



Munich Personal RePEc Archive

Sustainability Challenges of the European Society and Higher Education

Vértesy, László

World Council for Curriculum and Instruction

2016

Online at <https://mpra.ub.uni-muenchen.de/88645/>
MPRA Paper No. 88645, posted 26 Aug 2018 07:03 UTC

Author: **László VÉRTESY** PhD jur. PhD öc.

Published: in Saba Senses-Ozyurt, Sándor Klein and Zsolt Nemeskéri –ed.: Educating for Democratic Governance and Global Citizenship. World Council for Curriculum and Instruction San Diego,CA, USA 2016. pp. 251-267. ISBN 978-0-692-69768-9;

URL:

http://kpvk.pte.hu/sites/kpvk.pte.hu/files/files/EKONYVEK/wcci_final_160629.pdf

Sustainability Challenges of the European Society and Higher Education

Abstract

The paper analyses – with an aggregate method – the present demographic and higher education situation of the European Union, the consequences, which can be drawn, and the possible options. A sustainable society and higher education is functional, far-sighted, maintainable for generations, flexible and wise enough to do not destroy its physical, environmental or social service systems. Looking at demographics is perhaps one of the best ways to analyse the sustainability of these systems, because the actual size of education is in strong connection with society. In the case of higher education these topics are relevant because, putting aside the theory of lifelong learning, a well-functioning education system still need youngsters, students. If demographic policy is successful, the effects will only be felt after one generation, and at least twice as many time is required for maintaining the present higher education system. The most pressing and urgent question is bridging the next two or three decades.

Introduction

In generally a sustainable society and (higher) education system is functional, far-sighted, maintainable for generations, flexible and wise enough to do not destroy its physical, environmental or social service systems. Demography and the sustainability of education are in a strong connection, because it is unconceivable and impossible without the necessary human resource: students. Therefore, basically looking at demographics is perhaps one of the best ways to analyse the sustainability of the society and populace in widely, and higher education in a narrower way. Demography is the science of vital social statistics, such as the births, deaths, diseases, marriages, etc., of a population. Formal demography limits its object of study to the measurement of population processes, while the broader field of social demography or population studies also analyses the relationships between economic, social, cultural and biological processes influencing a population. The current demography of the European Union is actually resultant of the Member States' demographies, where each positive and negative result should be considered as an aggregated whole.

Present Situation

In 2015 approximately 500 million people live in the 28 member countries of the European Union. According to the estimates of the future, if circumstances do not change significantly (!), 517 million people will live in 2060 in this region. However, it is important to point out that any subsequent accessions (especially Turkey) or exceptional withdrawals, or exclusions might fundamentally affect these trends. The absolute population growth results by the accessions are spectacular at first, but the positive or negative movement sign of the relative percentage rate (%) is more able to express, that actually how the demography of a society increases or decreases.

The age pyramids, fertility rates and the increase of life expectancy all demonstrate these inequalities (Eurostat, 2013 and Eurostat 2010). Using a dendrological metaphor, if we regard these pyramids as trees, a healthy society shows an evergreen tree, where the number and rate of younger generation is ever increasing. An aging population however resembles the crown of a deciduous tree, where the older generation is predominant staying without an adequate further supply of young generations. Unfortunately, this latter phenomenon can be observed in the European Union.

Table 1

Demographic indexes of the Member States of the EU in 2015

Country	Population	EU %	Children per woman	Relative growth (%)	Absolute growth	Life expectancy (year)
Austria	8 623 000	1,70	1,44	0,71	61 000	80,5
Belgium	11 253 000	2,22	1,75	0,51	57 000	80,0
Bulgaria	7 181 000	1,42	1,48	-0,60	-43 000	74,5
Croatia	4 230 000	0,83	1,46	-0,31	-13 000	77,1
Cyprus	846 000	0,17	1,30	-0,94	-8 000	81,7
Czech Republic	10 536 000	2,08	1,46	-0,06	-6 000	77,5
Denmark	5 678 000	1,12	1,67	0,48	27 000	79,6
Estonia	1 315 000	0,26	1,52	0,46	6 000	76,7
Finland	5 477 000	1,08	1,75	0,46	25 000	80,3
France	67 063 000	13,23	1,99	0,45	288 000	81,7
Germany	81 276 000	16,03	1,39	0,32	256 000	80,2
Greece	10 769 000	2,12	1,29	-0,11	-12 000	80,6
Hungary	9 835 000	1,94	1,35	-0,28	-28 000	75,2
Ireland	4 630 000	0,91	1,96	0,35	16 000	80,3
Italy	60 851 000	12,00	1,39	0,48	290 000	82,1
Latvia	1 980 000	0,39	1,52	-0,85	-17 000	73,7
Lithuania	2 903 000	0,57	1,59	-0,92	-27 000	73,4
Luxembourg	570 000	0,11	1,55	2,52	14 000	81,2
Malta	425 000	0,08	1,38	0,47	2 000	81,4
Netherlands	16 924 000	3,34	1,68	0,36	60 000	80,7
Poland	38 494 000	7,59	1,29	0,05	20 000	76,5
Portugal	10 318 000	2,04	1,21	-0,55	-57 000	80,1
Romania	19 822 000	3,91	1,41	-0,41	-81 000	74,9
Slovakia	5 425 000	1,07	1,34	0,13	7 000	76,0
Slovenia	2 064 000	0,41	1,55	0,15	3 000	79,7
Spain	46 404 000	9,15	1,27	-0,15	-72 000	82,4
Sweden	9 793 000	1,93	1,89	0,95	92 000	81,2
United Kingdom	65 093 000	12,90	1,83	0,77	495 000	80,4
Total/average	507 010 000	100	1,55	0,27	1 355 000	79,9

Source: Eurostat, 2016

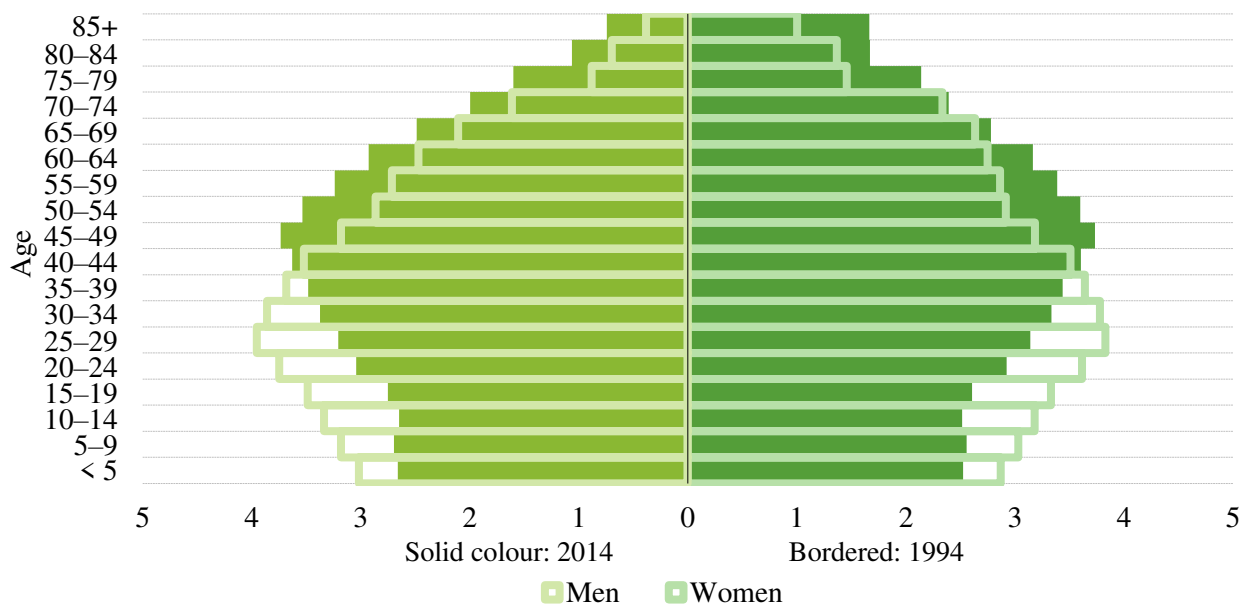
Table 2

Children and young people in the population, EU-28, 1994, 2004 and 2014

	1994		2004		2014	
	Population (thousands)	Share (%)	Population (thousands)	Share (%)	Population (thousands)	Share (%)
Children (0–14 years)	88 628	18,6	80 724	16,4	79 106	15,6
Young people (15–29 years)	104 574	22,0	97 219	19,7	89 634	17,7
Children and young people (0–29 years)	193 202	40,6	177 944	36,1	168 740	33,3

