



Corruption and Human Development Correlation in Western Balkan Countries

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Abstract: The Western Balkan countries are characterized by a series of obstacles in economic, politics and social aspects. A country's progress is measured by different components but the most important one is the economic growth which in the Western Balkans is not very satisfactory. In these last years, instead of economic growth, the economic development is found to be a better index since it includes not only the quantitative issue (income level) but also the qualitative one (health and education level). From the other side, corruption level is found to be a negative indicator in this group of countries. Different researches have founded out a negative relationship between corruption level and countries' progress. The aim of this study is to identify the relationship between corruption level and human development. A regression analysis and a comparison of the degree of this relationship are performed for each Western Balkan county¹ during years 2002-2010. The main result of this study is that the relationship between corruption and human development is found to be strong in Former Yugoslav Republic of Macedonia, Serbia, Montenegro and Albania. Croatia shows a weak relationship whereas the relationship in Bosnia and Herzegovina's case is meaningless.

Keywords: corruption level; human development; regression analysis; Western Balkans

JEL Classification: O15

“Integration should promote convergence among participating countries independent of their income level (developed or developing countries). The same idea is also supported for the discussion of international (to create an integrated national economy), multinational (to create an integrated regional economy) or worldwide integration (to create an integrated world).”

(Machlup F. 1976²).

1. Introduction

The Thessaloniki Summit of June 2003 reconfirmed the European perspective for the Western Balkans countries (Albania, Bosnia and Herzegovina, Croatia, Montenegro and Serbia, and the Former Yugoslav Republic of Macedonia) as potential EU candidates. The EU is basing the reports regarding the performance of these countries toward the fulfillment of the Copenhagen criteria, which are:

- Macroeconomic stability;
- Liberalization of prices and trade;
- Restrictions on access to markets and the withdrawal of it;

¹ The countries to be used in this regression analysis are: Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia and Former Yugoslav Republic of Macedonia excluding Kosovo since there do not have available data.

² Machlup, F. (1976). “A History of Thought on Economic Integration”, F.Machlup (ed.) *Economic Integration Worldwide, Regional, Sectoral*, The MacMillan Press Lmt., pp.74.



- Regulations in terms of privatization and business;
- Financial sector;
- Consensus in economic policy;
- Human capital, investment and infrastructure;
- The integration of trade with the European Union;
- Competitive policies;
- Small and medium enterprises;
- Governance;
- Corruption and legal security;
- Poverty and social cohesion.

Even if Western Balkan countries are doing some further steps in joining the European Union, especially Croatia, some of the countries are too far from the completion of criteria, such as the privatization, infrastructure reform and competitiveness. These countries are designed by high corruption and unemployment level, resulting high poverty level and low social satisfaction.

Corruption is generally defined as the abuse of political office or public position of trust for private gain, is not unique to modern systems of government³. Briefly it can be said that corruption highly colligated to the gaps in the governance and the existence of monopolies in different sectors. Both these factors are possible and visible to occur in countries such as Albania, Bosnia and Herzegovina, Montenegro, Macedonia and Serbia, since these countries are still continuing to be in transition. Corruption is called a difficult issue to deal with since it has to do with all the society levels. Based on the Corruption Perception Index (CPI), which is assumed to be the most objective measurement of corruption, in year 2010, Albania is ranked in the 87th place, Bosnia and Herzegovina in the 91th place, Croatia in the 62th place, Montenegro in the 69th place, Serbia in the 78th place and Macedonia in the 62th place in a list of 178 countries.

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Human development is another important issue to deal with since it is highly related to the social cohesion. In other words, human development can be consider a strong significant for the ability of people to recover the economy, to enhance the business performance and to generate positive financial results. The Human Development Index (HDI) has been taken into consideration to be the measure for the countries' human development. HDI is composed by three components, health, education and income.

This study focuses on the relationship between corruption and human development which have been measured by CPI⁴ and HDI. The regression analysis will be performed by using the time series 2003-2010 for the Western Balkan countries since the CPI data of previous years are not available for the major part of these countries.

2. Human Development and Corruption Relationship

There is a huge literature regarding the relationship between corruption level and human development. Higher levels of economic development are correlated with improvements in many economic, structural and institutional aspects of a society. All these aspects are directly correlated with lower corruption level. There is usually expected a negative relationship of human development and corruption. The authors such

³ Goldsmith, Arthur A. (1999). "Slapping the Grasping Hand: Correlates of Political Corruption in Emerging Markets," *American Journal of Economic and Sociology*, 58(4): 865-863.

