

# Challenges of Higher Education in Macedonia – The Impact of Education on Economic Growth

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**Abstract:-** Regional trends of depopulation due to lower rate of fertility and mechanical depopulation by migration are characteristic of the region and Macedonian society. In the last 30 years there has been a decrease of newly born children in Republic of Macedonia, from 31,751 in 1994 to 19,986 newly born in 2019. The mentioned indicators greatly influence the present and future number of potential students. In Stip the number of newborn in 2019 is 398. In this paper focus is on student population in the University Goce Delcev - Stip in the last two academic years. In the coming period, universities and the competent institutions can change the future of every child, if they commit the same level of enthusiasm and resources they have made available to other sectors such as health. Also, this paper refers to three topics: student population in the University Goce Delcev Shtip; population in Shtip according to newborns; opportunities and challenges.

To function in tomorrow's society, students need to develop the skill of being able to make reflective assessments. Through this skill they will form the lasting foundation of careers and meaningful lives in a world in which artificial intelligence and global competition are becoming increasingly prevalent. In fact, fostering this ability requires a student-centered approach to higher education.

**Keywords:-** Higher Education, Student Population, University Goce Delcev, Economic Growth  
*Field: Social Sciences*

## I. INTRODUCTION

One of the the biggest problem is related with demographic characteristics and the trends of decreasing of young population and therefore potential students. The results of the conducted research have shown that a greater percentage of high school students are willing to continue their education at university, mainly because they see education as a precondition for better future prospects, as well as the lack of employment immediately after finishing high school. The European Higher Education Area, established by 48 countries, has evolved over 20 years and has now arrived at a crucial juncture, at the start of a new decade in extraordinary times. No one could have foreseen the unprecedented events of 2020. The global health

pandemic affects everyone, and is having a huge impact not only on our health, but also on how we teach, learn and do research. It is in such critical times that European cooperation on higher education can demonstrate its value for our societies and our people. However, this requires a higher level of shared ambition and commitment. Looking at the variations in the total student population within the EHEA over time (i.e. between 1999/2000 and 2016/17), the pattern across countries differs. The largest percentage increase in the number of enrolled students between 2000 and 2017 took place in Turkey, with an increase of over 600 %, followed by Cyprus (increase of over 300 %) and Albania (increase of over 200 %). Only a few countries experienced a decrease during the same period. The steepest decreases were in Moldova (33 %), North Macedonia (almost 19 %), Ukraine (over 10 %) and Latvia and Estonia (around 10 %). Over this 17 year period, the absolute number of tertiary students in the EHEA increased significantly. Indeed the total increase between 2000 and 2017 was more than 18.2 million. Increases were observed in almost all countries, with the highest being recorded in Turkey – an increase of more than 6 million students – and Germany, with an increase of more than a million students. It is also notable that the number of students in Albania and Cyprus more than tripled. Despite the overall upward trend observed during this period, this was not without exceptions: slight decreases were recorded in Ukraine, Poland, Portugal, Hungary, Bulgaria, Latvia, Slovenia, North Macedonia and Estonia.

## II. CHALLENGES OF HIGHER EDUCATION IN MACEDONIA – Municipality Shtip and the case of Goce Delcev University - Shtip

Analyzing the statistical data on the number of enrolled students in the academic year 2019/2020 in Macedonia there are 51,734 enrolled students, which is a decrease of 3.6% compared to the academic year 2018/2019. The number of enrolled female students was 29 515 or 57.1%. The majority of students, 85.3%, were enrolled in public tertiary institutions, while 14.0% were enrolled in private tertiary institutions. In the academic year 2019/2020, there were 13 701 students enrolled in the first year of studies, which is 26.5% of the total (students that are enrolled in the first year for the second time, third time or more are also covered here). Weak selection is also a factor behind North Macedonia's high drop-out rates and long completion times in higher education. Between 2010 and 2014, North Macedonia's completion rates in Bachelor

programmes of 45% were similar to the regional average, but lower than in OECD countries (68% in 2013) (European Commission, 2016). Concerns about selection into, and the quality of higher education, are also reflected in high unemployment rates among university graduates and firms' reports that graduates lack key competencies.

In the municipality of Shtip the number of newborn children is constantly decreasing.

The decreased number of newborn children is directly proportional to the number of student in the schools. Regarding this, Table 2 shows the total number of completed student in the academic year 2019/2020, both in the primary and in the secondary schools in the municipality of Shtip. In the coming years, this number will have its reflection on the number of enrolled students in higher education, of course on the number of student in the Goce Delcev University – Shtip.

