Extended Abstract
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Human capital and cohort parity progression ratios in Germany

The long term trend of low fertility in Germany is an important topic of both research and political debate as it is related to the ageing and population decline and has consequences in different policy fields such as the labor market, social systems, economy and the environment (Bujard, 2015). Underlying the decades-long German trend in low fertility, significant differences exist in family size, predominantly with the decrease of large families and the increase of childlessness, following distinct patterns across the country (Bujard et al, 2015). Also, studies indicate a new preference for two children (Sobotka et al, 2014).

From that perspective it becomes essential to consider a broad scope of analysis when dealing with the probability of both parenthood and having additional children. Considering the many approaches that have been adopted in this analysis for Germany, is found few empirical works with educational differentials and cohort parity progression[1], although the relation between human capital and fertility is theoretically well grounded.

This paper aims to contribute with the discussions on the referred association using a longitudinal study[2]. The method is retrospective maternity histories with decomposition of natural order of birth and educational level of birth cohorts of women born between 1945 and 1968. The results will be compared for West and East Germany.

One theoretical framework that considers economic and sociological interpretation of fertility behavior and is suitable for Northwestern Europe is the Second Demographic Transition (Van de Kaa, Lesthaeghe, 1986). From a recent review on the SDT, Lesthaeghe (2010) states that is the "expression of the development of the higher order, non-material needs and of expressive values", with changes on nuptiality, family patterns and fertility. According to the author, the structural constrains such as the prolonged education, self-actualization and expressive values would be related to the postponement of total fertility, thus, negatively affecting total fertility. On the other hand, gender symmetry and women emancipation as well as rearrangements of roles of parents and work-family policies would lead to the recuperation and an increase on total fertility.

[1] For Germany see Kreyenfeld (2002) and for other European countries see Jenkins (2011), Kravdal (2007),Wood et al (2014)
[2] The German Socio-Economic Panel (SOEP), representative longitudinal study of private households.

With an economic approach of education and fertility, Becker and Lewis (1974) reinforce the argument that an increase in the education of mothers has a strong positive effect on the quality and a strong negative effect in the number of children.

Additionally, Inglehart (1997) theory of post-materialism, postulates that cohorts who experienced economic scarcities would place strong priorities on economic needs and cohorts who have experienced high material affluence and rising education give high priority to values such as individual improvement and personal freedom. Van de Kaa (2002) has shown how West Germany had one of the highest positive correlations between post-materialism scores and mean age at childbearing in Europe. And this was significantly distinct from East Germany which has a scenario similar to Eastern Europe.

Overall, we can infer that higher levels of human capital and markedly post-materialist characteristics would lead to low fertility rates, but this effect would be compensated in stronger social and gender egalitarian systems. As an important aspect of human capital and women's empowerment, the educational attainment would play a decisive role in fertility. However, we can hypothesize that if the gender educational gap between man and woman of the same cohort is significant, it would mitigate the effects of women's education. That effect would be greater when comparing the couple's educational level. Also, we could assume that educational stratification has different impacts in the comparison of cohort fertility; that is, in more homogeneous systems the span between different levels of education will have a lower effect on fertility behavior than in more heterogeneous systems.

In fact, the differences in the socioeconomic context of the human capital are persistent in the German society after the Reunification. Although the TFR declined almost steadily in Germany since the 70's, regional differences were remarkable. Following the fall of the Berlin Wall, in 1989, there was an unforeseen drop in births in East Germany, but in 2008 West and East Germany reached the same Total Fertility Rate (TFR) of 1.4 (Goldstein and Kreyenfeld,2011).

These fluctuations were interpreted from different perspectives. One view described by Goldstein et al (2011) states that this phenomenon was first considered a societal "shock" (Eberstadt, 1994, apud Goldstein et al, 2011) and the "westernization" of East Germans would lead to a social unification of Germany. However, Goldstein et al (2011) approach the referred fertility period in Germany with a perspective of divergence. They state that while the West German rate stalled at 1.4 children since 1970, the period fertility in East Germany had been rising until crossing paths with its counterpart. Also, they defend that the East and West did not converge in constrains and attitudes. To support these statements they quote numerous studies showing differences in economic paths, secularization, educational stratification, ethnic composition and

maternal employment. In summary, East Germany is characterized with higher unemployment rates and lower wages than the West. The secularization of the East is more prominent than the West, with a majority of the population declaring no religious affiliation, with an increasing number after 1990. The East has an educational stratification more homogenous than the West, where the larger part has a secondary education level. The share of migrants is distinctly lower in the East than in the West, which is related to fertility as migrants tend to have more children than the native population. And finally, East German women mostly work full-time and have more access to public day care facilities than West German women.

The authors showed significant differences in order-specific fertility patterns in which, comparing to West Germany, East Germany presented lower aged mothers at first birth; birth as a more universal occurrence; greater shares of one-child families; increase of second-birth rates; and lower third-birth rates. They conclude that a higher period fertility in the East may be a result from lower shares of childlessness and recuperation in the progression to second births.