⁴ This study has used CPI since this index has had larger attention and influence comparing to the other corruption indexes.



as Qizilbash, 2001⁵; Akçay, 2006⁶; Blackburn and Sarmah, 2007⁷; Chakraborty, 2003⁸ have attested that there is an inverse relationship between these two variables. According to them, the higher the human development, the lower the corruption level since people are aware of the reality.

Akçay, in 2006⁹, in the paper titled “Corruption and Human Development” did a profound analyse regarding this relationship. He stated that corruption impedes growth, reduces the spending on health and education. Lower growth means less GDP per capita, which have negative effects on living standards, life expectancy and human capital accumulation. Both these factors decrease the human development level.

Empirical results are quite consistent to this relationship: Ades and Di Tella (1999)¹⁰, La Porta et al. (1997¹¹, 1999¹²), Treisman (2000)¹³, Fisman and Gatti (2002a)¹⁴ and Persson et al. (2003)¹⁵ all have found a strong negative correlation between corruption and development, meaning that low-income countries are associated with high corruption levels. Even if the significance of human development coefficient was smaller, the results are found to be same also in the studies of Goldsmith (1999)¹⁶, Rauch and Evans (2000)¹⁷, Van Rijckeghem and Weder (2001)¹⁸, Adsera et al. (2003)¹⁹, Tavares (2003)²⁰, Graeff and Mehlkop (2003)²¹, Brunetti and Weder (2003)²², Broadman and Recanatini (2002)²³ and Serra (2006)²⁴. There are only a few studies in the literature finding contradictory results such as Braun and Di Tella (2004)²⁵, Fréchette (2004)²⁶.

⁵ Qizilbash, M. (2001). *Vague Language and Precise Measurements: The Case of Poverty*, Discussion Paper No. 20001-5, School of Economic and Social Studies, University of East Anglia, UK.

⁶ Akçay, S. (2006). *Corruption and human development*. *Cato Journal*, 26(1), 29–46.

⁷ Blackburn, K. and Sarmah, R. (2007). “*Corruption, Development and Demography*”, *Economics of Governance*.

⁸ Chakraborty, Lekha S. (2003). “*Public Expenditure and Human Development: An Empirical Investigation*,” Paper prepared for the Wider International Conference on Inequality, Poverty and Human Well-Being, Helsinki, May 30-31.

⁹ Akçay, S. (2006). *Corruption and human development*. *Cato Journal*, 26(1), 29–46.

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¹¹ La Porta, R., Lopez-de Silanes, F., Shleifer, A. and Vishny, R. (1997). *Trust in large organizations*, *American Economic Review* 87(2): 333-38.

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¹³ Treisman, D. (2000). *The causes of corruption: A cross-national study*, *Journal of Public Economics* 76(3): 399-457.

¹⁴ Fisman, R. and Gatti, R. (2002a). *Decentralization and corruption: evidence across countries*, *Journal of Public Economics* 83: 325-345.

¹⁵ Persson, T., Tabellini, G. and Trebbi, F. (2003). *Electoral rules and corruption*, *Journal of the European Economic Association* 1(4): 958-989.

¹⁶ Goldsmith, Arthur A. (1999). “*Slapping the Grasping Hand: Correlates of Political Corruption in Emerging Markets*,” *American Journal of Economic and Sociology*, 58(4): 865-863.

¹⁷ Rauch, J. E. and Evans, P. B. (2000). *Bureaucratic structure and bureaucratic performance in less developed countries*, *Journal of Public Economics* 75: 49-71.

¹⁸ Van Rijckeghem, C. and Weder, B. (2001). *Bureaucratic corruption and the rate of temptation: do wages in the civil service affect corruption, and by how much?*, *Journal of Development Economics* 65(2): 307-331.

¹⁹ Adsera, A., Boix, C. and Payne, M. (2003). *Are you being served? Political accountability and quality of government*, *Journal of Law, Economics and Organization* 19(2): 445-490.

²⁰ Tavares, J. (2003). *Does foreign aid corrupt?*, *Economics Letters* 79(1): 99-106.

²¹ Graeff, P. and Mehlkop, G. (2003). *The impact of economic freedom on corruption: different patterns for rich and poor countries*, *European Journal of Political Economy* 19(3): 605-620.

