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Rule of Law, Corruption, and Tax Revenue Performance

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Abstract: *Tax revenue refers to the income generated by governments and serves as a critical funding source for public services, infrastructure development, and social welfare programs. While effective legal frameworks and enforcement mechanisms facilitate tax compliance, corruption undermines tax collection efforts, erodes public trust, and distorts economic activity. This study examines the relationship between the rule of law, corruption, and tax revenue performance in North Macedonia. Comparative analyses of the World Bank Governance Indicators - Rule of Law Index and Control of Corruption Index were conducted among countries in the Western Balkan region. Secondary data from the World Bank were utilized, and multiple regression analysis was conducted to determine the impact of the Rule of Law index and Corruption index on tax revenue performance for North Macedonia. Findings indicate weak governance performance related to the rule of law and control of corruption across the Western Balkan region, with the index for all countries below 0. In North Macedonia specifically, findings indicate that approximately 50.7% of the variability in tax revenue can be explained by the rule of law and control of corruption indices. The correlation coefficient of 0,71, suggests a strong positive correlation between tax revenue (% of GDP) and the Rule of Law and Control of Corruption. These findings underscore the significance of addressing corruption and strengthening the rule of law to enhance tax revenue performance.*

1. INTRODUCTION

In many countries, the effectiveness of tax revenue performance can make or break the government's ability to provide essential services and foster economic growth. The delicate interplay between governance, the rule of law, and corruption often dictates the success or failure of these fiscal efforts. The IMF (IMF, 2017) investigates the effect of corruption on state capacity to raise revenue across 147 countries from 1995 to 2014. The findings reveal that corruption significantly impairs aggregate revenue performance, reducing it by 0.6 percent of GDP annually. Furthermore, studies examining the impact of corruption and good governance on economic growth in Balkan countries have shown that corruption is negatively correlated with GDP per capita growth (Biscione & Muco, 2021). Despite these insights, the relationship between the rule of law, corruption, and tax revenue performance has yet to be robustly researched. This paper aims to fill this gap by delving into the intricate relationship between the rule of law, corruption, and tax revenue performance with a particular focus on North Macedonia and how this relationship compares to neighboring Western Balkan countries such as Kosovo*, Serbia, Albania, Montenegro, and Bosnia and Hercegovina. By analyzing these variables, this study seeks to uncover the extent to which governance and corruption impact tax revenue performance and provide policy recommendations for enhancing fiscal effectiveness in the region. Understanding these dynamics is crucial for policymakers who aim to strengthen their country's fiscal health and economic stability. Through this comprehensive analysis, the study contributes to a broader understanding of how improving governance and reducing corruption can lead to better tax revenue performance and, ultimately, more robust economic development in the Western Balkans.

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2. LITERATURE REVIEW

The factors influencing tax revenue performance measured as the ratio of tax revenues to GDP have long been debated. Researchers typically include variables such as per capita GDP, the composition of different economic sectors, the level of trade and financial openness, the ratio of foreign aid to GDP, the ratio of total debt to GDP, the size of the informal economy, and institutional and political factors like good governance, rule of law and corruption as potential determinants of revenue performance.

Studies highlighting the economic and administrative factors influencing tax revenue collection typically focus on income, tax rates, tax enforcement, tax penalties, tax administration, and the structure of tax systems (Clotfelter, 1983; Alm & Torgler, 2006; Durham et al., 2014; Kogler et al., 2016). Baskaran and Bigsten (Baskaran & Bigsten, 2013) discussed the relationship between democracy and tax revenues, and Garcia and von Haldenwang (Garcia & Von Haldenwang, 2016) examined the relationship between political regimes and tax revenues. An analysis of the studies in this field reveals that those examining institutional and political factors generally focus on the rule of law, corruption, political stability, and democracy. Studies conducted by several authors showed a positive relationship between the rule of law and tax revenues (Syadullah, 2015; Simbachawene, 2018). Additionally, some studies indicate a negative relationship between tax revenues and the rule of law (Ashraf & Sarwar, 2016; Nnyanzi et al., 2016). Numerous studies have been conducted to understand the impact of corruption on the economy. The IMF (IMF, 2017) investigates the effect of corruption on state capacity to raise revenue across 147 countries from 1995 to 2014. The findings reveal that corruption significantly impairs aggregate revenue performance, reducing it by 0.6 percent of GDP annually. Most papers that have studied corruption's direct influence on revenue performance find a negative relationship between corruption and tax revenue (Besley & Persson, 2014; Imam & Jacobs, 2014). Studies investigating the impact of corruption and good governance on economic growth in Balkan countries show that corruption is negatively correlated with GDP per capita growth (Biscione & Muco, 2021). Studies show that in North Macedonia total revenues, tax revenues, and customs revenues have shown continuous growth. Revenues collected in 2022 are more than double those collected in 2010 and this applies to total revenues, tax revenues, and customs revenues (Miloshoska et al., 2024) On the other hand, corruption is recognized as the largest problem in the Republic of N. Macedonia (Miloshoska, 2016, 2018). In 2021, forty-six percent of the population identified corruption as the largest problem, an increase of 49% compared to 2016 (Miloshoska, 2022). For years, certain professions have been perceived as most corrupt. Citizens when asked about professional holders of specific public positions, put on top judges, ministers, public prosecutors, and tax officers (Miloshoska & Vasileska, 2022).

