Gender Wage Gaps in Europe

The role of sectoral labor demand/supply

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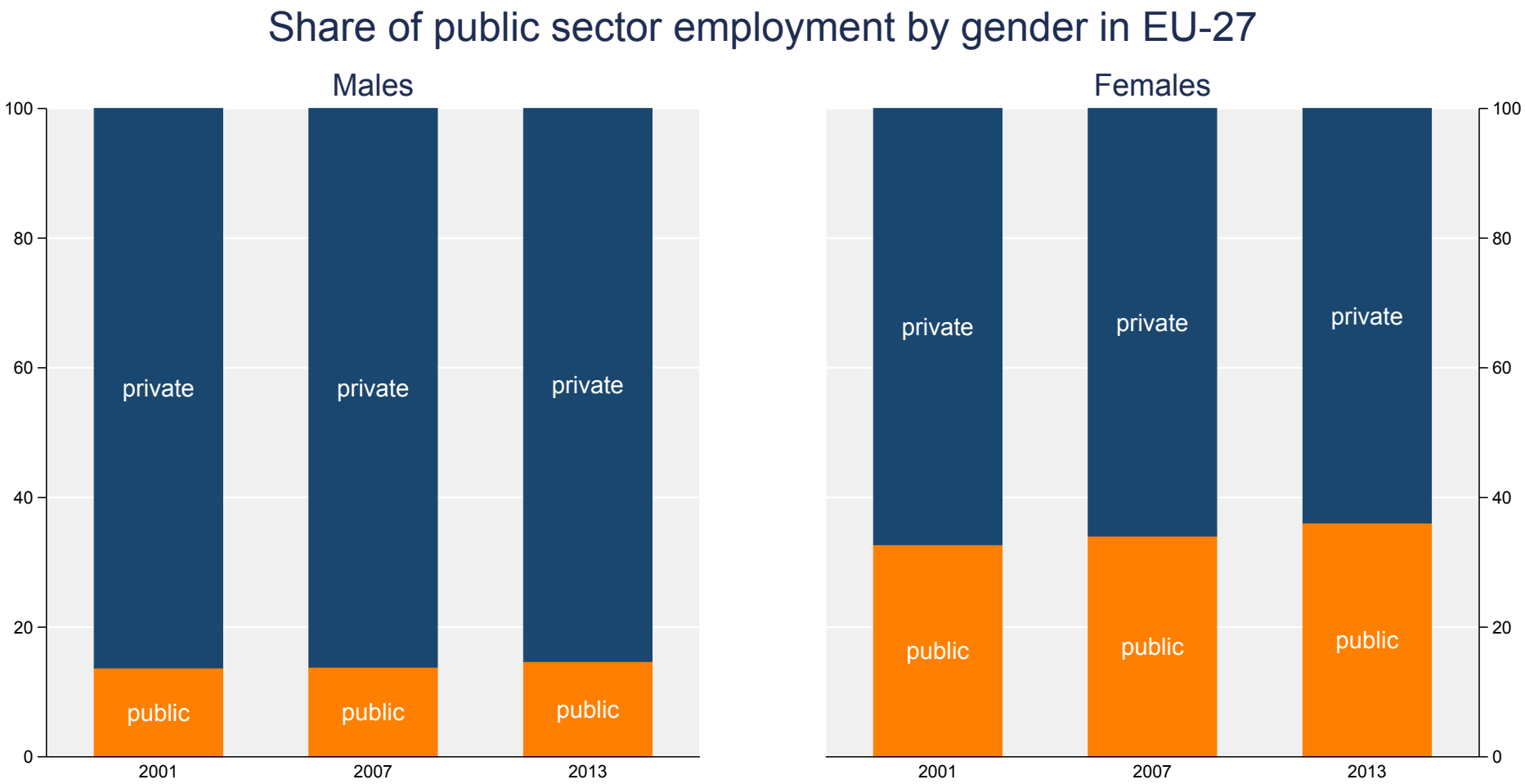
Outline

Motivation



EU-27 is EU without HR. Source: Eurostat, own calculations

Research question

The public sector is

- the single most important employer of females in Europe,
- is relatively far more important for female than for male employment,
- likely to influence relative wages.

Is the public sector thus a swing-demander for female labor?

- How does relative demand affect the gender wage gap (GWG)?
- What is the role played by public labor demand?

