

Intentions, postponement and late fertility: Analyses of urban-rural differences

Submission to European Population Conference 2022

by Bernhard Riederer

Abstract

Demographic research has repeatedly shown that fertility in Europe is lower in urban than in rural areas. These differences are usually explained by economic, cultural and compositional factors (as well as selective migration). Most analyses focus on annual fertility rates, some on cohort fertility. With my research, I want to add to this literature by analysing fertility intentions, postponement and late fertility – and by addressing the explanatory power of competing theoretical explanations.

This presentation summarizes the main conclusions of three studies discussing regional differences in fertility: Study 1, co-authored by Isabella Buber-Ennsner, analyses urban-rural differences in fertility intentions and their realisation in 11 European countries (based on individual level GGP data). Study 2 focuses on urban-rural differences in Austria among women born in 1984 (individual level register data). Longitudinal analyses provide insights in the timing of first births and catch-up processes of urban women. Finally, study 3, joint work with Éva Beaujouan, analyses differences in late fertility in Europe on NUTS 3 and NUTS 2 levels (multilevel random coefficient models employing aggregated Eurostat data).

Although two studies are still work in progress, findings of all three studies confirm lower fertility in urban areas. Fertility intentions do not seem to differ between women in urban and rural contexts. However, a higher share of women in urban areas remains childless until their mid-thirties. Correspondingly, late fertility (35+) is higher in most European cities which is mainly explained by differences in female education and economic structure, but hardly by other factors.

Bernhard Riederer

Wittgenstein Centre (IIASA, OeAW, Univ. Vienna), Vienna Institute of Demography/ Austrian Academy of Sciences & Department of Sociology/ University of Vienna

bernhard.riederer@oeaw.ac.at

bernhard.riederer@univie.ac.at

Extended Abstract

Previous research on urban-rural differences in fertility

Demographic research has clearly demonstrated that “fertility levels differ substantially by the level of urbanisation in Europe” (Campisi et al., 2020, p. 1). In short, urban areas have usually lower fertility rates than rural areas (e.g., de Beer & Deerenberg, 2007; Hank, 2001, 2002; Kulu, 2013; Kulu et al., 2007; Kulu & Washbrook, 2014). Nevertheless, there is still need for further research as urban-rural variations are still “not well understood” (Campisi et al., 2020, p. 2).

Previous research on subnational differences in fertility focused on the total fertility rate (e.g. Campisi et al., 2020) – often on single countries (e.g. Hank 2001; 2002; Kulu 2013; Kulu & Washbrook 2014) – or cohort fertility (e.g. Nisén et al. 2021; Vobecká & Piguët 2012). I want to add to this literature by analysing fertility in more detail, focusing on fertility intentions, postponement, the variation of first births across the life course, and late fertility in Europe in a comparative way.

Paper I – Regional context and realization of fertility intentions: the role of the urban context (Riederer & Buber-Ennser, 2019)

Although fertility is lower in cities, fertility intentions seem to be at comparable levels as in rural regions (e.g. Riederer & Buber-Ennser, 2018). This paper therefore analyses the realization of fertility intentions with GGP data from 11 European countries, employing binomial and multinomial logistic regression models, decomposition analyses, and examining the role of contextual factors. The results demonstrate that realization is lower in urban than in rural regions (see Fig. 1). In cities, postponement of childbearing is much more common. This can be partly explained by differences in characteristics (e.g., age, partnership status) of inhabitants who intend to have a(nother) child. Furthermore, contextual factors such as educational and economic opportunities play a role.

Kulu, Vikat and Andersson (2007) already noted that (at least in Nordic countries) larger settlements are also characterised by later peaks of fertility. Following from the high relevance of postponement in cities in both Western and Eastern Europe, further analyses of urban-rural differences particularly focus on the timing of first births across the life course and late fertility.

