

CONSIDERATIONS ON THE IMPACT OF HIGHER EDUCATION FROM AN ECONOMIC AND NON-ECONOMIC PERSPECTIVE

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Abstract

The impact of higher education is reflected in both individual and collective benefits, economic and non-economic. For example, if pursuing higher education means an increased chance of employment at the individual level and of being better paid, at the macroeconomic level, a higher share of the population with higher education is associated with lower unemployment rates, with an increase in productivity and, consequently, with an acceleration of economic growth. The economic advantages of higher education are complemented by non-economic advantages such as: increased manifestation of civic spirit, increased care and better health, a decrease in crime etc. among the population with higher education. This article aims to highlight some of the economic and non-economic benefits, individual or collective, of higher education, starting on the one hand from information in the literature and on the other hand from official statistical information, using EU statistical information.

Keywords

tertiary education; economic benefits; non-economic benefits

JEL Classification

I25, I29

Introduction

The aim of this paper is to highlight some of the economic and non-economic benefits that higher education has for both society and the individual. Information on these benefits was collected on the one hand from the literature and, on the other hand, resulted from the analysis of relevant statistical data, using data at EU level.

Economic and non-economic benefits of higher education at individual and collective level, as they result from the literature

The literature abounds in theories and research approaches that highlight the favorable impact of higher education on economic development, at an aggregate level, on the one hand, and on individuals, on the other.

Higher education is conventionally associated with three social key functions, namely: significant contribution in the field of education, high impact in the field of research and support in knowledge transfer.

The most important dimension of this impact, implicit and visible, is manifested in the area of economic benefits, being known the contribution of higher education in the economic growth of a state, respectively, at individual level, the intrinsic link between the degree of education and income.

Particular attention should be paid to non-economic benefits, as it is known that the results of education translate, at the individual level, into knowledge, skills, attitudes, and values. In other words, as noted by Bynner, Schuller, and Feinstein (2003), non-economic benefits capture effects that cannot be directly measured in terms of income and productivity, their contribution being related to increasing quality of life. In this context, it is obvious that higher education also has an important cultural dimension (Barr, 2012), contributing, in addition to obtaining a high level of performance at the macroeconomic level, to promoting an extensive set of values.

One of the non-economic benefits of higher education is the promotion of civic spirit. The specialized literature that highlighted the impact of higher education on the dissemination of civic spirit refers mainly to the attitude towards the exercise of the right to vote. Research in Europe and the United States has shown a direct link between education and voting (Milligana , 2004; Borgonovi and Miyamoto , 2010; Dee , 2004; Teen , 2007), the gap between individuals with higher education and those with a low level of education varying strongly, in the analyzed areas, from the perspective of voting participation. Moreover, we appreciate that this discussion can be extended to the area of influence exerted by the representatives of the political environment on the political choices of individuals, the practice proving that individuals with a low level of education are more easily oriented towards supporting a certain political current. On the other hand, individuals with higher education, beyond being more interested in the political life, have their own beliefs, being difficult to urge in the absence of strong rational arguments.

Correlated with the benefit of manifesting the civic spirit, also in the non-economic area of the advantages provided by higher education is also found the one of increasing the civic commitment. In the field of civic engagement, the literature (Calhoun , 2006; Borgonovi and Miyamoto , 2010; Borgonovi , 2012; Ogg , 2006) includes values such as involvement in volunteering, participation in public debates, mutual trust and tolerance towards others.

If Calhoun is the one who supports the theory that higher education institutions are accelerators in the development and increase of civic engagement, especially due to involvement in the public and professional areas, the rest of the mentioned works are focused on analyzing the relationship between education and tolerance to those around, namely trust in society.

