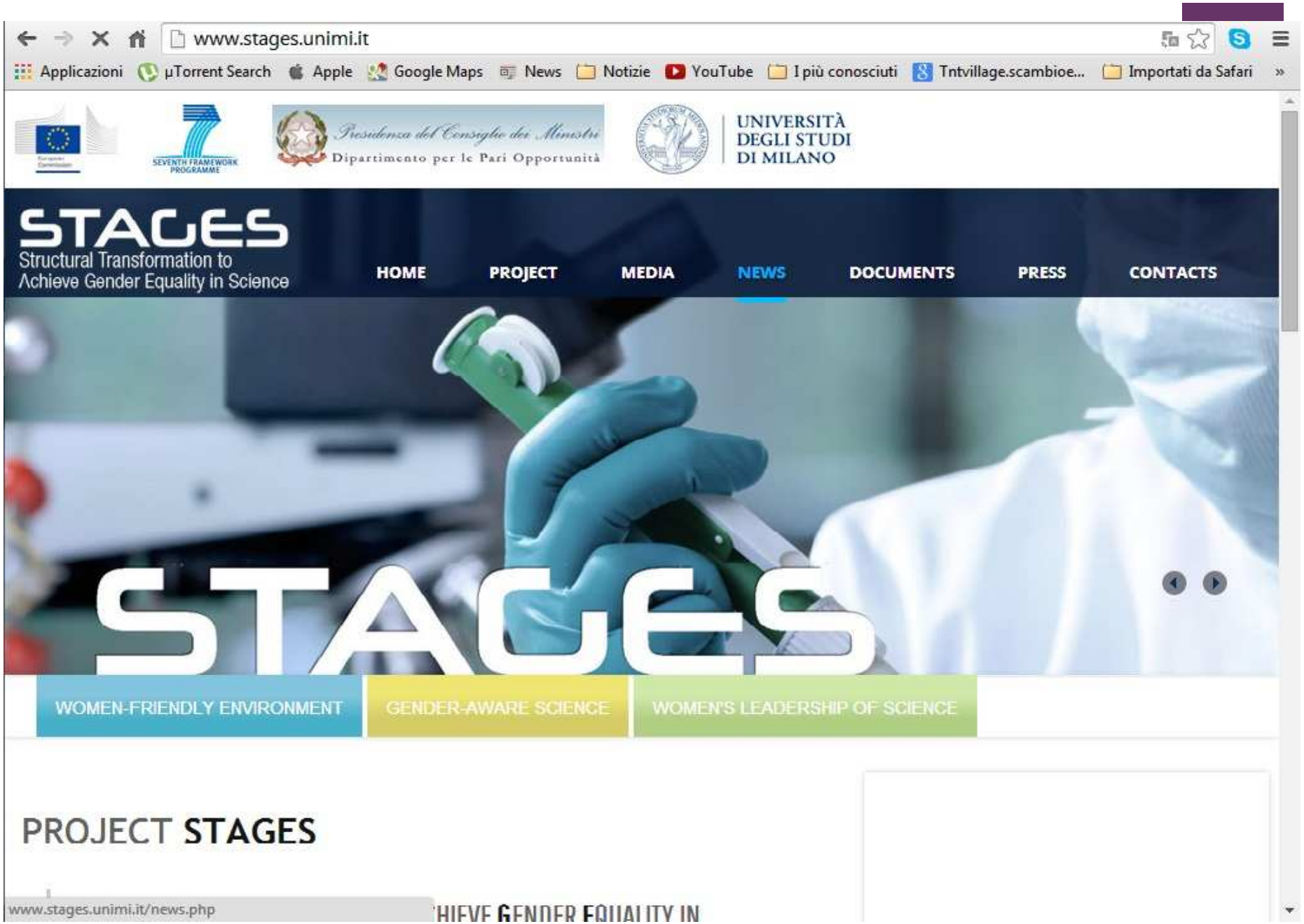
#GenereDigitale

STEM: le carriere del futuro

Elena Del Giorgio

18 maggio 2016 – Città Metropolitana di Milano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Importati da Safari
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Structural Transformation to Achieve Gender Equality in Science