Paper II – Urban-rural differences in fertility: A longitudinal analyses using Austrian register data from the female 1984 cohort (Riederer, in preparation)

Using the Austrian labour market database, I analyse life courses of 47,271 women who were born in 1984 and lived in Austria between 2004 and early 2019. The study focuses on the transition to motherhood between 1999 (age 14/15) and 2019 (age 34/35). The date of first birth is approximated by the day of entering maternity allowance or leave for the first time. The main analyses compare female lives across three settlement categories: the metropolitan area of Vienna, other urban regional centres (including the next nine biggest Austrian cities), and other (rural) regions. In addition, I consider migration to urban and rural areas as well as migration between the city of Vienna and its surrounding suburbs and districts. “Selective internal migration could be an important factor” (Kulu et al., 2007, p. 278) for urban-rural differences in fertility (see also Kulu, 2006; Kulu & Washbrook, 2014; Michielin, 2004; Vobecká & Piguët, 2012), as well as international migration. In multinomial and cure regression models, I control for citizenship, economic sector of employment, highest career income, and (tertiary) education of women.

Results show that Vienna is characterised by higher shares of women among the 1984 cohort that are childless at age 34/35, followed by women who live in regional centres and finally women from other regions. Responsible for higher childlessness of women until their mid-30s in urban regions are mainly those women who migrated to the cities (see Fig. 2). This can be partly explained by the characteristics of these women (i.e. citizenship, economic sector, income, education). More detailed analyses reveal a lot of heterogeneity among the Viennese population (e.g. by citizenship) and illustrate catch-up processes among highly educated women. Nevertheless, the overall significance of internal migration is even more clear in the Viennese area where women moving from the surroundings of the city to Vienna show highest and women moving from Vienna to the surrounding areas show lowest shares of childless women (at age 34/35).

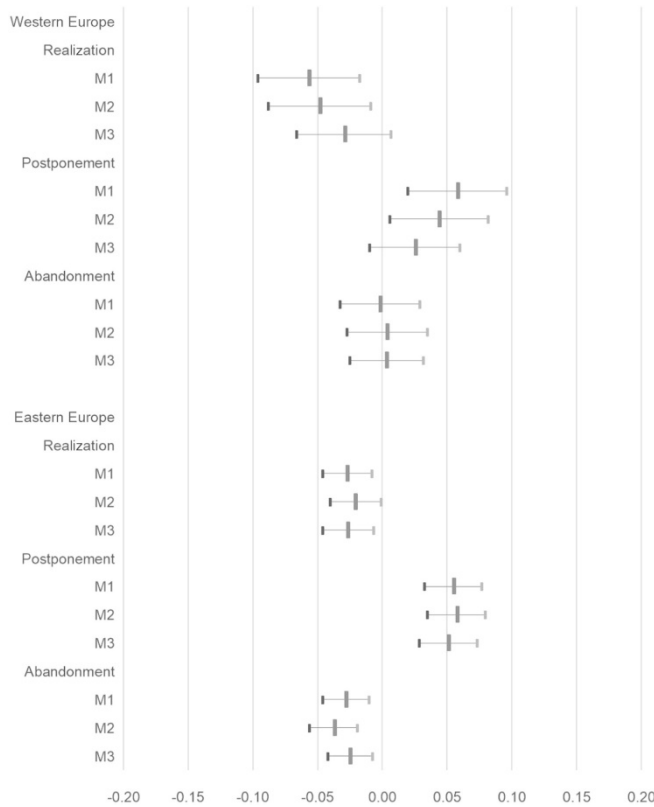
Additional multilevel analyses using data for the 35 Austrian NUTS 3 regions (104-9925 women or 80-5480 mothers in each region) demonstrate that the association between population density of the place of residence and the individual risk of being childless at age 34/35 becomes weaker if late fertility at the place of residence is controlled for. Similarly, the association between population density of the place of residence and the number of days until first birth becomes weaker if average age at birth at the place of residence is controlled for. All findings support the theoretical argument of more frequent postponement in urban environments.

