U-shape link between education and childlessness in Hungary - a new Central European phenomenon

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Short abstract

Researchers have identified a positive educational gradient in childlessness for some Western and Eastern European countries: childlessness is more prevalent among highly educated women than among less educated ones. This relationship is, however not so clear-cut. In some countries a reversal of childlessness trends could be seen among highly educated women (Germany), elsewhere a U-shape relationship in education and childlessness nexus (some North European countries) or even a weak educational gradient of childlessness (Belgium, Russia, Estonia). The latest results highlight that the educational gap in childlessness between high and low educated women has narrowed in the past 20 years in many countries mainly due to the fact that childlessness levels of low and medium educated women clearly converged, presently being equal in many Eastern and Central European countries.

The latest Hungarian census data suggest a *clear U-shape in education – childlessness nexus* for the youngest (1961-1965) cohort. The level of childlessness is the lowest among medium educated women, it is the highest among the high educated women and it is in between among low educated women. This U-shape of the education - childlessness link can be observed for the 1951-55 and 1961-65 cohorts in the Czech Republic and Slovakia, and a similar pattern can be expected for Romania as well. In these countries the *share of low educated childless women* converged to or even exceeded the share of middle educated childless women. Moreover, the childlessness level of low educated Czech women even exceeded the childlessness level of high educated women's.

May these trends be a sign of a new Central European phenomenon? Would the low educated ultimately childless women outnumber medium educated childless women in their share in the future? Our goal was to investigate this possibility by cross-national comparison from Central European countries.

Introduction

The fundamental changes to women's life in the 20th century Europe affected fertility trends in many ways. First there was a rapid expansion of middle education, followed by a slow but continuous increase in the number of women entering the higher education. The number of women who gained secondary education outnumbered soon the number of those with low education, and the percentages of low and medium educated women have inverted in more and more countries. These trends were similar both in Eastern and Western Europe, in spite of the diverging historical and political background – however, with some country specific features in the speed of these changes (OECD 2014a). The educational expansion of the women went hand in hand with the increase in women's labour force participation, and economic and medical development, further a more effective fertility control. All these aspects play leading role in increasing number of women who remain without children at the end of their childbearing age (this ratio ranging from 6% to 22% in Europe and 15% in US recently).

Childlessness in Europe passed from high levels in the first half of the last century to historically low levels after World War II, followed by another increase reaching nowadays observed relatively high levels (OECD 2014b). Besides researchers identified a positive educational gradient in childlessness for some Western European (Berrington at al. 2014, Bujard 2015, Anderson et al. 2009) and Eastern European countries (Sobotka 2011; Spéder - Kapitány 2014), as well as in the US (Livingstone 2015). This relationship is, however not so clear-cut and irreversible. For example, there could be seen a reversal of childlessness trend among highly educated women in Germany (Bujard, 2015); elsewhere a fall in childlessness after the Global Financial Crisis (2007-2009) in all educational groups in US, with the biggest declines occurring among more educated women (Livingstone 2015). Another diverging example we see in Finland and Sweden, where the education-childlessness relationship shows a U shape,

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with medium educated women representing the lowest level of childlessness, and the low educated the highest (Anderson et al 2009). Wood et al (2014) using the first wave data of Generations and Gender Programme (survey carried out between 2002-2008) emphasized that educational gradient in childlessness was very weak in Belgium, Russia, Hungary, Estonia, and the shape of gradient between low, medium and high education were very stable between the 1940-44 and 1956-61 cohorts in these countries.

The latest results highlight that educational gap in childlessness between high and low educated women has narrowed in the past 20 years and this was mainly due the fact that childlessness levels of low and medium educated women clearly converged, presently being equal in many Eastern European countries (CFE Database, Beaujouan et al. 2015a).[4] Women with low education became less and less numerous in Europe, and it seems they started displaying specific childlessness behaviour.

Hungarian results

The data sources we used for our analysis are the Hungarian population censuses from years 1990, 2001 and 2011. For a comparative look of the data from other Eastern and Central European countries, we used The Cohort Fertility and Education database, as well the Romanian national census 2011.

Being aware 1) of the expansion of the secondary, as well of the tertiary education in Hungary at least in the last 20 years (Fig. 1), and 2) of the Hungarian low fertility rate among EU28 countries (Eurostat 2013), we became interested to see how the level of childlessness changed in the past two decades and if this change follows the same pattern for low, medium and high educated women.

We define women aged 46-50 as those who are at the end of their childbearing years given that the vast majority (99,8%) of the children were born to women younger than 40 years both in 2001 and 2011[5]; and use a three-category classification of completed education: low (ISCED-97 levels 0-2), medium (levels 3-4) and high (levels 5-6).

