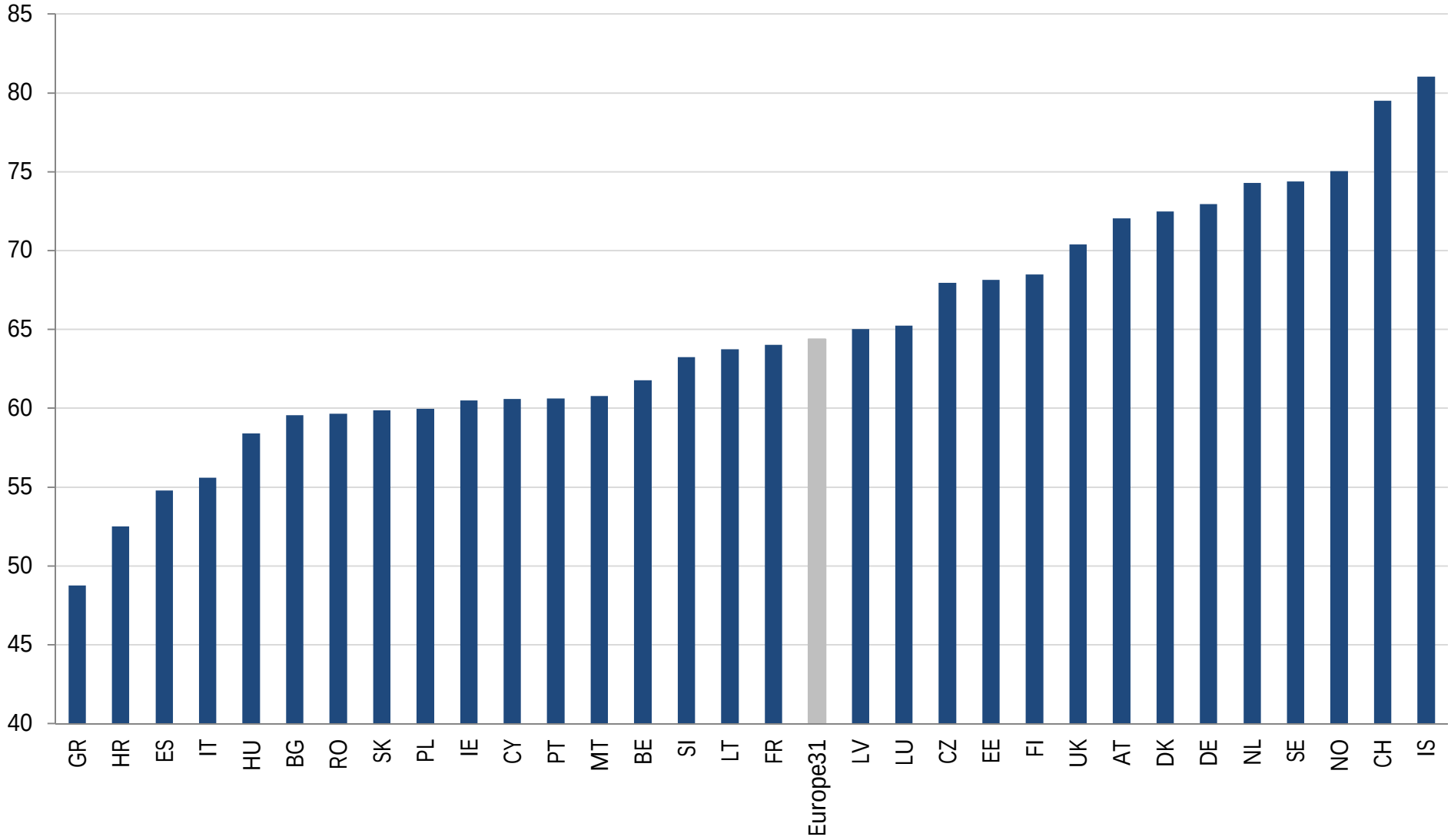
Employment differences in Europe

Endre Morvay
Central Bank of Hungary

Employment differences in Europe (2013, per cent)



Observations

- High rates characterises Scandinavian and German-speaking countries, and the Netherlands.
- Employment rate is low in Southern Europe and in Central and Eastern Europe (CEE) (new EU member states)
  - There are only some exceptions: CZ and Baltic countries.
- There are really huge differences:
  - The difference between the employment rate of Island and Greece is more than 32 percentage points. (2015: 33,9)

Questions

- Why can we observe so large employment differences in Europe?
- What factors determine these differences from the view of
  - Demography (gender, age, education level)
  - Professional status
  - Firm size
  - Sector features

Data

- EU LFS data:
  - Representative household survey
  - Data of 31 European countries
  - Year: 2013
  - Age group: 15-64

Used variables

- Labour market status:
  - Based on ILO definitions (ILOSTAT)
  - Employed, Unemployed or economically inactive (not in Labour Force)
- Gender
- Age:
  - 10 age groups:
    - 15-19, 20-24,..., 60-64
- Highest level of education successfully completed:
  - 8 groups:
    - ISCED1, ISCED2, ISCED3ab, ISCED3c, ISCED4, ISCED5a, ISCED5b és ISCED6