The liberalization of the labor market and the phenomenon of immigration from the European space were only 2 of the reasons that led to the conduct of research to highlight the link between the level of education and tolerance towards others. Thus, Bogronovi and Miyamoto (2010), studying the phenomenon in 21 European states, showed that highly educated individuals are much more tolerant with immigration than those with a low level of education. Practically, in the case of this dimension of civic engagement, it was observed that the marginal rate in the case of individuals with higher education is clearly higher than that of individuals with poor education (41%, compared to 18%). A possible interpretation of this phenomenon is that attitudes and beliefs about society as a whole end in the age range of 18-25 years, which is also the interval for pursuing higher education, when the ground is created for experiencing interaction with foreign students.

There are a number of authors in the literature who have highlighted a direct link between the high level of education and the crime rate. For example, Machin (2010) and Feinstein (2008), respectively Zaback , Carlson and Crellin (2012) are the ones who mention that individuals with higher education are the least likely to commit

crimes. Obviously, the direct link between education level and crime rate cannot be eloquent in the absence of a broader context, which includes both objective indicators (standard of living, job security, etc.) and subjective ones (personality, individual value system). etc.).

The impact of the elevated level of studies on health is the area that has been much addressed in the literature. Thus, according to studies conducted over time, the following areas of favorable influence of the level of higher education:

- individuals with higher education, due to their lifestyle, are likely to fit into the segment of the population with a longer lifespan (Chevalier, 2010; Hout , 2012);
- the educated population, with higher education, is less prone to the assimilation of behaviors harmful to health (tobacco consumption, alcohol consumption, inadequate quantitative and qualitative food consumption, which generates obesity - Cutler et all , 2010; Kuntsche , 2004), the effects are also felt in the mortality rate (reduction of the mortality rate due to cardiovascular diseases - Mackenback , 2006; reduction of the incidence of premature births and infant mortality rate, in the case of smoking mothers - Currie and Moretti , 2003);
- the high level of preparation of the partners favors the manifestation of a balanced family climate (Feinstein and Sabates , 2006);
- the high level of training is also correlated with the manifestation of an obvious behavior of prevention in the field of health (Fletcher and Frisvold , 2009; Feinstein and Sabates , 2004; Baum et all , 2010).

The literature (Brennan et all , 2010; Pascarella and Terenzini , 2005) goes in depth and even mentions the impact of higher education in terms of individual changes. In other words, it has been observed that for individuals who have completed higher education, this experience is associated with changes in both cognitive and attitudinal, as well as in areas that contribute to increasing the quality of life.

A summary of the influences attributed to higher education on individual changes is provided by Brennan , Durazzi , and Tanguy (2013), as follows:

- cognitive changes associated with academic development (improvement of communication skills and development of specialized vocabulary; assimilation of skills and abilities in the field of analysis; assimilation of information in various fields; capacity for synthesis and critical thinking, improvement of skills to adapt to innovative technologies etc.)
- attitudinal changes (development of civic spirit; high tolerance in relation to others and in relation to society; openness to diversity, etc.);
- psychological changes (increased self-confidence; higher control over one's own existence and increased independence; assimilation of interpersonal communication skills, etc.);
- changes in the economic and career plan (clearly higher employment opportunities; adequate employment status and high earnings; job satisfaction according to the preparation, respectively according to one's own projections and expectations; job stability; socio - economic positioning favorable, high rate of return on investment in education, etc.);
- change in the quality of life (improving health and prevention in this area; increasing life expectancy; a substantial improvement in the ability to educate one's children; improving decision-making capacity in the field of private consumption; demonstrating buying behavior predominantly rational, with a tendency to save and invest in income-generating activities; openness to the lifelong learning / improvement process, etc.).

According to the theory launched by Lagemann and Lewis (2010), focused on highlighting the non-economic benefits of higher education, at the individual level, graduates must achieve the following results: skills in interpersonal relationships, multicultural understanding, skills in identifying and solving labor issues, consistency in setting and achieving their own goals and confidence to act in the direction and with the intention of *making a difference*. The impact of higher education on individual development in areas such as emotional skills, interpersonal skills, ethical behavior, and intellectual abilities has been highlighted by other authors (Maxwell, 2007; McHenry, 2007; Palmer, Zajonc, Scribner, & Nepo, 2010).