Literature Review

Labor supply/demand effects on relative wages

- Determinants of relative wages (Freeman 1980; Katz and Murphy 1992)
- Occupational segregation and wages: marketization vs. preferences
- Oligopsony and taste for discrimination (Barth and Dale-Olsen 2009; Blau and Kahn 2016)
- Cultural and institutional differences (Francois 1998; Blau and Kahn 2013; Bertrand 2011)

Central aspects of the evolution of GWG in the last decades

(see e.g. Blau and Kahn 2016; Olivetti and Petrongolo 2016)

1. The advancement of female endowments increased the relative importance of the **corrected GWG**.
2. The change in the **sectoral composition** was a major driver of the reduction in GWGs underlining the **importance of demand** as investigated.

Aim of this study

Interestingly, **Blau and Kahn (2003) remains the only study** focusing on both findings within a panel-dataset. In their seminal contribution, they find rather **inconclusive effects of labor demand and supply** (maybe due to a short time dimension).

Moreover, the **influence of public sector employment** on the GWG **has not been studied** so far.

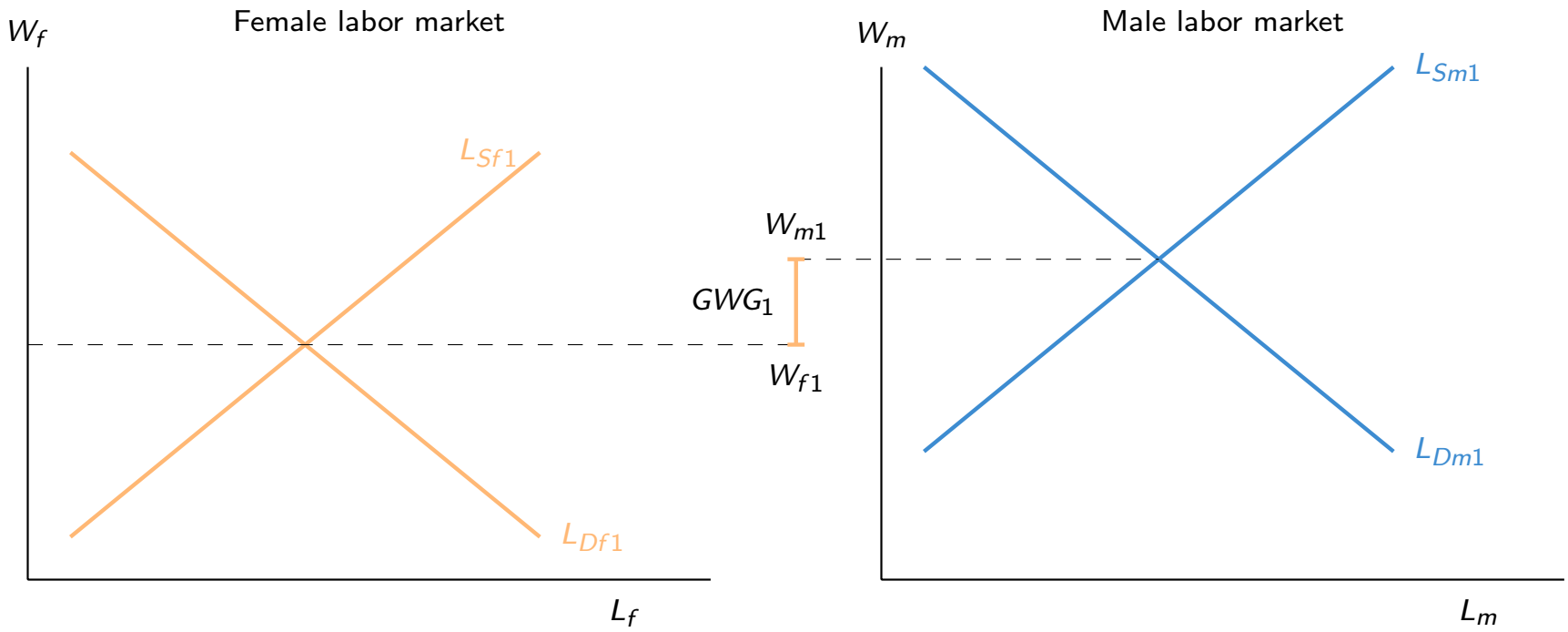
Therefore, we aim to

- build a macro-panel of GWG-estimates (EU-SILC, 2003-2013, 30 countries),
- study the effect of relative labor supply and demand on GWGs, and
- evaluate the role of public labor demand for the evolution of GWGs.

