The Impact of the Great Recession on Age-specific Fertility in Europe

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Short abstract

The economic recession that started in 2007 in the US has hit almost all European countries and has been immediately hypothesised to affect fertility. Consistently, many macro-level studies showed that fertility rates, which were increasing in the first half of the 2000s, started to decline in most European countries. Nevertheless, there have been no empirical studies that assess the effects of *Great Recession* on fertility in Europe. This paper fills this gap. It also examines whether these effects are moderated by welfare policies. To this end, we link regional-level data (NUTS-2) on age-specific fertility with regional-level indicators of economic recession and country-level data on welfare provisions for EU member states, Norway, Switzerland and Iceland. Three-level growth-curve models are estimated. Our preliminary findings show that an increase in unemployment and self-employment were most detrimental for fertility, with unemployment depressing most strongly fertility at the youngest ages and self-employment at older ages.

Keywords: fertility, economic uncertainty, economic recession, Europe

EXTENDED ABSTRACT

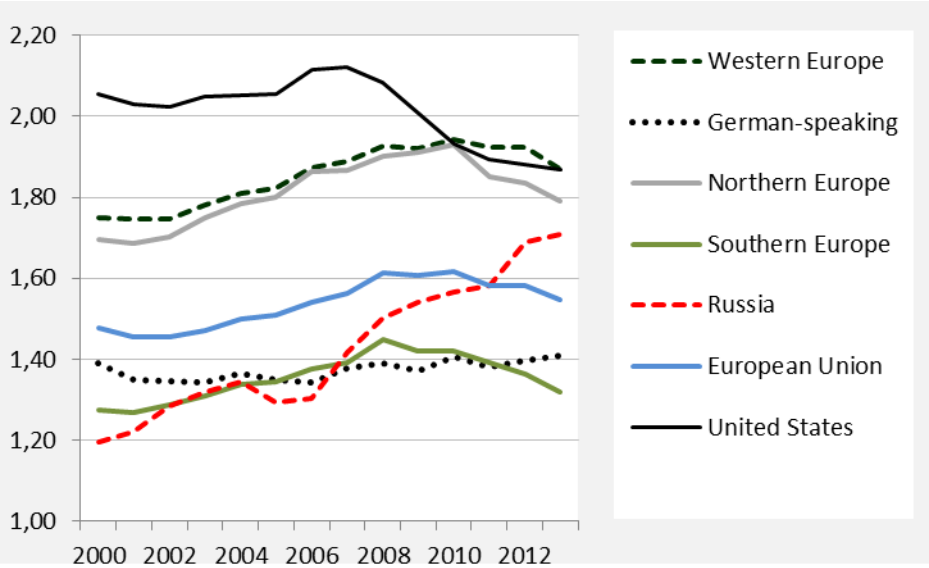
Introduction

This paper aims at investigating the effects of the Great Recession on fertility in Europe. The global economic recession that started in autumn 2007 in the United States has hit almost all European countries, with many experiencing plummeting GDP and rising unemployment for most of the period of 2008-2013. A review of past research showed that economic recessions frequently lead to fertility declines and stimulate fertility postponement (Sobotka et al. 2011, Cherlin et al 2013). Especially rising unemployment rates are associated with fertility declines that often take place with a time lag of one to two years. Most of the evidence on fertility changes in Europe after 2008 are in line with the past findings and indicate fertility declines, especially among young women below age 25 (Sobotka et al. 2011; Goldstein et al. 2013; Lanzieri 2013; Sobotka 2013). The increase in the period TFR that started around the turn of the century has peaked in 2008-10; thereafter fertility rates declined in most European countries with the exception of some countries of Eastern Europe, especially Belarus, Russia and Ukraine, where fertility was stimulated by the introduction of strongly pronatalist policies (Figure 1). An average TFR for the EU-28 shows the period TFR stabilised at 1.61-1.62 in 2008-2010 and subsequently declined to 1.55 in 2013; 15 countries experienced a decline by 0.1 or stronger by 2013. Furthermore, the reversal in previous increase in period fertility has been more pronounced in countries and regions that experienced stronger economic downturns and faster increases in unemployment, e.g. in Southern Europe (Lanzieri 2013).