3. MATERIALS AND METHODS

Studies on tax revenue performance emphasize the significance of governance indicators in tax collection. When taxpayers believe their interests are well represented in the legislature, their willingness to pay taxes increases. Conversely, weak law and order conditions can lead to tax evasion. Similarly, many business communities may operate underground in economies where corruption is prevalent, paying bribes to avoid high taxes. To assess the impact of these variables on tax revenue performance, an analysis was conducted on two governance indicators by the World Bank: The Rule of Law Index and the Control of Corruption Index.

This study's dependent variable is total tax revenue (% of GDP). Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as

fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue.

The longitudinal dataset used in this study covers 6 countries from the Western Balkan region (North Macedonia, Albania, Serbia, Monte Negro, Bosnia and Hercegovina, and Kosovo*) from 2005 to 2021. The study uses secondary data from the World Bank, World Development Indicators- the Tax revenue (% of GDP), out of which observations for Kosovo* and Monte Negro are missing. However, data on two Governance indicators, the Rule of Law Index and Control of Corruption Index, is taken from World Bank Governance Indicators, available for 1996-2022.

Descriptive statistics as statistical techniques are used in this study to summarize and describe the main features of a dataset, providing simple summaries and graphical representations to convey the basic patterns and characteristics of the data. These descriptive statistics summarize the dataset's distribution's central tendency, dispersion, and shape. The mean and median values give an idea of the dataset's center, while the standard deviation and variance indicate how spread out the values are. Skewness and kurtosis provide information about the distribution's shape, and the range, minimum, and maximum values show the dataset's spread. The standard error and confidence level provide insights into the reliability of the mean estimate.

Multiple linear regression analysis is used in this study to explore and quantify the relationship between rule of law, corruption, and tax revenue performance. Multiple linear regression is a regression model that estimates the relationship between a quantitative dependent variable and two or more independent variables using a straight line. It is a statistical technique used to predict the outcome of a variable based on the value of two or more variables. The general form of the multiple linear regression model is:

$$\hat{Y} = \beta 0 + \beta 1\, X1 + \beta 2\, X2 + \ldots\ldots\ldots + \beta n\, Xn + \epsilon$$

Where:

- $\hat{Y}$ = is the dependent variable
- $X1, X2 \ldots. Xn$ = are the independent variables (predictors)
- $\beta 0$ = is the y-intercept (constant term).
- $\beta 1, \beta 2 \ldots\ldots \beta n$ = are the coefficients for the independent variables $X1, X2 \ldots. Xn$
- ϵ = is the error term (residual), representing the difference between the observed and predicted values.

This study explores and quantifies the relationship between the rule of law, corruption, and tax revenue performance in North Macedonia.

4. RESULTS & DISCUSSION

The Rule of Law Index and Control of Corruption Index are two measures developed by the World Bank to assess and quantify certain aspects of governance and institutional quality within countries. This study investigates the impact of the rule of law and corruption on tax revenue performance in North Macedonia, and how this relationship compares to neighboring Western Balkan countries such as Kosovo*, Serbia, Albania, Montenegro, and Bosnia and Hercegovina.

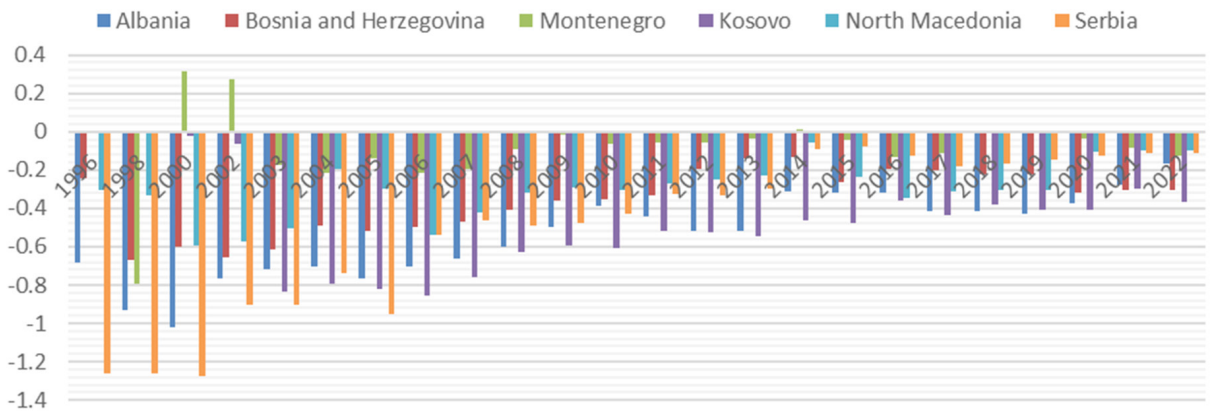
* Under the UN Resolution 1244.

