent levels.
*Source*: Prepared by the authors

**Table 6** Results of Diagnostic Test

| Test | Statistic (Prob.) |
|---|---|
| ARCH LM | 0.045287 (0.8317) |
| Breusch-Godfrey | 0.791976 (0.4545) |
| Ramsey Reset | 0.328268 (0.5674) |

*Source*: Prepared by the authors

Finally, CUSUM and CUSUMQ graphs developed by Brown et al. (1975) were used to determine whether there was a structural break in the predicted model. These graphs investigate whether there is any structural break in variables using the squares of recycled residuals. CUSUM and CUSUMQ graphics are shown in Figure 3
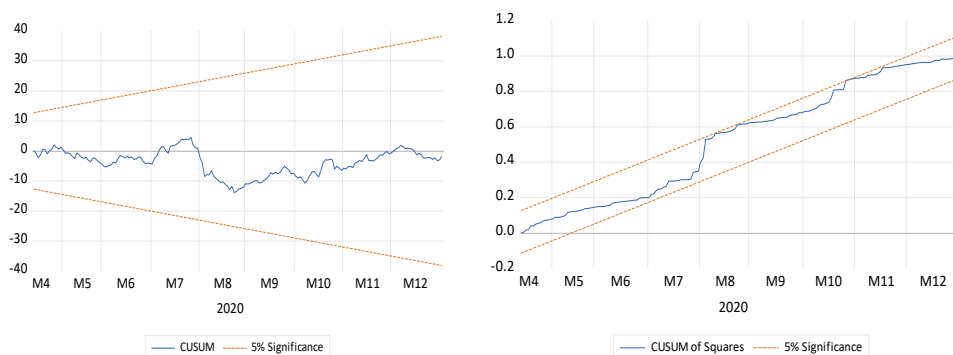


**Fig. 3** Graphics of CUSUM and CUSUMQ

If the CUSUM and CUSUMQ graphs do not exceed the critical limits at the 5% significance level, it is decided that the estimated long-term coefficients are consistent. When Figure 3 is examined, it is seen that CUSUM and CUSUMQ graphs are within

critical limits. Therefore, it is possible to say that the long-term coefficients between variables are consistent.

## 5.2. Cointegrating Regression Models

At the last stage of the study, the FMOLS, DOLS and CCR regression models were used to estimate the coefficients of the tourism index with the Covid-19 case and death numbers, with a long-term relationship between them. The model equation established for this purpose is as follows.

$$lnTourism = \beta_0 + \beta_1 lnCase + \beta_2 lnDeath + \varepsilon \tag{4}$$

In the equation, $\varepsilon$ denotes the error term of the model. As a result of the FMOLS, DOLS and CCR regression models, it was tried to determine whether the Covid-19 cases and death numbers had any effect on the Tourism Index and the effect size. As a result of the analysis, the results of the test statistics regarding the coefficients of the independent variables in the model and the significance of the coefficients are given in Table 7.

**Table 7** Results of FMOLS, DOLS and CCR Regression Models

| Variables | FMOLS | | DOLS | | CCR | |
|---|---|---|---|---|---|---|
| | Coefficient | t- statistic | Coefficient | t- statistic | Coefficient | t- statistic |
| lnCase | 0.027815 | 0.619611 | 0.003624 | 0.106916 | 0.032623 | 0.700095 |
| lnDeath | -0.078747 | -2.416905** | -0.063987 | -2.603810*** | -0.082190 | -2.443067** |
| C | 4.756811 | 19.82259*** | 4.889903 | 27.47325*** | 4.732980 | 19.09300*** |
| @Trend | 0.006055 | 22.61963*** | 0.005985 | 33.00882*** | 0.006064 | 22.75532*** |
| | $R^2 = 0.955952$ | | $R^2 = 0.966328$ | | $R^2 = 0.955596$ | |
| | Adj. $R^2 = 0.955241$ | | Adj. $R^2 = 0.964626$ | | Adj. $R^2 = 0.954879$ | |

** and *** indicates statistical significance respectively at the 5 and 1 percent levels.
*Source: Prepared by the authors*

When the results of the FMOLS regression model were examined, it was determined that the deaths of Covid-19 affect the tourism index at a 5% significance level. A 1% increase in the number of deaths causes the tourism index to decrease by 0.08%. The fact that the coefficient of the number of Covid-19 cases was not found to be significant shows that this variable did not have a sufficient effect on the tourism index in the relevant period.

As a result of the DOLS regression model, the effect of Covid-19 deaths on the tourism index was found to be significant at 1% significance level, while the effect of the number of cases on the tourism index was not statistically significant. According to the DOLS regression model, a 1% increase in the number of deaths in Covid-19 causes the tourism index to decrease by 0.06%.

As a result of the CCR regression model, it was seen that the effect of Covid-19 death numbers on the tourism index was statistically significant, and the effect of the number of cases on the tourism index was not statistically significant. According to the CCR regression model, a 1% increase in the number of deaths in Covid-19 causes the tourism index to decrease by 0.08%. Results obtained as a result of FMOLS, DOLS and CCR regression models support each other. The high $R^2$ values (0.955, 0.966 and 0.955) of the established Cointegrating Regression Models indicate that the variables explain the highly dependent variable.

## 5. Conclusion

Financial markets are quickly affected by social and economic factors. The Covid-19 epidemic spread rapidly all over the world and created a crisis environment. When the COVID-19 outbreak was declared by the World Health Organization as a global pandemic, significant declines occurred in financial markets around the world. Even if the crisis in a country affects financial markets negatively, sectors can be affected by this situation in different ways. Therefore, how the Covid-19 pandemic affects the Tourism industry of Turkey is the subject of the study. The BIST tourism stock index to represent the tourism sector and the number of people caught in the epidemic and the number of people who died to represent the Covid-19 pandemic were taken as variables. The Covid-19 virus was first seen in March in Turkey. Therefore, in the study, daily data for the period 27.03.2020 - 31.12.2020 were used in the analysis.

In order to examine the relationship between the Covid-19 case and death numbers and the BIST tourism index, it is necessary to test whether the series are stationary or not. As a result of the ADF and PP unit root tests, it was determined that the BIST tourism index was stable at level, and the Covid-19 case and death numbers were stable at the first difference. ARDL method was used to determine the existence of long-term cointegration relationship between variables that are differently stationary. It has been determined that it is the most suitable ARDL (1,0,3) model according to the AIC information criterion. As a result of the ARDL (1,0,3) model, it was determined that there was a long-term equilibrium relationship between variables during the analysis period. This result supports the cointegration test results of the study conducted by Zeren and Hızarcı (2020), Şenol and Zeren (2020) and Korkut et al. (2020). The error correction coefficient of the model (-0.139) is negative and statistically significant at 1% significance level. This situation shows that in the case of a shock occurring in the short term, 14% of this shock will disappear in each period in the long term and it may return to balance in about seven periods (about a week).

Since there is cointegration between variables, the Cointegrating Regression Models (FMOLS, DOLS and CCR) have been applied to see the effect of Covid-19 case and death numbers on the BIST tourism index. The results of FMOLS DOLS and CCR regression models support each other. According to the results of the cointegrating regression models, the effect of the number of Covid-19 cases on the tourism index was not significant, while the effect of the number of Covid-19 deaths on the tourism index was determined to be significant and negative. According to the findings, a 1% increase in the number of deaths causes the tourism index to decrease by 0.08% according to the FMOLS model, 0.006% according to the DOLS model and 0.08% according to the CCR model. The conclusion that the Covid-19 pandemic has a negative impact on the tourism sector is supported by the studies of Kandil Göker et al. (2020), Kılıç (2020) and Korkut et al. (2020). However, we can say that the findings of this study do not comply with findings of Alber (2020) and Ashraf (2020), because they determine the case effect is more powerful than death numbers effect.

This paper gives us the information on the effect of changes on Covid-19 pandemics cases and deaths numbers on the tourism index of Borsa İstanbul. So this is the originality of the present paper.

Within the framework of these results, investors can accurately evaluate their investments by analyzing the reactions of sectors in BIST to the Covid-19 pandemic. In other words, there is also the possibility that investors can turn the Covid-19 pandemic into an opportunity. In future studies, the returns of the stocks of companies included in the BIST tourism index can be estimated by examining the level of exposure to the Covid-19 pandemic.

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# KAKO JE PANDEMIJA KOVID-19 UTICALA NA INDEKS TURIZMA NA ISTAMBULSKOJ BERZI?

*Ovaj rad ima za cilj da utvrdi kako i u kojoj meri je pandemija Kovid 19 uticala na turski sektor turizma na istambulskoj berzi (BIST). Dnevni podaci za period od 27. marta 2020 do 31. decembra 2020 su korišćeni da bi se odredio odnos između zavisne varijabile (BIST berzanski indeks turizma) i nezavisne varijabile (broj slučajeva i umrlih od Kovid 19 u Turskoj). Kointegracijski odnos između pandemije Kovid 19 i BIST indeksa turizma istražen je korišćenjem ARDL bound testa. Osim toga, efekti pandemije Kovid 19 na BIST berzanski indeks turizma testirani su uz pomoć kointegracijskog modela regresije. Kao rezultat ARDL testa, utvrđeno je da postoji dugoročna kointegracijska veza između pandemije Kovid 19 i BIST indeksa turizma. Osim toga, utvrđeno je da će uticaj kratkoročnih šokova koje je Kovid 19 izazvao na BIST indeks turizma nestati na duge staze i ponovo se izbalansirati za oko nedelju dana. Prema rezultatima kointegracijskoh modela regresije (FMOLS, DOLS i CCR),vidi se da smrtnost od Kovid 19 značajno utiče na sektor turizma. Prema modelima, 1% povećanje u broju smrtnih slučajeva izaziva pad BIST indeksa turizma za 0.08%, 0.06% odnosno 0.08%. Koeficijent broja Kovid 19 slučajeva nije značajan, što pokazuje da broj slučajeva nema značajnog efekta na indeks turizma. Rezultati ovog rada imaju neke implikacije za investiture na berzi, kreatore politika, akademike i vlasnike kompanija iz indeksa turizma na istambulskoj berzi.*

Ključne reči: *Pandemija Kovid 19, BIST indeks turizma, ARDL Bound Test, kointegracijski regresioni modeli*

**Original Scientific Paper**

# WHAT CAN BE LEARNED FROM SUSTAINABILITY REPORTING AT THE FRONTIER MARKETS? THE CASE OF THE REPUBLIC OF SERBIA AND NORTH MACEDONIA

*UDC 502.131.1(497.11+497.7)*

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**Abstract**. *The paper examines the corporate social responsibility (CSR) reporting practice at the frontier markets by using a comparative review of sustainability reporting practice according to the GRI framework. The research covers 31 companies included in the BELEXline and MBI10 indices in the period 2014-2018. The values of Social, Environmental, Economic and aggregate Sustainability Index, calculated using content analysis, indicate a low level of sustainability reporting practice. This is a consequence of a passive ownership and modest stakeholder pressures to the companies at two frontier markets and the lack of normative pressure on sustainability reporting. The grouping of the companies into clusters in accordance with the disclosure of sustainability indicators indicates significant inter- and intra-countries variations in practice. The reporting on sustainability issues differs among the companies according to their size, ownership structure, exchange market and industrial sector affiliation, which is on par with the developed capital markets.*

**Key words**: *sustainability reporting, social, environmental, economic indicators, GRI Standards, disclosure index, frontier markets*

**JEL Classification:** G15, M14, M48, Q56

INTRODUCTION

Growing legislative pressure and increasing public concern about the global warming, climate change and energy regulation, resource scarcity, social conflicts and migrations, bring increasing demands for organizations to act in sustainable ways and, consequently, to report on sustainability issues. Sustainability reporting, as an extended reporting model, "aims to highlight the view that a company's consideration of only financial matters as an indicator of its success is inadequate" (Nolan, 2007, p.2). This reporting model should include not only financial indicators, but also environmental and social aspects of the company`s business. The economic dimension of sustainability refers to the impact of an organization on the economic condition of its stakeholders, as well as to the economic system at the local, national and global levels. The environmental dimension of sustainability reporting focuses on the organization's impacts on living and non-living natural resources, including ecosystems, land, air and water. Disclosure of information on social performance indicators is relevant for considering the impact that companies have on the social system in which they operate, as well as the ability to manage the potential risk that may arise from the interactions of companies with their stakeholders.

The development of sustainability reporting largely depends on the adopted regulatory measures and guidelines for reporting at the national level (Stojanović-Blab, Blab & Spasić, 2016). The research results conducted in the United States also show this, given that after the adoption of the Sarbanes-Oxley Act, information on corporate social responsibility became more comprehensive, and in some areas more transparent (Cohen et al., 2011). In addition to legislation, some studies state that the development of sustainable accounting and sustainability reporting depends on other factors. Zyznarska-Dworczak (2018), in her study, shows that in the countries of Central and Eastern Europe, the progress of sustainability reporting is determined by the national culture and the historical environment. Namely, in these countries, political, structural, social and economic changes come to the fore, which affect all activities of companies, and thus the reporting on sustainability (Zyznarska-Dworczak, 2018). Mahmood, Kouser & Masud (2019), in their paper also point out that in emerging markets, reporting on sustainable business is influenced by structural and cultural conditions.

Promoting transparency and disclosure of non-financial information is a key issue on the European Union agenda (see more: Denčić-Mihajlov & Stojanović-Blab, 2018). The practice of the sustainability reporting among EU and other developed countries has been broadly examined. Hąbek & Wolniak (2016) outline the practice of CSR reporting in selected EU Member States and identify differences in the scope and quality of disclosure, taking into account mandatory and voluntary reporting model. Research on the scope and quality of CSR reporting in national economies across Europe can be found in numerous studies (such as Holgaard & Jørgensen (2005) in Denmark, Kuznetsov & Kuznetsova (2010) in Russia, Hąbek (2014) in Poland, Cerin (2002) in Sweden, Cormier & Magnan (2003) in France). Many researchers in developed countries outside the EU have also tried to identify the factors influencing the disclosure of information about social responsibility (such as Giannarakis (2014) in US, Ashcroft (2012) in Canada and US, Andrew & Wickham (2010) in Australia).

Unlike developed Western countries, reporting on sustainability issues is still in the early stages of development in emerging and frontier economies. In accordance, the studies on the sustainability reporting practice and determinants, and particularly on the

relevance of sustainability reporting for the financial and market position of companies at these markets are limited. The different level of sustainability reporting between developed and developing countries is a consequence of differences in the institutional framework, which mainly concern the degree of economic development and growth rate (Filatotchev, Buck & Zhukov, 2000). Comparing Western and Central and Eastern European countries, in terms of access to corporate social responsibility, Fijałkowska, Zyznarska-Dworczak & Garsztka (2018) conclude that Central and Eastern European countries are more oriented towards maximizing economic growth goals, while Western European countries that generally have a higher level of economic security and stability are more geared towards addressing environmental, social protection and sustainability issues. Due to these reasons, in emerging and frontier markets, sustainability reporting is mainly practiced by large corporations or subsidiaries of multinational companies.

According to Dow Jones' description (CME Group Index Services LLC, 2012), "frontier markets are typically much less accessible to foreign investors, exhibit notable limitations in their regulatory and operational environments, and support a smaller investment landscape." The fact that the under-development of market and financial services, the absence of an equity culture and a slow process of financial inclusion, are the main features of many frontier economies generates opportunities, challenges and risks for investors. Namely, as frontier markets face considerable sustainability challenges, such as poverty, inequality, pollution, disease, corruption, unequal governance, weak institutions and a lack of regulations, the practice, quality and materiality of the data on sustainability issues are getting increasingly important (Odell & Ali, 2016).

This study aims to extend the current research on sustainability reporting practices in the context of two frontier capital markets – the Republic of Serbia and North Macedonia in two ways. First, to our best knowledge, this is the first study to give a comparative overview of recent sustainability reporting practice according to the GRI framework at the two frontier markets of Southeastern Europe. Second, we examine the development of sustainability reporting practices over time, as well as the differences among two markets, companies´ size, stock exchange segments, ownership structure and industrial sectors. Also, in this paper, by discussing the combined institutional and stakeholder theory, we explain the practice of sustainability reporting among Serbian and Macedonian companies and identify the challenges that the sample companies face in the field of sustainability reporting. This offers a more comprehensive view on the content of the reporting on the sustainability issues at the frontier markets and offers some messages to policy makers, investors and companies.

The paper is structured as follows: a brief theoretical background is given in Section 1. Section 2 describes the dataset and the research method, while Section 3 discusses the research findings. The last section concludes the paper.

## 1. THEORETICAL BACKGROUND

Theoretical background for understanding the nature of sustainability reporting and CSR in most of the conducted research can be found in the institutional, legitimacy, and stakeholder theory. These theories provide different but complementary explanatory perspectives of analyzed sustainability issues.

According to the legitimacy theory, the legality of a business entity to operate in a society is based on an implicit social contract between the business entity and society. If a

company acts contrary to society's norms and expectations, it can be deprived of the permission to operate in society. In this regard, legitimacy theory anticipates that companies use sustainability reporting to legalize their operations and ensure that their activities and performance are acceptable to the community (Wilmshurst & Frost, 2000; Deegan, 2002; O'Donovan, 2002). Even though some empirical evidence supports legitimacy theory, the conclusion regarding its validity in explaining sustainability disclosure should be taken with caution since most of these studies that test legitimacy theory are focused mainly on environmental issues associated with public concern and fear. Yet, as indicated by Lanis & Richardson (2013) there are many other issues at least as important to society as the environment.

Developed by the business ethicists in the mid-1980s, stakeholder theory has become both a model upon which many business people rely and the central point of many debates. As Radin (2015) indicates "it signifies the recognition that firms have responsibilities to people or entities in addition to stockholders". Furthermore, according to Oruc and Sarikaya (2011) "the stakeholder theory aims at increasing the efficiency of organizations by bringing new definitions to organizational responsibilities. In this respect, the theory suggests that the needs of shareholders cannot be met before the needs of stakeholders are met".

The institutional theory has as a focal point the pressures and constraints of the institutional environment and "illustrates how the exercise of strategic choice may be preempted when organizations are unconscious of, blind to, or otherwise take for granted the institutional processes to which they adhere" (Oliver, 1991, p.148). Institutional theorists claim that organizations face similar institutional pressures, ending up with the adoption of similar strategies. This happens because they integrate a society, and their actions are influenced by stakeholders, "including governments (through regulations), an industry (through standards and norms), competitors (through better business models), and consumers (through loyalty)" (Tavares & Dias, 2018).

As it can be concluded, all three theories tend to provide a complementary perspective in explaining corporate disclosure strategies. This theoretical background has typically been applied in the context of developed countries. However, as indicated by Islam & Deegan (2008), "there is no apparent reason why the theories would be more appropriate in one national context as opposed to another". Hence, for the purposes of this study, and having in mind the above-mentioned theories, the main aim of this paper is to explore the reporting activities on sustainability issues among companies operating at two frontier markets. Further, we explore whether the sustainability reporting practices are shaped by stakeholder demands and expectations or by institutional pressure at the frontier markets in which companies operate.

## 2. MATERIALS AND METHODS

### 2.1. Research design

The empirical part of this paper is devoted to the consideration of the practice of the sustainability reporting at two capital markets of Southeast Europe – Serbian and North Macedonian. The situation and trends in these markets, which in terms of size, liquidity, risk and level of development belong to the group of frontier markets (FTSE Russell, 2020), have not sufficiently captured the attention of the academic public. We will try to fill the gap in the empirical research and provide answers to two important questions:

*RQ1: What is the degree and the content of the sustainability indicators disclosed among companies included in the BELEXline and MBI10 indices? Is it possible to classify these companies according to their sustainability reporting practices into special groups (clusters)?*

*RQ2: Does the sustainability reporting of companies included in BELEXLine and MBI10 differ according to the size, ownership structure, exchange market and industrial sector affiliation?*

When it comes to the regulation in the sustainability reporting area, in the Republic of Serbia, some progress has been made with the introduction of the Law on Accounting from 2013 which pursuant to Article 29, binds large and listed companies to publish information on certain dimensions of sustainable business, through the business report starting from 2014 (Law on Accounting, 2013). With regard to North Macedonia, there is no legal obligation to disclose information on non-financial indicators. However, in the Law on Companies from 2016 pursuant to Article 348, paragraph 7, companies, among other things, shall disclose information on their activities in the field of research and development, as well as information on the rights and benefits of the management and supervisory board members within the annual business report (Law on Companies, 2016).

