ERC Consolidator Grant 2015
Research proposal [Part B1]

Family size matters: How low fertility affects the (re)production of social inequalities

FAMSIZEMATTERS

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DURATION 60 months

This is the first comprehensive study on the consequences of low fertility for the (re)production of social inequalities. Inequalities in socio-economic well-being, including **gender inequalities** and regional inequalities**,** are reproduced from generation to generation. The family plays a central role in the reproduction of social inequalities. Over the last 5 decades, most societies in **Europe and East-Asia** moved or started moving towards **low fertility regimes** where the majority of women bear 0, 1 or 2 children. **What does this radical change in family size imply for the (re)production of social inequalities?**

While demographers focus on determinants rather than consequences of low fertility, social inequality scholars largely ignore fertility trends. I connect these major fields to understand the consequences of low fertility and re-think mechanisms for the reproduction of inequalities. From this perspective I generate **new empirical and theoretical questions** and I **highlight growing but under-researched groups** (e.g. childless adults and only-children).

I formulate **three sets of related innovative questions on the consequences of low fertility for inequalities in (1) children, (2) adults and (3) societies**. With regard to children, I investigate multigenerational processes, the changing role of sibling size and the role of only-children in reproducing inequalities. For parents with adult children, I study when and where the 'quality' of children becomes increasingly important and I examine the role of childless adults in the reproduction of inequalities.

I take a **quantitative comparative approach over time and across societies** in **Europe and East-Asia** using multi-actor multilevel data from the newest data initiatives and reviving underused existing data. The insights from the comparative studies are brought together at the macro level in a **simulation study**. Gender inequalities are addressed throughout the project: has lower fertility reduced gender inequalities?

Section a: *Extended Synopsis of the scientific proposal (max. 5 pages)*

1. Research aims

Over the 20th century families have become smaller. Most societies in **Europe and East-Asia have** moved or are moving towards **new fertility regimes** where the majority of women bear 0, 1 or 2 children. Families play a significant role in redistributing resources in society and thus in reproducing social inequalities in many areas of life. Opportunities for a long and prosperous life are passed on from generation to generation through families, limited resources are allocated across children, and elderly parents are supported by resources of their children. Now, when families become smaller, what does this imply for social inequalities? Currently we simply don't know and the theoretical predictions are ambiguous. This project systematically brings together the core demographic observation of low fertility regimes and the core sociological concern about social inequalities to answer the overarching question: **How does the radical change in family size affect the (re)production of social inequalities?**

While demographers have focused on the determinants rather than consequences of low fertility, scholars studying the reproduction of social inequalities have largely ignored fertility trends altogether. By **connecting these two major fields** I generate new empirical and theoretical questions that challenge existing theories and empirical results on inequality, most of which are based on findings in high fertility settings. Moreover, linking these two literatures offers a fresh perspective on yet unresolved puzzles, for instance with regards to birth order effects. Additionally, this approach highlights increasingly important but up to now under-researched sub-populations, such as childless adults and only-children. We have to revisit and adept our thinking about the reproduction of social inequalities to account for these growing subpopulations. Finally, comparing countries in Europe and East-Asia, the two regions of the world with the lowest level of fertility and with great variation in family systems and social inequalities, will likely uncover some surprising findings and new ways of thinking about the theoretical mechanisms.

I divide the overarching question in **three sets of related innovative research questions: What are the consequences of low fertility for social inequalities in (1) children, (2) adults and (3) societies?** From the perspective of children we investigate what low fertility means for the importance of the grandparental generation on children's outcomes, the changing role of sibling size and the role of only-children in the transfer of advantages and disadvantages from one generation to the next. For parents with adult children, we examine when and where the 'quality' of their children, rather than quantity, becomes increasingly important for the variation in well-being among parents, and we examine how the increasing number of childless adults affects the reproduction of social inequalities.

I take a quantitative **comparative approach over time and across societies** in Europe and East-Asia using multi-actor multilevel data from the newest data initiatives and reviving underused existing data. The insights from the comparative studies will be brought together at the **macro level** in a **simulation study**. Throughout the project we will address gender inequalities and urban/rural disparities.

