

THE RELATIONSHIP BETWEEN THE GDP AND UNEMPLOYMENT RATE IN NORTH MACEDONIA

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Abstract: This research investigates the relationship between unemployment, employment and economic growth in North Macedonia. Access to decent work is one of the most important conditions for inclusion, as this may lead to improvements in other areas of life. However, participation in economic life does not always lead directly to economic inclusion. Employment means more than just getting paid. He is like that the case of informal labor that is not adequately paid, employment that is not decent, or profitable, as well as illegal jobs. In the first years of the transition in North Macedonia, the unemployment rate rose sharply. The job market offered new opportunities, but it also required new skills, which resulted in a mismatch between the skills needed employers and those who owned workers, who are more present in certain sectors and age groups. In the region, the youth unemployment rate is very high. In most countries in the region the unemployment rate for people under 25 has dropped to an average of 50.8 percent in 2010 to 47.7 percent in 2015 Using annual data from the State Statistical Office of the Republic of Macedonia, covering the period of 2000-2019, time series techniques are used to test the relation between unemployment, employment and GDP in order to obtain results. Macroeconomic analysis regarding economic growth under nominal GDP were used to determine the correlation between the applied indicators from the space of correlation analysis, the Spearman's Correlation Coefficient Method was used, while to determine the impact on GDP, regression analysis was used. The SPSS application software package was used for data processing. The empirical results suggested that the lack of economic growth does not explain the unemployment problem in North Macedonia. Despite continuous economic growth, its effect on unemployment reduction is little. Therefore, the following analysis will elaborate the relation between GDP and the unemployment rate.

Keywords: GDP, Economic Growth, Employment rate, Unemployment rate

1. INTRODUCTION

One of the most accepted view in economics is that the growth rate of the GDP of an economy increases employment and reduces unemployment. Mainly this view about the relationship is applicable for the developed countries (Kreishan, 2011).

Despite recent progress, North Macedonia continues to show high levels of unemployment and low labor force participation, as well as sub-par indicators of employment quality. In 2019, barely half of people of working-age in North Macedonia were employed. (World Bank, 2020). In 2019, barely half of people of working-age in North Macedonia were employed, product of high unemployment rate (17.4 percent in 2019) and high inactivity rates (33.7 percent). Unemployment and inactivity cause workers to waste about 25 years of productive employment during their lifecycle (World Bank, 2018).

Table 1. Unemployment rate and GDP per capita annual growth

YEAR	Unemployment rate (15-24)	Unemployment rate -total	GDP per capita growth (annual %)
2000	56.1	32.2	4.01
2001	57.1	30.5	-3.45
2002	56.1	31.9	1.19
2003	58.4	36.7	2
2004	65.7	37.2	4.49
2005	64.8	37.3	4.56
2006	62.6	36	4.99
2007	59.8	34.9	6.36
2008	57.7	33.8	5.38
2009	56.4	32.2	-0.44
2010	55.1	32.	3.27
2011	53.7	31.4	2.25
2012	55.3	31.	-0.54
2013	53.9	29.	2.84
2014	51.9	28.	3.54
2015	53.1	26.1	3.78
2016	47.3	23.7	2.78
2017	48.2	22.4	0.18
2018	46.7	17.5	2.62
2019	46.6	17.3	3.17

Source: State Statistical Office of the Republic of Macedonia

Table 1 displays average unemployment rate, employment rate and economic growth rates over the last 2 decades. Unemployment rate in North Macedonia fluctuated between 32.2 and 17.3%. Unemployment rates have been relatively high in comparison with an average growth rate of 3,17 % in 2019. This has resulted in an average GDP growth of 2.6 percent in the period 2010-2019. The youth unemployment rate remained largely unchanged, but this was partly a result of people dropping out of the labor market. In 2019, barely half of people of working-age in North Macedonia were employed. Youth unemployment and NEET shares are considerably high, reflecting challenges to gain a foothold in the labor market for newcomers. Firms also face difficulties finding workers with the right skills, as the training provided in the educational system does not match adequately the needs of firms. (World Bank, 2019).