In order to assess CSR disclosure, researchers mainly use content analysis (Akin & Yilmaz, 2016; Kansal, Joshi, & Batra, 2014). There are several different approaches to this analysis, the most objective being the one that involves Disclosure Index calculation, where the presence or absence of certain information is determined by binary coding, e.g. assign "1" to the index position if the information exists or "0" if the information is not available, and formulate the index based on the summary result of all information (Ehsan et al., 2018). This study employs content analysis technique and develops four indices: Social Disclosure Index, Environmental Disclosure Index, Economic Disclosure Index, and aggregate, Sustainability Index.

The social dimension of sustainable development has been taken into account and covered by the following GRI standards: *GRI 401*: Employment, *GRI 403*: Occupational Health and Safety, *GRI 404*: Training and Education and *GRI 413:* Local Communities. In accordance with the practice of disclosing social performance indicators in the Republic of Serbia and North Macedonia, 11 indicators that make up the Social Disclosure Index (SDI) structure have been identified: *Qualification structure, Gender structure, Age structure, Number of employees, Termination of employment, Volunteer activities, Employee training, Support for employees, Internal and external communication capabilities, Injuries at work* and *Work days lost due to work injuries.*

With regard to the environmental dimension of sustainability, the analysis includes environmental performance indicators covered by *GRI 302:* Energy, *GRI 305*: Air emissions, *GRI 306*: Effluents and Waste and GRI 307: Environmental Compliance. Based on the reporting practice on these indicators, the structure of the Environmental Disclosure Index (EnvDI) consists of five indicators: *Energy Management*, *Harmful substances air emissions*, *Waste management*, *Wastewater management* and *Environmental Compliance*.

Economic Disclosure Index (EconDI) has been developed taking into account the standards *GRI 201:* Economic Performance, *GRI 203:* Indirect economic impacts and *GRI 205:* Anti-corruption. Five indicators make up the structure of the index: *Defined benefits when retiring*, *Donations*, *Investments in environmental protection*, *Investments in research and development* and *Procedures related to anti-corruption activities.*

The positions of indices in this paper are coded with 0 (if the information about indicators is not disclosed), 1 (if the information in the report is descriptive, for example - the possibility for internal and external communication) or 2 (the information is disclosed and of a quantitative nature, for example, the number of employees). SDI index is determined as a sum of equally weighted SDI positions giving the possible maximum index value of 22. Consequently, the maximum index values of both EnvDI and EconDI are 10, while the aggregate Sustainability Index (SI), calculated as a sum of SDI, EnvDI and EconDI, takes the highest value of 42.

In order to answer RQ1, the paper uses hierarchical cluster analysis to statistically determine similarities and differences between companies, taking into account the level of disclosure of economic, environmental and social performance (the Ward clustering method and Euclidean distance were used) (for more details, see: Kaufman & Rousseeuw, 2009).

## 2.2. Sample description

In order to explore the practice of non-financial reporting at two frontier markets, we used samples of companies included in two stock market indices – BELEXline and MBI10. While opting for companies constituents of the indices, we have two facts in mind. Firstly, market indices properly represent the situation on the market. They are made up of respectable companies whose shares are traded frequently; they have satisfactory liquidity, and a solid approximation of market value. Second, these shares are in the focus of institutional investors (foreign and domestic), so they are relevant from the point of view of disclosure of financial and non-financial information, and thus for research on disclosure of information on sustainability reporting. In the process of disclosure indices developing, secondary data were collected from external sources, mainly through the search of companies' websites and access to relevant data, documents and annual reports on the Belgrade Stock Exchange and Macedonian Stock Exchange's website from 2014 to 2018.

Table 1 presents characteristics of the sample companies. The analysis is based on the data from 21 real and financial sector companies that made up the BELEXline index basket on August 17th , 2019. As to MBI10 index, the analysis included 5 companies from real and 5 from financial sector. The sample companies are classified according to: 1) *Market segment* (trading at the Belgrade SE is organized at the Regulated Market (Prime Listing, Standard Listing and Open Market) and multilateral trading facility – MTP, while Macedonian Stock Exchange consists of Super, Mandatory and Exchange listing segments); 2) *Sector affiliation* (the secondary sector includes production activities - industry, construction and manufacturing, while tertiary sector covers non-manufacturing activities - transport, trade, tourism, catering, craft services, banking and utilities); 3) *Ownership structure* (the companies are differentiated according to the existence of a majority owner, owning 51% of the shares), and 4) *Company size* (companies are classified according to annual turnover into small (≤ EUR 10 million), medium (≤ EUR 50 million) and large ones (> EUR 50 million) (European Commission, 2016). A detailed overview of the sample companies according to their listing on the Macedonian and Belgrade Stock Exchanges is given in Appendix.

**Table 1** Aggregate characteristics of the sample companies

| Market segment* | Number of companies | | | | | |
|---|---|---|---|---|---|---|
| | Prime Listing | Standard Listing | Open Market | Super Listing | Mandatory listing | Exchange listing |
| | 3 | 3 | 15 | 1 | 3 | 6 |
| Sector of economy | secondary 18 | | | tertiary 13 | | |
| Company size | small 6 | | medium 7 | | large 18 | |
| Ownership structure | majority shareholder 14 | | | diffuse ownership 17 | | |

*Source*: Authors' calculation

We analyzed 155 annual reports published between 2014 and 2018 by 31 companies constituencies of two national capital markets indices. Having previously applied content analysis, we based our study on 11 topic indicators related to social, five related to ecological and five related to economic dimension of sustainability.

## 3. RESULTS AND DISCUSSION

We conducted cluster analysis and content analysis for each sustainability issue, including its development over time, its distribution over industries, and size of organization. Based on this analysis, we came up with eleven findings that are summarized and presented in Table 2.

**Finding 1:** Companies included in the two indices report on environmental, social, and economic sustainability, yet fragmentarily and not equally distributed. The cluster analysis findings point to significant inter- and intra-countries variations in practice.

According to the hierarchical grouping method, companies are classified into three clusters in 2014, 2015 and 2016, and into four clusters in 2017 and 2018. Based on the data shown in Table 3, changes in the cluster structure can be observed, given that, during the analyzed period, there were changes in the level of reporting in the companies from the sample. The first cluster includes companies that disclose information on the largest number of economic, environmental and social indicators and which also have the highest values of the aggregate Sustainability Index, compared to companies grouped in other clusters. Within this cluster, the companies that stand out are three companies whose shares are traded on the Belgrade Stock Exchange (NIIS, ALFA, MTLC) and one company (ALK) whose shares are traded on the Macedonian Stock Exchange. These companies are characterized not only by a significant level, but also by better quality of reporting on all dimensions of sustainability. Namely, the mentioned companies paid great attention to socially responsible business and sustainable development, which resulted in a serious approach to reporting on sustainability.

For companies grouped in the second cluster, reporting on selected indicators is at a slightly lower level compared to companies grouped within the first cluster, with these companies generally disclosing qualitative information on economic, environmental and social performance. Companies classified in the third cluster in the period from 2014 to 2016, as well as companies in the fourth cluster in 2017 and 2018 report on sustainability

at an extremely low level, given the fact that these companies disclosed only information on the number of employees, defined benefits upon retirement, as well as information on compliance with laws and standards in the field of environmental protection.

**Table 2** Results of the analysis

| Findings |
|---|
| 1  The data on environmental, social, and economic sustainability are mainly presented in annual reports; organizations pay more attention to the form than to the content and value of the information provided. Taking into account the level of disclosure of sustainability performances, the companies can be classified into special groups (clusters). |
| 2  Environmental, social, and economic sustainability issues are not equally disclosed in companies reports. |
| 3  The indicators that are the most frequently disclosed are those that are easily quantified and measured (e.g. the number of employees). |
| 4  Social sustainability topics are of increasing importance for organizations. |
| 5  As to the environmental dimension of sustainability, organizations report mostly qualitative information on waste management processes and compliance with laws and standards in the field of environmental protection. |
| 6  Regarding the economic dimension of sustainability, the most frequently reported are data on defined benefits when retiring and investments in research and development. |
| 7  Serbian companies on average report more frequently on CSR and a decline in the average value of SI for companies included in MBI10 is observed. |
| 8  Large companies disclose more information on sustainable development indicators in their annual reports compared to small and medium-sized companies. |
| 9  The highest level of information disclosure on corporate social responsibility is observed in companies listed on the Standard Listing at the Belgrade Stock Exchange. |
| 10  Companies from the secondary sector report more on sustainable development in relation to companies from the tertiary sector. |
| 11  Companies with diffuse ownership report more on all dimensions of sustainable business. |

*Source*: Authors

Only one company (NIS, a.d. Novi Sad) has organized and presented information on sustainability development in the form of a separate sustainability report. Like in most other emerging and frontier markets, there is a substantial gap between companies that are leaders in CSR and doing a great deal in sustainability reporting (e,g. NIS Novi Sad, Serbia and Alkaloid Skopje, North Macedonia) and those that are doing little or nothing.

**Finding 2:** Information on the environmental, social, and economic sustainability issues is not equally disclosed among analyzed companies. Indicators on social performances are more frequently disclosed in comparison to two other categories of indicators. Average values of SDI among Serbian and Macedonian companies are 7.15 and 5.58 respectively. This finding indicates that social concerns and challenges dominate in these frontier markets. Such a conclusion is expected, taking into account that weak institutions, social poverty, limited consumer protection, human rights abuses or employee exploitation are at the heart of social debate in these countries.

**Table 3** Results of the cluster analysis

| Cluster | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| I | ALK, NIIS, MTLC, KMBN, ALFA, FITO, IMPL, LSTA | ALK, NIIS, TEL, KMB, AERO, TIGR, DNOS, ALFA, MTLC | ALK, MTLC, NIIS, FITO, IMPL, LSTA, SJPT, VBSE, ALFA | ALK, NIIS, ALFA, MTLC | ALK, NIIS, ALFA, MTLC |
| II | TTK, TNB, KMB, SJPT, JMBN | TTK, TNB, KMB, SJPT, JMBN, FITO, IMPL, LSTA | KMBN, TTK, TNB, JMBN, KMB | TTK, TNB, KMBN, JMBN | TTK, TNB, KMB, AERO, KMBN, TIGR, IMPL, DNOS, JMBN |
| III | GRNT, MPT, MTUR, SBT, TEL, STB, ENHL, AERO, JESV, TIGR, EPEN, EPIN, KOPB, VDAV, VBSE, TGAS, DNOS, GLOS | GRNT, MPT, MTUR, SBT, STB, ENHL, JESV, EPEN, EPIN, KOPB, VDAV, VBSE, TGAS, GLOS | GRNT, MPT, MTUR, SBT, STB TEL, ENHL, AERO, JESV, TIGR, EPEN, EPIN, KOPB, VDAV, TGAS, DNOS, GLOS | MTUR, FITO, IMPL, LSTA, SJPT, VDAV, VBSE, GLOS | MTUR, FITO, LSTA, SJPT, VDAV, VBSE, GLOS |
| IV | | | | GRNT, MPT, SBT, STB, TEL, KMB, ENHL, AERO, JESV, TIGR, EPEN, EPIN, KOPB, TGAS, DNOS | GRNT, MPT, SBT, STB, TEL, ENHL, JESV, EPEN, EPIN, KOPB, TGAS |

*Source*: Authors' calculation

*Note*:[*] Symbols from the Belgrade Stock Exchange and Macedonian Stock Exchange were used to indicate companies

**Finding 3:** The indicators that are the most frequently disclosed are those that are easily quantified and measured (e.g. the number of employees and defined benefits when retiring) (Table 4). This finding is in accordance with Szekely & Kemanian (2016), who state that "most emerging market firms cannot afford to divert resources from their main business activities to focus on areas not generating returns".

**Finding 4:** The most disclosed social topics are on the number of employees and internal and external communication capabilities (topics reported from 90.32% and 64.52% companies during 2018) (Table 4). Even though companies have been slow to integrate social dimension of sustainability into their reporting practice, a trend of a slow improvement of this practice is present among companies included in BELEXLine (SDI average value is 6.62 in 2014 and 7.76 in 2018).

**Table 4** Most commonly disclosed social, environmental and economic indicators in the period 2014-2018

| | Indicators | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|
| Social indicators | Number of employees | 90.32% | 90.32% | 90.32% | 90.32% | 90.32% |
| | Internal and external communication capabilities | 58.06% | 64.52% | 64.52% | 64.52% | 64.52% |
| Environmental indicators | Environmental Compliance | 74.19% | 77.41% | 74.19% | 77.41% | 80.64% |
| | Waste management | 58.06% | 58.06% | 58.06% | 58.06% | 58.06% |
| Economic indicators | Defined benefits when retiring | 90.32% | 93.54% | 93.54% | 93.54% | 93.54% |
| | Investments in research and development | 67.74% | 74.19% | 77.41% | 77.41% | 77.41% |

*Source*: Authors' calculation

**Finding 5:** As to environmental dimension of sustainability, organizations report mostly in a qualitative manner on waste management processes and compliance with laws and standards in the field of environmental protection. Research results show that companies from industries that may have a potential negative impact on the environment (processing industry and mining - e.g. Alkaloid, NIS, Metalac) on average disclosed more information on the environmental dimension of sustainability compared to companies from the financial sector.

**Finding 6:** Regarding the economic dimension of sustainability, as shown in Table 4, the most often disclosed information is about defined benefits during retirement (93.54% of companies), which are mostly quantitative in nature, as well as the information on investments in research and development (77.41% of companies). The practice of reporting on economic dimension of sustainability is a reflection of corporate ownership structures, immature capital markets and investors` passiveness immanent to these two frontier markets.

**Finding 7:** Serbian companies on average report more frequently on CSR, and a trend of improvement in sustainability reporting can be observed among companies included in BelexLine index (average value of SI rises from 14.48 in 2014 to 16.19 in 2018 reaching 40.23% of compliance level) (Table 5). On the other hand, a decline in the average value of SI for companies included in MBI10 is observed. During 2018, the average value of SI was 10.00, which corresponds to 23.8% compliance level of maximal SI value.

**Finding 8:** Company size plays an important role in determining the level and quality of sustainable development reporting. Large companies from the sample have on average higher SI values in comparison to small and medium-sized companies (Table 5). These companies have also seen a shift in transparency (the SI average values reach 14.50 and 15.89 in 2014 and 2018 respectively). The results are consistent with Nayak & Venkatraman (2011) who state that large companies report more since they are exposed more to pressure from stakeholders, regulatory bodies and the community.

**Finding 9:** The highest level of information disclosure on CSR is observed in companies listed on the Standard Listing at the Belgrade Stock Exchange. The SI average values for companies listed on Prime and Standard Listing in 2018 are 20.00 and 21.33 respectively (Table 5). Having in mind more rigorous conditions for inclusion of securities of companies on these two segments of the Belgrade Stock Exchange, the listed companies are under pressure to increase the quality of disclosure.

**Finding 10:** Companies from the secondary sector (dominantly from processing industry (44%), construction and mining sector) report more on sustainable development in relation to companies from the tertiary sector. This analysis indicates that a higher level and quality of information disclosure on social, environmental and economic dimension of sustainability is expected from those companies whose sector is closely related to sustainability issues.

**Finding 11:** Companies without majority owner report more on all dimensions of sustainable business, with the SI average values ranging from 13.71 to 14.29 (Table 5). This finding is in line with La Porta et al. (1998), who state that in companies with concentrated ownership the need for disclosing additional non-financial information decreases, since the companies are less dependent on external shareholders.

**Table 5** Trends in the SI average values by exchange markets, size of company, stock market segment, sector and ownership structure

| Classification | Average value of Sustainability Index | | | | |
|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 |
| Exchange market index | | | | | |
| BelexLine | 14.48 | 14.90 | 15.00 | 15.66 | 16.19 |
| MBI10 | 10.50 | 10.30 | 10.20 | 10.2 | 10.00 |
| Company size | | | | | |
| Small | 9.00 | 9.17 | 9.00 | 9.17 | 9.33 |
| Medium | 13.43 | 13.57 | 13.28 | 13.57 | 14.00 |
| Large | 14.50 | 14.78 | 15.00 | 15.61 | 15.89 |
| Stock market segment | | | | | |
| Prime Listing | 13.33 | 14.67 | 16.33 | 17.67 | 20.00 |
| Standard Listing | 18.67 | 17.67 | 17.33 | 20.33 | 21.33 |
| Open Market | 13.87 | 14.40 | 14.26 | 14.33 | 14.40 |
| Exchange listing | 8.67 | 8.67 | 8.67 | 8.67 | 8.67 |
| Mandatory listing | 12.67 | 12.00 | 11.33 | 11.67 | 11.00 |
| Super Listing | 15.00 | 15.00 | 16.00 | 15.00 | 15.00 |
| Sector of the economy | | | | | |
| Secondary sector | 14.00 | 14.22 | 14.50 | 15.00 | 15.50 |
| Tertiary sector | 12.07 | 12.31 | 12 | 12.38 | 12.38 |
| Ownership structure | | | | | |
| Majority shareholder | 12.57 | 13.14 | 13.43 | 13.64 | 14.07 |
| Diffuse ownership | 13.71 | 13.64 | 13.47 | 14.11 | 14.29 |

*Source*: Authors' calculation

CONCLUSION

Emerging and frontier markets offer both attractive opportunities for investors, and multiple environmental, social, and governance-related challenges. As indicated in this study, these challenges are often neglected and not considered in the long-term business strategies and disclosed in the companies` annual reports.

Disclosure practices are one of the most acknowledged and favoured means of being accountable to society and stakeholders. In contrast to this trend at the developed capital markets, this study indicates a serious level of resistance by companies operating at two frontier markets related to transparency and accountability towards sustainability performance. The mean values of SI during the period 2014-2018 of companies included in BelexLine and MBI10 index are 15.25 and 10.24 respectively (maximum 42). The disclosure at these two frontier markets still appears to be driven by survival concerns. Still, the findings of cluster analysis show that there are some groups of companies at these markets that make real efforts to embrace broader accountability and take into account sustainability issues in order to acquire competitive advantage and manage risks. The degree and the content of reporting on sustainability issues differ among the companies according to the size, ownership structure, exchange market and industrial sector affiliation, which is in line with sustainability practice drivers at the developed capital markets.

The theoretical background used to explain sustainability reporting practices at developed capital market can also be applied at the frontier markets. The reporting practices among the Serbian and Macedonian companies can be explained by a combined consideration of

stakeholder and institutional theory. The low level and the quality of sustainability reporting can be interpreted as a consequence of a modest stakeholder pressures to the companies existing at these two markets and the lack of normative pressure on sustainability reporting. We consider this result consistent with Zyznarska-Dworczak (2018) who concludes that market participants in the Central and Eastern European countries are not sufficiently interested in socially responsible business issues, due to the cultural and historical environment, as well as the lack of widely accepted and used ethics and ethical standards. In spite of the apparent sustainability challenges in the Republic of Serbia and North Macedonia (such as inequality, pollution, corruption, weak institutions and a lack of regulations), recognition of these challenges and the contribution of sustainability reporting, even by the most successful and liquid companies included in the national capital markets indices, is quite modest. This is in line with previous research on sustainability reporting practice in the emerging economies (Islam & Deegan, 2008; Kansal et al, 2014; Odell & Ali, 2016). This sends a clear message to policy makers, industry affiliations and companies` management to engage in a creation of a more transparent and accountable business environment with active ownership which is leading to sustainable development goals achievement.

