

# TRENDS IN UNEMPLOYMENT BY EDUCATIONAL ATTAINMENT IN THE REPUBLIC OF MACEDONIA

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**Abstract** - Knowledge embodied in human capital and technology is central to economic growth; making education a main engine driving the economy today through the knowledge, skills and creativeness of the human capital. Competitiveness and income generation depends thus not only on natural resources, but highly on the ability of human capital to create and develop new technologies and ability to be innovative. In this context, high unemployment rates present a serious socio-economic problem imposing a high welfare cost to society. This especially in cases, such as in the Republic of Macedonia, with also high youth unemployment and high unemployment among educated segments of the country. The main objective of the paper is to analyze and understand the severity of unemployment in the Republic of Macedonia from an educational attainment perspective using secondary data. The study takes basis primarily on annual Labor Force Survey (LFS) data released by the State Statistical Office of the Republic of Macedonia and Eurostat for the period 2006-2016. The analysis shows that unemployment rates in the Republic of Macedonia among the lower level educated population have seen a more notable decrease in the study period, whereas the unemployment rate among higher educated has only dropped marginally with an overall decrease of 1.8 percentage point in the study period. Findings suggest that despite a positive trend, the country still faces alarmingly high unemployment rates. The 52.8% unemployment rate within the youth segment (age 15-24) is of special concern. Hence, the institutional frameworks governing the labor market and education should increase efforts and formulate policies inclusive of industry, and address measures, more effectively and inclusively of especially young and educated people.

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**Keywords** - Education; Unemployment; Activity Rate; Employment

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## I. INTRODUCTION

In today's knowledge economy, education remains a main engine driving the economy through the knowledge, skills and creativeness of the human capital. Competitiveness and income generation depends thus not only on the presence of the natural resources, but mainly on the ability of human capital to create and develop new technologies, adapt to the dynamic environment and ability to be innovative. Human capital indicators, particularly those relating to education and employment, are central measures for the knowledge-based economy [1]. In this context, high rates of unemployment present a serious socio-economic problem imposing a high welfare cost to society. This especially in cases, such as in the Republic of Macedonia, with high youth unemployment and high unemployment among educated segments of the country. The relatively high unemployment within this group of people is quite worrisome as this group is more likely to contribute to economic and social growth. This situation specifically presents another societal challenge in terms of the inability of the country to absorb enough quantities of highly educated people; forcing them either to accept whatever job is available, register as unemployed or in worst case scenario to leave the country and pursue life opportunities in more developed countries.

Unemployment is a central risk factor especially for the young people, which in the long term threatens the

overall integration of young people into society. Governmental strategies or action plans in the Republic of Macedonia have addressed the issue of unemployment and education separately, not interrelated, which has manifested in a high number of unemployed graduates [2]. This suggests that a strong link between education institutions and the labor market is missing and that future coordination with the business community may effectively address key issues of unemployment among the educated segments of the country and especially the younger generations [2].

The main objective of the paper is to analyze the trends and changes in the structure of the unemployment rate in the Republic of Macedonia in the period 2006 to 2016 seen through the loop of educational attainment and based on secondary data to understand the severity of unemployment among the educated and uneducated population.

## II. LITERATURE REVIEW

Unemployment and education are universal topics vastly studied as both separate notions as well as interrelated concepts, and there is a strong consensus that formal education is an important determinant of an individual's labor force status. Additionally, there is a justification in the belief that the level of education is one of the key determinants of the state of the labor market [3]. Generalizations, however, in this aspect ought to be made cautiously as this would be dependent

on the educational structure of the population.