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WOMEN'S LEADERSHIP OF SCIENCE
PROJECT STAGES
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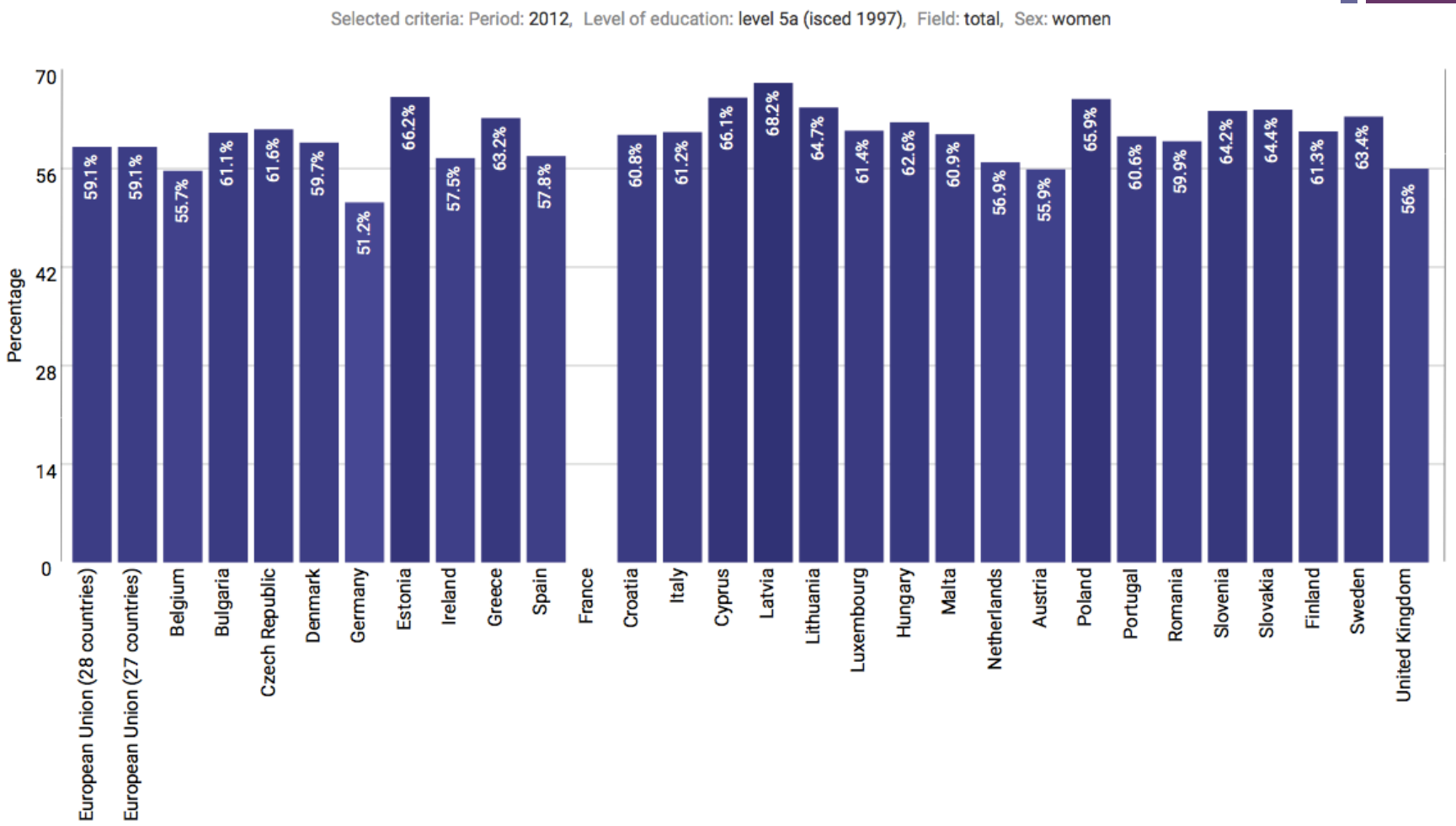
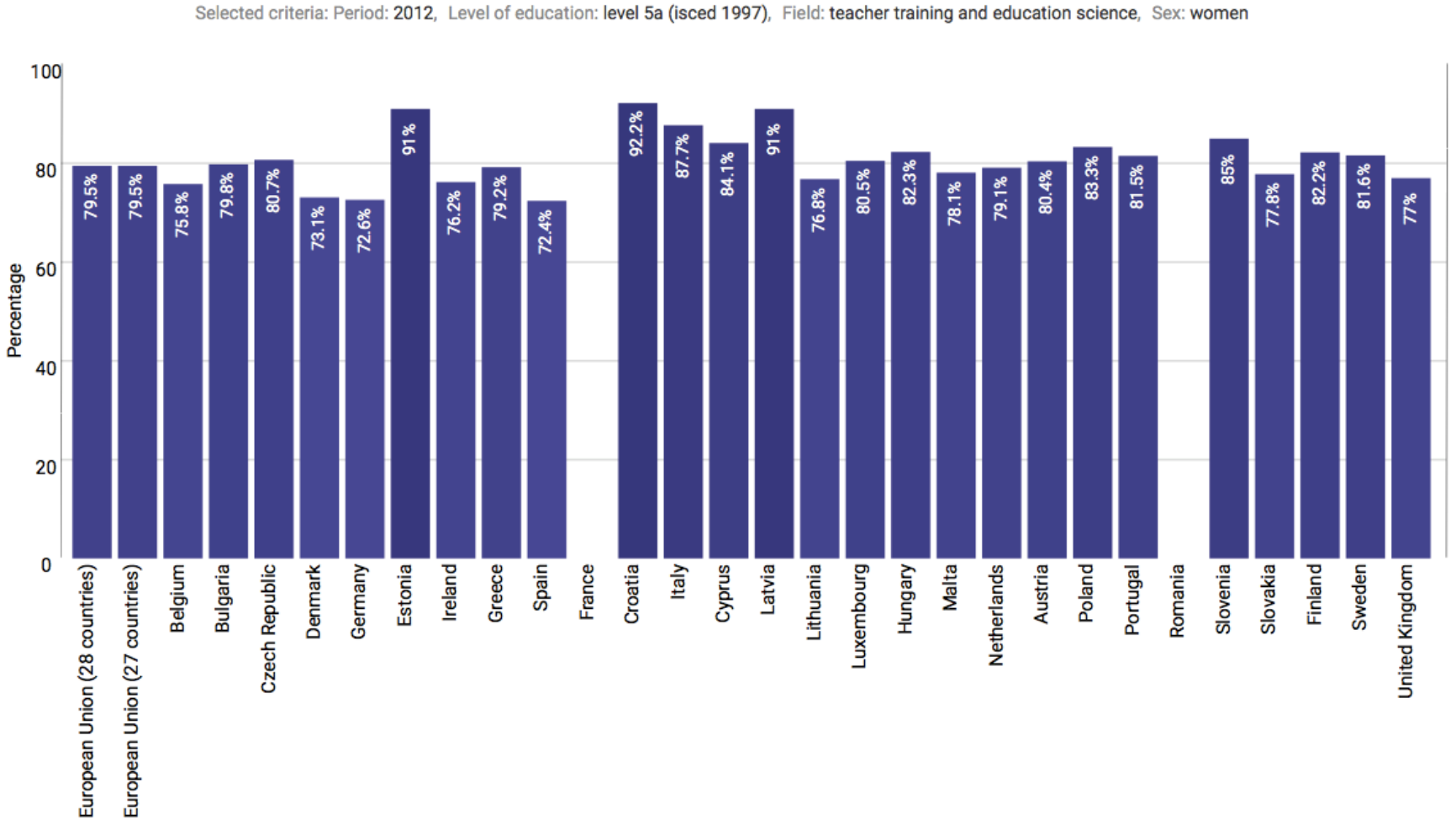
La segregazione orizzontale nel percorso di studi