The Rule of Law Index assesses the extent to which a country's legal system is impartial, transparent, and effective in upholding the rule of law. It encompasses factors such as the protection of property rights, the independence of the judiciary, the absence of corruption, and the enforcement of contracts. This index measures the degree to which citizens and businesses have confidence in the legal framework and institutions within their country, as well as the predictability and reliability of the legal system in resolving disputes and enforcing laws. The Rule of Law measures the strength of governance performance within a country, specifically focusing on the rule of law aspect. This estimate typically ranges from approximately -2.5 to 2.5, with lower values indicating weaker governance performance and higher values indicating stronger governance performance.

Graph 1 illustrates the Rule of Law Index for the Western Balkan Countries from 1996 to 2022. Analysis of this graph reveals that all Balkan countries have weak governance concerning the rule of law. Throughout the analyzed period, the Rule of Law Index for all countries remains below 0, suggesting that these countries face significant challenges in enforcing laws and ensuring justice, indicating a weakness in their legal and institutional frameworks.

North Macedonia's best score was in 2014, with an index of -0.0556; its worst score was -0.5965 in 2000. In the last two years, 2021 and 2022, the score is -0.09, suggesting a slight improvement. The average value of the dataset for North Macedonia is -0.30, and the median value is -0.29 (Table 1). Both the average and median values being negative confirm that North Macedonia has struggled with weak governance concerning the rule of law over the analyzed period. These statistics highlight the challenges North Macedonia faces in improving its rule of law, with governance weaknesses being a significant concern throughout the analyzed period.

Comparing data for the Western Balkan countries (Table 1) shows that Montenegro has better scores for the Rule of Law Index, followed by North Macedonia, Bosnia and Herzegovina, Serbia, Albania, and Kosovo*. A consistently negative Rule of Law Index indicates ongoing difficulties in effectively enforcing laws, which can undermine public confidence in legal and governmental institutions. Persistent negative scores suggest that the judicial systems in these countries may struggle with efficiency, and fairness leading to a lack of trust among citizens. Low scores highlight broader institutional weaknesses, including problems with corruption, inefficiency, and lack of transparency.



* Kosovo – Under the UN Resolution 1244.

Graph 1. The Rule of Law Index

Source: Own calculations based on World Bank (2024)

* Under the UN Resolution 1244.

Table 1. Descriptive statistics- Rule of Law index, Control of Corruption Index, Tax revenue (% of GDP)- Western Balkan countries

	Albania			Bosnia and Herzegovina			Montenegro	
	Rule of Law	Cont. Corrupt	Tax reve.%GDP	Rule of Law	Cont. Corrupt	Tax reve.% GDP	Rule of Law	Cont. Corrupt
Mean	-0,514387	-0,64785061	17,92510506	-0,3548753	-0,42986002	19,96785615	-0,054224	-0,19539051
Standard Error	0,0437136	0,0293247	0,216393907	0,03363117	0,032066512	0,182820748	0,0281858	0,029228787
Median	-0,4686483	-0,59567687	18,14437719	-0,3234472	-0,3770517	19,82659719	-0,061238	-0,16710472
Mode	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Standard Deviation	0,2050349	0,13754502	0,717697397	0,15774416	0,150405272	0,753789255	0,1322033	0,137095165
Sample Variance	0,0420393	0,01891863	0,515089554	0,02488322	0,022621746	0,568198241	0,0174777	0,018795084
Kurtosis	0,1521659	-1,26582383	0,035142187	-0,8700647	-1,28134058	1,097993291	3,2920037	-0,90396716
Skewness	-0,6056614	-0,13084552	-0,797295826	-0,4470075	-0,52765593	0,770440561	1,6479144	-0,51296689
Range	0,8548886	0,4476881	2,384215448	0,5237827	0,451026529	2,939310477	0,5323983	0,452915811
Minimum	-1,0206677	-0,85556364	16,50327061	-0,6560057	-0,68383521	18,75064473	-0,215662	-0,46746466
Maximum	-0,1657791	-0,40787554	18,88748606	-0,132223	-0,23280868	21,68995521	0,3167361	-0,01454884
Sum	-11,316514	-14,2527134	197,1761557	-7,8072557	-9,4569205	339,4535545	-1,192938	-4,29859129
Count	22	22	11	22	22	17	22	22
Largest(1)	-0,1657791	-0,40787554	18,88748606	-0,132223	-0,23280868	21,68995521	0,3167361	-0,01454884
Smallest(1)	-1,0206677	-0,85556364	16,50327061	-0,6560057	-0,68383521	18,75064473	-0,215662	-0,46746466
Confidence Level(95	0,0909074	0,06098405	0,482155672	0,06993984	0,066685962	0,387562673	0,0586157	0,060784591