2. Innovating by connecting two major traditions

The two large literatures on fertility on the one hand and social stratification and social mobility on the other hand, are only rarely connected, and when they are, the focus has traditionally been on social mobility as a determinant of individual fertility (Blau & Duncan, 1967; Dalla Zuanna, 2007; Reher, 2011) and, more recently, on the consequences of single-parenthood (McLanahan & Percheski, 2008). Demographers naturally take fertility as the phenomenon to be explained (Balbo, Billari, & Mills, 2013). As recent as 2011, Reher (2011) noted the lack of attention for consequences of fertility decline by demographers. Sociologists and other scholars of social inequalities, on the other hand, have not brought ideas about the fertility transition into their work. The study of social stratification and social mobility lies at the heart of sociology and constitutes arguably one of its most successful research traditions. Hout and Diprete (2006) took stock of the advancements made by the international research community in ISA's Research Committee 28 on Stratification and Social Mobility. Their comprehensive overview shows the progress that has been made by cumulative research efforts over half a century: empirical trends have been identified, theoretical models have been developed, and distinct mechanisms were tested that explain how social inequalities are reproduced throughout our societies. The central role of the family is apparent in these mechanisms. It is striking, therefore, that one element is completely missing from their overview: the demographic transition from high to low fertility. Likewise, Grusky's (2014) standard work on stratification does not include an entry on fertility or demographic change. What does the new fertility regime mean for the mechanisms of inequality (re)production that were operating when fertility was higher?

Taking low and declining fertility as the starting point makes this project ground breaking; it is the first comprehensive study to investigate the consequences of this new phase in human fertility for the reproduction of social inequalities in our societies. Not only do the new fertility regimes that we find

ourselves in require us to review and re-examine the mechanisms that reproduce social inequalities, we also now have sufficient high-quality data and the tool-set to bring the two literatures together. This gives us a new perspective that generates a large number of new empirical questions and theoretical puzzles.

3. Macro trends in fertility and micro level mechanisms

To understand the implications of fertility change, we need to re-examine the relevant mechanisms at the micro level in a comparative approach (i.e. across societies and over time as fertility levels change). Figure 1 depicts how relationship (A) between the two macro phenomena, low fertility and social inequalities, can be understood at the micro level. The diagram provides a fruitful perspective to systematically generate research questions; it shows how the research questions listed in section 3 are interrelated.

Low fertility implies smaller family sizes (B). The trend to low fertility in advanced societies has been well-established at the macro-level, but there is a surprising lack of descriptive data on how family size and composition have changed. (A spin-off of this project will be increased knowledge about these changes.) The distribution of children per woman and per mother can differ substantially even among low fertility societies. Germany, for example, has a substantially higher number of childless women than countries with equally low or lower fertility, such as Italy or the Czech Republic (Sobotka, 2004). Up to now, such differences and their consequences for social inequalities have been ignored.

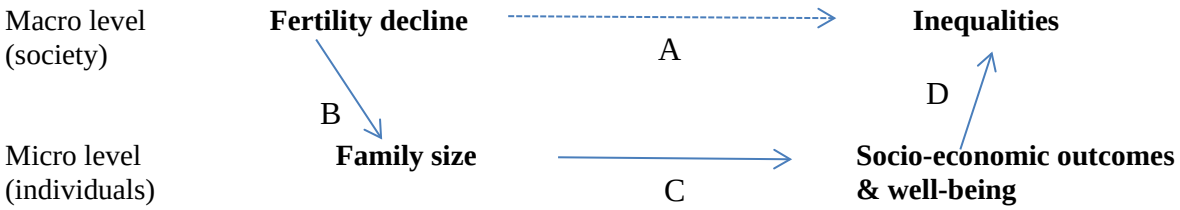

Figure 1 Relationship between low fertility and inequalities in a macro-micro scheme