Based on the results of previous youth studies, there are some assumptions that the problems should be found in the educational system, lack of knowledge of the socio-economic conditions or self-esteem and self-efficacy of the youth population (Topuzovska-Latkovikj&Borota, 2018)

Table 2. Employment rate and GDP per capita annual growth

YEAR	Employment rate (15-24)	Employment rate -total	GDP per capita growth (annual %)
2000	15.1	35.8	4.01
2001	17.5	38.6	-3.45
2002	14.8	31.9	1.19
2003	12.1	36.7	2
2004	7.1	37.3	4.49
2005	6.7	36.2	4.56
2006	6	35.2	4.99
2007	11.1	33.9	6.36
2008	8	32.8	5.38
2009	7	38.4	-0.44
2010	15.4	38.7	3.27
2011	14.4	38.9	2.25
2012	15.5	39	-0.54
2013	16.2	40.6	2.84
2014	15.2	41.2	3.54
2015	17.3	42.1	3.78
2016	16.2	43.1	2.78
2017	17.5	44.1	0.18
2018	17.9	47.1	2.62
2019	20.7	47.3	3.17

Source: State Statistical Office of the Republic of Macedonia

Table 2 displays average employment rate and economic growth rates during the last 2 decades. Low employment in North Macedonia is an indication of issues in labor demand and supply, but even when firms are willing to hire, they find it difficult: according to the employer STEP survey (Koettl et al. 2017), only 25 percent of firms (mostly in the automotive industry) had recently tried to hire workers, but almost a third of these had difficulties finding workers with the relevant experience, and this was option was the most cited of nine options given. Youth in North Macedonia, on the supply side of the market, also attribute their low employment rates to a lack of work experience (World Bank 2014). The last 10 years, the youth (15-29) in North Macedonia is using the Internship Program and it has help them to gain work experience to improve their employment prospects. The participants have demonstrated that it has had a positive impact (Mojsoska-Blazevski & Petreski, 2015).

Despite a mandate that each student in North Macedonia acquire three months of internship while studying, one third of VET students and graduates of higher education do not participate in any (ETF, 2017). From an economic perspective, a high unemployment rate shows that the labor availability is not used efficiently. Thus, full employment should be one of the most important goals of every country (Mandel & Liebens, 2019)

European Training Foundation (2017). Tracing the Secondary Vocational and Tertiary Education Graduates: The Results of the 2016 Tracer Study in The Former Yugoslav Republic of Macedonia. Skopje: European Training Foundation (ETF). Finally, there is not much cooperation between higher education institutions and employers, which may depress not only employer willingness to offer internships but also the quality of internships and the extent to which they improve the youth labor market (Mojsoska-Blazevski and Bartlett 2016).

Close to 30 percent of the youth employed are hired on temporary contracts, and this share is as high as 60 percent for those with only primary education (World Bank, 2019). The planned reduction in the draft labor law of the period for automatic conversion of temporary contracts should therefore recognize the possible adverse effects on

the hiring of youth. This could make employers more reluctant to use the contracts: only 5 percent of workers aged 15–29 have been hired on an apprenticeship contract.

Table 3 GDP per capita vs. GDP growth rates

	GDP per capita in EUROS	GDP growth rates in %
2000	1921	4.5
2001	1887	-4.5
2002	1981	0.9
2003	2081	2.8
2004	2252	4.7
2005	2470	4.7
2006	2682	5.1
2007	2982	6.5
2008	3308	5.5
2009	3300	-0.4
2010	3459	3.4
2011	3665	2.3
2012	3680	-0.5
2013	3948	2.9
2014	4141	3.6
2015	4382	3.9
2016	4659	2.8
2017	4839	1.1
2018	5175	2.9
2019	5398	3.2

Source: State Statistical Office of the Republic of Macedonia

Economic growth in North Macedonia and other countries is calculated as the percent change in the GDP from one year to the next. It measures whether production has increased or decreased, and by how much. Economic growth refers to the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is measured as the percent rate of increase in real gross domestic product, or real GDP. One of the basic measures of the economic performance of a country and is the total market values of all final goods and services produced in a country in a given year. The connection between GDP and unemployment rate is influencing the people around the world. One of the first papers covering this topic is “Effects of debt and GDP on the unemployment rate: an empirical study” (2015) by Morsheda Hassan and Raja Nassar talks about the fundamental importance of debt and GDP and their effects on the unemployment rate of a country. Results of this paper showed that GDP has a negative correlation with debt and with unemployment rate. It was also concluded that deficit on unemployment was a result of the GDP’s negative effect (deficit). As in this paper, authors agreed that among all economic variables that have high impact on the unemployment rate, GDP is probably the most important. Results of this paper showed that GDP has a negative correlation with debt and with unemployment rate. It was also concluded that deficit on unemployment was a result of the GDP’s negative effect (deficit). As in this paper, authors agreed that among all economic variables that have high impact on the unemployment rate, GDP is probably the most important.

Table 3 displays the GDP per capita in euros and the GDP growth rates in the period of 2000-2019 in North Macedonia. During the last decade, Macedonia had a small economic growth, while Croatia and Serbia faced recession, whereas in 2012 Kosovo had an economic growth of 3.9% of Gross Domestic Product (Misini & Badivuku-Pantina, 2017). Prior to the Eurozone financial crisis, GDP growth in Macedonia was half of its Balkan neighbors. In 2016, weak economic policy and political crisis contributed to a GDP growth rate of 2.4 percent. while domestic consumption remained weak and incomes continued to stagnate. While the unemployment rate fell to 23.1 percent, most new jobs are created with government subsidies (USAID, Economic growth report, 2017).