*Paper III – Late Fertility in Europe: an urban phenomenon?
(Riederer & Beaujouan, in preparation)*

Although late fertility (age 35+) is by no means a new phenomenon, increases in female education, employment, and corresponding postponement of childbearing changed its social meaning and raised the public attention. Nowadays, late fertility refers to two often very different groups of women: those giving birth to a high number of children and those who postponed first births to their late thirties and early forties. Focusing on the latter, demographic research analysed mainly the link between education and late fertility. Regional differences in late fertility have been analysed in international comparisons on country level but “fertility research rarely pays attention to the geographical aspect of fertility differences within countries” (Vobecká & Piguët, 2012, p. 225). Nevertheless, it is well known that late fertility is not only widespread in countries with traditionally high fertility rates but also in urban areas in Europe (Leibert 2020).

In a study with Éva Beaujouan, we analyse differences in late fertility in Europe, employing aggregated Eurostat data of 1,309 NUTS 3 and 262 NUTS 2 regions from 28 countries. First, our findings demonstrate that late fertility is much more common in cities than on average (Fig. 3). Rare exceptions are some working class and harbour cities. Second, multilevel random coefficient models indicate a strong link between population density and late fertility despite significant variation in effect size. Third, stepwise hierarchical model building indicates that the association between population density and late fertility can be largely explained by indicators of the economic environment and population composition whereas cultural indicators referring to attitudes towards family and children or gender roles are less relevant. In line with the demographic literature on female education, the tertiarization of urban economies seems to be most important for urban-rural differences in (late) fertility (e.g. Michielin, 2004; Vobecká & Piguët, 2012).

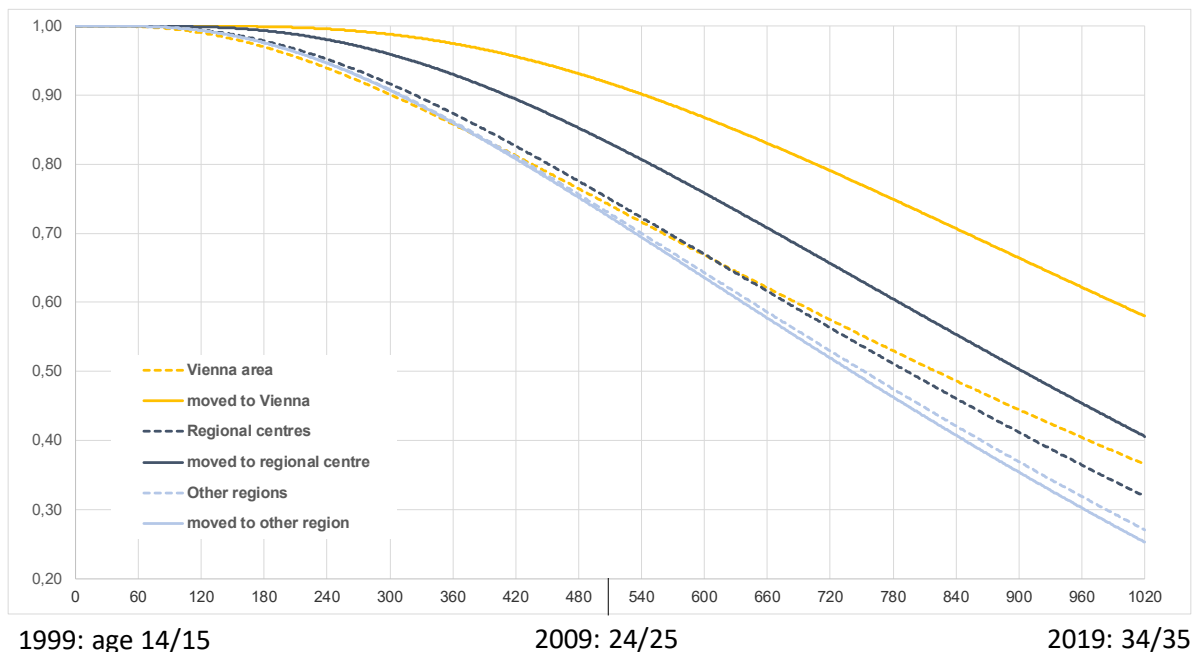
Figure 1: Urban-rural differences in realization, postponement and abandonment of fertility intentions by country cluster (average marginal effects)



Note: Generations and Gender Survey (GGS) waves 1 and 2; panel respondents intending a child within three years in wave 1. Data are average marginal effects (AME) and corresponding 95% confidence intervals resulting from multinomial logistic regression models (model M1 without controls, models M2 and M3 including control variables).

