

Determinants of labour force migration: Evidence from the Western Balkans

Atdhetar Gara , Besnik Fetai 

Faculty of Business and Economics, South East European University, Tetovo, North Macedonia,
email: ag31418@seeu.edu.mk

Abstract

This paper empirically analyses the determining factors of the growth in the migration rate in the countries of the Western Balkans. The analysis is carried out with panel data over 17 years from 2005 to 2021. The purpose of this paper is to analyse social variables such as unemployment and standard of living, and political variables such as corruption, political stability, government effectiveness, rule of law and the level of corruption in the migration of citizens. For this purpose, we employ different econometric models and techniques such as OLS, OLS robust fixed and random effects models, and GMM (generalized method of moments). The study's findings demonstrate that high levels of unemployment in the Western Balkan region are the primary cause of the surge in migration; thus, large levels of labour force migration are also present in these countries. The findings also show that variables related to the political situation have statistical significance in reducing migration. The paper does not find a statistically significant influence of the level of corruption on migration. The recommendations for the countries of the Western Balkan region are to create long-term sustainable employment policies and increase wages as preventive measures for migration.

Keywords: migration, unemployment, corruption, political stability, Western Balkans

JEL Codes: F22, J64, E24, D73, D74, H11, P26

1. Introduction

Many studies have examined labour force migration, mainly focusing on countries that are still developing since in these countries there are higher trends of labour force migration which comes mainly from the high rate of unemployment and low wages, but migration from developing countries also happens for political reasons, high corruption, etc. Most of the research shows that

unemployment and low wages are the main factors that push the workforce towards migration (Prenaj, 2017; Jusufi and Ukaj, 2020; Kilic et al., 2019; Eggert et al., 2007; Piyapromdee, 2021; Détang-Dessendre et al., 2004). However, few works have been conducted for the region of Western Balkans regarding labour force migration. A high unemployment rate characterizes the labour market in the area that was chosen. The problem of unemployment is a significant one since it has both a political and economic impact on society. A significant number of authors have, throughout many years, written about the challenges that the labour market poses, with a particular focus on unemployment. In terms of the circumstances and developments of the labour markets, the economies of the Western Balkan countries share a significant number of parallels. They have a significant obstacle in the form of a high unemployment rate (Vladi, 2019).

This work includes six countries of the Western Balkans in which the problem of migration is extremely serious, and which have been facing this problem for several decades. Specifically, the study is carried out for Albania, Kosovo, Montenegro, Bosnia and Herzegovina, North Macedonia, and Serbia.

The research questions of the present paper are:

1. What is the impact of the unemployment rate on the growth of migration in the Western Balkan region?
2. Apart from social factors, do political factors also contribute to the increase in labour force migration?

To examine the determinants of migration, the following hypotheses were raised:

H1: Unemployment is the key factor in the growth of migration in the countries of the Western Balkans.

H2: Political factors such as corruption, political situation and government effectiveness have a significant impact on labour migration.

To test the hypotheses, econometric models were applied using different methods, starting from the OLS and OLS robust models. Since the data of this paper belong to the panel type, three other models were also applied: fixed-effect method, random-effect method and GMM. The data for the realization of the empirical analysis were obtained from the World Bank and Global Economy databases and in cases where we encountered a lack of data, the data were obtained from the statistical entities of the six study countries.

Many writers have studied labour migration in both rich and developing countries, but their attention has primarily been on economic and social variables; our contribution to this mass of knowledge is based on the analysis of political factors. There are very few empirical works (especially in the Western Balkan region) that provide empirical evidence regarding the influence of political factors.

In conclusion, this study's findings indicate that average migration rates in the Western Balkan countries are 6.05% and that the unemployment rates in these countries are exceptionally high at an average of 22.8%. The impact of the unemployment rate on the growth of migration is positive; at the same time, this is the main factor in the growth of migration, while the variables related to the political situation have statistical significance in the migration of the population. An interesting finding of the paper is that we have not discovered a statistically significant influence of corruption on migration.

The paper is structured into six parts, where the next part presents the literature review, which contains scientific publications relevant to our research, emphasizing the findings of other authors who have theoretically and empirically examined determinants of migration. The third part of the study contains the methodology; the fourth part presents the empirical results; the fifth part presents a discussion of the paper; and the sixth part includes the conclusions derived from the results.