Method

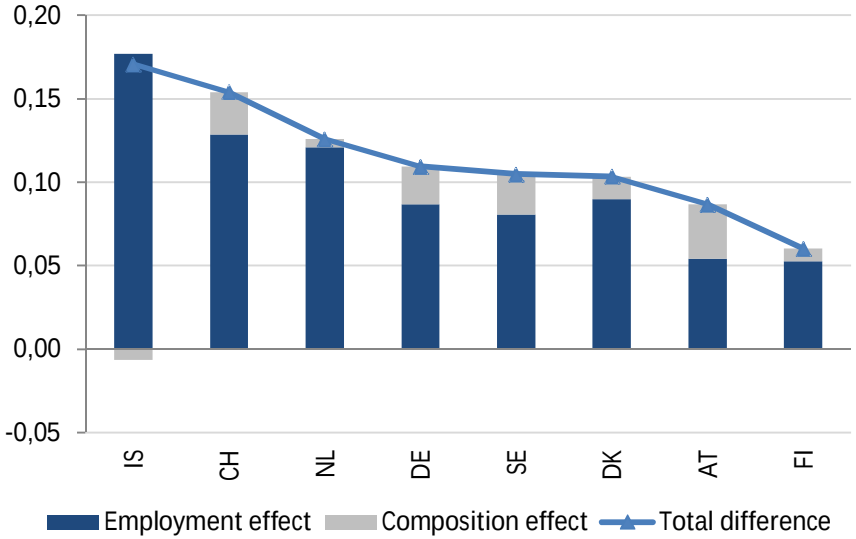
- Probit model:
  - $P_i(empl = 1) = \Phi(\beta_0 + \beta_1 X_i + \varepsilon_i) = \Phi(\beta X_i)$
  - where:
    - $\Phi(.)$ is the cumulative distribution function of normal distribution
    - Explanatory variables:
      - Gender,
      - Age,
      - Level of Education.
- Employment probability:
  - $\hat{P}_i = \Phi\left(\hat{\beta}_0 + \hat{\beta}_1 X_i\right) = \Phi\left(\hat{\beta} X_i\right)$

Employment differences

- Benchmark country:
  - Based on Employment rates and Demographic structure
  - France (FR)
- Total difference = composition effect + employment effect (example for DE)
- $\Phi\left(\hat{\beta}^{DE} X_i^{DE}\right) - \Phi\left(\hat{\beta}^{FR} X_i^{FR}\right) = \left[\Phi\left(\hat{\beta}^{DE} X_i^{DE}\right) - \Phi\left(\hat{\beta}^{DE} X_i^{FR}\right)\right] + \left[\Phi\left(\hat{\beta}^{DE} X_i^{FR}\right) - \Phi\left(\hat{\beta}^{FR} X_i^{FR}\right)\right]$

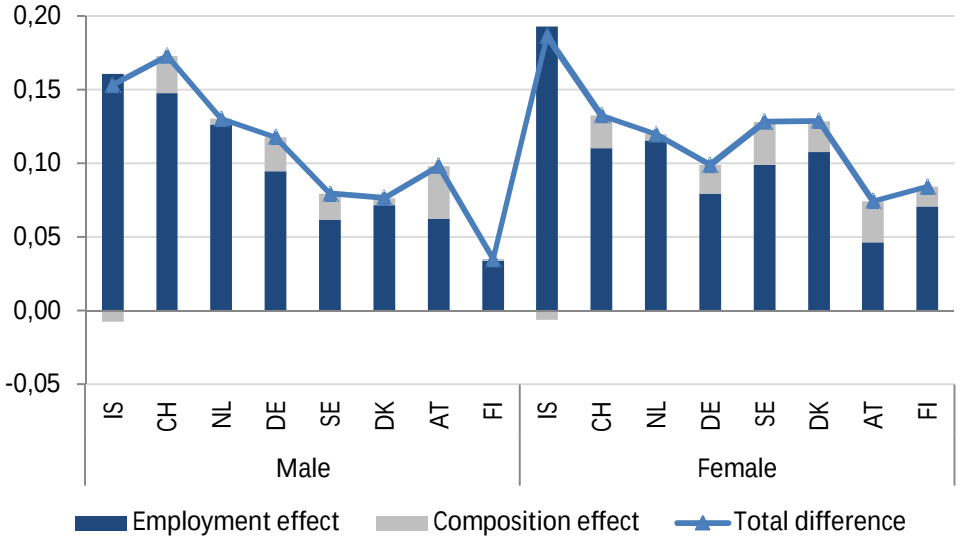
Results

- High employment advantages compared to France:
  - Scandinavian-countries: IS, SE, DK, FI
  - German-speaking countries: DE, CH and AT
  - The Netherlands (NL)
- High employment gaps compared to France:
  - Southern European EU15 countries : IT, ES and GR
  - Central and Eastern European (CEE) countries: HU, PL, SK, BG, RO.
  - Croatia (HR).