Source: Riederer & Buber-Ennsner (2019; figure 2).

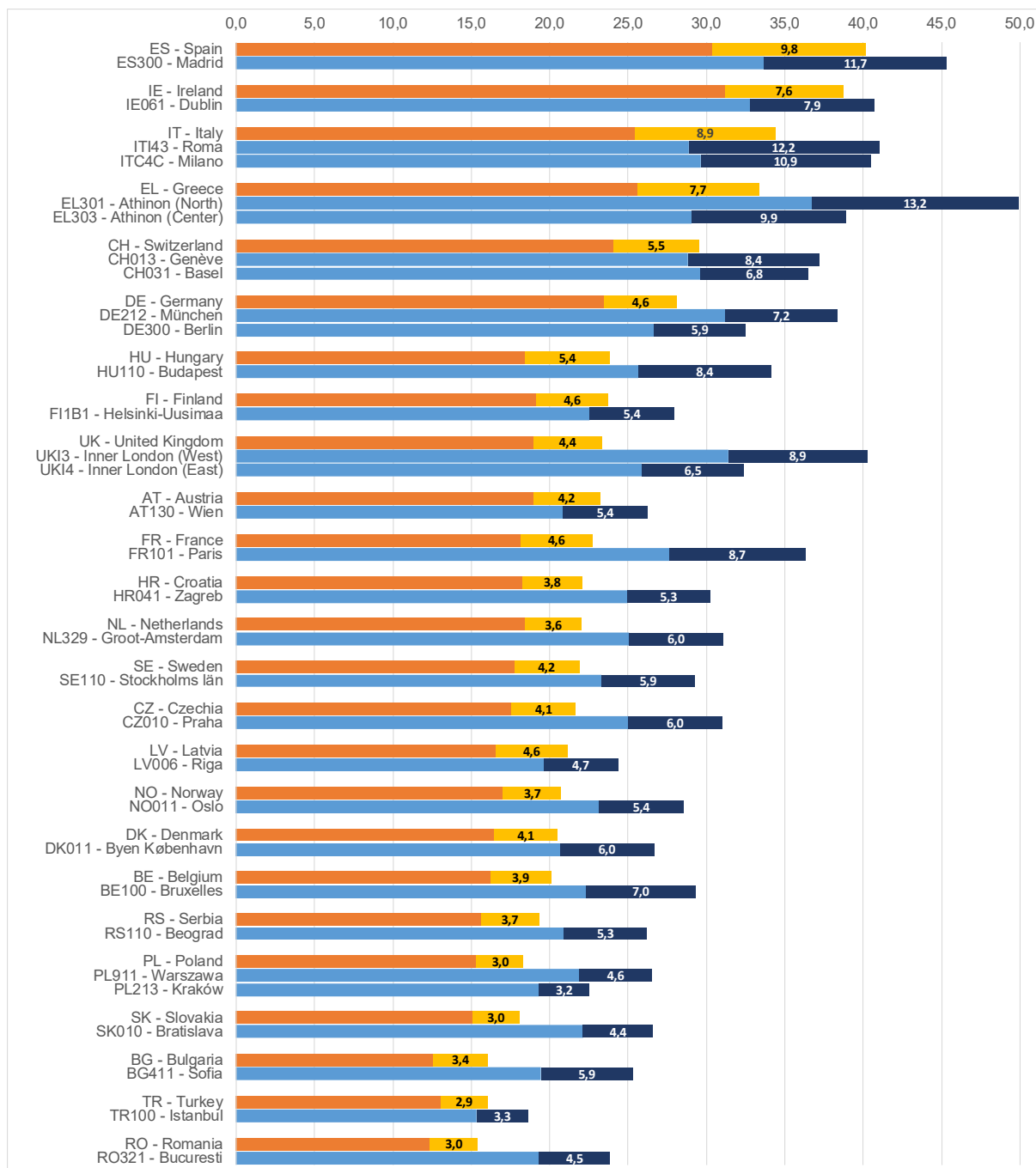
Figure 2: Progression to first births of women born in 1984 in Austria by settlement category



Note: Observation period 1020 weeks from Friday, 13th of August 1999 to Thursday, the 28th of February 2019; N = 35.040,502 observations from 47,271 women.

