



Kosovo and Metochy's Economy Before and after Political Turmoil: Are There Differences?

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Abstract: Unstable political circumstances on the Kosovo and Metochy went in the direction of unacceptable, legally unsustainable decisions and actions from the aspect of international law until the unilateral declaration of independence of Kosovo in 2008. The researchers do not address the pointless issue: the legal viability of Kosovo's unilaterally declared independence but rather analyze economic indicators before and after the political turmoil and the impact of political turmoil on economic growth. The results of independent samples t-test and panel regression showed that political turmoil had negative effects on Kosovo and Metochy and Republic of Serbia economic growth.

INTRODUCTION

Unstable political circumstances and turmoil in the Southern autonomous province of the Republic of Serbia, Kosovo and Metochy, went in the direction of unacceptable, legally unsustainable decisions and actions from the aspect of international law until the unilateral declaration of independence of Kosovo in 2008. The authors do not address the pointless issue: the legal viability of Kosovo's unilaterally declared independence, but rather analyze economic indicators before and after the political turmoil of the crisis years at the beginning of this millennium in the territory of Kosovo and Metochy. The aim of the study is to show, through macroeconomic indicators, the level of development of the economy of Kosovo and Metochy before and after political turmoil. The subject of the analysis are macroeconomic indicators and economic capacities of the Trepca mine with a statistical analysis of economic indicators that at the end, leads us to conclude that political turmoil has left long-lasting, hard-to-overcome negative effects on the economy of Kosovo and Metochy and further on the

overall economic growth of the Republic of Serbia. To facilitate an understanding of the theoretical basis of the research, the researchers present the status of Kosovo and Metochy from the aspect of domestic and international law and ask how it is possible to find a way out of the current situation for the benefit of the citizens who lived and will live in this area. Without a good economic foundation and economic growth, there is no possibility of upgrading or developing any sphere of social life. This paper should show how much we have lost or how much we can gain with a legally valid solution to the status of Kosovo and Metochy that is constitutionally viable and internationally acceptable.

Status of Kosovo and Metochy: The Republic of Serbia accepts the Kosovo and Metochy in the status defined in UN Security Council Resolution 1224 which regulates the outcome of the NATO intervention in 1999 and accordingly, the researchers attempt to analyze the subject.

Over an extended period, the territory of the Kosovo and Metochy did not have a permanent territorial-political

status in the Republic of Serbia. The political situation of an autonomous province ranged from formal autonomy to the status of a federal unit whose independence and autonomy was equal to the republics^[1].

The formal return from the status of a federal unit to the status of an autonomous province in 1989 raised the issue of the status of Kosovo and Metochy which is still actual^[2]. The international community is looking for a lasting solution, so for a long time, political negotiations have been underway to find one with the initiative and support of the European Union. The territory of Kosovo and Metochy has been under an international protectorate, since, 1999 and the present moment reflects the effort to find a constitutionally viable and legally valid solution to the status of Kosovo and Metochy.

In the period before 2008, the United Nations Mission in the territory of Kosovo and Metochy (UNMIK) gradually withdrew. With the entry of international forces into the territory of Kosovo and Metochy, Albanians in Kosovo intensified ethnic-motivated attacks on the Serb population, until 2008, when Kosovo unilaterally declared independence.

Although, the reality of the status of Kosovo and Metochy speaks of the existence of some factual features of the state (institutions, symbols) from the aspect of international law, we have an irrefutable legal presumption against changing existing borders which is firmly accepted in international law and practice^[3]. No international legal act declares the right of citizens to secession but only the right to choose. Its separation, de facto should not have led to it becoming an independent sovereign state. The international community has shown its readiness to accept secession and has recognized it as the ultimate solution. Kosovo has been recognized by about one hundred countries: a member of the United Nations, the European Union, NATO, the Organization of Islamic Cooperation. Although a member of the IMF, the World Bank and FIFA, Kosovo did not become the United Nations member.