Advantages

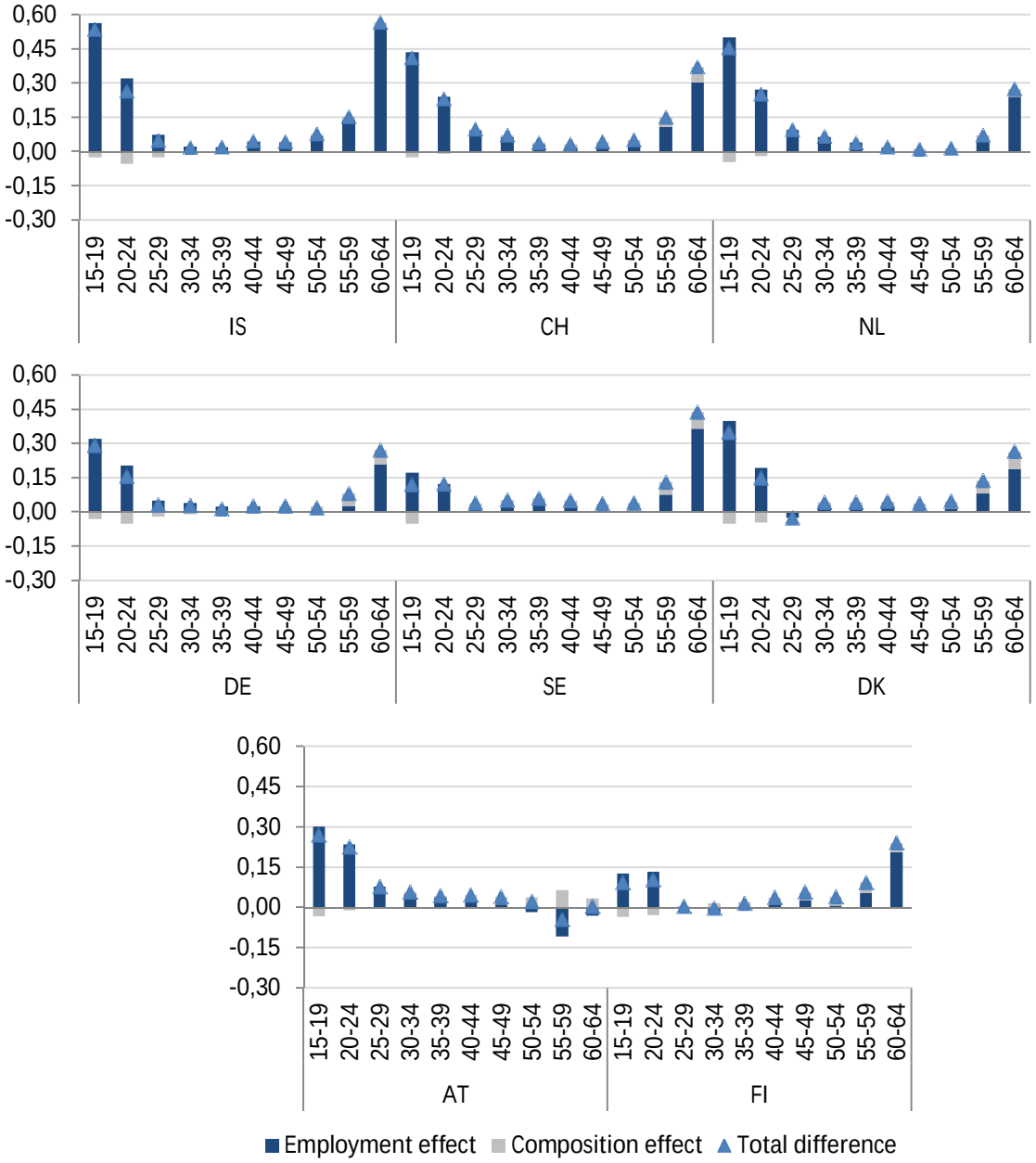
- Employment effect dominates.



- Gender:
  - Female:
    - Scandinavian countries
  - Male:
    - German-speaking countries and the Netherlands

Advantages

- Age:
  - Advantages are the highest in age groups 15-24 and 55-64.



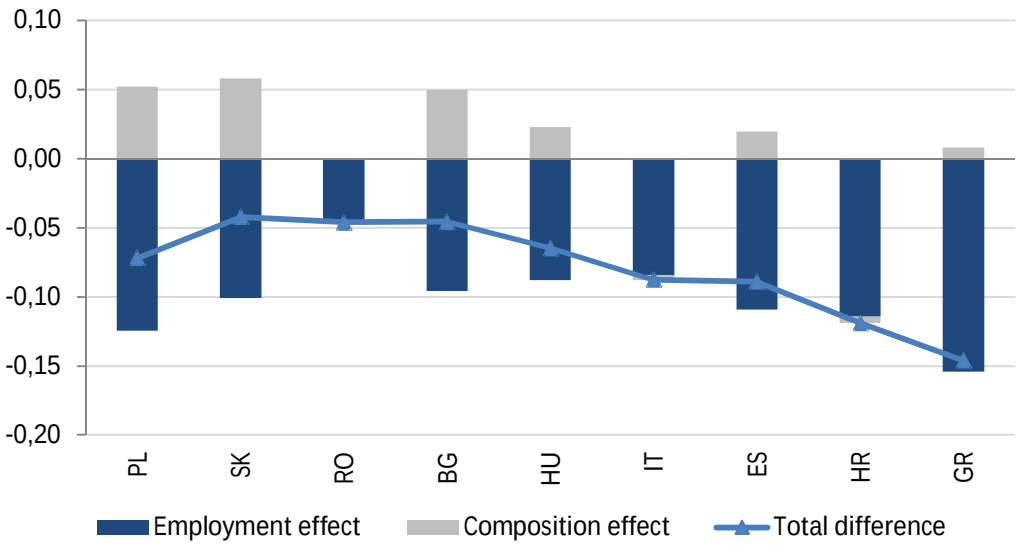
Advantages

- Education level (age group 25-64):
  - Advantages are focused on:
    - the primary
      - IS, CH and NL have outstanding advantages.
    - or secondary level of education.

- General favorable employment situation.

