

WHAT DOES EXPANSIVE EDUCATION POLICY COULD CAUSE – DISCUSSION ABOVE RESULTS FROM LAST CENSUS

Petr Mazouch, Kristýna Vltavská

Abstract

As the Census is only possible source for information about detailed education structure, after last one (in 2011) there have come many questions about impact of policy of Ministry of education, youth and sports in last 10 years. That policy could be described as expansive and some results of that are known from some previous studies (growing number of students, rising number of universities or faculties) but there were very poor information about exact impact of that policy to education structure because Census is unique source about that. This paper shows and compares some of measures of the Ministry from last decade and impact of them to education structure in population. Mainly age-sex-education structure is discussed and also structure of study fields of tertiary educated population because policy of Ministry of education, youth and sports focused primarily on that part of education process (but changes in education structure are not caused only by MEYS).

Key words: Education policy, Education level, Average length of study, Census

JEL Code: I-21, I-28

Introduction

To measure an impact of the policy of Ministry of education, youth and sport (MEYS) is difficult at any time. In the first decade of the new millennium there were many changes in education system in Czech Republic. This paper focus to university degree only and there can be found many measures to “open” universities for more applicants. This change from selective to massive was caused by combination of some steps (see Mazouch, 2013). On one hand it was establishing of many private schools (colleges) and new faculties in 90’s, on the other hand it was only small changes in financial system (distribution of budget of MEYS to universities – see Vltavská, Fischer, Schatral, 2013).

This policy has caused growing number of university student almost two times (Mazouch, 2013) but to measure real impact to society is very difficult. Positive impact of education can be seen in many studies (Švarcová, Tůmová, 2012). In Czech Republic there were proved positive relations between education structure and development of regions (Fischer, Mazouch, 2010) and their competitiveness (Fischer, Finardi, 2010). As a follow-up to those studies, we can find studies of future development of education structure in the future (Fiala, Langhamrová, Miskolczi, 2012). Also discussion about education as “investing” possibility shows that education is good opportunity (Finardi, Fischer, Mazouch, 2012 or Mazouch, Fischer, 2011) and policy which leads to higher education level in population is commentable.

On the other hand in all those studies we can find comments that measuring of education is very poor because of poor data about education in population. As we have information about current students and graduates (from 2001) we do not have any information about situation of education structure of population. The only source which is possible to use is census where question about highest education level is attained (and also some other questions about education of the respondent).

Aim of the paper is to describe state of the education structure in Czech Republic in 2011 and the changes between 2001 and 2011 – period between last two censuses.

1 Data

Data sources from last censuses are available in the main publications published by Czech Statistical Office (CZSO, 2003 and CZSO, 2013). As was mentioned before, question about education are concluded in basic questionnaire of the census. Unfortunately those questions are not obligatory what caused that some part of respondents did not fill down data about education and their education is “Unknown”. This situation is more frequent in census 2011 (see part with results).

Education structures were redistributed (joined) to education groups respecting International Classification of Education¹:

- ISCED 2A (Basic education)
- ISCED 3A + 3B (Secondary without GCE)
- ISCED 3C (Secondary with GCE)
- ISCED 4 + 5B (Post-secondary – non tertiary)

¹ http://www.czso.cz/csu/klasifik.nsf/i/mezinarodni_standardni_klasifikace_vzdelavani_isced_

