Unemployment and fertility behavior in times of increased economic uncertainty

Axel Peter Kristensen, University of Oslo
Trude Lappegård, University of Oslo

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The aim of this paper is to investigate the relationship between economic uncertainty and men and women's fertility behavior, focusing on both individual and aggregated unemployment. The backdrop for this is the somewhat dramatic decline in fertility level in Norway since 2009, which reached a historical bottom point with a total fertility rate of 1.56 children per woman in 2018. In the West, Norway has long been regarded as a high fertility country, and for the last decades its fertility levels have been among the highest in Europe. Our relatively high fertility has often been considered a result of high gender equality, generous welfare schemes and a family policy that makes it easier for individuals to combine labor market participation with child care and family formation (Goldstein, Kreyenfeld, Jasilioniene, & Karaman, 2013). As the Norwegian family policy has remained without changes during the period of fertility decline, it is clear that high fertility cannot simply be a result of generous family policies. The fertility decline during the last decade occurred in the years following the Great Recession in 2008, and we are left wondering to what extent economic uncertainty matters for people's fertility behavior in a country providing generous family policies.

Economic uncertainty has been highlighted in several previous studies as a factor that contributes in defining individual fertility behavior (Currie & Scwandt, 2014; Goldstein et al., 2013; Macunovich, 1996; Macunovich & Easterlin, 1988; Rindfuss, Morgan, & Swicegood, 1988). A widely used measure of economic uncertainty is unemployment. One often distinguishes between individual and aggregated unemployment, where individual unemployment refers to whether an individual is unemployed or not, while aggregate unemployment refers to unemployment levels at the national, county or municipal level. Because of data restrictions, studies often only use one of these measures. In this study, we include both measures and ask whether individual or aggregated unemployment matters more for the likelihood of men and women having children. Using administrative register data for the period 1993-2014, we also ask whether the relationship between unemployment and fertility has changed over time, especially in the recent period where the fertility level has decreased considerably.

Theoretical considerations and research questions

Economic uncertainty, seen as the lack of clarity about economic prospects (Bloom, 2014), induces people to postpone major life commitments such as childbearing (Comolli, 2017). In general, economic uncertainty in a society, for example in the form of rising unemployment

rates, has previously been shown to correlate with a decline in the fertility level in the country, while there has been observed an upsurge in fertility during economic booms (Comolli, 2017; Goldstein, Kreyenfeld, Jasilioniene, & Karaman Örsal, 2013; Neels, Theunynck, & Wood, 2013; Sobotka, Skirbekk, & Philipov, 2011). At the micro level, the argument behind this mechanism is that having children is seen as a costly and irreversible transition. An individual lacking employment, steady income or experiencing uncertainty may prefer to postpone decisions about having children until the situation is less uncertain (Kreyenfeld, 2016; Kreyenfeld, Andersson, & Pailhé, 2012; Vignoli, Drefahl, & De Santis, 2012; Vignoli, Tocchioni, & Mattei, n.d.). The idea that financial hardship and uncertainty in the labor market may cause people to postpone or change their fertility plans have motivated much of the empirical literature related to factors that determine fertility patterns (Goldstein et al., 2013).

Our first research question is whether individual or aggregated unemployment matters more for the likelihood of men and women having children. Previous research shows that unemployed people have a lower probability of having children than those currently employed and increasing unemployment rates in the municipality one lives in has a negative impact on the probability of having children (Dommermuth & Lappegård, 2017; Kravdal, 2002; Schmitt, 2012).