Figure 1

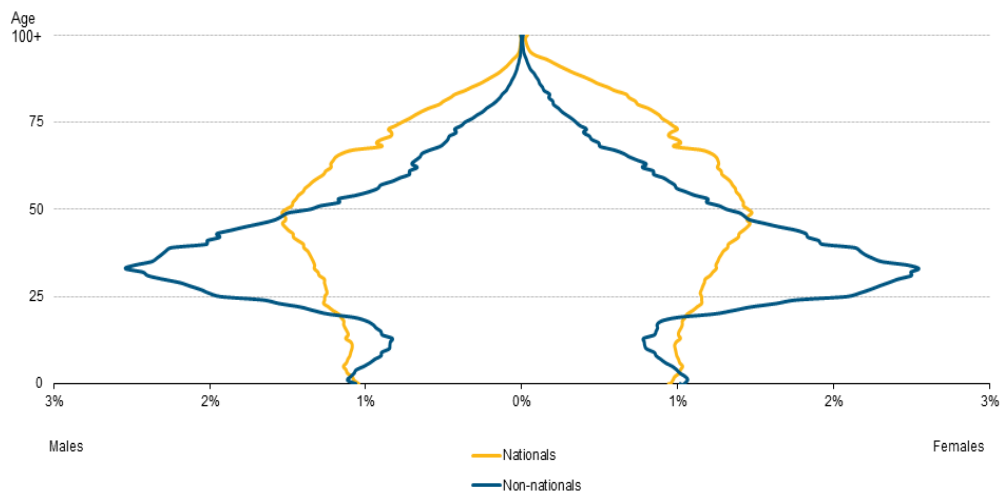
Population pyramids, EU-28, 1994 and 2014



Source: Eurostat, 2016

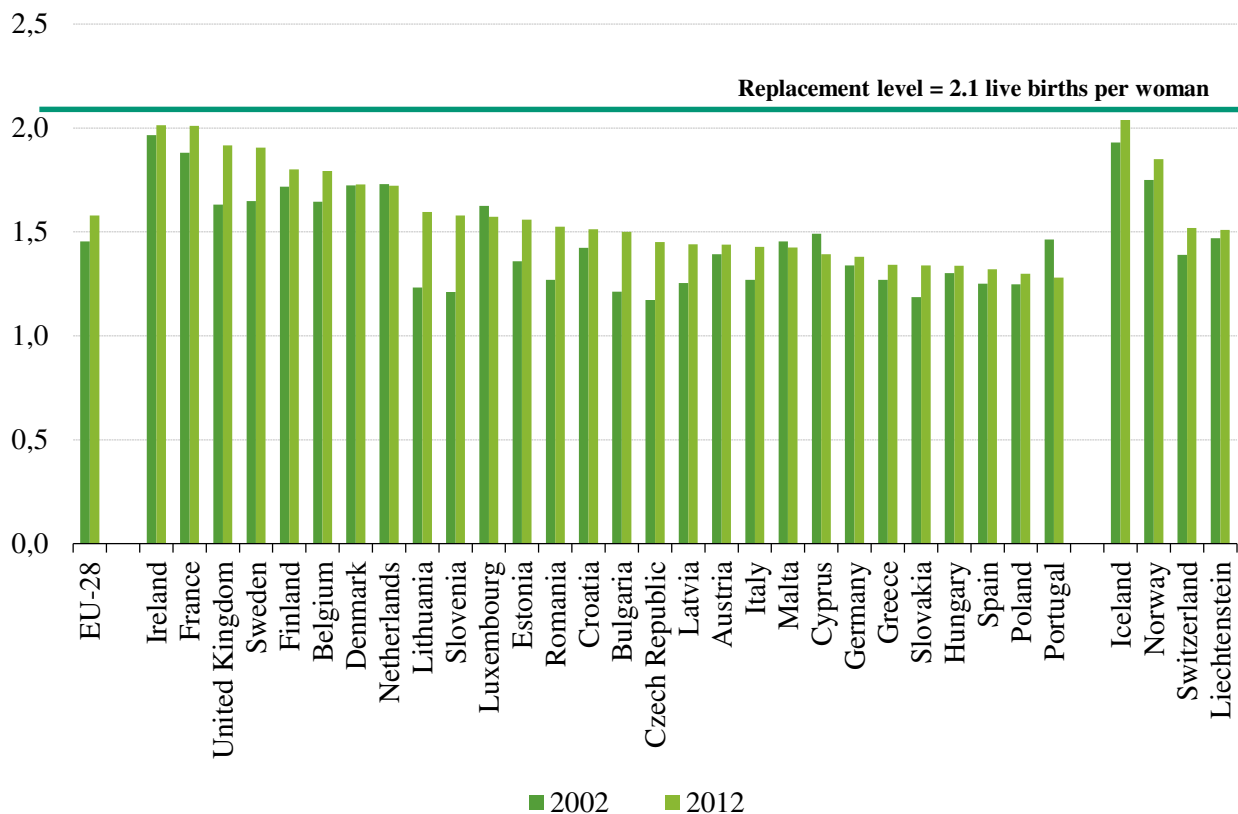
Figure 2

Age structure of the national and non-national populations, EU-28, 2014



Source: Eurostat, 2016

Figure 3
The fertility rates per women of the Member States of the EU



Source: Eurostat and OECD: Society at a Glance 2012.

The number of willingness to have children and the number of births dropped to a level that no longer assures the reproduction of the European population. The number of live-born children per woman should be between a minimum of 2.1 to 2.3, in order to maintain a society, notably the European (Cseh-Szombathy, 2006). However, among the 28 Member States there are still only 11 countries where the population is decreasing, which is a result of non-EU immigration. In the most populous countries (Germany, France, United Kingdom, Italy) the relative demographic values are between 0.32 and 0.77 %, mainly as a result of immigration, which is largely able to offset the lower results of the other countries. The immigrants' attainment in tertiary education is complicated, usually the members of the first immigrant generation are at the working age and they have enough qualifications to take suitable initial jobs. Then the youngsters of the next generation will study later in the tertiary education, depending on the income conditions of the certain immigrant family.

Overall, the annual relative demographic growth is small, but remains still positive (only 0.27 %), which represents more than 1.3 million people per a year. The results are also improved by the standard of living, as in the European Union the mortality rate is low and because of life expectancy at birth is also high, with an average of 79.9 years, in Spain this number is 82.4 years, while the lowest is 73.4 years in Lithuania. With connections with this, it is also worth to point out the observation that after a decrease in mortality eventually a declining in fertility starts as well, since many families lose interest in having numerous children for several reasons (Andorka, 1987). If we compare these numbers with the age pyramids, then according to a simple calculation (dependency rate) now there are four employees per a person over 65 years, but this figure will be reduced to two by 2060. As a result, it seems clear that in the future there will not be sufficient and adequate social and economic resources available for the welfare states to organize, manage and provide public services, notably (not just) higher education and social insurance.