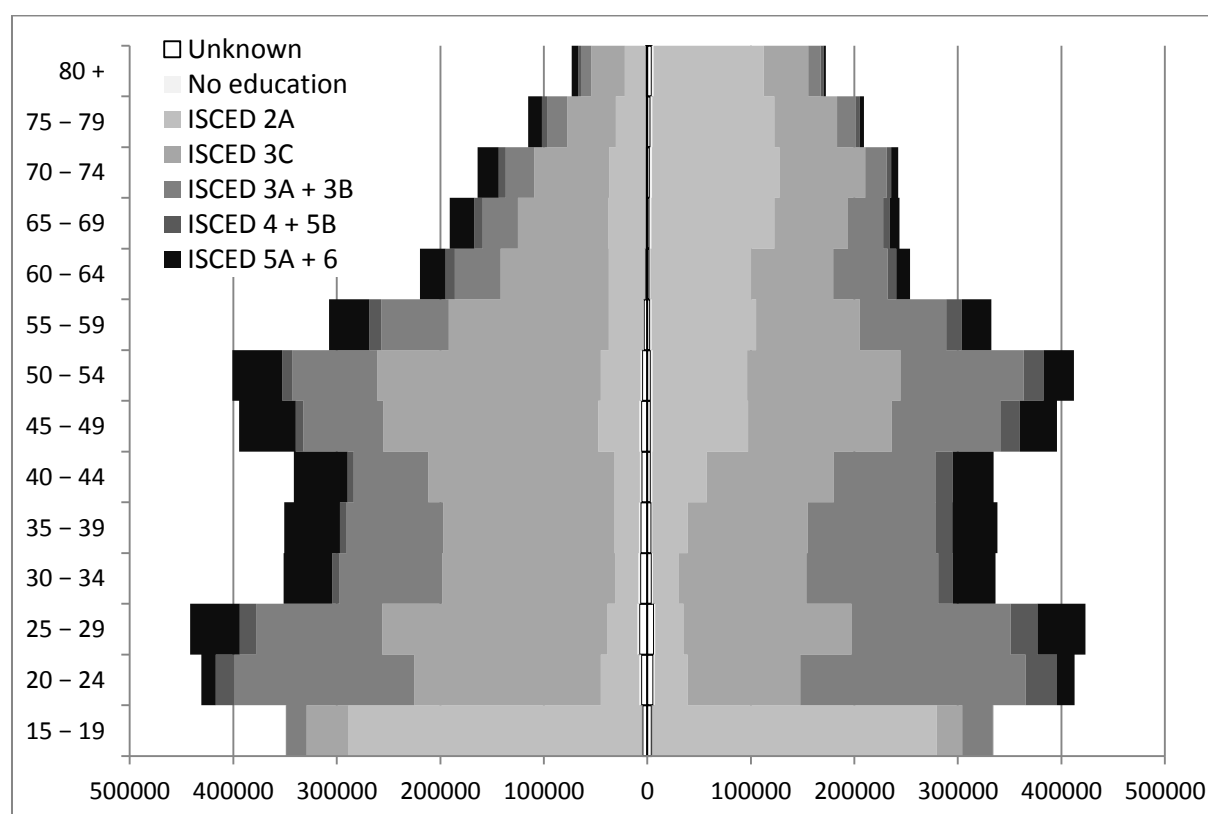
- ISCED 5A + 6 (Tertiary)
- No education
- Unknown

2 Results

2.1 Age-sex-education structure

Fig. 1 and Fig. 2 show structure of the population of the Czech Republic by age, sex and education in 2001 and 2011. Despite of good data quality of the census, there are some white parts which represent unknown education level. Share of this part grows between censuses almost four times and from census 2011 there are more than 400 thousands of people older than 15 years with this classification. About education level of those people we do not have any information.

Fig. 1: Age-sex-education structure, Czech Republic, 2001 (males – left, females – right)



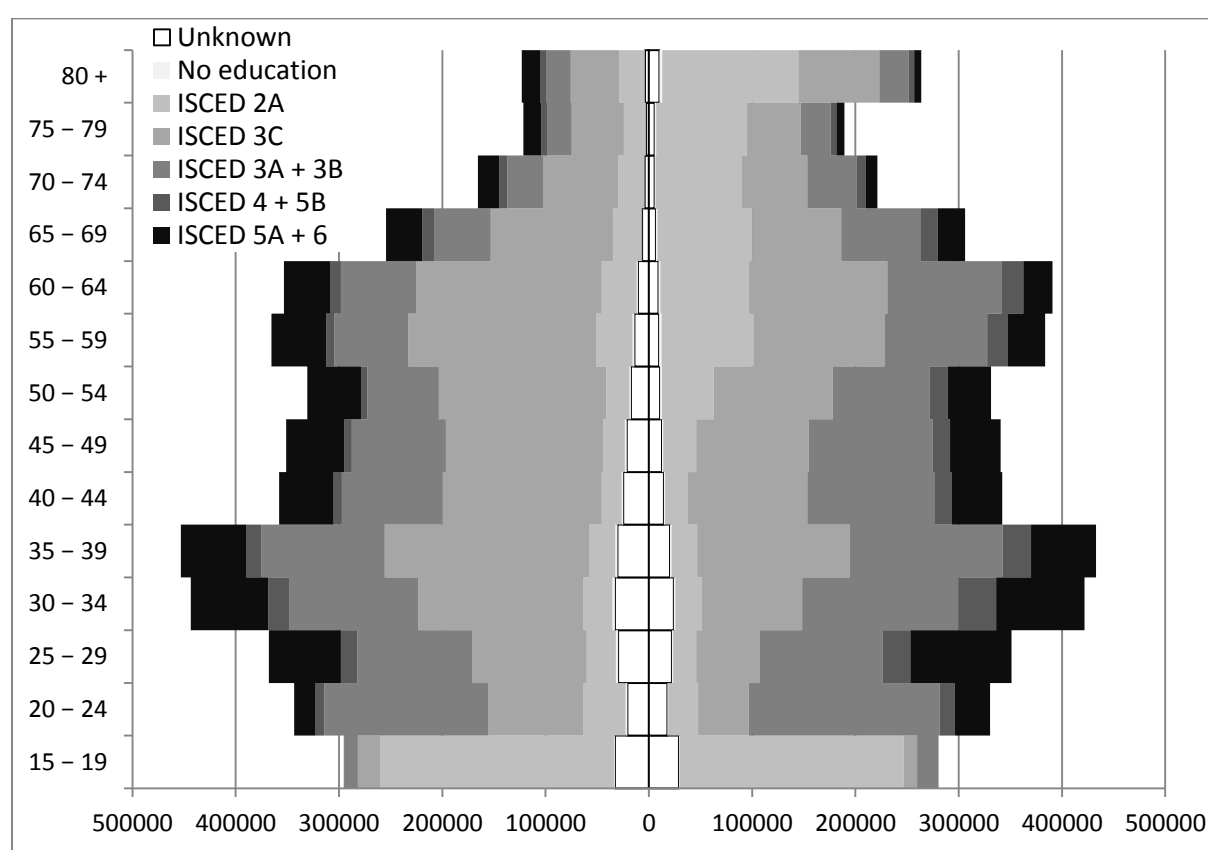
Source: CZSO (2003), authors' computations