The main body of the project is concerned with mechanisms that constitute relationship C. We need to understand how the interplay between family size and family background affects socio-economic outcomes of children, their parents and childless adults. For children and adults the main focus is on mechanisms that (re)produce socio-economic inequalities (e.g. relevant outcomes are educational attainment and income), but for adults health inequalities are also highly relevant. The traditional approach has been to study how the outcomes of children depend on family size and family background. In the first part of the project we study how low fertility affects outcomes for children. However, when thinking about outcomes at the micro level, we should not only think in our traditional way about how the life chances of children are affected by parents, but we should also consider the effects of children and their resources on parents in late life. As not everybody becomes a parent, we also have to include childless adults. This under-researched group has been increasing in absolute and relative size and it is essential to study what happens to this group and where and how it fits in models describing the (re)production of social inequalities. The second part of the project concerns studies on the outcomes for parents.

Research in this area has to be comparative cross-nationally and over time so that we can observe patterns under different fertility regimes while taking into account social, economic and institutional differences in the larger context in which individual behaviour takes place. Over time and between countries fertility varies by level, parity dispersion, and speed and heterogeneity of changes. Whereas this is our main focus, we have to take into account that policy regimes vary between countries and over time. Family systems vary too and so do institutions that affect socio-economic chances of individuals, such as labour market institutions and educational systems. We will use ideas on welfare regimes (Esping-Andersen, 1990), family systems (Aassve, Meroni, & Pronzato, 2012) and stratification regimes (Breen, 2004) to build specific hypotheses for our comparative studies.

In the third, smaller, part of the project, we will consider consequences at the societal level. The implications for macro trends of the newly gained insights about the micro mechanisms (B-C-D) studied with simulations. Also, so far, the consequences for gender inequalities and regional disparities have received little attention. We will fill this gap by focussing on the way in which gender differences and differences between urban and rural areas have been affected.

Finally, we will have to pay attention to differences between marriage, cohabitation, step-families, and single-parenthood. Most other “non-traditional families”, such as same-sex couples, are probably too small in number to incorporate. Societies differ in how distinct and selective different family forms are and this may have implications for the mechanisms under study. Obviously family size is also dynamic; in its

simplest form it changes as new siblings are born or leave the parental home. There are interesting and important issues of timing and spacing of births that can be incorporated in our theoretical models as well as in our empirical analysis. We will apply a realistic analytic strategy and start from a simplified family model that we will subsequently make more complex.

3 Three sets of innovative research questions

3.1 Consequences for children [Postdoc 1 and PhD 1]

Multigenerational effects. Traditionally the social reproduction of inequalities is studied from a two-generation perspective. That is, the socio-economic position of the parents is related to that of their children. Recently interest in multigenerational processes has grown (Chan & Boliver, 2013; Mare, 2011; Uhlenberg & Monserud, 2009). Some studies find strong grandparental effects on socio-economic outcomes of children after controlling for the effect of parents, others find weaker ones. Mare and Song (2012) have suggested an interesting explanation for the weak effect of grandparents in some population-wide samples: multigenerational legacy effects might be especially important at the very top and the very bottom of the stratification system. Jæger (2012) finds that grandparental effects are stronger for lower social strata. Zeng and Xie (2011) show for rural China that grandparents matter when they live in with their grandchildren.

Questions to be tackled in this subproject are: (1) what is the role of family size in multigenerational effects? (2) Do multigenerational effects become weaker or stronger as fertility declines over time? (3) Do multigenerational effects vary across countries and can this be linked to fertility levels? (4) Are multigenerational effects stronger in rural settings? (5) Do multigenerational effects play out differently for boys and girls and has this changed with lower fertility?

Sibling size (sibsize) and birth-order. Scholars from various disciplines have studied how number of siblings (from hereon sibsize) and birth-order affects socio-economic (and other) outcomes of children (Blake, 1981; Steelman et al., 2002). Sibsize effects produce inequalities between children from larger and smaller families. (To be clear: We are not concerned with studies on differential fertility that ask whether higher fertility in disadvantaged groups has effects on, for instance, average human capital). Most of the existing research concerns data on cohorts with relatively high fertility. What is the relevance of sibsize in low fertility populations? Sibsize might actually become more important. One of the main theories in this field is the resource-dilution hypothesis. Simple logic says it makes more of a difference whether you have to share your family's resources with no one or with one sibling (100% vs 50%) compared to sharing with three versus four siblings (33% vs 25%). Relatively little is known about how associations between sibsize, birth-order and life chances differ across societies and over time (Steelman et al., 2002). This subproject aims to fill this gap in our knowledge.