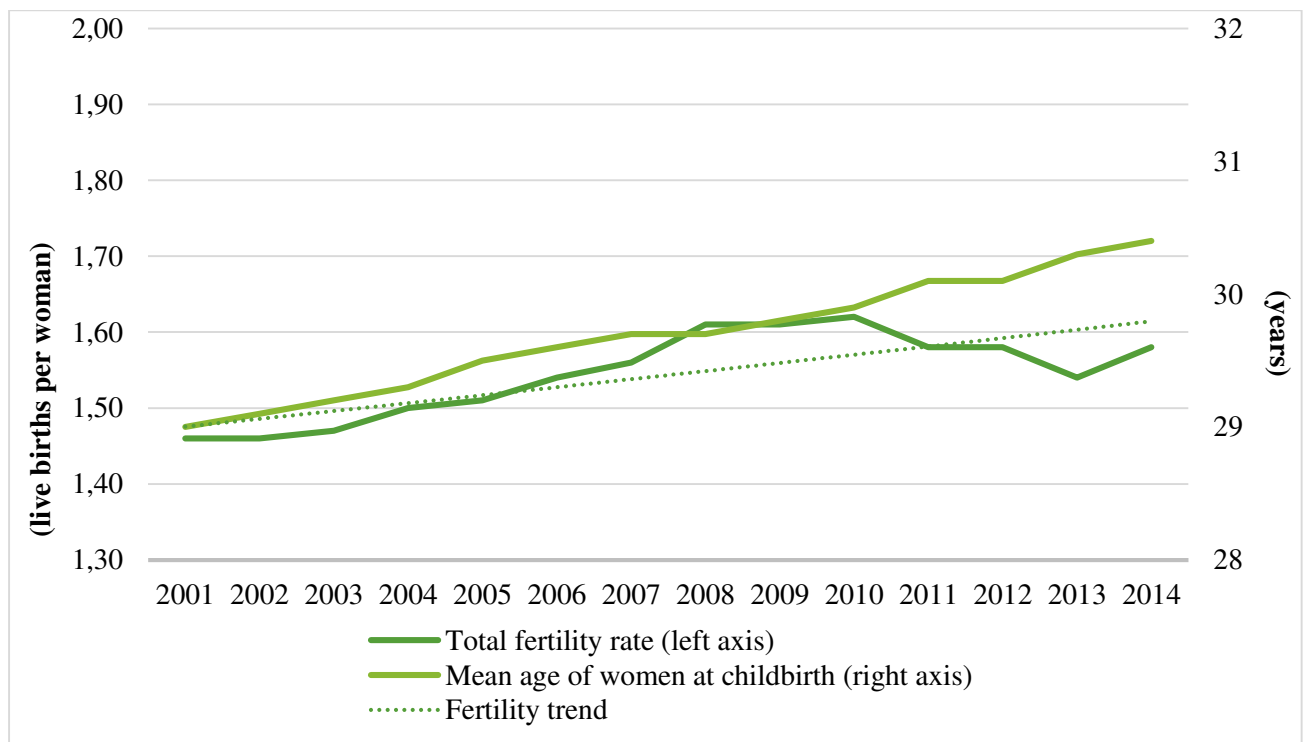
Figure 4
The number of employees per elderly persons in the EU

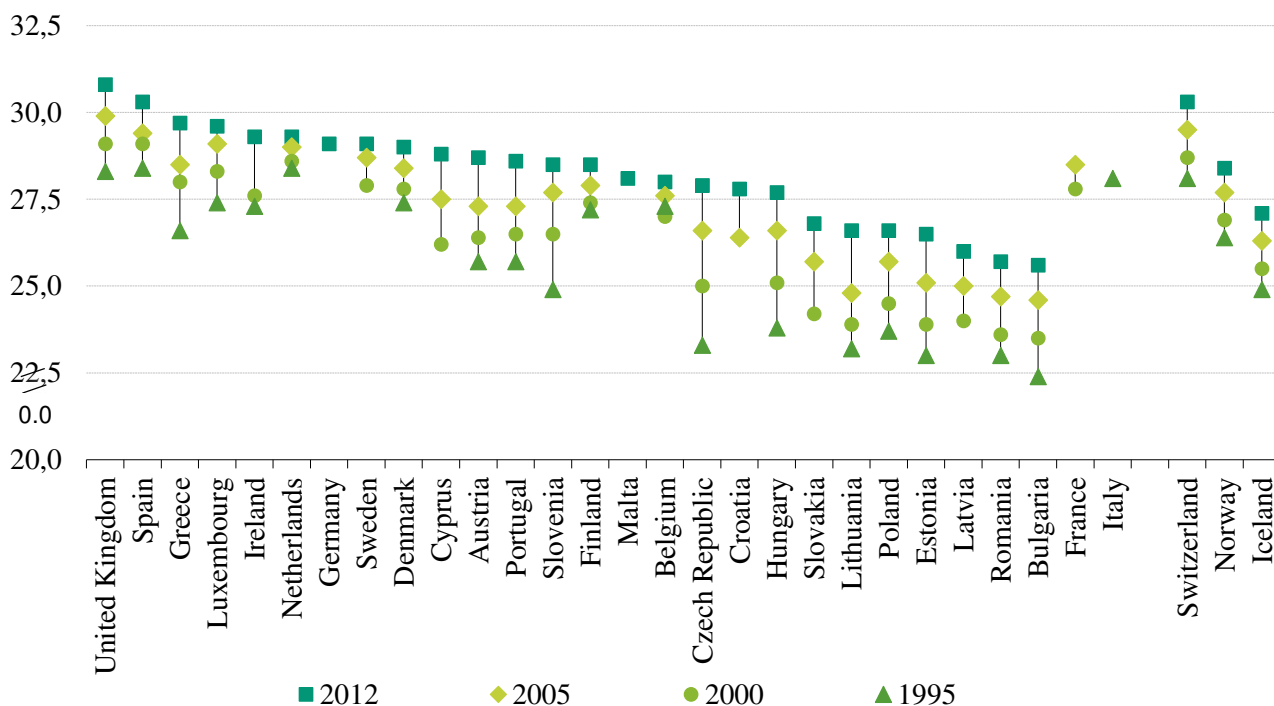
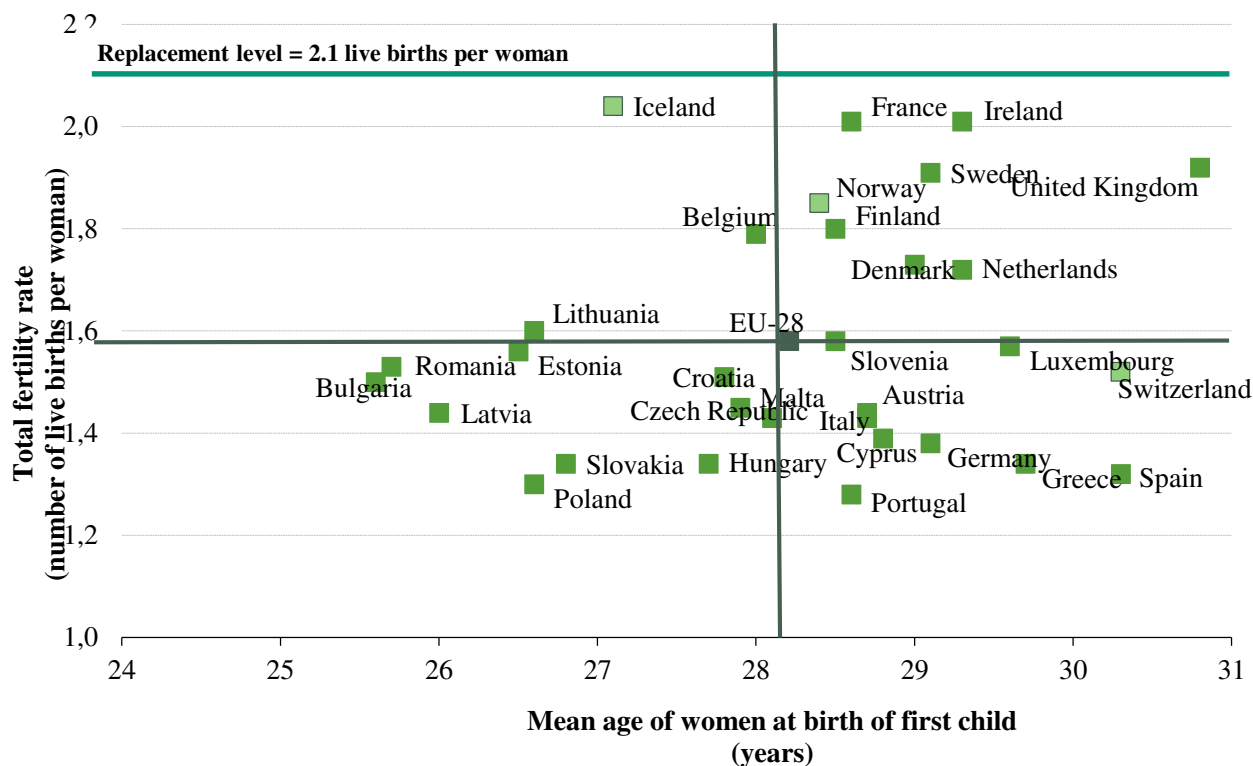


Source: Eurostat, and EU-Commission, Ageing Report 2015.

