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The impact of labour market deregulation reforms on fertility in Europe

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Motivation

- LM change stimulated much research on the employment-fertility link

- Micro-level studies consistently show that **employment instability** – unemployment and temporary work – is **negatively associated to fertility**

  - **EHA**: "effects" of **episodes** of unemployment and temporary work

  - Focus on transition to **1st child**

- What are the overall effects of several waves of **LM deregulation reforms** implemented in Europe for **total fertility**?

  - **Negative effects are assumed**, based on micro-level studies

  - But very **limited empirical evidence** (in Sociology & Demography)

Does a "flexible" LM foster or hinder fertility?

- LM deregulation: "rigid" **Employment Protection Legislation** (**EPL**) as determinant of persistently high unemployment in EU

- A too "**rigid**" EPL:
  - Decreases the rate of **exit from unemployment**
  - Increases **barriers** for young LM entrants (women)
  - → *LM deregulation **fosters** both youth employment and **fertility**?*

- However, a "**flexible**" EPL:
  - Decreases **job tenure** and increases **unemployment inflows**
  - Decreases the **stability and continuity** of one's employment
  - → *LM deregulation **hinders** both youth employment and **fertility**?*

"Partial and targeted" EPL reforms and fertility

- **Limited and ambiguous evidence** on the EPL-fertility link, often a more rigid EPL found to negatively affect fertility *(e.g. Adsera 2011; Rovny 2011)*

- Research ignored that LM deregulation was "**partial & targeted**"
  - (Un)employment rates largely unchanged, but **labour market segmentation** which increases youth unemployment and precarious forms of employment

→ *It may be the differential in employment protection between regular and temporary workers – i.e. the **EPL-gap** – rather than a rigid EPL per se that **discourages fertility***

Research hypotheses

- In line with micro-level evidence on the negative consequences of employment instability for fertility:

  H1: *Increasing labour market protection for regular contracts (**EPL-r**) fosters higher fertility rates.*

- In line with the evidence on the negative employment consequences of the partial & targeted LM deregulation:

  H2: *Increasing labour market segmentation (**EPL-gap**) leads to lower fertility rates.*

- **Heterogeneity** by European area, age, and educational groups will be explored

Data & Variables

- **Dependent variables** – Fertility rates:

  - **Total fertility rate** (OECD), 19 European countries, 1990-2019

  - **Age-specific fertility rates** (Eurostat)

  - **Education-specific fertility rates** (Eurostat), 13 European countries, 2007-2019

- **Independent variables** – OECD EPL indexes:

  - **EPL for regular contracts** (EPL-r)

  - **EPL-gap** = difference between EPL-r and EPL for temporary contracts (EPL-t)

- **Control variables** – LM and policies (OECD):

  - Female employment rate, %PT work, Unemployment rate, Public spending on families

Methods

- **Linear fixed-effects regression on country-year data**

$$\widetilde{TFR}_{ct} = \boldsymbol{\beta_1}\,\widetilde{EPLr}_{ct} + \boldsymbol{\beta_2}\,\widetilde{EPLgap}_{ct} + T_t + C_c * T_t + T_t^2 + C_c * T_t^2 + \widetilde{\varepsilon_{ct}} \qquad (1)$$

<p align="center">1-year lagged & country
de-meaned   country-specific
quadratic time trends</p>

- Model (1) is augmented with **control variables** and implemented **separately by:**

  - **European area** (Nordic, Continental, Southern, Eastern)

  - **Age group** (15-24, 25-29, 30-34, 35-39, 40+)

 - **Educational group** (lower-secondary, upper-secondary, tertiary)

Main results

Table 1: Fixed-effect regression on TFR

VARIABLES	(1)	(2)
EPL-r	0.145***	0.062**
	(0.036)	(0.031)
EPL-gap	-0.028**	-0.035***
	(0.013)	(0.011)
% Women employment		0.010***
		(0.004)
Public spending on the family		0.198***
		(0.016)
% Unemployment		-0.016***
		(0.001)
% Part-time work		0.015***
		(0.004)
Country-specific time trends	Yes	Yes
Observations	564	491
R-squared	0.62	0.68
Number of countries	19	19

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, UK.