Theoretical model

Sequencing of the crisis on the European labor market

1. Drop in private sector demand for males
2. Drop in public demand for females
3. Adverse supply reactions (e.g. added worker effect)



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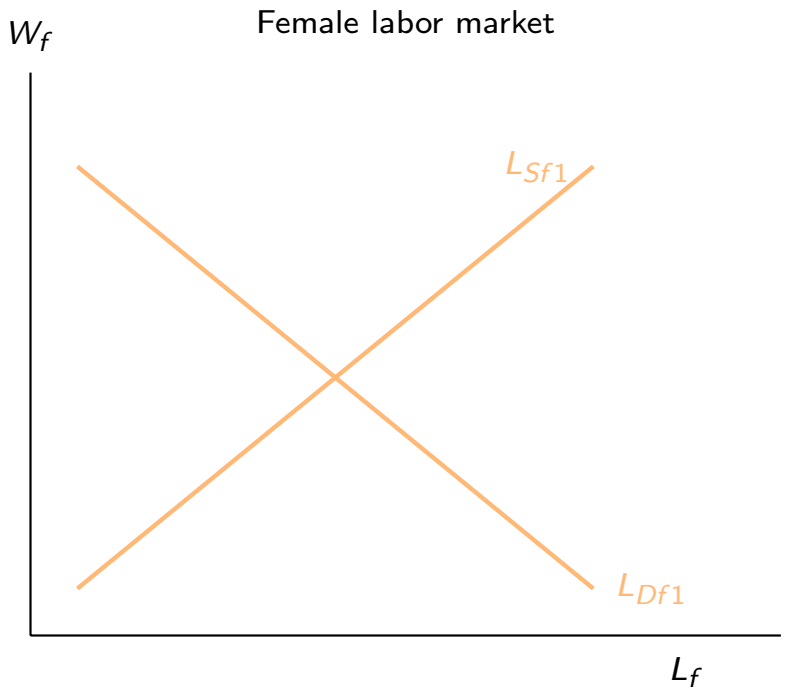