Individual changes, because of higher education, have also been the subject of modeling processes, with Bynner, Schuller and Feinstein (2003) proposing the conceptualization of social benefits in three dimensions - identity capital, human capital and social capital. According to this triangular pattern, human capital captures the knowledge, skills and skill level assimilated by individuals in the formal learning process (changes in cognitive, economic and career development); the share capital overlaps with the changes in attitudes mentioned above; identity capital can be assimilated to psychological changes.

Starting from the aspects mentioned above, which try to outline a framework of the economic and non-economic benefits of higher education at the individual level, we can identify the specific influences exerted at the macroeconomic level as well. If the effects of higher education on macroeconomic development are known in terms of economic benefits (accelerating economic growth, lowering the unemployment rate and increasing the employment rate, greater flexibility for the labor market, increasing labor productivity, reducing public spending, etc.), non-economic benefits issues are less visible (increased social cohesion, increased tolerance of society, political stability, better social mobility, reduced crime, etc.).

Hout (2012), starting from the individual economic benefits, namely high incomes for people with higher education, points to the contribution of education in macroeconomic terms, emphasizing the impact on economic growth and the well-being of society.

Beneficial results on the labor market, seen at the macroeconomic level, from the perspective of flexibility and high employment rate, have been mentioned in numerous studies (Hackman, Stixrud and Urzuna, 2006; Brennan, Kogan and Teichler, 1995; Stokes, 2015).

Economic and non-economic benefits of higher education resulting from the analysis of EU-27 statistics

At the level of the European Union, there is an increase in the population's interest in pursuing higher education, constantly increasing, in recent years, the share of those pursuing higher education in the total population of 18-39 years, as shown in table no. 1.

Table 1. Students in tertiary education by age groups - as% of corresponding age population, at EU level - 27

Age	2015	2016	2017	2018	2019
18 years	16.0	17.2	19.1	19.9	20.7
20 years	37.1	37.8	40.7	41.3	41.9
22 years	34.2	33.6	36.0	36.4	35.0
24 years	23.0	22.7	24.5	24.7	23.6
26 years	13.2	13.0	14.0	14.2	13.8
28 years	8.3	8.1	8.7	8.9	8.8

From 30 to 34 years	3.9	3.8	4.2	4.2	4.2
From 35 to 39 years	2.0	1.9	2.1	2.2	2.2

Source: Eurostat (<https://ec.europa.eu/eurostat/web/main/data/database>)

The interest of the population in the direction of graduating from higher education is obviously related to the potential benefits that they can generate.

Thus, the statistical information for the period 2015-2020 on the labor market in the European Union shows that graduation is associated with a much lower unemployment rate, which shows increased employment opportunities for those who complete the level tertiary education. For example, in 2020, the unemployment rate in the tertiary education population was 4.7%, compared to 6.6% of the upper secondary and post-secondary non-tertiary education population and, respectively, 13.7% at the level of the one with less than primary, primary and lower secondary education. (Table 2)

Table 2. Unemployment by educational attainment in the EU-27, at the level of the population aged 15 to 74, between 2015 and 2020 (percentage of population in the LABOR force)

Level of education	2015	2016	2017	2018	2019	2020
Less than primary, primary, and lower secondary education (levels 0-2)	18.7	17.4	16.0	14.5	13.5	13.7
Upper secondary and post-secondary non- tertiary education (levels 3 and 4)	9.2	8.3	7.4	6.6	6.1	6.6
Tertiary education (levels 5-8)	6.1	5.4	4.8	4.4	4.2	4.7

Source: Eurostat (<https://ec.europa.eu/eurostat/web/main/data/database>)