Questions to be tackled in this part of the project are: (1) Have sibsize and birth-order associations with socio-economic outcomes changed over time with decreasing fertility? (2) To what extent do they differ across countries and within countries? (3) What do large families in low fertility settings do to ensure good outcomes for their children (i.e. is there increased selection and even polarization of rich and poor among larger families)? And finally, (4) Does smaller sibsize improve the position of girls?

Only-children. Whereas there is a long tradition of studies on the psychological development, of only-children, and an even larger popular literature about being an only-child, little is known about only-children's later socio-economic position and well-being. Moreover, there are hardly any comparative studies in this field. There is an interesting potential trade-off for only-children: they might be better off due to higher investments and higher inheritance, but at the same time they might suffer from lack of contacts, lower social capital and heavier burden in caring for the parents. These issues are amplified if two only-children marry, which is increasingly likely in low fertility societies, especially in cities.

This subproject will explore the role of (the growing number of) only-children in the (re)production of social inequalities by asking: (1) Does the growing number of only-children increase social inequalities in later life? (2) Are only-children more likely to marry other only-children and does this increase inequalities? (3) Is there a trade-off between socio-economic benefits and social/health disadvantages? For all these questions comparison over time and across countries will be made. Of course, the selectivity of the group of only-children may have changed over time and may vary between societies and this (change in) selectivity has to be taken into account. Therefore one aim of the subproject will be (4) to map this changing selectivity by parental characteristics. Special attention will be paid to gender difference: (5) What are the differences between male and female only-children with regard to the first four questions?

3.2 Consequences for adults [Postdoc 2 and PhD 2]

Quality and quantity of children. As people have fewer children to support them in old age, the quality of these children (or child) might become increasingly important. Although there is an increasing interest in the

exchange of support between parents and adult children (Dykstra & Komter, 2012), very little is known about the importance of the socio-economic characteristics of adult children for the well-being of parents. Recently Torssander (2012) introduced the idea of "family foreground" to point at the positive effects of children's socioeconomic position on their parents (a mirror of "family background" which summarizes the characteristics of parents that affect the life chances of children). To address questions about effects of the 'quality' we need a comprehensive study that takes into account the whole life course and family background as well. Research question that will be addressed in the subproject are: (1) Is there a trade-off between quantity and quality of children for parental outcomes? (2) Does this trade-off vary with level of fertility? Also here there are gender issues: (3) Are sons and daughters equally important for mothers and fathers and how has this changed?

Childless adults. Another demographic group which has been largely neglected in the modern stratification and social inequalities literature are childless adults – men and women who have not had a biological child. So far research on childless (and "grandchild-less") adults has concerned their psychological well-being, but the role of this group in socio-economic inequalities has not been addressed in any depth. The first descriptive results on socio-economic position of childless men were published only in 2009, see Plotnick (2009). Over the second half of the 20th century this group has grown substantially, albeit at different rates in different countries and periods. The lack of support by children in later life and the benefits of not having to invest in children early in life, raise theoretical and empirical questions about how this growing non-standard group fits into our usual stratification models.

Questions to be addressed are: (1) Do childless adults face a new trade-off between the benefits of not having to invest in children and the potential negative effects of lack of support in later life? (2) Does such a paradox vary by level of fertility in a society? And (3) Are men and women, single and married childless adults affected in similar ways? Obviously, the reasons for remaining childless are highly relevant and these reasons most likely have changed over time. Long term historic comparisons are important here as the number of childless adults was actually high in the late 19th and early 20th century.

