

# ***PATTERNS IN GENDER GAPS IN THE EU***

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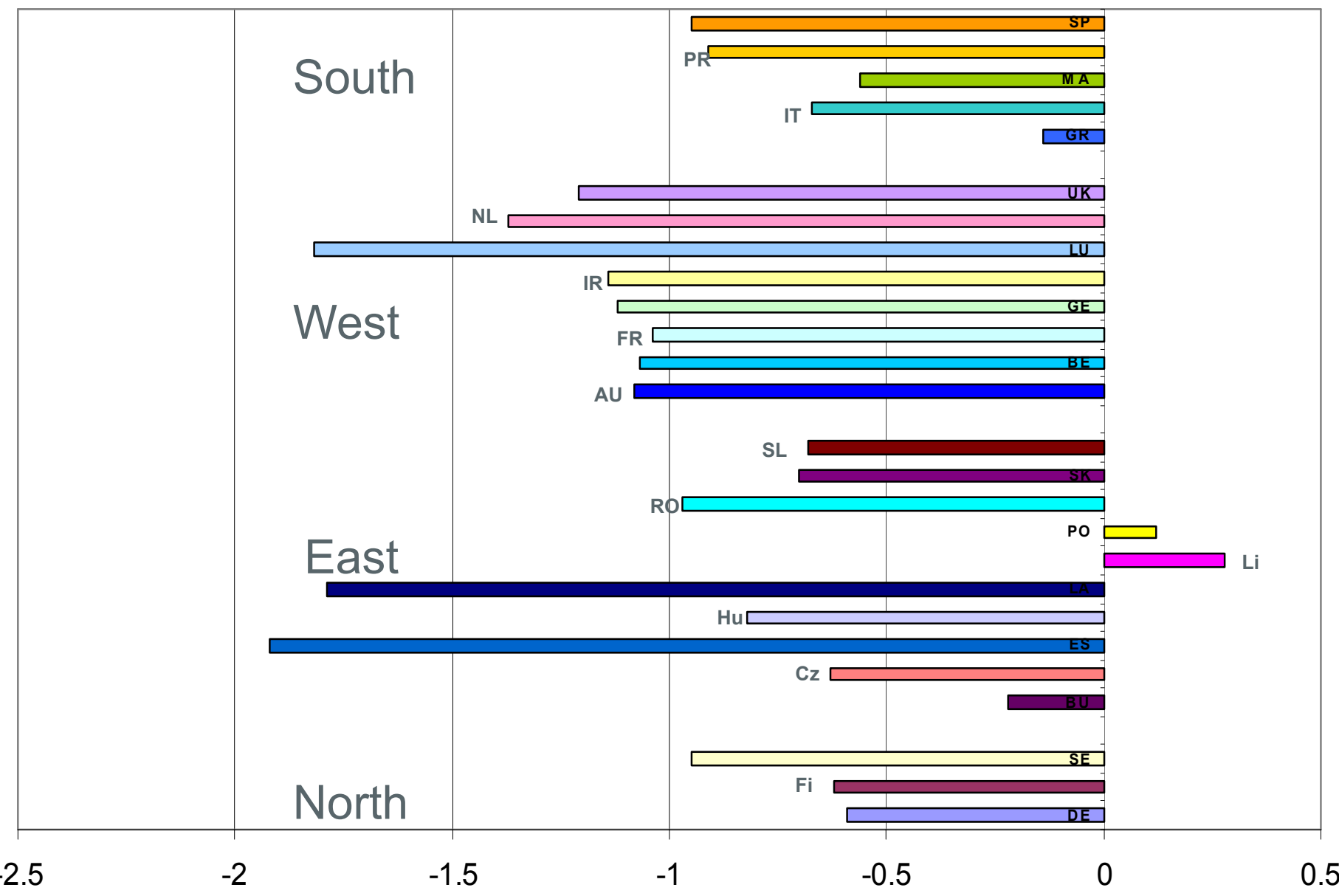
**REVES 2009**

