Do women gain or lose from becoming mothers?
A comparative wage analysis in 25 European countries

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Introduction

- EU-SILC 2003: 7 countries ➔ BE, DK, EL, IE, LU, AT, NO
- EU-SILC 2004: 14 countries ➔ +FR, ES, IT, PT, FI, SE, EE
- EU-SILC 2005: 27 countries ➔ EU-25 + IS, NO

This paper explores the wage data provided in EU-SILC 2005
Introduction (continued)

- Workers are categorised according to two criteria:
  - Sex
  - Parental status (presence of at least one child aged under 15 in the household)
- The wage equations cannot be fitted into a pure human capital theory model but also include occupational status, sector of activity, firm size, type of employment contract, and so forth.
- Decomposition of raw wage gaps according to the Oaxaca (1973) and Blinder (1973) method
Econometric framework

- Sample from the EU-SILC 2005:

  Working men and women aged 25-64 living in a couple or single but excluding the self-employed and family workers
Econometric estimations (continued)

- For each of the 25 countries, OLS estimation of semi-logarithmic wage equations in order to compute:
  - The gender wage gap (men, women):
    - \( \log (w_f) = \beta_f X_f + \varepsilon_f \)
    - \( \log (w_m) = \beta_m X_m + \varepsilon_m \)
  - The motherhood wage gap (mothers, non-mothers):
    - \( \log (w_{mo}) = \beta_{mo} X_{mo} + \varepsilon_{mo} \)
    - \( \log (w_{nmo}) = \beta_{nmo} X_{nmo} + \varepsilon_{nmo} \)
  - The parenthood wage gap (mothers, fathers):
    - \( \log (w_{mo}) = \beta_{mo} X_{mo} + \varepsilon_{mo} \)
    - \( \log (w_{fa}) = \beta_{fa} X_{fa} + \varepsilon_{fa} \)
Econometric estimations (continued)

- **Dependent variable**: the logarithm of gross hourly wage (in euros) reported for
  - the actual period: AT, BE, ES, EL, IT, PL, PT, IE, UK
  - the reference period: CY, CZ, DE, EE, FR, LT, LU, NL, SI, SK, DK, FI, HU, IS, NO, SE
- This measure **includes** usual paid overtime, tips, commissions, supplementary payments (13th or 14th month), holiday pay, profit shares, bonuses. However, income from investments (assets, savings, stocks and shares) is **excluded**.
Econometric estimations (continued)

- Independent variables:
  - *Personal characteristics*: marital status, country of birth (not for DK, partially for SI), citizenship (not for SI), home ownership and region of residence (for AT (3), BE (3), DE (6), ES (7), FR (9), EL (4), HU (3), IT (3), PL (6)).
  - *Human capital indicators*: level of education (low-medium-high), experience (real: ES, EL, IT, PT, PL, CY, CZ, DE, EE, FR, LT, LU, NL, SI, SK; potential: AT, BE; approximated by age: IE, UK, DK, FI, HU, IS, NO, SE) and the square and cube of the experience indicator.
  - *Job and firm characteristics*: a dummy indicating whether the individual supervises other workers or not, 20 occupational dummies ISCO-88 2-digit, 11 industry dummies Nace 1-digit, contract type and establishment size.
Econometric estimations (continued)

- Application of the Oaxaca (1973) and Blinder (1973) method to decompose the wage differential into a characteristics effect and a price effect:

\[ \log (w_m) - \log (w_f) = \left( \bar{Y}_m - \bar{Y}_f \right) \hat{\beta}_m + \bar{Y}_f \left( \hat{\beta}_m - \hat{\beta}_f \right) \]

- Application of the methodology recommended by Stewart (1983) and Rodgers (2004) to transform logarithms into monetary terms
Results

The gender wage gap
Figure 1: Gender wage gaps in 25 European countries (2005)
Results

The motherhood wage gap, between mothers and women without children
Figure 2: Motherhood wage gaps in 25 European countries (2005)
Results

The parenthood wage gap, between mothers and fathers
Figure 3: Parental wage gaps in 25 European countries (2005)
Conclusion

- Improvements in progress:
  - Estimations on EU-SILC 2006 data to check robustness of 2005 results
  - The potential selection bias is being corrected for
  - Wage equations are fine-tuned
  - The decomposition of the wage gaps is broken down in greater detail in order to quantify the explanatory power of each occupation, sector of activity, and so forth.

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