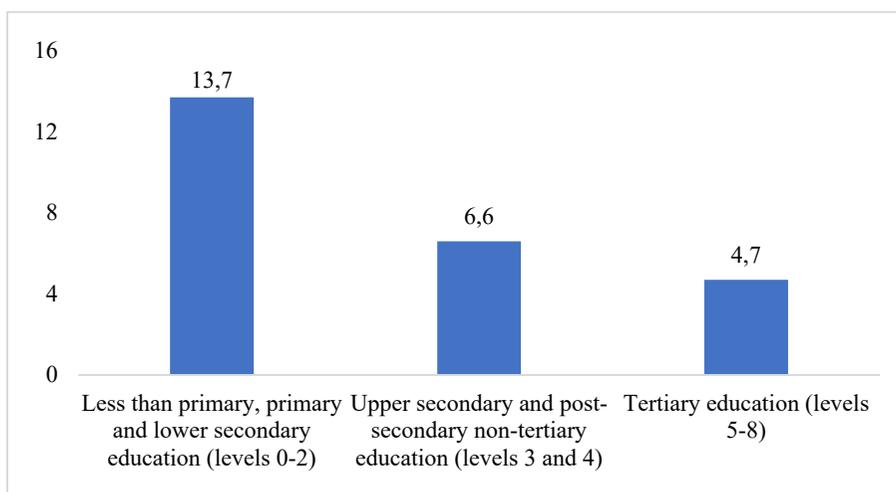


Figure 1. Unemployment by educational attainment in the EU-27, at the level of the population aged 15 to 74, in 2020 (percentage of population in the LABOR force)

Source: Eurostat (<https://ec.europa.eu/eurostat/web/main/data/database>)

Practically confirming the information presented above, the indicators that show the evolution of the employment level of the EU population, show that the population with higher education has a much higher level of employment compared to the categories of

people with a lower level of education. For example, according to the data presented in Table 3, in 2020, 83.9% of the total population aged 15-64 with tertiary education they were employed, compared to 69.9% for those with upper secondary and post-secondary non-tertiary education and, respectively, 43.3% those with less than primary, primary and lower secondary education .

Table 3. Employment by educational attainment level, in the EU-27, at the level of the population aged 15-64, between 2015 and 2020 (percentage of total population)

Level of education	2015	2016	2017	2018	2019	2020
Less than primary, primary and lower secondary education (levels 0-2)	41.6	42.4	43.3	44.1	44.6	43.3
Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	68.1	69.1	70.1	71.0	71.4	69.9
Tertiary education (levels 5-8)	82.3	83.1	83.9	84.4	84.9	83.9

Source: Eurostat (<https://ec.europa.eu/eurostat/web/main/data/database>)

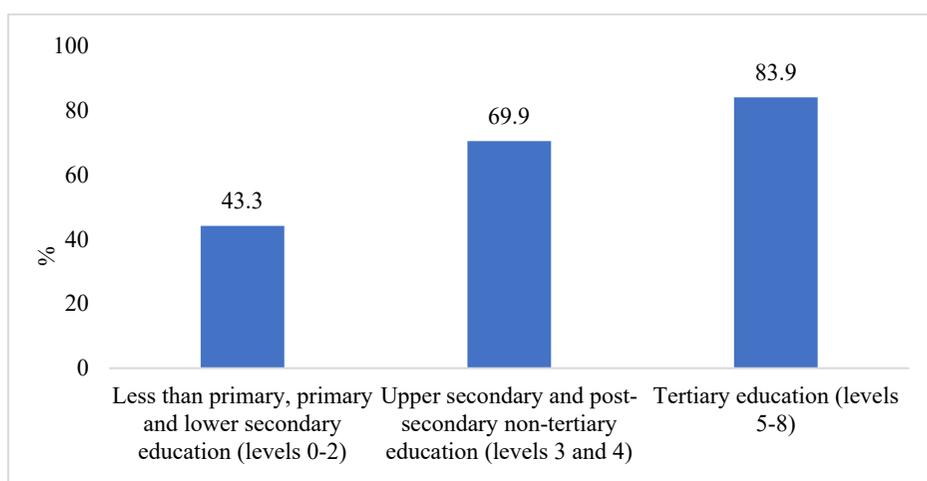


Figure 2. Employment by educational attainment level, in the EU-27, at the level of the population aged 15-64, in 2020 (percentage of total population)

Source: Eurostat (<https://ec.europa.eu/eurostat/web/main/data/database>)

From the point of view of income, the population with higher education enjoys a higher standard of living. Thus, the information regarding the mean nominal monthly level earnings of employees by employment at the level of some European Union countries, correlated with the distribution of the employed population by categories of studies according to occupation, highlights the increased degree of employment of the population with higher education (compared to other categories of population), at the level of those major occupational groups where higher incomes are recorded.