2. Literature Review

Numerous studies have examined the factors that affect workers' decisions to migrate to countries where it is easier to find employment, earn a higher salary and live better; these studies primarily concentrate on macroeconomic and social factors such as unemployment, wages, and inflation (Baumann, 2015; Cattaneo, 2008; Détang-Dessendre, 2004; Kilic, 2019). The political elements that have an impact on the increase of migration are corruption, political stability, and government effectiveness; nevertheless, there are very few studies that consider political factors in addition to social factors (Dimand et al., 2013; Poprawe, 2015; Nifo and Vecchione, 2014; Czaika and De Haas, 2013).

Stark (2009) analysed the relationship between poverty and the growth of migration, the analysis was carried out at the regional level 16 different regions of Poland. The author used multiple linear regression analysis. According to the study, there is a substantial positive association between the Gini coefficient and the migration rate that keeps the income per capita constant.

Cattaneo (2008) examined the determinants of migration in Albania, where the factors studied were the unemployment rate and the salary level. The paper provided a test of the Harris-Todaro approach at the aggregate district level, estimating a migration equation. The author's findings show that both wage differentials and unemployment differentials are important determinants of the propensity to migrate to/from Albania. This conclusion is further emphasized by noting that migrants gain significantly in terms of higher returns to individual characteristics after emigration.

According to Kilic (2019), the literature looking at the connection between migration and unemployment primarily focuses on how migration affects labour markets. On the nature and scope of internal and external migration's impact on unemployment, there is no widely held consensus. The author's study of the connection between migration and unemployment rates included 23 OECD countries. The author employed the panel data model with fixed effects and found that migration and economic growth have a negative and statistically significant influence on unemployment. The consumer price index and average earnings have a positive but statistically negligible effect.

Baumann (2015) conducted a second study to look at the effect of unemployment on migration. The author contended in a theoretical model that migration is unaffected by unemployment on its own. Migration, on the other hand, only happens when unemployment shocks drive locals to revise their estimates of the unemployment rate. Once these assumptions are altered, migration redistributes labour to restore the economic equilibrium. Using state-level data from the USA from 2000 to 2010, an empirical technique was created to evaluate this theory. The author used empirical methodology, applying several types of models, starting with the simplest models such as OLS and OLS robust, but to give more accurate and reliable results, he also used panel models such as the fixed-effect model and the random-effect model. The author estimated that the impact of unexpected unemployment shocks is over 25 times greater than the impact of unemployment shocks that are within expectations.

Sengupta (2013) conducted a study on India using data from the country's national survey office. The research examined whether rural workers leaving their communities is a viable strategy to combat poverty. The study also examined, using the logit model, the probability impact of urban and rural migration on the poverty of immigrant families residing in urban regions. The study looked into the causes of temporary or long-term migration to metropolitan areas. According to the results of the empirical analyses, several factors are pushing rural workers to relocate to cities in pursuit of employment, including lack of education, the demands of large families, low ownership, and lack of income.

The study by Poprawe (2015) analysed the relationship between the rate of migration and the level of corruption. The research was carried out with cross-section data, which included 130 countries. The author's findings showed that corruption and the level of education in the country of origin explain migration. Thus, corruption is a very important factor driving migration. Cooray and Schneider (2016) investigated the effect of the level of corruption on labour force emigration; the research was carried out for individuals with low, medium, and high skills. For the empirical analysis, a model with the fixed-effect method and the GMM method was used. The findings showed that the increase in the level of corruption has an impact on the increase in the emigration of individuals from the labour force with high skills. The authors suggested that government action should focus on controlling corruption to prevent brain drain.

Fine (2019) showed how the policies of the European Union, particularly the fiscal policies and the aid distributed to the population have a great impact on migration within the European Union countries. The author dealt with how residents move within the EU countries depending on which country offers the most favourable policies and higher government effectiveness. On the other hand, the study emphasized that even the key group of countries, in terms of state policies from 2015 onwards, tends to reduce migration. The methodology described by the author was primarily qualitative and interdisciplinary. Fine drew from a variety of sources, including case studies, policy documents, academic research and interviews with migrants, relief workers and policymakers. Fine also used critical theory and political philosophy to analyse the ethical and political dimensions of migration and development aid.

From the presentation of other authors' findings related to labour force migration, we see that the authors' focus has been mainly on the influence of social and economic variables as a driving factor of migration. There are very few works that deal with the political situation and other aspects directly and indirectly related to governance as a factor that has a significant contribution in pushing the workforce to migrate. From the review of the presented literature, we see that mainly the OLS, OLS robust, fixed-effect and random-effect models have been used to investigate the variables that affect labour force migration, but these types of models have their drawbacks, since they do not test the deviations in between different countries in the model and they cannot control for the endogeneity of the variables. To eliminate these problems and to accurately assess the impact of social, economic, and political factors on labour force migration, the GMM model is used in this work.