The Republic of Serbia has not recognized independence but is committed to finding a modality of normalization of relations between the two parties, through openness and negotiation. Political turmoil and unresolved issues regarding the status of Kosovo and Metochy are a stumbling block to the development of the economy not only of the Republic of Serbia but of the broader region as a whole. Accordingly, the interest of the wider international community in finding solutions through negotiation and agreement between two parties whose interests are essentially the same, the economic development and prosperity in this region exists.

MATERIALS AND METHODS

According to the subject and purpose of the research, the following hypothesis were tested in the study:

Hypothesis 1: Political turmoil in the area of Kosovo and Metochy has a negative impact on the economic growth of Kosovo and Metochy and the Republic of Serbia.

Hypothesis 2: There are statistically significant differences in the production of Trepca ore before and after political turmoil.

The research consists of two parts. The first part analyzes the macroeconomic indicators of Kosovo and Metochy before and after political turmoil using statistical tests and panel regression to assess the effects of political turmoil on the economies of Kosovo and Metochy and the Republic of Serbia. According to the model used in the work of Rodriguez-Pose and Stremsek^[4], a model was formed to evaluate the effects of political turmoil on the economic growth of the Kosovo and Metochy and the Republic of Serbia, represented by the following equations:

$$GDPg_{it} = c_1 + b_1 PP_{it} + \varepsilon_{it} \quad (1)$$

$$GDPg_{it} = c_2 + b_2 \ln GDPpc_{i,t-1} + b_3 PP_{it} + \varepsilon_{it} \quad (2)$$

$$GDPg_{it} = c_2 + b_4 \ln population_{it} + PP_{it} + \varepsilon_{it} \quad (3)$$

$$GDPg_{it} = c_4 + b_6 \ln GDPpc_{i,t-1} + b_7 \ln population_{it} + b_8 PP_{it} + \varepsilon_{it} \quad (4)$$

where $GDPg_{it}$ growth rate in country i in period t , $\ln GDPpc_{i,t-1}$ logarithm of GDP per capita in country i in period $t-1$, $\ln population_{it}$ -logarithm of population in country i in period t , PP_{it} -dummy variable (1 in the period of political turmoil in country i in period t , 0 otherwise); ε_t -error term; $i = 1, 2$; $t = 2000, \dots, 2017$. Data are logarithms due to statistical reasons. The second part of the research examines the effects of political turmoil on economic capacities in the Kosovo and Metochy with special reference to the economic capacities of the Trepca mine.

Data for the period 2000-2017 were retrieved from World Bank databases and national databases with data from 1930-1998 and from 2005-2014 were used to analyze the production capacity of the Trepca mine due to unavailability of data. Data were analyzed using the statistical software IBM SPSS Statistics 22 and Stata 14.2.

RESULTS AND DISCUSSION

Political turmoil and economic growth: Table 1 shows the descriptive statistics of the analyzed variables for Kosovo and Metochy and the Republic of Serbia. The average GDP growth rate of the Republic of Serbia in the period 2000-2017 was 3.28 while the lowest growth rate was 3.40 and the highest growth rate was -3.12 (Table 1).

The average GDP growth rate of Kosovo and Metochy from 2000-2017 was 4.81 while the minimum

Table 1: Descriptive statistics

Variables	Mean	SD	Minimum	Maximum	N
Kosovo and Metochy					
GDP growth	4.81	5.89	-0.70	26.97	18
GDP	5512023414.01	1175761892.05	3264020909.80	7430486580.99	18
GDP per capita	3120.44	585.06	1920.01	4058.82	18
Population	1758089	50361	1700000	1830700	18
Republic of Serbia					
GDP growth	3.28	3.40	-3.12	9.05	18
GDP	35327251335.78	13891480233.66	6540245607.20	52194221468.50	18
GDP per capita	5004.30	820.76	3405.78	5993.49	18
Population	7308827	165650	7020858	7516346	18