Between censuses there were changes caused by two main causes. First was expansive education policy of the MEYS and the second was mortality (and aging in general). First

caused growing number of graduates of universities and decreasing number of people in ISCED 2A and 3C category (education lower than GCE). The second caused decreasing number of ISCED 2A category which was in 2001 major for the highest age groups.

From Fig. 2 is evident still some “inequality” between males and females but it is slightly changing. Comparison ISCED 3C and 3A + 3 B we can find that studies of schools in ISCED 3 C category is still more popular for males but in younger ages the differences is not big as for older ages. On the other hand situation in the highest category of education has changed dramatically – for younger age groups females has higher number of population ISCED 5A and 6.

Fig. 2: Age-sex-education structure, Czech Republic, 2011 (males – left, females – right)



Source: CZSO (2013), authors' computations

2.2 Changes of the structure of study fields

Changes in the structure of study fields of tertiary educated population are in Tab. 1 and Tab. 2. Increase of number of population with tertiary education was about 1,5 times. But this increase was not in all study fields. The most “popular” field is Social science (after the category “Other” which includes all unclassified fields) where the number of people grows

more than two times (2,1). On the other hand fields with the smallest change was Agriculture and Technical science (changes lower than 1,1 times).

Tab. 1: Structure of study fields of tertiary educated population (ISCED 5A + 6), Czech Republic, 2001

Study field	Age group						Total
	-29	30 - 39	40 - 49	50 - 59	60 - 69	70 +	
Pedagogical	19 955	32 068	28 162	28 266	12 405	6 133	126 989
Humanities, art	10 255	10 704	11 742	11 093	5 782	5 792	55 368
Social science	29 892	29 011	23 704	15 742	6 026	5 461	109 836
Law	7 403	6 548	10 280	9 376	2 754	4 423	40 784
Natural science	9 718	12 077	11 581	10 874	6 129	3 153	53 532
Technical science	22 904	46 988	44 869	33 373	16 992	8 816	173 942
Architecture, civil engennering	7 101	14 590	14 211	8 924	6 185	3 377	54 388
Agriculture	4 859	11 467	12 317	9 842	5 014	3 280	46 779
Health	8 615	14 068	17 389	11 472	6 501	7 025	65 070
Other	4 681	8 187	8 056	6 224	3 573	4 826	35 547
Total	125 383	185 708	182 311	145 186	71 361	52 286	762 235

Source: CZSO (2013), CZSO (2003), authors' computations

Those results shows that all study fields except Pedagogical and Social science grow slower than average. It could cause (and it really caused as we can see from census 2011 results) changes in structure of tertiary educated people.