3. Methodology

To analyse the determining factors of migration in the countries of the Western Balkans, panel data were used, and five econometric models were applied; the first model executed is based on the ordinary least squares (OLS) method, the second model – on ordinary least squares robust (OLSR). The following models are used for panel data: fixed-effect (FE), random-effect (RE) and generalized method of moments (GMM). Besides the GMM model used for the analysis of the results, the four other models (OLS, OLSR, FE and RE) were used for data comparison between the executed models.

3.1 Research methodology

The empirical analysis includes 17 years; specifically, the empirical analysis is developed with data for the period 2005–2021 and includes six countries of the Western Balkan region. For testing the factors that influence migration, the GMM model is used, while the tests applied are based on Arellano and Bond (1991), Blundell (2000), and Vicente et al. (1999).

A GMM model is a statistical representation of a number of Gaussian distributions working in concert to match a specific set of data. By assuming that the data are produced from a combination of various Gaussian distributions rather than simply a single Gaussian distribution, the GMM attempts to represent the underlying structure of the data. Clustering is one of the areas where GMM models are most often used. To cluster a collection of items, they must be grouped so that they are more similar to one another than to those in other groups. When the data have a complicated structure and cannot be well described by a single Gaussian distribution, GMM models are especially well suited for clustering. In these circumstances, by combining a variety of Gaussian distributions, GMM models may be used to approximate the underlying structure of the data. The data are utilized to learn the number of Gaussian distributions and their parameters, which may subsequently be used to cluster the data into several groups. Density estimation is one of the many useful applications of GMM. The job of estimating the underlying probability density function of a given collection of data is known as density estimation. When the data has a complicated structure and cannot be well described by a single Gaussian distribution, GMM models are especially well suited for density estimation. In these circumstances, the underlying density of the data may be modelled using GMM by fitting a concatenation of several Gaussian distributions to the data. Anomaly detection, classification and clustering are just a few examples of the tasks for which the developed model may be beneficial. The model may also be used to predict the density of fresh data points. Anomaly detection may also be done using GMM models. Finding data points that are considerably different

from the rest of the data is the work of anomaly detection. It is critical to identify anomalies for further study since there may occasionally be mistakes or outliers in the data. By initially fitting a variety of Gaussian distributions to the data, GMM may be utilized for anomaly detection. The model can then be used to find data points that deviate considerably from the rest of the data. This may be achieved by assigning each data point a probability score and designating those with low likelihood values as anomalies.

The validity of the instrument sets used by the GMM estimator is directly related to the estimator's level of dependability. To solve this problem, we look at two different specification tests that were proposed by Arellano and Bond (1991), Blundell (2000), and Vicente et al. (1999). The first test is the Sargan test, which examines the validity of the alternative hypothesis that over-identification limitations do not apply or that instruments as a group are exogenous.

By examining the sample analogue of the moment circumstances that are used in the estimate process, this examination either validates the instruments as a whole or refutes their claims to do so. The second test investigates the hypothesis that there is no autocorrelation, which indicates that the error terms do not have a sequential association with one another. In the difference regression, we check to see whether the differenced error term is serially uncorrelated in either the first order or the second order. The specification of the dynamic panel data model (GMM) is as follows:

$$\begin{aligned}
 MIG_{it} = & \mu + MIG(it-1) + B1(UNE_{it}) + B2(CORR_{it}) + B3(RLAW_{it}) + \\
 & + B4(GOVEF_{it}) + B5(POLS_{it}) + B6(GDPC_{it}) + \delta_i + \gamma_i + \varepsilon_i
 \end{aligned} \tag{1}$$

The dependent variable of the study is migration (MIG), which is expressed as a percentage of the total population, the parameters represent the countries and t represents the time or the years in which μ is a constant term. The following are the independent or explanatory variables: $MIG(it-1)$ is the first lag of the dependent variable; UNE stands for unemployment, which, in accordance with research and conclusions from various authors, is one of the primary drivers of labour force migration; next, factors related to the political system are presented: GOVEF represents the effectiveness of the government as given in an index, POLS represents the country's political stability as expressed in an index and RLAW represents the variable of the operation of the law as expressed in an index. The GDPC lists the countries' standards of living as one of the possible triggers for labour force movement. With the use of the term δ_i , or the country fixed effect, we are able to account for time-invariant unobservable factors that might have an impact on economic growth and, in the absence of such controls, could distort coefficients. The business cycle effect is covered by the term γ_i , which prevents erroneous regression between the dependent variable and explanatory factors. The term ε_i represents standard error.