**TABLE I - Newborn children in municipality of Shtip**

	Newborn children in municipality of Shtip			
	2019	2018	2017	2016
<b>Shtip</b>	398	458	467	494

Source: Statistical report Natality in the Republic of North Macedonia, 2019; Statistical report Natality in the Republic of North Macedonia, 2018; Statistical report

Natality in the Republic of North Macedonia, 2017; Statistical report Natality in the Republic of North Macedonia, 2016

**TABLE II - Number of students in primary schools**

PRIMARY SCHOOLS Municipality Shtip	Number of students in the academic year 2019/2020
Vanco Prke Primary School	1.207
Goce Delcev Primary School	713
Dimitar Vlahov Primary School	975
Slavejko Arsov Primary School	353
Toso Arsov Primary School	728
<b>TOTAL</b>	<b>3.976</b>

Source: Annual Reports, 2019/2020

**TABLE III - Number of students in secondary school**

SECONDARY SCHOOLS Municipality Shtip	Number of students in the academic year 2019/2020
Textile school - SOU Dimitar Mirasciev	68
High school - SOU Slavco Stojmenski	555
Medical school - SOU Jane Sandanski	786
Electro-mechanical school - SOU Kole Nehtenin	711
Music school - DMUC Sergej Mihajlov	138
Sport academy	68
<b>TOTAL</b>	<b>2.326</b>

Source: Annual Reports, 2019/2020

### III. THE IMPACT OF EDUCATION ON ECONOMIC GROWTH

The importance of the educational process for creation and accumulation of the human capital is well known and is very important for development of countries. The human capital is the unique resource for creation of the competitive advantages for enterprises, economies and nations in general. That is why education affects the development of the economy. It contributes to increasing the income level (both, on personal and country level), makes people more aware for their environment and amend the quality of living. However, in order for education i.e. the created human capital to have any impact on economic growth, it must first be put in function of the economy, i.e. the educated staff should be employed.

According to the report of the European Training Foundation 2019 in Macedonia, the unemployment rate is very high, especially among young people. Young people find the process of transition from education to the labor market very difficult. As a result of this, a large number of young people remain inactive for years after completing the educational process. This is especially the case with the females. Such a high unemployment rate among young people at an early stage causes a low exploitation of the young workforce and a reduction in the potential for development of the country's economy. This phenomenon contributes to loss of public resources invested in education among the young population.

Job creating and employment growth are one of the biggest problems of the country.

In 2017, there is no significant difference between young people with secondary and tertiary education (only 50% of them managed to find job up to three years after graduation) and those VET (Vocational education and training) graduates (employment rate is 48%). Comparing to European Union countries (EU – 28) Macedonia has significantly lower employment prospects. The employment rate for VET graduates in EU is 77%. (ETF, 2017)

Due to the low job creation, Macedonia is facing with high rate of unemployment. This is one of the main problems and the country constantly exerts effort to reduce the rate of unemployment. This rate was 34% decade ago. In 2017 it decreased to 22.5% (aged 15-64), but it is still very high – 17,3 in 2019)

Despite job creation, skills mismatch is another significant reason for labor unemployment. Skills mismatches can be seen as a reason for the unemployment, but also as a consequence of it. Companies (especially fast-growing ones) are facing with insufficient or inadequate supply of skills. On the other hand, workers in an unenviable position accept job's positions that require qualifications that do not correspond to their educational level, acquired skills and qualifications. (ETF, 2019)

It's obvious that there is a relatively large discrepancy between the qualifications of workers and those sought by employers in Macedonia. The problem is long-lasting and requires constant effort, perseverance and investments from multiple social segments.

### IV. THE CASE OF GOCE DELCEV UNIVERSITY - SHTIP

Changes in economic conditions – such as the impact of the crisis – also influence the desire and ability of young people to enroll in higher education. Institutional conditions are also relevant including: admissions rules and procedures, the cost/benefit analysis involved in acquiring higher education – such as fees, employment rates of graduates, and the length of studies – which in turn depends on the structure of the programmes.

The basic paradigms of Goce Delchev University (UGD) are a higher level of interactive lectures, a student in the center of attention and an individual approach to it. Its mission is to create and transfer knowledge to ensure economic and social well-being, progress of society, as well as preparing students for professions in which scientific discoveries and professional knowledge are applied, cultural and linguistic diversity, advancement of technological development and development of art. The fulfillment of the mission of the University is through the promotion and development of scientific disciplines present in the study programs, in accordance with the requirements of the region and the country. At the same time, one of its key goals is building and preserving the dignity of the profession, promoting and developing moral values in the academic community, promoting knowledge as a value and a sense of responsibility of the University as an institution with the highest human values.