²² Brunetti, A. and Weder, B. (2003). *A free press is bad news for corruption*, *Journal of Public Economics* 87: 1801-1824.

²³ Broadman, H. G. and Recanatini, F. (2002). *Corruption and policy: Back to the roots*, *Journal of Policy Reform* 5(1): 37-49.

²⁴ Serra, D. (2006). *Empirical determinants of corruption: A sensitivity analysis*, *Public Choice* 126(1): 225-256.

²⁵ Braun, M. and Di Tella, R. (2004). *Inflation, inflation variability, and corruption*, *Economics and Politics* 16(1): 77-100.

²⁶ Fréchette, G. R. (2004). *A panel data analysis of the time-varying determinants of corruption*.



Even if there are three different methods and sources calculating the corruption index - the Corruption Perception Index (CPI) calculated by Transparency International (TI), International Country Risk Guide's (ICRG) corruption index calculated by Political Risk Services (PRS), and the corruption index that is constructed by Kaufmann, Kraay, and Mastruzzi (2003)²⁷ - in this study, the corruption perception index has been taken into consideration and has been used to calculate its correlation to human development. CPI is based on a "poll of polls" indicating impressions of business people, the local population of relevant countries, and risk analysts who have been surveyed. CPI is range between 0 and 10. A country having 10 as the overall evaluation indicates a highly clean country and 0 indicates a highly corrupted country. According to this scoring, the higher the CPI (the cleaner the country), the higher the human development index (HDI).

But what does the human development briefly means? While in the late 1980s, the central focus of economists was the income growth, in the beginning of 1990s, the focus shifted toward the quality of life and the development strategies were oriented from production to welfare improvement. Basically, the human development is the aggregate of health, education and living standards.

There are two main views that define Economic Development. World Bank²⁸, in the World Development Report, presents the economic development as "Development is often taken to mean rising incomes. A still common view equates development with growth, though there has been a shift in emphasis since the 1970s to a focus on the distribution of incomes." United Nations, in Human Development Report²⁹, present another alternative view "The essence of this view is that human development--what people can actually do and be--is the overriding purpose of economic development." This study is focused on the analysis of corruption-economic development linkage of Western Balkans taking as definition the second approach of economic development, and mostly basing on human development.

Human development refers to a sustainable increase in living standards. It implies increased per capita income, better education and health as well as environmental protection. There have been different measurements in order to rank the countries according to their development level. The last method of measuring development is the combination of indicators such as life expectancy, educational attainment and income into a composite human development index (HDI). The main aim of HDI is to combine the social and economic development in a single statistical data of which 0 indicates the minimum level and 1 the maximum level. 151

The concept of development has been widely discussed regarding the focus on just national income or in other social factors such as health, education. "A nation's progress with respect to its material wealth is not independent of its progress in other spheres...economic growth promotes democratic development; education is good for health; and health is good for education"³⁰

HDI is composed by three components, Life Expectancy Index, Education Attainment Index and Adjusted Income Index. Each of them is computed according to the general formula:

Goldsmith, Arthur A. (1999). "Slapping the Grasping Hand: Correlates of Political Corruption in Emerging Markets," *American Journal of Economic and Sociology*, 58(4): 865-863.

²⁷ Kaufmann, D., Kraay, A., & Mastruzzi, M. (2003). *Governance matters III: Governance indicators for 1996-2002*.

²⁸ World Bank, *World Development Report 1990: Poverty* (New York: Oxford University Press, 1990).

²⁹ United Nations Development Programme, *Human Development Report* (New York: Oxford University Press, 1990,1991,1993).

³⁰ Fielding, D. (2002). *Health and Wealth: A Structural Model of Social and Economic Development*, *Review of Development Economics*, 6, 393-414.



$$Index = \frac{Actual\ Value_i - Minimum\ Value_i}{Maximum\ Value_i - Minimum\ Value_i}$$

Where the fixed minimum and maximum values have been established for each of the indicators:

- Life expectancy at birth: 25 and 85 years;
- Adult literacy: 0% and 100%;
- Combined enrolment ratio: 0% and 100%;
- Real GDP per capita (PPP\$): PPP\$100 and PPP\$40000.

Finally, the HDI is the sum of the averages of the three indexes explained above. In 2010, Albania is ranked in the 64th place with a total of 0.719; Bosnia and Herzegovina in the 68th place with a total of 0.710; Croatia in the 51th place with a total of 0.767; Montenegro in the 49th place with a total of 0.769; Serbia in the 60th place with a total of 0.735; and Macedonia in the 71th place with a total of 0.701 in a list of 169 countries.

