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# Employability of young graduates in Europe

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# Content of the presentation

- Background: The Employability Benchmark
- Research questions
- Methodological approach
- Preliminary Findings
- Conclusions and orientations for further research

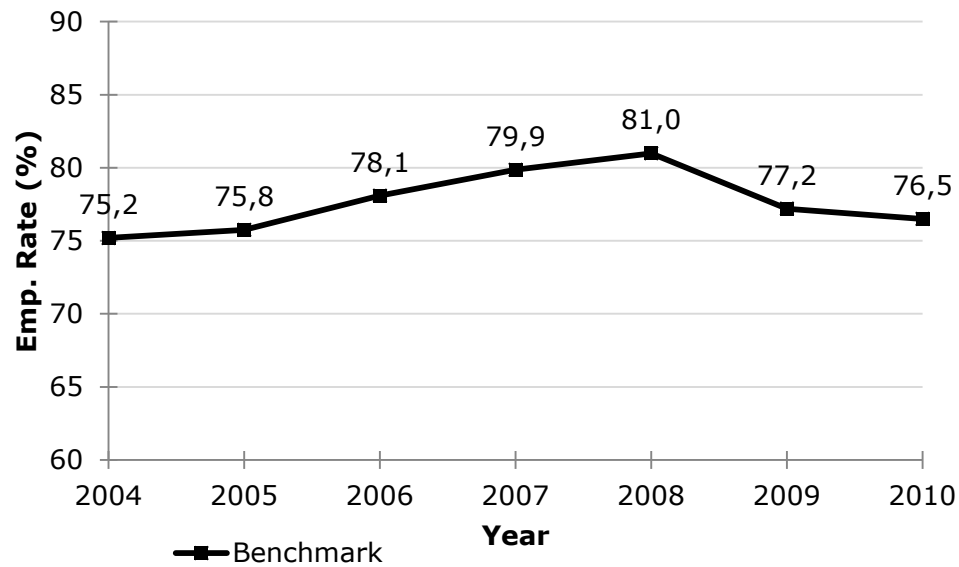
# Employability Benchmark

“By 2020, the share of employed graduates (20-34 year olds) having left education and training no more than three years before the reference year should be at least 82% (as compared to 76.5 % in 2010).”

*Council conclusions on the employability of graduates from education and training, 11<sup>th</sup> May 2012*

# Employability Benchmark

Evolution of the Employability benchmark  
(EU27 average)



# Research Questions

- ❖ What are the determinants of the employability rate?
- ❖ Can educational reforms make a difference?
- ❖ Does the orientation of the degree (general vs vocational) affects employability?
- ❖ Does working while studying improves employability?
- ❖ Analyse the nature of the job among those employed. What are the determinants of:
  - Having a permanent vs temporary contract
  - Working full-time vs part-time

# Research Questions

- ❖ What are the determinants of the employability rate?
- ❖ Can educational reforms make a difference?

LFS  
2004-2010

- ❖ Does the orientation of the degree (general vs vocational) affects employability?
- ❖ Does working while studying improves employability?

LFS  
Ad-hoc  
module  
2009

- ❖ Analyse the quality of the job among those employed.  
What are the determinants of:
  - Having a permanent vs temporary contract
  - Working full-time vs part-time

LFS  
2004-2010

# Methodological Approach

## ESTIMATE:

Probability of  
being employed

## CONTROLLING FOR:

<u>Individual characteristics</u>	<u>Fixed Effects</u>	<u>Labour market variables</u>
<ul style="list-style-type: none"><li>- Age</li><li>- Gender</li><li>- Attained education level</li><li>- Field of education</li><li>- Time since graduation</li></ul>	<ul style="list-style-type: none"><li>- Country fixed effects</li><li>- Year of survey fixed effects</li></ul>	<ul style="list-style-type: none"><li>- Job Vacancy Rate (JVR)</li><li>- Regional youth unemployment rate</li><li>- Interaction JVR x regyunemp</li></ul>



# Methodological Approach

## ESTIMATE:

Probability of  
being employed

Probability of having a  
permanent contract

Probability of working  
full-time

## CONTROLLING FOR:

### Individual characteristics

- Age
- Gender
- Attained education level
- Field of education
- Time since graduation

### Fixed Effects

- Country fixed effects
- Year of survey fixed effects

### Labour market variables

- Job Vacancy Rate (JVR)
- Regional youth unemployment rate
- Interaction JVR x regyunemp