2. MATERIALS AND METHODS

Macroeconomic analysis regarding economic growth under nominal GDP were used to determine the correlation between the applied indicators from the space of correlation analysis, the Spearman’s Correlation Coefficient Method was used, while to determine the impact on GDP, regression analysis was used. The SPSS application software package was used for data processing. The empirical results suggested that the lack of economic growth does not explain the unemployment problem in North Macedonia. Despite continuous economic growth, its effect on

unemployment reduction is little. Therefore, the following analysis will elaborate the relation between GDP and the unemployment rate.

Applied indicators

Criterion (dependent) variable:

VAR00001- Gross domestic product growth rate for the period 2000 to 2019.

Predictor (independent) variables:

VAR00002- Unemployment rate 2000 - 2019 by years;

VAR00003- Rate of employees 2000 - 2019 by years.

3. RESULTS AND DISCUSSION

The intercorrelation matrix (Table 4) gives the values obtained from the research which determine the correlation coefficient (Spearman's Correlation) of the applied indicators that explain part of the gross domestic product and the employment and unemployment rate in RS Macedonia in the period from 2000 to 2019. According to the obtained values, it can be concluded that between the applied indicators there is a connection between medium negative and positive level and high negative level. The highest correlation values (from high negative level) are observed between the second indicator (VAR00002- Unemployment rate 2000 - 2019 per year) with the third indicator (VAR00003- Employee rate 2000 - 2019 per year), $r = -,848$, $N = 20$, $p = ,000$, while the smallest (from medium negative level) between the first indicator (VAR00001- Gross domestic product growth rate from 2000 to 2019) with the third indicator (VAR00003- Employee rate 2000 - 2019 by years), $r = -,355$, $N = 20$, $p = ,125$.

Table 4 Correlation between the gross domestic product and the employment and unemployment rate in North Macedonia
Correlations

			VAR00001	VAR00002	VAR00003
Spearman's rho	VAR00001	Correlation Coefficient	1.000	.438	-.355
		Sig. (2-tailed)		.053	.125
		N	20	20	20
	VAR00002	Correlation Coefficient	.438	1.000	-.848**
		Sig. (2-tailed)	.053		.000
		N	20	20	20
	VAR00003	Correlation Coefficient	-.355	-.848**	1.000
		Sig. (2-tailed)	.125	.000	
		N	20	20	20

According to the performed analyzes given in the review of table no. 2, which show the results of the research on the impact of the applied indicators for the employment and unemployment rate in RS Macedonia in the period 2000 to 2019 on the criterion (VAR00001- Gross domestic product growth rate from 2000 to 2019), that there is a low level correlation, where the correlation coefficient is $R = .202$ and the prediction coefficient $R^2 = .041$. Which means that the obtained values explain the common variability with about 4%. The remaining 96% in the explanation of the total variability remains on some other factors and indicators that are not the subject of our research. The obtained values of $p = .701$ (Sig. = 0.701) indicate that the independently applied indicators (VAR00002- Unemployment rate 2000 - 2019 per year and VAR00003- Employee rate 2000 - 2019 per year) do not significantly affect the gross domestic rate product (GDP), which means that their impact is related to other components that can contribute to the creation of domestic growth.

Table 5 The impact of the employment and unemployment rate in RS Macedonia on the gross domestic product Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.679	17.501		.153	.880
	VAR00002	.057	.213	.136	.269	.791
	VAR00003	-.042	.297	-.072	-.141	.890
Adjusted						
Model	R	R Square	R	Std. Error of the Estimate	F	Sig.
1	.202 ^a	.041	-.072	2.60100	.363	.701 ^b

The explanation for this result is that unemployment in North Macedonia is that young people do not have enough skills and qualifications to do the jobs available. Thus, the economic growth i.e., the increased GDP rate can not affect the unemployment rate directly. Despite the fact that Macedonia with the support of the World Bank and IMF tried to boost the economic growth by enhancing the role of the private sector in the Macedonian economy. To improve the rates, efforts and improvements need to be done in many sectors connected to unemployment rate. Improvements in the education, vocational studies, working conditions and higher salaries.

5. CONCLUSIONS

Taking into consideration the fact that is very difficult to find a decent job in North Macedonia, the influence of this economic growth has not affected satisfactorily their living standard. The research results showed that even though North Macedonia had an increase in the GDP growth rate i.e., had an economic growth in the last decade, the small decline in employment rates is contributing in welfare improvement of the Macedonian citizens. The recent studies of youth in the Balkan, imply that the majority of the youth want to move in different European countries, searching for better life standard.

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