Source: Austrian labour market database (AMDB); own computations.

Figure 3: Share of births of mothers at age 35-39 and 40+ in Europe (% among all births in 2018)



Source: Eurostat (2021); own figure.

References

- Campisi, N., Kulu, H., Mikolaj, J., Klüsener, S., & Myrskylä, M. (2020). Spatial variation in fertility across Europe: Patterns and determinants. *Population, Space and Place*, 26(4), e2308. <https://doi.org/10.1002/psp.2308>
- de Beer, J., & Deerenberg, I. (2007). An explanatory model for projecting regional fertility differences in the Netherlands. *Population Research and Policy Review*, 26(5), 511-528. <https://doi.org/10.1007/s11113-007-9040-y>
- Hank, K. (2001). Regional fertility differences in Western Germany: An overview of the literature and recent descriptive findings. *International Journal of Population Geography*, 7(4), 243-257. <https://doi.org/10.1002/ijpg.228>
- Hank, K. (2002). Regional social contexts and individual fertility decisions: A multilevel analysis of first and second births in Western Germany. *European Journal of Population*, 18(3), 281-299. <https://doi.org/10.1023/A:1019765026537>
- Kulu, H. (2013). Why do fertility levels vary between urban and rural areas? *Regional Studies*, 47(6), 895-912. <https://doi.org/10.1080/00343404.2011.581276>
- Kulu, H. (2006). Fertility of internal migrants: comparison between Austria and Poland. *Population, Space and Place*, 12, 147-170. <https://doi.org/10.1002/psp.406>
- Kulu, H., Vikat, A., & Andersson, G. (2007). Settlement size and fertility in the Nordic countries. *Population Studies*, 61(3), 265-285. <https://doi.org/10.1080/00324720701571749>
- Kulu, H. & Washbrook, Elizabeth (2014). Residential context, migration and fertility in a modern urban society. *Advances in Life Course Research*, 21, 168-182. <https://doi.org/10.1016/j.alcr.2014.01.001>
- Leibert, T. (2020). Geburten in Europa: Junge Mütter, alte Mütter. [Births in Europe: Young mothers, old mothers.] *Nationalatlas aktuell*, 14(6). Leipzig: Leibniz-Institut für Länderkunde (IfL). URL: http://aktuell.nationalatlas.de/Geburten_Europa-6_10-2020-0.html/
- Michielin, F. (2004). Lowest low fertility in an urban context: the role of migration in Turin, Italy. *Population, Space and Place*, 10, 331-347. <https://doi.org/10.1002/psp.337>
- Nisén, J., Klüsener, S., Dahlberg, J., Dommermuth, L., Jasilioniene, A., Kreyenfeld, M., Lappegard, T., Li, P., Martikainen, P., Neels, K., Riederer, B., te Riele, S., Szabó, L., Trimarchi, A., Viciana, F., Wilson, B., & Myrskylä, M. (2021). Educational differences in cohort fertility across subnational regions in Europe. *European Journal of Population*, 37, 263-295. <https://doi.org/10.1007/s10680-020-09562-0>
- Riederer, B., & Buber-Ennsner, I. (2019). Regional context and realization of fertility intentions: the role of the urban context. *Regional Studies*, 53(12), 1669-1679. <https://doi.org/10.1080/00343404.2019.1599843>
- Riederer, B., & Buber-Ennsner, I. (2018). Regional context and realization of fertility intentions: Are capitals different? The examples of Austria and Hungary. *Demográfia*, 61(5), 29-58. <https://doi.org/10.21543/DEE.2018.2>
- Vobecká, J., & Piguet, V. (2012). Fertility, Natural Growth, and Migration in the Czech Republic: an Urban–Suburban–Rural Gradient Analysis of Long-Term Trends and Recent Reversals. *Population, Space and Place*, 18, 225-240. <https://doi.org/10.1002/psp.698>