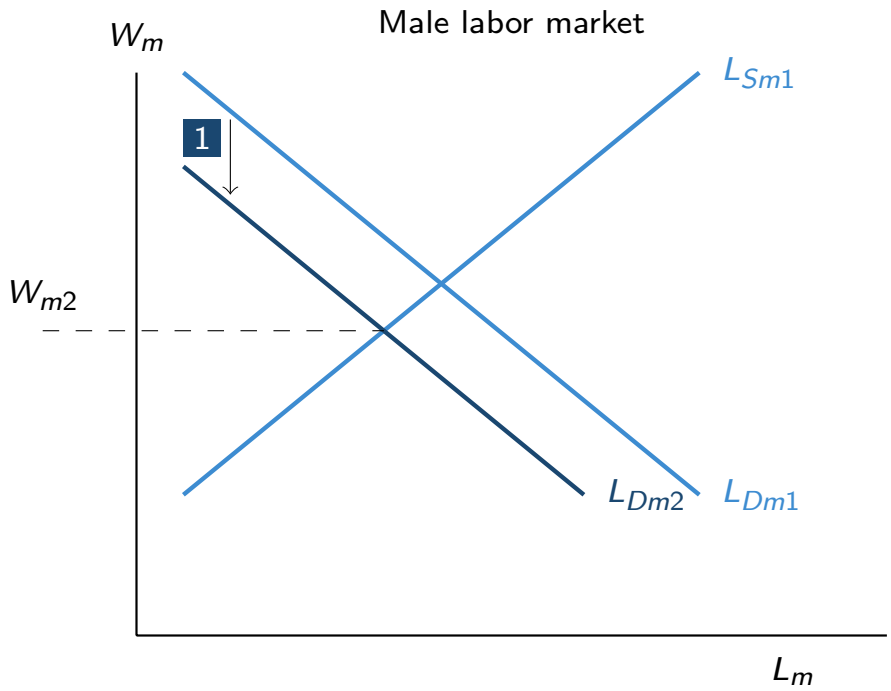

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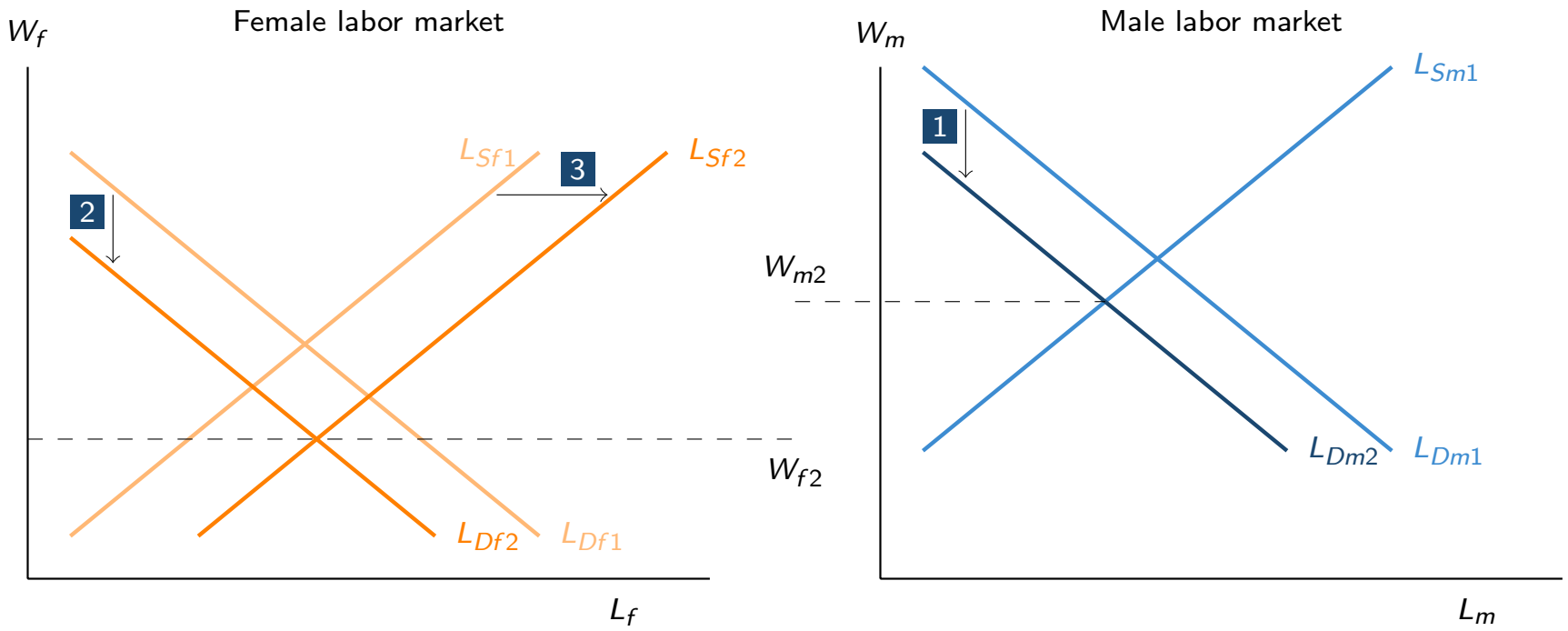

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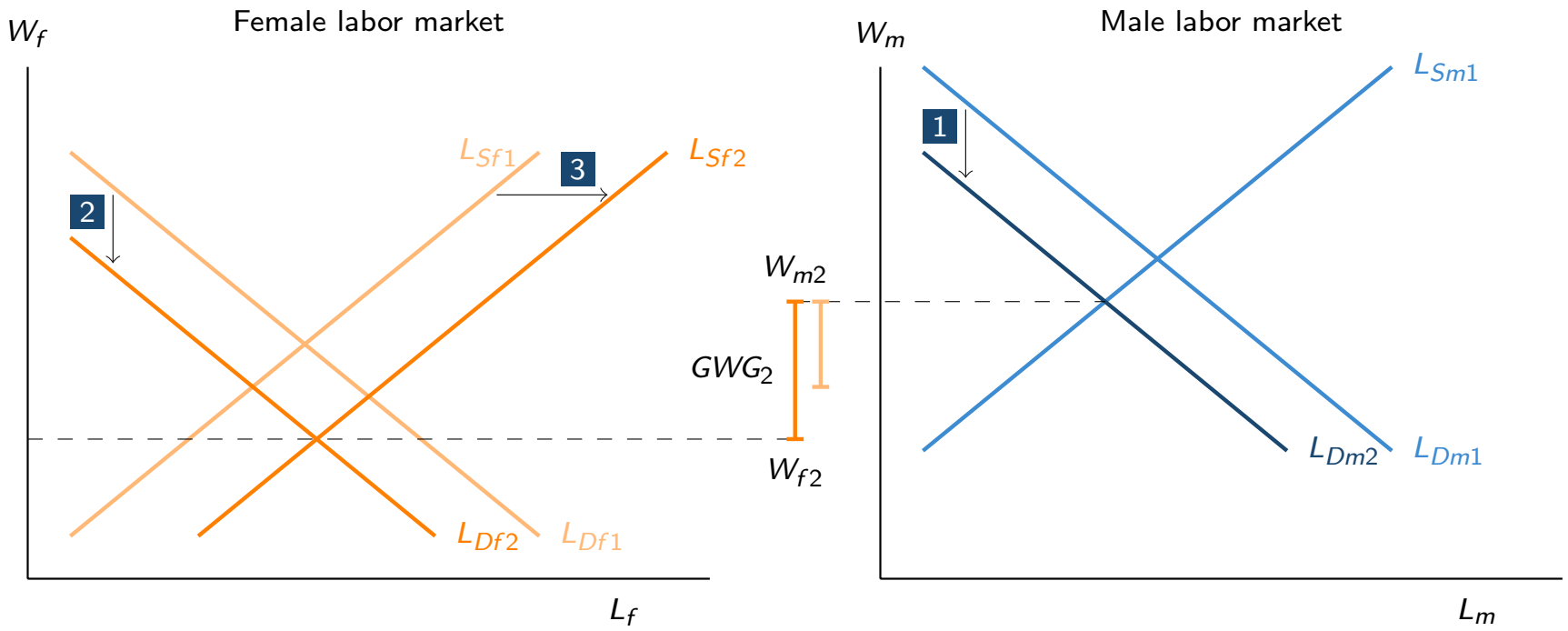