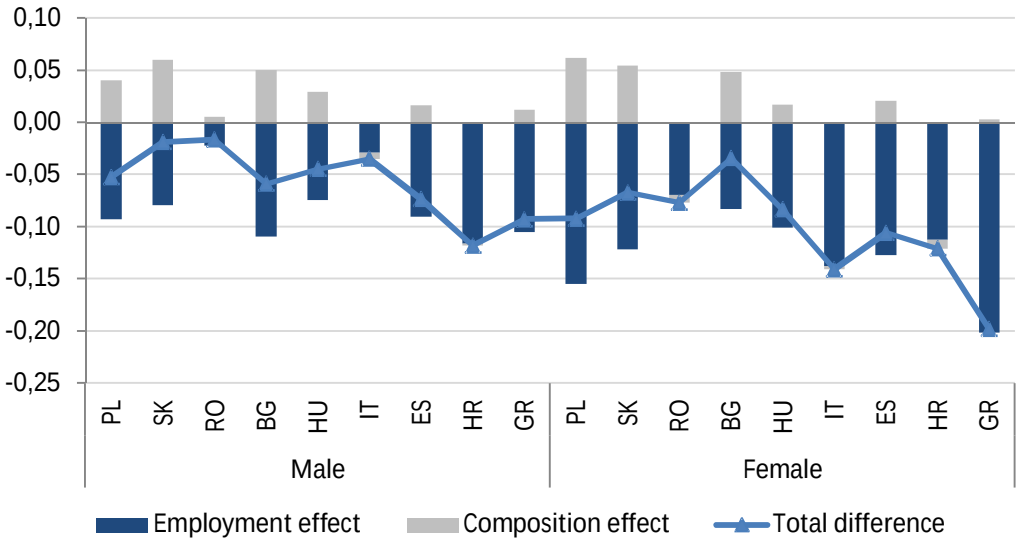
Gaps

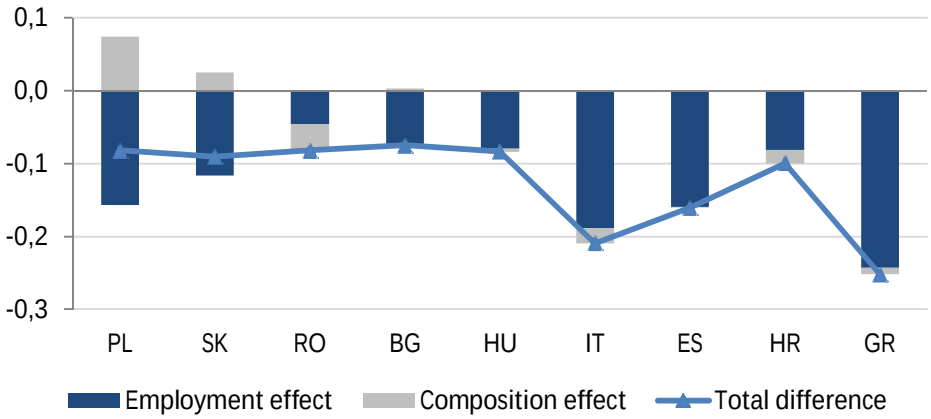
- Composition effects are higher, but employment effect dominates.



Gaps

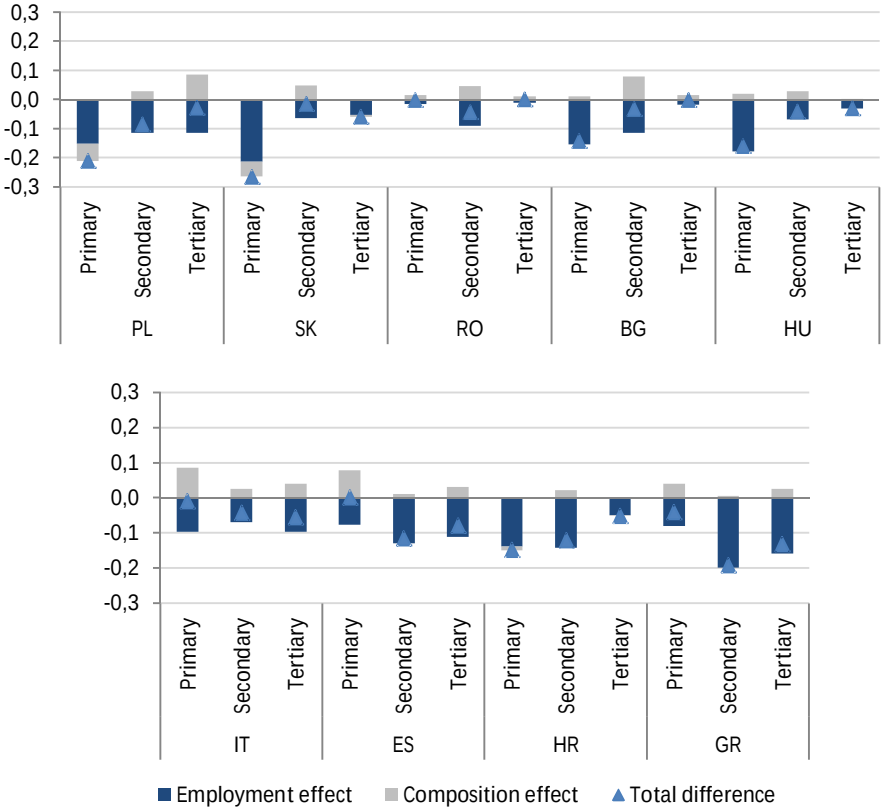
- Gender:
  - Gaps of females are relatively higher.
    - Gaps of females aged 25-39 are typical.





Gaps

- Education level (age group 25-64):
  - In CEE countries and in HR:
    - high gaps on the primary level of education.
  - Southern European EU15 countries:
    - high gaps on the secondary and tertiary level of education.



- The gaps are general.

Next Questions

- Which groups contribute to employment gaps?
- How do some countries achieve high employment rates?