Table 2: Independent samples t-test results

Variables	2000-2007		2008-2017		p-values
	Mean	SD	Mean	SD	
GDP	4423237506.47	623222453.61	6383052140.02	642190732.64	0.00
GDPpc	2586.88	349.98	3547.29	309.49	0.00

Table 3: Mann-Whitney test results

Variables	2000-2007		2008-2017		p-values
	Mean	Median	Mean	Median	
GDP growth	6.57	5.24	3.40	3.39	0.37

Researcher's calculation in IBM SPSS Statistics 22

GDP growth rate in the observed period was -0.70 (2002), and the maximum growth rate was recorded in 2001 (26.97). Over the same period, the average GDP was \$ 5.51 billion while the lowest GDP was \$ 3.26 billion (2000) and the highest was \$ 7.43 billion (2017). Average GDP per capita in the period 2000-2017 was \$ 3120.44, the lowest GDP per capita was \$ 1920.01 (2000) and the highest GDP per capita was \$ 4058.82 (2017). The average population in the observed period was 1758089. The smallest population was recorded in 2000 (1700000 inhabitants) and the highest was in 2017 (1830700 inhabitants) (Table 1).

The Shapiro-Wilk test of normality was used to test whether the data are normally distributed ($n = 18 < 30$). Test examines the null hypothesis that the data are normally distributed. According to the results of the Shapiro-Wilk test, the GDP and GDP per capita variables have a normal distribution ($p > 0.05$) which determines the use of parametric tests for data analysis. In contrast, the GDP growth variable does not have a normal distribution ($p < 0.05$) which determines the further use of nonparametric tests.

To compare macroeconomic indicators in Kosovo and Metochy before and after political turmoil, 2008 was used as a turning point in relations between Kosovo and Metochy and the Republic of Serbia. Independent samples t-test results show that there are statistically significant differences in the average values of GDP of Kosovo and Metochy before 2008 (average GDP in the period 2000-2007 was 4.42 billion) and after 2008 (average GDP in the period 2008-2017 was \$ 6.38 billion) (Table 2). The

results of the Mann-Whitney test showed that there was no statistically significant difference in GDP growth rates before and after 2008 ($p = 0.37 > 0.05$) (Table 3).

Although, the average GDP in the period after 2008 is higher than in the period before 2008, the average GDP growth rate is higher in the period before 2008 (6.57%) compared to the average GDP growth rate after 2008 (3.40%). Figure 1 shows GDP growth rates in 2000-2017. It is noticeable that in the period before 2008, the highest GDP growth rate was in 2001 (26.97%) while the lowest growth rate was in 2002 (-0.70%). In the post-2008 period, GDP growth rates range between 1.20% (2014) and 4.81% (2011).

Independent samples t-test results show that there is statistically significant difference between GDP per capita before 2008 (average GDP per capita from 2000-2007 was \$ 2586.88) and after 2008 (average GDP per capita from 2008-2017 was \$ 3547.29) (Table 2). As in the case of GDP, a higher average value of GDP per capita is observed in the period after 2008 than in the period before 2008. However, the average GDP per capita growth rate before 2008 was 7.23% while the average GDP per capita growth rate after 2008 was 2.84%.

Since, there are statistically significant differences in average GDP per capita before and after political turmoil and higher GDP growth rates were in the period before 2008, the impact of political turmoil on the economic growth of Kosovo and Metochy and the Republic of Serbia was examined using panel regression. GDP per capita with 1 year lag and population by Kosovo and

Table 4: Panel regression analysis results

Independent variables	Dependent variable			
	GDPg (1)	GDPg (2)	GDPg(3)	GDPg (4)
Constant	6.39*	57.18*	22.24	87.29*
PP	-4.22*	-2.64	-4.21*	1.53
lnGDPpc _{t-1}	-	-6.25**	-	-19.77
ln Population	-	-	-1.05	5.23
Hausman test	0.02	3.79	0.42	0.08
R ²	0.19	0.34	0.22	0.41