Dataset and sample definition

We use cross-sections 2004-2014 for 30 European countries:
283 country-year pairs

Sample definition

- Baseline: Aged 16-65 years, employees
- Restricted: Aged 26-55 years, employees
- Extended: Aged 16-65 years, employees & self-employed

Income reference period (IRP) and survey date

- all but UK (IE) have 'fixed' IRPs
- survey date is not harmonized across countries (e.g. IT vs. CZ)
- data is assumed to refer to previous year (exc. UK):
  2004-2014 $\rightarrow$ 2003-2013

Decomposition

$$\Delta \bar{w}_{it} = \underbrace{(\hat{\gamma}_{it,m} - \gamma^*_{it})\bar{X}_{it,m} + (\gamma^*_{it} - \hat{\gamma}_{it,f})\bar{X}_{it,f}}_{\text{remuneration effect (GAP)}} + \underbrace{\gamma^*_{it}(\bar{X}_{it,m} - \bar{X}_{it,f})}_{\text{endowment effect}} \qquad (1)$$

Dependent variable: w_{it} as the mean log-hourly wage

Explanatory variables: two (nearly) homogeneous sets

- `PARTTIME EDUC_USEC EDUC_TERT WORKEXP WORKEXPSQR`
- `PARTTIME EDUC_USEC EDUC_TERT AGE AGESQR`
- Extended set: `IMMIGR TEMPJOB BIGFIRM` if available

Note on sample selection

Olivetti and Petrongolo (2008) a.o. have shown importance of sample-selection

Controlling for sample-selection

- is 'equivalent' to controlling for labor supply effects
- to assume net-supply effects are zero
- singling out some portion of labor supply

We opt not to control for sample selection!

Empirical specification

Our baseline specification is

$$\Delta GAP_{i,t} = \alpha_1 + \alpha_2 \Delta D_{i,t} + \alpha_3 \Delta S_{i,t} + \mu_i + \tau_t + \epsilon_{i,t} \quad (2)$$

Dependent variable: $GAP_{i,t}$ is the difference btw men/women's average remuneration

Remuneration effect, or wage-gaps corrected for

- human-capital and work-experience differences
- relative importance of the remaining part of GWPs increased steadily
- $\Rightarrow$ derive 'corrected' GWGs through decomposition