Employment differences: Austria compared to France

Male										
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
ISCED1	0,105	0,019	-0,116	-0,141	-0,144	-0,137	-0,163	-0,211	-0,301	-0,097
ISCED2	0,308	0,219	0,075	0,047	0,038	0,037	0,016	-0,016	-0,115	-0,039
ISCED3ab	0,420	0,245	0,086	0,059	0,049	0,044	0,031	0,013	-0,058	-0,015
ISCED3c	0,441	0,265	0,100	0,072	0,060	0,053	0,040	0,024	-0,038	0,006
ISCED4		0,244	0,084	0,059		0,042	0,032	0,019	-0,034	0,006
ISCED5a		0,220	0,069	0,047	0,038	0,032	0,024	0,014	-0,034	-0,001
ISCED5b		0,207	0,062	0,041	0,033	0,028	0,020	0,011	-0,035	-0,006
ISCED6			0,039	0,024	0,018	0,015	0,010	0,002	-0,041	-0,032
Female										
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
ISCED1	0,063	0,001	-0,130	-0,160	-0,169	-0,167	-0,195	-0,238	-0,285	-0,065
ISCED2	0,226	0,186	0,062	0,035	0,027	0,027	0,002	-0,038	-0,137	-0,037
ISCED3ab	0,354	0,243	0,091	0,063	0,053	0,049	0,031	0,003	-0,087	-0,026
ISCED3c	0,374	0,265	0,110	0,080	0,068	0,063	0,045	0,020	-0,064	-0,010
ISCED4		0,257	0,097	0,069	0,058	0,052	0,037	0,016	-0,060	-0,012
ISCED5a		0,241	0,083	0,056	0,047	0,042	0,029	0,011	-0,061	-0,018
ISCED5b		0,230	0,075	0,050	0,041	0,036	0,024	0,007	-0,062	-0,024
ISCED6			0,048	0,029	0,022	0,019	0,010	-0,004	-0,070	-0,051

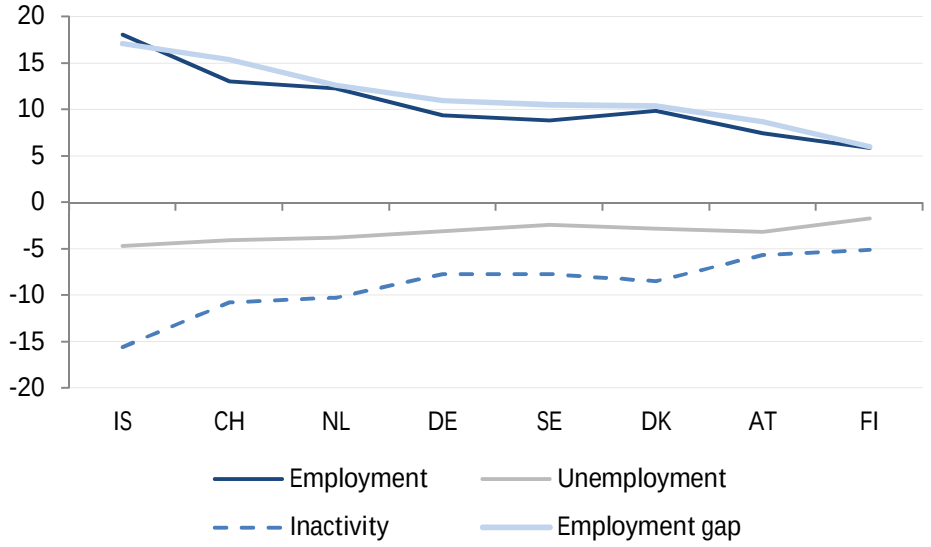
- Austria versus France:
  - the individual employment probability in France is lower than in Austria
  - From view of France: critical group
  - From view of Austria: core group

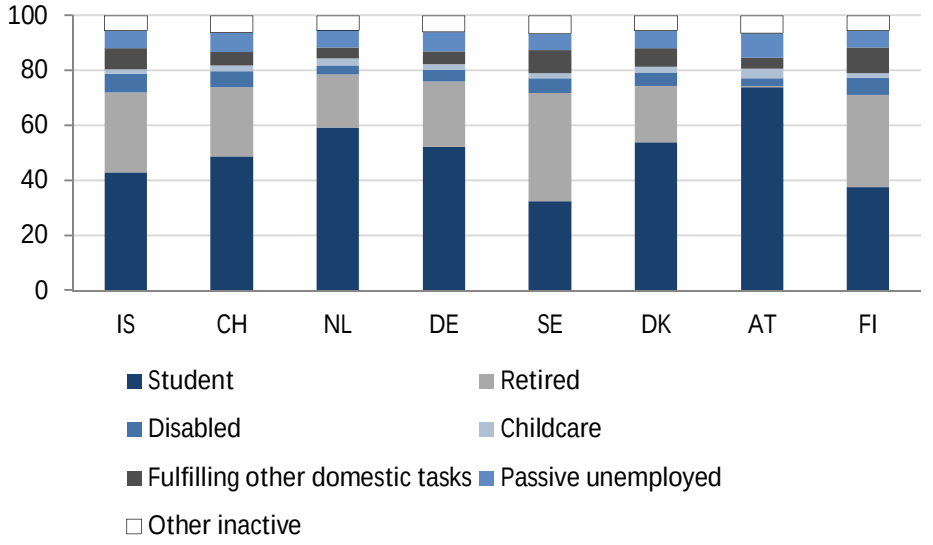
The cause of gap

- Critical group:
  - persons in France that have lower individual employment probabilities than in Austria
- The non-employed members of critical group in France will be employed in a better employment situation of Austria by a probability:
  - $\left(P_i^{AT} - P_i^{FR}\right)/\left(1 - P_i^{FR}\right)$.
- What changes would happen in France if the individual employment probabilities of non-employed persons belonging to the critical group were so high as in Austria?

The gaps of France

- Economically inactive population:
  - Students,
  - Pensioners.