In **Hungary** the data show a U-shape in the education-childlessness nexus for the 1961-1965 cohort: the level of childlessness is the lowest among medium educated women, it is the highest among the high educated women and it is in between among low educated women (Fig. 2 and Fig. 3). The educational - childlessness gradient reversed shortly after 2001, as this U-shape relationship between education and childlessness was not yet visible for the 1951-1955 cohort who were at the end of their childbearing years in 2001.

Fig.1. Educational composition of women aged 15-49 and childless women aged 46-50 in Hungary in 1990, 2001, 2011
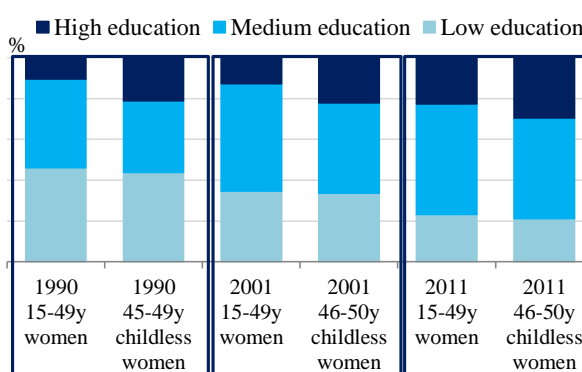
Source: Hungarian National Census 1990, 2001, 2011, own calculation

Fig. 2. Childlessness by education at age 46-50 for female cohorts born in 1941-1965, in Hungary
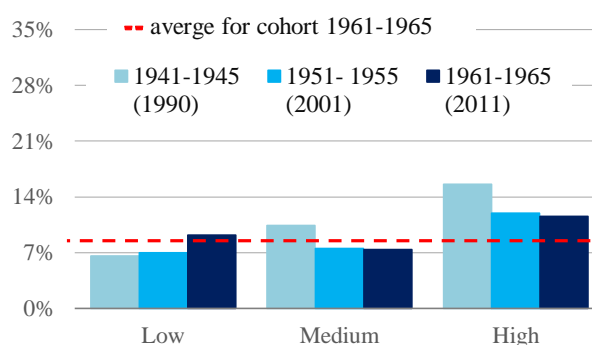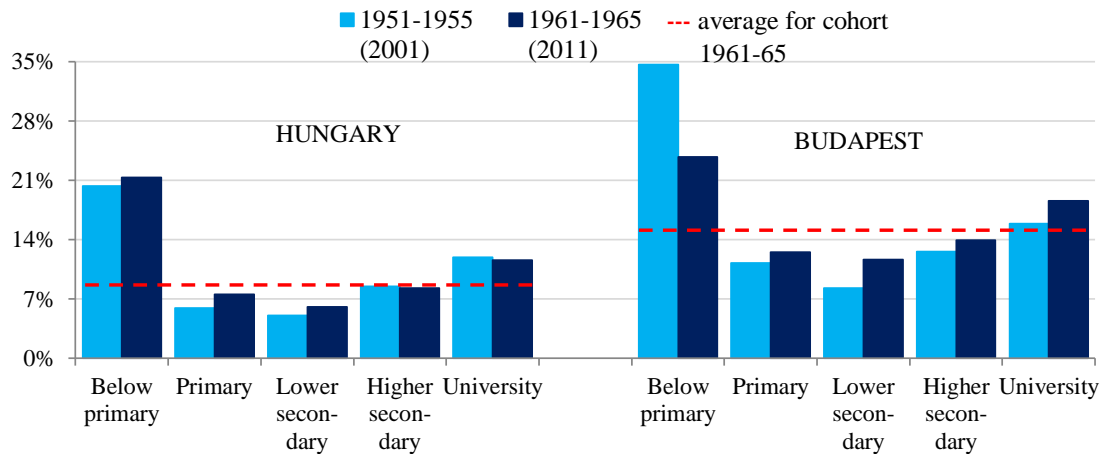

Source: Hungarian National Census 1990, 2001, 2011, own calculation

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4 However, so far, the highly educated women remain in highest number childless at the end of their childbearing years.

5 Against the fact that the age at which women can have children is expanding, there are only a 0,2% of children who were born to women ages 40+; and the kids born to women at this age are not the first ones.

This U-shape education-childlessness relationship is stable even when we control it for another very characteristic determinant of the childlessness in Hungary: type of settlement. The share of childless women is the highest in the capital city, in Budapest, as compared to other type of settlements. However, when we split the Budapest-data by education, we saw again the similar trend we have already observed at the country level: the shares of the low and high educated childless women are higher than the share of the middle educated childless women.