Whilst, substantive research exists focusing on education and unemployment in a global context, similar research in the Republic of Macedonia is scarce; suggesting the need for much more focused research to comprehensively understanding the relationship between unemployment and education in the country. Reference [2] touches upon the subject in her study of higher education reforms, though limited to graduate unemployment. The study explains that the Republic of Macedonia introduced several profound reforms in the beginning of the new millennium. However, these reforms particularly focused on higher education. Measures included amongst others the increase of the number of Faculties from 29 in 2003/2004 to 101 in 2009/2010, and the dispersion of Faculties across a more broad geographical area [2]. The reforms also opened the door for several new private universities to emerge, which also vastly enabled access to higher education and contributed to the so-called phenomena of massiveness induced due to increasing enrollment rates. The reforms consequently also changed the educational structure of the labor force in the country, however not necessarily for the better. The educational reforms were mainly of a quantitative character and neglected the quality of the higher education in terms of provision of high-level occupational preparation in a more applied and less theoretical way and responsiveness to the labor market needs [2]. This, together with the relatively low and jobless economic growth in the country, resulted in a great increase of graduate unemployment. Reference [4] makes a similar argument, stating that unemployment in the Republic of Macedonia is structural and argues that a notable skills mismatch is evident in the Macedonian society between labor supply and labor demand. This mismatch in the labor market comes evidently from higher education producing skilled labor in volumes and skillset irrespectively of industry needs. Furthermore, due to the absence of quality vocational education and training, unemployed have it additionally difficult to learn new skills applicable to the industry [4].

### III. METHODOLOGY

The study takes basis primarily on the annual Labor Force Survey data released by the State Statistical Office of the Republic of Macedonia and Eurostat for the period 2006-2016 with respect to the age group 15 years and above. However, to understand the trends and severity of unemployment from an educational perspective in the country, it is essential to consider the development of the labor market from a much broader sense; observing thus initially general labor market trends as part of the study in the same period. For the purpose of this study, educational attainment levels are defined according to the International standard

classification of education (ISCED).

### IV. DATA ANALYSIS

The Republic of Macedonia has experienced severe economic hardship both prior to and following its independence in 1991, which has seriously affected the labor market. Reasons for the weak labor market indicators in the country should thus not be looked for only in the socio-economic developments during and leading up to the study period. The generally and historically weak labor market performance is a result of historical economic hardship combined with post-independence developments. Reference [3] highlights, amongst others, the process of privatization, the high informal economy, the inter-ethnic conflict in 2001, and the low domestic and foreign direct investments in the country as key contributors in this respect.

As can be seen in figure 1, the main labor market indicators remain at alarming levels despite positive trends in the last decade. The activity rate has in the overall study period marginally increased by 1.4 percentage point, but with a slight decrease in the last three years of the study period moving from 57.3% in 2014 to 56.5% in 2016. The low activity rate is suppressed because of significantly lower female labor market participation, while gender inequality in this respect in the Republic of Macedonia may highly reflect cultural or religious factors, patriarchal family structures and challenges in the career development of women [3], [5], and [6].

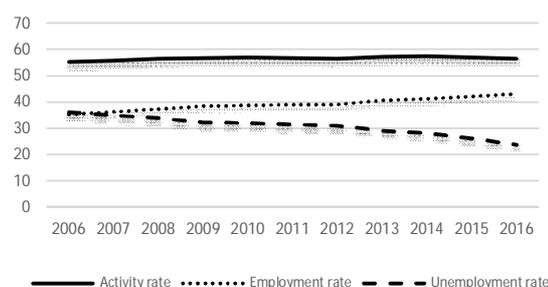
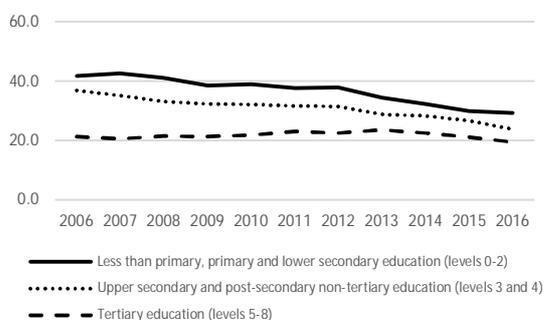


Figure 1. Labor Market Indicators in R. Macedonia

Opposed to activity rates, employment rates and unemployment rates have followed a more positive trend throughout the study period. The employment rate has increased by 7.9 percentage point in the study period, while the unemployment rates has notably decreased by 12.3 percentage point reaching an all-time low rate at 23.7% in 2016.

From a gender perspective, disparities in unemployment rates are much less evident than in employment rates [7]. Disparities in employment rates between male and female are likely linked to the traditional role of women and challenges in entering

and competing in the labor market as referenced earlier. A similar and equally alarming situation is evident also when examined for disparities based on age. The country is facing critical problems with youth unemployment, registering in recent years among the highest unemployment rates in Europe among the age group 15-24 with little hope for notable short-term improvements in this aspect [4].