Labor demand and supply

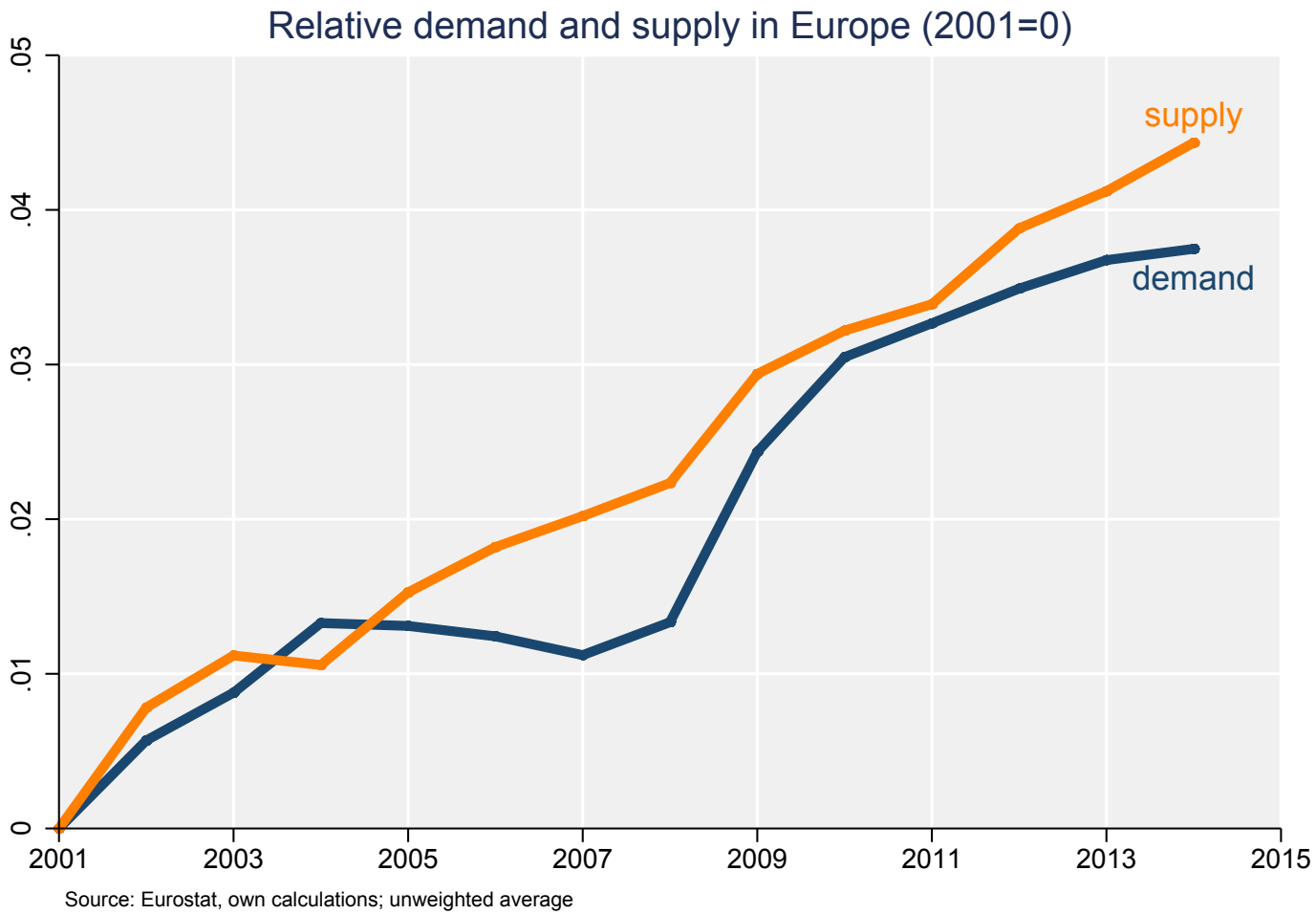
We orientate on the seminal work of Blau and Kahn (2003)

- Relative (female) labor demand measure for country i:

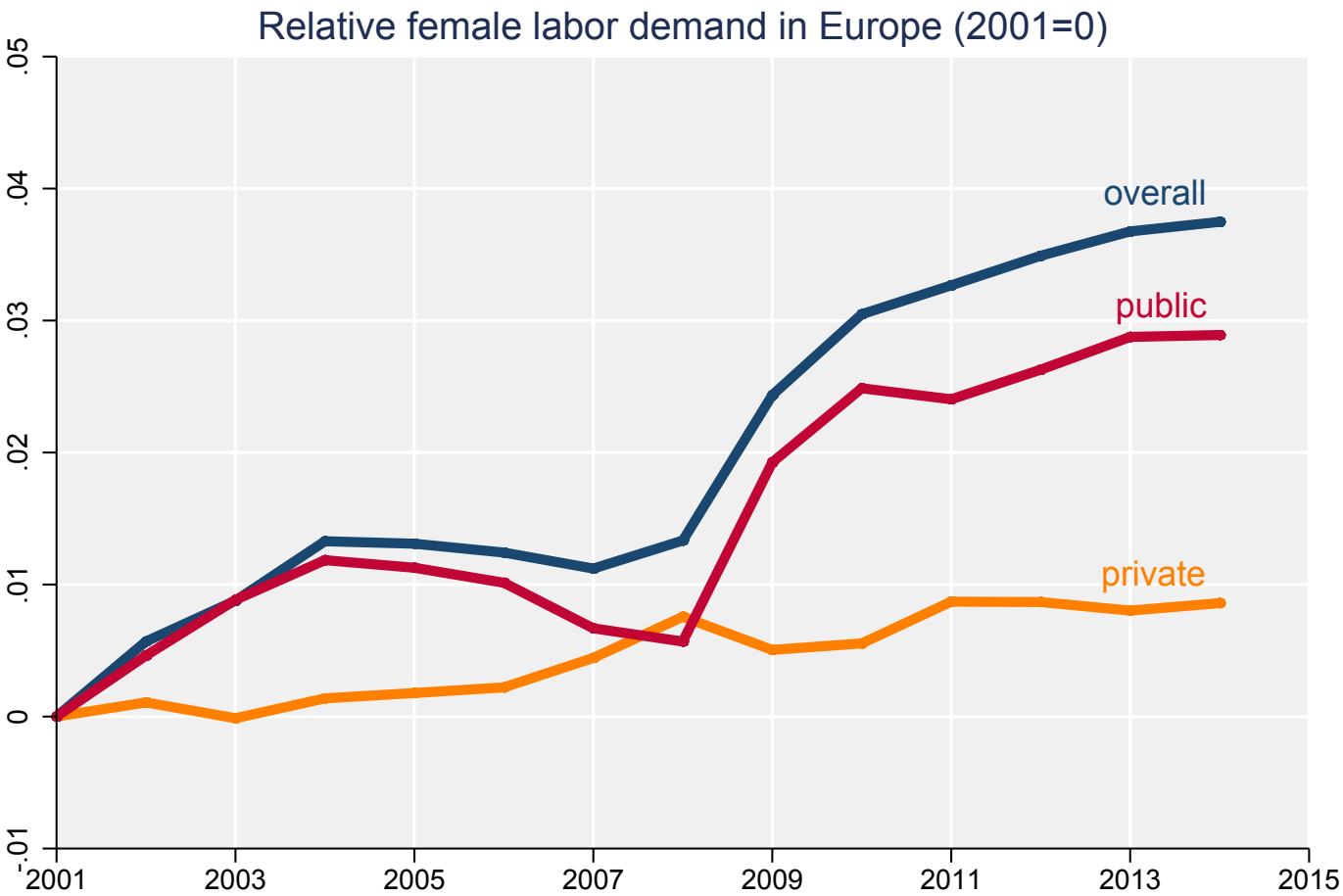
$$D_{i,t} = \sum_{s} \underbrace{\frac{L^{f}_{i,s}}{L_i}}_{\substack{\text{gender} \\ \text{intensity}}} \Delta \tilde{L}_{i,s,t} \tag{3}$$

- Relative labor supply of women $S_{i,t}$: relative abundance of active women in a country's work force
- Net supply of female labor: $NetS_{i,t} = S_{i,t} - D_{i,t}$