# Preliminary findings

- ❖ What are the determinants of the employability rate?
- ❖ Can educational reforms make a difference?
- ❖ Does the orientation of the degree (general vs vocational) affects employability?
- ❖ Does working while studying improves employability?
- ❖ Analysis of the quality of the job among those employed.  
What are the determinants of:
  - Having a permanent vs temporary contract
  - Working full-time vs part-time

# What are the determinants of employability?

## The probability of being employed:

Is higher the higher is the educational attainment level

Is lower for females

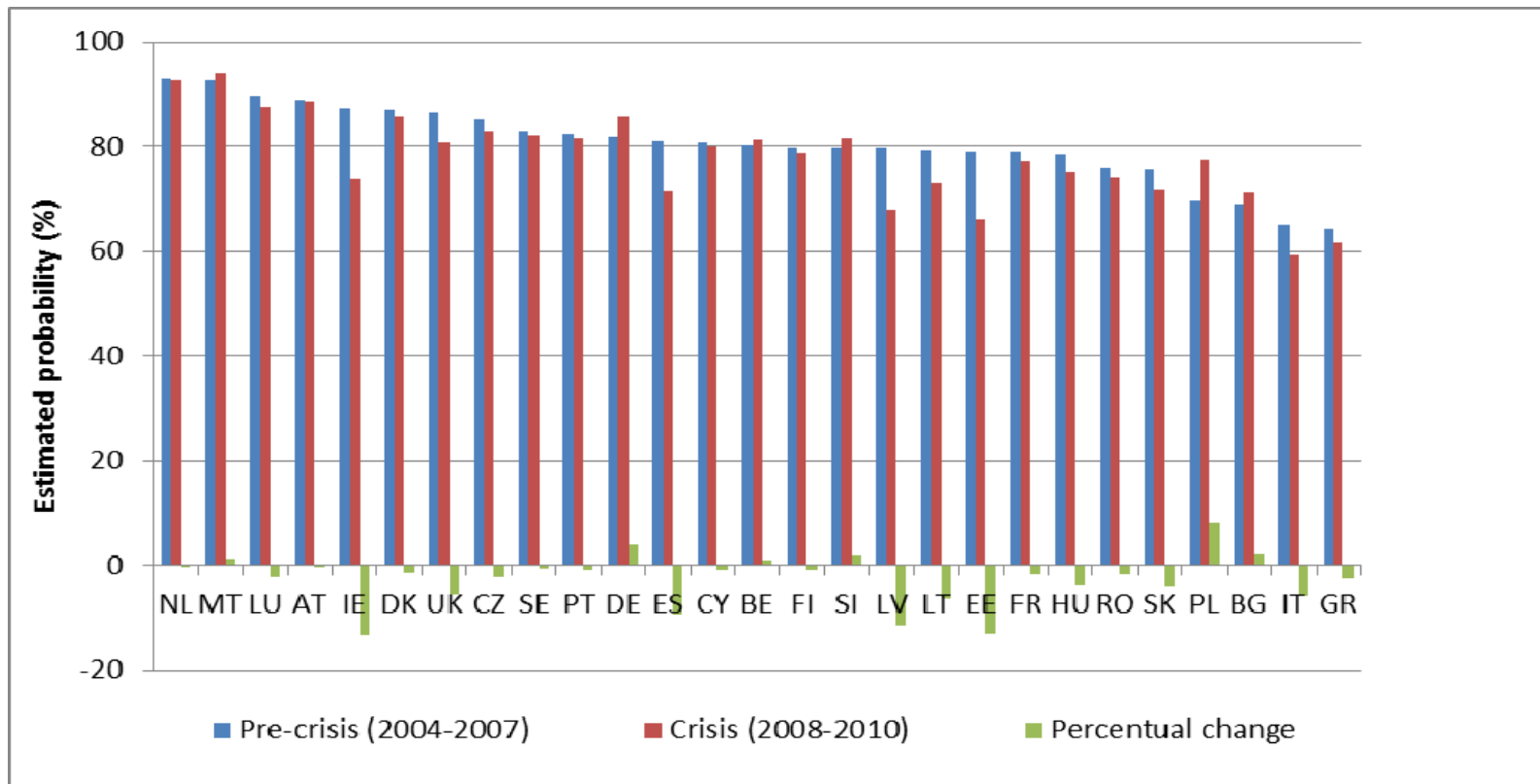
Increases with time since graduation



The contribution of education to employability is **not** affected by the inclusion of labour market variables