The EU statistics show that very few children are born among the current European 25-40 year-old persons. The fertility rate and the birth rate (natality) are very low: 1.55 children per a woman in the EU28. (The women of childbearing age are members of the population between the ages of 15-49.) Unfortunately, there is no Member State in which it would be over two. In addition, however, this value shows a continuous downward trend in recent years. In accordance with the increasing tertiary educational attainment of women, the mean age of women at childbirth continued to rise between 2001 and 2014, from 29.0 to 30.4 years.

Figure 5-7
Title Total fertility rate and Mean age of women at childbirth





Source: Eurostat, 2016

The income level has also a crucial role in the willingness to have children. The average monthly income of an EU citizens was € 1,509 in 2014; however the difference between incomes very greatly between member states: in Luxembourg € 3,186, in Sweden € 2,690, in the United Kingdom € 2,597, while in Romania € 398 and Bulgaria € 333, and in Hungary € 503 (Reinisfischer, 2014). This nearly tenfold income difference also has an effect on the number of live births per woman, since this value is 1.89 in of the UK, and 1.83 in Sweden, while only 1.41 in Romania and 1.35 in Hungary. Furthermore it is worth to be, that during the tertiary education period the youngsters usually can take only part time jobs, therefore the monthly incomes are lower, which makes the willingness willingness to have children more difficult.

Table 3

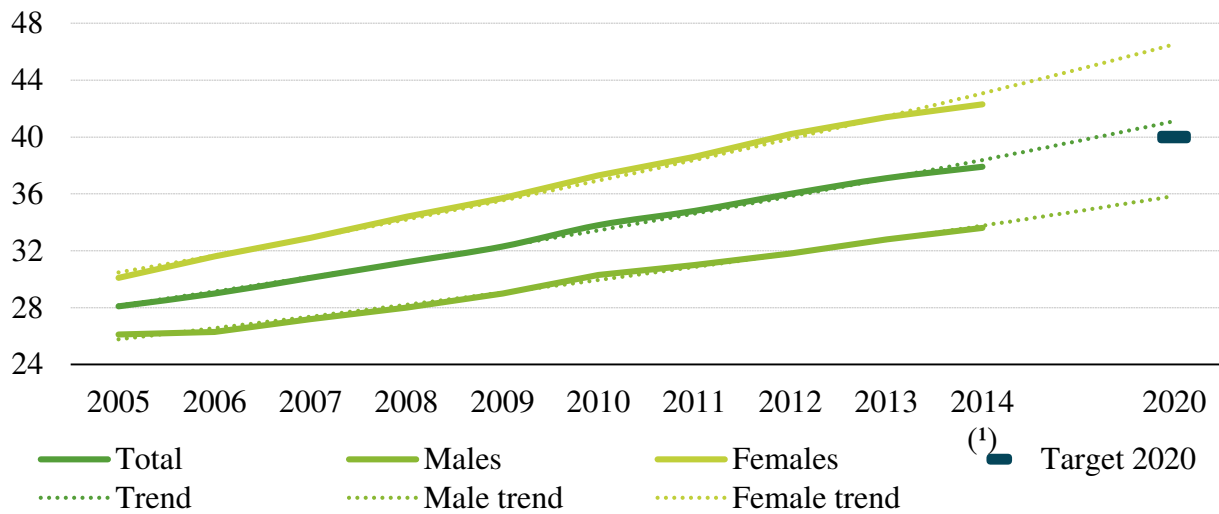
Number of tertiary education students by level and sex, 2013

	Tertiary total			SHORT	BA	MA	PHD
	Total	Male	Female	Total	Total	Total	Total
Eu-28	19 632,3	8 969,1	10 663,2	1 475,4	11 913,5	5 507,4	736,0
Belgium	488,5	216,3	272,2	24,1	364,2	85,6	14,6
Bulgaria	284,0	129,1	154,9	–	195,6	83,0	5,4
Czech Rep.	427,4	182,0	245,4	1,0	267,7	133,5	25,2
Denmark	291,1	125,5	165,7	31,7	182,3	67,5	9,6
Germany	2 780,0	1 469,9	1 310,1	0,5	1 635,9	930,4	213,2
Estonia	64,8	26,9	37,9	–	44,8	17,0	3,0
Ireland	199,4	98,8	100,6	41,6	121,2	28,4	8,2
Greece	659,3	337,7	321,6	–	588,2	48,1	23,0
Spain	1 969,4	914,8	1 054,6	346,4	1 085,0	514,4	23,7
France	2 338,1	1 062,6	1 275,6	504,9	931,7	832,0	69,5
Croatia	164,6	71,7	92,9	:	102,8	58,2	3,6
Italy	1 872,7	804,1	1 068,5	2,5	1 108,3	727,0	34,9
Cyprus	32,0	14,3	17,7	3,3	20,0	7,9	0,8
Latvia	94,5	38,7	55,7	17,3	63,3	11,3	2,5
Lithuania	159,7	66,4	93,2	–	124,5	32,5	2,7
Luxembourg	6,6	3,2	3,4	0,3	3,4	2,4	0,5
Hungary	359,0	160,9	198,1	37,0	237,6	77,0	7,3
Malta	12,6	5,6	7,0	2,5	6,9	3,1	0,1
Netherlands	674,8	327,1	347,7	5,3	558,5	97,3	13,6
Austria	422,8	196,8	225,9	76,8	180,2	140,1	25,7
Poland	1 902,7	764,6	1 138,1	10,9	1 266,5	583,0	42,3
Portugal	371,0	173,7	197,3	–	231,5	120,0	19,5
Romania	618,2	284,9	333,2	–	409,6	187,2	21,4
Slovenia	97,7	41,5	56,2	13,4	54,9	25,8	3,6
Slovakia	209,5	84,5	125,0	2,9	120,8	74,9	11,0
Finland	309,0	143,1	165,9	0,1	228,3	60,1	20,6
Sweden	436,6	176,0	260,6	26,0	253,0	136,1	21,5
United Kingdom	2 386,2	1 048,0	1 338,2	326,8	1 526,7	423,6	109,1
Iceland	19,1	7,2	11,9	0,5	13,8	4,4	0,5
Liechtenstein	0,8	0,6	0,3	–	0,5	0,2	0,1
Norway	255,4	105,2	150,2	9,8	181,9	56,3	7,4
Switzerland	279,8	141,3	138,5	10,8	186,3	60,0	22,7
Macedonia	60,7	27,6	33,1	–	56,9	3,6	0,2
Turkey	4 975,7	2 706,9	2 268,8	1 527,7	3 052,7	314,8	80,5