# Outline

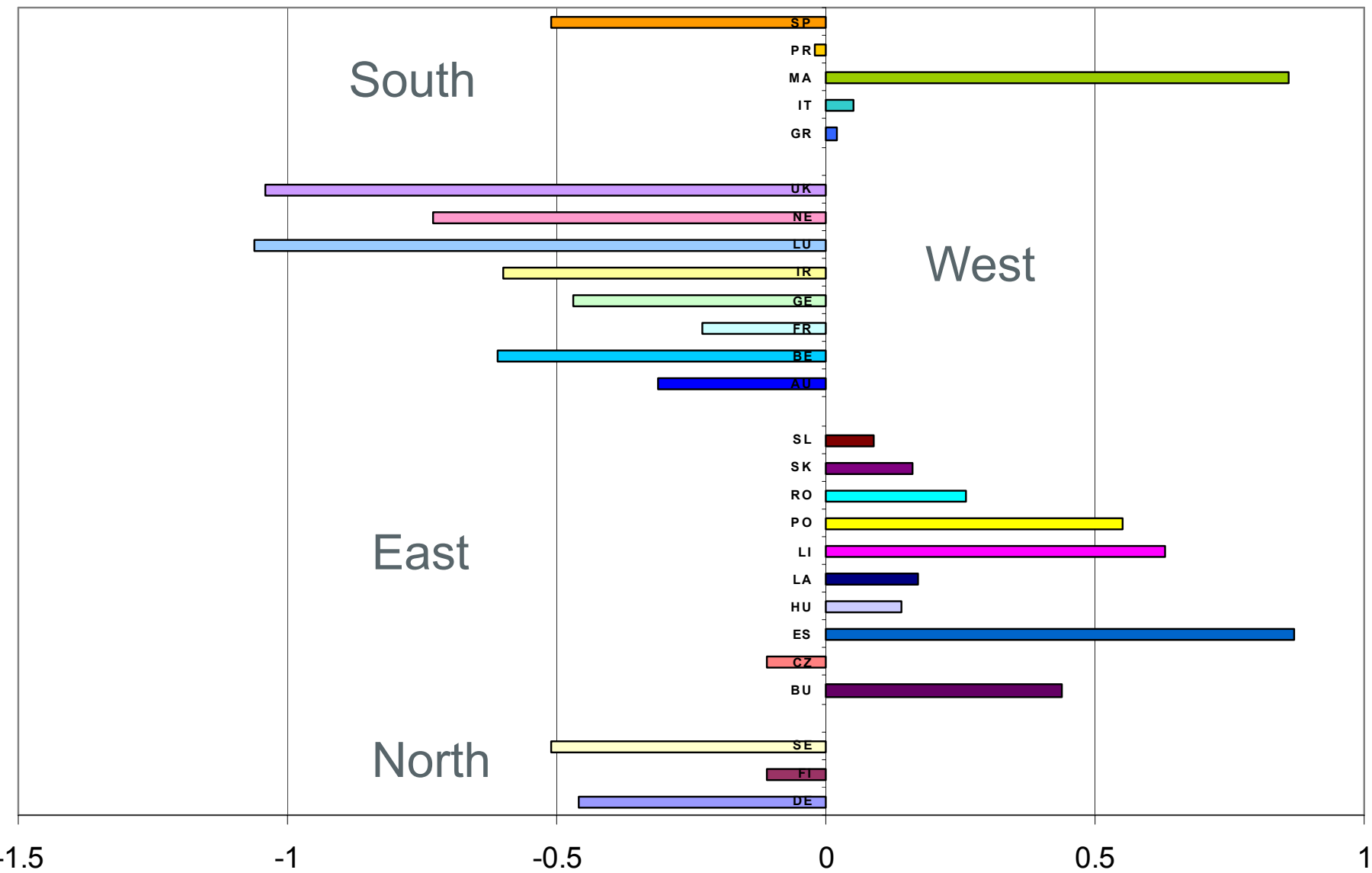
- **Description of**
  - **Gender gap in Life Expectancy**
  - **Gender gap in Health Expectancy**
- **Estimation of the contribution of macro-level factors**

# Gender gap in Life Expectancy

# Change in Gender GAP LE at birth 1995-2005



# Change in Gender GAP LE at age65 1995-2005



# Discussion: Gender gap in LE

- **Different evolution in function of age**
  - Younger age: reduction (except Poland, Lithuania)
  - Older age:
    - North / West / South: reduction (except Malta (increase), Italy, Greece)
    - East: No reduction to increase (except Czech Republic)

