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The Role of Education in Fertility Changes in (Post-)Socialist Europe

Summary of the doctoral dissertation prepared under the supervision of Prof. Dr. Janina Józwiak and Dr. Krzysztof Tymicki

1 Motivation

The 20th century brought countless fundamental changes to women's lives. Among those, growing educational attainment and labour force participation, together with effective fertility control are considered of primary importance for changes in fertility (Murphy 1993; Brewster and Rindfuss 2000; Bianchi and Milkie 2010). In the West¹, trends in cohort fertility and their connection to the educational expansion are well explored and explained (Axinn et al. 1994; Becker 1960; Hanushek 1992; Surkyn and Lesthaeghe 2004; Thornton 1980; van de Kaa 1987, 2001), but in Central and Eastern Europe (CEE) they have still not been widely discussed. Applying theories, developed by Western scholars and based on the Western experiences, to the state-socialist realities, one expects weak educational differences in completed fertility. However, the existing evidence suggests that the educational gradient in fertility tended to be clearly negative and varied greatly in steepness over time and across CEE countries (Potančoková et al. 2008; Sobotka et al. 2008; Spéder and Kamarás 2008; Stropnik and Šircelj 2008).

In sum, there is a considerable gap between the evidence available to the international audience on the post-war education-specific fertility trends in the Western countries and in CEE. One could ask: But why should we care about demographic developments embedded in socioeconomic and political contexts that disappeared a quarter of a century ago? The answer can be very straightforward: analysing the past helps us understand the present as *the*

¹ If not specified more precisely, the terms "the West" and "Western countries" refer to developed countries on the Western side of the Iron Curtain, i.e. the democratic market economies in Europe, the US, Canada, Australia and New Zealand. In the European context, the West includes all democratic market economies on the old continent.

outcome of a process depends not only on current conditions, but also on the history and the dynamics of the process (Willekens 2015, p. 18). More specifically, the different faces of ideational changes *reflect historical path dependency*, which plays an important role in the development of new family arrangements (Lesthaeghe 2010).

Moreover, studying the relationship between education and fertility has a direct link to a topic of a crucial importance today: the reproduction of human capital. High human capital embodies the essence of the knowledge societies and economies, which the developed countries aspire to be and for which an equal access to education is a prerequisite (Bindé 2005). As education is the main factor of the human capital formation (Stonawski 2010, p. 47), the reproduction of education belongs to the most vital topics in social science (Breen and Jonsson 2005). Studying the relationship between fertility and education under state socialism creates a unique opportunity to explore the reproduction of education in modern societies, in which financial incentives to obtaining a university degree were very limited, if not absent (Berend 1996, pp. 212–213; Rutkowski 1996).

2 Aim

The aim of this dissertation is to examine the relationship between education and fertility in European countries that experienced state socialism. In particular, the thesis studies trends in fertility, including childlessness and non-marital fertility, by level of education. It assesses how changes in women's educational structure affected fertility and how the educational differences in fertility have changed over time. The study covers the long state-socialist period, as well as the 1990s and the 2000s. Thus, it provides a unique portrait of over 70-year-long changes in education and fertility in CEE.

3 Scope

The dissertation is based on four articles published or accepted for publication in peer-reviewed journals listed by the Journal Citation Reports. Two of the articles are comparative studies of women born between 1916 and the early 1960s: one analyses the role of educational expansion in cohort fertility changes in seven CEE countries, and the other examines the link between growing educational enrolment and childlessness in 13 European countries, including seven from CEE. The other two articles focus on the Polish context. The first one explores the relationship between education and completed fertility, including age-

specific fertility rates, of women whose reproductive careers took place mostly under state socialism (i.e. born between 1930 and 1959). The second one studies the age- and education-related changes in the share of births to unpartnered women between 1985 and 2010. Thus, the last article examines trends from a period perspective; all the others use a cohort perspective.

4 Theoretical perspectives on the relationship between education and women's completed fertility based on Western experiences

In most societies the association between education and female fertility has a negative sign (Mare and Maralani 2006; Skirbekk 2008). Different theoretical perspectives have offered several explanations of this relationship. The most straightforward one stresses the **postponement** of family formation caused by a longer education process (Ní Bhrolcháin and Beaujouan 2012) and a later entry into the labour market, which are usually perceived as incompatible with starting a family because of lacking economic resources. Consequently, highly educated women postpone childbearing until their 30s (Rendall et al. 2005; Rindfuss et al. 1996). Many realise their fertility intentions in full (Kravdal and Rindfuss 2008; Neels and De Wachter 2010; Sobotka 2004, Chapter 3), but quite a few face infertility (Leridon and Slama 2008) or revise their childbearing plans (Berrington 2004; Liefbroer 2009; Spéder and Kapitány 2009) as the **opportunity costs** of childbearing for highly educated women active full-time in the labour market are usually the highest (Becker 1991; Blossfeld 1995), especially in the early stages of their careers (Begall and Mills 2012; Happel et al. 1984; Van Bavel 2010).