Source: Eurostat, 2016

Figure 8

Population (%) aged 30-34 with tertiary educational attainment, EU-28, 2005-14

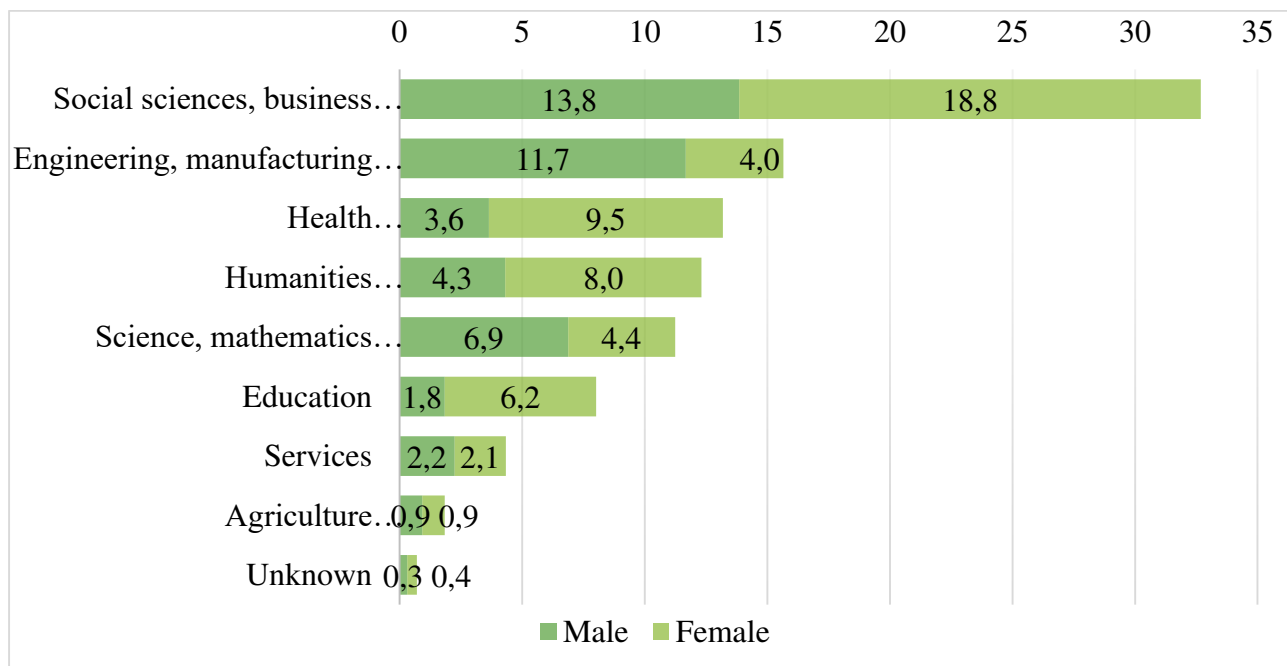


Source: Eurostat, 2016

It is interesting that the share of 30 to 34 year-old persons who have attained tertiary education has continuously increased since 2005, from 27.5 % to 37.9 % in 2014. In accordance with knowledge based society concept of the European Union, it seems that the EU be on track to meet its target which is to increase this share to at least 40 % by 2020. However, the shares of men and women are converging towards the target at different paces, and according to this trends some analyses forecast more than target rate in 2020. Data show that the growth of tertiary graduates has been considerably faster for women (the result was 42.3 % in 2014), and in strong connection with this, the mean age of women at childbirth has been increased. This progress is slower for men, by 2014 only 33.6 % of them had attained tertiary education.

Figure 9

Distribution of tertiary graduates by field and sex, EU-28, 2013



Source: Eurostat, 2016

In most of the tertiary graduate fields, the majority of women is obvious. Only engineering, manufacturing, construction, science, mathematics and computing are the areas where men have surplus. The most significant rearrangement can be observed in the case of social sciences, economics and law.

The strategic framework for European cooperation in education and training adopted in May 2009 sets a number of benchmarks to be achieved by 2020, including one for lifelong learning, namely that an average of at least 15 % of adults aged 25 to 64 years old should participate in lifelong learning. Lifelong learning can take place in a variety of environments, both inside and outside formal education and training systems. The economic crisis, the need for new skills and the demographic changes facing Europe have highlighted the role that adult learning may play in lifelong learning strategies, contributing towards policies that seek to boost competitiveness, employability, social inclusion and active citizenship: a framework for education and training (ET 2020)

Figure 10

Participation in life-long learning, EU-28 (% of population aged 25 to 64)

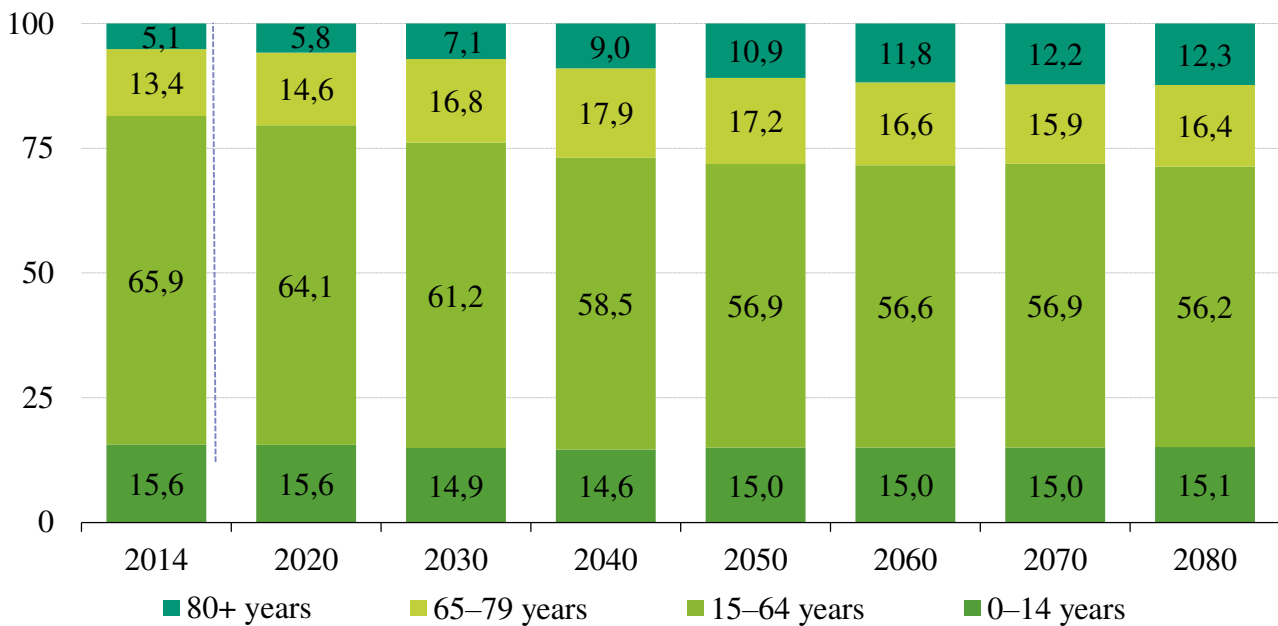


Source: Eurostat, 2016

Consequences and options

The aging of European society bears numerous negative consequences. (The median age of the population in 1990 was 35,2 and in 2014 it was 42,1) According to statistical methodology the age group over 65 is not considered to be an employee, so they no longer significantly contribute to public burdens. Therefore, it will be more and more difficult that fewer and fewer workers, taxpayers will finance the public services e.g. education and social insurance services as well. Of course, in the case of a (Scandinavian) welfare-based fully funded social security this is not a problem, but not all the EU countries operate this system. The post-communist Member States applied only the pay-as-you-go system until 1990, and after the political changes the social security reforms – with this in mind – were mostly fragmentary (for example the imposition of compulsory private insurance forms) and the past 25 years was (would) not enough for the required amount of capital formation.

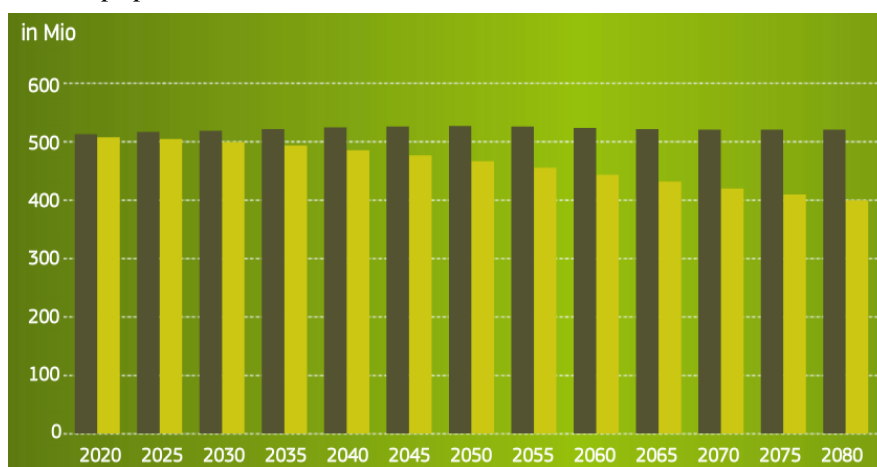
Figure 11
Population structure by major age groups, EU-28, 2014–80



Source: Eurostat, 2016

The biggest problem of the EU's demography is the structure of society: the population is aging significantly, the proportion of the people over 65 years is 17 %, by 2080 this figure will rise to more than 29 %. The unfavourable reversal of the proportion of employees and older persons combined with scarce resources will force the decision-makers to make choices. Today's generation of children are facing an increased burden in relation to supporting the remainder of the population as they move into work (Eurostat, 2015). This might force the state to reduce the level of public duties, possibly relinquish the supply of certain public functions or provide funding from other sources. The OECD already highlighted this problem in 1988, according to the pre-estimates between 1980-2040 due to the expected demographic changes the costs of healthcare will rise by nearly 40 %, and of pensions by 80 %, while the expenditures related to public education will be reduced by almost 20 %, and family supports by about 15 % (OECD, 1988).