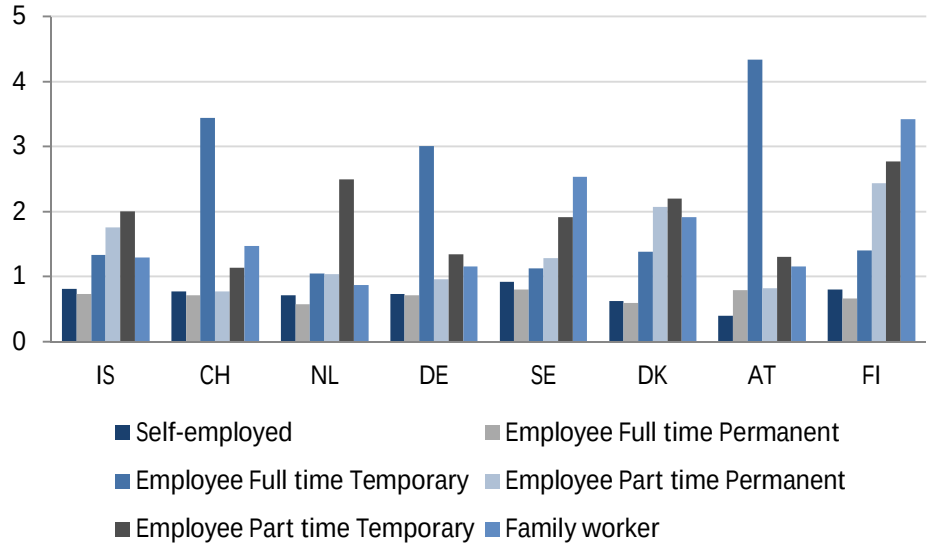


The cause of higher employment

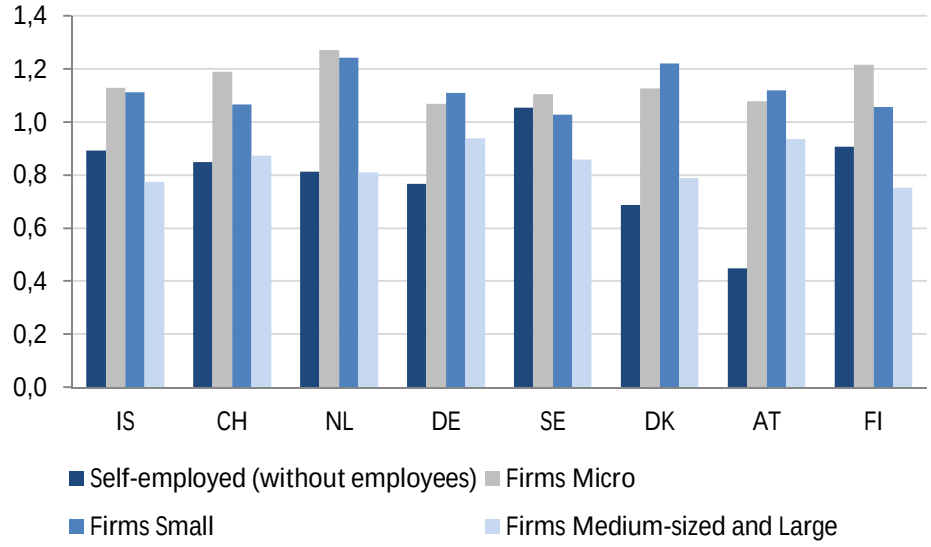
- Core group:
  - persons in Austria that have higher individual employment probabilities than in France
- The probability that an employed member of core group in Austria will be non-employed if the worse situation of France applies is:
  - $\left(P_i^{AT} - P_i^{FR}\right)/P_i^{AT}$.
- Which jobs would disappear in Austria?
  - Professional status
  - Firm size
  - Sector
- Measures:
  - Percentual composition,
  - Relative measure:
    - Comparison of rates of disappeared jobs, if the ratio is above 1 then the category is important.

The cause of higher employment

- Professional status:
  - Atypical forms of employment.
  - German-speaking countries:
    - Temporary contracts.
  - In the Netherlands and Scandinavian countries:
    - Part-time jobs.

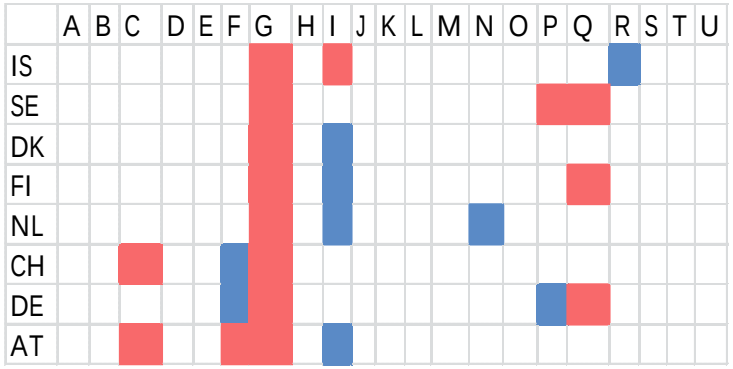


- Firm size:
  - Micro and small firms.



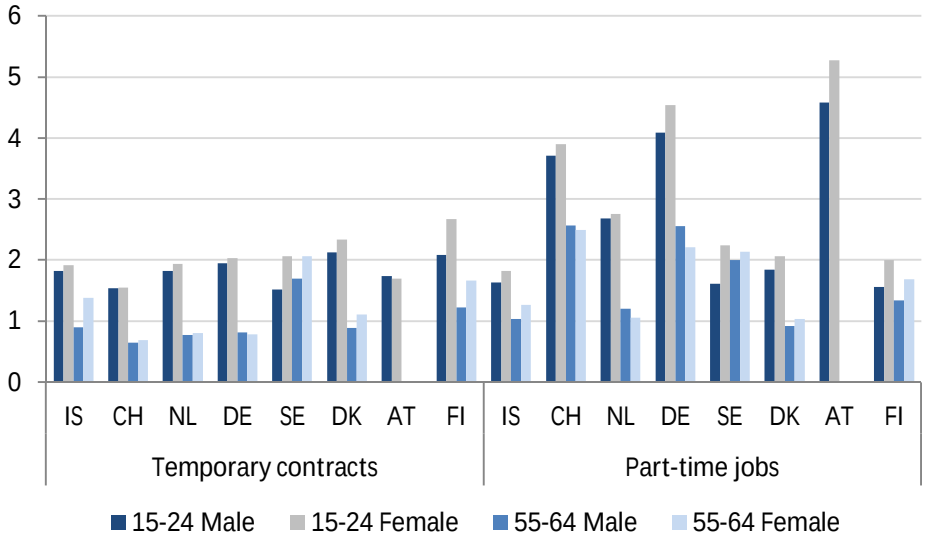
The cause of higher employment

- Industries:
  - The most important employer of the core group is:
    - Wholesale and retail trade; repair of motor vehicles and motorcycles (G).
  - In Scandinavian countries and in the Netherlands:
    - Accommodation and food service activities (I).
  - German-speaking countries:
    - Manufacturing (C) and Construction (F).