There are good reasons to believe that an increase in economic hardship and uncertainty may affect couples' fertility decisions by sending some signals about negative economic developments or even restricting couples choices (Sobotka et al. 2011, Cherlin et al 2013). Young adults may postpone the decision to move out of parents' home, to reside with their partner or to have a child until better times. Many empirical studies indeed found that aggregate level unemployment depresses fertility (Simó Noguera et al. 2005, Berkowitz King 2005, Aaberge et al. 2005: 150, Adsera 2005, 2011, Neels et al. 2012). Nonetheless, previous research on the effects of economic uncertainty on fertility refers mainly to the times when the economic conditions were relatively stable. There have been much fewer studies on the effects of the recent

recession on fertility. This is the case particularly for Europe due to lack of comparable panel surveys or large-scale cross-sectional surveys that would include many European countries, cover sufficient sample size, and contain questions on both birth histories and education, partnership, and employment trajectories. This contrasts with the situation in the United States, where a wider range of suitable surveys exist and research is underway to study wide-ranging effect of the *Great Recession* on families. For these reasons the research on the effects of the aggregate level conditions during the recent recession on fertility in Europe has been mainly restricted to macro-level descriptive studies (Lanzieri 2013, Goldstein et al. 2013, Sobotka 2013).

Figure 1. Trends in the period TFR, 2000-2012 EU regions and the US



Source: authors' computations on Eurostat data

At the same time, Europe represents an interesting laboratory for investigating the effects of economic recession on fertility as European countries differ strongly in welfare state provisions for families and unemployed individuals and such provisions may substantially alter the effects of economic uncertainty on families by providing monetary support, offering assistance in searching for a new job or lowering opportunity costs of childbearing (Vikat 2004; Sobotka et al. 2011). Nordic countries are particularly known for providing strong support for individuals in need, reducing opportunity costs of parenting as well as implementing policies which facilitate entry to the labour market (Esping-Andersen 1999, Thevenon 2011). This

support is, however, much weaker in Southern European countries as well as the new EU member states.

Against this background, this paper aims at **investigating the effects of the Great Recession on fertility in Europe**. We are in particular interested in studying how an increase in economic uncertainty affected fertility of individuals **at various stages in their life-course** as well as in examining whether and how the effects of the economic recession on fertility are moderated by **welfare policies**.

Data and method

To this end, we use regional level (NUTS-2) time series of **age-specific fertility rates** and combine them with:

- **regional level time series of indicators of the recession** (like unemployment rates, long-term unemployment, self-employment[1], proportion of persons not in employment, education or training (NEETs) or GDP per capita)
- **country-level indicators of welfare state support** (like expenditures on family benefits as a % of GDP, expenditures on active labour market policies as a % GDP, generosity of parental leave programmes, etc).

The data come from the Eurostat New Cronos Database and cover all EU member states, Norway, Switzerland and Iceland over the years 2001-2013 and hence allow us to study the changes in households' economic situation and its uncertainty on fertility at the time before and after the recession. The age-specific rates summarise fertility in five age groups (15-19, 20-24, 25-29, 30-34, 35+) which allows us to verify how the economic recession affected fertility of individuals at various stages of the life course.

Our data is thus a panel of 286 regions nested within 31 countries observed over time. Using these data we estimate three-level (country, region and time units) growth-curve models with regional age-specific fertility rates as dependent variables. Growth curve models represent a relatively novel multilevel approach to modelling longitudinal data (Rabe-Hesketh and Skrondal 2012). They allow for decomposing the total effects of the studied covariates into within-subject

[1] Self-employment may serve various functions in the economy. In several European countries it has been shown, however, to serve for employers as a convenient way for lowering labour costs and regulating employment at the times of economic slowdown (Adsera 2004, 2011).