Thus, according to the data for 2018 for which we have data for several EU countries, the groups of occupations at which the highest incomes are recorded are: "Managers", "Professionals" and "Technicians and associated professionals" (valid for all countries for which we have data).

Table 4. Mean nominal monthly earnings of employees by occupation, in 2018, at the level of some EU countries (US dollars)

The country	Total	Managers	Professionals	Technicians and associated professionals	Clerical support workers	Service and sales workers	Skilled agricultural, forestry and fishery workers	Kraft and related trades workers	Plant and machine operators, and assemblers	Elementary occupations
Austria	3348	7773	4562	4105	2974	1964	1723	3455	3127	1736
Belgium	3793	8045	5464	4299	3346	2375	nd .	3311	3347	2326
Bulgaria	698	1970	1037	826	543	402	465	554	511	378
Cyprus	2090	6709	2936	2324	1559	1377	1386	1719	1757	1299
Czech	1550	3177	2181	1700	1279	1062	1064	1323	1290	913
Estonia	1541	2290	2054	1653	1360	1035	977	1416	1346	1001
Finland	3647	7429	4874	3785	3008	2558	2556	3277	3329	2244
Germany	3780	9074	5744	4199	3489	2617	2898	3494	3207	2262
Greece	1047	1845	1303	1206	1030	860	784	931	991	754
Hungary	1151	2231	1636	1206	1069	800	744	1001	959	672
Ireland	4270	6822	5982	4437	3481	2753	2852	3493	3439	2767
Latvia	1347	1972	1780	1422	1181	888	932	1201	1155	844
Lithuania	1122	1873	1402	1061	931	750	695	917	925	647
Luxembourg	4247	8520	5617	4177	3400	2729	2716	3178	3271	2002
Netherlands	2968	6317	4279	3310	2577	1717	2306	3066	2937	1239
Poland	1295	2497	1586	1315	1050	817	805	1080	1070	793
Portugal	1049	1920	1567	1151	886	798	713	877	866	633
Slovakia	1388	2922	1718	1515	1153	1020	986	1297	1216	782
Slovenia	2100	3398	2883	2260	1825	1518	1450	1675	1624	1319
Spain	2363	5347	3395	2879	2139	1678	1938	2226	2282	1493
Sweden	3980	6741	4694	4268	3336	3141	2980	3589	3440	2796

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Source: ILOSTAT, International Labor Organization (<https://ilostat.ilo.org/>)

On the other hand, at EU level, according to 2020, 76.7% of the tertiary education population falls into the groups "Managers" (8.7%), "Professionals" (48.8%) and "Technicians and associated professionals" (19.2%); categories that at the level of the population with a lower level of education, are represented to a small extent (26, 3% at the level of the upper secondary and post-secondary non-tertiary education population and 10.2% in the lesser than primary, primary and lower secondary education population).

Table 5. Distribution of employment, 15 years and over, by categories by educational attainment level by occupation, in the EU-27, in 2020 (% in total category after education)

Occupation	Total population	Tertiary education (levels 5-8)	Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	Less than primary, primary and lower secondary education (levels 0-2)
Managers	5.0	8.7	3.3	2.3
Professionals	20.4	48.8	5.7	1.5
Technicians and associate professionals	16.2	19.2	17.3	6.4
Clerical support workers	9.7	8.0	12.3	5.7
Service and sales workers	15.8	6.8	21.0	20.6
Skilled agricultural, forestry and fishery workers	3.5	1.0	3.9	7.9
Craft and related trades workers	11.5	2.7	16.0	17.5
Plant and machine operators and assemblers	7.5	1.4	10.2	13.0
Elementary occupations	8.5	1.5	8.2	24.1
Other categories	1.9	1.9	2.0	1.2
Total	100	100	100	100