	Kosovo		N. Macedonia			Serbia		
	Rule of Law	Cont. Corrupt	Rule of Law	Cont. Corrupt	Tax reve.% GDP	Rule of Law	Cont. Corrupt	Tax reve.% GDP
Mean	-0,5078791	-0,44419426	-0,302461	-0,34486559	17,20771044	-0,4213489	-0,43567163	21,63759174
Standard Error	0,04809696	0,06103483	0,0323384	0,045904166	0,219825443	0,0724222	0,044373488	0,464079869
Median	-0,4989598	-0,52710718	-0,29969	-0,35139915	17,08328108	-0,3289426	-0,38942862	21,30211447
Mode	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Standard Deviation	0,22559473	0,28627874	0,1516807	0,215309623	0,906363519	0,3396903	0,208130108	1,797373605
Sample Variance	0,05089298	0,08195552	0,023007	0,046358234	0,821494828	0,1153895	0,043318142	3,230551877
Kurtosis	0,05968196	4,80954437	-0,246068	-0,3556248	-0,113949612	0,3640399	7,279494649	-1,129486992
Skewness	0,31891542	2,24158103	-0,411072	-0,3297219	0,46346262	-1,060302	-2,61116304	-0,11766874
Range	0,8345337	1,10651591	0,5409764	0,793589123	3,405872217	1,2021406	0,909581199	5,515538086
Minimum	-0,8583646	-0,7352407	-0,596573	-0,82605845	15,668958	-1,2779871	-1,15667069	18,55250021
Maximum	-0,0238309	0,37127522	-0,055596	-0,03246932	19,07483022	-0,0758465	-0,24708949	24,0680383
Sum	-11,17334	-9,77227366	-6,654152	-7,58704306	292,5310775	-9,2696758	-9,58477585	324,5638761
Count	22	22	22	22	17	22	22	15
Largest(1)	-0,0238309	0,37127522	-0,055596	-0,03246932	19,07483022	-0,0758465	-0,24708949	24,0680383
Smallest(1)	-0,8583646	-0,7352407	-0,596573	-0,82605845	15,668958	-1,2779871	-1,15667069	18,55250021
Confidence Level(95	0,1000231	0,12692888	0,0672515	0,095462939	0,466009121	0,1506102	0,09227972	0,995352326

* Kosovo – Under the UN Resolution 1244.