Specific studies on German fertility behaviors and education indicated that there is a reversal in childlessness among high educated women in Germany and there are distinct differences between education and urbanization levels (Bujard, 2015b). In West Germany second birth hazards have been found to be higher for highly educated people (Kreyenfeld, 2002). For third birth hazards, the theoretical approach debated by Lück et al (2015) denoted as influence factors the role model of the family of origin, a subjective family orientation, religiosity, a non-employment woman and a first and second child of the same sex. Nevertheless, in the debated theoretical model the transition to third birth by educational levels would follow a U-shape, with low and high educated women having more probability to have a third child.

In cross-country comparisons Lutz et al (2014), attempting to answer if there is a distinct trend in education-fertility differentials across cohorts, highlighted from Germany that there is a continuous decline in fertility among the lower educated woman, comparing to women with medium levels of educational attainment. On the other hand, the fertility trends are less uniform when women with high educated level are compared to women with medium levels, where high educated tend to have a lower fertility with some variations for the cohort of 1950. However, in order to do a cross-country comparison, the studies have to standardize to international systems the German educational system, which has peculiarities that can cause bias when are not taken into consideration.

This paper will consider the specific characteristics of the German educational system, conjecturing that each career option will have a different effect on cohort parity progression ratios, as they usually present different labor market prestigious and define further successions in the educational attainment.

In conclusion, from what was previously exposed, the sub narratives on fertility behavior in Germany are fundamental to understand its relation to education. Therefore, the discussions will considerate economic, social and cultural contexts in which this education-fertility dynamics takes place.

References

Bujard, M. (2015) Consequences of Enduring Low Fertility – A German Case Study Demographic Projections and Implications for Different Policy Fields. Comparative Population Studies. Vol, 40, 2 (2015):131-164

Bujard, M. (2015b) Is there a reversal of the childlessness trend among highly educated women in Germany? International Conference Education and reproduction in low-fertility settings Vienna, 2 - 4 December 2015

Bujard, Martin; Lück, Detlev (2015): Kinderlosigkeit und Kinderreichtum: Zwei Phänomene und ihre unterschiedlichen theoretischen Erklärungen. BiB Working Paper 1/2015. Wiesbaden: Bundesinstitut für Bevölkerungsforschung

Goldstein, J, Kreyenfeld, M. (2011) Has East Germany Overtaken West Germany? Recent trends in Order-Specific Fertility. Population and Development Review, 37(3):453-472 (September 2011).

Inglehart, R. (1997) Modernization and Postmodernization: Cultural, Economic and Political Change in 43 Societies. Princeton University Press, 1997. 453 pages.

Jenkins, A. (2011). Educational attainment, labour market conditions and the timing of first and higher-order births in Britain. *Longitudinal and Life Course Studies* 2(2): 202–227.

Kravdal, Ø. (2007). Effects of current education on second- and third-birth rates among Norwegian women and men born in 1964: Substantive interpretations and methodological issues. Demographic Research 17(9): 211–246. doi:10.4054/Dem Res.2007.17.9.

Kreyenfeld, M. (2002). Time-squeeze, partner effect or selfselection? An investigation into the positive effect of women's education on second birth risks in West Germany. Demographic Research 7(2): 15–48. doi:10.4054/DemRes.2002.7.2.

Lesthaeghe, R. (2010) The Unfolding Story of the Second Demographic Transition. Population Studies Center Research Report 10-696 (January 2010)

Lesthaeghe, R. and van de Kaa, D. J. (1986). Twee demografische transities? Pp. 9-24 in: D.J. van de Kaa and R. Lesthaeghe (Eds), Bevolking: Groei en Krimp, Deventer, Van Loghum Slaterus.

Luck, D, Scharein, M, Lux, L, Dreschmitt, K, Dorbritz, J. (2015) Nur wenn alle Voraussetzungen passen. Der Forschungsstand zu Kinderreichtum. BiB Working Paper 3-2015. Wiesbaden.

Lutz W, Butz WP, KC S. (2014) World Population & Human Capital in the Twenty-first Century: Executive Summary. Program: POP. Publication Year: 2014.

Sobotka T., Beaujouan, E. (2014) Two is best? The persistence of a two-child family ideal in Europe. Population and Development Review 40(3): 391–419 (September 2014)

Van de Kaa, D. (2002) The Idea of a Second Demographic Transition in Industrialized Countries Paper presented at the Sixth Welfare Policy Seminar of the National Institute of Population and Social Security, Tokyo, Japan, 29 January 2002.

Wood, J., Neels, K., Kil, T. (2014). The educational gradient of childlessness and cohort parity progression in 14 low fertility countries. Demographic Research. Volume 31, Article 46. Pages 1365-1416..2014.2.12

http://www.diw.de/en/soep (Last access in December, 2015)