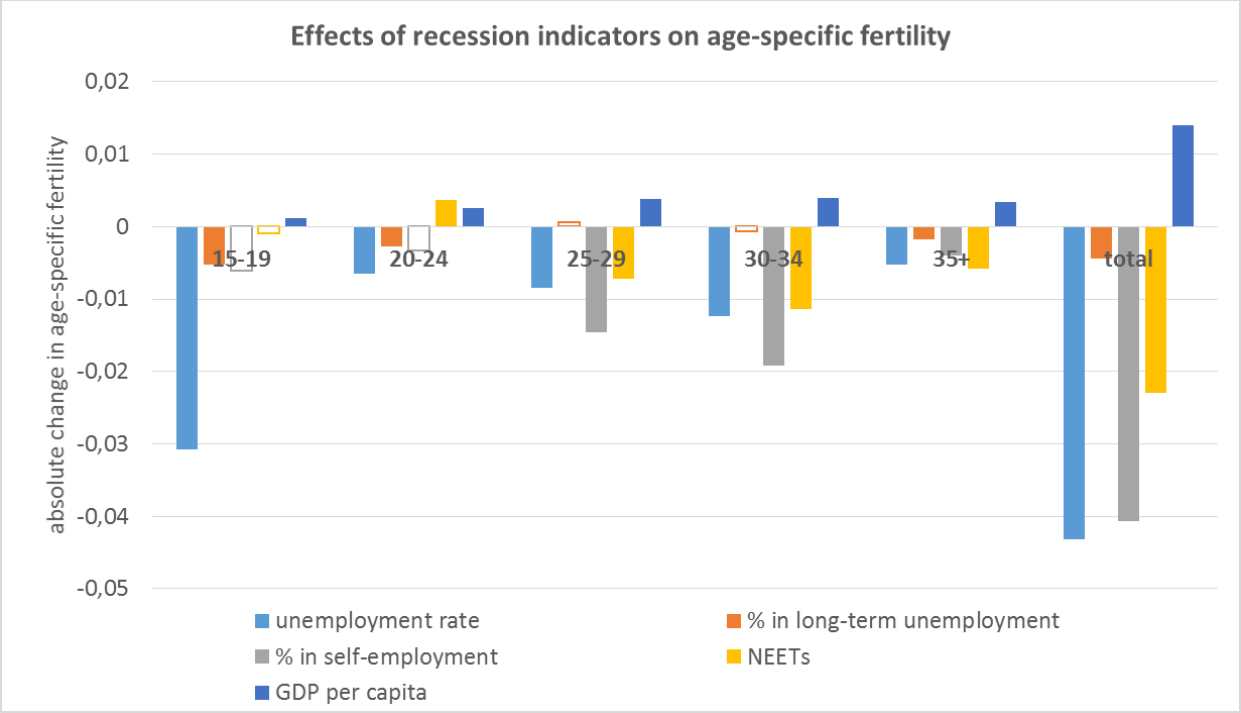
and between-subject effects as well as for modelling the within-subject effects net of the unexplained trend in the dependent variable. As a result, using this method we are able to investigate how the changes in economic uncertainty at the regional level, measured by our recession indicators, affect the changes in age-specific fertility rates net of the unobserved region-specific and country-specific effects as well as the trend in age-specific fertility rates not explained by our covariates. Furthermore, thanks to introducing country-specific data on welfare state policies we are able to understand whether and how these policies moderate the effects of economic uncertainty on age-specific fertility.

Preliminary findings

Our preliminary findings show that the recession indicators we used explain around 50% of the decline in total fertility in Europe. Figure 2 shows an abolute change in age specific fertility rates caused by a change in the selected indicators of the economic recession by 10 percentage points. As it can be seen, all five indicators of economic recession we used turned out to have strong influence on total fertility. Among them unemployment rate and proportion of individuals in self-employment appeared to be most important. Their effects vary across age. Unemployment has clearly detrimental effects on fertility. This effect is significant for all ages, but is definitely the strongest for the youngest age group (15-19). Fertility at young ages (15-19 and 20-24) is most strongly affected by unemployment and long-term unemployment. Fertility at older ages is additionally strongly affected by changes in the proportion of individuals not in education, employment nor training (NEETs) as well as the proportion of persons in self-employment. The significant effect of NEETs on age-specific fertility at ages 25+ may seem astonishing as the variable refers mainly to the situation of persons below that age, but we expect it captures negative developments in the region which also affect the older individuals.

In the next step we will examine whether these effects depend on the welfare provisions for families and the unemployed. Furthermore, we will also run models which look at relative changes in addition to absolute changes.

Figure 2. Effects of an increase in the indicators of economic recession by 10 percentage points on age-specific and total fertility in Europe, preliminary findings



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