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# ŠTA SE MOŽE SAZNATI IZ IZVEŠTAVANJA O ODRŽIVOM RAZVOJU NA GRANIČNIM TRŽIŠTIMA KAPITALA? SLUČAJ REPUBLIKE SRBIJE I SEVERNE MAKEDONIJE

*Cilj sprovedenog istraživanja je da se kroz uporedni pregled prakse izveštavanja o održivosti u skladu sa GRI okvirom dođe do zaključaka o nivou prakse izveštavanja o društvenom odgovornom poslovanju na dva posmatrana granična tržišta kapitala. Istraživanje obuhvata 31 kompaniju uključenu u strukturu indeksa BELEXline i MBI10 u periodu 2014-2018. godine. Vrednosti Društvenog, Ekološkog, Ekonomskog Indeksa Obelodanjivanja, kao i zbirnog Indeksa održivosti, izračunate primenom analize sadržaja, ukazuju na nizak nivo prakse izveštavanja o održivosti. To je posledica pasivnog vlasništva i skromnih pritisaka stejkholdera na kompanije na ovima graničnim tržištima, kao i izostanka normativnog regulisanja izveštavanja o održivosti. Grupisanje kompanija u klastere u skladu sa obelodanjivanjem pokazatelja održivosti ukazuje na značajne razlike u praksi nefinansijkog izveštavanja unutar i između dva posmatrana tržišta. Izveštavanje o pitanjima održivosti razlikuje se između analiziranih kompanija prema njihovoj veličini, vlasničkoj strukturi, berzanskom tržištu i pripadnosti industrijskom sektoru, što je u skladu sa praksom na razvijenim tržištima kapitala.*

Ključne reči: *izveštavanje o održivom razvoju, društveni, ekonomski, ekološki indikatori, indeks obelodanjivanja, GRI standardi, granična tržišta kapitala*

APPENDIX

**Table A1** Classification of companies from the sample according to market segment, sector of economy, company size and ownership structure

| Belgrade Stock Exchange | | | | |
|---|---|---|---|---|
| *Companies* | Market segment | Sector of economy | Company size | Ownership structure |
| Nis (NIIS) | Prime Listing | secondary | large | majority shareholder |
| Energoprojekt Holding (ENHL) | Prime Listing | secondary | large | diffuse ownership |
| Aerodrom Nikola Tesla (AERO) | Prime Listing | tertiary | large | majority shareholder |
| Metalac (MTLC) | Standard Listing | secondary | large | diffuse ownership |
| Jedinstvo (JESV) | Standard Listing | secondary | medium | diffuse ownership |
| Komercijalna banka (KMBN) | Standard Listing | tertiary | large | diffuse ownership |
| Alfa Plam (ALFA) | Open Market | secondary | medium | diffuse ownership |
| Tigar (TIGR) | Open Market | secondary | medium | diffuse ownership |
| Galenika Fitofarmacija (FITO) | Open Market | secondary | medium | diffuse ownership |
| Impol Seval (IMPL) | Open Market | secondary | large | majority shareholder |
| Energoprojekt Entel (EPEN) | Open Market | secondary | medium | majority shareholder |
| Energoprojekt Industrija (EPIN) | Open Market | secondary | small | majority shareholder |
| Sojaprotein (SJPT) | Open Market | secondary | large | majority shareholder |
| Kopaonik (KOPB) | Open Market | secondary | medium | diffuse ownership |
| Voda Vrnjci (VDAV) | Open Market | secondary | medium | diffuse ownership |
| Valjaonica bakra Sevojno (VBSE) | Open Market | secondary | large | majority shareholder |
| Messer Tehnogas (TGAS) | Open Market | secondary | large | majority shareholder |
| Lasta (LSTA) | Open Market | tertiary | large | diffuse ownership |
| Dunav osiguranje (DNOS) | Open Market | tertiary | large | majority shareholder |
| Globos osiguranje (GLOS) | Open Market | tertiary | small | diffuse ownership |
| ALTA banka (JMBN) | Open Market | tertiary | small | diffuse ownership |
| Macedonian Stock Exchange | | | | |
| Companies | Market segment | Sector of economy | Company size | Ownership structure |
| Alkaloid (ALK) | Exchange listing | secondary | large | diffuse ownership |
| Granit (GRNT) | Exchange listing | secondary | large | diffuse ownership |
| Makpetrol (MPT) | Exchange listing | secondary | large | diffuse ownership |
| TTK Banka (TTK) | Exchange listing | tertiary | small | majority shareholder |
| Makedonija Turist (MTUR) | Exchange listing | tertiary | small | diffuse ownership |
| Stopanska banka Bitola (SBT) | Exchange listing | tertiary | small | diffuse ownership |
| Stopanska banka Skopje (STB) | Mandatory listing | tertiary | large | majority shareholder |
| Makedonski Telekom (TEL) | Mandatory listing | tertiary | large | diffuse ownership |
| NLB banka (TNB) | Mandatory listing | tertiary | large | majority shareholder |
| Komercijalna banka (KMB) | Super Listing | tertiary | large | diffuse ownership |

*Source*: Authors

**Original Scientific Paper**

# PIGS ECONOMIES: BAIL-OUT VS. BAIL-IN

## *UDC 336.71*

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**Abstract**. *This paper analyzes bail-out and bail-in programs in the Eurozone periphery economies after the transformation of the global crisis into a debt crisis. Continuous rise of debt service costs was leading PIGS economies (Portugal, Ireland, Greece, Spain) either to abandon of Eurozone or to negotiate rescue programs. Using Panel corrected standard errors (PCSE) method, the research shows that bail-out programs had a negative effect on GDP growth in PIGS economies in the period 2011-2019, as the consequence of crowding-out effects. However, the results showed that bail-out programs could positively affect fiscal variables. An alternative solution is the bail-in mechanism, which is a sustainable mechanism that does not burden taxpayers. Based on examples of banks in Spain and Portugal, results show that using bail-in programs, panic and contagion effects could be avoided; however, in the case of future crisis, the effects of bail-in programs on the real economy still need to be examined.*

**Key words**: *PIGS Economies, Bail-out, Bail-in, Crisis.*

**JEL Classification:** G38, E44, H60.

## 1. INTRODUCTION

EU membership implies the harmonization of a significant number of economic policies, but one of the few that has maintained sovereignty is fiscal policy. Although fiscal policy is characterized by certain level of policy coordination in terms of partial harmonization of the tax system, and defined levels of fiscal deficit (3 % of GDP) and public debt (60 % of GDP), each member individually implements public spending

policies. Therefore, it is not surprising that each country individually has different causes of excessive fiscal deficit.

As the global crisis escalated, EU countries were also affected to varying degrees. Although the global crisis was initiated in the mortgage market, it quickly spilled over into the real sector, and then transformed into a debt crisis, primarily in the PIGS countries (Portugal, Ireland, Greece, Spain). The specificity of these countries is reflected in their affiliation with the Eurozone - with the single monetary policy of the Eurozone, the only macroeconomic instrument for mitigating the consequences of the crisis was fiscal policy. The aim of this paper is to analyze the fiscal difficulties that PIGS countries faced during the crisis, as well as bail-out vs. bail-in programs used during the debt crisis.

The subject of the paper is the analysis of rescue mechanisms implemented in the PIGS countries in terms of bail-out programs in the period 2011-2019 using panel-data model, as well as examples of bail-in programs. The main hypothesis in the paper is that bail-out programs negatively influence GDP growth in the short term and that a long-term solution could be found in bail-in programs. Namely, using bail-in programs, instead of tax payers, banks could participate in bearing the costs of restoring a distressed bank and to prevent the negative spillover effects from the banking sector to countries' public debts.

The paper is structured as follows: after the introduction part, the second section presents a review of the literature on bail-out and bail-in programs and section tree shows the theoretical background of bail-out programs in terms of classification and consequences. The fourth section presents the fiscal positions of PIGS countries and the motivation for implementing bail-out programs. The fifth section shows the effects of the bail-out program using panel-data model, and bail-in program using example of Spain and Portugal. As part of the concluding remarks, recommendations were made to macroeconomic policy makers.

## 2. LITERATURE REVIEW

The complexity of the Eurozone debt crisis is explained in the Weber's (2015) paper, pointing out that it is not just a public debt crisis, but simultaneous growth crises, a labor market crisis, a balance of payments crisis, along with a public debt crisis. Failures during these crises were solved using bail-out programs from public funding equity in order to rescue debtholders (Block, 2010). More precisely, 'taxpayers have covered more than two-thirds of the cost of resolving and recapitalising financial institutions' (Philippon & Salord, 2017).

That was especially the case in PIGS economies. Schunknecht, Moutot, Rother, and Stark (2011) point to the justification of using the rescue mechanism in PIGS countries (Portugal, Ireland, Greece, and Spain) as solutions to unbridled public finances and growing public debt. Initially, Italy also belonged to this group of economies, which was analyzed in the work of Talani (2013), however, no rescue measures were implemented in Italy. Kickert & Ongaro (2019) propose resolving Greece's public debt at a supranational level. Pagoulatos (2019) wrote more about the rescue programs used in Greece. This paper discusses the effects of the applied bail-out mechanisms and the belt-tightening policy that is implied during the implementation of the program. Gurnani (2016) indicates the economic and financial situation in which Portugal found itself, as well as the process of implementing the rescue mechanism, emphasizing the efficiency of the program used. McDonagh (2017) and Whelan (2013) in their papers analyze the causes that led to the escalation of the fiscal deficit and which spilled over into the growth of public debt in Ireland. Also, the paper deals with the success of the

applied rescue mechanism. Bagus, Raillo & Neira (2014a, 2014b) talk about the state's response in the form of a bail-out mechanism in Spain (Marti & Perez, 2016), using a partial rescue program whose funds were directed solely to help the banking sector. Further, they conclude that the effectiveness of the program used in Spain is questionable, hence analyzing the feasibility of a bail-in (Sanchez-Roger et al. 2018).

On the other hand, as opposite to bail-out programs, governments across Europe introduced bail-in programs. Dewatripont (2014), discusses in his paper the positive and negative effects of the bail-in mechanism. Micossi et al. (2016) believe that new principles and restructuring of the banking sector can prevent excessive risk-taking by bankers and solve the issue of moral hazard. Furthermore, Conlon & Cotter (2013) and Avogouleas & Goodhart (2015) discuss that topic as well. Also, Pandolfi (2018) considers that moral hazard can be completely eradicated by applying a bail-in mechanism. On the other hand, Bodellini (2018) agrees in his work with this view, but suggests that it is not possible for bail-in to completely replace the bail-out mechanism. Sommer (2014) advocates bail-in because his opinion is that 'successful bail-in has only a marginal effect on competition, and that an unsuccessful bail-in only eliminates a competitor, without creating a bigger one'. Namely, according to Regulation (EU) No 806/2014 of the European Parliament and of the Council of July 15th 2014 bail-in as a tool is introduced in EU legislative. 'Formal resolution about bail-in regimes means participation of bank creditors in bearing the costs of restoring a distressed bank (Bowman, 2016) and include heavy restrictions on taxpayer support' (Beck, et al. 2017). Therefore, in a crisis depending on the specific situation and in line with the applicable legal framework, the Single Resolution Board (SRB) reserves the right to intervene (Single Resolution Board 2020). The aim of new bank resolution is to 'solve the trade-off between imposing market discipline and minimizing the effects of bank failure on the rest of the financial system and the real economy' (Beck, 2011). 'Imposing market discipline implies avoiding the negative impact of bail-outs and public guarantees on bank risk-taking' (Dam & Koetter, 2012). While 'this new tool hypothetically lets banks fail without resorting to public funding, the European regime also allows for extraordinary public support under certain conditions' (Schoenmaker 2017). Hence, (Bates & Gleeson, 2015) 'bail-in should operate through a private contract, but the power to initiate bail-in and determine the extent of write-offs and fees incurred should be entrusted to a competent public authority'.

## 3. THEORETICAL BACKGROUND OF BAIL-OUT MECHANISMS: TYPES AND CONSEQUENCES

In analyzing the bail-out mechanisms, 'it is important to distinguish the concepts of bail-out' and stimulating the economy. According to Block (2010), two aforementioned terms represent different government actions, the first representing urgent efforts to prevent an impending collapse or to assist sectors that have already encountered difficulties and cannot overcome them, while the second one is fiscal stimulus is order to create economic growth. Bail-out represents narrower action than stimulation, in the sense that the government can take general actions that enable economic growth, while the use of the bail-out mechanism is mainly focused on certain sectors. The bail-out could be said to represent direct one-time actions carried out through the purchase of debts or shares. On the other hand, fiscal stimulation is carried out through the encouragement of businesses or individuals either in general or through the purchase of individual assets (assets) or investment.

According to Block (2010), there are five types of bail-outs:

1. **Profitable bail-out**, means that the government represents an intermediary between vulnerable companies, without spending budget funds. The government assists in finding a solution to overcome the problem, and in such circumstances can even profit, given that 'all administrative costs are covered by interest and fees and that all loans are repaid in full'.

2. **Bail-out with low or no cost**, by implementing such a program most governments help market players by adjusting to market conditions that can relax the business environment and thus help different sectors to overcome difficulties. The government can take actions that are risk-free if it opts for an intermediary role between investors and private lenders. Or to take slightly riskier actions in which it represents a guarantor for private loans.

3. **Bail-out financed from special funds**, the implementation of this program requires the creation of real costs. The implementation of this mechanism requires the establishment of funds, in which earmarked funds will be collected from which the bail-out will be financed. The disadvantage may be the lack of necessary resources when requiring a switch to another form of bail-out.

4. **Bail-out financed from general government revenues**, by applying this mechanism, significantly higher funds are available compared to the previous method, which brings a certain advantage. However, the disadvantage of this form of bail-out financing must not be ignored. Expecting state intervention with bail-out programs, companies as well as the banking sector are more willing to take much riskier moves, because they rely on the help of the state if something goes wrong. Another disadvantage of this form of bail-out is that the costs of its financing are borne by all taxpayers, not just those who have direct or indirect benefits.

5. **Combined bail-out** can be financed by a combination of earmarked funds allocated to special funds and general tax revenues, which gives some flexibility in the implementation of bail-out programs.

It is important to consider the consequences, i.e. the costs of such actions, which is not an easy task since each action is specific to itself. The assessment of the costs and the most transparent costs of bail-outs can hardly be comprehensively considered, given that borrowers may not fully repay the amount of borrowed state funds. The risk, and thus the costs of applying the bail-out mechanism, vary in relation to different types of loans and investment programs, and also depend from one borrower to another. Government intervention in the banking sector becomes necessary when illiquidity occurs due to the gap between short-term loans and long-term investments, in which case a combination of bail-out guarantees and central bank guarantees is applied. According to Bagus, Julian and Neira (2014), the consequences of a bail-out can be as follows:

1. **Non-discriminatory bail-out**: governments should not be guided by the premise that all banks or companies are too big to fail; a thorough analysis of the sustainability of certain systems should be performed and only then resort to the bail-out mechanism as a tool to save companies, a bank or the state in order to justify the invested funds and in order not to lay the foundations for the creation of new problematic market players. The new round of rescuing troubled actors who survived only thanks to state interventions actually represents the hidden costs of the bail-out program.

2. **Crowding-out of private savings**: bail out is mainly financed by increasing public debt through the issuance of government bonds, in which savers invest. In that way, the capital market dries out even more, because the use of special funds prevents the free functioning of the credit market. This further aggravates the situation, as the effects spill

over into both the stock market and the real estate market, increasing the demand for bail-out fund expansion, thus not only inadequately wasting scarce resources but also squeezing out private consumption.

3. **Moral gambling**: a non-discriminatory bail-out program further deepens the problem of moral hazard, the consequences of which will be difficult to control in the future. What leads to moral hazard and what does it represent? If the states, the private sector, banks or individuals are aware that whatever moves they have taken and in whatever difficulties they have fallen, the state will stand behind them and will not allow them to fail, such knowledge enables them to take even greater risks that in the future may lead to unsolvable situations - collapse, i.e. increase the financial resources needed to save the system, i.e. rescue costs.

4. **Regulation of decision-making**: most bail-out programs simultaneously carry with them capital injections into the entity being rescued, thus narrowing the space for management's independent decision-making. Such circumstances not only complicate the business, but can significantly jeopardize the business and further survival of the company.

5. **The problem of exit strategy**: some bail-out programs involve the government becoming the majority owner of the entity (e.g., financial institutions) it is rescuing. As the majority owner, the government makes business decisions that often coincide with political interests, which significantly jeopardizes the business. Fortunately, such situations are short-lived, as most governments want to exit these arrangements. The moment you go out can be a problem. Going out too early can destabilize the financial system again, while a late exit can incapacitate or even disperse management that cannot make strategic decisions on its own. Such circumstances lead mainly to a decline in the value of shares on the stock exchange, a decrease in profits, a decline in competitiveness and losses for all internal and external stakeholders.

6. **Uncertainty of the regime**: represents a continuation of the previous problem, and was defined by Robert Higgs, as uncertainty as to what the future economic order will look like, especially how private property will be treated by the state. The uncertainty regime discourages long-term savings and investments that are essential for economic recovery.

## 4. WHY BAIL-OUT? RE-EXAMINING FISCAL POSITION OF PIGS ECONOMIES

PIGS economies were unable to control their public finances during the debt crisis. Continuous rise of debt service costs was leading either to abandonment of Eurozone or to negotiating rescue programs. The option of abandoning the euro would mean a return to weak national currencies, which would further open space for speculative attacks that would deepen the already existing problem. Consequently, PIGS economies have decided to accept rescue packages from several programs: European Financial Stability Facility (EFSF), European Financial Stabilization Mechanism (EFSM), European Stability Mechanism (ESM). However, the Eurozone peripheral economies received different amounts from bail-out programs in different periods, due to different fiscal situations in each economy.

The pre-crisis situation in Portugal can be defined as anemic, because economic growth was almost invisible and public revenues were insufficient. The economy in such a state is facing a crisis, which implies a threefold increase in the deficit in just one year from 3.7% of GDP in 2008 to 9.9% of GDP in 2009 (Figure 1). The government primarily tried to respond to the crisis by the leader of the expansionary fiscal policy introduced with the aim of boosting the overall economy. Consumption growth is stimulated by the growth of

disposable income and the reduction of taxes. Through this policy, an attempt was made to reduce the recession gap, increase aggregate demand and reduce unemployment. However, such a policy did not give the desired results, the expansive policy is characterized by the accumulation of public debt, which is why the unlimited use of the heating policy is not sustainable. In order to avoid further accumulation of public debt, Portugal was forced to turn to bail-out programs in 2011, which, in addition to funds, also included painful fiscal adjustments. Structural reforms were supposed to restore the country's credibility, which would ensure access to the international capital market in the short term. The bail-out program involved primarily a reduction in government expenditures, which meant a reduction in government spending, while reducing the volume of government administration (by 1% annual reduction in government employees), as well as reducing government employees' salaries with increasing its efficiency. Further restrictions related to the health sector, education, unemployment benefits and social transfers. On the revenue side of the budget, it was necessary to reform the tax system, which was done by increasing the base for property and income taxes, VAT rates were increased, and there were also increases and compensations for health care. A significant part of the Portuguese economy was still in the hands of the state, and the signing of the program insisted on increasing the efficiency and competitiveness of the economy, which meant privatization, which provided additional income for the state. The bankruptcy of one bank threatened the collapse of the entire banking sector, as soon as the entire financial sector was endangered, which needed a significant pumping of funds in order to ensure its survival.
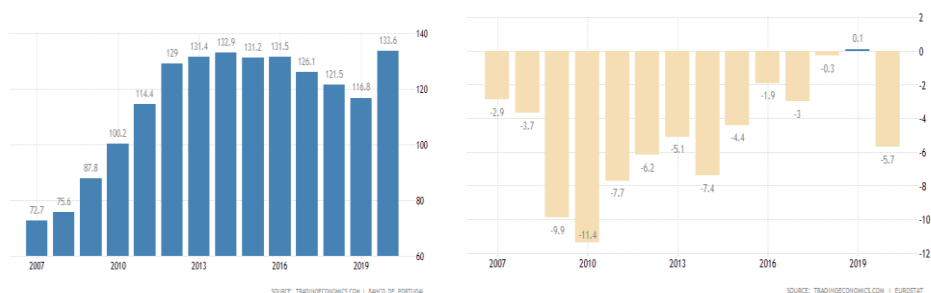


**Fig. 1** Fiscal deficit/surplus and public debt in Portugal in period 2007-2020
*Source*: https://tradingeconomics.com/

Ireland was one of the members that was forced to sign bail-out programs financed by the ECB and the IMF. At that time, in addition to the approved funds, it had to accept adjustments through fiscal consolidation. The crisis has hit the country hard, which has been characterized by low taxes and low social transfers. In the short period after the onset of the crisis, GDP fell by 4.5%, the decline in GNP was far greater as a result of its connection to exports and foreign ownership of the sector. Domestic demand also declined. A complete debacle occurred in the labor market, where from a country with an extremely low unemployment rate of 4.5% (2000s) after the crisis the rate rose to 15%. Public debt from the pre-crisis level of 23% of GDP reached the level of 119.5% of GDP in 2012 (Figure 2). The deficit escalated to 32% of GDP in 2012, because the banking sector was saved that year.

During the 2000s, public expenditures flourished, but were cut short in the short term, because otherwise, due to a deficit of 20%, public debt would have accumulated to 180% of GDP. The Irish government decided to raise revenues, but twice less in relation to the reduction of expenditures, which ultimately did not produce the desired effect because the collected state revenues were 4 times less than expected. The reduction in spending resulted in a decline in investment projects, which were mostly financed from domestic public-private partnerships, as it took over the financing from EU funds. Two years after the crisis, it was necessary to set priorities and investments in capital projects were halved. Also, a significant amount of funds intended for education, health, households and public transport has been reduced in order to redirect these funds to encourage entrepreneurship and business. As one of the important austerity measures, the reforms also required dramatic reductions in public sector employees, and in order to mitigate social offers, incentives for voluntary retirement were offered (around 5%). The employment ban also came into force, mostly in the health and social sectors, while the state administration did not feel significant cuts. It was necessary for the public sector to increase efficiency, to achieve much more with less investment, which mostly referred to government agencies ('especially in the field of social protection').