Higher opportunity costs for the university diploma holders are partially induced also by greater social expectations towards the role of parents on the one hand and the offspring's achievements on the other. Most people want their children to climb the social ladder or at least not to go down. As the socio-economic status of the university graduates tends to be high, achieving it by the offspring requires much investment in terms of time and money. Consequently, the highly educated face the **quality-quantity trade-off** (Becker 1960; Hanushek 1992): they prefer to have fewer children of *high quality* in terms of educational attainment.

All the factors summarised above from the individualistic perspective can be also viewed as manifestations of **social pressure** or control. The causes and consequences of rejecting social norms regarding family arrangements are the main focus of the Second Demographic Transition (SDT) (van de Kaa 1987; Lesthaeghe 1995) inspired by Inglehart's post-materialist

values (1977). The SDT sees **ideational changes** as a driving force of new family arrangements observed in Western Europe since the late 1960s: cohabitation, postponed childbearing, voluntary childlessness. Introducing hormonal contraceptives vastly facilitated these developments but they would not have occurred without individualisation, i.e. the desire for self-realisation at the cost of institutional control (Surkyn and Lesthaeghe 2004). These new values had been first embraced by the highly educated and only with time began to spread gradually in the lower social strata. As the highly educated are assumed to have the most individualistic attitude to life, they usually have fewer children and remain childless more often.

Values and attitudes, including those related to family arrangements, are largely reproduced from generation to generation, usually together with the socioeconomic status. Many studies have documented the **intergenerational transmission** of fertility in modern societies manifested by the positive association between the number of siblings and the preferred and completed family size (Johnson and Stokes, 1976; Anderton et al., 1987; Murphy, 1999; Murphy and Knudsen, 2002).

Finally, the **institutional setting** can increase or, as it happened in the Nordic countries (Andersson et al. 2009), reduce the educational differences in fertility. A family-friendly labour market together with a universal institutional childcare, free-of-charge health care and education services have decreased the opportunity costs and the quality-quantity trade-off of having children. Also the **selection to education** can be reduced through a flexible educational system, which enables people to re-enter education or continue it after dropping-out, e.g. because of teenage pregnancy.

5 Fertility under state socialism

In the late 1940s and in the 1950s, on both sides of the Iron Curtain people caught up on marriages and parenthood postponed by the Great Depression and the war (Van Bavel and Reher 2013). A general expectation was to marry early and have children quickly. However, in the late 1960s the demographic developments in the West and in the East started to diverge. The Western democracies experienced the beginning of great social changes, commonly described as individualisation (Inglehart 1971; van de Kaa 1996, 2004), which brought about fertility decline and increase in childlessness and the proportion of non-marital births (first mainly among the highly educated). Behind the Iron Curtain, in regimes which vigorously

fought individualism and actively promoted sexual puritanism and conservative gender roles, post-materialistic values could not have progressed much (Sobotka 2008). The spread of the Second Demographic Transition, though it temporarily emerged at places (Hoem et al. 2009; Sobotka et al. 2003; Spéder and Kamarás 2008), was hindered by social policies that supported the traditional family consisting of a married couple with children (Keil and Andreescu 1999; McIntyre 1975).

The state-socialist governments believed in a direct link between national power and population size (Dorbritz and Fleischhacker 1999). Thus, procreation was proclaimed as the duty of every loyal citizen (Dorbritz and Fleischhacker, 1999) and supported by strong pronatalist policy measures (Frejka 1980; Haney 2002; Stloukal 1999). Childlessness was perceived as an egoistic way of avoiding social responsibility (Dorbritz and Fleischhacker 1999; Dykstra and Hagestad 2007) and was *punished*, e.g. by a special income tax (Romania) or extremely long waiting time for a flat (all state socialist countries except East Germany; Sobotka 2011). Having children was also socially expected as a natural element in one's life course, so the pressure came also from social networks, which had far more powerful tools to exert it than in the West: in the shortage economies, the unofficial distribution channels, namely through acquaintances and family bonds, were of primary importance. These strong mutual dependencies made one ready to conform to socially expected behaviour (Giza-Poleszczuk 2007), especially that, as it has been shown, the normative pressure is particularly effective when it comes to the intentions of becoming a parent (Billari et al. 2009).