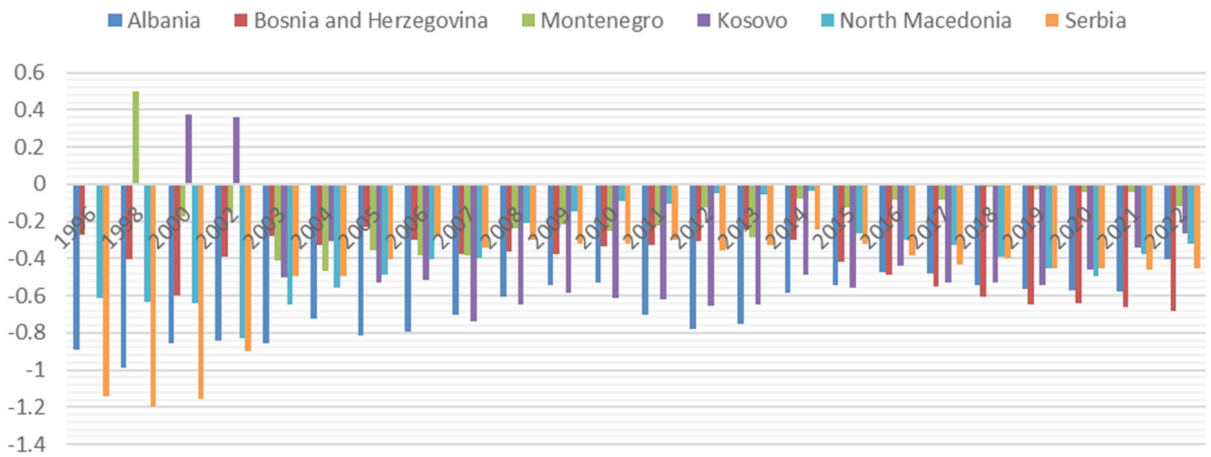
Source: Own calculations

The Control of Corruption Index measures the extent to which corruption is perceived to exist within a country's public sector and society more broadly. It reflects perceptions of bribery, embezzlement, nepotism, and other corruption among public officials and institutions. This index helps assess the effectiveness of anti-corruption measures, the integrity of public institutions, and the level of transparency and accountability in governance. Countries with higher scores on the Control of Corruption Index are perceived to have lower levels of corruption and greater integrity in their public institutions. Control of Corruption measures the effectiveness of governance systems in addressing and mitigating corruption within a country. This estimate typically ranges from approximately -2.5 to 2.5, with lower values indicating weaker governance performance in controlling corruption and higher values indicating stronger governance performance. Graph 2 shows the Control of Corruption Index for the Western Balkan countries from 1996 to 2022. Throughout the analyzed period, the Control of Corruption Index for all countries remains below 0, indicating significant challenges in fighting corruption. The consistently negative values show that corruption is a persistent and widespread problem across the Western Balkan countries, with

little to no improvement over the analyzed period. The values for this index are consistently lower than the Rule of Law Index, suggesting that corruption-related problems are even more pervasive and entrenched than those of the rule of law. This can imply that even if laws are in place, their implementation is compromised by corrupt practices.

North Macedonia's best score was in 2014, with an index of -0,0324; its worst score was -0.826 in 2002 (Graph 2). Since 2015, the Control of Corruption Index has continuously deteriorated, with the worst result in 2019 and 2020 of -0.4. This downward trend highlights increasing difficulties in managing and preventing corruption. The index slightly improved to -0.3 in 2021 and 2022, suggesting a minor recovery, but still indicating weak control of corruption. The average value of the dataset for North Macedonia is -0.34, and the median value is -0.35 (Table 1). The average index value of -0.34 indicates that, on average, North Macedonia has struggled with corruption control throughout the analyzed period. This average reflects overall weak governance in combating corruption. The median value of -0.35 closely aligns with the average, further reinforcing the persistent and pervasive nature of corruption in North Macedonia.

Comparing data for the Western Balkan countries (Table 1) shows that Kosovo* had a 0,371 Control of Corruption index in 2000. After 2002, Kosovo* recorded the most negative index among all analyzed countries in the region, indicating a significant deterioration in the control of corruption. This implies that corruption became more pervasive, and governance efforts to combat it weakened substantially. The best results are recorded for Monte Negro followed by North Macedonia, Bosnia and Herzegovina, Serbia, Albania, and Kosovo*. Despite various efforts to address it, the Control of Corruption Index for all these countries consistently falls below zero, indicating ongoing challenges in effectively combating corruption and ensuring transparent governance. Corruption remains a significant and widespread problem across the Western Balkan countries.



* Kosovo – Under the UN Resolution 1244.

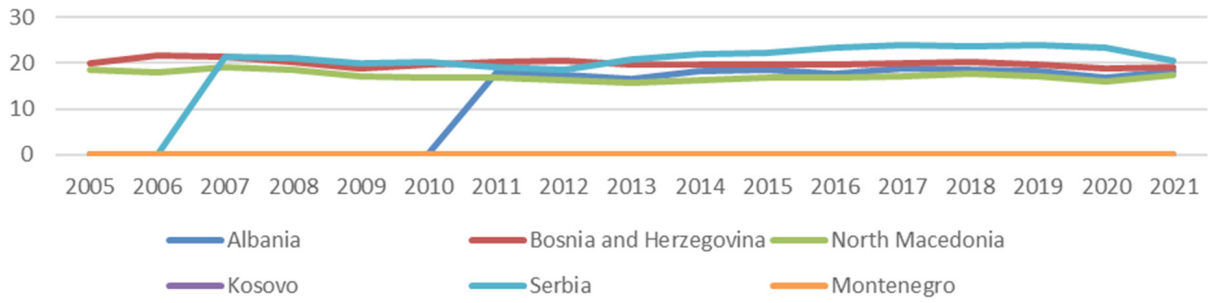
Graph 2. Control of Corruption Index

Source: Own calculations based on World Bank (2024)

Tax revenue (% of GDP) is the total tax revenue collected by the government as a percentage of the country's GDP. The tax revenue (% of GDP) represents the ratio of a country's tax revenues to its gross domestic product (GDP). This indicator measures the effectiveness of a country's tax collection system and provides insight into the government's ability to generate revenue relative to the size of its economy. Higher tax revenue relative to GDP suggests a stronger ability to finance

* Under the UN Resolution 1244.