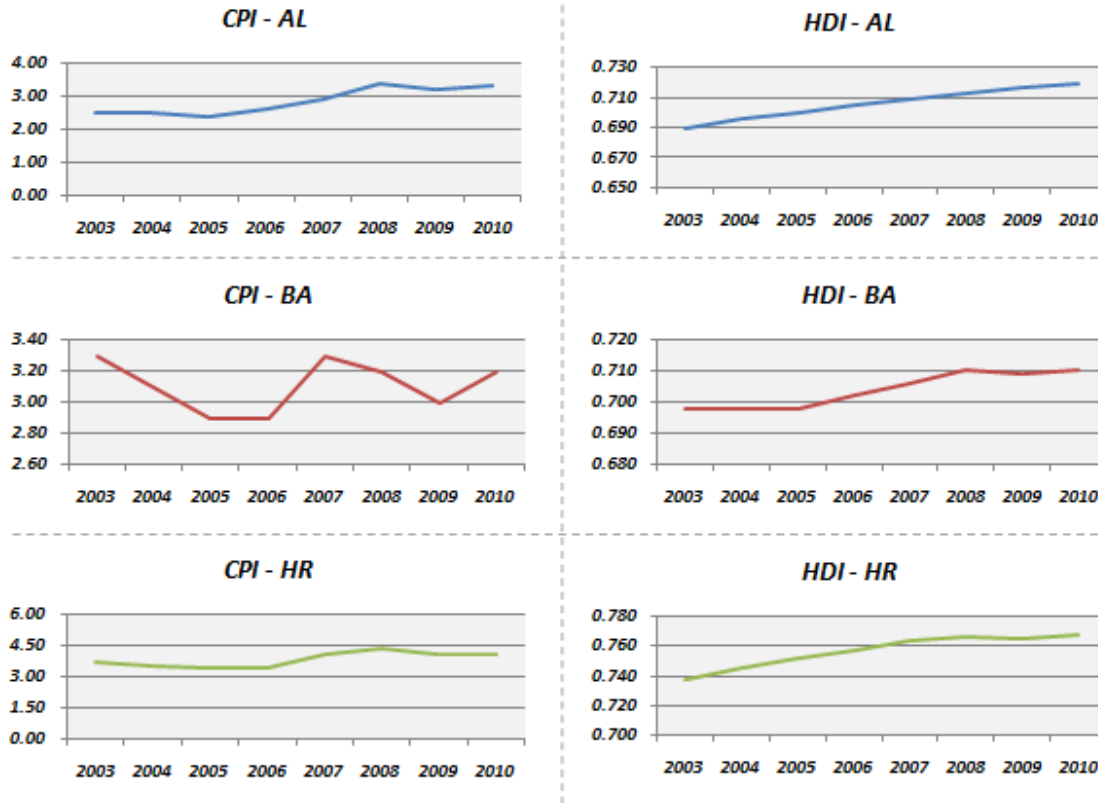
3. Regression Analysis

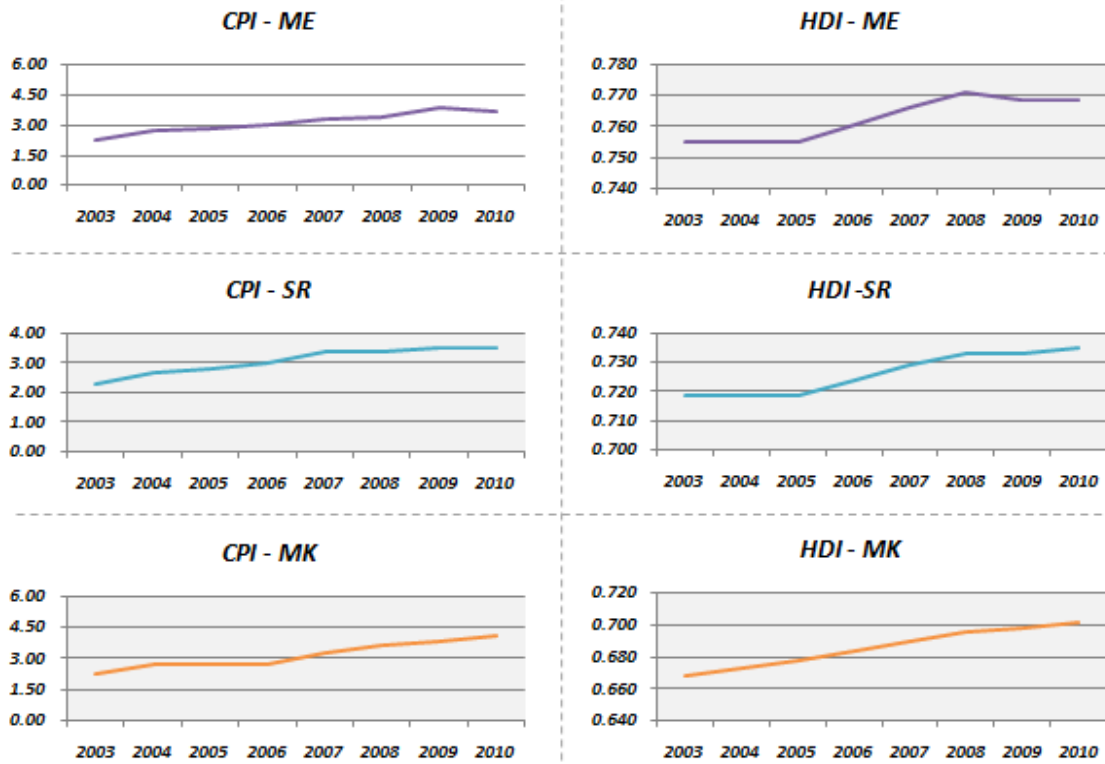
Based in the previous studies, higher levels of corruption are associated with lower levels of human development, health, education and income. This study also expects the same relationship between the variables for the Western Balkan countries. Since the HDI is the aggregate of these 3 components, this study will not be focused on the correlation of these components in particular.

At the same time it is of great importance the analyses of both variables' trend for each country which has been drawn in the graphs below. Albania, Croatia and the Former Yugoslav