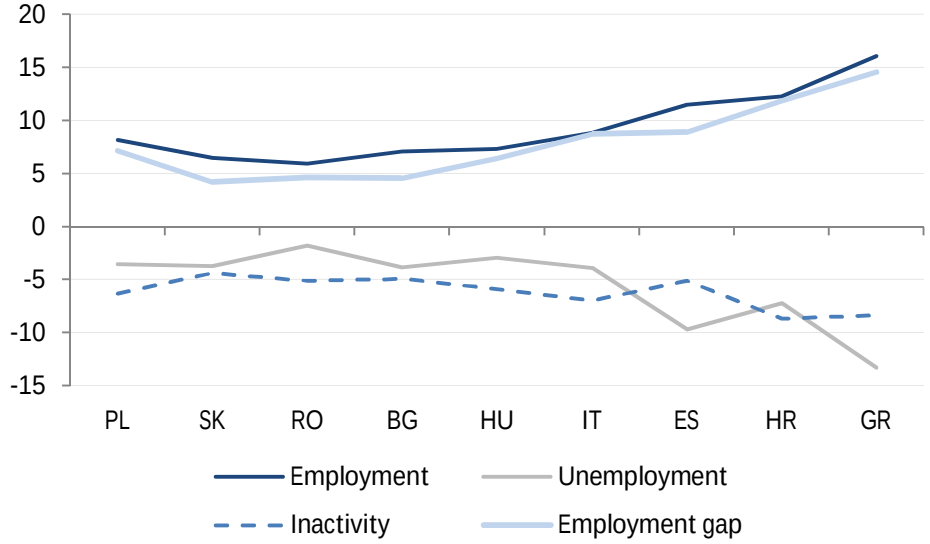
The cause of higher employment

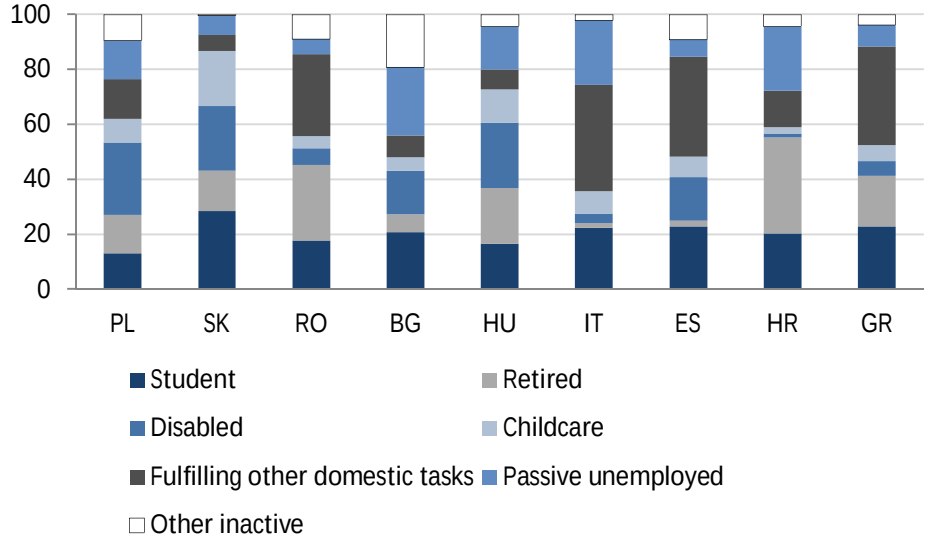
- Age group 15-24:
  - Part-time jobs,
  - Temporary contracts.
- Age group 55-64:
  - Part-time jobs.
  - Temporary contracts:
    - Scandinavian-countries females.



The gaps of new EU member states and Southern European EU15 countries

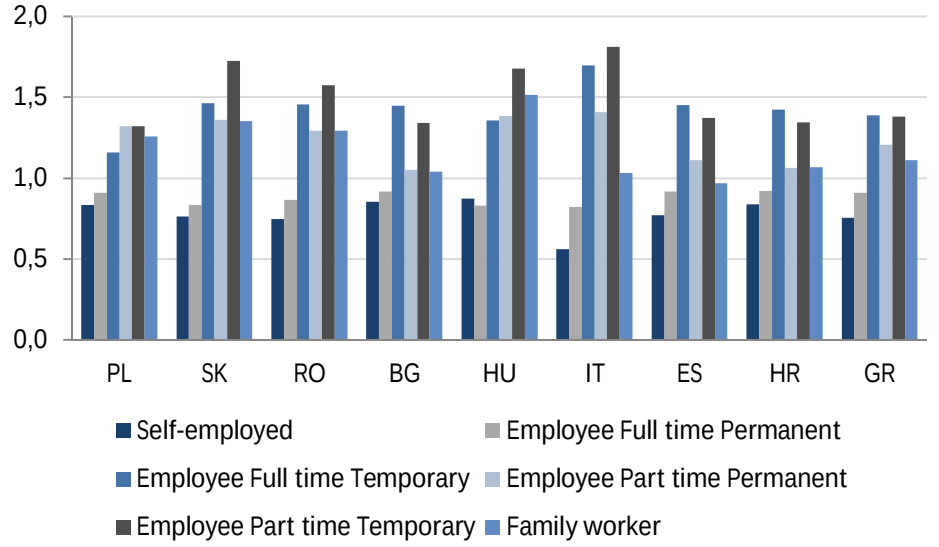
- Higher importance of unemployed:
  - ES and GR.
- Economically inactive population:
  - Southern European EU15:
    - Students,
    - Persons fullilling other domestic tasks (RO too).
  - V4 countries:
    - Disabled,
    - Pensioners (RO and HR too).