# Gender gap in Disability Free Life Expectancy

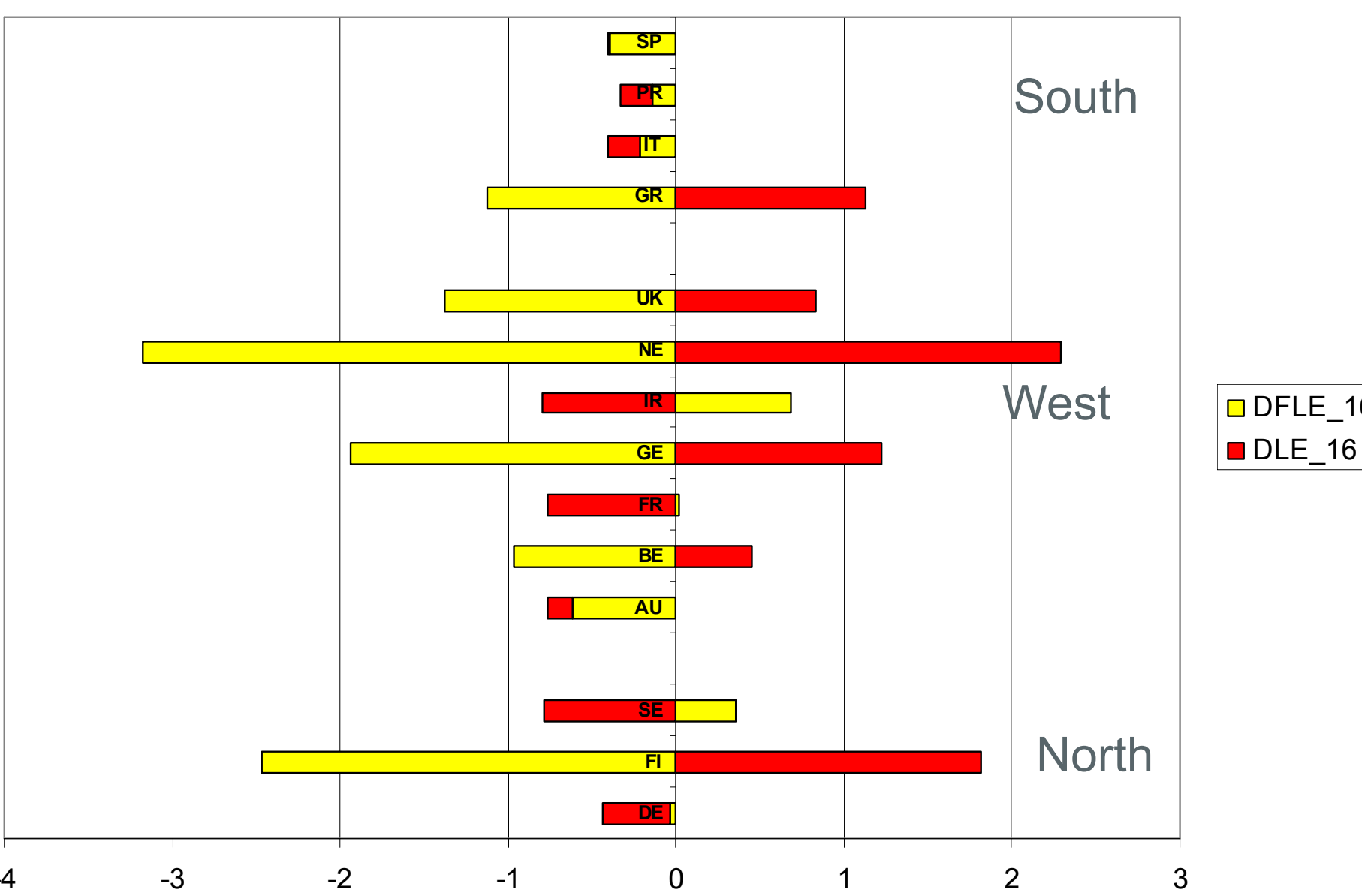
# DFLE data and methods



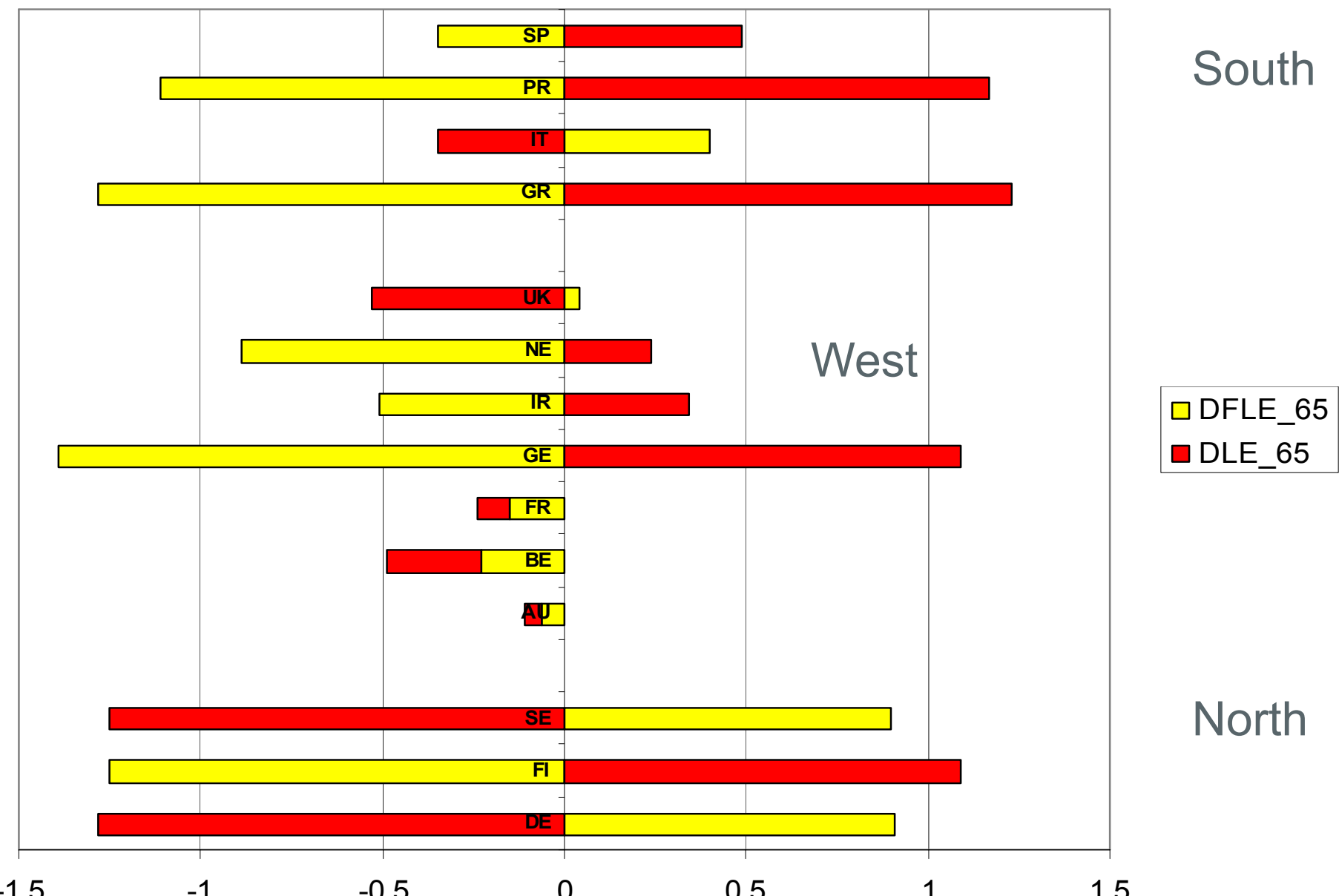
- Estimation of DFLE and 95% CI, using Sullivan method
  - age specific probability of death: Eurostat life tables
  - age specific disability prevalence: European Community Household Panel 1995-2001 question 'Are you hampered in your daily activities by any physical or mental health problem, illness or disability? '
  - Advantage of gender comparison: reduction of the effects of some country differences in the instruments used