Heterogeneity by European area

Figure 1: Interaction of EPL-r (1) and EPL-gap (2) with European area
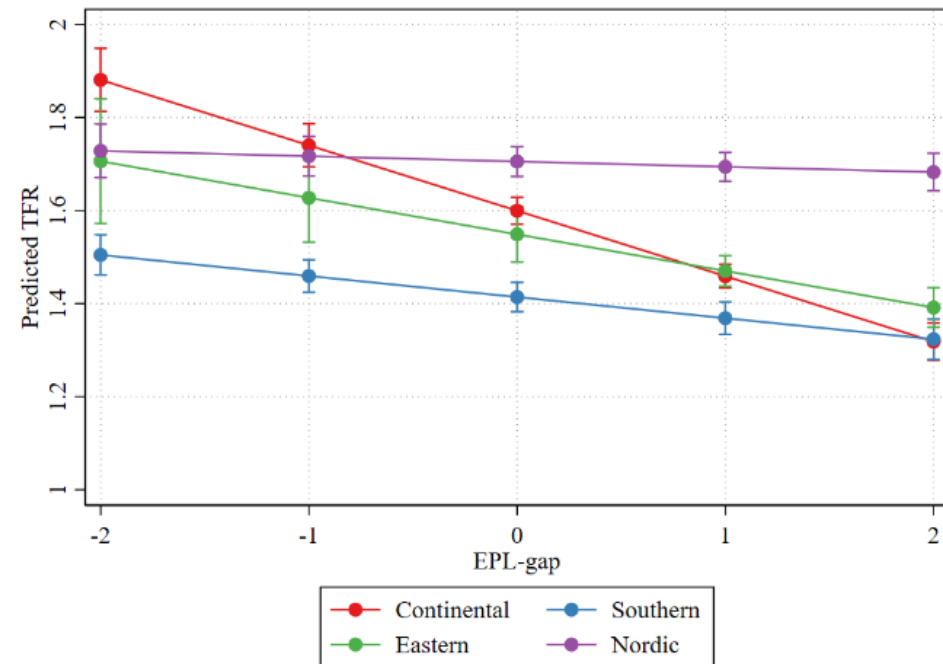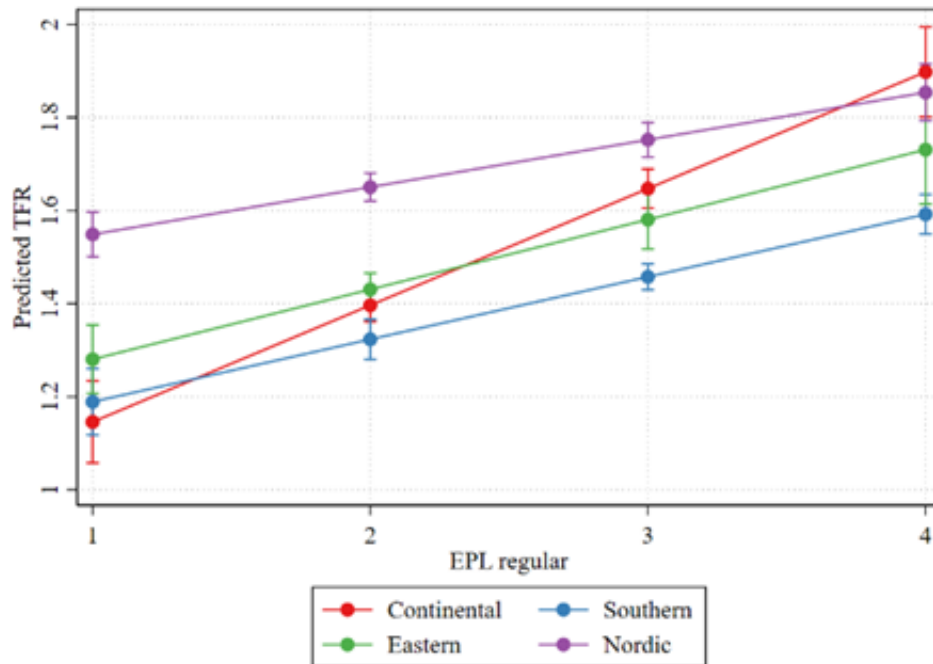
Heterogeneity by age & education