# What are the determinants of employability?

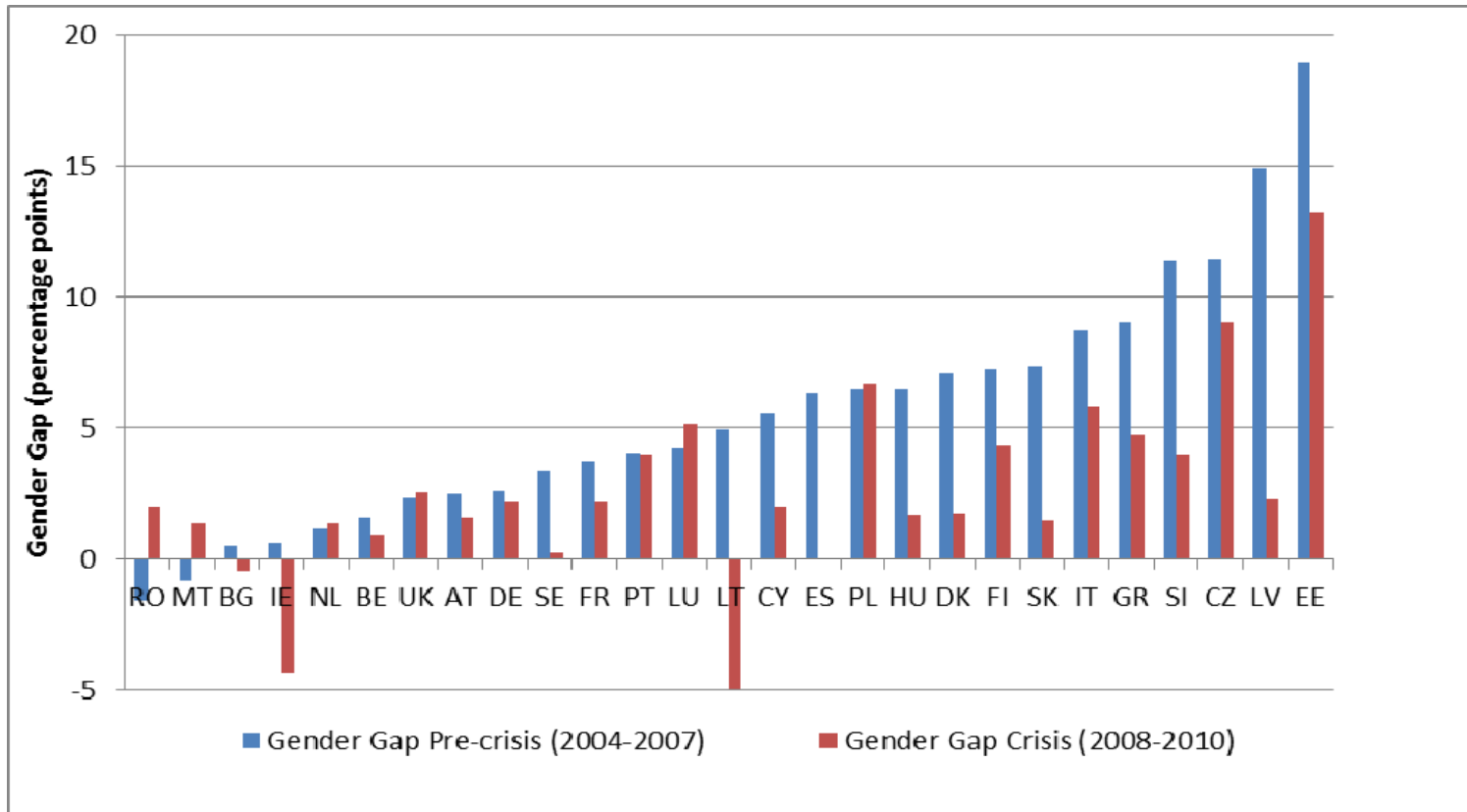
## Estimated probabilities of being employed by country



Source: Authors' estimations using the annual LFS microdata 2004-2010. Note: Results from a probit estimation controlling for age, gender, level of graduation, year of graduation and survey-year and country fixed effects.

# What are the determinants of employability?

## Estimated gender gap in the probability of being employed by country



Source: Authors' estimations using the annual LFS microdata 2004-2010. Note: Results from a probit estimation controlling for age, gender, level of graduation, year of graduation, field, survey-year fixed effects.