When analyzing the revenue side of the budget, the question of revenue sustainability arises for two reasons. First, in the pre-crisis period, the government carried out various write-offs of receivables from industry, in order to reduce the burden on companies, encourage economic growth, and thus reduce the nature of taxes. Thanks to that decision, Ireland faced the crisis with almost 50% less taxpayers, which resulted in a significant reduction in budget funds. The second reason is that economic growth relied almost entirely on tax revenues, thus the entire tax system suffered heavy burdens. Such circumstances have put the Irish economy at a disadvantage due to the constant changes in tax revenues that have been reflected in the destabilization of the entire country. The consequences of the recession were first felt by rising unemployment, and then by falling tax revenues due to declining employment. In the Irish case, it was almost impossible to increase tax rates or carry out any reforms to existing taxes in order to raise more funds. Ireland had to resort to creating new taxes, due to the fact that the increase in the corporate tax discourages future investors from investing capital, and thus discourages industrial development.

According to Whelan (2013), impressive growth is the result of a fundamental increase in productivity and the achievement of labor market flexibility that have been a wind in the back of growth and economic strengthening, which set Ireland apart from other EU members who have not done so well with reforms. The deficit in 2015 was within the allowed limits, and such a trend continued in 2016 when it amounted to 0.7% of GDP, and in 2019, Ireland achieved a budget surplus of 0.5% of GDP (Figure 2). Such a result is attributed to revenues collected that were above expectations. Given the positive results of the fiscal deficit, there was a drastic reduction in debt observed in 2014 when it amounted to 104.1%, and in 2019 it was within the allowable amount of public debt and amounted to 58.8% of GDP. The moment of continuous decline, which was expected in the coming period, although it is very possible that this trend will change due to the corona virus pandemic, continued in 2016 when it amounted to 0.7% of GDP, and in 2019, Ireland achieved a budget surplus of 0.4% of GDP. All this thanks to the collected revenues that are above expectations. Given this situation, a drastic reduction in debt was observed in 2014, when it amounted to 104.1%, and in 2019 it was within the limits of the allowed amount of public debt and amounted to 57.4% of GDP in line with the trend of continuous decline,

which was expected in the coming period, although it is very possible that this trend will change due to the corona virus pandemic.
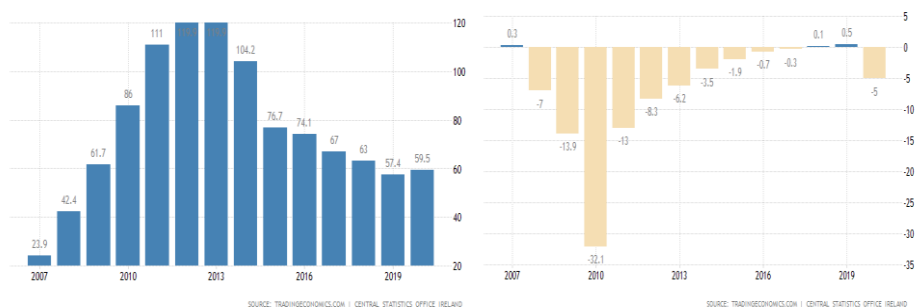


**Fig. 2** Fiscal deficit/surplus and public debt in Ireland in period 2007-2020
*Source*: https://tradingeconomics.com/

The crisis that occurred in 2008 shook the already unstable public finances of Greece. The reason that brought Greece to that position is the long-standing fiscal deficit that has accumulated public debt to such an extent that Greece has become the most indebted member of the EU.

The main culprit for bringing Greece to the brink of bankruptcy is an expansive fiscal policy that enabled the creation of a constant fiscal deficit (around 10%). Such a policy is made possible thanks to domestic and foreign funds due to easier access to the capital market. At the same time, economic growth in Greece has slowed significantly, leading to a further increase in public debt because interest rates on borrowed funds for refinancing were higher than the rate of economic growth. In addition, the state appears as a guarantor of private loans. The aforementioned reasons, along with the spillover effects of the Global Crisis, undoubtedly led to an unprecedented crisis after 2008. Figure 3 shows that in 2009 fiscal deficit was 15.1% of GDP, while public debt increased to the level of 175.2 % of GDP in 2011. The bail-out programs that followed meant only one thing - new borrowing with a policy of tightening the belt. The implementation of the first structural reforms aimed at stabilizing public finances and stimulating competitiveness did not yield results, thus deepening the recession. In order to overcome the crisis, it had to reform almost every segment of the economy, starting with the labor market, it was necessary to make it more competitive, flexible, but also cheaper (proposal to reduce health and social protection programs, abolish the thirteenth salary ...). Another significant reform related to the tax system- it was required that the tax policy be better defined and simpler, which would achieve greater efficiency and reduce tax evasion. The positive effects of the bail-out programs were recognized in 2016 in terms of achieving a budget surplus (0.2 % of GDP), while the level of debt was kept at a very high level (about 180 % of GDP). The crisis caused by the Covid-19 pandemic in 2020 deepened crisis in public finances again.

Public finances in Spain have been in good condition in the pre-crisis period, given that there was a budget surplus and the low levels of public debt, satisfying the prescribed limits. Marti and Perez (2016) indicated that the situation in which Spain faced the crisis was harmless, given that the public debt in 2007 was at its historical minimum with amount of only 35% of GDP and fiscal surplus of 1.9 % of GDP (Figure 4), which made Spain one of the least indebted members at the time.
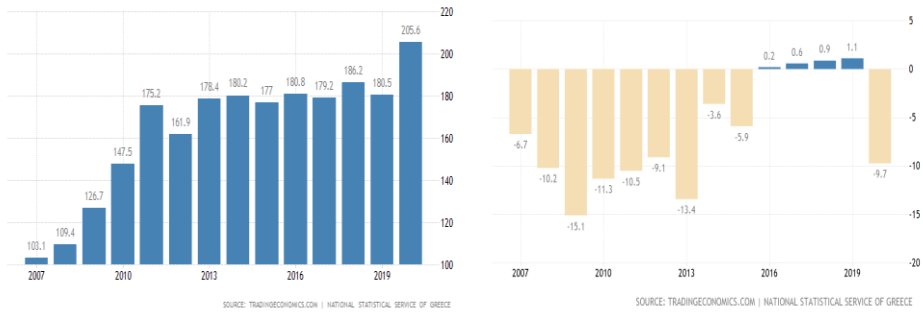
**Fig. 3** Fiscal deficit/surplus and public debt in Greece in period 2007-2020
*Source*: https://tradingeconomics.com/

The consequences of the crisis can be explained in three periods, with the first most obvious consequence being an economic decline of 9%. The first period represents a steep decline in economic activity (2008/9), the second is a period of stagnation (2010/11), and the third period is marked by a recession (2011/13). The negative five-year development of economic activity caused a decline in aggregate demand, which led to mass layoffs, and the spillover effect. Moreover, the crisis in the banking sector led to a fall in real estate prices. The solution to the problems brought by the crisis appeared in three answers, the first is the phase in which there was an increase in revenues with a decrease in expenditures, the second is the phase of fiscal consolidation and the third answer is the most decisive adoption of sharp and restrictive measures that will enable successful fiscal consolidation. Initially, ambitious structural reforms were attempted that involved the implementation of expansionary fiscal policies to help potential product growth. However, the use of such an inadequate policy led to a historically high fiscal deficit, which was recorded in 2009, amounting to 11.3% of GDP (Figure 4). The second response related to fiscal consolidation, which required a policy of tightening the belt, large layoffs in the public sector, reducing investment, freezing salaries and pensions to relieve public finances and reduce expenditures (by 1% of GDP per year) and thus reduced an undesirably large deficit. Strict measures did not give the desired results, but caused an even stronger decline in economic activity, introducing the Spanish economy



**Fig. 4** Fiscal deficit/surplus and public debt in Spain in period 2007-2020
*Source*: https://tradingeconomics.com/

into another recession. Spain was in a very unenviable position at the time, hit by two recessions at the same time, which forced it to take even tougher measures of fiscal consolidation and to ma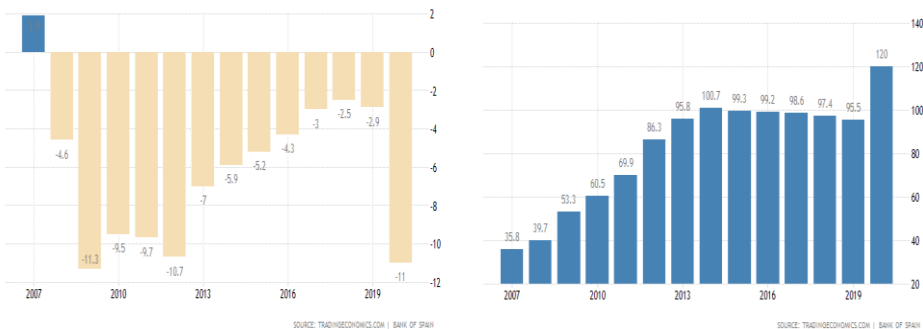ke a trade-off between growth and social equality in order to overcome the undesirable situation. After the application of bail-out programs in 2012 and 2013, fiscal deficit is reduced to 2.5 % of GDP in 2018, while public debt is kept at around 95 % of GDP in the period before the pandemic crisis (Figure 4).

## 5. EFFECTS OF RESCUE PROGRAMS IN PIGS ECONOMIES

### 5.1. Bail-out

The Eurozone has faced both a banking crisis and a public debt crisis in many Eurozone member states. To overcome the difficulties, a bail-out mechanism was used to support European Central Bank (ECB). According to Bagus, Julian and Neira (2014), 'through various mechanisms and financial instruments, shadow banking was highly represented, by attracting short-term funds from the money market, investments were made in long-term assets, such as long-term securities (ABS - assets backed securities), i.e. the most important of them mortgage securities (MBS - mortgage backed securities)'. This behavior of the banking system was possible given that in that period there was an enormous supply of credit, which with low interest rates involved in securities trading not only the financial sector but also other individuals and institutions that were willing to take risks for high yields. Eventually, a financial bubble was created, which had no coverage, which led to the collapse of the credit market. In the last quarter of 2008, 'central banks replaced the interbank sector' and redistributed short-term assets instead between banks that have funds and those that crave them. Another measure of the bail-out program to rescue the banking system was the direct injection of funds into financial institutions in order to prevent further bankruptcies and stabilize the credit market. These interventions require certain costs, which, if not directed, can prolong the crisis, which leads to the creation of new costs, i.e. the system is introduced into a vicious circle without a way out. Finally, PIGS economies plus Cyprus have decided to accept rescue packages from several programs: European Financial Stability Facility (EFSF), European Financial Stabilization Mechanism (EFSM), European Stability Mechanism (ESM). Yearly amounts of bail-out programs in PIGS economies are presented in table 1.

**Table 1** Bail-out programs in billion euros per years and disbursed amount

| Year | Ireland | Portugal | Spain | Greece | |
|------|---------|----------|-------|--------|--------|
| Source | EFSF | EFSF | ESM | ESM | EFSF |
| 2011 | € 8.17 bn | € 8.11 bn | 0 | 0 | 0 |
| 2012 | € 4.56 bn | € 11.36 bn | € 39.46 bn | 0 | € 14.32 bn |
| 2013 | € 5.66 bn | € 6.60 bn | € 1.86 bn | 0 | € 2.53 bn |
| 2014 | 0 | € 6.25 bn | 0 | 0 | € 8.30 bn |
| 2015 | 0 | 0 | 0 | € 21.42 bn | 0 |
| 2016 | 0 | 0 | 0 | € 10.30 bn | 0 |
| 2017 | 0 | 0 | 0 | € 8.50 bn | 0 |
| 2018 | 0 | 0 | 0 | € 21.70 bn | 0 |
| Total | € 18.41 bn | € 27.33 bn | € 41.33 bn | € 61.93 bn | € 18.41 bn |
| Disbursed amount | - | 7.32 % | 42.61 % | 3.35 % | 7.71 % |
| Repayment until | 2042 | 2040 | 2027 | 2060 | 2070 |

*Source*: author, using: https://www.esm.europa.eu/assistance/programme-database/programme-overview

The ESM and EFSF programs have paid off a total of €289 billion to PIGS economies. Table 1 shows that percentage of disbursed amount is highest in Spain (42.61 % of total amount), while in Ireland is still zero. 'The last active programme is the ESM programme for Greece, concluded in August 2018'. Maturity is the highest in Greece using EFSF program dating up to 2070. 'The long loan maturities and favourable interest rates enabled PIIGS economies to carry out necessary reforms'. Those reforms would allow them 'to return to market financing and economic growth'. Therefore, we check the correlation between bail-out programs and GDP growth and bail-out programs' correlation with other fiscal variables (Table 2).

**Table 2** Correlation between variable bail-out, GDP growth and other fiscal variables in PIGS economies in the period 2011-2019

|          | GDP growth | Deficit | Debt   | Interest | Exp   | Rev    |
|----------|------------|---------|--------|----------|-------|--------|
| PIGS     | -0,392     | -0,256  | 0,613  | -0,519   | 0,539 | 0,502  |
| Ireland  | -0,253     | -0,940  | 0,787  | 0,650    | 0,879 | 0,740  |
| Portugal | -0,452     | -0,646  | -0,149 | 0,510    | 0,523 | -0,176 |
| Greece   | -0,576     | -0,463  | -0,369 | -0,088   | 0,534 | 0,030  |
| Spain    | -0,373     | -0,645  | -0,276 | 0,182    | 0,698 | -0,205 |

*Source*: Author

Correlation analysis shows that bail-out programs are negatively correlated with GDP growth in PIGS economies on average, as well as in each economy. In relation to fiscal variables, it could be concluded that between bail-out programs and fiscal deficit exists negative relationship meaning that with the introduction of bail-out mechanisms, fiscal deficit could be reduced. Correlation with public debt shows heterogeneous results, on average, public debt increases with the increase of bail-out programs, as well as public expenditure.

With the aim to check whether the relationship between bail-out and GDP growth is significant, we estimated panel-data model for the four PIGS economies in the period 2011-2019. In order to have robust results, we used Panel corrected standard errors (PCSE) method, where the dependent variable is GDP growth and independent bail-out and other fiscal variables (Table 3).

**Table 3** Estimation of bail-out programs impact on GDP growth using method PCSE in PIGS economies in the period 2011-2019

| Dependent variable: Growth of GDP | Panel corrected standard errors (PCSE) | | |
|-----------------------------------|-------------|------------------------------|-------|
| Independent variables | Coefficient | Panel-corrected standard error | Z | p>z |
| Constant  | 144.384         | $7.51e^{-10}$ | -2.15 | 0.032 |
| Bail-out  | $-1.61e^{-10}$  | 2.23919       | -4.70 | 0.000 |
| Interest  | -10.52727       | 7.72467       | 18.69 | 0.000 |
|           |                 |               |       |       |
| R – squered            | 0.4578         | | | |
| Wald test              | 22.10 (0.000)  | | | |
| Nember of observations | 36             | | | |
| Number of groups       | 4              | | | |

*Source: Author*

The results indicate that bail-out programs determine growth of GDP significantly, with negative effect in the short-run. Moreover, growth of GDP is signifinately loaded by interest payments, meaning that interest payments influence negative growth of GDP. Therefore, we could confirm hypothesis that bail-out programs were not generators of economic growth in the period 2011-2019, although bail-out programs had effects on fiscal deficit reduction.

## 5.2. Bail-in: Example of Spain and Portugal

Considering all the consequences of the applied bail-out programs, one can conclude that bail-out is a very expensive and unsustainable mechanism, especially when it comes to resolving banking crises. For this reason, the EU has set up a fund that will provide a sustainable mechanism that will not burden taxpayers at the same time. An alternative to the bail-out mechanism is the bail-in mechanism. The bail-in mechanism represents overcoming problems through private funds. 'The Treaty principles and the new discipline of state aid and the restructuring of banks provide a solid framework for combating moral hazard and removing incentives that encourage excessive risk-taking by bankers' (Micossi, Bruzzone and Cassell, 2016). In 2014, the EU established the Fund as part of the Single Resolution Mechanism, which is financed from bank contributions. The single resolution mechanism is directly responsible for resolving the problems of individual banks and banking groups, under the supervision of the ECB. The authorized institution has the power to sell the assets of endangered banks and thus provide it with further operations, by establishing "bad banks" the liquidity of endangered banks would be provided, in such a way that bad receivables and loans would be purchased from them. The measures also allow the conversion of receivables into shares. In order for bail-in to be truly feasible and convincing (Sanchez-Roger et al., 2018), 'it is necessary for banks to ensure a minimum level of bail-in available funds that are convertible into shares or stakes'. Also, the bail-in mechanism enables the bank to write off debts or some other items in liabilities with its own funds, and in that way the endangered bank is relieved. There are two ways to implement the bail-in mechanism, by operating in the free market (Bagus, Rallo and Niera, 2014): through the conversion of debt into capital and through the growth of the value of shares / stakes through the capital market. The first mechanism is a typical form of bank reorganization, in which debt is converted into capital. In this way, for example, the bank is recapitalized, which enables the entity to continue to operate until long-term assets mature (long-term receivables are collected). The application of this mechanism solves one of the problems of bail-out, enables the survival of only those entities that are able to fight for a market position and strengthen their competitiveness (Sommer, 2014), there are no protected ones that are 'too big to fail', it also prevents squeezing out private savings. However, this mechanism according to Pandolfi (2018) does not solve the problem of moral hazard. The second mechanism is the growth of the value of shares / stakes in the capital market. This increases the bank's capital, 'which helps short-term refinancing of debts, and prevents the suspension of payments'. 'Private refinancing of short-term debts has several advantages', and they are: they do not have to be non-discriminatory, it is arbitrarily decided which bank will be saved, the problem of moral hazard is solved (Bodellini, 2018) and the problem of conflict of interest between management and government is solved. The only problem that cannot be solved is the squeezing out of private consumption. According to Bagus, Rallo and Niera (2014), there

are certain deviations from the standard bail-in compared to the one that can be implemented in a real situation. First, guaranteed deposits (up to € 100,000) cannot be converted into shares. Second, deposits of small and medium-sized enterprises, as well as deposits of the European Investment Bank have an advantage over deposits of large corporations, thus freeing up more room for maneuver. Third, secured liabilities, in the form of government bonds or mortgage securities, are not subject to exchange. Fourth, the liabilities of a failing company belonging to employees cannot be converted into shares. Fifth, interbank debts shorter than 7 days and all securities used in daily interbank operations cannot be exchanged for shares. For above mentioned reasons, Bates, Gleeson (2015) believe that the 'relevant instruments should ensure that the bail-in operates through a private contract, but the power to initiate bail-in and determine the extent of write-offs and fees incurred should be entrusted to a competent public authority'.

On the example of Spain, Bagus, Rallo and Niera (2014) tried to decipher the question whether the application of the bail-in mechanism would be significantly more efficient and cheaper 'in relation to the application of the bail-out program' for the recovery of the Spanish banking system. They considered several consequences of bail-out that could have been avoided if bail-in had been applied. First, the application of a partial bail-out to assist the banking sector directly violated the Maastricht Treaty, which prohibits the application of bail-out programs to national governments. Funds have been provided to Spain from the funds for the recapitalization of the banking system, which endangers trust in the Treaties and EU laws. On the other hand, bail-in mehazinam in no way violates European rules of the game. Second, bail-out assistance is provided from taxpayer-funded funds. Citizens' contributions help the recovery of mostly private capital, from which the owners benefit the most. Such a situation undoubtedly leads to the already mentioned moral hazard. Bank owners, as well as their managers, are more willing to take the risk, knowing that possible damages will be compensated from the pockets of citizens. In this way, a transfer is made from the poor to the rich. Also, not only is there a distribution between different levels of society within one state, but there is a distribution of tax revenues from one state to another, which undermines certain national conflicts and tensions. These negative consequences would simply be overcome by a bail-in mechanism, financing funds from bank contributions, which would serve to help vulnerable banks. Third, as mentioned, the bail-in mechanism would prevent the emergence of a moral hazard in which profits are collected by the owners of capital, while losses are paid by taxpayers. Fourth, the application of the bail-out mechanism in the process of rescuing the banking sector leads to an increase in public debt, the consequences of which are again borne by taxpayers. Private consumption is being squeezed out, and this is best reflected in the decline in economic activity. In the case of bail-in mechanisms and recapitalization from private funds, the inflow of foreign capital would be enabled, which would ensure not only the recovery of banks but also economic growth. Fifth, the bail-out program makes it difficult for banks to make decisions, the management does not have the freedom to manage according to its preferences, but acts according to government instructions, which further complicates the inflow of capital. Sixth, the previously changed problem of exit strategy can seriously jeopardize the banking system and destabilize it again, all problems related to the moment of withdrawal of the public sector from the bank management are simply eliminated by the bail-in mechanism since private investors become new bank owners. Seventh, uncertainty about the future was also contributed to by the growth of public debt as well as private debt caused by the rescue of the banking

sector. There is also the uncertainty of the euro, which can significantly affect the crowding out of both domestic and foreign investments. These problems could be alleviated if not completely overcome by applying bail-in, because primarily there would be no increase in debt, but there would be a conversion of debt into shares, which would slow down borrowing, and long-term savings and investments would be encouraged.