Republic of Macedonia show the same trend of HDI. They experience a constant increase from year to year. But it is not the same trend for the other countries. Bosnia and Herzegovina, Montenegro and Serbia show stagnation from 2003 to 2005 and a rapid increase during 2005-2008. The stagnation continues again after 2008.

While the HDI has divided the countries in two equal groups based on their HDI trend, the CPI trend is almost the same for five countries of Western Balkans, except the case of Bosnia and Herzegovina, which has a very volatile trend.

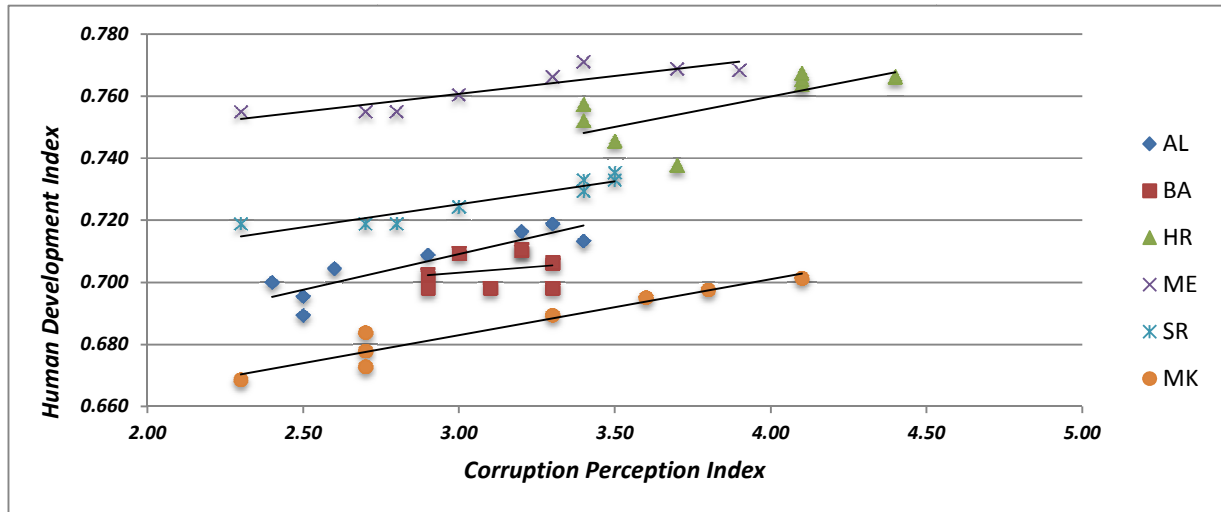
Graph1. Variables Trend for Western Balkan Countries (2003-2010)