3.3 Consequences at the macro level [Postdoc 3]

The third part of this project is smaller than first two subprojects and, more importantly, it is different in nature because the papers in this part will bring together insights from the micro-level studies in two sets of papers. First, we will give qualitative overviews of our findings on rural/urban differences and on gender inequalities. Second, we will also bring our findings together in a more formal way, namely by using a simulation approach. Empirical observations from micro-level studies are only rarely integrated in models on macro developments and we are not aware of studies that do this for the questions addressed in this proposal. Usually, we stop at estimating intergenerational transmission parameters. Mare, among others, has argued (see for instance (Mare & Maralani, 2006)) that these estimates should be combined in a model with demographic estimates of marriage rates and fertility rates, and other relevant demographic and geographic processes, in order to arrive at a better understanding of how inequality is reproduced across generations. This project seeks to bring demography into sociology and vice versa, by applying (and developing) simulation models to analyse how mechanisms of social stratification under different levels of fertility (i.e. across countries or over time) affect social inequalities at the macro-level. Simple and more advanced models can be used for this. Aggregation of individual outcomes to the macro level (relationship D, Figure 1) can be made based on different scenarios about the distribution of parity and family effects (C). Richer agent-based computational models (Billari & Prskawetz, 2003) are more promising and developing such models is a major aim of this subproject. With these simulation models we will investigate the implications (and predictions) of the current low levels of fertility and different distributions of number of children for the mechanisms of social inequalities and the level of inequalities. Empirical estimates from the papers of the first two parts of this project will be used. Cohort-specific fertility figures and social mobility parameters will be obtained from the Human Fertility Database (www.humanfertility.org) and the International Stratification and Mobility File (http://home.fsw.vu.nl/hbg.ganzeboom/ismf), which compiles information from over 250 surveys across more than 40 countries. In this part, we will also study regional inequalities and differences between urban/rural differences. In most countries, fertility is lower in urban areas (Mace, 2008) while socio-economic opportunities there are greater.

4. Data & Methods

The main body of the project will consist of cross-national comparative and over-time comparative analyses using (publically available) large scale quantitative data. We aim to perform cross-national comparisons and consider changes over time/birth cohorts for all research questions. For some questions we will focus on longer term trends in a limited set of countries.

Data. The most important data sources for the cross-national comparative analyses will be the Generations and Gender Programme (GGP) and the Survey of Health Ageing and Retirement in Europe (SHARE) and its East-Asian counterparts (JSTAR, CHARLS, KLoSA). Both data programmes provide important comparative and (retrospective) life history data. These large data projects cover 13to 19 European countries with comparable data sets in East-Asia. This project is one of the first to use these data for systematic comparisons between East-Asia and Europe.

In addition to these data programmes, many data sets are available that so far have been under-explored yet are highly suitable for this projects. For some questions we will use data for a larger number of countries and a bigger time span but at the cost of having less detailed data (for instance Sieben's collection of 43 surveys from 17 countries on siblings). In other cases, for instance for multigenerational effects, we will use particularly rich data for a smaller number of countries (e.g. the Netherlands, UK, Finland).

Comparative macro data sets with relevant contextual indicators are available from the GGP project, and other specialized databases, for instance on comparative family policy data, are available through the Max Planck Institute for Demographic Research and organizations like the OECD and Eurostat.

Methods. In the comparative analyses, we will use multilevel models which allow us to combine individual micro data with indictors at the country and cohort level. Many questions in this project ask for careful attention to selection and causation. Applying appropriate models that take advantage of the richness of the longitudinal and/or multilevel data is therefore important and we will seek to employ advanced techniques as much as possible. In particular, random and fixed panel models, propensity score matching, event history models and, where possible, instrumental variable (IV) regression models will be used.

5. Feasibility

This project is ambitious both in scope and depth; it encompasses a number of complex subprojects and methodological challenges. Inevitably innovative studies carry the risk that exploring some questions may turn out to prove less fruitful but others will undoubtedly lead to a substantial number of cutting-edge papers that will influence the larger research agenda. I have extensive experience in working with complex data. I have published across different social science disciplines and I work with PhD students from various disciplinary backgrounds. My interdisciplinary profile fits to project well and makes me confident and eager to lead it.

Selected literature (max 15)

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