# Can educational reforms make a difference?

## Compulsory education reforms

Czech Republic (1990)  
Germany (1992)  
Spain (1990)  
Portugal (1986)

## Vocational orientation of the curricula reforms

Austria (1985)  
Finland (1998-2001)  
France (1989)  
Greece (1992)  
Netherlands (1992)

# Can educational reforms make a difference?

## Indirect effect

### TREATMENT EFFECT MODEL by country:

Treatment  
equation:  
Probability of  
graduating from  
ISCED 5 or 6

### CONTROLLING FOR:

<u>Individual characteristics</u>	<u>Fixed Effects</u>	<u>Labour market variables</u>
<ul style="list-style-type: none"> <li>- Age</li> <li>- Age squared</li> <li>- Gender</li> <li>- Time since graduation</li> <li>- Exposure to a comp.edu/vocational reform</li> </ul>	<ul style="list-style-type: none"> <li>- Year of survey fixed effects</li> </ul>	<ul style="list-style-type: none"> <li>- n.a.</li> </ul>

# Can educational reforms make a difference?

## Indirect effect

### TREATMENT EFFECT MODEL by country:

Treatment equation:  
Probability of graduating from ISCED 5 or 6

Outcome equation:  
Probability of being employed

### CONTROLLING FOR:

#### Individual characteristics

- Age
- Age squared
- Gender
- Field of education
- Time since graduation
- Estimated probability of graduating from ISCED 5 or 6

#### Fixed Effects

- Year of survey fixed effects

#### Labour market variables

- Regional youth unemployment rate



# Can educational reforms make a difference?

## Direct effect

### PROBIT ESTIMATE by country and educational attainment level:

Probability of  
being employed

### CONTROLLING FOR:

<u>Individual characteristics</u>	<u>Fixed Effects</u>	<u>Labour market variables</u>
<ul style="list-style-type: none"> <li>- Age</li> <li>- Age squared</li> <li>- Gender</li> <li>- Field of education</li> <li>- Time since graduation</li> <li>- Exposure to a comp.edu/vocational reform</li> </ul>	<ul style="list-style-type: none"> <li>- Year of survey fixed effects</li> </ul>	<ul style="list-style-type: none"> <li>- Regional youth unemployment rate</li> </ul>

# Effect of compulsory education reforms on employability

## Indirect effect

- + Germany  
(pre-crisis and crisis cohort)
- Spain  
(pre-crisis cohort)

## Direct effect

- + Czech Republic  
(high educated pre-crisis and crisis cohorts)
- Spain  
(medium educated crisis cohort)

# Effect of vocational curricula reforms on employability

## Indirect effect

+ Austria, Finland and Netherlands  
(pre-crisis cohort)

- Finland  
(crisis cohort)

## Direct effect

+ Netherlands  
(medium educated pre-crisis cohort)

- France  
(high educated pre-crisis cohort)

## Does the orientation of the degree (general vs. vocational) affect employability? (ISCED 3 and 4)

### PROBIT ESTIMATE by country:

Probability of  
being employed

### CONTROLLING FOR:

<u>Individual characteristics</u>	<u>Fixed Effects</u>	<u>Labour market variables</u>
<ul style="list-style-type: none"> <li>- Age</li> <li>- Age squared</li> <li>- Gender</li> <li>- Field of education</li> <li>- Time since graduation</li> <li>- Orientation of the degree (VET vs. mainstream)</li> <li>- Workedu</li> <li>- Interaction VET x workedu</li> </ul>	<ul style="list-style-type: none"> <li>- Year of survey fixed effects</li> </ul>	<ul style="list-style-type: none"> <li>- Regional youth unemployment rate</li> </ul>

# Does the orientation of the degree (general vs vocational) affect employability? (ISCED 3 and 4)

## VET improves employability

Bulgaria  
Germany  
Luxembourg  
Sweden  
Iceland

## Working while studying improves employability

Greece  
Ireland  
Italy  
Poland  
Sweden  
UK  
Iceland  
Switzerland

# Does working during studies improve employability? (ISCED 5 and 6)

## PROBIT ESTIMATE by country:

Probability of  
being employed

## CONTROLLING FOR:

<u>Individual characteristics</u>	<u>Fixed Effects</u>	<u>Labour market variables</u>
<ul style="list-style-type: none"> <li>- Age</li> <li>- Age squared</li> <li>- Gender</li> <li>- Field of education</li> <li>- Time since graduation</li> <li>- Workedu</li> </ul>	<ul style="list-style-type: none"> <li>- Year of survey fixed effects</li> </ul>	<ul style="list-style-type: none"> <li>- Regional youth unemployment rate</li> </ul>