- **Age-specific fertility rates**:
  - A stricter **EPL-r** is positively associated with the fertility of **all age groups**, but especially of the **youngest ones** (15-24 and 25-29)
  - A stronger **EPL-gap** leads to a fertility reduction for **all age groups**, but especially for the **30-34** group

- **Education-specific fertility rates**:
  - A stricter **EPL-r** has a positive effect on **all educational groups**
  - A stronger **EPL-gap** has a negative impact only on the fertility of **low-educated women**

Robustness checks

- We used the **relative EPL-gap** (EPL-r – EPL-t)/EPL-r

- We used **generalized estimating equation** including **panel correlation,** to relax the assumption of non-serially correlated errors

- Levin test for unit root suggested the non-stationarity of our data: we re-estimated our models with a **first-difference estimator**

  → **Our main results were robust to these checks**

Conclusions

- A **more regulated** – i.e. more protected – labour market is **beneficial for fertility**

- The **gap** between the regulation of regular and temporary contracts – i.e. labour market segmentation – **hinders fertility plans**

- **Generalized effects** across European areas, age and educational groups
  - *Stronger EPL-gap effects for low-educated*: they are more likely to be **entrapped** in the secondary labour market, and higher segmentation may increase their **feelings of job insecurity**
  - *Weaker EPL-gap effects in Nordic countries*: welfare systems reduce the negative consequences of labour market segmentation

Limitations

- **Validity** and **comparability** of OECD EPL indexes

- In-depth **country-specific analyses of** the impact of **specific EPL reforms** on fertility are needed

- Limited number of countries and years with availability of **education-specific fertility rates**

Thank you for your attention!

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Figure 1: EPL-r, EPL-gap, and TFR for each country

Table 2: EPL and age-specific fertility

VARIABLES	15-24 (1)	15-24 (2)	25-29 (1)	25-29 (2)	30-34 (1)	30-34 (2)	35-39 (1)	35-39 (2)	40+ (1)	40+ (2)
EPL-r	0.006***	0.004***	0.008***	0.004**	0.005**	-0.000	0.005***	0.002*	0.001***	0.000***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.000)	(0.000)
EPL-gap	-0.000	-0.000	-0.001	-0.002**	-0.003***	-0.003***	-0.001***	-0.001***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Women's employment		0.000**		0.000*		0.000		0.000***		0.000***
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
Public spending on the family		0.005***		0.011***		0.012***		0.007***		0.001***
		(0.001)		(0.001)		(0.001)		(0.001)		(0.000)
Unemployment		-0.000***		-0.001***		-0.001***		-0.000***		-0.000***
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
Part-time work		0.001***		0.001***		0.001***		0.000**		0.000***
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
Country-specific time trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	545	475	545	475	545	475	545	475	545	475
R-squared	0.951	0.946	0.849	0.869	0.895	0.932	0.957	0.975	0.968	0.977
Number of countries	19	19	19	19	19	19	19	19	19	19

Table 3: EPL and education-specific fertility

VARIABLES	LOW		MID		HIGH	
	(1)	(2)	(1)	(2)	(1)	(2)
EPL-r	0.009**	0.005	0.009**	0.004	0.010**	0.008
	(0.004)	(0.005)	(0.003)	(0.004)	(0.004)	(0.005)
EPL-gap	-0.009***	-0.009***	0.002	0.001	0.001	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Women employment		0.002**		0.002***		0.002***
		(0.001)		(0.001)		(0.001)
Public spending on the family		0.005*		0.005**		0.007***
		(0.003)		(0.002)		(0.003)
Unemployment		-0.000		-0.000		-0.000
		(0.000)		(0.000)		(0.000)
Part-time work		-0.000		-0.001		-0.000
		(0.001)		(0.001)		(0.001)
Country-specific time trends	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	134	154	134	154	134
R-squared	0.573	0.604	0.746	0.735	0.754	0.772
Number of countries	13	13	13	13	13	13