# Change in Gender GAP DFLE/DLE at age 16 1995-2001



# Change in Gender GAP DFLE/DLE at age 65 1995-2001



# Discussion: Gender gap in Health and Ill-Health expectancy

- **Different evolution in gender gap.**
  - **Function of age**
  - **No real distinct geographical pattern**
  - **Related to the state of the evolution of population health**
    - High life expectancy among women,**
    - Life of unhealthy extended,**
    - More women enter into ages where the probability of unhealthy outcomes is high**
      - favoring a catch-up of men:**
        - gaining easier good years**
        - gaining less bad years.**

# Contribution of macro-level factors

## 25 EU countries at age 50

## Life Expectancy (LE) and Activity Limitation (AL) based on the GALI :

Data from EHEMU IS, Eurostat method of calculation

AL from SILC 2005 (= moderate + severe)

**GALI:**

For at least the last 6 months, have you been limited because of a health problem in activities people usually do?" with 3 response categories: 1) Yes, strongly limited; 2) Yes, limited; 3) No, not limited.

# Macro-level factors

- EU structural and sustainable indicators for each country
  - Structural indicators have grading which assesses comparability of the measure between countries
- HLY only health indicator
- Chose indicators to cover main areas of wealth and expenditure, labour-force participation, and level of education

# Macro-level factors

<b>Domain</b>	<b>Indicator</b>
<b>Wealth and expenditure</b>	<b>Gross domestic product (GDP)</b>
	<b>Expenditure on elderly care (%GDP)</b>
	<b>Poverty risk for 65+ yrs</b>
	<b>Inequality of income distribution</b>
<b>Labourforce participation</b>	<b>Employment rate of older workers</b>
	<b>Long term unemployment rate</b>
	<b>Mean exit age from the labour force</b>
<b>Level of education</b>	<b>Life-long learning</b>
	<b>Low education attainment</b>

# Meta-regression analysis

- Meta-regression analysis was utilised to investigate why the Gender Gap in LE, HLY at age 50 differed between EU countries.
- Meta-regression analysis is similar to simple regression modelling but instead of having data on individuals, you are modelling data at a higher level- e.g. country or study



# Meta-regression analysis (2)

- For each country a mean value and **standard error** (measure of uncertainty) is needed for the outcome of interest (e.g. gender difference in HLY at 50 years of age)
  - Ordinary regression would not include standard error
- Meta-regression models can then be fitted to investigate which factors affect the gender difference in LE or in HLY

# Analyses

Metaregression of gender difference in LE and AL ( $\Delta = \text{♀} - \text{♂}$ ) in relation to indicators

Exploration:

Univariate associations with indicators stronger for  $\Delta\text{LE}$  than for  $\Delta\text{AL}$

	$\Delta\text{LE}$		$\Delta\text{AL}$	
GDP	-0.02	**	-0.01	*
Expenditure	-1.02	**	-0.99	*
Poverty	-0.04		0.01	
Inequality	0.51	**	0.46	*
Low education	-0.03	**	-0.00	
Employ <sub>♀</sub>	0.00		0.02	
Employ <sub>♂</sub>	-0.05	*	-0.00	
Unemploy <sub>♀</sub>	0.17	*	0.04	
Unemploy <sub>♂</sub>	0.30	**	0.10	
LLLearning <sub>♀</sub>	-0.05		-0.05	
LLLearning <sub>♂</sub>	-0.09	**	-0.08	**
Exitage <sub>♀</sub>	-0.31	**	-0.00	
Exitage <sub>♂</sub>	-0.41	**	-0.29	

## Exploration:

**Strong positive relation between  $\Delta AL$  and  $\Delta LE$**

**Strong negative relation between  $LE_{\text{♀/♂}}$  and  $\Delta AL$  or  $\Delta LE$**

**Associations indicators and  $\Delta AL$  or  $\Delta LE$  often different for EU10 vs EU15**

# Analyses

Separate models for EU15 and EU10:

$$\Delta AL = INDIC$$

$\Delta AL = \Delta LE + INDIC$ , but difficult to interpret

$$\Delta AL = LE_{\text{♀}} + LE_{\text{♂}} + INDIC$$

Models with dummy variable distinguishing EU15 and EU10:

$$\Delta AL = LE_{\text{♀}} + LE_{\text{♂}} + INDIC + EU + LE_{\text{♀}} * EU + LE_{\text{♂}} * EU + INDIC * EU$$