However, UGD, including the entire higher education system in Macedonia, should be aware of the situation on the ground.

The results of the analysis conducted and published by ESA in 2017 on labour demand shows that employers need mainly plant and machine operators, services and sales workers, technicians and associate professionals, and craft and related trades workers. Despite the needs of companies, the labor market is full of over-educated young people. The phenomenon of over-education is another problem specific to Macedonia.

The country over-education phenomenon is defined as the share of employed workers who have completed tertiary education (ISCED levels 5–8) and who work in occupations at the lower end of the ISCO scale (categories 4 to 8). In 2006, the rate of over-education in Macedonia was 11.2%. Over the years the situation has deteriorated and in 2017 reached 14.3%. (ETF, 2019).

**TABLE IV. - Number of enrolled students in UGD**

	Number of enrolled students	
	2019/2020	2018/2019
Faculty of Computer Sciences	447	513
Faculty of Natural and Technical Sciences	461	524
Technological-Technical Faculty	153	185
Faculty of Electrical and Technical Engineering	119	153
Faculty of Agricultural Sciences	310	380
Faculty of Economics	556	703
Faculty of Law	278	318
Faculty of Medical Sciences	2403	2480
Faculty of education and science	268	254
Faculty of Philology	545	622
Faculty of Mechanical Engineering	161	185
Faculty of Tourism and Business Logistics	1 211	1498
Music Academy	203	232
Art Academy	37	40
Film Academy	12	15
<b>Total</b>	<b>7164</b>	<b>8102</b>

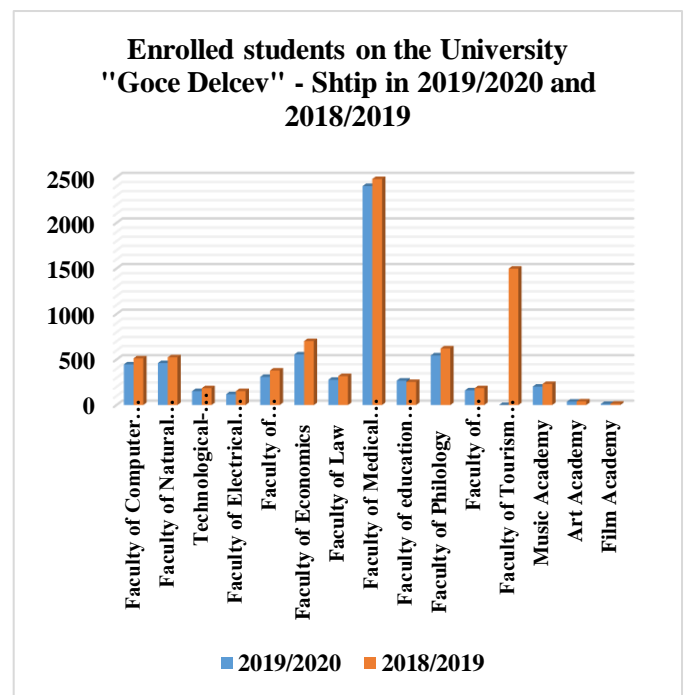
Source: State Statistical Office, Enrolled students in higher schools and faculties in the Republic of Macedonia in the academic year 2019/2020 (first cycle of studies), statistical report; State Statistical Office, Enrolled students in higher schools and faculties in the Republic of Macedonia in the academic year 2018/2019 (first cycle of studies), statistical report

**V. DISCUSSIONS**

The global crisis in 2020 due to the pandemic has a major impact in many sectors. One of the key questions is what can be the contribution of the education system to economic growth in this new reality? In this situation, the contribution of higher education and all higher education institutions is necessary for human capital and universal competencies. At the same time, it is necessary to transform and change practically all institutions in order to be more effective and efficient.