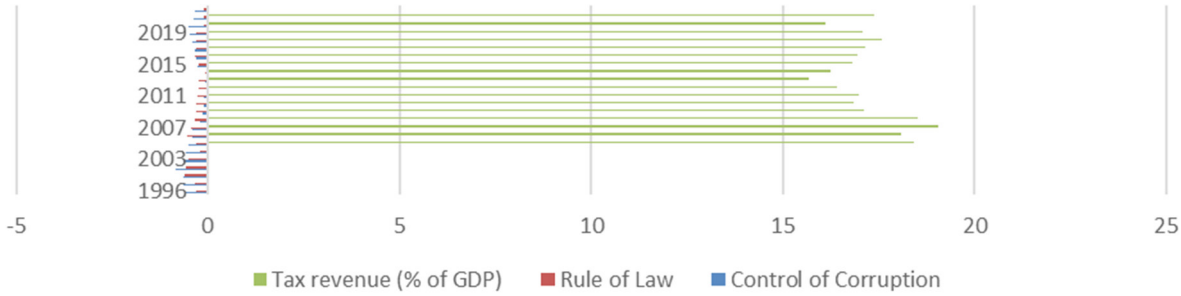
public services and infrastructure. Graph 3 shows the Tax revenue (% of GDP) for the Western Balkan countries from 2005 to 2021, out of which observations for Kosovo* and Montenegro are missing. Graph 3 shows that tax revenue as a percentage of GDP ranges between 15% and 25% in all four countries — North Macedonia, Serbia, Bosnia and Herzegovina, and Albania. At the same time, the highest percentage of participation is in Serbia (24%), followed by Bosnia and Herzegovina, then Albania, and finally North Macedonia. For the analyzed period Macedonian Tax revenue percentage ranges from 15% to 20%. The decrease in the share of tax revenue as a percentage of GDP in North Macedonia, despite overall growth in both GDP and tax revenue, can be attributed to various factors including faster GDP growth relative to tax revenue growth, tax policy changes, structural economic shifts, administrative inefficiencies, and alternative funding sources. Understanding the specific causes requires a detailed examination of financial and tax data, policies, and administrative practices. If North Macedonia undergoes a tax reform that lowers corporate tax rates to attract foreign investment, the immediate effect might be increased economic activity and GDP growth. However, the lower tax rates mean tax revenue does not increase as quickly as GDP. Graph 4 illustrates the trends in the Rule of Law Index, Control of Corruption Index, and Tax Revenue (% of GDP) for the Republic of N. Macedonia. The data clearly show when the Control of Corruption Index and Rule of Law Index are close to 0 (2014 year), Tax revenue as a percentage of GDP decreases. Further analysis suggests improvements in the Rule of Law and Control of Corruption indices correlate with increased foreign investments. A specific policy in North Macedonia to attract foreign investment involves offering tax exemptions to foreign investors. This policy has led to increased economic activity and GDP growth. However, it also results in lower tax revenue as a percentage of GDP due to the tax exemptions provided to foreign investors.



* Kosovo – Under the UN Resolution 1244.

Graph 3. Tax revenue (% of GDP)

Source: Own calculations based on World Bank (2024)



Graph 4. Trends of Rule of Law, Control of Corruption, and Tax revenue (% of GDP) in the Republic of N. Macedonia

Source: Own calculations

* Under the UN Resolution 1244.

A multiple linear regression model is used in this study to investigate the connection between the rule of law, corruption, and tax revenue performance in North Macedonia. The model uses a linear equation that relates a dependent variable to two independent variables:

$$\hat{Y} = \beta 0 + \beta 1\ X1 + \beta 2\ X2 + €$$

Where:

- $\hat{Y}$ = is the Tax revenue (% of GDP)-dependent variable
- $X1$ =is the Rule of Law index -independent variable (predictor)

$X2$ = is the Control of Corruption -independent variable (predictor)

- $\beta 0$ = is the y-intercept (constant term).
- $\beta 1, \beta 2$ = are the coefficients for the independent variables $X1, X2$
- $€$ = is the error term (residual), representing the difference between the observed and predicted values.