Another example is the Portugueese case. In Portugal the bail-in mechanism was applied to Banco Espírito Santo. As Beck, Da-Rocha-Lopez and Silva (2017) and Bowman (2016) write, Resolution Banco Espirito Santo aimed to preserve the healthy tissue of the bank, by transferring bad debts and low-quality assets to a 'bad bank'. On the other hand, the new bank has been established, whose capital was fully financed by the combined funds of the Portuguese Bank Rehabilitation Fund from 2012 and a loan from 8 banks. Other collectible receivables were transferred to the new bank. By applying the bail-in mechanism, borrowers and depositors were protected. Although the application of the bail-in mechanism in the case of Portugal has had negative implications for real indicators, rising unemployment and declining investment, it can be said that panic and the collapse of the financial market were successfully avoided.

Namely, the European Commission has proposed a framework that enables the rescue of banks that would be on the verge of collapse in the future through the bail-in mechanism (Conlon & Cotter, 2013). Many economies also tend to introduce, or have already introduced, a bank bail-in mechanism, which would mean that the bail-in mechanism assumes a superior role over the bail-out mechanism (Avogouleas & Goodhart, 2015). However, the positive and negative sides of the initiative need to be examined in more detail so that the bail-out mechanism is completely supplanted by the bail-in mechanism (Dewatripont, 2014).

## 6. CONCLUSIONS

This paper analyzes the rescue programs of the Eurozone periphery economies after the transformation of the global crisis into a debt crisis. The research showed that negative effect of this type of assistance is related to source of finance, namely, bail-out programs are financed by taxpayers, moral gambling, regulation of decision-making, exit strategy and crowding-out of private savings. As the bail-out programs are mainly financed by increasing public debt, crowding-out of private savings and investments indicate decline in GDP. This theoretical assumption is confirmed using panel-data model. Namely, negative effect of bail-out program on GDP growth is estimated using Panel corrected standard errors (PCSE) method in PIGS economies in the period 2011-2019. The results showed that bail-out programs could positively affect fiscal variables, however, bail-out programs do not provide economic growth and positive effects on the real economy.

Considering all the consequences of the applied bail-out programs, it could be concluded that bail-out is a very expensive and unsustainable mechanism, especially when it comes to resolving banking crises. An alternative solution to the bail-out is the bail-in mechanism, which is a sustainable mechanism that will not burden taxpayers at the same time. Since bail-in is still not frequently used, previous experiences on the example of banks in Spain and Portugal show that by using bail-in programs panic and contagion effects could be avoided, however, in the case of future crisis, the effects of bail-in programs on the real economy still need to be examined.

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# PIGS EKONOMIJE: BAIL-OUT VS. BAIL-IN

*Ovaj rad analizira bail-out i bail-in mehanizme u perifernim ekonomijama evrozone nakon transformacije globalne krize u dužničku krizu. Stalni rast troškova servisiranja duga uslovio je ekonomije PIGS (Portugal, Irska, Grčka, Španija) ili da napuste evrozonu ili da pregovaraju o bail-out programima. Korišćenjem metode korigovanih standardnih grešaka (PCSE), istraživanje pokazuje da bail-out programi negativno utiču na rast BDP-a u PIGS ekonomijama u periodu 2011-2019, kao posledica crowding-out efekata. Međutim, rezultati su pokazali da bail-out programi mogu pozitivno uticati na fiskalne varijable. Alternativno rešenje je bail-in mehanizam, predstavlja održivi mehanizam koji ne opterećuje poreske obveznike. Na osnovu primera banaka u Španiji i Portugaliji, rezultati pokazuju da bi se korišćenjem bail-in programa mogli izbeći efekti panike i prelivanja, međutim, u slučaju buduće krize, efekti bail-in programa na realnu ekonomiju dalje moraju biti ispitani.*

Ključne reči: *PIGS ekonomije, bail-out, bail-in, kriza.*

**Original Scientific Paper**

# RISK PERCEPTION AND ATTITUDES IN ALBANIA: AN EXPLORATORY STUDY

## *UDC 005.334(496.5)*

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**Abstract.** *This paper analyses risk perception and attitudes toward risk in Albanian society. It principally focuses on how age affects risk tolerance, even though also gender impact is taken into account. To particular interest is the shift in risk perception of the individuals before and after the fall of communism. The authors have embraced an exploratory research, using qualitative data from interviews. By considering two groups of participants, those older than 35 and younger than 35, the paper makes distinctions between risk attitude of both groups. In addition, the differences in responses between genders have been analyzed. The paper draws conclusions on the role of age and gender in relation to risk perception by aligning it with main conclusions of academic literature on these aspects. It further discusses the role of the social environment before and after the fall of communism and its effect on the risk tolerance profile of Albanians.*

**Key words**: *Risk perception, Albania, age effect, gender effect, financial risk, life-style risk*

**JEL Classification:** D81

## 1. INTRODUCTION

Research on risk attitude has sought to study how different factors affect risk perception and risk tolerance level of individuals. Demographic factors, such as gender, social status, age, and the social environment role have been particularly addressed in such literature. Findings define how these demographic factors affect the attitude of individuals toward risk. Especially economic risk attitude has been analyzed, as a particular aspect of the risk profile of individuals. While quantitative analysis has been on the spotlight of research in the area, most recent literature has been using qualitative tools to investigate the reasons of such differences.

Albania is a post-communist country situated in Eastern Europe. Its communist past has much affected the population safety culture. While the country is experiencing rapid development, the roots of its history are still affecting the way people make decisions, and their risk attitude in general. Research on risk attitude has been very limited in Albania. To the extent of the authors' knowledge, only two complete studies have touched upon this topic. In a study of the impact of culture and emotion on individuals' financial behaviour, Grabova (2013) concluded that social norms and tradition affect the way people use money. Employing a qualitative study, based on a Q-methodology, she argues that different regions of Albania, characterized by various cultures, have a different relationship to money. People from the northern area of Shkodra are more imprudent, while people living in the southern area of Korça are much more conservative when considering expenses and family budgets. While studying how Albanians organize their personal finance, Leka (2008) also finds similar differences between regions in Albania.

This paper embraces a qualitative approach for offering an exploratory study of the main factors that affect risk perception and attitudes toward risk in Albanian society. It focuses in particular on how age and gender affect risk tolerance. While the aim is not to make statistical implications, the results of the study can help orientate future research toward qualitative analysis of the relationship between our identified factors and risk attitude. Three types of risk are considered: financial risk, health risk, and decision-making risk. The first part of the paper offers a brief overview of the literature of risk behavior. The second part presents the study methodology and the final section discusses the research findings.

## 2. LITERATURE REVIEW

Risk is an inevitable part of an individual's life. Each decision he or she makes, even when it is not connected with economic benefits, carries a risk. The complexity of risky situations is also associated with the complexity of people's behaviours when confronted with them. In some situations, people might not understand what the consequences of a particular risk are, while in other cases, they are aware of the consequences but do not take any action to minimize the risks. This is a clear expression of contradictory behaviour, as is related to the concept of risk perception.

Two factors have been attributed to the way people perceive risk. The first is fear (Olsen, 2014; Slovic et al., 1985). The second is related to the conditions and characteristics of the society we live in, such as living in a particular cultural setting (Guiso et al., 2006), or living under the impact of discrimination events or violation of justice (Olsen, 2014). Further, Olsen (2014) argues that risk perceptions are multi attribute, environmentally influenced and personally oriented.

Economic risk attitude and risky behaviour are two aspects thoroughly addressed in risk research. Some researchers have treated the two categories separately from one another, implying that an individual can show risky behaviour (like driving fast), while being very cautious in regard to his economic decision. Zhong et al. (2008) for example, while studying the heritability of economic risk attitude in their experimental research, did not relate it to the other risk profile elements of the participants.

Other authors, while observing financial behaviour in relation to other risky behaviour of the participants, argue that the distinction of the two concepts is not so clear (Dohmen et al., 2011; Martins et al., 2004; Worthy et al., 2010). Even earlier, Jackson et al. (1972) have studied risk tolerance in four dimensions: financial risk tolerance, physical risk tolerance, social risk tolerance and finally ethical risk tolerance, arguing that between these levels there is some consistency. Some people are always upset and worried, no matter what kind of hazards they face, while others are usually more relaxed and this is reflected in the way they make their financial decisions or other decisions. Moreover, studies that have measured the correlations between different risk ratings, have found that if there is a correlation, this usually has been positive and strong (Callan & Johnson, 2003; Sjöberg 2000).

In terms of demographic factors, main influencers of risk tolerance have been found to be gender, marital status, age, wealth and education. Gender effects are the ones that have been thoroughly studied in literature and it has been generally universally accepted that that females are more risk averse than males (Barsky et al., 1997; Donkers et al., 2001; Grable, 2000; Grable & Joo, 2004, Guiso & Paiella, 2005; Guiso et al., 2002; Sung & Hanna, 1997; Yao & Hanna, 2005).

Research has usually been controversial in regards to the relationship between age and risk tolerance. Many researchers have found a negative relationship between risk tolerance and age (see for example Grable & Lytton, 1998; Morin & Suarez, 1983; Yao et al., 2011). However, in their empirical study on the effects of financial and demographic variables on risk tolerance, Sung & Hanna (1997), find no significant relationship between age and risk tolerance. Grable (2000) found a positive relationship between age and risk tolerance, arguing that as people age their finances become more stable, making them willing to take more risk. Interestingly, Hallahan et al. (2004) found an inverse, although nonlinear structure in the relationship between risk tolerance and age. In attempt to explore the full effect of age to risk tolerance, Yao et al., (2011) have decomposed the age effect into three components: "age effect" which is related to the process of getting old; "the generation effect" which is affected by socioeconomic environments that influence different generations and do not change with age; and the "period effect" which is related to those socioeconomic environments that influence individuals of all ages over time. They find that the main influencers of the relationship between age and risk tolerance are aging and period effects.

Other demographic factors studied in the literature are income, marital status, and education. Income and wealth are two related factors that are believed to have a positive relationship on the preferred level of risk (see Bernheim et al., 2001; Diaz-Serrano & O'Neil, 2004; Grable & Lytton, 1998; Schooley & Worden, 1996; Shaw, 1996). However, other researchers argue the opposite, finding that wealthy people may be more conservative with their money than low income people, which might see more risky investment as a way to get richer (see for example Bowman, 1982). In relation to marital status, literature finds that unmarried people are less risk tolerant than married individuals, except when substantial risk tolerance is considered, in which case there is no difference in risk tolerance between married and unmarried people (Hallahan et al., 2004; Yao & Hanna, 2005). Finally, education makes

people more tolerant to risk. The rationale is that education increases a person's capacity to evaluate risks inherent to the investment process and therefore endow them with a higher financial risk tolerance (Baker & Haslem, 1974; Haliassos & Bertaut, 1995; Sung & Hanna, 1997).

The methods used in the foregoing studies vary widely. Scholarly debates are ongoing as to which methodology is the most appropriate to study risk. Many researchers have employed surveys based on secondary data, such as census or Consumer Finances surveys, to access risky behaviour (Bajtelsmit et al., 1999; Hallanah et al., 2004; Hariharan et al., 2000; Sung and Hanna, 1997; Yao and Hanna, 2005; Yao et al., 2011). When quantitative surveys are used, risk tolerance level is assessed by modelling the responses of participants, who are asked to agree or disagree on particular statements related to risk perception or to make decisions based on hypothetic situations (Diacon, 2004; Grable & Joo, 2004; Olsen 2012; Zhong et al., 2009). However, this approach has been criticized because frequently questions are not well understood by respondents and because what people self-report is not always reliable (e.g., what people do in reality does not necessarily match what they say they will do in the artificial context of a study). Other researchers have attempted the experimental strategy, where the decision making of participants in financial markets have been accessed, and accordingly their risk profile has been compiled (Barr & Packard, 2002; Binswanger, 1980; Eckel & Grossman, 2008; Holt & Laury, 2002; Schubert et al., 1999). Experimental strategy enables the researcher to observe actual behaviour of participants in real situations, and consequently judge about their real level of risk tolerance. However, experimental strategy often compromises the external validity of the research, due to the sampling constrains, and ethical issues involved (Gliner et al., 2009; Saunders et al., 2002). Finally, most recent research has employed qualitative methods, such as interviews and focus groups in order to provide a more fine-grained analysis of risk perception and attitudes (Barsky et al., 1997; Diaz-Serrano & O'Neil, 2004; Donkers et al., 2001; Guiso & Paiella, 2005; Guiso et al., 2002). This shift is especially due to the rise of the field of behavioural finance. Researchers have argued that quantitative data and quantitative analysis alone are insufficient to determine the underlying reasons of individual's decisions in financial markets, and more thorough analysis is paramount to determine the way financial decisions are made. While the constraints in data quality, time, personnel, and other resources may not allow the use of a quantitative approach, often, qualitative methods are rather embraced in order to give a stronger meaning to the collected data (Coleman and Marks, 1999), by identifying themes and patterns within the data (Gliner et al., 2009; Saunders et al., 2002). In a study on risk behaviour among adolescents, qualitative methods were chosen for preventing response bias, which was often a problem when surveys with closed questions were used (Rodham et al., 2006). In other studies, the qualitative method is used to confirm the quantitative findings (Simões et al., 2008). Studies that use mixed methods combine the findings from both qualitative and quantitative analysis, in order to achieve the understanding of social processes and individual behaviours (Grappendorf et al., 2008; Wagner et al., 2012). However, ultimately, the choice of method is based on several combined factors, including data availability, complexity of the issue, and requirements of the analysis (Han & Weng, 2011).

In summary, while the literature in this field is rich, new research is constantly being produced. Generalization and universal truths have not been produced yet. Different settings, cultural environments and situations lead to different conclusions. These reasons, along with a lack of domestic research, motivated this exploratory study in Albania.

## 3. DATA AND METHOD

The research for this study was conducted in Tirana, the capital of Albania in 2016. Semi-structured personal interviews were the main data collection tool. Respondents were purposefully selected based on their age and gender, by inviting each one of them for an interview, with the aim to address the main question of the study. The emphasis was on observing and taking notes on the gender effect and the generation effect on risk attitude, as defined by Yao et al. (2011).

Albania is a post-communist country with two distinct generational worldviews. Gender roles tend to be patriarchal and traditional (Vullnetari & King, 2015). For about half a century the Albanian economy was centralized, organized with deeply bureaucratic structures where decision-making was subject only to traditional methods. Taking risk was a bold decision, as the consequences of failure could be fatal. Given this, any economic structure tended to see only certain short-term and not optimal benefits. Individuals who were in charge of decision-making preferred to avoid risk to protect themselves. In addition, the term risk was often misused or misunderstood. This was also due to the lack of information and knowledge in the risk field. The post-1990s society was exposed to a large amount of information and choices; however, it seems that the sense of danger still remains an integral part of the psychosis of the past. Even the explanation of the term risk in the Albanian dictionary is not related to economics or decision making. Specifically, in the dictionary of today's Albanian language, "luck" or "fate" are defined as synonyms for risk (Dictionary of Today's Albanian Language, 2016). The term "danger" was and is still usually used instead of the term risk, creating the psychosis that risk is something to be avoided in any case because it can cause harm. Under such circumstances, economic decision-making and risk-taking have been and still are deeply culturally oriented.

In light of these observations, this research builds upon the motivation to improve risk literacy in Albanian literature in the field. Forty interviewees participated in the study, 20 men and 20 women, 20 of which were over 35 and the rest in their 20ies. Respondent's answers were analysed both for the whole group and for two subgroup sets, namely: women and men, and individuals over 35 and under 35. The breakdown point was set at 35 in order to distinguish between those participants who received most of their education during the communist era (pre-1990s) and the transition period (1990-2000) and those who were raised and educated after 2000.

The interview questions aimed at investigating the tolerance towards financial risk, health risk and life-style risk. The questionnaire included 22 pre-defined question and follow-up questions as needed to extract the necessary information from the interviewees. Most questions were open-ended questions but a few rating questions using a Likert scale were included as well. The interviews were collected in a period of 3 months. Each interview was conducted in Albanian, lasted approximately 20-30 min and the data was recorded using an electronic device and later transcript for further analysis.

The interview was structured in three parts. The first part addressed general question related to the interviewee demographic profile and education choices. Demographic variables collected included age and gender, household type and size, and employment status. The second part of the interview investigated financial choices of the participant, such as saving modes, preferred investment alternatives, as well as self-reporting on economic risk tolerance. The third part of the interview addressed mostly personal aspects of everyday decision

making of the individuals. These included travel choices, health care, life style, family connections, touristic choices, as well as choice of romantic partners. Table 1 summarizes the conceptual framework of investigating on risk profiles, according to which the interview questions were conceived.

**Table 1** Conceptualization of risk profiles and interview questions

| Risk component | Subcomponents |
| --- | --- |
| Financial Risk | Predisposition to save |
| | Choice of investment |
| | Involvement in political and economic activities |
| Health risk | Choice of transport means |
| | Nutrition choice |
| | Medication choice |
| | Frequency of health check-ups |
| Decision-making risk (life-choices) | Choice of education |
| | Choice of place to live and lifestyle |
| | Choice of partner |

*Source*: The authors

Under this conceptual framework, the following hypotheses were defined:

H1: Age significantly affects risk tolerance of the people in post-communist countries (or more specifically, in Albania).

H2: Gender significantly affects risk tolerance of the people in post-communist countries (or more specifically, in Albania).

These main hypotheses were further decomposed into more specific sub-hypotheses:

H1a: Age significantly affects the attitude towards financial risk of the people in post-communist countries (or more specifically, in Albania).

H1b: Age significantly affects the attitude towards health risk of the people in post-communist countries (or more specifically, in Albania).

H1c: Age significantly affects the attitude towards decision-making risk of people in the post-communist countries (or more specifically, in Albania).

H2a: Gender significantly affects the attitude towards financial risk of the people in post-communist countries (or more specifically, in Albania).

H2b: Gender significantly affects the attitude towards health risk of the people in post-communist countries (or more specifically, in Albania).

H2c: Gender significantly affects the attitude towards decision-making risk of people in the post-communist countries (or more specifically, in Albania).

The interview produced mainly qualitative data. The aim was to identify the main themes and patterns among respondents' answers, which can confirm the validity of the drawn hypothesis. For qualitative data, the analysis was conducted manually: first summaries of interviews were produced, key words were defined and the main patterns of responses were identified.

A small sample of respondents was purposefully selected to achieve this goal. Advanced statistical testing was not possible and is not the aim of the study. However, through the Likert rating questions, some quantitative data were also analysed. Based on the rating questions addressed through the interview, the interdependence or interaction between the risk

subcomponents have been investigated for the whole sample (Table 7). Moreover, mean values of Likers scale valuations are calculated and reported for each risk subcomponents (Tables 2 through 6). The consistency between financial risk behaviour and risky behaviour was assessed.

The study results discuss the consistency in these risk categories based on answers given by respondents. In addition, the factors, which cause differences in relation to risk perception per each category, are analysed. In particular, gender and age have been emphasized as possible causes of such differences.

## 4. FINDINGS AND DISCUSSION

### 4.1. Financial risk

The interview responses show that men tend to be keener on risky investments, unlike women, who prefer forms of investments with a moderate level of risk. Men would rather invest on starting a new business, while women are prone to saving their money in a bank or investing in a pension fund. This is consistent with the findings of the literature on the gender effect ((Barsky et al., 1997; Donkers et al., 2001; Grable, 2000; Grable & Joo, 2004; Guiso & Paiella, 2005; Guiso et al., 2002; Sung & Hanna, 1997; Yao & Hanna, 2005).