Eurostat own processing (<https://ec.europa.eu/eurostat/web/main/data/database>)

A number of non-economic benefits are also associated with a higher level of training. Thus, comparing life expectancy to tertiary population categories education with those with a lower level of education finds a life expectancy associated with higher education. Thus, considering the information for the period 2015-2017 (the last years for which we have data for a large part of the EU countries) we find that at the level of the countries considered, the highest life expectancy is recorded in the tertiary education population, followed by the upper secondary and post-secondary non-tertiary education population, and the smallest life expectancy is registered by the less than primary, primary and lower secondary education population.

Table 6. Life expectancy at less than 1 year, in some EU countries, between 2015 and 2017, by total population and by educational attainment level

The country	Total population			Tertiary education (levels 5-8)			Upper secondary and post-secondary non-tertiary education (levels 3 and 4)			Less than primary, primary and lower secondary education (levels 0-2)		
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Bulgaria	74.7	74.9	74.8	76.2	75.9	76.8	74.6	75.1	74.8	72.2	72.4	72.4
Denmark	80.8	80.9	nd .	82.9	83.0	nd .	81.1	81.2	nd .	77.8	77.7	nd .
Estonia	78.0	78.0	nd .	80.9	80.9	nd .	77.3	77.4	nd .	72.5	72.6	nd .
Greece	81.1	81.5	81.4	81.9	81.9	82.5	80.9	81.7	81.2	80.4	80.3	80.2
Croatia	77.5	78.2	78.0	78.1	79.2	80.1	75.6	76.7	76.1	76.9	78.2	77.5
Italy	82.7	83.4	83.1	82.6	83.6	84.6	83.5	84.6	84.3	81.4	82.0	81.5
Hungary	75.7	76.2	76.0	78.0	78.3	79.1	75.6	76.8	76.3	72.6	72.6	72.0
Poland	77.5	78.0	77.8	80.9	81.1	81.7	76.5	77.2	77.0	74.2	74.1	72.8

CONSIDERATIONS ON THE IMPACT OF HIGHER EDUCATION FROM AN ECONOMIC AND NON-ECONOMIC PERSPECTIVE

Portugal	81.3	81.3	81.6	82.8	83.2	84.2	80.2	81.3	81.1	80.9	80.7	81.0
Romania	74.9	75.2	75.3	74.8	74.9	76.2	73.8	75.1	74.9	73.4	72.9	72.6
Slovenia	80.9	81.2	81.2	83.2	83.7	83.5	80.9	81.1	81.1	78.6	79.0	79.0
Slovakia	76.7	77.3	77.3	80.1	80.8	80.6	77.0	77.5	77.6	69.7	69.9	69.2
Finland	81.6	81.5	81.7	83.9	83.8	83.8	81.4	81.4	81.6	78.4	78.1	78.4
Sweden	82.2	82.4	82.5	84.0	84.2	84.3	82.2	82.3	82.3	80.0	80.1	80.2
Norway	82.4	82.5	82.7	84.1	84.1	84.3	82.5	82.8	82.8	79.7	79.5	80.0
Turkey	78.2	78.1	78.5	80.0	79.8	80.3	78.7	78.5	78.9	77.8	77.7	78.0

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Source: Eurostat (<https://ec.europa.eu/eurostat/web/main/data/database>)