In the context of this study, examining the impact of the Rule of Law Index and the Control of Corruption Index on Tax revenue (% of GDP), the multiple linear regression model might look like this:

$$\text{Tax revenue (\% of GDP)} = \beta 0 + \beta 1 \times \text{Rule of Law Index} + \beta 2 \times \text{Control of Corruption Index} + €$$

Table 2. Multiple linear regression output

Regression Statistics	
Multiple R	0,712351828
R Square	0,507445127
Adjusted R Square	0,437080145
Standard Error	0,680026286
Observations	17

Source: Own calculations

Multiple R is the correlation coefficient, indicating the strength and direction of the linear relationship between the observed and predicted values of the dependent variable. A value of 0.71 suggests a strong positive correlation between tax revenue (% of GDP) and the independent variables -Rule of Law and Control of Corruption. R Square, also known as the coefficient of determination, indicates the proportion of the variance in the dependent variable -tax revenue % of GDP that is predictable from the independent variables -Rule of Law and Control of Corruption. An R^2 value of 0.507 suggests that approximately 50.7% of the variability in tax revenue can be explained by the rule of law and control of corruption indices. Adjusted R Square adjusts the R^2 value for the number of predictors in the model, providing a more accurate measure of the goodness of fit when multiple predictors are used. An adjusted R^2 value of 0.437 indicates that about 43.7% of the variability in tax revenue is accounted for by the model, considering the number of predictors and the sample size. The standard error measures the typical distance that the observed values fall from the regression line. A standard error of 0.68 suggests that, on average, the predicted tax revenue deviates from the actual tax revenue by approximately 0.68 percentage points.

Table 3. ANOVA

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	6,66981676	3,33490838	7,211614555	0,007033676
Residual	14	6,47410049	0,462435749		
Total	16	13,14391725			

Source: Own calculations

Table 3. ANOVA indicates that the regression model is statistically significant, meaning that the Rule of Law and Control of Corruption indices have a substantial relationship with North Macedonia's tax revenue (% of GDP). With an F-statistic of 7.21 and a p-value of 0.007, it can be said that the independent variables (Rule of Law and Control of Corruption) collectively explain a significant portion of the variance in tax revenue (% of GDP) for North Macedonia. The model's R^2 value of 0.507 suggests that these governance indicators account for approximately 50.7% of the variability in tax revenue.

Table 4. Estimation of the model with T-statistics and confidence intervals

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	15,51332615	0,477158096	32,51192063	1,3738E-14	14,48992382	16,53673
Rule of Law Index	-4,152179451	1,519508807	-2,732580049	0,016189119	-7,411201713	-0,89316
Control of Corruption Index	-2,035538552	1,079109636	-1,886313017	0,080169502	-4,349998533	0,278921

Source: Own calculations

Table 3 provides the coefficients, standard errors, t-statistics, p-values, and 95% confidence intervals for the intercept and the two independent variables -Rule of Law Index and Control of Corruption Index in the regression model. The intercept represents the expected value of the Tax Revenue (% of GDP) when the Rule of Law Index and Control of Corruption Index are zero. The intercept is 15.513, which is statistically significant given the extremely low P-value (much less than 0.05). The coefficient for the Rule of Law Index is -4.1522. This suggests that for every one-unit increase in the Rule of Law Index, tax revenue as a percentage of GDP decreases by approximately 4.15 units, holding the Control of Corruption Index constant. This result is statistically significant at the 5% level (P-value < 0.05). The coefficient for the Control of Corruption Index is -2.0355. This suggests that for every one-unit increase in the Control of Corruption Index, tax revenue as a percentage of GDP decreases by approximately 2.04 units, holding the Rule of Law Index constant. However, this result is not statistically significant at the conventional 5% level (the P-value is 0.080, which is greater than 0.05).

5. CONCLUSION

As tax revenue performance is crucial for governments to provide essential services and foster economic growth, it is important to understand the relationship between the rule of law, corruption, and tax revenue performance. This study focuses on the impact of the rule of law and corruption on tax revenue performance in North Macedonia, and how this relationship compares to neighboring Western Balkan countries such as Kosovo*, Serbia, Albania, Montenegro, and Bosnia and Hercegovina. The Rule of Law Index and Control of Corruption Index are two measures developed by the World Bank to assess and quantify certain aspects of governance and institutional quality within countries. Analysis of this study reveals that all Balkan countries have weak governance concerning the rule of law and corruption. Throughout the analyzed period, the Rule of Law Index and Control of Corruption

* Under the UN Resolution 1244.