Risk perceptions vary by age too. People under 35 state that they prefer to save money to face unexpected expenses, but they seem to have only a moderate tendency to save. Study participants in this age group who save the most are those whose expenses are covered by their family. People over 35 have an entirely different attitude toward savings. They see these as a vital component of their future. They tend to save money not only to cover the cost of their purchases in the short or medium-term, but also for a "nest egg for old age". This observation is in line with that part of literature that find a negative relationship between risk and age (Grable & Lytton, 1998; Morin & Suarez, 1983; Yao et al., 2011), arguing that Millennials are generally considered the "rent generation", more interested in traveling and having fun, rather than saving and settling down. However, some inconsistencies in the arguments of respondents are observed from the analysis of qualitative data. Younger are usually more risk tolerant, as they have time to recover from a bad financial choice. At the same time, as their finances are neither stable nor substantial, people of this age group declare to be more prudent in their spending, aiming at consolidating their savings before starting to embrace risky financial decisions. Older people show both behaviours as well, for different reasons. They are cautious when considering financial choices, as they need to feel secure in case they face sudden adversity, such as illness. On the other hand, given that their finances are consolidated, they find some level of risk acceptable. These observations are in line with that part of literature that has not established a clear relationship between age and risk tolerance (Sung & Hanna, 1997).

The main inverse relationship between risk attitude and age in our study can be further explored when considering circumstantial factors. Older respondents do not have the appropriate information or knowledge related to different types of investments, given the fact that financial markets are underdeveloped in Albania, and this group received their main education during communism and transition area, when financial education was not a solid part of school curricula. In addition, they seek investments that require less energy to undertake (time, innovation, market studies, etc.), thus choosing safer forms of investments (bank deposits, treasury bonds, etc.).

Some descriptive statistics on respondents answers in relation to the investment choice of respondents are shown in Table 2. As can be seen from the table, the average values show that the trend is towards safer forms of investment. Creating a new business, appears to be appealing, but the average value demonstrates mostly indifference rather than approval on this type of investment. Meanwhile, the most controversial form of investment, also the most risky one, represented by gambling, is mostly discarded by respondents. The triangulation of these data, with the qualitative one has highlighted two problems related to risk perception. Firstly, we observed that, even though some interviewees are oriented toward risky forms of investments, such as establishing a new business, their level of knowledge on entrepreneurship and portfolio management is questionable. This is especially true for the group-age over 35 – a generation who has received little financial education during their schooling. These observations contrast the findings of studies set in other countries and may make Albania's case special. Secondly, we concluded that saving money in a bank is the preferred form of investment. This can be the result of either the limited options that the financial market offers in Albania, or a risk aversion attitude among most respondents.

**Table 2** Descriptive statistics on evaluation about the preferred type of investment

| Type of investment | Mean value of Likert scale[1] |
|---|---|
| Investment fund in a second level bank | 4.3 |
| Investment in a new business | 3.64 |
| Gambling | 1.15 |

*Notes*: [1]The respondents were asked to rank the different investments choices based on a Likert scale, where 1 is the value showing disregard to the respective investment option and 5 high interest in the investment option.
*Source*: The Authors

### 4.2. Health risk

This aspect of risk behaviour is crucial, because it analyses choices people make in relation to their wellbeing. Some descriptive statistics in relation to the main subcomponents of this risk category are shown in tables 3 and 4.

**Table 3** Descriptive statistics on evaluation about safety attitude in travel

| Safety measures | Mean value of Likert scale[1] |
|---|---|
| Speed limit | 4.23 |
| Vehicle safety | 4.57 |
| Cost of travel | 4.06 |

*Notes*: [1]The respondents were asked to rank the most important factors related to the choice of a travel mean. The factors are evaluated on a Likert scale, where 1 is the value showing disregard of the factor, while 5 demonstrates a high relevance of the factor.
*Source*: The Authors

In relation to the first group of factors related to safety attitude in travel, responses show that individuals pay attention to the speed of travel, but vehicle safety is considered the most important. This means that despite the preference to shorten the arrival time to a certain destination, the importance of the safety of the means of transport dominates. The qualitative analysis of open-ended questions show that some individuals admit to having travelled by

unsafe means in order to reach their destination faster. The cost of transportation is important, but also conditioned by the safety of the trip.

**Table 4** Descriptive statistics on evaluation about the factors that affect decisions about the health

| Factors | Mean value of Likert scale[1] |
|---|---|
| Cost of medical visit | 4.23 |
| Time spent in queues | 3.38 |
| Precaution about health | 4.85 |

*Notes*: [1]The respondents were asked to rank the most important factors related to their willingness to undertake medical check-ups. The factors are evaluated on a Likert scale, where 1 is the value showing disregard of the factor, while 5 demonstrates a high relevance of the factor.
*Source*: The Authors

The second group of answers related to decisions people take about their health in general, show very interesting patterns. For instance, a dual behaviour is observed. On the one hand, respondents pay attention to the concept of health, but on the other hand they are not willing to take concrete action to ensure its protection. This fact is well supported by the results of the qualitative data. Whether due to the high cost of visits or to some extent the time required to commit to health problems, individuals are reluctant to undergo medical examinations at set time intervals. Although it is important for them to treat the symptoms from the beginning, it does not seem that in practice this factor is given due importance.

Discussing gender differences, in line with the literature, we observe that women are generally more interested in taking care of their health compared to men. This is more visible when it comes to nutrition, medical care and medicine usage. However, the fact that someone is interested in wellbeing and a healthy lifestyle does not necessarily mean that they make an effort to achieve those goals. Both male and female respondents tend to neglect medical check-ups. In most cases, this is due to a low level of trust in the health care system in Albania. However, this can also be a sign of a risky behaviour, which, interestingly, contradicts the financial risk behaviour discussed earlier. Thus, while the interviewees are mostly risk adverse when it comes to financial choices, they are more risk tolerant when deciding about their health and self-care. This has a lot to do also with some aspects of Albanian culture towards safety in general. Albanians are reactive rather than pro-active when it comes to planning and this is reflected in many behaviours they show in different situation. For example, there is a very low culture of insurance in the country, even though communities are often faced with disaster events, like flooding, fires, landslides, etc., which leave many damages both in property and wellbeing. Usually individuals make decisions after a situation has occurred, rather than taking measures before to mitigate the consequences. This behaviour is consistent with the observations in relation to the way they treat their health issues, as our data show.

Some differences are also observed between age groups. The inverse relationship between age and risk attitude, discussed by some authors (Grable & Lytton, 1998; Morin & Suarez, 1983; Yao et al., 2011), is observed about the health factors. The data reveal a low concern about health-related risks among younger ages. Self-medicating is common in this group. In contrast, older people tend to show a moderate level of interest in health. They perceive health risks as important and as having a potentially large impact in their lives. In addition, they claim that they undergo medical check-ups more frequently. The

findings suggest a more rational relationship between age and risky behaviour, i.e. younger participants are more imprudent than older participants are, because they are in better health and have a lifetime ahead of them.

### 4.3. Life - choices risk

The mean values of the Likers scale evaluation for two categories of life choices components (education and choice of residency) are shown in tables 5 and 6.

**Table 5** Descriptive statistics on evaluation about the factors that affect education choices

| Factors | Mean value of Likert scale[1] |
|---|---|
| Future income | 4.49 |
| Future career | 4.21 |
| Possibility to find a job | 4.76 |
| Job stability | 4.62 |

*Notes*: [1]The respondents were asked to rank the most important factors when considering education options. The factors are evaluated on a Likert scale, where 1 is the value showing disregard of the factor, while 5 demonstrates a high relevance of the factor.
*Source*: The Authors

**Table 6** Descriptive statistics on evaluation about the factors that affect the choice of residency (living in a foreign country)

| Factors | Mean value of Likert scale[1] |
|---|---|
| Economic stability | 4.81 |
| Family connections | 4.7 |
| Better chances for employment | 4.62 |
| Cultural and ethnic diversity | 3.19 |
| Better education options | 4.6 |
| Better conditions after retirement | 3.72 |

*Notes*: [1]The respondents were asked to rank the most important factors when considering the decision live in a foreign country. The factors are evaluated on a Likert scale, where 1 is the value showing disregard of the factor, while 5 demonstrates a high relevance of the factor.
*Source*: The Authors

This category of risks was more difficult to analyse and interpret, as the factors were much more complex. Focusing on the choice of education profile, we see that this decision is greatly influenced by the consequences or benefits that it is expected to bring to the life of the individual. This is shown by the high levels of mean values which represent a very strong perception of these factors. Table 6 shows the high impact of several factors when a decision to live abroad is considered.

The qualitative data gave more inputs on the responses of the participants. From a gender perspective, we notice that men are more likely to make impulsive life choices compared to women. They state that they are ready for new experiences, even if they lack information on the risks and benefits involved. Women, on the other hand, are not prepared to make decisions without having a considerable level of certainty. This again is in line with the literature findings on the differences in risk attitude between men and women.

The study reveals important differences between age groups. In relation to the choice of a life partner for example, the following behaviours were observed. The younger

generation claims that romantic love is the most important factor in choosing a life partner, whereas the older generation reports to have considered other factors when choosing their life partner, such as family background, education level, and social status.

Other differences are evident too. The members of the new generation appear eager to try new experiences (e.g., new travel destinations or places to live) and claim to adapt more easily to a new lifestyle. Meanwhile, older people feel insecure when they face new circumstances in their lives. This finding must be understood in the context of Albania's brutal communist history and turbulent post-communist transition, which have left people traumatized and unwilling to experience further change.

Concluding this analysis, Table 7 presents the values of correlations between the average values of the Likert scale for each subcomponent of risk considered. Although there is some correlation between risks sub-components, most values are close to 0. However, some extreme values leave room for interpretation. The most meaningful value is the correlation between the factors that create perceptions of health and safety risks ($r = 0.42$) and the factors that create perceptions of the risks associated with lifestyle and safety ($r = 0.41$). These links are understandable due to the common risks associated with these subcomponents, i.e., the risks associated with lifestyle will necessarily be reflected in health or safety hazards.

**Table 7** Variables that affect risk

| Subcomponent | Education | Lifestyle | Investment choice | Safety | Health |
|---|---|---|---|---|---|
| Education | 1 | | | | |
| Lifestyle | -0.11 | 1 | | | |
| Investment choice | 0.08 | 0.25 | 1 | | |
| Safety | 0.21 | 0.41 | 0.30 | 1 | |
| Health | 0.29 | 0.06 | 0.34 | 0.42 | 1 |

CONCLUSIONS

Albanian culture, despite emphasizing negative connotations attached to risk, has not deprived individuals of seeking it. This shows that to some extent individuals come to understand the true philosophy of risk and are capable of expanding their decision-making alternatives in such a way as to manage the consequences of wrong choices. Lack of information and limited financial education are factors that have a deterrent effect on individual's decision making, as uncertainty is perceived as a risk even though it may not actually be related to it.

This study presents an exploratory analysis of different components of risk attitude, namely financial risk attitude, health risk attitude and life-style risk attitude, in a post-communist country context, aiming to observe the effect of age and gender to risk attitude. In Albania, economic and financial risks are often perceived merely as loss. This is confirmed by the persistent preference for safe forms of investments, rather than risky but more profitable activities. This is mostly due to the lack of financial education. The study showed that people tend to be more risk adverse when it comes to making choices that offer a high level of satisfaction to them. In these situations, the negative perception of risk is minimized. It should not be excluded though that such approaches may be fictitious or random.

Our study shows that, in the gender perspective, the tendency observed is that men are more risk tolerant than women. This observation is further confirmed by the fact that women are allegedly more cautious about their decisions and carefully analyse each situation. In the age-group perspective, greater freedom to take risks is observed in individuals of age 20-36. The older group of interviewees exhibited more moderate risk-taking behaviours. However, even this conclusion should be carefully considered in light of all other factors analysed in this study, which do not necessarily have to do with risk adverse behaviours, but nevertheless guide the process of decision-making.

Following its exploratory approach, the study serves as a starting point for future in-depth analyses using quantitative and qualitative methods. We deem the study as an important step in the development of risk literature about Albania for two main reasons. First, the topic is not very much addressed in Albanian literature. Studies on the perception and ability to take risks are limited, so this study, modestly, aims to shed some light on people's relationship with risk and to improve literacy in the risk field. Secondly, we consider the employment of a qualitative methodology as a strength of the study. The use of semi-structured interview allows more flexibility and higher ability to explore themes and to define patterns on individuals' perception of risk.

However, the study has its limitations. First, the lack in previous studies leads to a limited bibliographic basis. Consequently, this has prevented us in presenting the overall context of the issue. Second, the methodology used has its shortcomings. This can be evidenced in two aspects. Firstly, people during interviews may tend to display protective behaviour, by not expressing their true attitude, but hindering it with casual opinions, which do not completely reflect what they perceive. We have tried to prevent this issue by working upon trust and confidence with the participants. Secondly, as touched upon above, the qualitative study is limited to the extent of an exploratory analysis. The results cannot be generalized. However, the generalization of results was not our purpose. The main goal was to define the themes and patterns which can be used in designing future quantitative research in the field. The results of our study can serve as a basis for further research in the scientific fields of neuroeconomics and neurofinance in Albanian context. Interdisciplinary research is better suited to explain human decision-making. Studies of this level are still missing in Albanian literature; however, conditions are not lacking to be applicable in the future.

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# PERCEPCIJA RIZIKA I STAVOVI O RIZIKU U ALBANIJI: ISTRAŽIVAČKA STUDIJA

*Ovaj rad analizira precepciju rizika i stavove prema riziku u albanskom društvu. Pre svega se fokusira na to kako uzrast utiče na toleranciju rizika, iako se i pol uzima u obriz. Od naročitog je interesa promena u precepciji rizika kod pojedinca pre i nakon pada komunizma. Autori su se odlučili za istraživanje koristeći kvalitativne podatke dobijene intervjuima. Razmatrajući dve grupe učesnika, starije od 35 i mlađe od 35, rad pravi razliku među stavovima ka riziku obe ove grupe. Osim toga, razlika u odgovorima među polovima je analizirana. Rad donosi zaključke o ulozi pola i starosti u odnosu na percepciju rizika koji su u skladu sa glavnim zaključčima akademske literature na tu temu. Dalje razmatra ulogu socijalnog okruženja pre i nakon pada komunizma i njegov uticaj na toleranciju rizika među Albancima.*

Ključne reči: *percepcija rizika, Albanija, uticaj uzrasta, uticaj pola, finansijski rizik, rizik načina života*

**Original Scientific Paper**

# THE IMPACT OF THE PANDEMIC COVID-19 ON HOSPITALITY INDUSTRY AND TOURISM WORKERS

## *UDC 338.48:[616.98:578.834*

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**Abstract**. *The contemporary Coronavirus pandemic (Covid-19) has led the world to a severe socio-economic crisis and psychological distress. It has distressed the economy, but the services sector, especially the hospitality industry, is seriously affected by it. This study investigates how this virus influences organizational confidence, job satisfaction, and increases employees' sense of insecurity and perceptions of being unemployed. We performed a comparative analysis of the main indicators in tourism in 2020 compared to the same period of 2019, referring to the data recorded internationally. Also, the research aimed to identify how much the hospitality sector is affected by the crisis produced by the Covid-19 pandemic. The results specify that perceived job insecurity interposes the fear of the economic crisis.*

**Key words**: *Covid-19 fear, perceived job insecurity, hospitality industry, unemployment*

**JEL Classification:** Z3, L83, L88.

## 1. INTRODUCTION

The COVID-19 pandemic crisis "has severely impacted the good health and well-being of people around the world. On these unforeseen challenges, decision makers reconfigure advanced resilient policies and strategies for the labor markets" (Cristea et al., 2020). "The world is always facing challenges due to technological advances, natural disasters and demographic factors. However, coronavirus has emerged as the biggest challenge of the decade" (Khan et al., 2021).

"Covid-19, believed to be from Wuhan, China, has infected more than 136 million people in 188 countries and killed more than 2,900,000" (Kang et al., 2021). They mentioned that, "taking into consideration the relatively high mortality of Covid-19 in comparison to other influenza-like diseases and the ease of its human-to-human transmission, the World Health Organisation has labeled Covid-19 a pandemic". "A lot of countries have declared a temporary suspension of public / private outdoor activities and closed down key businesses" (Kang et al., 2021). "Tourism, as a global spread of viruses" (Browne et al., 2016) "was one of the first industries directly affected by global pandemic measures" (Nicola et al., 2020). Covid-19 is not as contagious as measles, nor as likely to kill a person as Ebola, but people can be contagious a few days before symptoms (Bai et al., 2020).

A global recession, economic recessions and declining industry performance are "just some of the consequences of this global emergency" (Khan et al., 2021). "Prudential regulations in the financial area are needed in order to provide solutions for the cyclical side of this systemic risk, and could also limit the possibility of over-liquidity built-up" (Tănasie, 2011). The growing number of cases "created panic, stress and nervousness among people, then they had to face psychological problems, panic attacks and the understanding that there is no known cure for this disease" (Ahorsu et al., 2020).

Škare (2021) said that, "since the beginning of the Covid-19 crisis in China, the impact of the pandemic on the travel tourism industry has been significantly underestimated". Even now, "the decision political factors and practitioners from the tourism sector do not have a full understanding of the scenarios and effects of the crisis, that will have an unprecedented impact on the tourism industry" (Škare et al., 2021). "Between the problems that may occur in conection with the tourism stakeholders we can mention distrust for the government or insufficient support of the government, inclusion of politics, too much administration or bureaucracy" (Ionescu et al., 2019), exceeding influence of the essential interest and influential groups, "insufficient inclusion of individual interest groups, insufficient awareness on the need to participate, lack of guidance and wrongly defined priorities goals and conduction strategies" (Ionescu et al., 2019).

Previous studies have considered that the fear of loosing jobs and the financial insecurity, as being the most substantial cosequences of the gouvernmental politics. In the private sector, "the fear of job insecurity is a permanent threat, but it has nevertheless gained more attention during this pandemic. The fear of being fired from the ongoing jobs is greater than being infected" (Khan et al., 2021).

According to World Travel and Tourism Council (WTTC, 2020), "over 50 million jobs related to tourism/hospitality are currently at risk". While many services for example administration, education, training, and libraries can be administered from home, most staff in sales-related industries cannot operate remotely, (for example flight attendants, reception workers, etc). "WTTC also estimates daily loss of one million jobs in the travel tourism sector due to the widespread impact of the coronavirus pandemic" (Škare et al., 2021).

To date, the research "has focused on the high levels of depression, anxiety, insomnia and stress related symptoms of the workers in the health department during the current pandemic" (Pappa et al., 2020), but "few studies have taken into consideration the welfare of tourism and hospitality, of the affiliated staff and their concerns at work" (Kang et al., 2021). Because this field is under-researched, this study seeks to "fill the gap and open new horizons for managers" (Khan et al., 2021). Specifically, in this research we investigate "how perceived job insecurity meditates on the relationship between fear of economic crisis, unemployment, and mental health" (Khan et al., 2021).

The main goal of the research is to add to the literature of the hospitality sector, as it is a sector that has received little attention from researchers, and furthermore it is a sector that is confronting significant repercussions through this pandemic. In the first part of the paper we approached the theoretical aspects of the literature, and in the second part we made a presentation of the research methodology. The results highlighted the fact that an extremely large number of people around the world lost their jobs due to the coronavirus pandemic, and the incomes of those in the hospitality sector have considerably decreased in 2020, compared to 2019.

## 2. LITERATURE REVIEW

Firoiu and the contributors (2019) mention that "the tourism sector is considered to be a very important field for the global economy and tourism is an essential growth and prosperity factor for all areas, generated positive, direct and indirect effects on the local and regional economy". "With a strong dynamic and a high share of the contribution to the global GDP, tourism generates unlimited development opportunities, but also the freedom to travel, therefore being an open system, with extraordinary benefits for society, economy and environment" (Firoiu et al., 2019). Tănasie and Fratoștițeanu (2009) said that the "tourism is an essential component for both economic development and poverty reduction in developing countries".

"In this sector, the part time jobs are preferred in a greater extent than in others and there are applied flexible methods to the work force employment (the hiring during the week-end, on the occasion of certain events, holidays or for certain activities-guides, instructors,etc)" (Gruescu et al., 2009).

Hu (2021) mentioned that "Covid-19 pandemics affected many aspects of the global society, including where they spend their holidays". Tourism is very sensitive to changes in safety and health. It is mentioned in the literature that tourism companies are often unprepared for crisis situations, and during an economic crisis, the approach of the tourism industry "in terms of crisis management depends on the level of economic development of the country, the availability of financial resources and capabilities government officials and industry employees" (Hu et al., 2021). The financially strong and the most efficient companies on the market survive a crisis. "In the last decade, much research has focused on the study of mechanisms for an efficient crisis and the post-crisis management of the tourism industry, both at the level of cities and regions" (Rutynsky & Kushniruk, 2020).