Figure 12
The European Union's population



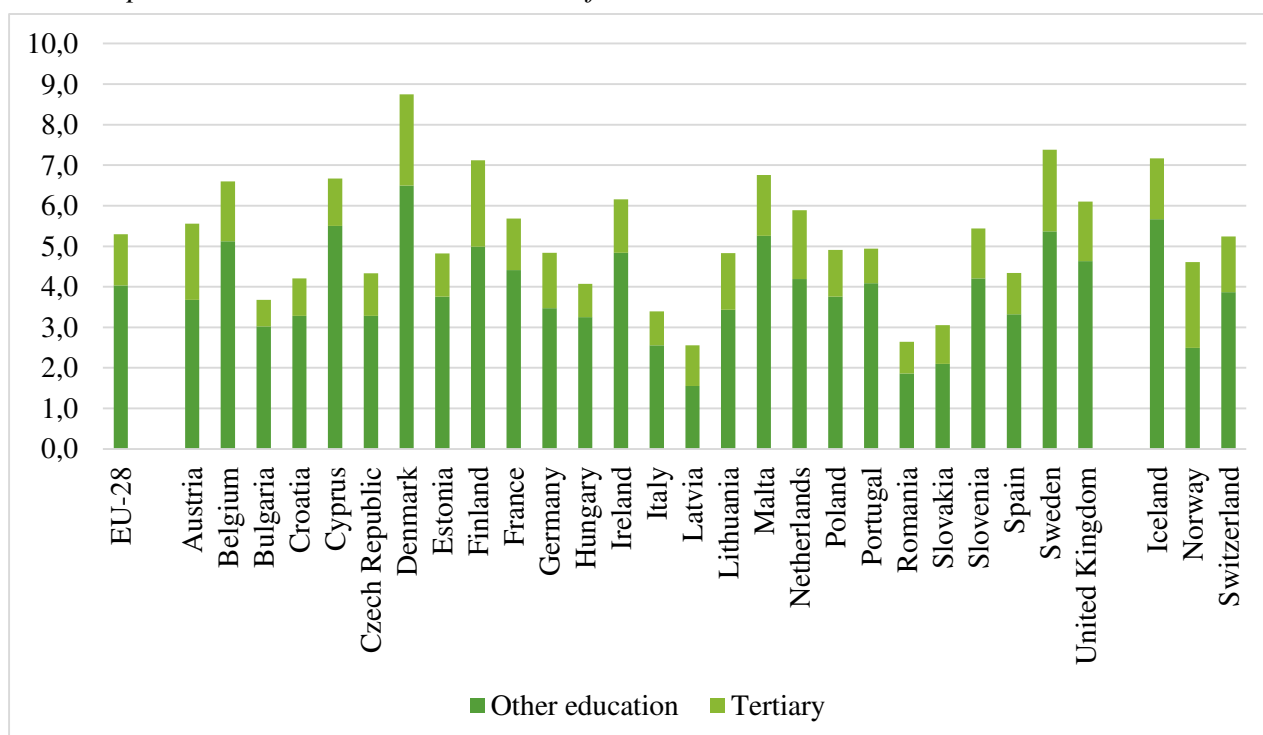
*Brown: population change with migration; Yellow: population change without migration; Source: Eurostat, EU-Commission, Ageing Report 2015.

In relation to migration some facts and statements are important to present here. The immigration does not mean a clear solution for educated labour force, because according to educational figures the foreign-born residents have a higher tendency to abandon formal education prematurely. In the EU, the share of early leavers among migrants in 2013 was more than twice as high as for natives (22.6 % compared with 11 %). In accordance with immigration it is also worth mentioning, that the high proportion of foreign human resource – as some events (e.g. terrorist attacks) of the recent past highlighted – can cause a potential security risk (Danish Ministry of Justice, 2007). In addition, the international treaties, conventions and EU standards, and domestic legislations do not allow positive discrimination on geographical or professional qualification, educational backgrounds amongst foreigners.

The **less financial resources for public education** will occur rearrangements in the tertiary education, since the less state supports, scholarships will lead, that only the wealthier segment of the society will be able to finance the costs and expenditures of academic education. So at universities there will be two types of students: one, the wealthier youngsters (18-25 years) whose educational expenditures are financed by their family, and the others who can finance themselves from their own incomes (25-35 years). According to the present trend, the demand for (higher) educated labour force in later will be more and more important. For a successful career the need for higher and specialised knowledge will be more and more indispensable necessary. Education is getting to transform rather to a long-term financial investment project. In addition, the student credit systems will increase, and as a consequence of this, the banking system will adopt to this new potential client, borrower and debtor base.

Economic challenges are also **political challenges** at the same time, because the government's economic policy will have to choose from to the former options. These rearrangements can be observed in political life as well, while the suffrage of the older age group remains, whom form a homogeneous voting group, for them maintaining and increasing the quality of public services for the elderly can be an election rallying call. Only that political force will win their vote, which focuses on these problems and will continue to provide the current and expected standard of living in old age.

Figure 13
Public expenditure on education as a share of GDP 2012



Source: Eurostat, 2016

The public expenditure on education as a rate of GDP slightly increased in the EU, from 5.0 % in 2008 to 5.3 % in 2012. This average figure conceals considerable cross-country variations in the allocation of public resources for education, ranging from 2.6 % in Romania to 8.8 % in Denmark in 2012. The Scarcity of public funds always a challenge for public education. The recent financial crisis showed also, that the education systems across the EU have been affected differently by the recession. While 11 countries have managed to keep their spending on education at a higher or comparable level in absolute terms from 2008 to 2011, cuts in education expenditure were significant during this period in Estonia, Ireland, Latvia and Hungary as well as in Bulgaria, Greece, Italy and Romania, where spending levels in relation to the GDP were already low and have been cut further. The European Commission considers the fall in education spending in recent years in these Member States a worrying trend calling for strengthening the efficiency of education investment and supporting innovation and competitiveness. This is of particular relevance in the context of limited GDP growth forecasts for 2014.

According the international, geopolitical challenges of the European Union, to maintain and improve educational attainment is very important. Low educational attainment, under educated labour force is usually negatively linked with competitiveness, standard of living, quality of life and other socioeconomic variables e.g. employment, unemployment and the risk of poverty or social exclusion. (Eurostat 2015) Low-educated young people face particularly severe problems in the labour market, unemployment levels among early leavers from education and training are much higher than among the total population of the same age group, since it is becoming more difficult for them to find work. Unfortunately, young people neither in employment nor in education and training (NEET status: Not in Education, Employment, or Training) face later a high risk of being excluded from the labour market and becoming dependent on state benefits supports, allowances, aids. In 2013, the NEET rate for 18 to 24 year old women were 17.4 %, with more than half (54.6 %) being economically inactive. At the same time, the NEET rate for men of the same age group was 16.6 %, but almost two-thirds (63.9 %) were unemployed. For a disappointing example, in a number of Member States the proportion of pupils dropping out early or even not attending school at all is especially high among ethnic minority groups, such as Roma. In 2011 more than 10 % of Roma children were not attending compulsory education in Romania, Bulgaria, France and Italy, and this figure reached 35 % in Greece (European Union Agency for Fundamental Rights, 2012. p. 14.).