Labor demand and supply

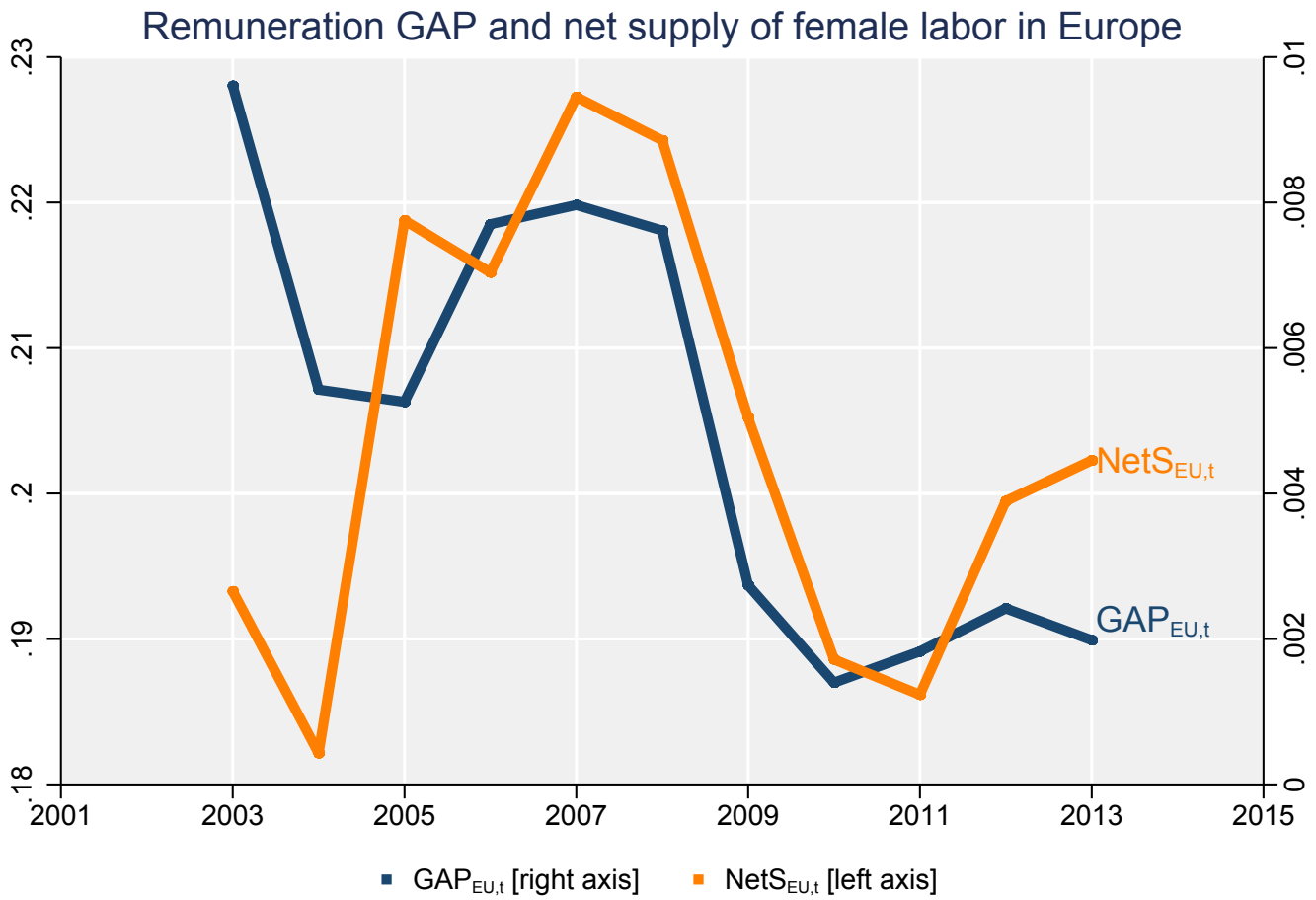


Labor demand: public and private



Source: Eurostat, own calculations; unweighted average

GWG and net supply



Source: Eurostat, own calculations; unweighted average

Relative Demand (D) and Supply (S) effects in Europe

	Baseline		Robustness			
			2004-2012	age 26-55	incl. self-employed	endog. check
	(1)	(3)	(4)	(5)	(6)	(7)
ΔD	-1.43***		-1.37***	-1.32***	-1.64***	-2.90***
	(-3.72)		(-3.51)	(-3.01)	(-3.82)	(-6.01)
ΔS	0.95***		0.93***	0.66*	0.87***	0.79**
	(3.39)		(3.14)	(2.02)	(3.05)	(2.02)
$\Delta NetS$		1.14***				
		(5.15)				
Model	FE	FE	FE	FE	FE	GMM
TimeD	incl.	incl.	incl.	incl.	incl.	incl.
N	252	252	212	252	252	223

The role of the public sector

	standardized (β-) coefficients			
	Base-line	excl. consol. countries	2003-2009	gender intensity
	(1)	(2)	(3)	(4)
ΔD_{public}	-0.35***	-0.34**	-0.45***	-0.34***
	(-3.39)	(-2.69)	(-3.91)	(-3.14)
$\Delta D_{private}$	-0.15**	-0.19***	-0.24*	-0.10
	(-2.27)	(-2.92)	(-1.84)	(-1.08)
ΔS	0.23***	0.17**	0.28***	0.21***
	(3.35)	(2.23)	(3.48)	(2.87)
Model	FE	FE	FE	FE
TimeD	incl.	incl.	incl.	incl.
N	252	211	132	252

Contribution

- We construct an unique panel dataset of GWGs for Europe 2003-2013.
- GWGs can be studied in the time-dimension
- Able to study labor supply and demand effects on GWGs

- We find significant supply and demand effects on GWGs.
- Public sector plays a decisive role $\rightarrow$ 'swing demander'.
- Budgetary consolidation policies might affect gender outcomes.

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