

## Task 3.2

### Fertility, household models and labour supply

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#### 1. Task description

This task deals with the relationship between fertility and labour supply across genders and in different institutional and family policy settings. First, we will do a descriptive analysis of intra-family heterogeneity in parenthood penalty (employment, hours worked, hourly wages and worklife balance) across genders and education groups in different institutional and policy settings, using EU-SILC and HETUS data. Then, we will investigate the causal link between fertility and labour supply using an event-study approach and multi-level regression analysis. This analysis will focus on EU countries for which longitudinal data are available and that cover policy changes (e.g. implementation of new parental leave provision), analysing moderating effects of institutional and policy settings on the extent and asymmetry of child penalty across genders.

#### 2. Background / Setting

Understanding labour supply is a key part of the assessment of labour markets performance and of evaluating policy reforms. Labour supply choices are not made in isolation of other decisions, however; besides strictly economic factors, the events affecting the family structure are of a crucial importance. Particularly, the arrival and rearing of children are deeply interlinked with labour market behaviour. As such interlinks are not symmetric across genders, the interest in these factors extends well beyond the labour market spheres, reaching the domain of gender economic and social inequality. In the EU, the still large and persistent gender imbalances in formal and informal work and the heterogeneous (across countries) dynamics of fertility represent key areas of debate and policy intervention. This calls for a comprehensive effort to analyse how fertility shapes labour supply decisions and which policy/institutional settings moderate the link.

#### 3. State-of-the-art

The effect of fertility on labour supply is among the oldest and most interesting issues in labour economics. This interlink appears especially strong for women, and children are today seen as one

of the main drivers of labour market gender inequality (see Juhn and McCue, 2017; Vladislavljević et al., 2023). Numerous studies have explored the link between fertility and labour supply, highlighting that the relationship between the two is complex and depends on a variety of factors. In particular, various methods have been used to address the key challenge that fertility decisions and parents' (especially mothers') labour supply are jointly and simultaneously determined. Examples include twin birth analysis (Aaronson et al., 2021) or event-study approaches (Kleven et al., 2019). The majority of studies suggest that high fertility rates can lead to a decrease in women's labour force participation, especially in countries with inadequate childcare support (e.g., Herbst, 2010). In contrast, family-friendly work policies, such as paid parental leave and flexible working hours, have been shown to support the labour force participation of individuals with children and positively impact fertility rates (Del Boca, 2015). As for the EU context, recent empirical evidence on single countries about fertility and labour supply suggests that there is a negative relationship between fertility and women's labour force participation, particularly those with lower levels of gender equality and a more generous infrastructure of childcare and family policy provision (see Fehr and Ujhelyiova, 2013; Neyer, 2006). In some countries, access to high-quality, affordable childcare has been associated with higher levels of labour force participation among women with children (e.g., Gehringer and Klasen, 2017). Further studies are needed to understand the interplay between changing gender roles, family policies, and labour market outcomes in the presence of children (Blau and Winkler, 2017).

#### **4. Advancement compared to the state of the art**

A comprehensive study on the relationship between fertility and labour supply and of the moderating role of institutional and family policy settings for EU countries is not available. Empirical evidence is so far limited to single EU countries and to specific demographic groups and years. This task aims to fill this research gap and to provide evidence-based discussion able to guide policy actions, also with the aim of promoting gender equality.

#### **5. Research to be done**

The first step of the work will be a descriptive analysis on the association between parenthood and labour market outcomes (employment, hours worked, hourly wages) across genders and education groups in EU countries, using EU-SILC and HETUS data. We will then use individual survey data collected in SES and EU-LFS (and/or EU-SILC and HETUS) to construct a demographic group level

database on fertility rates, household composition and labour supply (at the extensive and intensive margin) for the EU countries over the medium-long run. This dataset will constitute the basis to estimate the relationship between fertility and labour supply. Changes over time in institutional and policy indicators will then be used to assess which settings are able to affect the link between fertility and labour supply for different demographic groups and in different household models/structure.

## 6. Methodology

The unit of analysis is a demographic group defined by gender, education and age (Doorley et al., 2023). At this cell level we calculate (i) fertility rates, (ii) household model/composition indicators (iii) labour supply indicators. In the first step, we explain the changes in labour supply due to changes in fertility, assessing the mediating role of household composition/characteristics. In the second step we study the different mediating effect of changes occurred in institutional settings (on the labour market and in terms of family policy settings) on the relationship previously identified.

## 7. Data sources

- EU-LFS: European Union Labour Force Survey, EU-SES: European Union Structure of Earnings Survey, EU-SILC: European Union Statistics on Income and Living Conditions, HETUS: Harmonised European Time Use Survey
- Institutional/policy indicators (sources: e.g., OECD, LABREF, EFW) and/or measures of job quality based on EWCS at the occupational x sectoral x country level (e.g. : job security, unionization)

## References

- Aaronson, D., Dehejia, R., Jordan, A., Pop-Eleches, C., Samii, C., & Schulze, K. (2021). *The effect of fertility on mothers' labour supply over the last two centuries. The Economic Journal, 131(633), 1–32.*
- Blau, F.D and Winkler, A.E. (2017) Women, Work, and Family, NBER Working Paper No. 23644 August 2017, Revised September 2017
- Deal Boca, D. (2015). The impact of child care costs and availability on mothers' labour supply, ImPRovE Working Papers 15/04, Herman Deleeck Centre for Social Policy, University of Antwerp.

- Doorley, K., Gromadzki, J., Lewandowski P., Tuda D., Van Kerm, P., (2023) Automation and income inequality in Europe, Mimeo.
- Fehr, H. and Ujhelyiova, D. (2013). Fertility, female employment, and family policy:. German Economic Review, 14(2), 138-165.
- Gehring, A., & Klasen, S. (2017). Labour force participation of women in the EU–What role do family policies play? Labour 31: 15–42.
- Herbst, C.M. (2010) The labour supply effects of child care costs and wages in the presence of subsidies and the earned income tax credit, Review of Economics of the Household, 8, 199–230
- Juhn, C. and K. McCue (2017) “Specialisation Then and Now: Marriage, Children, and the Gender Earnings Gap across Cohorts,” Journal of Economic Perspectives, 31(1), 183–204.
- Kleven, H. J., C. Landais and J. E. Sogaard (2019) “Children and gender inequality: Evidence from Denmark,” American Economic Journal: Applied Economics, 11(4), 181–209.
- Neyer, G.R. 2006. "Family policies and fertility in Europe: fertility policies at the intersection of gender policies, employment policies and care policies," MPIDR Working Papers WP-2006-010, Max Planck Institute for Demographic Research, Rostock, Germany.
- Vladisavljević, M., Perugini C., Lebedinski, L. (2023) “Child Penalty in Russia: Evidence from an Event Study”, Review of the Economics of the Household, 21, 173-215