# Does working while studying improve employability? (ISCED 5 and 6)

**Working while studying  
improves  
employability**

Bulgaria  
Czech Republic  
Greece  
Ireland  
Italy

Lithuania  
Poland  
Portugal  
Romania  
Switzerland

# Quality of the job among those employed

## Probability of having a permanent contract

Is not affected by educational attainment

Increases with time since graduation

Is lower for females

## Probability of working full-time

Is higher the higher the education attainment level

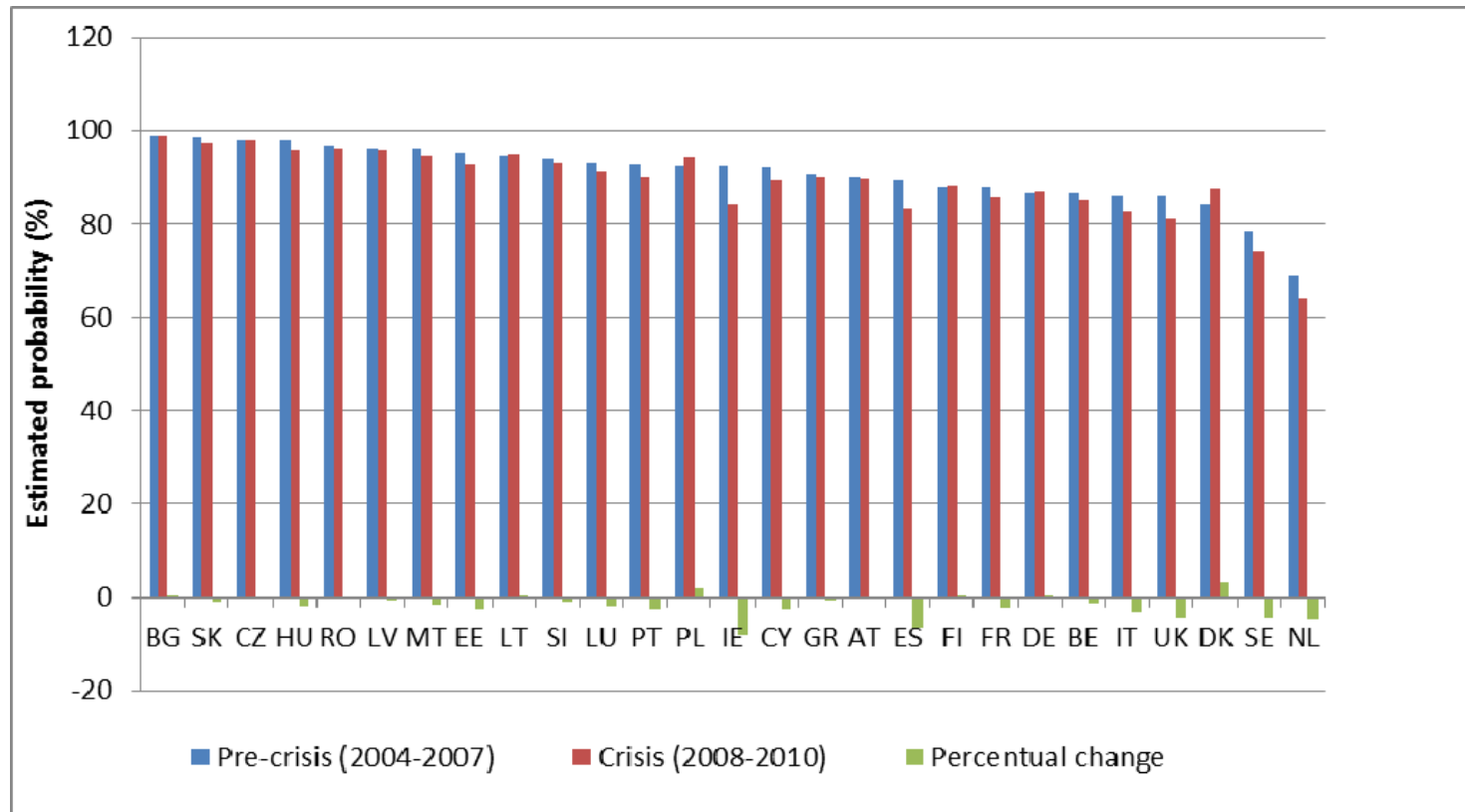
Increases with time since graduation

Is lower for females



# Quality of the job among those employed

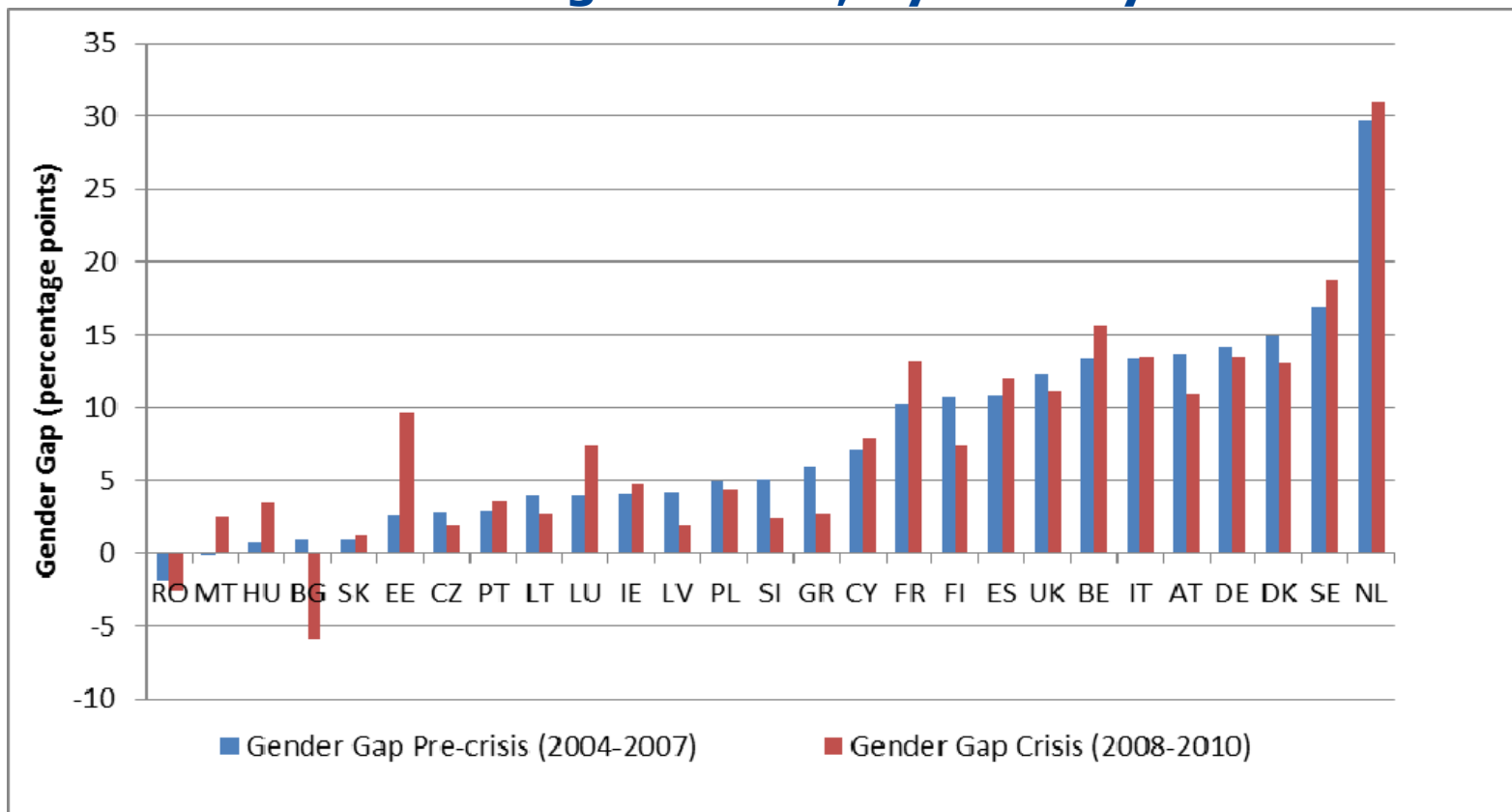
## Estimated probabilities of working full-time vs part-time, by country



Source: Authors' estimations using the annual LFS microdata 2004-2010. Note: Results from a probit estimation controlling for age, gender, level of graduation, year of graduation, field, survey-year fixed effects.