**Figure 2. Unemployment rate in the Republic of Macedonia by educational attainment**

Moving on to focus the analysis towards the main research objective of this paper, and as shown in figure 2, a relationship appears to exist between the level of education attained and unemployment rates in the Republic of Macedonia. Despite a notable decrease of 12.5 percentage point in the study period, the less educated (levels 0-2) appear to be more vulnerable to unemployment in the country as opposed to people with secondary level education (level 3 and 4) and people with tertiary education (levels 5-8). A notable and constant decrease in the unemployment rate is also observed among the unemployed with secondary level education (level 2 and 4) with a decrease of 13.2 percentage point in the study period. On the contrary, the population with tertiary education appear to be less vulnerable to unemployment in the Republic of Macedonia, but unemployment rates remain high with some fluctuation in rates across the study period. The unemployment rates of the unemployed with tertiary education has only decreased 1.8 percentage point in the study period with increasing unemployment rates in the period 2008-2013 (the highest unemployment rate in the study period registered in 2013 at 23.5%). In the contexts of unemployment among the population with tertiary education from a structural perspective, main contributors to the high unemployment are people with undergraduate, graduate and post-graduate degrees with an 86.5% share of unemployment among the population with tertiary education (levels 5-8) in contrast to the 13.5% share of people with higher vocational education [2]. The increase in unemployment among the population with tertiary education may partly be attributed to reforms undertaken in secondary education. The Government of the Republic of Macedonia introduced compulsory

secondary education in 2007, which together with the increase of university enrollments and graduated students caused significant changes in the educational structure of the labor force and inactive working-age population in the Republic of Macedonia [2].

Observed by gender and educational attainment, table I shows that male unemployment has decreased constantly for all education levels in the study period, though noticeably among the less educated segments. Unemployment rates within the segment with less than primary, primary and lower secondary education (levels 0-2) has decreased by 10.0 percentage point in the study period, while the unemployment rate for segment with upper secondary and post-secondary non-tertiary education (levels 3 and 4) has decreased 11.8 percentage point. Rates for the unemployed with tertiary education (levels 5-8) has also decreased in the study period, though the decrease has been relatively marginal in comparison with the less educated population registering an overall decrease of only 2.0 in the same period. Additionally, the downwards trend is not constant in the study period, as the unemployment rate for males with tertiary education increased by 1.2 percentage point in 2014 reaching a 20% unemployment rate which is also the highest in the study period for this segment.

**Table I. Male unemployment rates in Republic of Macedonia by educational attainment**

Education Level	2006	2008	2010	2012	2014	2016
Less than primary, primary and lower secondary education (levels 0-2)	40.4	41.3	40.1	40.7	32.8	30.4
Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	36.0	32.4	31.3	31.0	27.4	24.2
Tertiary education (levels 5-8)	19.6	19.3	18.9	18.8	20.0	17.6

**Table II. Female unemployment rates in Republic of Macedonia by educational attainment**

Education Level	2006	2008	2010	2012	2014	2016
Less than primary, primary and lower secondary education (levels 0-2)	44.3	41.2	36.8	32.3	31.0	26.5
Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	38.4	34.1	33.4	31.9	29.8	22.7
Tertiary education (levels 5-8)	22.9	23.7	24.8	26.0	24.6	21.0

As shown in table II, female unemployment rates have experienced the same trend across all segments of education level, though with more notable decreases than in the case of male unemployment. Women with less than primary, primary and lower secondary education (levels 0-2) have registered the highest decrease in period with a drop of 17.8 percentage point

followed by a 15.7 percentage point drop by women with Upper secondary and post-secondary non-tertiary education (levels 3 and 4). The female unemployment rate for the segment with tertiary education (level 5-8) has in the study period only registered a relatively marginal decrease of 1.9 percent point with increasing rates in the period 2010-2013.

Despite the positive trends observed in gender and education based unemployment rates, the rates remain at an alarmingly high level, and especially in the case of the segment with tertiary education. Gender disparities in the unemployment rates from the educational attainment perspective seems to be less emphasized among the lower educated segment (levels 0-2) than the higher educated segment (levels 5-8) where the disparity is close to 4 percentage point. However, it is interesting to see that in all segments, except for among the higher educated (levels 5-8); the unemployment rate is higher among males than females in the last years of the study period. This, as opposed to the beginning of the period where the opposite applied.