Dati laureate Europa

Data source: Eurostat, Education statistics (educ_grad5) – Elaborated by EIGE – European Institute for Gender Equality




Selected criteria: Period: 2012, Level of education: level 5a (isced 1997), Field: teacher training and education science, Sex: women
Percentage
100
80
60
40
20
0
79.5%
79.5%
75.8%
79.8%
80.7%
73.1%
72.6%
91%
76.2%
79.2%
72.4%
92.2%
87.7%
84.1%
91%
76.8%
80.5%
82.3%
78.1%
79.1%
80.4%
83.3%
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85%
77.8%
82.2%
81.6%
77%
European Union (28 countries)
European Union (27 countries)
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Czech Republic
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Estonia
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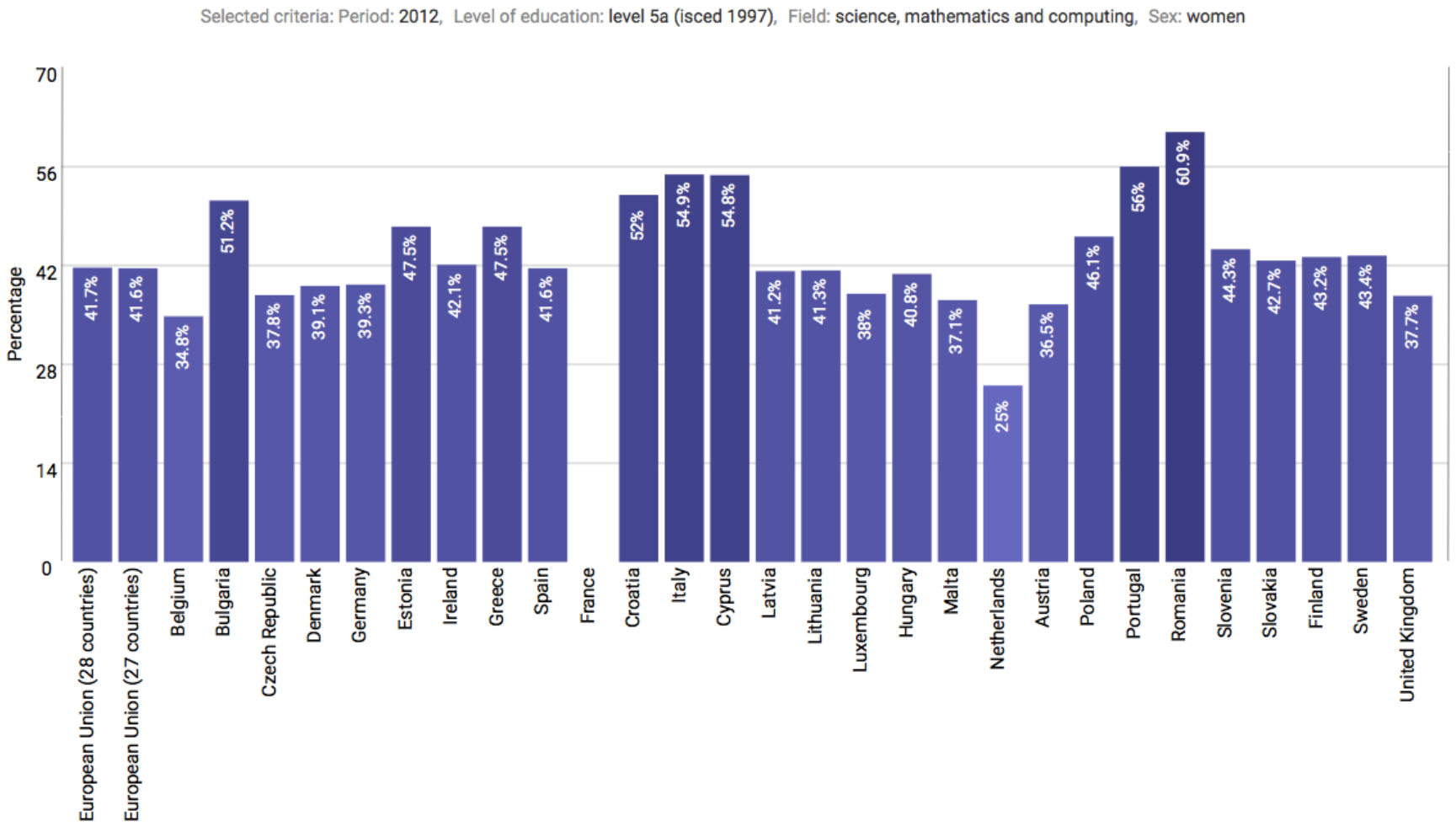
Selected criteria: Period: 2012, Level of education: level 5a (isced 1997), Field: science, mathematics and computing, Sex: women
Percentage
70
56
42
28
14
0
41.7%
41.6%
34.8%
51.2%
37.8%
39.1%
39.3%
47.5%
42.1%
47.5%
41.6%
52%
54.9%
54.8%
41.2%
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38%
40.8%
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43.2%
43.4%
37.7%
European Union (28 countries)