Under state socialism, one should expect a rather flat educational gradient in fertility, similar to that observed in Belgium, Norway or Sweden (Andersson et al. 2009; Kravdal and Rindfuss 2008; Neels and De Wachter 2010). The returns to education were low (Sobotka 2011; van Dijk and van der Lippe 2001, p. 261; Wood et al. 2014), so parents should not have been determined to invest much in their children's education. Thus, the quality-quantity trade-off is not very likely to have strongly operated. Also the opportunity costs of having children were rather small because of lacking competition in the labour market, (near)-full employment with very stable jobs and rather limited career possibilities for female university graduates (Sobotka 2003). All these together with institutional childcare relatively widely available since the 1970s (Wood et al. 2014) made work rather easy to combine with family life. Moreover, the housing policy acted as an incentive to early childbearing, so adults became parents at young ages, and even university degree holders entered motherhood mostly in their mid-twenties (Kantorová

2004; Kreyenfeld 2004). Thus, fertility postponement among the highly educated did not concern the state socialist regimes.

Despite the system's ostensible striving for equality daily life was marked by substantial social inequalities and the reproduction of social and especially cultural capital could have been even stronger than in the West as it compensated the limited possibilities of wealth transfers (Kraaykamp and Nieuwbeerta 2000). Unlike income, lifestyle differed considerably across social strata (Domański 2004; Szelenyi 1978). In fact, these relatively big social distances might have translated into considerable educational differences in fertility, with better educated women preferring smaller families (Mureşan and Hoem 2010; Sobotka 2004) or simply having tools to control their fertility more effectively (Kravdal and Rindfuss 2008; Sobotka 2004, Chapter 2). Indeed, available evidence suggests that the education-fertility relationship in CEE before 1989 was negative, but its strength varied greatly over time and across countries.

6 Research questions

The main question pursued in this thesis is: What is the relationship between women's education and fertility in Central and Eastern Europe? It embraces the following guiding questions:

- How strong was the educational gradient in cohort fertility (including childlessness and high parity births) and how did it vary over time and by country under state socialism?
- How did the female educational expansion affect the trends in cohort fertility, including ultimate childlessness and high parity births, under state socialism?
- How did the age- and education-structure of single mothers change during the rapid rise in the share of non-marital births in Poland?

7 Data and methods

In the dissertation, I use the following data sources:

- macro-level census and large-survey data from the following countries: Austria (1991, 2001), Croatia (2001, 2011), the Czech Republic (1980, 2001, 2011), France (1982, 1990, 1999 and 2011), Germany (Microcensus 2008, 2012), Hungary (1990, 2001), Italy (Family and Social Subjects 2003, 2009), Poland (1988, 2002 and 2011), Romania (1992, 2002), Slovakia (2001), Slovenia (2002), Spain (2011), and Switzerland (2000);

- micro-level data from the 2002 Fertility Survey accompanying the 2002 Polish census;
- micro-level data from the Polish birth registers 1985-2010.

Cross-country comparability of educational levels is ensured by employing the 1997 version of the International Standard Classification of Education (ISCED). Completed cohort fertility is measured as the average number of children ever born alive by women aged at least 40 and not more than 76 years old. Setting the age threshold at 40 and not at the usual 49 years old enables me to include more birth cohorts at a very small cost of losing only about 2% of their completed fertility (Eurostat 2014). On the other hand, excluding women older than 76 ensures a negligible selective mortality bias (cross-checked whenever more than one census is available).

In the dissertation I employ a broad range of descriptive and macro-level methods. These include various standardisation and decomposition analyses, as well as analyses of trends.

8 Limitations

The main limitation of the study (and at the same time its strength) is its descriptive character. Census data used in the dissertation ensure a far better quality than usual surveys, but they include a very limited number of individual-level variables, which makes micro-level analyses impossible. Also, the cohort indicators, applied in three out of four articles of the dissertation, give much more reliable estimates than the period indicators but they cannot capture the very recent trends. Further, I cannot account for the country- and period-specific meaning of the educational categories. The ISCED classification provides as much inter-country comparability as possible, but it cannot ensure full equivalence of the educational categories, especially that their social meaning undoubtedly changed together with growing educational attainment. Finally, this study does not cover some very important countries, notably Russia, East Germany (the German Democratic Republic) or any of the Baltic States. However, the Cohort Fertility and Education database (CFE database 2016), whose data I use, is expanding rapidly, so in a couple of years broader analyses, including most of the missing countries, will probably be possible to conduct.