We argue that couples assess whether to have children based on not only their current financial resources, but also on their own economic stability. According to Becker, couples' intentions of having children will vary, depending on whether they are able to afford it financially. This is based on an assumption where individual action is not understood as a result of individuals making the most cost-effective decisions for themselves, but as a result of household production being individuals' highest priority (Becker, 1960; Oppenheimer, 1994; Werding, 2014). Following Becker's argument, it is reasonable to assume that people who are concerned about whether they can afford to have children are more likely to postpone, or not have them at all if the cost associated with it is expected to increase in line with their income over time. First, the cost of having children may increase through individual unemployment. A period of unemployment will result in a significant, if not complete, loss of income, increased concern for one's financial future, and potentially lower income even after one potentially lands a new job (Yu & Sun, 2018). These changes will likely increase the relative cost, or the perceived relative cost associated with having children. If so, unemployed individuals will be less inclined to become parents for the first time or have more children. Second, individual perception of economic uncertainty may weaken the desire to have children. Increased aggregated unemployment may increase the perceived likelihood of becoming personally unemployed, in addition to creating increased competition in the labor market. This may contribute in increasing the expected financial cost of having children.

Our second research question is whether the relationship between unemployment and fertility has changed over time, especially in the recent period where the fertility level has decreased considerably. Several studies on the relationship between unemployment rates and fertility show that in general fertility rates in OECD countries are procyclical; they go up in more prosperous economic periods with lower unemployment rates, and vice versa (Adserà, 2011;

Comolli, 2017; Currie & Scwandt, 2014; Fahlén & Oláh, 2018). We expect to find that the relationship has grown increasingly negative in the time following 2008 and the financial crisis, a period in which the Norwegian fertility rate has had a significant decline.

Data and analytical approach

In this study, register data for the complete Norwegian population are used to assess both individual- and aggregate-level effects of unemployment on first and higher-order birth rates during 1994 – 2014. We investigate the effects among individuals aged 20-45 (women) and 20-50 (men). For analyzing the relationship between unemployment and fertility we use *event history analysis* where we follow individuals over time. In our analyses, we estimate the effect of unemployment on the probability of having a child for both childless men and women, as well as for fathers and mothers. The relationship is expected to vary between the different groups and is therefore studied separately for each group. The first sample consists of childless women aged between 20 and 45, born in the years 1955 to 1994. The second sample consists of mothers who have at least one child in the same age groups as among childless women. The third sample consists of all men aged between 20 and 50, born in the years 1950 to 1994. The age range for who gets included among men is a bit broader than among women, which reflects the fact that the reproduction period of men on average has a longer span than that of women. The fourth sample consists of only fathers with at least one child in the same age groups as among childless men.

Individual unemployment is measured using information about whether a person has received unemployment benefits at some point during the year. Aggregated unemployment is measured using information about men's unemployment rates in the municipality. Dagsvik, Kornstad and Skjerpen (2013) found that when jobs get scarce a considerable amount of women, and especially those with lower education, stop searching for new jobs when they get unemployed, which means that data on female unemployment rates underestimate the total aggregated unemployment rate.

Results

Our results do not suggest a universal and consistent relationship between individual and aggregated unemployment and fertility behavior among men and women. First, individual unemployment seems to matter more than aggregated unemployment on men and women's fertility behavior. Second, the effect of aggregated unemployment changes over time and varies more, while the relationship between individual unemployment and fertility is more consistent over time. Among both childless men and women, individual unemployment has a negative effect on the transition to first birth. The negative effect has increased over time, but not especially after 2009 when fertility level started to decline in Norway. The effect of aggregated unemployment among childless men and women varies over time and have shifted from having a positive effect to having a negative or no effect. Among fathers, both individual and aggregated unemployment has a negative effect on the probability of having another child, but this effect has diminished over time. Among mothers, the effect of individual unemployment is sensitive to parity, where the effect is negative for second birth, but positive for third or higher parities. The effect of aggregated unemployment is negative but similar to fathers, the effect diminished over time. A conclusion from our study, is that over time,

unemployment, both individual and aggregated, seems to matter more for fertility decisions among childless than among parents, which is similar for both men and women. This indicates that the relationship between unemployment and fertility behavior is changing in different ways for different groups. We will elaborate on possible mechanisms that might explain these findings.

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