We employed explanatory variable instruments that are uncorrelated with any past or present error term to address the endogeneity issue and obtain a weak form of exogeneity. GMM dynamic panel data employ the moment of condition given that the explanatory factors are only marginally exogenous and that the error term is serially uncorrelated:

$$E[y_{it-s} \cdot (\mu_{it} - \mu_{it-1})] = 0 \quad \text{for } s \geq 2 : t = 3, \dots, T \quad (2)$$

$$E[UNE_{it-s}, CORR_{it-s}, Z_{it-s}, RLAW_{it-s} \cdot (\mu_{it} - \mu_{it-1})] = 0 \quad (3) \\ \text{for } s \geq 2 : t = 3, \dots, T$$

To provide reliable and efficient parameter estimates, we employ the GMM process, instruments that were two periods behind (i.e., $t - 2$) and the moment of conditions in Equation (3). Using the Sargan test, we evaluate the GMM estimator validity.

3.2 Descriptive statistics

In Table 1, we provide basic summary statistics of the variables; the research is carried out with a total of 102 observations. The Western Balkan region has an average migration rate of 6.05% of the population, which is regarded as a higher number according to the data supplied. This region is also marked by a high unemployment rate, with an average rate of 22.8%. The variables related to the political system, the level of corruption, the functioning of the law, the effectiveness of the government and political stability have average values from the presented indices. The paper also includes the variable income per capita, where according to the presented results, the average of this indicator in the Western Balkan region is 4755.7 USD.

The data provided in Table 2 offer a nuanced view of key socio-economic and political factors influencing migration in six Western Balkan countries: Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Montenegro, and Serbia. The migration rates vary significantly, with Montenegro and Serbia showing the highest percentages at 13.41% and 9.39%, respectively. Kosovo exhibits a notable migration rate of 3.59%, while Bosnia and Herzegovina has the lowest at 1.18%. Unemployment emerges as a crucial determinant, with Kosovo having the highest rate at 34.45%, possibly driving individuals to seek opportunities abroad. Montenegro, with the lowest unemployment rate, experiences the highest migration rate, suggesting that factors beyond unemployment such as political factors play a role in migration decisions.

Table 1: Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
MIG	102	6.05	4.28	1.03	13.89
UNE	102	22.80	8.69	9.01	47.5
CORR	102	-0.23	0.35	-0.81	0.89
RLAW	102	-0.27	0.17	-0.95	0.02
GOVE	102	-0.16	0.29	-1.04	0.35
POLS	102	-0.15	0.37	-1.16	0.82
GDPC	102	4755.77	1163.87	2675.51	7684.18

Source: authors' calculations using STATA

Corruption perception and governance effectiveness also contribute to the migration landscape. Interestingly, Kosovo stands out with a positive corruption index, indicating a lower perception of corruption compared to the other countries. Montenegro, with positive scores in government effectiveness and political stability, presents a relatively stable and well-functioning governance environment. In contrast, Bosnia and Herzegovina faces challenges in these dimensions, reflected in its low scores, which may contribute to its lower migration rate. The GDP per capita further emphasizes economic disparities, with Montenegro having the highest at 6359.53 USD and Kosovo the lowest at 3518.98 USD.

Table 2: Descriptive statistics by countries of Western Balkans

Country	MIG	UNE	CORR	RLAW	GOVE	POLS	GDPC
Albania	2.35	14.37	-0.61	-0.46	-0.19	0.02	3790.62
Bosnia and Hercegovina	1.18	24.36	-0.41	-0.29	-0.66	-0.47	4573.35
Kosovo	3.59	34.45	0.40	-0.24	-0.07	-0.17	3518.98
North Macedonia	6.43	28.31	-0.26	-0.27	-0.10	-0.33	4591.89
Montenegro	13.41	19.17	-0.16	-0.07	0.10	0.27	6359.53
Serbia	9.39	16.91	-0.35	-0.30	-0.09	-0.21	5597.29