9 Innovative character

The innovative character of my dissertation lies in its interdisciplinary and comparative approach. It combines research problems studied in demography, sociology, social history and

social policy. To my best knowledge it is the first comprehensive study analysing long-time trends in cohort fertility by level of education in post-socialist European countries. It also shows how the state-socialist reality and policy induced different fertility developments from those observed in the Western market democracies since the late 1960s. I quantify the effect of growing educational attainment on completed fertility under state-socialism in several countries, which has not been done before. Moreover, I explore topics so far little discussed in the Polish context, i.e. a) long-term changes in age structure of mothers when controlling for growing educational attainment and b) the share and structure of births to single women in times of surging proportion of non-marital births. All in all, my dissertation substantially contributes to the understanding of fertility changes during the last over 70 years in CEE.

10 Results

In general, CEE exhibited a negative educational gradient in completed fertility of women. Contrary to what might be expected, the educational differences in fertility in the East were not smaller than in the West, nor did the CEE countries constitute one fertility regime. The only common features that have emerged from my and other authors' contributions were early age at entering motherhood and low childlessness, both driven by ideological-economic and policy-related factors. Below I summarise and discuss the answers to the three research questions.

10.1 The educational gradient in completed fertility

The negative educational gradient in completed fertility varied greatly in steepness across the seven post-socialist countries analysed. The observed division into countries with a fading educational gradient in fertility (Croatia, the Czech Republic, Hungary and Slovenia) and those with a stable and rather steep one (Poland, Romania and Slovakia) does not reflect differences in the generosity of family policies, in the rigidity of the political regimes (especially in the access to high education for certain social groups), in the educational structure nor in the level of economic development or urbanisation in the first half of the 20th century (Enyedi 1990; Kraaykamp and Nieuwbeerta 2000; Uršič 2012). The main difference between the two groups of countries lay in the fertility levels of the least educated women: in Croatia, the Czech Republic, Hungary and Slovenia they got closer with time to those in other educational strata, while in Poland, Romania and Slovakia they remained very high. For this reason I argue that the steepness of the educational gradient in fertility under state socialism might have been

connected to the advancement of the fertility transition (as part of the demographic transition) on the one hand and to abortion practices on the other.

In Hungary and the Czech Republic² the fertility transition finished around 20-40 years earlier than in Poland, Slovakia and Romania (Blum and Rallu 1993; Frejka and Sardon 2004, Chapter 7; Chesnais 1992, p. 252). Yugoslavia is said to have lagged behind as well (Chesnais 1992, pp. 119, 252), but some evidence suggests that the process finished earlier in Slovenia and Croatia (Blum and Rallu 1993, Chapter 1; Van Bavel et al. 2015). In general, the fertility transition was initiated by the upper and middle social strata as they had adapted the methods of fertility limitation far more quickly than the rest. Thus, when the better educated had already completed reducing their family size, the low educated might have not even started the process (Haines 1992). Looking at the very high fertility rates among the least educated in Poland, Slovakia and Romania, one can have the impression that their fertility transition had not been complete. This supposition might apply to the oldest cohorts, but it is difficult to imagine that women born in the 1940s or 1950s, i.e. who had children in the 1960s and later, were still in the transitional stage.

Abortion was the main birth control method in state socialist countries, far more frequently used than in the West (Stloukal 1999), but it was not equally spread across the CEE countries. I hypothesise that in countries where the least educated easily resorted to abortion, their fertility was closer to the other educational strata. In Romania, the severe restrictions in the access to legal abortion in the years 1967-1989 affected less educated women most (Pop-Eleches 2010): before the policy change their fertility steeply declined; afterwards, it started to rise equally fast. Poland did not experience any severe long-lasting restrictions in the access to abortion, but the approval of abortion and the abortion rates were positively related to education most likely for religiosity-related reasons (Okólski 1983; Mazur 1981). Slovakia probably displayed a similar but weaker link between education and the attitude to abortion (Gal and Kligman 2000, p. 81; SFPA and FOCUS, Social and Marketing Analysis Centre 1997).

