

Fertility and women's employment in times of economic uncertainty

Trude Lappegård¹, University of Oslo

Tom Kornstad, Statistics Norway

Lars Dommermuth, Statistics Norway

Extended abstract for PAA, 2019, Austin (TX)

The aim of this paper is to investigate the relationship between women's employment and childbearing in times of economic uncertainty. The point of departure is a somewhat puzzling downward trend in fertility level in Norway as well as in the other Nordic countries, in the years following the financial crisis in 2008 (Comolli et al. 2018). We ask whether it is more difficult to combine full-time work with childbearing, and to what extent this can explain the downward trend in fertility level. We are especially interested in whether the effect of full-time employment varies for women with different educational attainment. Using high quality register data including complete fertility and employment histories for all women covering a period of more than 20 years, we are able to shed new insights into the relationship between women's employment and fertility during periods with varying economic uncertainty.

Background

Ever since female employment started to increase, the relationship between women's employment and fertility behavior has been of high interest. At first, increasing female employment was associated with lower fertility, often explained by increasing opportunity costs of a childbirth for women (Becker 1991) and an increasing gap between female contribution to family economy on the one side and male contribution to domestic duties on the other side (Goldscheider, Bernhardt and Lappegård 2015). Especially women with higher education had the highest opportunity costs and thus the lowest fertility (Esping-Andersen and Billari 2015). As a response to this observation, several countries started lowering the opportunity cost for women in the labor market through social policies and thus facilitating more compatibility between female employment and childrearing (Luci-Greulich and Thevenon 2013). This contributed to a change at macro level, and countries with highest female employment rates reported higher fertility.

In Norway, the dual breadwinner model is strong and women meet expectations to work also when they have young children. At the same time, there is great demand for labor also after the financial crisis in 2008. For the future, the Norwegian government wants even more women to participate in the labor market than today and for those who participate, that they work more hours than today. Although female employment rates

¹ Corresponding author: trude.lappegard@sosgeo.uio.no

are high, they are not as high as for men, and in addition, part-time work is much more common among women than among men.

Over the last three decades, arrangements such as paid parental leave and subsidized day-care have improved substantially in Norway (Ellingsæter 2007). However, there are still opportunity costs of having children for women in the labor market, but the opportunity costs are less severe than in other countries.

Also, after the financial crisis, the labor market has gone through some significant changes, including increasing uncertainty due to more temporary jobs and more difficulties in finding stable full-time work.

Theoretical considerations

Most women in Norway want to have children and there is a strong two-child norm, meaning that the question about timing is prominent for both the transition to motherhood and to second child. The birth of a child entails a withdrawal from the labor market. The duration of this withdrawal varies strongly between countries, as the availability of childcare and parental leave policies differ, but in all countries are the opportunity costs related with such withdrawal multifarious. First, forgone income during the period in question suggests that women in employment have larger opportunity costs than women outside the labor market were. Second, lost or reduced accumulation of skills and knowledge (human capital) during a period out of the labor market may reduce future earnings. Third, as it requires time to become a productive worker, there is a positive association between wages and work experience. This implies that the opportunity costs of a periodical withdrawal from the labor market vary over time in a woman's occupational career. However, another aspect that could also influence women's or couples' decisions about fertility is the income effect, which is partly in contrast to the impact of opportunity costs. Those with higher income are better equipped to bear the direct costs of childbearing and childrearing. Since employed women have higher opportunity costs of childbearing than women not employed, one may expect lower birth intensities among employed women.

In Norway, as in other Nordic countries, parents receive generous income compensation when taking parental leave after birth (Ellingsæter 2007). On one side, this implies that the opportunity costs of employment are lower in the Nordic countries, as the reduction in income and earnings are less severe than in other countries. On the other side, other aspects of opportunity costs as loss of human capital and labor market experience, and a potential reduction of future earnings, may still be present. In order to minimize the income reduction, it will be opportune to give birth to the child at a point in time when the mother is eligible for paid parental leave, which requires employment. However, different preferences might also matter. For instance, mothers of two or higher parities might on the other hand consider having another child, if they have a high child preference.

Research questions

Our first research question is whether full-time employment is becoming a stronger determinant than part-time employment and non-employment for the transition to motherhood and higher parities in Norway. The argument for this is that decisions about childbearing is embedded in strong norms towards a dual-breadwinner model and high economic incentives to be full-time employed before transition to motherhood, as economic benefits from the parental leave program are linked to labor market experience. Thus, full-time employment seems like a strong determinant for women's childbearing, and we expect to see a positive effect of full-time employment on especially first birth.