To solve the demographic and resource problems there are numerous economic and/or social policy options. Within this context, the European Commission sets out four main objectives: reversing the process of early retirement, encouraging old-age retirement, maintenance of the social security systems, creating an information society for a meaningful and active old age (Farkas & Gyarmati & Molnár, 2009). For the Government's economic policy it is a not very popular option to relinquish some public services, and leave it to the society to self-finance its needs from its savings. It is also an unfortunate choice to decrease the standard of quality. However, the austerity measures will also occur along the (economic) policy preferences, and probably the measures will not affect the elderly's public needs (inflation adjusted pension valorisation, pharmaceutical subsidies), but rather other public functions (child protection, public education etc.). A further inept solution is the involvement of foreign funds, which – since consumed fully – is a clear example of the sovereign debt trap. (See also Hungary during the Goulash Communism decades.) It is another defective opportunity to raise the retirement age, which increases the number of employees on the labour market and the – the still high, average 10 % – unemployment rate in the EU (OECD, 2002). Also due to the increase of public revenues, in particular social security revenues the tax burden and labour costs also get higher, which can also lead to unemployment (Bedy 2011). These above mentioned trends focus only on financing the European welfare states, but they do not improve European (!) population growth.

The relationship between financial and social resources is close, so to be able to continue the current level of welfare and standard of living the state needs more tax revenues, namely more taxpayers and a productive workforce (EU Quarterly Review 2013). This arises the argument to “import” skilled

workers from third countries, since in parallel with the increased production the public revenues rise also. Therefore at least at a statistics level the EU's population remains at a sustainable level.

Conclusions

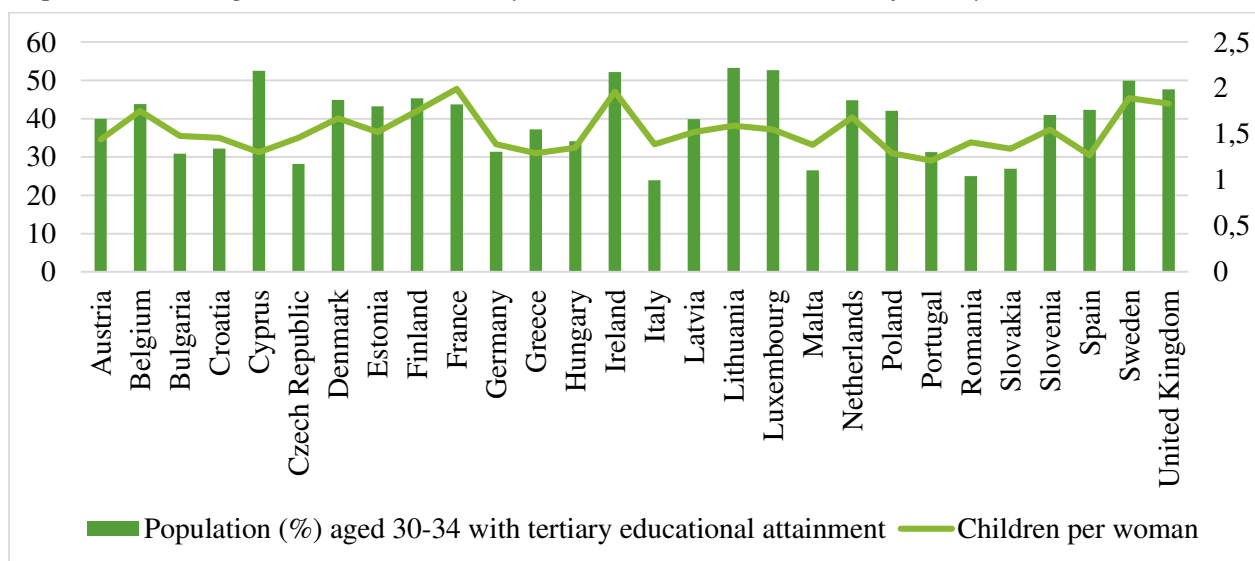
The fertility rate trend prospects show a positive attitude, but it is still so far from the necessary maintaining 2.1, and so far from the concept of sustainability: maintainable for generations. From a human resources' view, to improve the demographic numbers, it is important to encourage young people between 25-35 years to have children. Introduction of housing supports and family tax benefits according to the number of children are positive examples. The problem here is – the same as above – to establish the necessary public financial background through general taxation. Sadly, the idealisation of having children is missing at national and EU level, there is no adequate publicity (propaganda), and the present results of childbirth promotion campaign activities are negligible, but still some initiations can be found (Spies, 2016). Researches prove that an increase of family allowances by 25 % would increase the fertility level by 0.5-0.6 % in a short term, and by 4 % in a long term, and so over time (approx. 20 years) the necessary budget funds can be created (Gauthier, A. H. & Hatzius, J., 1997, p. 51 and Zhang, J. & Quan, J. & Van Meerbergen, P., 1994, p. 29). Other compelling incentives are sanction, like the taxation of the childlessness. Although this might provide revenue for the state, but it is not certain that it would solve the demographic problem. In addition, a further – although in the west and/or liberal world controversial – solution is birth control, particularly tightening the conditions for contraception and induced abortions, but it is worth mentioning that health risks can occur here (Klick, J. & Sven, N. & Stratmann, T. 2012).

In relation with these it must be considered that, even if the demographic policy is successful, the effects will only be felt after one generation, and at least twice as many time is required for converting the pension system into a fully funded one. The most pressing and urgent question is bridging the next two or three decades.

Theoretically the assumption should say that in the countries where the tertiary educational attainment higher the fertility rate is lower, since youngsters and women are not taking children. But according to the next figure, it shows where the higher educational attainment rates bear higher results, the fertility rates are better e.g. in the case of France, Sweden, United Kingdom, Ireland, Finland. The observation cannot be a principle because there are controversies e.g. Cyprus, Lithuania, Luxembourg, or on the other hand Italy, Slovakia, Czech Republic, Romania.

Figure 14

Population (%) aged 30-34 with tertiary educational attainment and fertility, EU-28, 2015

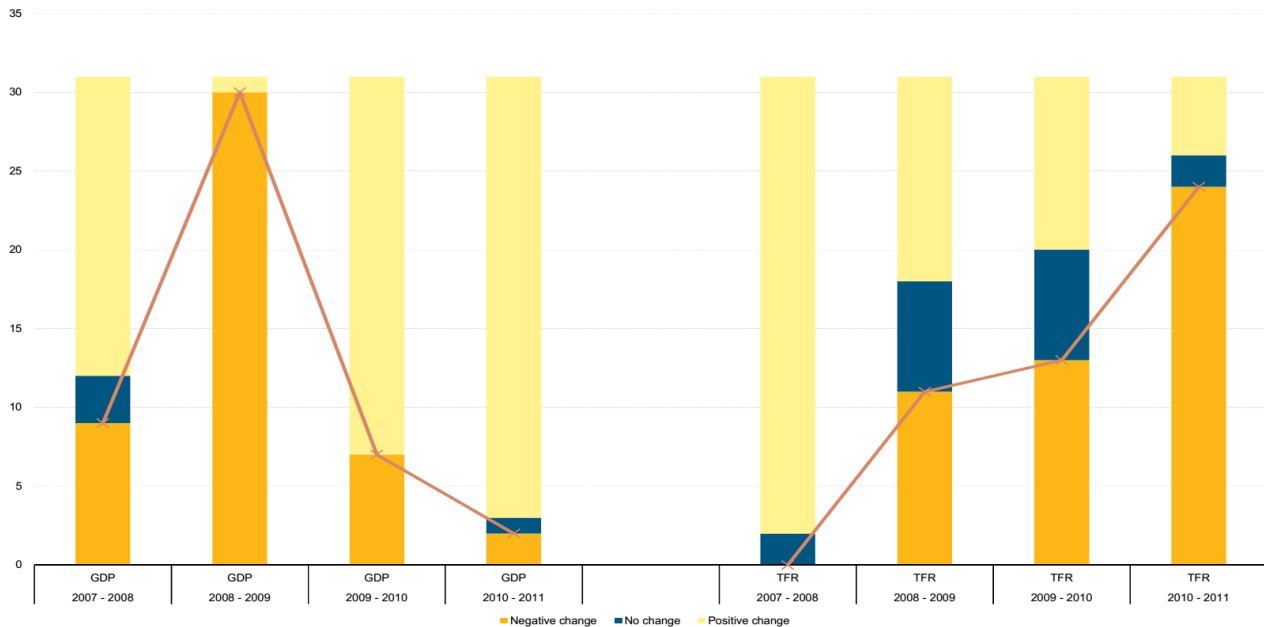


Source: Eurostat, 2016

Even the connection between the GDP and the total fertility rate (TFR) is controversial, since in 31 European countries the economic crisis spread in 2009, while decreases in fertility became a common feature in Europe with a time lag (Lanzieri, 2013, p. 2).