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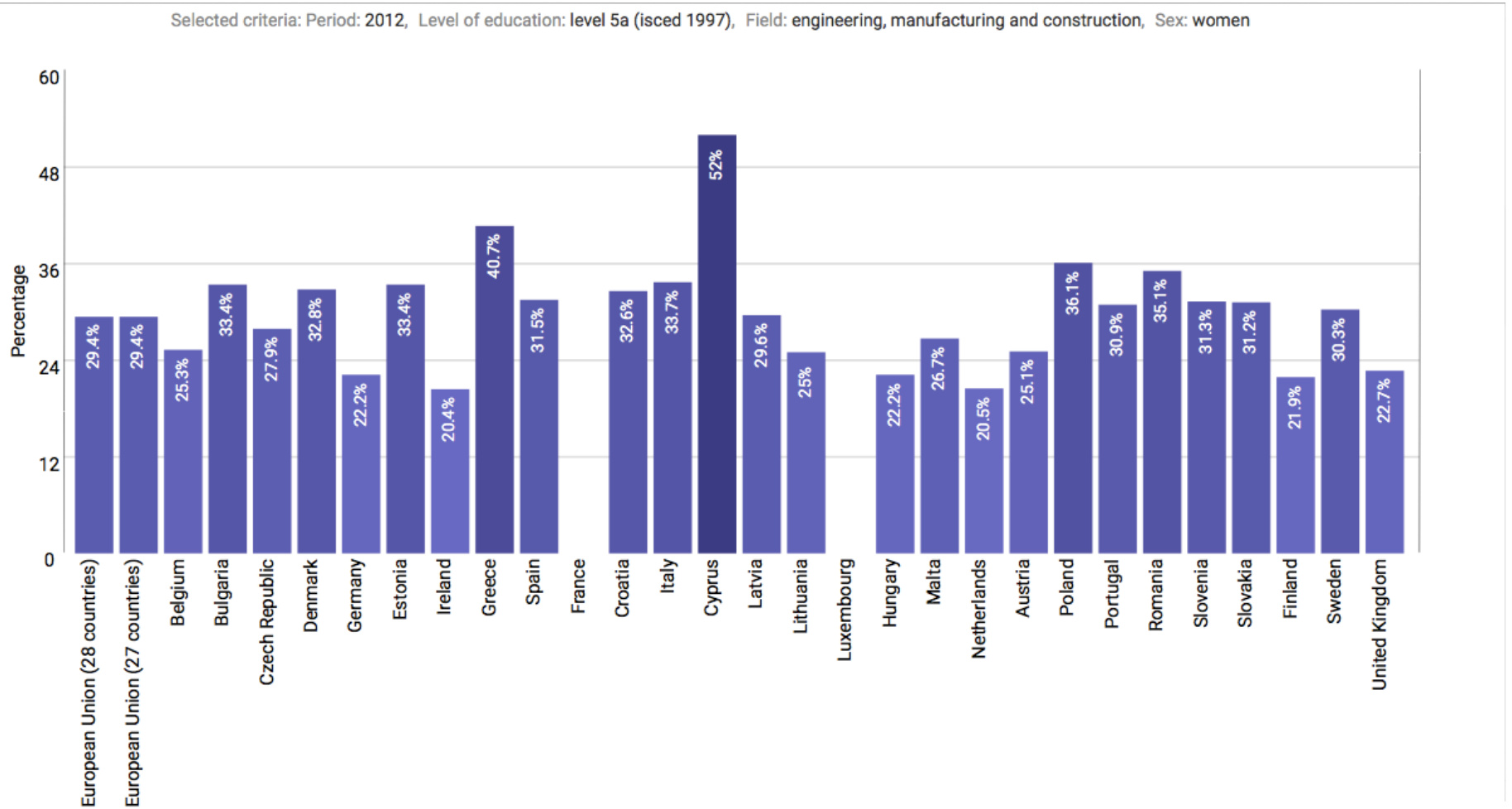
Selected criteria: Period: 2012, Level of education: level 5a (isced 1997), Field: engineering, manufacturing and construction, Sex: women
Percentage
60
48
36
24
12
0
29.4%
29.4%
25.3%
33.4%
27.9%
32.8%
22.2%
33.4%
20.4%
40.7%
31.5%
32.6%
33.7%
52%
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25%
22.2%
26.7%
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36.1%
30.9%
35.1%
31.3%
31.2%
21.9%
30.3%
22.7%
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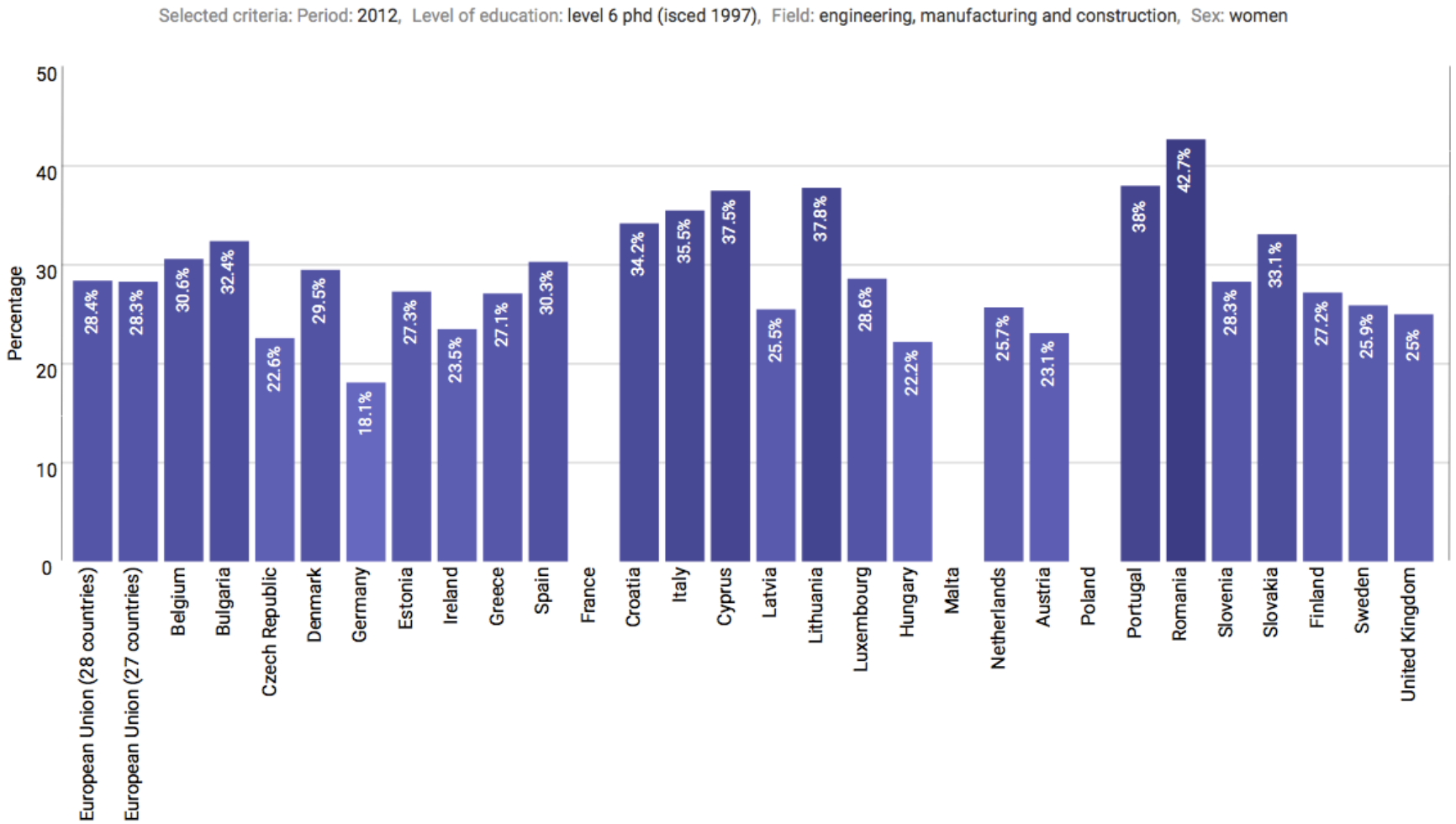
Selected criteria: Period: 2012, Level of education: level 6 phd (isced 1997), Field: engineering, manufacturing and construction, Sex: women
Percentage
50
40
30
20
10
0
28.4%
28.3%
30.6%
32.4%
22.6%
29.5%
18.1%
27.3%
23.5%
27.1%
30.3%
34.2%
35.5%
37.5%
25.5%
37.8%
28.6%
22.2%
25.7%
23.1%
38%
42.7%
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27.2%
25.9%
25%
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Estonia
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Slovakia
Finland
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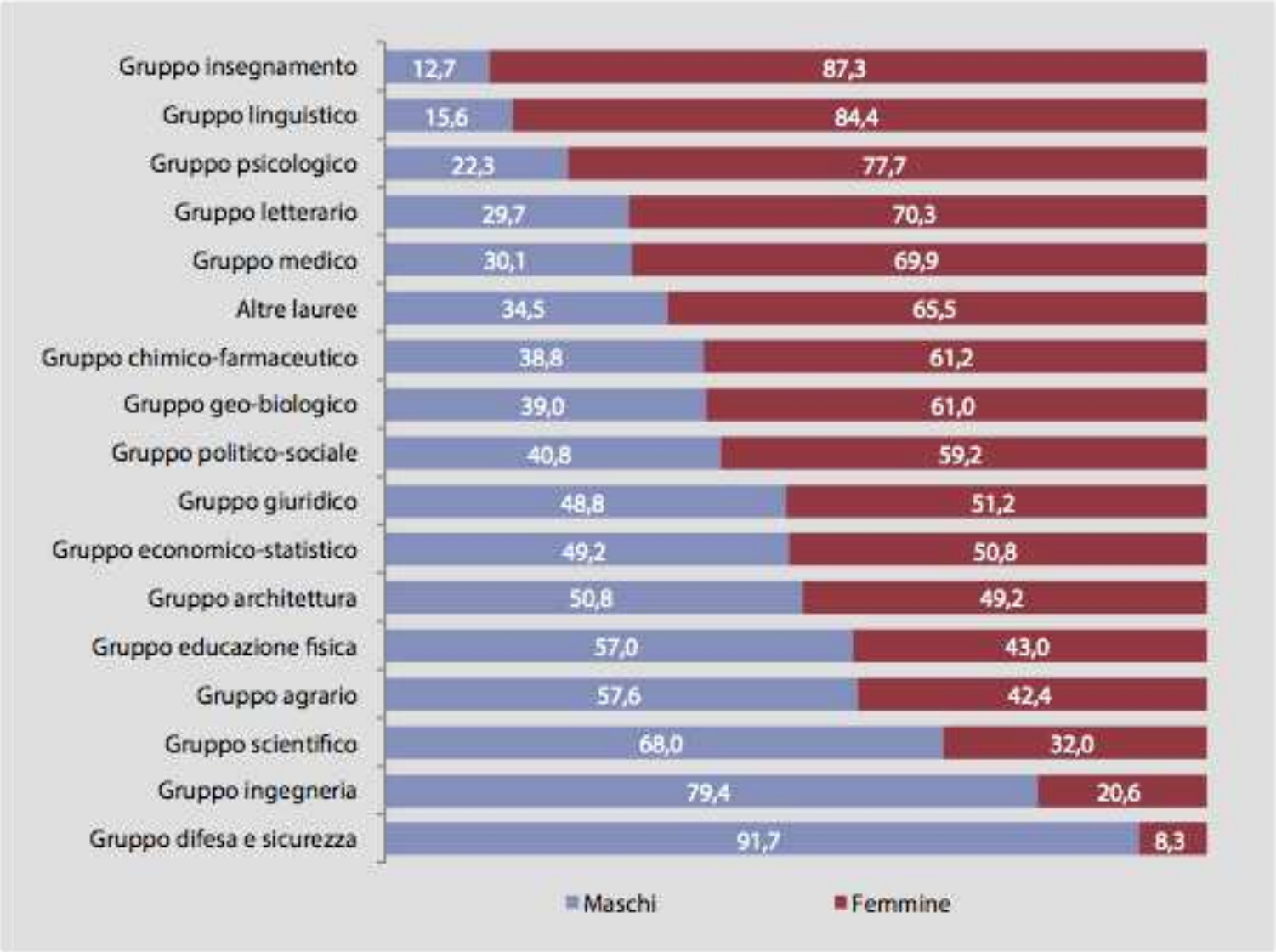
United Kingdom