Our second research question is whether the effect of female full-time employment on fertility is stronger after the financial crisis than before. The argument for this is that in a period with more economic uncertainty, full-time employment might become even more important before having children.

We expect the arguments for both research question to be true for women with both lower and higher education. However, as preferences for childbearing might differ across educational groups, opportunity costs are somewhat higher among women with higher education and as women with lower education are more exposed to the increasing economic uncertainty, the effect might vary across different educational groups.

Data and analytical approach

The data cover all women living in Norway during the period 1992-2014. Information from Norwegian administrative registers gives us complete fertility and employment histories for all women. We also link information about background variables such as educational achievement from additional administrative registries. We have a sample of women 18+ years who are born in 1975-1994 and follow them over time – from quarter to quarter – and observe their transition to first, second, third and fourth birth and their prior full-time employment up to age 43.

We apply joint modelling of hazard models for births and employment to account for the possibility that the birth process and the employment process might be jointly determined. We specify separate hazard functions for first, second and third/fourth birth, respectively, for transitions into full-time employment and for transitions out of employment. To capture the simultaneity in the determination of labor market participation and births, full-time work is included in the specifications of birth transitions and the number of children is included in the specifications of hazards for full-time work and hazards for leaving full-time employment.

Time dummies, dummies for working full-time and interaction effects between these variables are included in model specifications. We interpret the effects of the financial crisis on births as the change in the corresponding parameter estimates.

We use the estimated model to simulate the effects of the financial crisis on the probability of first and second birth (also for third/fourth birth, but not shown due to imprecise estimates). In the simulations, we assume that all women, independent of their birth cohort, face the same parameter estimates related to the effects of working full-time and the pure period effects. This gives a cleaner estimate of the effect of the financial crisis. The idea is that we estimate the effect of a counterfactual situation where all women, independent of their birth cohort, go from one situation given by the parameter estimates

to another situation. In the simulations, we constrain the sample by only including women born 1975-1986. Women born after 1986 are excluded since we want to follow the women for at least 10 years of their fertile lifetime. We do three simulations: 1) Simulation of changes in effects of working full-time; 2) Simulation of changes in the pure period effects, and 3) Simulation of total effects. The baseline regime assumes that the parameter determining the effects of working full-time is equal to the effect as of 2004-2009 and includes the pure period effects from 2004-2009.

Preliminary results

Our results show that there is a positive effect of full-time employment on transitions to first and second birth, but not on third and fourth birth. This means that the answer to our first research question is yes. Full-time work is becoming a stronger determinant than part-time employment and non-employment for the transition to motherhood and higher parities. We can also answer yes to our second research question on whether the effect of female full-time employment on fertility is stronger after the financial crisis than before. Simulations based on the (preliminary) estimated model show that the probability of first birth in 2010-2014 is 7% lower than in 2004-2009 and full-time employed women have more children than before. This indicates that it has become more important to have a full-time job before entering motherhood. A preliminary conclusion is that if economic uncertainty continues, and if it is difficult to get a full-time job (especially a long-term stable one), fertility might remain low.

For the PAA paper, we will also estimate all models for women with different educational attainment separately in order to investigate whether the effect of full-time employment differs for women with different educational attainment.

References

- Becker, G. S. 1991. *A treatise on the family*. London/Cambridge: Harvard University Press.
- Comolli, C., G. Andersson, L. Dommermuth, P. Fallesen, A. Jónsson, M. Kolk, T. Lappegård, and M. Jalovaara. 2018. Childbearing during recessions in the Nordic countries. Paper presented at the European Population Conference (June 2018), Brussel, Belgium.
- Ellingsæter, A. L. 2007. 'Old' and 'new' politics of time to care: three Norwegian reforms. *Journal of European Social Policy* 17(1), 49-60.
- Esping-Andersen, G., and F. Billari. 2015. Re-theorizing family demographics. *Population and Development Review* 41(1), 1-31.
- Goldscheider, F., E. Bernhardt, and T. Lappegård. 2015. The gender revolution: A framework for understanding changing family and demographic behaviour. *Population and Development Review* 41(2), 207-239.
- Luci-Greulich A., Thevenon O. 2013. The impact of family policies on fertility trends in developed countries. *European Journal of Population*, 29(4), 387-416.