"Currently, many front-line employees face an extremely high level of work-related stress and anxiety due to Covid-19" (Kang et al., 2021). The Covid-19 epidemic clearly poses a significant threat to the entire industry, to those employed in it and to those who wish to continue traveling (WTTC, 2020). The prolonged economic crisis is leading to financial difficulties among people who work or try to find a job. These problems "cause psychological distress and fear of losing a job among employees" (Khan et al., 2021). "The economical crisis has a significant impact on labour" (Shoss Mindy &Tahira, 2012).

"Unprecedented global travel restrictions and the compulsoriness to stay at home cause the worst disruption of the global economy since World War II" (Gossling et al., 2020). "Travelers can carry microbes and their genetic material, they can be victims or carriers of viruses and travel restrictions, in particular urban isolation, would be the only strategy to combat epidemics in the future" (Chen & Wilson, 2008). "Given the uncertainty

caused by the Covid-19 epidemic, it is particularly important to adopt strategies to improve the safety of tourists in the post-pandemic context and to strengthen public confidence" (Chen et al., 2020).

Gursoy and Chi (2020) said that "almost all restaurants were asked to limit operations to take-out and restrictions on travel and residence orders issued by the authorities have led to a sharp decline in hotel occupancy and revenue". However, the reopening process has begun "slowly, and authorities have begun to relax restrictions, such as allowing restaurants to reopen at low capacity, with strict guidelines on social distancing, and gradually reducing restrictions on domestic and international travel" (Gursoy & Chi, 2020).

"Preliminary findings from a longitudinal study by the editorial team of the Journal of Hospitality Marketing and Management suggest that reopening restaurants and easing travel restrictions will not bring customers back" (Gursoy & Chi, 2020). In accordance with Gursoy (2020), "a large proportion of the customers (50%) are not willing to dine at a restaurant immediately". The same goes for hotel accommodation. "Most of the customers are not willing to travel to a destination and to stay at a hotel anytime soon" (Gursoy & Chi, 2020).

Perceived unemployment is a susceptible issue for employees. "If employees perceive that other organizations are firing their employees because of the prevailing situation, they become even more sensitive" (Khan et al., 2021). A worker who perceives unemployment would think that it is "difficult and sometimes impossible to find a job with the established skills he has" (Giorgi et al., 2015). "Low-income families are more affected by this fear, leading to various mental health and health problems" (DeVries & Wilkerson, 2003).

In terms of demand, the "crisis will bring a reduction in disposable income, with a consequent reduction in the ability of tourists to pay" (Baker et al., 2020). On the other hand, uncertainty due to the pandemics determined tourists to postpone the decision to purchase until the last minute. Travel contracts concluded months in advance have decreased due to the high risk of cancellation, "as this move towards last-minute acquisitions is determined by the uncertainty of the situation" (Toubes et al., 2021).

"Consumer demands and their buying behaviour have changed radically and, as a result, companies have had to innovate their marketing strategies in order to survive" (Toubest et al., 2021). The tourist voucher is used by some destinations as a new product to stimulate the consumption of local customers. "Tourist vouchers are based on discount voucher models for purchases in hotels and other tourist accommodation units, restaurants and the tourism industry in general, with the aim of revitalizing one of the sectors most affected by the crisis" (Rutynskyi & Kushniruk, 2020).

*The stress at work*

Because "workplace stress can lead to negative outcomes for employees, companies and organizations, workplace stress is an important factor in many academic and business studies" (Kang et al., 2021). Similar results have been "found in the hospitality industry, where stress at work decreases satisfaction with reception staff" (Kim et al., 2014). Studies investigating the regarded level of stress in tourism / hospitality of employees in the course of the Covid-19 pandemic remain limited.

Several studies refer to the number of researches conducted on the vaccine for Covid-19. However, "almost no study shows how employees suffered mentally because of this pandemic and employees were directly affected as the operation of the companies changed" (Khan et al., 2021). Supply chains have been broken due to unavailability of raw materials and travel restrictions. When "production and sales were adversely affected, organizations had to reduce

costs, and therefore layoffs were one of the cost-cutting strategies" (Khan et al., 2021). The reduction in the "workforce involved employees who were laid off and created a sense of job uncertainty among the remaining employees" (Kim, 2003).

## 3. RESEARCH MATERIALS AND METHODS

The current study considers an epidemic that continues to unfold while this study is ongoing. The situation is unique and not much is known about this ongoing and growing disaster.

Qualitative and quantitative research methods vary in several ways, both in terms of data collection and explanation. While qualitative research focuses on the depth and quality of the data collected, quantitative research keeps the number and volume of data collected in the first place. In this paper we used a mix of research methods to investigate the impact of the Covid-19 pandemic on the hospitality sector and tourism employees. The research begins with a description of the contemporary crisis.

### 3.1. Suppliers of touristic products

"The services sector is severely affected by the Covid-19 pandemic, especially the hospitality industry, based on the accommodation, food and beverage segments" (Khan et al, 2021). The authors pointed out that "one way to control the spread of Covid-19 was blocking, being the main reason for the cancellation of economic activities". They said that "the hospitality industry was also affected by this, as domestic and international flights were stopped and there was no tourism, business travel, meetings and no flight crew to stay at airport hotels". In addition, "hotel operations (restaurants, conferences, seminars and banquets) have also been restricted, severely affecting economic and financial performance" (Khan et al., 2021).

Person-Fitcher and Liu (2021) said that "before the crisis, compared to operational risks, companies in tourism supply chains were interconnected in a complex model which led from one type of risk to another". In addition, in this crisis, multiple skills are considered a potential solution to reduce layoffs and retain employees for a long time. "This reflects the need for managers to recognize the importance of employees who have more jobs and who want to be full-time in the hotel and tourism industry" (Persson-Fitcher & Liu, 2021). Kaushal and Srivastava (2021) stated that tourism service providers conducting "multi-skilled training for their employees before the crisis will reduce the corporate risk of losing a large number of employees" and the pressure of unemployment on employees during a crisis.

During the crisis, first of all, from mid-March 2020, operators lost much of their revenue, which made people worried about their financial stability and their ability to restore services. "Many tour operators may require direct or indirect government support" (Persson-Fitcher & Liu, 2021). Managers in the hospitality industry should consider "wearing mandatory masks until a sustained solution is obtained, for example, the most considered solution in addition to the Covid-19 vaccine" (Kaushal & Srivastava, 2021).

In a similar vein, Gössling and contributors (2020) demonstrate that "a regional reset is equally likely to strengthen selfish regionalism based on pre-existing power dynamics and growth-oriented development and to lead to regional reorientation towards sustainable practices". They also describe how the potential of the current transformational momentum is likely "to be removed in many regions, as governments pursue urgent job growth to

alleviate rising unemployment". Hall, Scott and Gössling conclude with a classical expression: The changes brought to tourism as a "result of Covid-19 will be unequal in space and time, so that, although it is possible to see a new regionalism, it will probably be a mosaic of old and new approaches to tourism" (Brouder et al., 2020).

### 3.2. Aspects of the financial crisis in the hospitality sector

The most recent WTTC records (2021) show:
- "The travel and tourism sector suffered a loss of almost USD 4.5 trillion, reaching USD 4. 7 trillion in 2020" (WTTC, 2021);
- "The contribution to GDP decreased by 49.1% compared to 2019, compared to a decrease of 3.7% of the GDP of the global economy in 2020" (WTTC, 2021);
- In 2019, the travel and tourism sector accounted for 10.4% of global GDP, falling to 5. 5% due to ongoing mobility restrictions;
- "In 2020, 62 million jobs were lost, representing a decrease of 18.5%, leaving only 272 million employees in the entire sector globally, compared to 334 million in 2019";
- "Domestic visitors expenses decreased by 45%, while international visitors expenses decreased by 64.9%, without precedent" (WTTC, 2021).
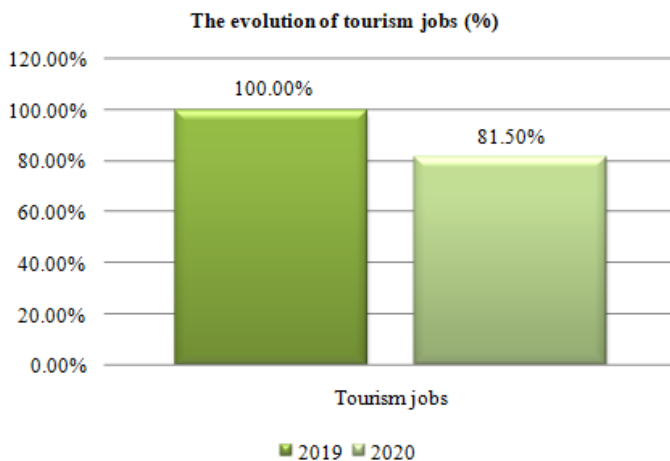
**The evolution of tourism jobs (%)**



**Fig. 1** The evolution of the contribution of tourism to GDP and jobs in 2020
*Source: World Tourism Organisation*

According to UNWTO (2021), "in 2020, 62 million jobs were lost, representing a percentage of 18.5% less than in 2019".

Given that many companies and employees in the tourism sector have lost or will lose their jobs due to the Covid-19 pandemic, these companies have worked together to provide financial support to these employees by launching emergency funds, as well as partnerships for temporary jobs. For example, Accor has launched its All Heartist fund, allocating 70 million euros to help affected employees and partners.
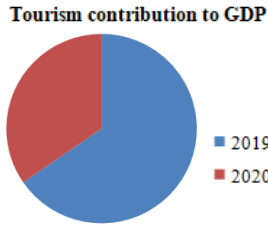
**Fig. 2** The tourism contribution to GDP in 2020, compared to 2019 (%)
*Source*: World Tourism Organisation

From the graph above it can be seen that there has been a decrease in the tourism contribution to GDP in 2020 compared to 2019 due to the COVID-19 pandemic. "In 2019, the tourism sector contributed 10.4% to global GDP, falling to 5.5% due to ongoing restrictions on mobility" (WTTC, 2020).
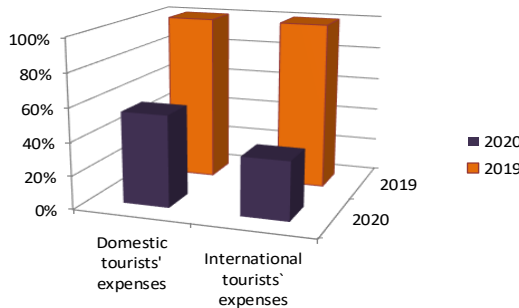


**Fig. 3** The evolution of tourists' spending in 2020, compared to 2019 (%)
*Source*: World Tourism Organisation

From this chart it is easy to see that there were decreases in international tourists` expenses in 2020 compared to 2019. "Expenditure of domestic visitors fell by 45%, while expenses by international tourists fell by 64.9%, unprecedented" (WTTC, 2020).
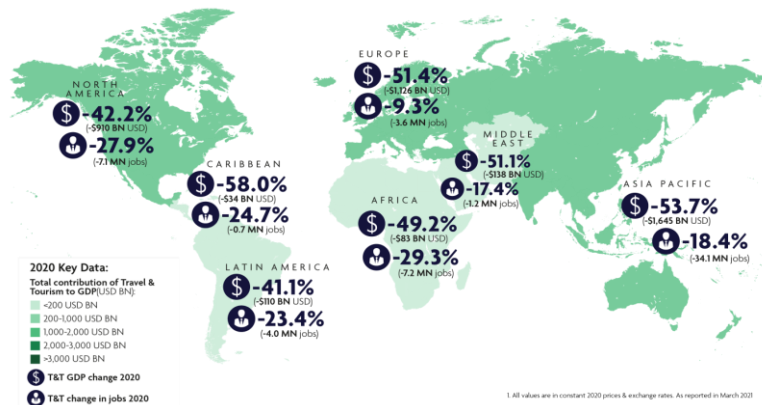


**Fig. 4** Changes in 2020 regarding the tourism contribution to GDP and jobs in tourism.
*Source*: EIR2020-Infographic-Map-Regional. png (3509×1923) (wttc. org)

Globally, the Asia-Pacific region recorded the largest decline in the tourism contribution to GDP in 2020 compared to 2019, with a loss of $ 1.645 billion and a reduction of 34.1 million jobs in tourism. In Europe, the tourism contribution to GDP registered a downward trend in 2020 and a decrease of 3.6 million in jobs in tourism in 2020, compared to 2019.

## 4. CONCLUSIONS

The global crisis of the Covid-19 pandemic has triggered an unprecedented decline in tourism business. Particularly vulnerable were the small and medium-sized companies that did not have strong financial resources and needed to sacrifice operating profits for the survival of businesses. Travel restrictions imposed by the COVID-19 pandemic have suppressed the tourism sector, a key player in the economy.

"While the hospitality industry is slowly recovering, the crisis caused by Covid-19 continues to have a profound impact on the way businesses in the hospitality sector operate" (Gursoy & Chi, 2020). "These enterprises are expected to make substantial changes to their business operations in the context of the Covid-19 pandemic to ensure the health and safety of employees and customers" (Gössling et al., 2020). "The extended assumptions for 2021-2024 indicate a return in the second half of 2021" (WHO, 2021)

Almost all foreign experts anticipate a continuing crisis in the tourism and hospitality sector until 2023 or even 2024 and a growth in the cost of long-term travel services. The crisis in the tourism sector has led to "a 50% drop in revenue for hotels and restaurants, a 70% drop for tour operators and agencies and a 90% drop for cruise operators and airlines" (ec. europa. eu), as the tourist retail received the main pelt. Travel agencies also had great opportunities to adapt to changing business strategies, one of which was the deep digitalization of the industry. "The use of digital technology in the context of the pandemic has thus fulfilled a social function, allowing both employees and customers not to feel isolated from the outside world" (Sheresheva et al., 2021).

Tourist movements may be limited to those who are immune or not. For the relaunch of tourism, most countries in the world accept tourists who have been vaccinated and present proof of vaccination, those who are tested and present a negative result of the PCR test or those who have been naturally immunized and they have already gone through the disease.

It is desired to return to normal as soon as possible, so that workers in the hospitality industry can feed their families and reduce the unemployment rate in their case. Adaptation is on everyone s mind, as is survival. Changes in strategy and policy will have to wait until operational adjustments are made. Everything that is happening now is experimental.

The important questions of the value of tourism will most likely dominate the tourism industry discourse in the future, as the consensus as to what tourism post COVID-19 will look like will still be up for discussion for some time to come.

Given the evolving nature of the situation, it is too early to estimate the impact of the COVID-19 on the hospitality industry and tourism employees.

Future research directions:
1. Continuing the research carried out on the impact of the COVID-19 pandemic on the hotel industry and tourism workers.
2. Widening the research horizon in order to diversify the chosen topic from a spatio-temporal point of view (for example, conducting similar research, but referring to a specific country).

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World Travel & Tourism Council. Travel & Tourism Economic Impact | World Travel & Tourism Council (WTTC)

# UTICAJ PANDEMIJE KOVID-19 NA RADNIKE U INDUSTRIJI UGOSTITELJSTVA I TURIZMA

*Trenutna pandemija koronavirusa (Covid-19) dovela je svet u jaku socio-ekonomsku krizu i psihološki stres. Negativno je uticala na ekonomiju, ali sektor uskuga, a naročito ugostitaljstva je najviše pogođen njome. Ovaj rad istražuje kako ovaj virus utiče na organizaciono samopouzdanje, zadovoljstvo poslom, i povećani osećaj nesigurnosti zaposlenih i strah od gubitka posla. Izvršili smo komparativnu analizu glavnih indikatora u turizmu u 2020. godini u poređenju sa istim periodom u 2019, uzimajući u obzir međunarodno zabeležene podatke. Isto tako, istraživanje ima za cilj da utverdi koliko je sektor ugostiteljstva pogođen krizom koju je izazvala pandemija Kovid-19. Rezulktati ukazuju da percipirana nesigurnost posla interpolira strah od ekonomske krize.*

Ključne reči: *Kovid-19 strah, percipirana nesigurnost posla, industrija ugostiteljstva, nezaposlenost*

Review Paper

# INTERRELATIONSHIP BETWEEN WORK AND PRIVATE LIFE OF EMPLOYEES - CONFLICT OR BALANCE?

## *UDC 331.191.32*

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**Abstract**. *Contemporary companies consider work-life balance a crucial topic. Higher work pressure, longer working hours and more families with both working parents have made balancing work and private life even more difficult. The paper addresses this interrelation and highlights two research questions regarding the type of relationship (positive or negative) that exists between work and private life of employees. These questions are answered based on the analysis of various previously conducted empirical research studies. Findings reveal both negative and positive interrelationship between employees' work and private life. The contributions and conclusions of this paper can be extremely relevant for a company to comprehend how important the creation of work-life balance initiatives is for increasing job satisfaction of its managers and other employees, as well as for developing the reputation of a desirable employer.*

**Key words**: *work-life conflict, work-life balance, job satisfaction*

## INTRODUCTION

Due to changes in recent socio-demographic trends, such as a larger number of women entering the work field, more challenging work demands, faster lifestyles and increased need for elderly care (Mladenović & Krstić, 2021b), it can be concluded that work and private life should not be viewed as two segregated parts of an employee's life, but rather as

parts of life which both require as much time, energy and devotion (Hein, 2005). Since work and private life have become equally important for employees of both genders (Vandello et al., 2013), an interconnection or overlap of these two life spheres can be noticed, as presented in Figure 1, with events in each sphere affecting the other one (Lingard & Francis, 2005).
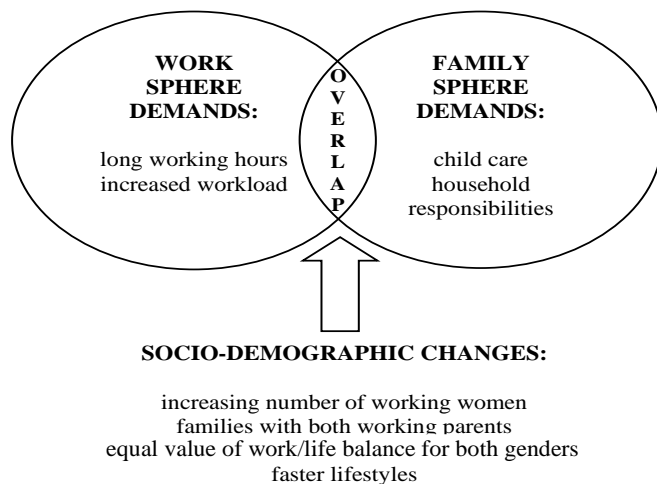


**WORK SPHERE DEMANDS:**

long working hours
increased workload

**O V E R L A P**

**FAMILY SPHERE DEMANDS:**

child care
household
responsibilities

**SOCIO-DEMOGRAPHIC CHANGES:**

increasing number of working women
families with both working parents
equal value of work/life balance for both genders
faster lifestyles

**Fig. 1** Overlapping-spheres model of employees' work and private life
*Source: Adapted from: Liu, J. Y. & Low, S. P. (2011). Work-Family Conflicts Experienced by Project Managers in Chinese Construction Industry. International Journal of Project Management, 29, 117-128.*

Since both male and female employees are faced with limited resources, such as energy, time and attention, they are constantly assigning these limited resources to work and family activities, which together with long working hours and demanding jobs can cause imbalance between work and private life of employees (Korabik et al., 2008).

On the other hand, spending a sufficient amount of time on work as well as on private life responsibilities so that an individual is satisfied with both of these life spheres represents work-life balance (Mladenović, 2020). Experiencing lower levels of conflict and establishing work-life balance can significantly increase job satisfaction of employees (Naithani, 2010). Companies should manage work-life balance of their employees with a holistic approach, making it an integral part of their strategy and activities (Lukić & Lazarević, 2018).

The aim of this paper is to emphasize the importance of both work and private life of employees, and also shed light on the interrelationship between these two life spheres. In the first part of the paper, a theoretical background on the terms of work-life conflict and work-life balance is given. Afterwards, results of various previously conducted research worldwide are presented in order to address the two research questions defined in the paper, concerning the type of interrelationship existing between work and private life of employees. Finally, the contribution of the paper can be seen in helping companies notice and understand the importance of establishing work-life balance of their employees, especially in the long run.

1. LITERATURE REVIEW

## 1.1. Different theoretical types and forms of conflict between work and private life of employees

Conflict between work and private life can be viewed as "role overload" i.e. "simultaneous pressures" of employees' work and private life roles, where fulfilling each of the roles impedes fulfilling the other one (Greenhaus et al., 2000). Similarly, high role overload means having too many tasks and demands to fulfill in either role while having inadequate amount of time for that (Frone et al., 1992). Moreover, work-life conflict can be defined as an "inter-role conflict" or "push and pull" between pressures of employees' work responsibilities and private obligations (Burke & Greenglass, 1999).