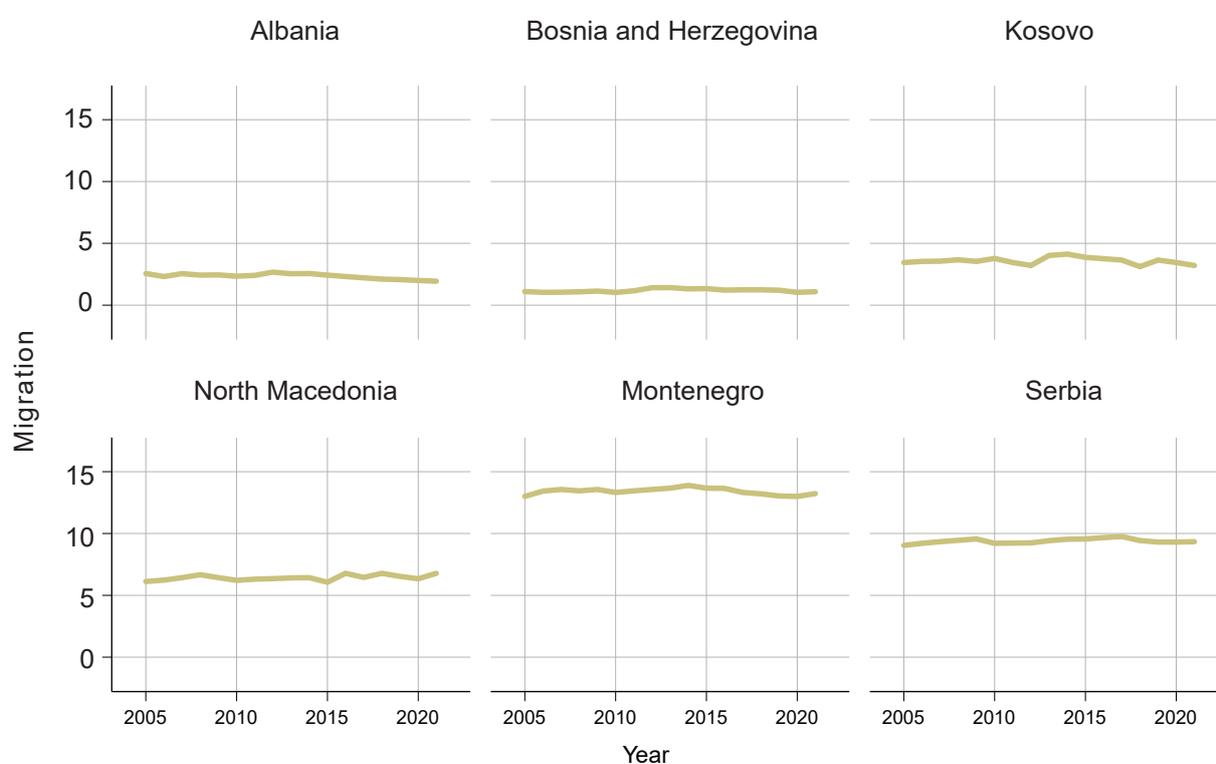
Source: authors' calculations using STATA

4. Empirical Data and Analysis

In this chapter, we will present the results of the econometric models for measuring the impact of independent variables on labour force migration in the countries of the Western Balkans (Albania, Kosovo, North Macedonia, Bosnia and Herzegovina, Montenegro, and Serbia).

Figure 1 shows migration in the six countries. According to the data presented in this figure, the countries with the highest migration are Montenegro and Serbia, while Bosnia and Herzegovina together with Albania have lower levels of migration. Kosovo and North Macedonia have average levels of migration in this region during the research period (2005–2021).

Figure 1: Migration in countries of Western Balkans



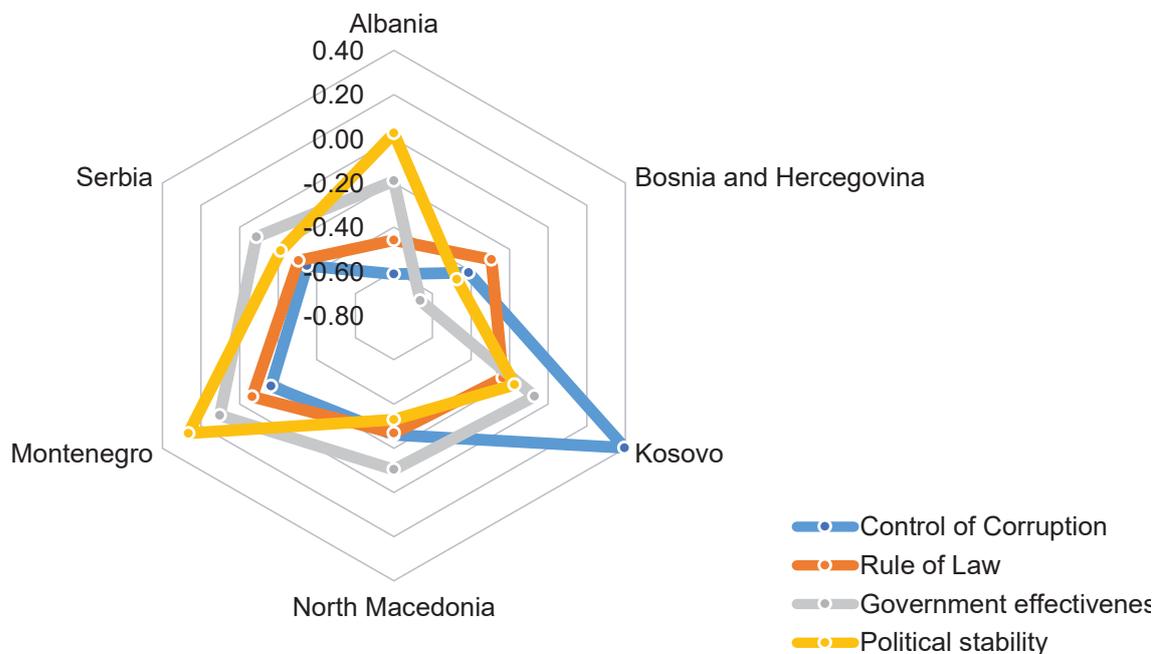
Source: authors' calculation using STATA