Indicators entered univariately

Indicators available by gender: entered univariately or difference entered ( $\Delta INDIC = INDIC_{\text{♀}} - INDIC_{\text{♂}}$ )

# Results

Indicator	$\Delta AL = LE_{\text{♀}} + LE_{\text{♂}} + \text{INDIC} + \text{EU} + LE_{\text{♀}} * \text{EU} + LE_{\text{♂}} * \text{EU} + \text{INDIC} * \text{EU}$														
	LE <sub>♀</sub>		LE <sub>♂</sub>		INDIC		EU		LE <sub>♀</sub> *EU		LE <sub>♂</sub> *EU		INDIC*EU		
None	1.13	**	-	1.58	**	/		3.12		-1.14		1.18	*	/	
GDP	1.11	**	-	1.59	**	0.01		2.66		-1.03		0.82		0.08	*
Expenditure	1.13	**	-	1.58	**	0.00		17.03		-1.88	**	1.60	**	-6.31	**
Poverty	1.16	**	-	1.62	**	0.02		20.98		-1.90	**	1.35	**	0.08	*
Inequality	1.18	**	-	1.69	**	0.40		4.23		-1.27		1.35	*	-0.34	
Low education	0.91	**	-	1.36	**	0.04	*	3.68		-0.93		0.96		-0.04	
Employ <sub>♀</sub>	1.15	**	-	1.59	**	0.00		7.30		-1.71	*	1.64	**	0.07	*
Employ <sub>♂</sub>	1.40	**	-	1.85	**	0.03		1.07		-1.34		1.36	**	0.06	
ΔEmploy	1.19	**	-	1.71	**	0.02		-5.33		-0.65		0.85		-0.05	
Unemploy <sub>♀</sub>	1.10	**	-	1.57	**	0.06		7.40		-1.23		1.17	*	-0.26	
Unemploy <sub>♂</sub>	1.09	**	-	1.53	**	0.08		8.68		-1.20		1.09		-0.31	
ΔUnemploy	1.12	**	-	1.60	**	0.05		3.74		-1.25		1.31	*	-0.70	
LLLearning <sub>♀</sub>	1.07	**	-	1.52	**	0.01		2.90		-1.10		1.13		0.01	
LLLearning <sub>♂</sub>	1.07	**	-	1.53	**	0.01		-3.72		-0.80		1.06		-0.09	
ΔLLLearning	1.06	**	-	1.50	**	0.04		9.12		-1.58		1.47	*	0.35	
Exitage <sub>♀</sub>	1.27	**	-	1.61	**	0.22		95.57		-3.52	*	1.83		-0.62	
Exitage <sub>♂</sub>	1.56	**	-	2.04	**	0.38	*	112.98		-3.08	**	2.22	*	-1.26	
ΔExitage	1.07	**	-	1.43	**	0.14		71.85		-3.91		1.69		-0.87	

# Discussion

**Stratification and inclusion of LE males and females as explanatory variables tend to increase significance of some indicators**

## **EU15: Gender gaps in $\Delta AL$ ↓ by:**

- ↓ inequality of income distribution
- ↓ low education attainment
- ↓ mean exit age from labour force men

## **EU10: Gender gaps in $\Delta AL$ ↓ by:**

- ↑ expenditure on elderly care
- ↓ poverty risk for 65+
- ↓ employment rate of older women and men

# Discussion



**The association between gender gaps  $\Delta$ AL and GDP,  
expenditure on elderly care,  
poverty risk 65+  
employment rate of older women**

**is significantly different between EU15 and EU10**

# Discussion: Limitations

## Problems:

Possible lack of power

Causal relations?

Outliers not removed

Indicators present “current” situation, in contrast to “history” of LE and AL

Absolute difference → relative difference?? → partial life table

## Not accounted for:

### Gender gaps in relation to:

Smoking

Alcohol consumption

Physical activity