The scatterplot of human development index and the corruption perception index shows briefly the picture of this relationship for years 2003-2010 for Western Balkan Countries. All these countries show positive relationship between HDI and CPI. By the time, both the HDI and the CPI increases significantly in Albania, Croatia, Montenegro, Serbia and the Former Yugoslav Republic of Macedonia except the case of Bosnia and Herzegovina where this relationship is ambiguous. But the main conclusion based on this graph is that there exists a “unification” of these countries even in HDI-CPI relationship. These countries show the same enhancement in both, the HDI and the CPI.

Graph2. Scatterplot of HDI and CPI for Western Balkan countries (2003-2010)



Next, the research demonstrates the regression equations and its' results. This equation is used for all the Western Balkan countries data. HDI is expected to be statistically significant and have positive coefficients an increase in this independent variable should decrease corruption, and as a consequence increase the CPI.

$$CPI_i = \alpha_0 + \alpha_1 HDI_i + e_i \tag{1}$$

This regression tries to explain the relation between corruption perception index (CPI) and the independent variable, human development index (HDI). HDI is found to be insignificant for the case of Bosnia and Herzegovina. Croatia shows a weak relationship between these two variables. The model in the Croatian case is explained only 48%, whereas in the other four countries the HDI-CPI relationship is highly significant. The regression results are founded in table below.

Table1. OLS Regression of Corruption Perception on Human Development

	<i>Model - AL</i>	<i>Model - BA</i>	<i>Model - HR</i>	<i>Model - ME</i>	<i>Model - SR</i>	<i>Model - MK</i>
Human Development Index						
<i>Coefficient:</i>	34.4693*	6.7327	24.4224**	69.3803*	58.6235*	51.4946*
<i>P-value:</i>	0.003	0.5844	0.0573	0.0027	0.0007	0.0001
	(4.77)	(0.58)	(2.35)	(4.91)	(6.31)	(8.99)
R²	0.7912	0.0527	0.4788	0.8004	0.8689	0.9309
F	22.73	0.3334	5.511	24.0664	39.7704	80.9492
N	8	8	8	8	8	8

Notes: 1- *Significant at the 5% level
 2- **Significant at the 10% level
 3- The values in brackets are t-values.

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The percentage of corruption explained by the human development in the Former Yugoslav Republic of Macedonia, Serbia, Montenegro and Albania is in fact very high, but we have to underline the fact that the data used for this regression analysis was very limited. In a more extending time lag maybe other results would show up. However, it can be said for sure that the group of Western Balkan countries is concentrated to the same HDI-CPI relationship position.

4. Summary and Conclusions

On one hand, empirical studies have shown that corruption is responsible for low economic development, discourages investments on education and health, triggers high income inequality and poverty, high child and infant mortality rates. In addition, corruption is revealed to be an obstacle for foreign and domestic investment, inflation rate stability, currency volatility, etc. On the other hand, the literature shows clearly the existence of the inverse correlation. Low development is significantly and strongly associated with high corruption. The evidences support that development seems to be the single most important factor associated with bureaucratic corruption. Even there are a lot of studies in this field, the direction of causation of human development and corruption remains less clear. Does lower corruption promotes development or is economic development that reduces corruption levels? Or the existence of both?

This study explored the relationship between corruption and human development in Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia and the Former Yugoslav Republic of Macedonia. Research results reveal that there is a statistically significant negative relationship between corruption indexes and human development. Empirical evidence of the study, comparing all the Western Balkan countries (except Kosovo, because of limited data sources), suggests that more corrupted countries tend to have lower levels of human development. The relationship between corruption and human development is found to be much stronger in Former Yugoslav Republic of Macedonia, Serbia, Montenegro and Albania than in Croatia case, which shows a weak relationship. Meanwhile, the relationship in Bosnia and Herzegovina's case is insignificant.

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To sum up, the Western Balkan countries show up same levels of human development and corruption, resulting similar relationship of these two variables. Comparing to the European Union member countries, the Balkan countries have lower level of human development and high level of corruption. In order to make further steps, the Western Balkans have to collaborate and to apply the same policies to resolve this fundamental issue.

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