Hobson et al. (2001) considered work-life conflict to be a situation when employees fail to fulfill private life responsibilities because of work. Similarly, life-work conflict occurs when employees do not fulfill their work requirements due to private life obligations (Netemeyer et al., 2004). However, this should be happening repeatedly and in a longer time period for it to be considered a role conflict, i.e. singular cases cannot immediately be named work-life conflict.

There are two types of work-life conflict: namely, conflict from work interfering with private life, and conflict from private life interfering with work (Greenhaus et al., 2000). Furthermore, each type of conflict can have three forms as follows: conflict based on time, conflict based on strain, and conflict based on behavior (Nadeem, 2009). Table 1 shows that any characteristic of employees' work or private life that has an effect on their time, strain or behavior in either life sphere, may become a source of work-life conflict.

**Table 1** Types and forms of conflict between work and private life

| Sources of WLC* based on time: | Sources of LWC* based on time: |
|---|---|
| long working hours | |
| inflexible work schedule | young children |
| extensive overtime work | large families |
| extensive shiftwork | spouse's working hours |
| extensive commute | |
| Sources of WLC* based on strain: | Sources of LWC* based on strain: |
| low leader support | low spouse support at home |
| stress in work communication | spose's extremely different job position |
| Sources of WLC* based on behavior: | Sources of LWC* based on behavior: |
| demonstrating authority | being warm and open |
| not expressing emotions | expressing emotions |

* WLC - work-life conflict, LWC - life-work conflict
*Source*: Adapted from: Greenhaus, J. H., Callanan, G. A. & Godshalk, V. M. (2000).
Career Management. Fort Worth, TX: Harcourt College Publishers.

*Conflict from work interfering with private life (work-life conflict -* hereinafter: *WLC)* represents an "inter-role conflict" where work pressures influence employees' private lives (Netemeyer et al., 1996). Similarly, Frone et al. (1992) view WLC as work responsibilities preventing employees from fulfilling their family obligations.

Spending an extensive amount of time on work reduces the time left for private obligations. This so-called *WLC based on time* can be created by different sources such as

long working hours, inflexible work schedule, extensive overtime work, shiftwork or commute (Greenhaus et al., 2000).

Different types of work challenges, such as low leader support or stress in work communication, may cause tension or frustration, becoming sources of *WLC based on strain* (Jones & Butler, 1980).

Certain behaviors developed at work, such as demonstrating authority and not expressing emotions, may not be suitable or desirable at home, therefore becoming sources of *WLC based on behavior* (Greenhaus et al., 2000). If people cannot switch their work behavior to adjust to the expectations of their role at home, they will often feel conflict between these two roles (Schein, 1973).

*Conflict from private life interfering with work (life-work conflict - hereinafter: LWC)*, on the contrary, represents an "inter-role conflict" where pressures in employees' private lives affect fulfilling their work obligations (Netemeyer et al., 1996).

Spending time on private obligations, such as child care or household responsibilities, reduces the time available for work obligations (Voydanoff, 2007). This so-called *LWC based on time* can be developed by different sources, such as having a lot of children, especially young ones, or having a spouse with incompatible working hours (Greenhaus & Kopelman, 1981).

Family demands, such as low spouse support in household responsibilities or spouse's extremely different job position, can lead to various strain symptoms such as stress or frustration, becoming sources of *LWC based on strain* (Greenhaus et al., 2000).

Certain behaviors adopted at home, such as being warm and emotional, may not be desirable or suitable at work, therefore becoming sources of *LWC based on behavior* (Voydanoff, 2007). Managers often feel "caught" between expected expression of emotions and openness at home, and expected demonstration of authority at work (Bartolome, 1972).

## 1.2. Theoretical concept of balance between work and private life of employees

As opposed to WLC, *work-life balance* (hereinafter: *WLB*) represents a positive condition of equilibrium, with employees feeling their work and private life as equally balanced (Lockwood, 2003). In other words, establishing WLB requires creating enough "weight" by focusing on work, while developing a positive "counterweight" by doing personal life activities (Mladenović, 2020).

Greenhaus & Powell (2006) view WLB as mutual support of employees' work and private life in the sense that experiences in either life sphere of employees contribute to achieving success in the other one, thus making work and private life allies instead of enemies (Friedman & Greenhaus, 2000).

Companies can implement some of the following human resources policies to decrease WLC and improve WLB of employees: flexible working hours, part-time work, support of the managers, stress management programs, counseling programs, parental leave, on-site or subsidized child care, health insurance or fitness programs (Lankeshwara & Wijesekara, 2015).

An interesting view of WLB was presented by Frame and Hartog (2003), who considered it as the feeling of being able and free to use "flexible work initiatives" for balancing their work activities and private interests (e.g. family, hobby or travel), rather than focusing only on their job. However, this view puts emphasis solely on WLB initiatives, rather than considering

additional factors, such as organizational culture, that can contribute to establishing WLB (Cerović & Aleksić, 2005).

A different point of view could be considering WLB programs as a marketing or human resources tool for more successful recruitment and/or retention of employees (Frame & Hartog, 2003). These programs can indeed be a significant element of the company's differentiation on the labor market (Ivanović-Đukić & Đorđević, 2005). That way, being perceived as innovative for offering WLB programs not only can enable a company to attract more quality employees, but it can also allow the company to develop and emphasize a reputation of a desirable employer (Lazăr et al., 2010). The most effective solution would certainly be offering these programs together with excellent basic job characteristics, such as salary, bonuses, and adequate job position. In the process of employer branding, companies should also strive to increase the level of satisfaction, commitment, motivation, and loyalty of their existing employees (Lukić et al., 2019).

## 2. METHODOLOGY OF RESEARCH

In order to discover the relationship (and possible interrelationship) between employees' work and private life, two questions for research and discussion are defined:

*1. Are work and private life of employees negatively (inter)related i.e. is there WLC?*
*2. Are work and private life of employees positively (inter)related i.e. is there WLB?*

These questions are addressed using document analysis method, which is a qualitative research method used to evaluate, identify, analyze, interpret and comprehensively synthesize the research results previously conducted by relevant authors, in order to provide background information, historical insight, and a deeper understanding of a particular research topic (Bowen, 2009).

Extensive literature reviewed and analyzed in this paper includes various scientific papers, journals, books, and publications containing empirical evidence from relevant and comprehensive previously conducted work-life studies and surveys on managers and other employees in various industries and countries, which were written in English or Serbian language, and available online by using the search terms "work-life relationship" as key words.

Document analysis identified two main theoretical concepts regarding the interrelationship between work and private life of employees. These are the concept of work-life conflict (Carlson et al., 2000; Liu & Low, 2011; Hussain & Mujtaba, 2012; Lankeshwara & Wijesekara, 2015; Oosthuizen et al., 2016; Agha et al., 2017; Kim & Kim, 2017; Pejičić & Ranđelović, 2019; Lydeka & Tauraite, 2020; Marič et al., 2021), and the concept of work-life balance (Grzywacz et al., 2002; Lambert & Haley-Lock, 2004; Moore, 2007; Haar et al., 2014; Golubović & Golubović, 2015; Adikaram & Jayatilake, 2016; Fernandez-Crehuet et al., 2016; Stojanović-Aleksić & Bošković, 2017; Marič & Žnidaršič, 2018; Yusuf, 2018; Dilmaghani & Tabvuma, 2019; Apraku et al., 2020). Both of these work-life concepts (conflict and balance) are further researched and analyzed in order to discover their types and forms.

Since more research has been conducted on the organizational than on the individual level of measuring WLC and WLB, with no universally recognized and accepted measurement methodology (Krasulja et al., 2015), the importance of further research and methodology development should be stressed.

3. RESULTS AND DISCUSSION

### 3.1. Negative (inter)relationship between work and private life of employees: research results

Similarities can be noticed between the early and the contemporary papers published on the topic of work-life conflict, in the sense that striving to succeed in their careers and/or the desire to form a family have been influencing work and private lives of employees both in the past and at present, which can be noted in the following examples from previous research.

A study by Korman et al. (1981) found that managers who achieved high career success experienced greater WLC since it required extensive commitment to work demands, leaving less time available for private life.

Furthermore, Greenhaus & Kopelman (1981) found that spouses of people who worked in management positions experienced greater *LWC based on strain* than spouses of people in non-management positions.

Frone et al. (1992) determined a "bidirectional relationship" or interrelationship between work and private life, i.e. the possibility of both of these life spheres interfering with each other. Another conclusion of this research was that work obligations had a higher likelihood of affecting private life than vice versa.

Moreover, Parasuraman et al. (1996) discovered increased work overload to cause greater WLC. Having a large amount of demands from supervisors or other colleagues could lead to WLC, usually expressed as stress, dissatisfaction or even depression.

Research by Adams et al. (1996) showed that employees with young children and fulltime-employed spouses experienced greater *LWC based on time*, compared to those whose spouses were unemployed or on paid leave.

Additional research was conducted by Frone et al. (1997), where 372 married employees with or without children answered questions regarding role overload, time commitment, role conflict and performance in both their work and private lives. This research showed that work overload (i.e. having too many work demands) was significantly negatively related to work performance (i.e. the level of fulfilling work responsibilities). On the other hand, parental overload (i.e. having too many children demands) did not significantly affect private life performance (i.e. the level of fulfilling private responsibilities).

In a survey by Wallace (1997), lawyers believed that work pressure led to their work interfering with their private lives in a negative way, creating *WLC based on strain*.

Carlson et al. (2000) measured WLC by including the three forms of conflict, as well as both directions of conflict, which is presented in Table 2. As in most cases, this type of research can be conducted by respondents completing questionnaires i.e. by rating certain statements on a 5-point Likert scale (Mladenović & Krstić, 2021a).

Employees may often consider long working hours as an indicator of their commitment and productivity, which then makes them prioritize work over family, leading to a potential *WLC based on time*, in the long run (Moore, 2007). Sometimes companies themselves can convey an indirect message to their employees that the duration of their working hours is an indicator of their work commitment (Korabik et al., 2008).

The results of a study on project managers in the construction industry in China conducted by Liu & Low (2011) showed that the participants experienced significantly greater WLC than LWC based on time and strain, while at the same time experiencing the same WLC and LWC based on behavior.

**Table 2** Typical statements in the work-life conflict questionnaire

| Conflict type | Statement |
| --- | --- |
| WLC based on time | Spending a lot of time on completing work obligations oftentimes leads to me missing activities with my family. |
| WLC based on strain | I oftentimes feel so emotionally drained or tired from work that I cannot partake in activities with my family members. |
| WLC based on behavior | Behavior that is useful at work would be counterproductive at home. |
| LWC based on time | Spending a lot of time on fulfilling private life demands oftentimes prevents me from devoting enough time to work obligations. |
| LWC based on strain | I oftentimes think about private matters and family stress, which makes it harder for me to focus on work. |
| LWC based on behavior | Behavior that is useful at home may be ineffective at work. |

[*] WLC - work-life conflict, LWC - life-work conflict
*Source*: Adapted from: Carlson, D. S., Kacmar, K. M. & Williams, L. J. (2000). Construction and Initial Validation of a Multidimensional Measure of Work-Family Conflict. Journal of Vocational Behavior, 56 (2), 249.

Survey on employees of the National Database and Registration Authority (NADRA) in Pakistan showed high WLC, however with no significant difference regarding genders (Hussain & Mujtaba, 2012). On the other hand, surprising results of this research showed a significantly positive effect of WLC on employee performance. These authors considered WLC, while remaining at a "functional level", as a positive driving force that could create the necessary motivation and increase employee performance. After reaching a certain "threshold level", WLC would eventually cause employee performance to decrease.

The research sample of Lankeshwara & Wijesekara (2015) consisted of 120 non-executive employees of Ceylon Electricity Board (CEB) Office in Sri Lanka, who completed questionnaires on WLC. Their research concluded that both WLC and LWC negatively impacted job satisfaction, with a stronger influence of WLC.

A study by Oosthuizen et al. (2016) included 79 employees of an IT company in South Africa. Regarding ethnicity, white employees experienced significantly higher levels of job satisfaction than black employees. On the other hand, black employees felt significantly higher WLC than white employees.

A survey conducted by Agha et al. (2017) on 625 teachers from both private colleges and public universities in Oman showed that both WLC and LWC had a negative relationship with teachers' job satisfaction.

Research by Kim & Kim (2017), including only female employees in Korea, discovered that married women with children experienced higher LWC than single women without children.

A study by Pejičić & Ranđelović (2019) researched the influence of interpersonal relationships, both at work and at home, on WLC of 644 married employees with children in Serbia. Research results discovered a positive interrelationship between the quality of communication at home (with family members), and the quality of interpersonal relationships at work (with colleagues and superiors), which together led to lower WLC of employees.

A survey by Lydeka & Tauraite (2020) assessed WLC of 406 male and female employees in Lithuania by comparing the allocation of time between their work and private lives. The main conclusion of this study was that both men and women prioritized work over their private lives. However, the results of this research also showed significant differences in time allocation between men and women, with men spending relatively more time on leisure and travel, compared to women who spent relatively more time on child care and housework.

Additional conclusions of this study include a weak positive correlation between monthly salary and average time allocated to work, as well as a weak negative correlation between monthly salary and average time allocated to private life.

Recearch by Marič et al. (2021), focusing on the relationship between WLC and job satisfaction of high education lecturers from Serbia, Croatia, Slovenia, the Czech Republic, Austria, and Germany, did not show significant differences in WLC between these countries. However, the results showed that lower levels of WLC led to higher job satisfaction of high education lecturers.

### 3.2. Positive (inter)relationship between work and private life of employees: research results

In addition to work-life conflict, a positive effect of work and private lives of employees on each other has also been discovered in early papers and has been discussed up until now, which can be noticed in the following research examples.

Sieber (1974) claimed that success in either work or private life could sometimes compensate for stress or failure in the other life sphere. Moreover, positive experiences in one role, such as learning new communication skills, establishing new contacts or acquiring high levels of energy, can transfer and produce positive outcomes in the other role (Marks, 1977).

In a survey conducted on 163 full-time employees, Adams et al. (1996) found that conflict and support could simultaneously be present in work and private life of employees. Their results also showed that support of supervisors and/or spouses in the form of advice or practical help could reduce WLC of employees. Furthermore, establishing healthy WLB with the contribution of supportive managers could have a significant positive impact on job satisfaction of employees (Hussain & Mujtaba, 2012). Frone et al. (1997) developed an "integrative model of work-life interface", which included factors of WLB as so-called "feedback loops" that connected work and private lives of employees in the form of social support by supervisors, colleagues or family members - this support can mean different things, from finding the time to talk and help the person feel better when upset, to sharing work tasks, household or child care responsibilities, thus reducing work or parental overload.

Tompson and Werner (1997) considered WLC and WLB as "opposite ends of the same continuum", with their research results showing substantially higher average WLB scores than the average WLC scores, suggesting that employees generally perceived the relationship between their work and private lives as mutual balance. Moreover, 23% of female managers reported that self-confidence and multitasking ability in their personal lives also positively impacted their managerial effectiveness (Ruderman et al., 2002).

Grzywacz et al. (2002) measured WLB in both directions, similarly to measuring WLC, where respondents completed questionnaires with statements rated on a 5-point Likert scale, which can be seen in Table 3. This research discovered a generally stronger positive influence of private life on work (*life-work balance* - hereinafter: *LWB*) than vice versa, i.e. WLB of employees.

Research on accessibility of WLB programs throughout the companies' organizational structure discovered that employees in the lower hierarchical levels of the companies were excluded i.e. they were either entirely or to a large extend not offered these programs (Lambert and Haley-Lock, 2004).

**Table 3** Typical statements in the work-life balance questionnaire

| Balance type | Statement |
|---|---|
| WLB[*] | Achieving work success makes me cheerful and enthusiastic about handling my private life obligations. |
| LWB[*] | Feeling loved and supported by family members increases my work confidence. |

[*] WLB - work-life balance, LWB - life-work balance
*Source*: Adapted from: Grzywacz, J. G., Almeida, D. M. & McDonald, D. A. (2002).
Work-Family Spillover and Daily Reports of Work and Family Stress in the Adult Labor Force.
Family Relations, 51, 28-36.

Two-year-long research on managers and other employees in an Anglo-German automobile company was conducted by Moore (2007) in the form of participant observation and in-depth interviews of employees in management and coordination functions, as well as shop floor workers, with Moore (2007) spending three months working as a "temporary employee" at the company's factory. The company was offering its managers different programs and tools such as the "wheel of life" in order to inspire them to recognize the significance of establishing WLB. This research showed that although most of company's WLB programs targeted managers, other employees were more successful in establishing WLB (by using shift work) since the UK managerial culture supported long working hours as a sign of productivity and commitment (Moore, 2007).

A study by Haar et al. (2014), investigating WLB of 1416 employees from China, Malaysia, New Zealand, France, Spain, and Italy, found that WLB was positively related to job satisfaction in all six countries.

Research by Golubović & Golubović (2015) on employees in Serbia showed a significantly higher influence of work on their private lives than vice versa, with women experiencing more difficulties in establishing WLB than men.

A study conducted in 26 European countries by Fernandez-Crehuet et al. (2016) found a higher level of WLB in Northern and Central European countries, such as Denmark, Sweden, or Germany, compared to Southern and Western European countries, such as Italy, Greece, or Bulgaria.

A survey by Adikaram & Jayatilake (2016) analyzed WLB factors, such as working hours, work pressure, and WLB programs. Research results discovered a positive influence of WLB on job satisfaction of employees in the private banking sector in Sri Lanka.

Companies in the service sector in Serbia have demonstrated very modest results in offering WLB programs, as well as in measuring job satisfaction of their managers and other employees (Stojanović-Aleksić & Bošković, 2017).

A study conducted by Marič & Žnidaršič (2018) researched how gender, age, and academic rank affected WLB among high education lecturers from Serbia, Croatia, Slovenia, the Czech Republic, Austria, and Germany. Research results showed a positive correlation between academic rank and WLB, but no significant difference in WLB as to gender or age.

In addition, a survey conducted on 200 employees in the business process outsourcing sector in India showed no significant difference in the level of established WLB between male and female employees (Yusuf, 2018).

Dilmaghani & Tabvuma (2019) researched WLB of employees in ten major industries and they found that women working in the trading industry experienced higher WLB than men in this occupation, whereas women in management positions felt lower WLB than men in the same positions.

Moreover, a survey conducted on 150 employees of small and medium companies in the construction industry showed a positive relationship between their WLB and company productivity (Apraku et al., 2020).

CONCLUSION

Families with both working parents, who are juggling between their job demands and household responsibilities, can often experience lower work performance and job satisfaction, which usually results in conflict between their work and private lives. Employees nowadays aspire to become able to successfully balance these two life spheres.

Numerous research results presented in this paper lead to confirming both research questions imposed in the paper. In other words, the document analysis of the presented research results has shown that both conflict and balance can exist as the type of relationship between employees' work and private life. Since research suggests that both work and private life roles of employees can affect each other positively or negatively, both WLB and WLC can be considered "bidirectional".

The contribution of this paper can be reflected in emphasizing that decreasing conflict and establishing balance between work and private life can significantly contribute to improving employee job satisfaction. Since companies have come to realize that offering WLB programs to their employees and managers could benefit the company by positioning it as a "top" employer on the market, human resource management of companies should focus on developing these programs in order to address this strategic issue in today's business world.

The limitations of this paper may be noticed due to the fact that the document research results included in the paper were from different industries and countries, making space for future empirical research in a specific country and industry in order to be able to reach a generalized conclusion in terms of research results.

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# ODNOS IZMEĐU POSLA I PRIVATNOG ŽIVOTA ZAPOSLENIH - KONFLIKT ILI USKLAĐENOST?

*U savremenim preduzećima, usklađenost posla i privatnog života smatra se krucijalnom temom. Veći radni pritisak, duže radno vreme i veći broj porodica sa oba zaposlena roditelja dodatno su otežali usklađivanje posla i privatnog života. U radu se definišu dva istraživačka pitanja vezana za pozitivni ili negativni tip odnosa između posla i privatnog života zaposlenih. Na ova pitanja su dati odgovori na osnovu analize različitih prethodno sprovedenih empirijskih istraživanja. Rezultati istraživanja otkrivaju kako negativan tako i pozitivan međusobni odnos između posla i privatnog života zaposlenih. Zaključci ovog rada mogu biti izuzetno relevantni za preduzeće kako bi se shvatila važnost primene praksi za usklađivanje posla i privatnog života za povećanje zadovoljstva poslom svojih menadžera i ostalih zaposlenih, kao i za razvijanje reputacije poželjnog poslodavca.*

Ključne reči: *konflikt između posla i privatnog života, usklađenost posla i privatnog života, zadovoljstvo poslom*