Figura 7.8 **Popolazione residente che ha conseguito la laurea triennale (I livello) del nuovo ordinamento per gruppo di corsi accademici e sesso**
Censimento 2011, composizioni percentuali

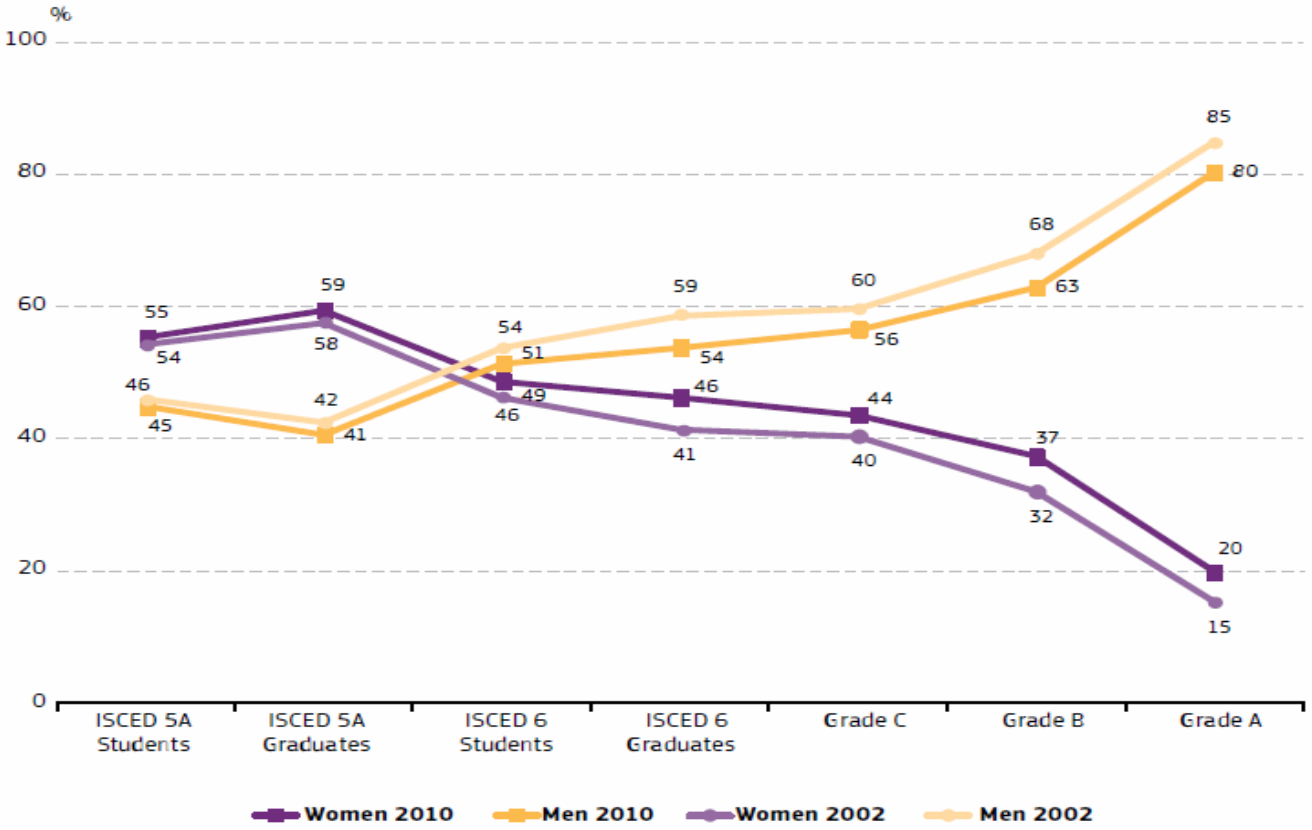


Fonte: Istat, 15° Censimento generale della popolazione e delle abitazioni al 9 ottobre 2011 (R)

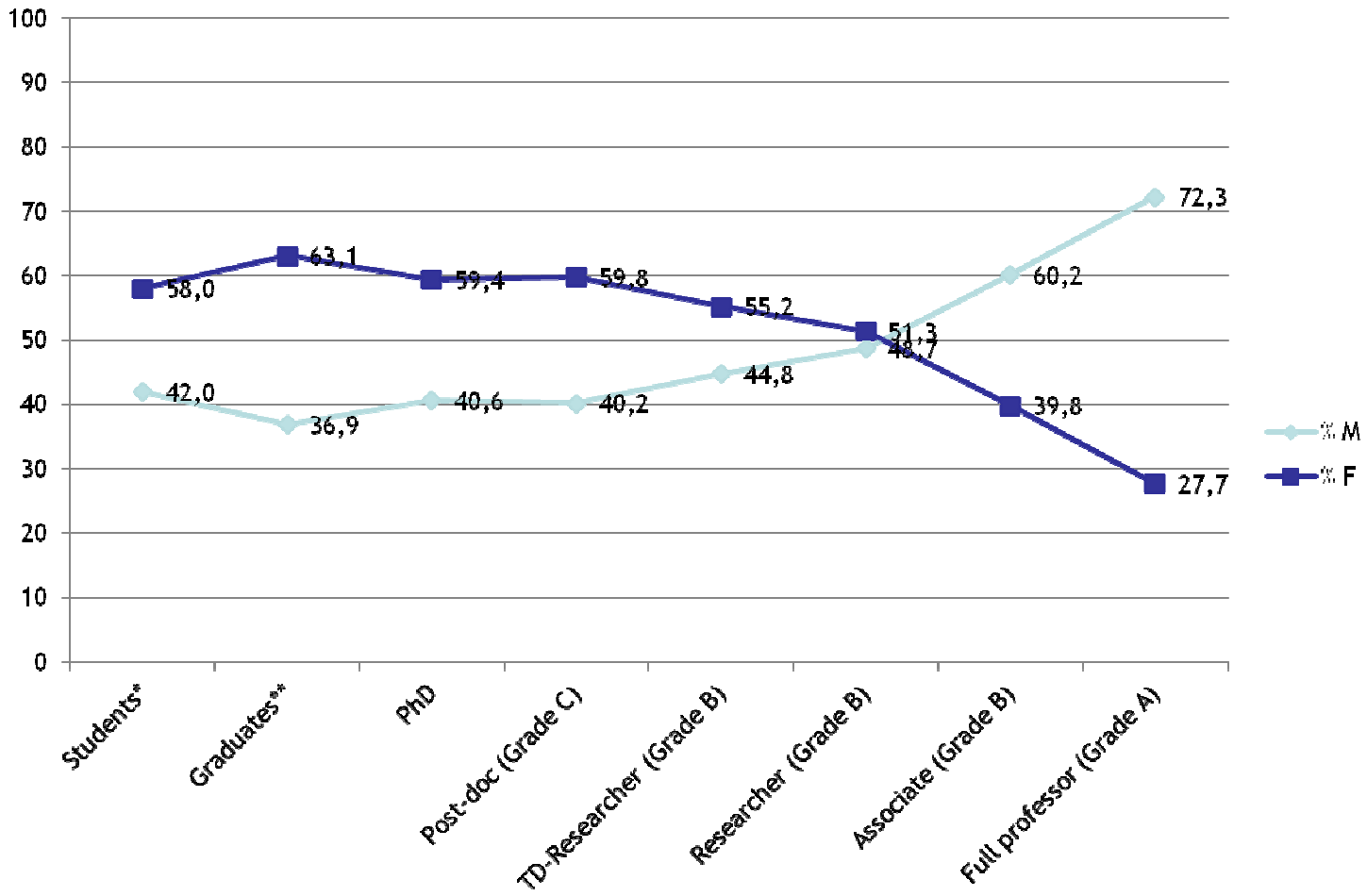
La segregazione verticale nei percorsi di carriera

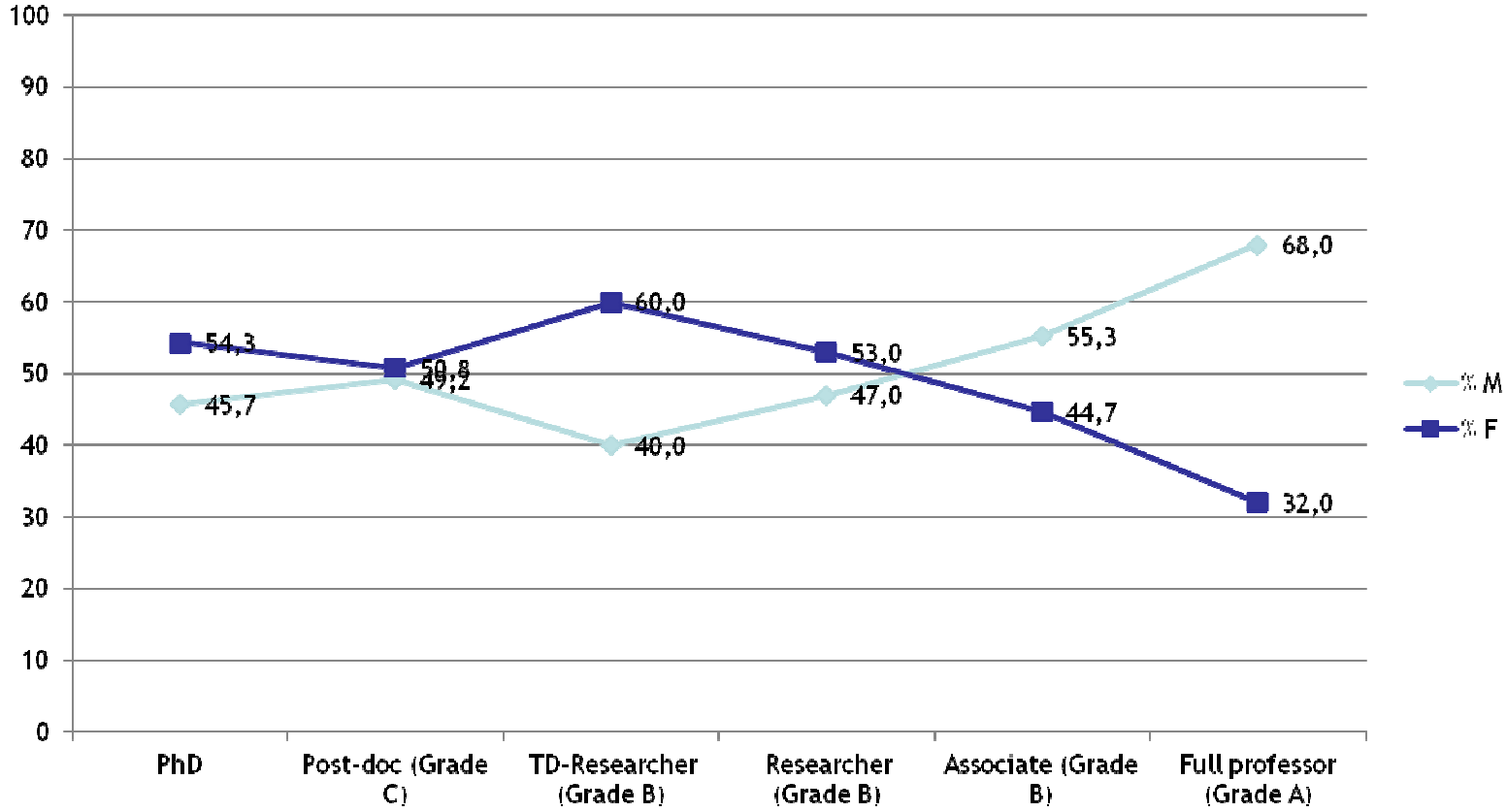
She Figures 2012: 90

Figure 3.1: Proportions of men and women in a typical academic career, students and academic staff, EU-27, 2002–2010