*Statistically significant at 1% level; **Statistically significant at 5% level; Researcher's calculation in Stata 14.2

Table 5: Descriptive statistics for mines in 2012

Mine	N	Mean	SD
Stari trg	12	10495.37	3083.61
Novo brdo	12	3139.06	1855.71
Crnac	12	9925.00	2259.87
Belo brdo	12	3045.83	1531.70

Researcher's calculation in IBM SPSS Statistics 22

Table 6: Independent samples t-test

Variables	Before 2008		2008-2014		p-values
	Mean	SD	Mean	SD	
Mined ores (tonnes)	492237.39	213309.06	243054.14	384501.51	0.01

Researcher's calculation in IBM SPSS Statistics 22

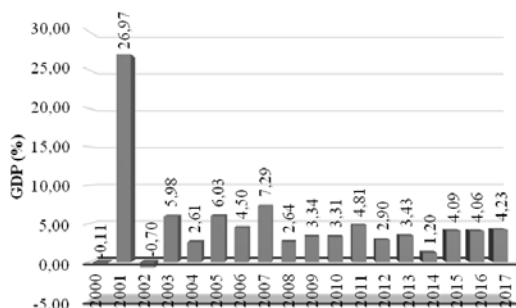


Fig. 1: GDP growth rate of Kosovo and Metochy, 2000-2017

Metochy were used as control variables. Accordingly, four models were evaluated and the results are shown in Table 4.

The random-effects model was used to analyze the four models shown in Table 5 because the results of the Hausman test determined its use. When assessing only the effects of political turmoil on economic growth (GDPg) of the Kosovo and Metochy and the Republic of Serbia, political turmoil was found to be negatively related to GDP growth rates. Political turmoil decrease GDP growth for 4.22% at a 1% level of significance. The coefficient of determination ($R^2 = 0.19$) shows that 19.00% of variations in the GDPg variable are explained by variations in the political turmoil variable while other factors influence the remaining 81.00%. However, if one year lag of GDP per capita is included as a control variable in the model, political turmoil does not have a statistically significant impact on economic growth. Still, political turmoil has a negative effect on the economic growth of Kosovo and

Metochy and the Republic of Serbia. In the third model, only population was included as a control variable. The estimation results of the third model showed that political turmoil had a statistically significant and negative impact on economic growth. Political turmoil decrease GDP growth by 4.21% if all other conditions remain unchanged at 1% level of significance. Finally, in the fourth model, GDP per capita and population were used as control variables. Panel regression results showed that there is no statistically significant impact of political turmoil on GDP growth rates. However, it is noticeable that political turmoil and GDP growth rates are in a negative relationship. Based on the models analyzed, it can be concluded that political turmoil on the territory of the Republic of Serbia with particular emphasis on developments in the Kosovo and Metohija areas had negative effects on the economic growth of these areas.

The Pesaran CD test was used to test for correlation in the observed models. The test results showed that there was no correlation in the models, since, p values for all models were >0.05 (0.33; 0.32; 0.33; 0.48, respectively), which shows that we cannot reject the null hypothesis that there is no correlation in the model. When the number of observations in the sample is >30 , each empirical distribution, according to the central limit theorem, tends to be normal, so each empirical distribution for $n>30$ can be approximated to normal^[5], thus fulfilling the assumption that error term can approximate by a normal distribution.

Political turmoil and Trepca mine: Trepca mining and Metallurgical complex is one of the largest economic entities in the Kosovo and Metochy. The history of Trepca's management can be divided into several periods

but for the analysis that included political turmoil, the post-war period that is the period after 2000 when UNMIK took control of the company and KFOR troops stopped production at the Zvečan smelter are the most important. Following the entry of NATO troops into the territory of Kosovo and Metochy, Albanians took over the management of the Trepca mines and property South of the Ibar River while the Serbs operated the Trepca mines and property North of the Ibar River^[6]. Today, Trepča Mining and Metallurgical Complex operate within two technically separate organizational units: Trepca North with production facilities in Serbian municipalities, primarily Leposavic, employing over 4000 workers and Trepca South which employs approximately 5500 Albanians. About 70% of the capacity of the Trepca mining and metallurgical complex is located in the South of the Kosovo and Metochy and 30% is in the North. Accordingly, today the property of Trepca is managed by Serbs and Albanians with the Republic of Serbia manages the following parts of Trepca:

- Crnac and Belo Brdo mines
- Koporis surface mine
- Leposavic Flotation
- Zvečan lead metallurgy (lead smelter and refinery)
- Treatment of waste, associated organizational units, transport of goods, administration while the Albanians manage the following parts of Trepca
- “Stari trg”, “Ajvalija”, “Kišnica” and “Novo Brdo” mines,
- “First Tunnel” and “Kišnica” Flotations,
- Zinc metallurgy, chemical industry and battery factory

However, only four mines operate with reduced mining capacity: Stari Trg, Crnac, Belo Brdo and Novo Brdo. Due to the availability of data, differences in the average quantities of exploited ores in these mines were examined. More specifically, it was examined whether there were differences in the average quantities of exploited ores between the Crnac and Belo Brdo mines (north of the Ibar River) and the Stari trg and Novo Brdo mines (South of the Ibar River). Only monthly data for 2012 were analyzed because other data were not available. One-way Analysis of Variance (ANOVA) was used to compare the average values of the exploited ores in the mentioned mines and the results showed that there are statistically significant differences between these mines in the average quantities of the exploited ores in 2012 ($p < 0.01$).

Post hoc comparisons were made using Tukey’s HSD test. The results showed that there were statistically significant differences in the average amount of ore extracted between the Stari trg mine (10495.37 tons) and

the Novo Brdo mine (3139.06 tons) located South of the Ibar River. Besides, the results showed that there were statistically significant differences in the amount of ore exploited between the Stari trg mine (10495.37 tons) and the Belo Brdo mine (3045.83 tons). It is noticeable that on average more ore is exploited at the Stari trg mine than at the Belo Brdo mine. Still, the justification for such a difference in the average amount of ore exploited should not be sought in the way of managing these mines but in the fact that the capacity of the Stari Trg mine is larger than the Belo Brdo mine. There were also statistically significant differences in the average amount of ore extracted between the Crnac mine (9925.00 tonnes) and the Novo Brdo mine (3139.06 tonnes). Finally, statistically significant differences were observed in the average amount of ore exploited between the Crnac mine (9925.00 tonnes) and the Belo Brdo mine (3045.83 tonnes) located North of the Ibar River. The explored ore reserves at the Belo Brdo mine are estimated at 1.5 million tons.

The Stari trg mine is the largest mine of the Trepča mining and metallurgical complex located South of the Ibar River. It was examined whether there were differences in the amount (expressed in tonnes) of the ore exploited in the period before and after 2008. Data for the period 1930-1998 and 2005-2014 were used since the data for the period 1999-2004 and after 2014 are not available. Data are not available until 2005 because activities in the company were suspended during that period and in 2005 UNMIK restarted production and exploitation in Trepca. It should be emphasized that the closure of the mines had a negative impact on the population in the Kosovo and Metochy as this company was the driver of development not only of Kosovo and Metochy but also had a significant impact on the economy of the Republic of Serbia. Crnac and Belo Brdo mines with flotation in Leposavic employ about 700 workers. Formerly, the Trepca mining and metallurgical complex employed over 20,000 workers while today, about three thousand Serbian families live on income from the company with the company being very significant to them and their survival in the territory of Kosovo and Metochy. The importance of the Trepca mine is also indicated by the fact that this company had a revenue of \$ 200 million in the year of the bombing and war conflicts (1999) while in 2016 this company had a debt of about 150 million euros which indicates inefficient governance but also the influence of other factors (economic situation and political turmoil, population displacement, etc.)^[7]. According to estimates from 2001, Trepca’s remaining capacity is approximately 29 million tons of ore of which 999,000 tons of lead, 670,000 tons of zinc and 2,200 tons of gold). Accordingly, Trepca represents the



Fig. 2: Mined ores (tonnes) in Stari trg mine, 1930-2014

greatest potential for economic recovery of Kosovo and Metochy but also of the economy of the Republic of Serbia, primarily through the release of rich mineral resources and abundant quantities of lignite for energy production which would significantly accelerate the development of this company and provide employment for several dozen thousands of people.