# Quality of the job among those employed

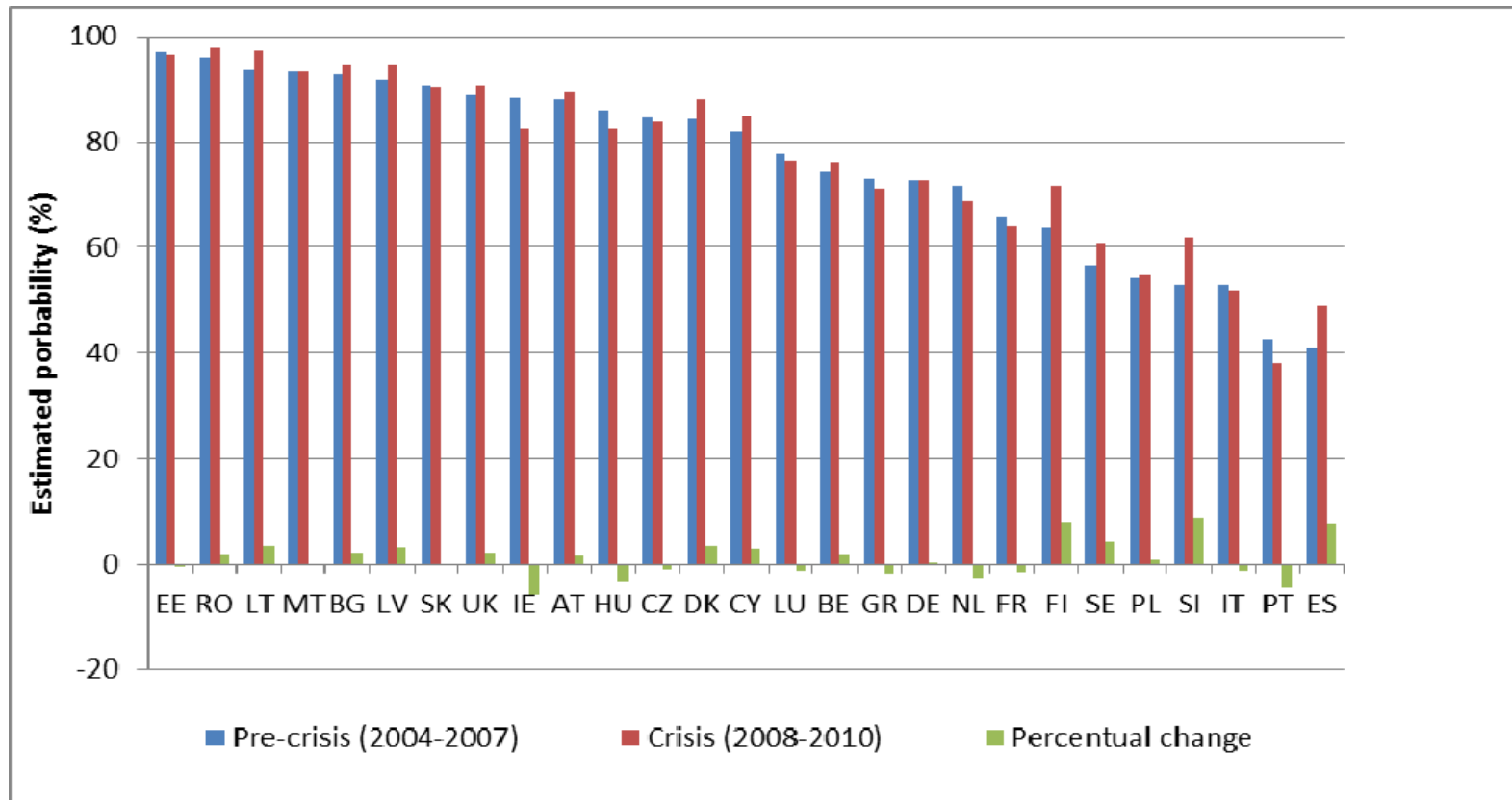
## Estimated gender gap in the probability of working full-time, by country



Source: Authors' estimations using the annual LFS microdata 2004-2010. Note: Results from a probit estimation controlling for age, gender, level of graduation, year of graduation, field, survey-year fixed effects.