The data presented in Figure 2 provide insights into the governance and stability of several West Balkan countries across four key dimensions. Firstly, examining control of corruption, Albania and Bosnia and Herzegovina exhibit notably negative scores, implying a higher prevalence of corruption, while Kosovo and Montenegro show more positive scores, indicating relatively lower levels of corruption. Secondly, in terms of the rule of law, Bosnia and Herzegovina

faces significant challenges, reflected in its low score, while Montenegro stands out with a slightly positive score, suggesting a comparatively better adherence to the rule of law.

Moving on to government effectiveness, Bosnia and Hercegovina again records a remarkably low score, highlighting substantial difficulties in the functionality of its government. Montenegro, on the other hand, demonstrates a positive score, indicating a relatively effective government. Finally, when considering political stability, Bosnia and Hercegovina once more stands out with a considerably negative score, signifying substantial challenges in maintaining political stability. Montenegro, in contrast, shows a positive score, suggesting a more stable political environment.

Figure 2: Radar map of control of corruption, rule of law, government effectiveness and political stability values by countries



Notes: the values are presented as the average of the period 2005–2021

Source: authors' calculations

Table 3 reports the results of the panel data model estimation in the transition countries of the Western Balkans. The table presents a summary of the econometric results from the five executed models, but for the interpretation of the results we will take as a basis the results obtained from the GMM model. The findings demonstrate the thorough specification of all the estimated dynamic panel models. The Sargan test for identifying constraints (obtained from the findings of the second phase) is acknowledged as a reliable tool. It supports

the claim that there is no relationship between the instrument variables and the residuals. In the first order, the Arellano-Bond test of AR(1) and AR(2) is refused; in the second order, it is approved.

Table 3: Results of econometric models

Variable/model	OLS	OLSR	FE	RE	GMM
UNE	0.257*** (5.63)	0.257*** (6.43)	0.0178* (2.55)	0.257*** (5.63)	0.088*** (4.17)
CORR	-0.401 (-0.41)	-0.401 (-0.43)	-0.0511 (-0.37)	-0.401 (-0.41)	-2.267 (-0.65)
RLAW	-11.91*** (-5.61)	-11.91*** (-6.49)	0.259 (1.00)	-11.91*** (-5.61)	-0.408*** (5.31)
GOVE	5.093*** (5.40)	5.093*** (4.86)	0.122 (0.85)	5.093*** (5.40)	0.039** (3.06)
POLS	-2.987*** (3.93)	-2.987*** (3.52)	-0.125 (1.35)	-2.987*** (3.93)	-1.013** (3.77)
GDPC	0.00409*** (12.03)	0.00409*** (13.85)	0.000194** (2.85)	0.00409*** (12.03)	0.000386*** (11.09)
L.MIG					0.678*** (5.00)
_cons	21.28*** (7.62)	21.28*** (9.61)	7.508*** (15.17)	21.28*** (7.62)	2.161*** (7.60)
N	102	102	102	102	96
Arellano-Bond test for AR (1)					0.045
Arellano-Bond test for AR (2)					0.970
Sargan					176.31
VIF	2.89				
Hetttest	0.4517				

Notes: t statistics in parentheses, * p<0.1, ** p<0.05, *** p<0.01.

Source: authors' calculations using STATA

Based on the results of the GMM model presented in Table 2, an increase in unemployment by 1% will have a positive impact of 0.08% on migration growth; the coefficient is significant at the 1% level. This result is consistent with the results of Cattaneo (2008) and Kilic (2019), as both authors find that unemployment is a very important factor in the growth of migration in developing countries. The results show that corruption hurts migration with a negative coefficient; these results are not in line with Poprawe (2015), who found a positive relationship between corruption and migration. Regarding the other variables presented in relation to the country's politics, for every 1-unit increase in the rule of law index, the migration rate decreases by 0.40% (the coefficient is significant at the 1% level), for every 1-unit increase in the government effectiveness index, migration increases by 0.03% on average, and for every 1-unit increase in the political stability index, the migration rate in the countries of the Western Balkans decreases by 1.01% (the last two coefficients are statistically significant at the 5% level). These results are compatible with the findings of Fine (2019). Finally, the per capita income variable is presented, where for every \$1 increase in per capita income, migration increases by 0.0003% on average.