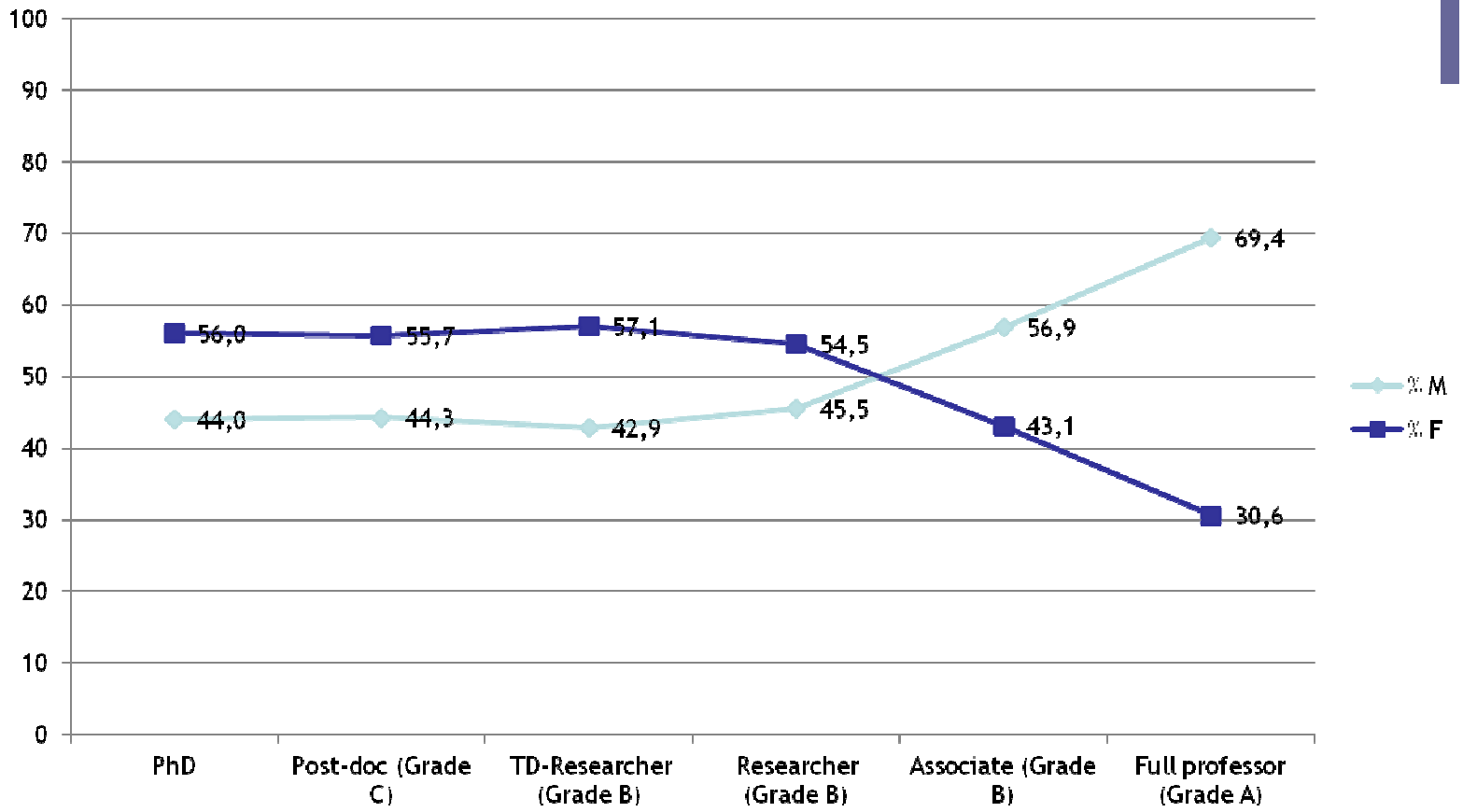


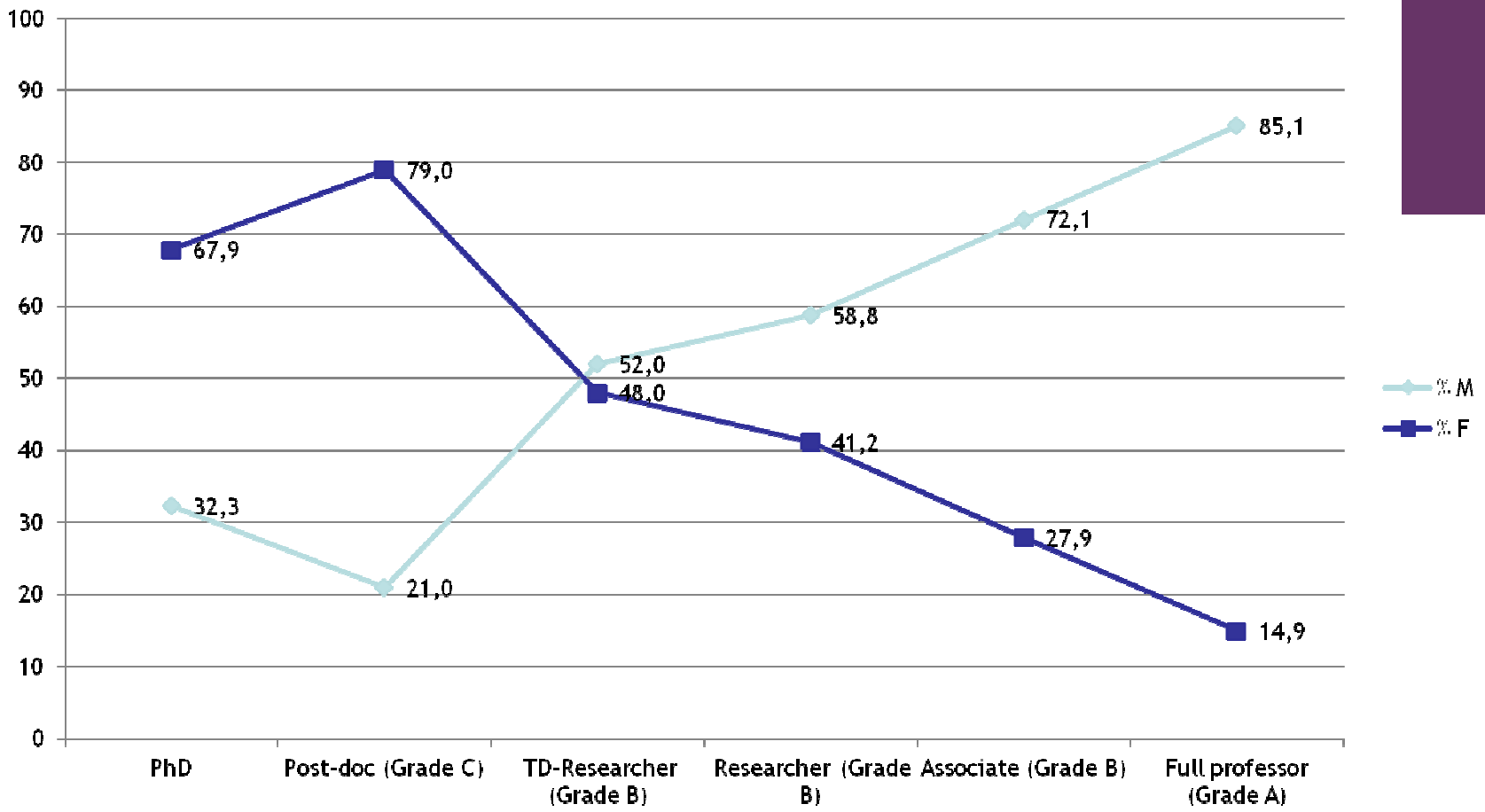
Scissor diagram – University of Milan 2013