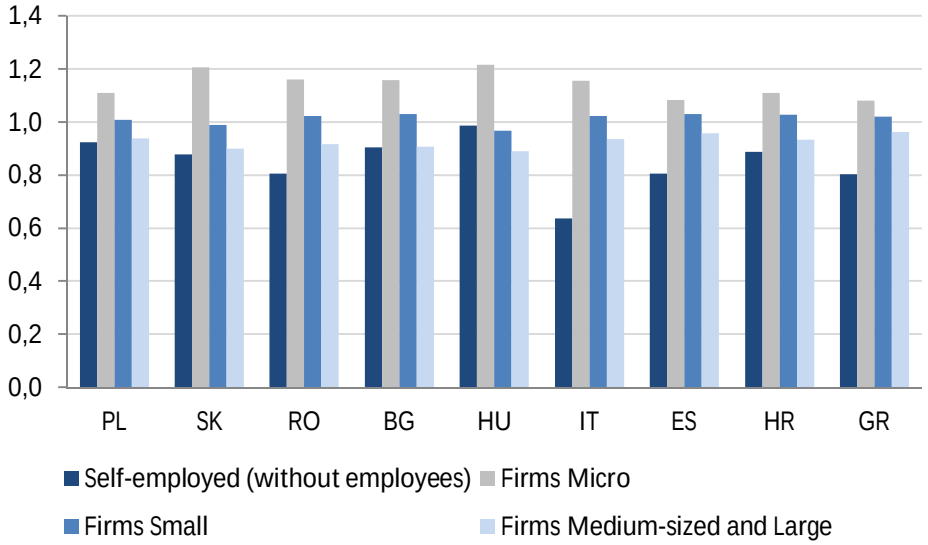




Why is employment in France higher?

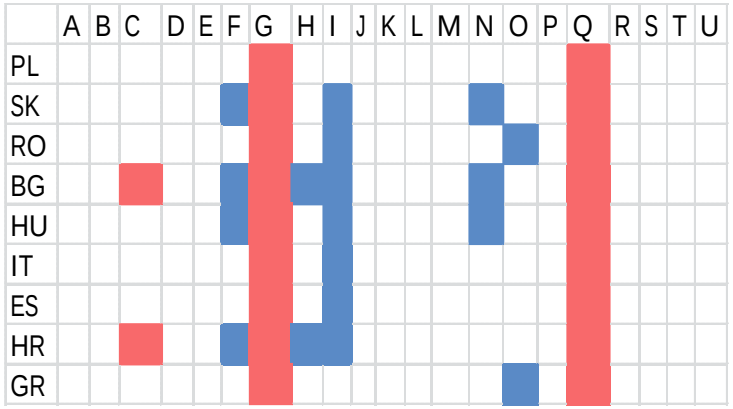
- Professional status:
  - Atypical forms of employment.
    - Temporary contracts.
    - Part-time jobs.
- Firm size:
  - Micro firms.





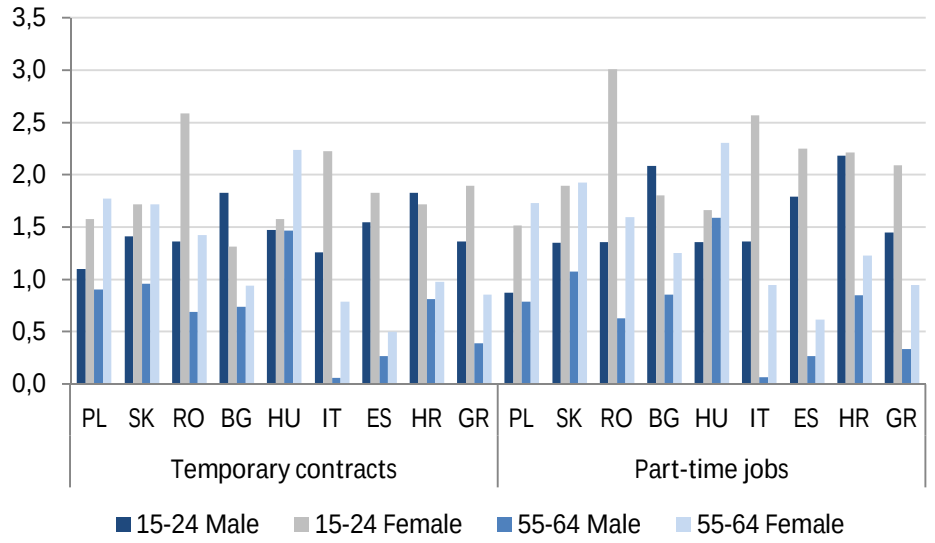
Why is employment in France higher?

- Industries:
  - The most important employer of the core group is:
    - Human health and social work activities (Q)
    - Wholesale and retail trade; repair of motor vehicles and motorcycles (G).
    - Accommodation and food service activities (I).



Why is employment in France higher?

- Age group 15-24:
  - Temporary contratcs,
  - Part-time jobs.
- Females aged 55-64:
  - Temporary contratcs,
  - Part-time jobs.



Conclusion

- Employment differences are general.
- Important age groups:
  - 15-24,
  - 55-64.
- Types of employment:
  - Atypical forms.

Thank you
for
your attention.