Tab. 2: Structure of study fields of tertiary educated population (ISCED 5A + 6), Czech Republic, 2011

Study field	Age group						Total
	-29	30 - 39	40 - 49	50 - 59	60 - 69	70 +	
Pedagogical	26 675	50 763	42 484	32 143	29 165	13 976	195 206
Humanities, art	16 750	20 667	8 533	7 605	6 461	5 234	65 250
Social science	66 764	76 276	37 747	26 475	16 620	8 465	232 347
Law	8 630	15 912	8 056	10 046	7 878	3 397	53 919
Natural science	15 111	15 988	11 948	11 983	9 867	6 964	71 861
Technical science	28 631	37 598	42 217	38 600	27 675	16 273	190 994
Architecture, civil engennering	12 586	15 641	14 714	13 935	8 111	6 341	71 328
Agriculture	5 643	8 740	10 777	11 293	8 991	5 167	50 611
Health	14 661	20 168	15 235	17 446	10 734	8 709	86 953
Other	26 297	25 027	14 914	12 694	8 580	6 561	94 072
Total	221 748	286 780	206 625	182 220	134 082	81 087	1 112 541

Source: CZSO (2013), CZSO (2003), authors' computations

Conclusion

Changes in policy of Ministry of Education, Youth and Sport together with changes in age structure of population (caused by mortality and fertility) caused many changes in education structure of population in Czech Republic.

Aim of the paper was to describe state of the education structure in Czech Republic in 2011 and the changes between 2001 and 2011 based on results from census 2001 and 2011 as the only ones relevant sources with information about education structure of population. Main goal of the paper was more descriptive than normative. Following goal was to introduce census as necessity for policy-makers because this source is in some areas the only one source which can be used. But this opportunity must be taken into account with all its weakness.

Expansive policy of MEYS caused dramatic increase of people educated in selected study fields and if MEYS would apply this policy for long time it could cause also dramatic changes in society at all.

Acknowledgment

The paper has been prepared under the support of the University of Economics, Prague – Internal Grant Agency; project No. IGA 9/2013 “Quantification of the impact of education policy of the last decade in the light of Census 2011 results”.

References

CZSO (2003). *Sčítání lidu, domů a bytů k 1. 3. 2001 - obyvatelstvo, Česká republika - pramenné dílo*. Czech Statistical Office, Prague, Czech Republic. Retrieved from [http://www.czso.cz/sldb2011/redakce.nsf/i/obyvatelstvo_cr/\\$File/e-4104-02.pdf](http://www.czso.cz/sldb2011/redakce.nsf/i/obyvatelstvo_cr/$File/e-4104-02.pdf)

CZSO (2013). *Sčítání lidu, domů a bytů 2011 - pramenné dílo*. Czech Statistical Office, Prague, Czech Republic. Retrieved from http://www.czso.cz/csu/2013edicniplan.nsf/publ/24000-13-n_2013

Fiala, T., Langhamrová, J., & Miskolczi, M. (2012). Future development of the education level of the population of czech regions. *International Days of Statistics and Economics* (pp. 384-394). Prague: VŠE.

Finardi, S., Fischer, J., & Mazouch, P. (2012). Odhad míry návratnosti investic do vysokoškolského vzdělání podle oborů, pohlaví a regionů. *Politická ekonomie*, 60:5, 563-589.

Fischer, J., & Finardi, S. (2010). Czech tertiary education on the way to competitiveness. In Doucek, P; Chroust, G; Oskrdal, V (Eds.), *IDIMT-2010: INFORMATION TECHNOLOGY -*

HUMAN VALUES, INNOVATION AND ECONOMY (pp. 231-236). Linz: Schriftenreihe Informatik.

Fischer, J., & Mazouch, P. (2010). What means competitiveness of tertiary sector in regions?. *IDIMT-2010 Information Technology – Human Values, Innovation and Economy* (pp. 237-242). Linz: Trauner Verlag universität.

Mazouch, P. (2013). The University Graduation Rate: Trends and Levels. *International Days of Statistics and Economics* (pp. 977-983). Slany: Melandrium.

Mazouch, P., & Fischer, J. (2011). *Lidský kapitál: měření, souvislosti, prognózy* (1. ed) Praha: C.H. Beck.

Švarcová, P., Tůmová, P. (2012). Vliv poslední dekády na průměrnou délku vzdělání v České republice. *Forum statisticum slovacum*, 9:7, 239–245

Vltavská, K., Fischer, J., & Schatral, J. (2013). Towards the Coefficients of Economic Difficulty: The Issue of Interdisciplinary Study Fields. *Efficiency and Responsibility in Education* (pp. 643-649). Prague: Czech University of Life Sciences in Prague.

Contact

Petr Mazouch

Faculty of Informatics and Statistics

University of Economics, Prague

Nam. W. Churchilla 4, Prague 3, 130 67

mazouchp@vse.cz

Kristýna Vltavská

Faculty of Informatics and Statistics

University of Economics, Prague

Nam. W. Churchilla 4, Prague 3, 130 67

kristyna.vltavska@vse.cz