Index for all countries remain below 0, suggesting that these countries face significant challenges in enforcing laws, ensuring justice, and fighting corruption, indicating a weakness in their legal and institutional frameworks. Comparing data for the Western Balkan countries shows that Montenegro has better scores, followed by North Macedonia, Bosnia and Herzegovina, Serbia, Albania, and Kosovo*. Analyses of tax revenue as a percentage of GDP show that it ranges between 15% and 25% in all four countries— North Macedonia, Serbia, Bosnia and Herzegovina, and Albania. At the same time, the highest percentage of participation is in Serbia (24%), followed by Bosnia and Herzegovina, then Albania, and finally North Macedonia. For the analyzed period Macedonian Tax revenue percentage ranges from 15% to 20%. Multiple linear regression analysis is used in this study to explore and quantify the relationship between the rule of law, corruption, and tax revenue performance in North Macedonia. The regression statistics suggest that the regression model has strong explanatory power (high R-Square and Multiple R) and provides a good fit to the data, explaining a large proportion of the variability in the tax revenue performance. A strong positive correlation exists between the rule of law and corruption and tax revenue. About half of the variance in tax revenue is explained by the rule of law and control of corruption indices. However, future research investigating the broader economic and social consequences of improved tax revenue performance, such as poverty reduction, education, and healthcare improvements, can highlight the importance of good governance. Integrating insights from economics, political science, sociology, and law can provide a more comprehensive understanding of the complex relationship between the rule of law, corruption, and tax revenue.

References

Alm, J., & Torgler, B. (2006). Cultural differences and tax morale in the United States and in Europe. *Journal of Economic Psychology, 27*, 224-246.

Ashraf, M., & Sarwar, S. (2016). Institutional determinants of tax buoyancy in developing nations. *Journal of Emerging Economies and Islamic Research,4(1)*, 62-73.

Baskaran, T., & Bigsten, A. (2013). Fiscal capacity and the quality of government in sub-Saharan Africa. World Development, 45, pp. 92-107. *World Development, 45*, 92-107.

Besley, T., & Persson, T. (2014). Why Do Developing Countries Tax So Little? *Journal of Economic Perspectives, 28(4)*, 99-120.

Biscione, A., & Muco, K. (2021). The impact of corruption and good governance on the economic growth of the Balkan countries. *Journal Transition Studies Review, 28(2)*, 81-92.

Clotfelter, C. T. (1983). Tax evasion and tax rates. *Review of Economics and Statistics, 65(3)*, 363-373.

Durham, Y., Manly, T. S., & Ritsema, C. (2014). The effects of income source, context, and income level on tax compliance decisions in a dynamic experiment. *Journal of Economic Psychology, 40*, 220-233.

Garcia, M. M., & Von Haldenwang, C. (2016). Do democracies tax more? Political regime type and taxation. *Journal of International Development,28(4)*, 485-506.

Imam, P., & Jacobs, D. (2014). Effect of Corruption on Tax Revenues in the Middle East. *Review of Middle East Economics and Finance, 10 (1)*, 1-24.

IMF. (2017). *Corruption, Taxes and Compliance.* Baum, A., Gupta, S., Kimani, E. and Tapsoba, S. J.

Kogler, C., Mittone, L., & Kirchler, E. (2016). Delayed feedback on tax audits affects compliance and fairness perceptions. *Journal of Economic Behavior &Organization, 124 (C)*, 81-87.

Miloshoska, D. (2016). Security Roll of the Macedonian Customs. *European Journal of Law and Political Sciences*, 16-20.

Miloshoska, D. (2018). Customs and Corruption: the case of the Republic of Macedonia. *Conference proceedings of the international scientific conference "Towards a Better Future: The Rule*

* Under the UN Resolution 1244.

of Law, Democracy and Polycentric Development" Volume 2 (str. 110-121). Bitola: Faculty of Law - Kicevo, "St. Kliment Ohridski" University - Bitola.

Miloshoska, D. (2022). Integrity and corruption problem in Macedonian customs. *SECURITY HORIZONS* (str. 155-161). Skopje: University "St. Kliment Ohridski"-Bitola, Faculty of Security- Skopje.

Miloshoska, D., Trajkov, A., & Karadjova, V. (2024). Measuring customs revenue performance: insights from Macedonia. *8th International Scientific Conference on Economics & Management: EMAN 2024.* Rome: Faculty of Economics, University of Rome Tor Vergata, Italy.

Miloshoska, D., & Vasileska, L. (2022). Integrity in customs administrations-the case of Republic of Macedonia. *International Scientific Journal HORIZONS, Series A Social Sciences and Humanities*, 43-52.

Nnyanzi, J. B., Babyenda, P., & Bale, J. M. (2016). Nnyanzi, J. B., Babyenda, P. and Bale, J. M., 2016. Regional economic integration and tax revenue: East African community. *Journal of Economic Integration, 31(4)*, 932-967.

Simbachawene, M. S. (2018). Improving tax revenue performance in Tanzania: Does potential tax determinants matters? *Journal of Finance and Economics, 6(3)*, 96-102.

Syadullah, M. (2015). Governance and tax revenue in Asean countries. *Journal of Social and Development Sciences, 6(2)*, 76-88.

World Bank. (2024). *Worldwide Governance Indicators.*

World Bank. (2024). *World Development Indicators.*