100
90
80
70
60
50
40
30
20
10
0
54,3
50,8
49,2
60,0
53,0
44,7
32,0
45,7
49,2
40,0
47,0
55,3
68,0
PhD
Post-doc (Grade C)
TD-Researcher (Grade B)
Researcher (Grade B)
Associate (Grade B)
Full professor (Grade A)
% M
% F

STEM – Science, Technology, Engineering and Mathematics (University of Milan, 2013)

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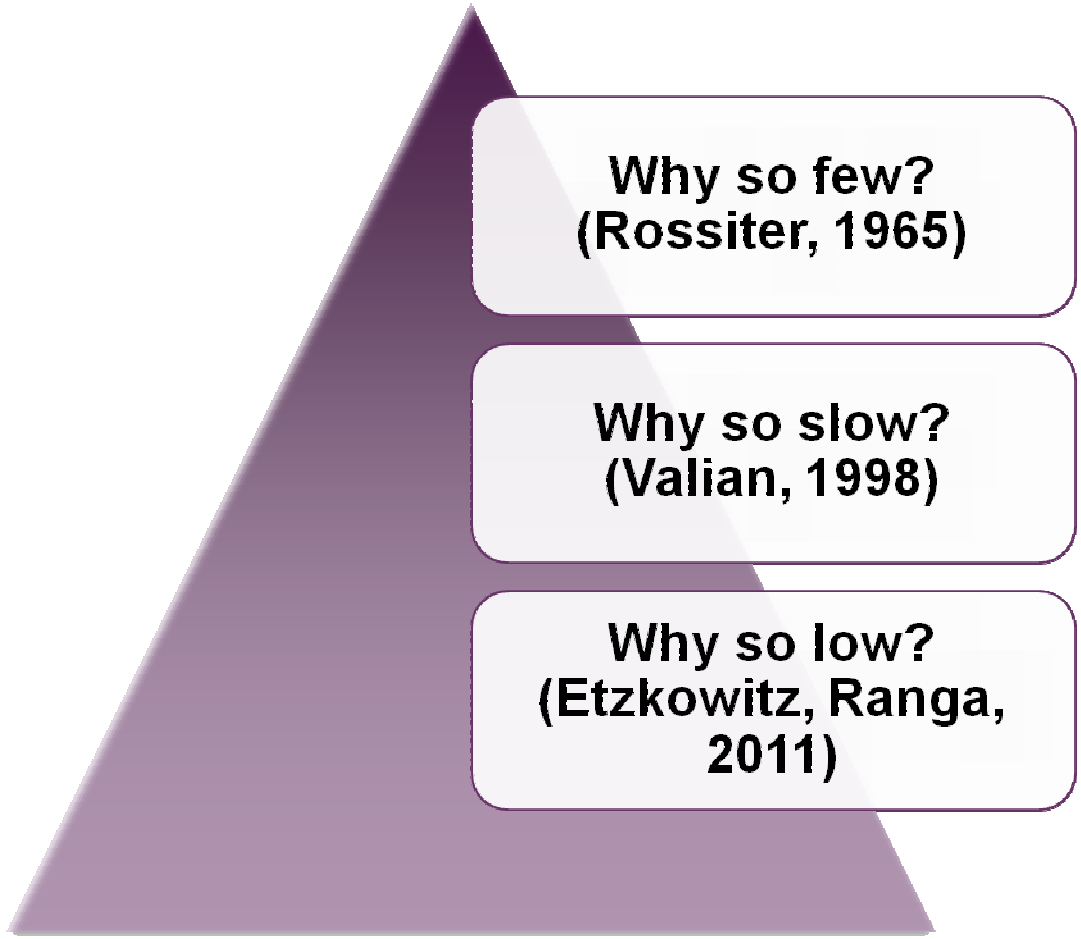
10
0
67,9
79,0
32,3
21,0
52,0
48,0
58,8
41,2
72,1
27,9
85,1
14,9
PhD
Post-doc (Grade C)
TD-Researcher (Grade B)
Researcher (Grade B)
Associate (Grade B)
Full professor (Grade A)
% M
% F

Women in STEM
(Science, Technology, Engineering and Mathematics)



GLI STEREOTIPI DI GENERE (E ALTRI TIPI DI STEREOTIPI….)

- Stereotipo:

- un’opinione, credenza, ampiamente considerata valida, semplificata e essenzialista rispetto a uno specifico gruppo.

- Spesso stereotipi sono così forti da sopravvivere anche di fronte ad evidenze contrarie.

- https://implicit.harvard.edu/implicit/italy/

La minaccia dello stereotipo (Stereotype Threat)

- Esempi:

- Quando giovani donne devono fare un test di matematica e gli viene chiesto di indicare prima M o F tendono andare peggio di quando non c'è bisogno di indicare il sesso. (Steele, 1997)

- Quando a studenti di ingegneria bianchi viene detto che anche studenti asiatici faranno uno stesso test vanno peggio (Page, 2007)

Letters of Recommendation for Successful Medical School Faculty Applicants

Letters for men:

- Longer
- More references to:

CV

Publications

Patients

Colleagues

Letters for women :

- Shorter
- More references to personal life
- More "doubt raisers" (hedges, faint praise, and irrelevancies)

"It's amazing how much she's accomplished."

"*It appears her health is stable*."

"*She is close to my wife*."

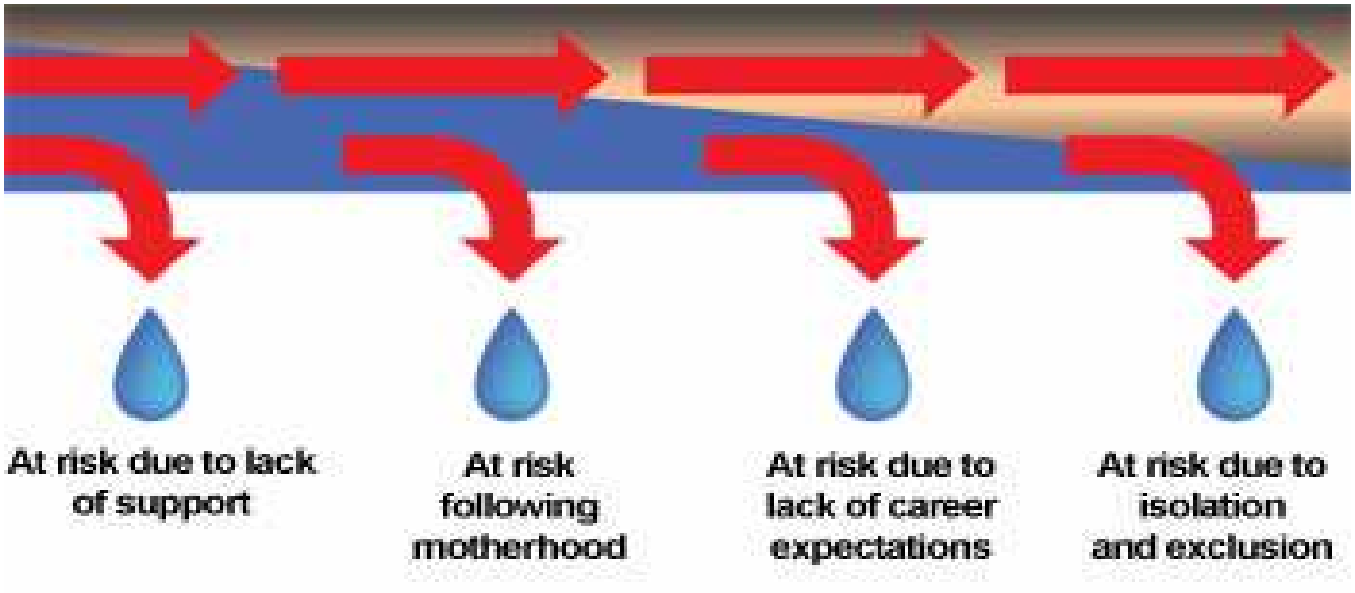
Slide courtesy of Alice Hogan

Women considered better coders – but only if they hide their gender

Researchers find software repository GitHub approved code written by women at a higher rate than code written by men, but only if the gender was not disclosed