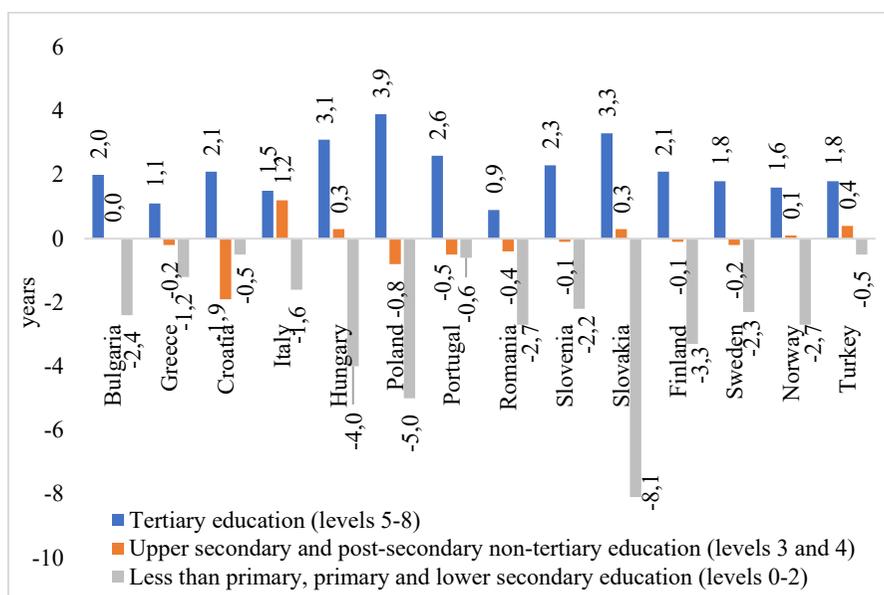


Figure 3. Life expectancy at less gap than 1 year by population categories by educational attainment level, compared to the national average, at the level of some EU member states (+/- years compared to the average), in 2017

Eurostat own processing (<https://ec.europa.eu/eurostat/web/main/data/database>)

Another indicator of the quality of life and which differs by population categories depending on the level of education is the number of births of minor mothers. Thus, based on data from 2019 in some EU countries, it is found that (except for cases for which the mother's studies are not known), mothers aged 10-14 were registered exclusively among the population with less than primary, primary and lower secondary education, and mothers aged 15-19 registered to the most extent in the same category by level of education. On the other hand, in the tertiary education category of population the phenomenon of birth at the age of 19 is extremely rare (in some EU countries there are 1 child with mothers aged 15-19).

Table 7. Number of births with the mother's age of 10-14 years and 15-19 years respectively (Live births by mother's age) in some EU countries in total and by educational category attainment level, in 2019

The country	Nr. born with the mother's age of 10-14 years					Nr. born with the mother's age of 15-19 years				
	Total	Tertiary education (levels 5-8)	Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	Less than primary, primary and lower secondary education (levels 0-2)	Unknown	Total	Tertiary education (levels 5-8)	Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	Less than primary, primary and lower secondary education (levels 0-2)	Unknown
Czech	22	0	0	22	0	2261	0	324	1697	240
Denmark	1	0	0	1	0	339	0	35	295	9
Estonia	2	0	0	2	0	258	0	45	213	0
Greece	97	0	0	77	20	2209	1	260	1478	470
Croatia	3	0	0	3	0	862	1	370	406	85
Latvia	2	0	0	2	0	546	0	101	444	1
Hungary	58	0	0	54	4	4991	0	694	4151	146
Poland	35	0	0	32	3	8242	0	2218	5861	163
Portugal	29	0	0	26	3	2048	0	425	1490	133
Romania	749	0	0	733	16	17933	0	3935	13410	588
Slovenia	3	0	0	3	0	206	0	50	156	0
Slovakia	38	0	0	38	0	3452	0	442	3010	0
Finland	1	0	0	1	0	592	0	129	463	0
Sweden	4	0	0	0	4	911	1	143	530	237
Norway	nd.	nd.	nd.	nd.	nd.	350	1	30	275	44
Turkey	142	0	0	137	5	53189	13	5442	46505	1229

nd. - No data

Source: Eurostat (<https://ec.europa.eu/eurostat/web/main/data/database>)

Conclusions

An entire range of benefits are associated with tertiary education of the population. These benefits are manifested in various areas of economic and social life, having an impact both individually and collectively. Thus, higher education is associated, among other things, with a higher employment rate and implicitly with a lower unemployment, higher salary income, higher life expectancy, better health, etc., aspects that also result from the information presented in the literature as well as from official statistics, in which case information on the European Union was used.

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