Examining unemployment rates from an educational perspective considering age, table III shows that the young population in the age group 15-24 years are most vulnerable towards unemployment. The young population with tertiary education (levels 5-8) have registering the highest unemployment rate at 52.8% in 2016, partly explained by the oversupply of educated youth [2]. The youth unemployment rate in this segment registers the highest decrease in the study period with an overall decrease of 14.1 percentage point. However, this decline is likely to be the result of increasing youth inactivity rates due to delayed entry to the labor market and continued education and training, rather than young generation attaining more jobs [4].

**Table III. Unemployment rates in the Republic of Macedonia by age and educational attainment**

Education Level	Age Group	2006	2008	2010	2012	2014	2016
Less than primary, primary and lower secondary education (levels 0-2)	15 to 24	62.2	56.5	58.0	63.1	51.8	50.7
	25 to 39	46.1	48.8	43.5	44.7	40.0	38.4
	40 to 64	34.1	33.9	34.2	30.6	25.6	24.2
Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	15 to 24	57.7	55.2	52.2	49.3	51.1	46.9
	25 to 39	36.5	31.5	31.4	32.6	27.2	23.7
	40 to 64	30.0	26.7	26.7	25.5	23.4	18.2
Tertiary education (levels 5-8)	15 to 24	66.9	67.2	53.2	61.8	65.5	52.8
	25 to 39	27.0	24.1	27.4	25.9	27.3	24.6
	40 to 64	13.9	14.4	10.2	10.6	9.4	7.4

The young population with lower educational level appear also very vulnerable considering the high

unemployment rates in both segments as opposed to other age groups, though still less exposed to unemployment opposed to young population with tertiary education. The unemployment rate shows a positive and downwards trend in the study period for lower educated population, but less by comparison. Noteworthy to emphasize, the downwards trend in youth unemployment by educational attainment does not appear to be constant. Several negative fluctuations are observable in the study period with increases in employment rates as high as 8.6 percentage point in 2012 the segment with tertiary education and 5.1 percentage point in the similar year in the case of the less educated segment of the population.

The least vulnerable to unemployment in the study period appear to be the age group 40-64 years with tertiary education, who have registered the lowest unemployment throughout the study period with an overall decrease of 6.5 percentage point and a registered unemployment rate at 7.4%. The positive trend in the groups is also the most constant across all segments.

The generally high unemployment rates across all age groups and educational attainment levels display an alarming situation, but much more in the case of youth unemployment across all age groups. This is especially worrisome since young workers represent a societal group that can significantly contribute towards a more dynamic economic development of the country, but also due to the risk of this group to affect the emigration and furthering the brain drain in the country [2].

## CONCLUSION

The unemployment rate is declining in the Republic of Macedonia across all levels and has reached historically low levels, but rates remain alarmingly high and poses a serious concern that needs addressing effectively. Most worrisome in this context remains overcoming the high youth employment, and in this context especially among the educated youth. Youth unemployment presents a serious concern because of their tremendous impact on socio-economic developments in the country. As such, weak and partial reforms in education have already affected the labor market structure resulting in high unemployment rates in youth unemployment among educated youth. This due to the oversupply of graduates and the mismatch between what the industry requires and what the higher education institutions deliver.

More focused attention, reforms and measures are apparent to address unemployment across all education levels. The institutional framework governing the labor market and education should formulate policies and address measures more

effectively and inclusively of industry to neutralize the skills mismatch and consider quality aspects in reforms. A greater focus in vocational education is in this context of equal importance. Furthermore, the addressing of macroeconomic developments affecting job creation should remain a main priority of the current Government. This especially with respect to the neutralization of any brain drain effects and from keeping unemployed segments of the country from leaving the country in pursuit of jobs and better quality of life in more developed countries. As is the case currently in the Republic of Macedonia.

Although no notable gender disparity observed in the study in terms of unemployment, gender equality remains a concern in other aspects of the labor market as with other marginalized groups [4]. The composition and effects of reforms and measures, especially Active Labor Market Measures, should address and be inclusive of marginalized groups of society.

Recognizing the complexity and multidimensional aspects, unemployment remains an issue unsolvable over the night. Combatting unemployment involves surpassing both quantitative and qualitative

challenges. Hence, in moving forward, supplementary research to understand the nature of these challenges may be crucial to overcoming the same.

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