The results of the independent samples t-test showed that there are statistically significant differences between the average amount of exploited ore before 2008 (the average amount of exploited ore is 492237.39 tons) and after 2008 (the average amount of exploited ore is 243054.14 tons) in the Stari trg mine. The results also show that the amount of ore exploited is higher in the period before 2008. Figure 2 shows the quantities of ore exploited in the observed period.

In addition to the Trepča mining and metallurgical complex, NewCo Ferronikeli, owned by the Čikatovo and Glavica mines, is one of the largest ore exporters after 1999. In the post-war period, the Sharrcem cement plant also occupied an important place in the economy of Kosovo and Metochy. Immediately after the war in 2000, the company in agreement with UNMIK was taken over by the Swiss company Holcim for 10 years with the company investing approximately EUR 20 million by 2004. The company was re-privatized in 2010 by the Greek company Titan but the Greek company is considered to be underinvesting in production capacity. Also, the company experienced significant layoffs from 750 employees in 2005 to 503 workers in 2010 to 285 full-time employees in 2017.

CONCLUSION

The study analyzes the economy of Kosovo and Metochy that is economic indicators and economic

capacities of the Trepca mine in the period before and after the political turmoil in the Kosovo and Metochy. More specifically, the effects of political turmoil on the economies of Kosovo and Metochy and the Republic of Serbia as well as on the operations of the Trepca mine have been analyzed. The results of the independent samples t-test showed that there were statistically significant differences in average GDP before and after political turmoil that is before and after 2008. Besides, panel regression results showed that there were negative effects of political turmoil on the economic growth of Kosovo and Metochy and the Republic of Serbia. Therefore, the first research hypothesis that political turmoil in the Kosovo and Metochy has a negative impact on the economic growth of Kosovo and Metochy and the Republic of Serbia is confirmed.

An analysis of the production capacities of the Trepca mine showed that there were statistically significant differences in the exploited quantities of ore in this mine before and after 2008. Also, in the post-war period, the mine was closed until 2005 which affected the economy of Kosovo and Metochy and the Republic of Serbia as well as the population of Kosovo and Metochy, since, this company was once a driver of Kosovo and Metochy's economy and employed a large population. Accordingly, the second hypothesis of the study that there are statistically significant differences in the production of ores of Trepca mines before and after political turmoil has also been confirmed.

Future research of this problem area should focus on longer-term analysis and inclusion of more variables. The institutions of the Republic of Serbia should ensure higher availability and transparency of data about production capacities in the area of Kosovo and Metochy to conduct better quality analysis and come to conclusions that would be practical and not just scientifically applicable.

If we analyze the statistical results, we get a clear picture, measurable through economic indicators of the damage caused by unstable political circumstances and events, unresolved status and legal issues in the Kosovo and Metochy. But against measurable economic indicators, there are immeasurable values that have disappeared due to the same political reasons. Is it possible to depict, measure and more clearly see human life or what is the difference in damage before and after political turmoil in this region?

We cannot shy away from the impression that politics has anything to do with the territory of Kosovo and Metochy and that economic ties are at the back of the political relations. Mixed history, tradition on the one hand and politics, unfair economic agreements on the other, undoubtedly continue to lead to unsustainable solutions from legal and economic sciences.

It remains for us in the future to normalize relations with the Kosovo and Metochy to apply the economic and legal knowledge that should contribute to the economic development of both Republic of Serbia and Kosovo and Metochy.

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