Figure 15

Number of countries by year-on-year change of GDP and TFR



Source: Eurostat, 2016

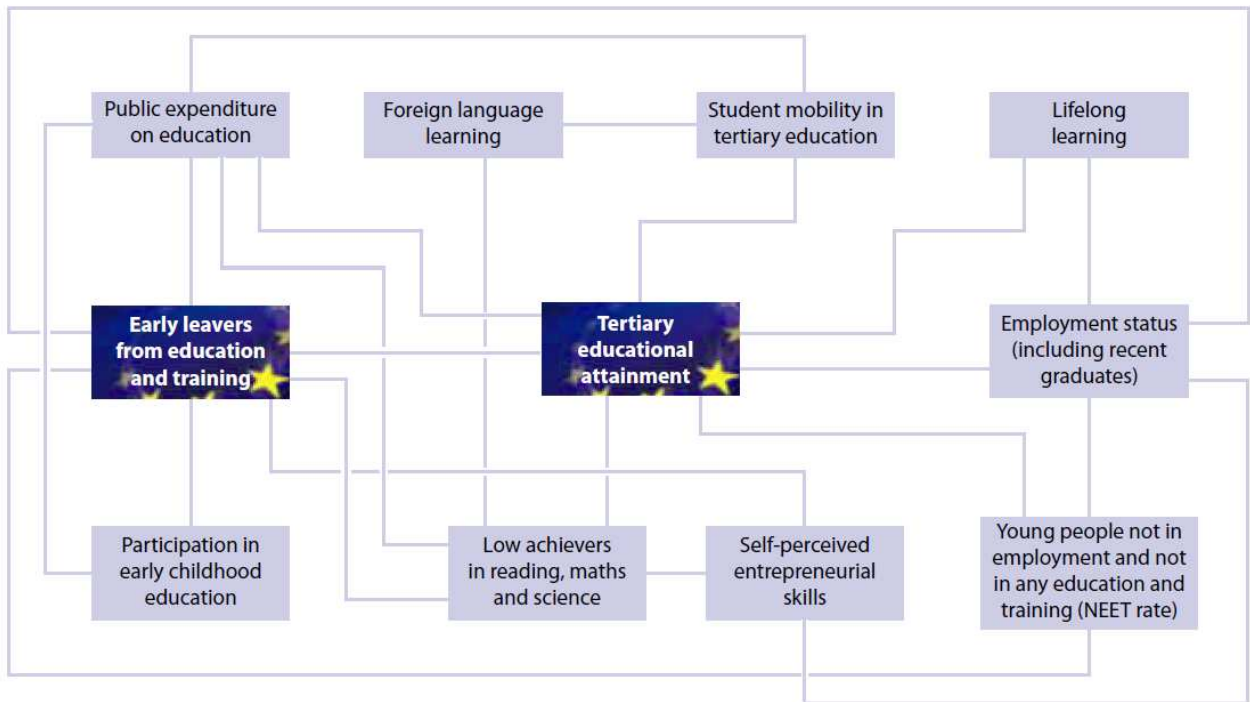
The European public education systems face several challenges. The low fertility rate in long-term will occur the lack of people who are attaining to education. In the case of higher education this problem will arise later than to the fashion and the requirement of lifelong learning mechanism. The result of this trend, the vocational, specialised, post-graduate, doctoral education etc. continuously support the tertiary education level, and according to the (labour market) expectations, there will be demand for academic education. According to the Europe 2020 forecasts, the skills required by the labour market up to 2025 underline the importance of higher education. Between 2013 and 2025 some 20 million jobs requiring medium or high qualifications are expected to be created, whereas at the same time low-qualified jobs will fall by about 12 million. In accordance with this, to support the maintenance and improvement of the European tertiary education, and the educational attaining level there are several significant decisions in the Europe 2020 Strategy.

But after one or two generations, corresponding to the present forecasts in 2050 there will be only 400 million people in the Europe, which means a 100 million decrease. Despite the rate of tertiary educational attainment will rise, the denominator (society, population) of the fraction will be significantly less, therefore the absolute result can be a little better, but this 100 million decrease is overly enormous to balance the lack only with some percent.

In the point of fiscal and financial view, education is getting to transform rather to a long-term financial investment project, since educational attainment strongly influences successful participation in the labour market. In addition, the student credit systems will increase, and as a consequence of this, the banking system will adopt to this new potential client, borrower and debtor base.

Figure 16

Indicators and concepts and their links to the headline indicators on education



References

- Andorka, Rudolf (1987). *Gyermekszám a fejlett országokban*. Gondolat.
- Bedy, Hanga (2011): *A demográfiai változások gazdasági hatásai az Európai Unióban*. 2011.
- COM(2008) 865 final Communication from the commission to the european parliament, the council, the european economic and social committee and the committee of the regions
- Cseh-Szombathy László (2006). *Családi viszonyok*. TÁRKI.
- Danish Ministry of Justice (2007). *Home grown terrorism and Islamist radicalisation in Europe*.
- EU Quarterly Review (2013). *EU Employment and Social Situation — Quarterly Review — March 2013 — Special Supplement on Demographic Trends*
- European Union Agency for Fundamental Rights & UNDP (2012). *The Situation on Roma in 11 EU Member States*, Luxembourg: Publications Office of the European Union
- Eurostat (2010). *Highly educated men and women likely to live longer* — Statistics in focus 24/2010.
- Eurostat (2013). *Towards a 'baby recession' in Europe?* — Statistics in focus 13/2013.
- Eurostat (2015). *Smarter, greener, more inclusive? – Indicators to support the Europe 2020 strategy*. Luxembourg: Publications Office of the European Union
- Farkas Gabriella - Gyarmati Andrea - Molnár Szilárd (2009): *Az idősödő társadalom gazdasági és társadalmi kihívásai Magyarországon*. in Információs Társadalom, 2009/4.
- Gauthier, A. H. & Hatzius, J. (1997). *Family Benefits and Fertility: An Econometric Analysis*. Population Studies.
- Klick, J. & Sven, N. & Stratmann, T. (2012). Jonathan Klick, Sven Neelsen, Thomas Stratmann: *The Relationship between Abortion Liberalization and Sexual Behavior: International Evidence* in American Law and Economics Review V14 N2 2012
- Knoema (2016). <https://knoema.com/xghzbdg/progress-towards-europe-2020-headline-targets-tertiary-educational-attainment>
- Lanzieri, Giampaolo (2013). *Towards a 'baby recession' in Europe? Differential fertility trends during the economic crisis*. Eurostat
- OECD (1988). *OECD Social Policy Studies No. 6. The Future of Social Protection*. OECD
- OECD (2002). *After a decades-long shift toward early retirements, many OECD countries are now trying to reverse the trend*. OECD.
- Regulation (EC) No 452/2008 of 23 April 2008 concerning the production and development of statistics on education and lifelong learning.
- Reinisfischer (2014). <http://www.reinisfischer.com/average-salary-european-union-2014>.
- Spies (2016). http://www.spies.dk/do-it-for-mom?locale=en_GB
- Zhang, J. & Quan, J. & Van Meerbergen, P. (1994). *The effect of tax-transfer policies on fertility in Canada, 1921-88*. in: Journal of Human Resources.