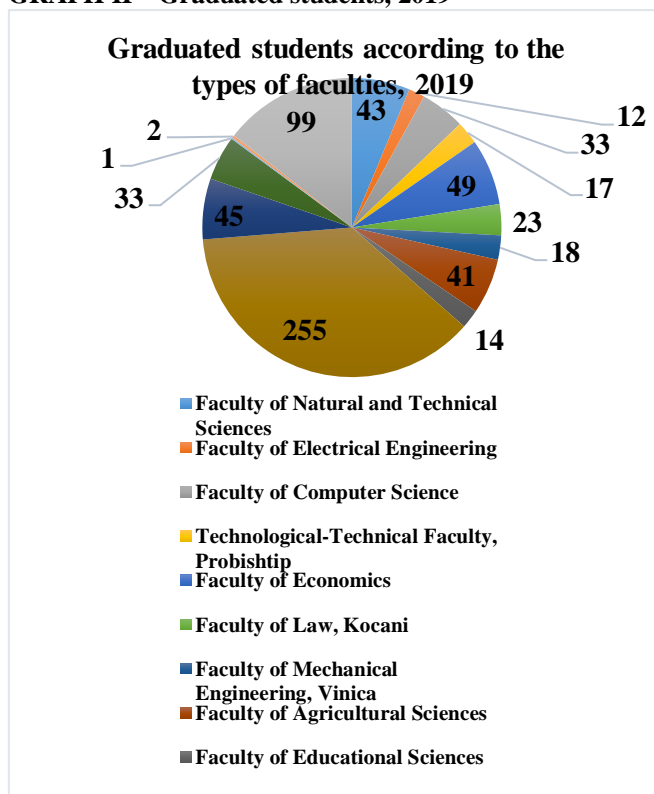
Recent graduates from tertiary education in North Macedonia are far less likely to be employed (55.4%) (Eurostat, 2017) than tertiary graduates in EU countries (83%) (OECD, 2017). One explanation for high unemployment among tertiary graduates are low skills, or skills mismatch. Firms in North Macedonia report difficulties finding workers with technical skills and broader cognitive and social and emotional skills (World Bank, 2017). In the report of ETF (from data from one national study) is stated that among the tertiary graduates who do find employment one-third have a qualification that is not well matched to the requirements of their job, while a further third of graduates are over-educated for their job. It is also noted that one factor leading to the skills mismatch is the limited diversity in the provision of higher education programmes, as well as that the majority of higher education students are following general social studies, such as arts, social sciences and law. Due to all this, it is necessary to strengthen the study programs with qualifications that will suit the labor market, especially after the end of this crisis.

**GRAPH I – Enrolled students on the UGD in 2019/2020**



Source: State Statistical Office, Enrolled students in higher schools and faculties in the Republic of Macedonia in the academic year 2019/2020 (first cycle of studies); State Statistical Office, Enrolled students in higher schools and faculties in the Republic of Macedonia in the academic year 2018/2019 (first cycle of studies)

**GRAPH II – Graduated students, 2019**



Source: State Statistical Office, Number of graduated students in 2019

**VI. CONCLUSIONS**

In the future there is need for creating a system so that there is greater awareness and understanding of where students are in their learning and how the education system overall is performing, will need to be matched by greater support to create effective teaching and learning environments. In the coming period, it is necessary to continuously invest and raise educational standards. What is needed is to follow the modern social trends and to harmonize the higher education institutions with them. Equipping and investing in new, young and talented staff, as well as continuous upgrading of one who is already part of higher education, should be an essential goal of educational institutions.

In the next period, the University of Stip "Goce Delchev" should not face the large number of challenges for fulfilling its mission and its goals. Following the new technologies, focusing on complex and meaningful reforms are only part of the competencies with which students should be upgraded as future creators of productive changes are only part of the content and goals of higher education institutions. In any case, efforts should be directed towards changes that will arise from the educators themselves, from research done by recognized and well-known educational reformers, and from public debates on any planned change.

It is high time for the competent institutions to prepare a joint strategy for improving all the factors that go in favor of the young generation, much more intensively, even more responsibly.

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**TABLE V – Number of graduated student according to the types of faculties, 2019**

	Graduated students according to the types of faculties, 2019
Faculty of Natural and Technical Sciences	43
Faculty of Electrical Engineering	12
Faculty of Computer Science	33
Technological-Technical Faculty, Probishtip	17
Faculty of Economics	49
Faculty of Law, Kocani	23
Faculty of Mechanical Engineering, Vinica	18
Faculty of Agricultural Sciences	41
Faculty of Educational Sciences	14
Faculty of Medical Sciences	255
Faculty of Philology	45
Faculty of Music	33
Faculty of Fine Arts	1
Faculty of Film Arts	2
Faculty of Tourism and Business Logistic Gevgelija	99
Total	685

Source: State Statistical Office, Number of graduated students in 2019



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