5. Discussion

This research explored the key determinants influencing labour force migration in the Western Balkans, a region that has received relatively less attention in academic literature. By using a comprehensive econometric approach, this study aimed to discern the complex relationships between various economic, political, and social factors and migration trends in this region.

Unemployment emerged as a significant contributor to increased migration, consistent with prior research conducted in developing countries. For every 1% increase in unemployment, migration growth increased correspondingly by 0.08%. This echoes the findings of both Cattaneo (2008) and Kilic (2019), reinforcing the widely held view that high unemployment rates can incentivize workers to seek employment elsewhere, thereby spurring migration.

In terms of corruption, our results interestingly contradict findings of Poprawe (2015). While Poprawe suggested a positive correlation between corruption and migration, our study found that higher levels of corruption tend to discourage migration, underlining the potential deterring role that corruption may play in migratory decisions.

The research also accounted for various political indices, such as rule of law, government effectiveness and political stability. The study demonstrated that improvements in rule of law and political stability are correlated with a decrease in migration rates, while an increase in government effectiveness marginally amplifies migration. These results, found to be significant

at respective levels, align with the findings of Fine (2019), highlighting the significant influence of political conditions on labour force migration patterns.

Finally, per capita income also revealed a positive association with migration. This finding suggests that even minor improvements in income can lead to increased migration, possibly due to the increased capability of individuals to finance their relocation, or an indicator of overall economic growth leading to more international opportunities.

These findings indicate that migration is a multifaceted issue, influenced by an array of interconnected factors. While this research has contributed valuable insights into understanding the migration dynamics in the Western Balkans, it also points to the need for further studies to examine these relationships in more depth and to explore other potential factors not addressed in this study.

Understanding these intricacies is crucial for policymakers, as it could guide them in formulating effective policies to manage migration and mitigate any adverse effects. For instance, reducing unemployment and improving political conditions, such as enhancing rule of law and government effectiveness, could potentially lower the migration rates in these countries.

This research opens new avenues for future studies to delve deeper into these dynamics and to extend the analysis to other under-explored regions, contributing to a more comprehensive understanding of global migration patterns.

6. Conclusion

Labour migration in a society can have different effects. Keeping the workforce within a country can help develop the country's economy. The workforce that works and lives within a country will contribute to the growth of the country's production and help increase the GDP. Retaining the workforce in the country can help develop a stronger and more conscientious culture in the country. A workforce that lives and works within a country will help develop a culture that values and respects work and will help develop a more responsible society.

The results of this empirical study, which covered the Western Balkan countries for a period of 17 years (2005–2021), reveal that migration and high rates of unemployment are prevalent in these countries. According to the presented results, an increase in the unemployment rate had the greatest impact on raising the rate of migration in the countries of the Western Balkans by 0.08%, the coefficient being statistically significant. This was in line with the findings of other authors and the paper has enough statistical support for the first hypothesis, "Unemployment is the key factor in the growth of migration in the countries of the Western Balkans". Regarding

the second hypothesis of the paper “Political factors such as corruption, political situation and government effectiveness have a significant impact on labour migration”, there is also sufficient statistical evidence to accept, as three variables related to political factors show a statistically significant impact on the rate of migration of the workforce.

In summary, the unemployment rate has the greatest influence on the departure of the workforce from the countries of the Western Balkans, while the political factor also has an important influence in this direction. This paper is a good basis for future research that can add the variable of education to see the trend of migration among the population with a high education level. Based on the results presented in the paper, we recommend that the countries of the Western Balkans create long-term policies for generation of new jobs such as attracting investments; besides, these countries can also undertake policies to increase wages as a measure to prevent leaving to citizens from the country. The limitations of the paper may include its limited generalizability, reliance on quantitative data without qualitative data and the exclusion of other potential factors that might affect labour migration.