# Quality of job among those employed

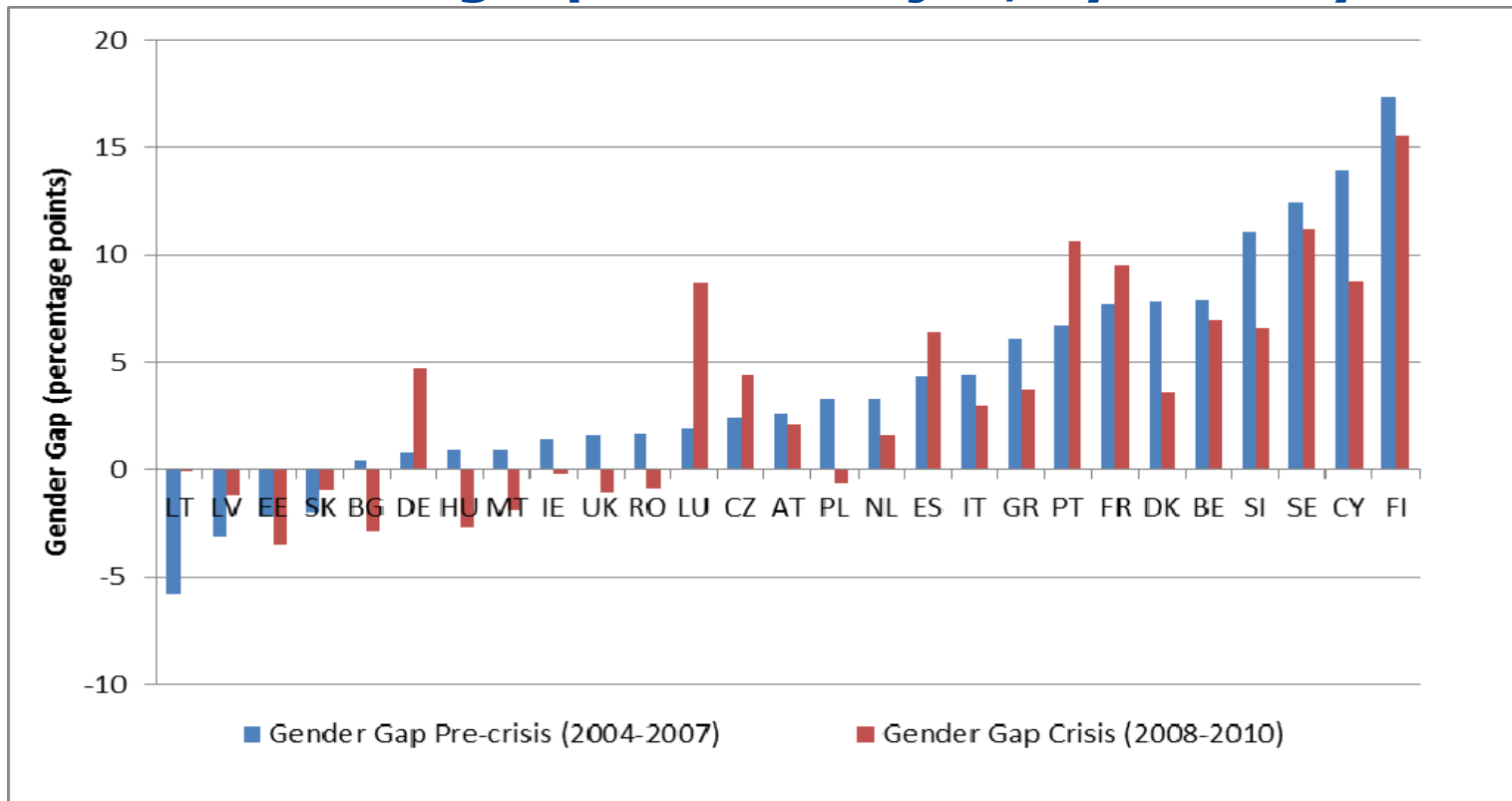
## Estimated probabilities of having a permanent contract, by country



Source: Authors' estimations using the annual LFS microdata 2004-2010. Note: Results from a probit estimation controlling for age, gender, level of graduation, year of graduation, field, survey-year fixed effects.

# Quality of job among those employed

## Estimated gender gap in the probability of having a permanent job, by country



Source: Authors' estimations using the annual LFS microdata 2004-2010. Note: Results from a probit estimation controlling for age, gender, level of graduation, year of graduation, field, survey-year fixed effects.

# Conclusions

- The contribution of education attainment to the probability of being employed is **significant and constant**, even after controlling for labour market contextual variables.
- The exposure to a compulsory education reform or a reform on the vocational orientation of curricula affects very differently the probability of being employed according to the country  $\Rightarrow$  results can not be generalized!
- Overall, the work experience during studies is more important than the orientation of the degree (vocational vs. mainstream).
- Whereas education attainment is an important determinant for working full-time, it does not play a role in explaining the probability of having a permanent contract.

# Conclusions

## Impact of the crisis:

- No significant differences in the contribution of the basic determinants of employability between the pre-crisis and the crisis periods, except for gender which role has decreased.
- However, the crisis affected negatively the estimated probability of being employed at the country level: in the majority of the countries this probability decreased after 2008.
- Additionally, the gender gap in the employability has decreased but at the expense of the male probability of being employed, rather than due to an improvement in females' situation.

## Next steps...

1. Estimation of the probability of **skills (mis)match** for those employed.
2. Estimation of the effect of other educational **reforms** and active labour market policies on the employability rate.
3. (Open to suggestions...)

Each of these analyses will inform countries on possible ways to reach the overall EU27 benchmark target of 82% of employment for graduates by 2020.

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