The increases in completed fertility within the educational groups, seen in all CEE countries since the 1941-45 birth cohort, except in Slovakia and Slovenia, might have been driven by the upward educational mobility. The upper strata absorbed people from the lower strata, in

² Most publications use the term Czechoslovakia, but from the existing evidence it is clear that they refer to the territory of today's Czech Republic rather than to Slovakia, as the latter one lagged behind and was at a similar stage of advancement as Poland (Chesnais 1992, p. 239).

which family size tended to be bigger. This process of incorporation might partly explain the diminishing differences in completed fertility between women with primary and basic vocational education on the one hand and between women with secondary and university education on the other hand. Similarly, the differences in childlessness rates became a bit smaller between women with low and medium education. In contrast, the slowly growing stratum of the university degree holders remained far more frequently childless than the rest.

10.2 The effect of the educational expansion on completed fertility

Growing educational attainment considerably pushed down the overall completed fertility rates though its impact varied greatly across the region. It was strong in Poland, Slovakia, Romania and Croatia, but only limited in the Czech Republic, Hungary and Slovenia, where reductions in high fertility played a much more significant role (they hugely suppressed fertility also in Croatia, Poland and Romania, but only up to the early 1940s cohorts, when the share of high-order births began to increase again). The trends in completed fertility within the educational groups often developed in opposite directions. This has been documented also for other countries than those analysed here, e.g. Estonia, France or Spain (Van Bavel et al. 2015). In contrast, the changing educational structure exerted a surprisingly small effect on childlessness as its developments were universal: they changed in the same way in all educational groups, though keeping the positive educational gradient. Why were trends in fertility education-specific, while those in childlessness were not?

In the 20th century, the share of couples having two children increased until the mid-1940s cohorts in West and the late 1950s cohorts in the East (CFE database 2016; Reher and Requena 2014; Van Bavel et al. 2015). Adhering to the two-child norm meant different fertility developments in different social strata. The low educated had, on average, more children than two. Thus, in this group fertility tended to decline. In contrast, the better educated usually had fewer than two children, so their fertility rates needed to rise to reach the normative two births.

As for childlessness, the story was quite different. Among women born at the beginning of the 20th century childlessness rates were high in all social strata, although they still displayed a positive educational gradient. Consequently, when remaining childless became less socially accepted after the World War Two and the pressure on having children increased, the proportions of childlessness started falling in all social strata, although the reasons might have

remained group-specific. For people from the bottom of the social ladder, the improved living and health conditions together with lower economic requirements for tying the knot might have played the main role in facilitating the transition to marriage and parenthood. The better educated might have started a family more eagerly because of the improved possibilities of combining childrearing and work in the labour market. In addition, the fact that in most state-socialist countries being a parent was, in fact, a prerequisite to obtain a flat, undoubtedly affected positively the probability of starting a family in all social strata.

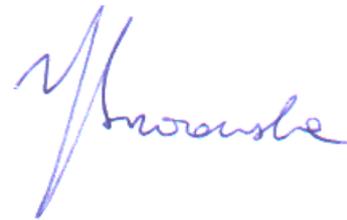
10.3 Changes in age- and educational structure of single mothers in Poland

The vast upsurge in the proportion of non-marital births seems to have been entirely driven by cohabiting couples as opposed to unpartnered mothers: the share of babies born to singles did not change much in the period 1985-2010, oscillating between 3 and 5%. However, being unpartnered when giving birth became much more selective. While in 1985 the share of newborns' single mothers ranged between 2% among university graduates and 5% among the least educated, 25 years later the values varied between 1% and 22%, respectively. Also, single mothers became younger: during the analysed 25 years the figures among the youngest teenagers, the 15-17-year-olds, more than double. Early teenagers and women with primary education (who, to a large extent, overlap) are the only groups, in which the share of births to single mothers has significantly increased. At the same time, the probability of becoming a teenage-mother halved between 1985 and 2010 despite the declining age of sexual initiation (Izdebski 2012, p. 759). Thus, it seems that young people are now much better informed about how to avoid pregnancy and far better equipped with contraceptive measures than they used to be under state socialism. However, this also implies that those who involuntarily get pregnant without having a responsible partner tend to be the least resourceful who particularly need policy attention and social help.

11 Conclusions

In sum, the relationship between education and completed fertility among women born between 1916 and 1960 in CEE had a negative sign, but it varied greatly in strength over time and across countries. Within the educational groups fertility usually tended to increase, but rising educational attainment pushed the overall completed fertility considerably down. Childlessness rates exhibited a positive educational gradient, but growing school enrolment hardly affected them as in most birth cohorts they were declining in all educational strata. The

analyses for Poland demonstrate that, when controlling for education, childbearing was shifted to younger ages under state socialism. Despite the surging proportion of non-marital births since the late 1980s, the share of unpartnered women giving birth has remained low and stable. However, they have become much more selective with respect to age and education.



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