References

- Arellano, M., Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *The Review of Economic Studies*, 58(2), 277–297. <https://doi.org/10.2307/2297968>
- Baumann, R., Svec, J., Sanzari, F. (2015). The Relationship between Net Migration and Unemployment: The Role of Expectations. *Eastern Economic Journal*, 41(3), 443–458. <https://doi.org/10.1057/ej.2014.44>
- Blundell, R., Bond, S. (2000). GMM Estimation with Persistent Panel Data: An Application to Production Functions. *Econometric Reviews*, 19(3), 321–340. [https://doi.org/10.1016/S0731-9053\(00\)15003-0](https://doi.org/10.1016/S0731-9053(00)15003-0)
- Cattaneo, C. (2004). The Determinants of Actual Migration and the Role of Wages and Unemployment in Albania: An Empirical Analysis. <https://ageconsearch.umn.edu/record/331187>
- Cooray, A., Schneider, F. (2016). Does Corruption Promote Emigration? An Empirical Examination. *Journal of Population Economics*, 29, 293–310. <https://doi.org/10.1007/s00148-015-0563-y>
- Czaika, M., De Haas, H. (2013). The Effectiveness of Immigration Policies. *Population and Development Review*, 39(3), 487–508. <https://doi.org/10.1111/j.1728-4457.2013.00613.x>
- Détang-Dessendre, C., Drapier, C., Jayet, H. (2004). The Impact of Migration on Wages: Empirical Evidence from French Youth. *Journal of Regional Science*, 44(4), 661–691. <https://doi.org/10.1111/j.0022-4146.2004.00353.x>
- Dimant, E., Krieger, T., Meierrieks, D. (2013). The Effect of Corruption on Migration, 1985–2000. *Applied Economics Letters*, 20(13), 1270–1274. <https://doi.org/10.1080/13504851.2013.806776>

- Jusufi, G., Ukaj, M. (2020). Migration and Economic Development in Western Balkan Countries: Evidence from Kosovo. *Poslovna Izvrsnost*, 14(1), 135–158. <https://doi.org/10.22598/pi-be/2020.14.1.135>
- Kilic, C., Yucesan, M., Ozekicioglu, H. (2019). Relationship between Migration and Unemployment: Panel Data Analysis for Selected OECD Countries. *Montenegrin Journal of Economics*, 15(3), 101–111. <https://doi.org/10.14254/1800-5845/2019.15-3.7>
- Latek, M. (2016). Growing Impact of EU Migration Policy on Development Cooperation. EPRS: European Parliamentary Research Service.
- Nifo, A., Vecchione, G. (2014). Do Institutions Play a Role in Skilled Migration? In the Case of Italy. *Regional Studies*, 48(10), 1628–1649. <https://doi.org/10.1080/00343404.2013.835799>
- Piyapromdee, S. (2021). The Impact of Immigration on Wages, Internal Migration, and Welfare. *The Review of Economic Studies*, 88(1), 406–453. <https://doi.org/10.1093/restud/rdaa029>
- Poprawe, M. (2015). On the Relationship between Corruption and Migration: Empirical Evidence from a Gravity Model of Migration. *Public Choice*, 163(3–4), 337–354. <https://doi.org/10.1007/s11127-015-0255-x>
- Prenaj, B. (2017). Labor Force Participation in Western Balkans: New Evidence and Key Determinants. In *1st International Scientific Conference "Knowledge Based Society as a Strategy for Faster Economic Growth"* (Vol. 1).
- Sengupta, A. (2013). Migration, Poverty and Vulnerability in the Informal Labour Market in India. *The Bangladesh Development Studies*, 99–116.
- Stark, O., Micevska, M., Mycielski, J. (2009). Relative Poverty as a Determinant of Migration: Evidence from Poland. *Economics Letters*, 103(3), 119–122. <https://doi.org/10.1016/j.econlet.2009.02.006>
- Vladi, E., Hysa, E. (2019). The impact of Macroeconomic Indicators on Unemployment Rate: Western Balkan Countries. In *International firms' economic nationalism and trade policies in the globalization era* (pp. 158–181). IGI Global. <https://doi.org/10.4018/978-1-5225-7561-0.ch009>
- Eggert, W., Krieger, T., Meier, V. (2007). Education, Unemployment and Migration. <http://doi.org/10.2139/ssrn.1021958>
- World Bank Data. (2023). Retrieved from <https://data.worldbank.org/>
- The Global Economy Data. (2023). Retrieved from <https://www.theglobaleconomy.com/>

Appendix

Table A1: Definition of study variables

Type	Variable	Abbreviation	Unit
Social	Unemployment	UNE	%
	GDP per capita	GDPC	\$
Political	Control of corruption	CORR	index (-2.5; 2.5)
	Rule of law	RLAW	index (-2.5; 2.5)
	Government effectiveness	GOVE	index (-2.5; 2.5)
	Political stability	POLS	index (-2.5; 2.5)