A 2013 survey found only 11.2% of software developers are women. Photograph: Antonio Zazueta Olmos/Antonio Olmos

The leaky pipeline
(Berryman, 1983; Alper, 1993; Svinth, 2006)



The gender pay gap

The gender pay gap par year is 17 thousands euro (vs 1397 from the “transparency” dataset)

Progettare la trasformazione

Understanding problems and dynamics

She Figures 2012

http://ec.europa.eu/research/science-society/document_library/pdf_06/she-figures-2012_en.pdf

Structural Change in Research Institutions

http://ec.europa.eu/research/science-society/document_library/pdf_06/structural-changes-final-report_en.pdf

Gendered Innovations

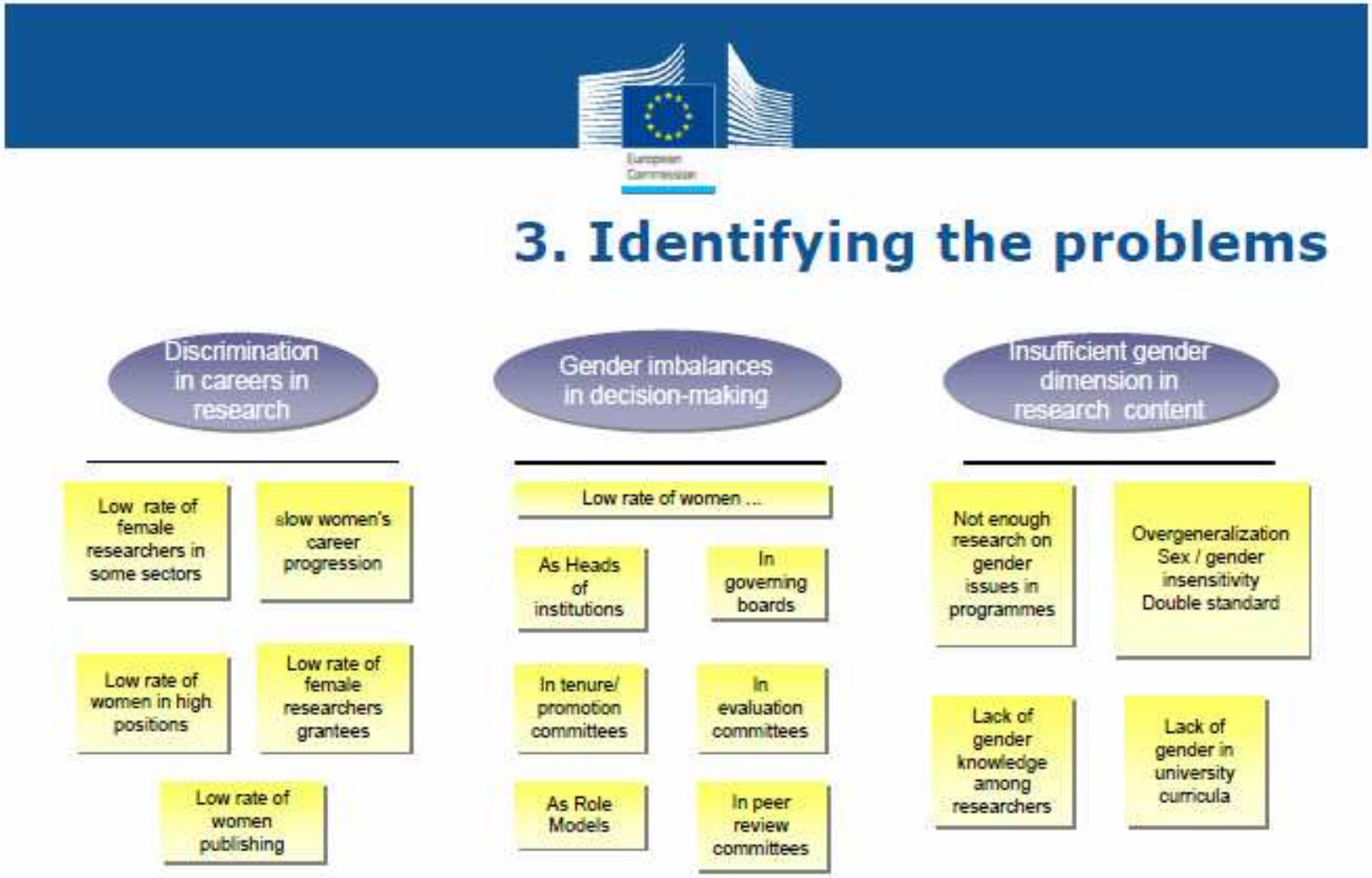
http://ec.europa.eu/research/science-society/document_library/pdf_06/gendered_innovations.pdf

LERU Paper

http://www.leru.org/files/general/LERU%20Paper_Women%20universities%20and%20research.pdf

Curt Rice book

http://curt-rice.com/wp-content/uploads/2012/11/6-Steps-to-Gender-Equality1.pdf



Slide courtesy of Viviane Willis-Mazzichi – Gender Sector – DG Research and Innovation

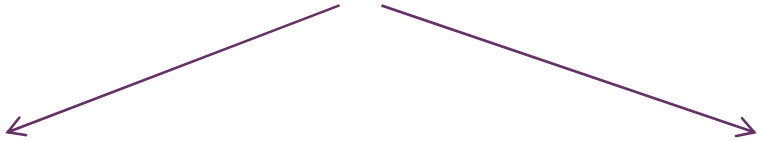
Engaging in structural change

First calls for projects on structural change already in FP7

For instance:

But in Horizon 2020 structural change ‘mainstreamed’

Engaging in structural change



- Removing cultural, legislative, organisational barriers to gender equality in careers and decision-making + positive actions
- «Gendering» research contents

4. Gender in H2020

The legislative framework

- Framework Programme:
  - Article 16 : gender equality and gender dimension at all stages of research cycle
  - Gender as a ***cross-cutting*** issue across H2020 priorities - Art. 14
  - Gender in ***monitoring and evaluation*** Art. 31 & 32
- Rules for Participation:
  - Gender dimension addressed at ***proposal level*** – Art 13
  - Gender equality in ***Model Grant Agreement*** – Art 18
  - ***Gender balance*** among experts – Art. 40

Research and Innovation

Slide courtesy of Viviane Willis-Mazzichi – Gender Sector – DG Research and Innovation

4. Gender Balance in decision-making

- *Advisory groups*

  50 % men / women

  at least one expert with gender expertise

  Ad hoc advisory group with gender experts

- *Evaluation panels and expert groups*

  40 % under-represented sex

  Taking into account the situation in the field of the action

Slide courtesy of Viviane Willis-Mazzichi – Gender Sector – DG Research and Innovation

4. Gender balance in Research teams

H2020 compared with FP7

Link with evaluation : Ranking factor in case of equal score

Stronger commitment in the Grant Agreement

Earlier reporting of the workforce

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4- Gender dimension in R&I content

H2020 compared with FP7

Gender explicitly introduced as a component of research concept

Earlier and better mobilisation of gender knowledge and expertise, including among evaluators

Slide courtesy of Viviane Willis-Mazzichi – Gender Sector – DG Research and Innovation