Fig. 3. Childlessness by education at age 46-50 for female cohorts born in 1951-1965, in Hungary and the capital city Budapest


Source: Hungarian National Census 2001 and 2011, own calculation

New Central European phenomenon?

This U-shape relationship in education and childlessness could be observed in the 2011 census data from the **Czech Republic**, too. The childlessness levels of low educated women became twice as high as among women with middle education in the cohort 1961-1965 (Beaujouan et al. 2015a). Beaujouan et al (2015b) interpreted this results as being due to a strong selection effect: " … in the Czech Republic low educated show higher levels of childlessness relative to middle educated, which is not seen in other countries. The absolute difference is however very small, due to very low levels of childlessness in this country, and thus the strong relative contrast reflects very small absolute differences. Additionally, as the group with low education now represents less than 10% of the population, strong selection effects might prevail."

We explore the relationship between childlessness and education in **Slovakia** and **Romania** as well.

Fig.4. Childlessness by education at age 46-50 for female cohorts born in 1941-1965, in the Czech Republic, Slovakia and Romania
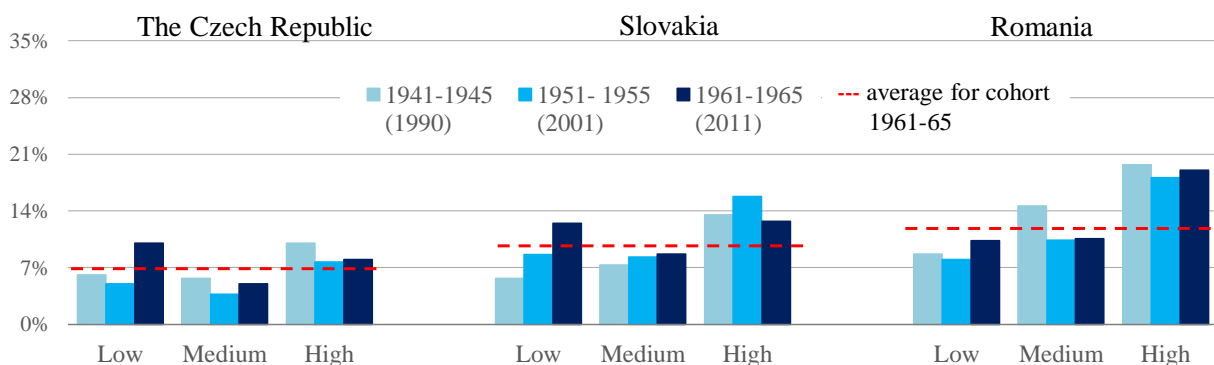
Sources: National Census Hungary 1990, 2001, 2011 and Romania 2011; CFE Database; Beaujouan, E. et al. (2015). Childlessness trends in 20th-century Europe: limited link to growing educational attainment. VID International Conference, Vienna, December 2015. Own calculation.

This U-shape of the education - childlessness link can be observed for the 1961-1965 cohort in Slovakia, and a similar pattern can be expected for Romania. The *share of low educated childless women* converged to or even exceeded the share of middle educated childless women in these countries. Moreover, the proportion of low educated childless women has already crossed the share of the high educated childless women in the Czech Republic and these two proportions are already converged to in Slovakia (Fig.4.).

The share of high educated childless women decreased, while the share of low educated childless women increased in all four countries between 1990 and 2011. In all but Slovakia, the share of middle educated childless women decreased as well in this period. One possible explanation for the increasing share of low educated childless women in these Central and East European countries could be due to the selection effect the Beaujouan et al (2015b) has already mentioned in the case of the Czech Republic. However, while the share of low educated women is indeed low in the Czech Republic and Slovakia, this is not the case for Hungary and Romania, where the share of low educated 15-49 years old women is still 23% in Hungary (Fig.1) and 31% in Romania (national census 2011). Other factors that may have effect on the growing share of low educated childless women can be economical and social ones, i.e. the labour market situations, or the education specific unemployment.

Further work

Hungarian National Census data from 2011 drew our attention to another important aspect of childlessness pattern from Hungary: the bipolar aspect of childlessness. The share of ultimately childless women is higher than the average not only among the highest educated women and among those living in the capital city (where the economic prosperity, labour force participation is the highest in the country), but also among those women living among insecure economical and housing circumstances: the lowest educated; inactive earners (welfare beneficiaries); living in their dwellings not as an owner but as a tenant or in other forms of occupation; living in dwellings without total comfort. Further work is needed to check if this *bipolar aspect of childlessness* seen in Hungary is present in other Central European countries as well.

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