



Funded by the
European Union



SAPIENZA
UNIVERSITÀ DI ROMA

DEPARTMENT
OF STATISTICAL SCIENCES

“Gender Inequalities in the Labour Market: the EU policies”



Giulia Zacchia

Minerva - Laboratory

www.dss.uniroma1.it





Minerva Lab

Laboratory on Diversity and Gender Inequality

*it is part of the Dip. of Statistics of Sapienza University of Rome
it contributes to scientific research on gender equality and equity using
both qualitative and quantitative methods, and to develop
collaborations between scholars. The laboratory carries out
multidisciplinary research activities promoting the contamination
between different research fields, from economics, law, history,
sociology, demography and statistics.*



Facebook - @MinervaLABORAT



Twitter - @LabSapienza

<https://web.uniroma1.it/labminerva/>



Minerva Lab seminar



MINERVA LAB - UNIVERSITÀ SAPIENZA
[HTTPS://WEB.UNIROMA1.IT/LABMINERVA/](https://web.uniroma1.it/labminerva/)



MINERVA LAB WEBINAR

APRIL 20 AT 5 P.M. CET

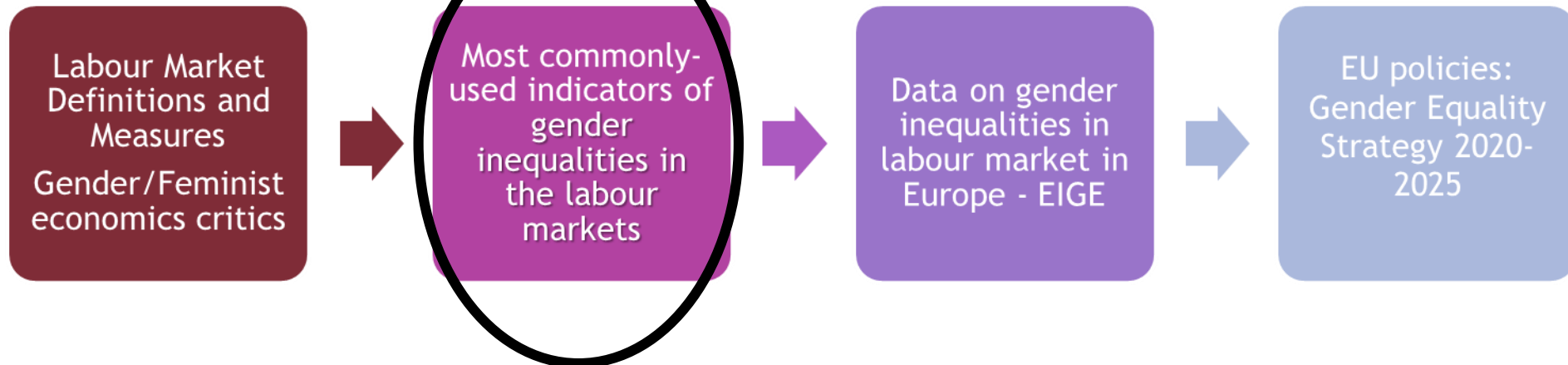
DANIELLE GUIZZO

UNIVERSITY OF BRISTOL

“BARBARA WOOTTON AND THE
CREATION OF THE BRITISH WELFARE
STATE”

To participate write to: marcella.corsi@uniroma1.it

The most commonly-used indicators of gender inequalities in the labour markets



Measures of Gender Inequalities in the Labour Market

The most commonly-used indicators of gender inequalities in the labour market include:

- gender labour force participation and employment gap
- gender unemployment and joblessness gap
- gender wage gap
- industrial / occupational (horizontal) gender segregation
- vertical gender segregation - glass ceiling
- gender gaps in decent work (in quality of employment).

These measures serve as quantitative indicators of gender inequalities in economic outcomes.

Measures of Gender Inequalities in the Labour Market

Gender Labour Force Participation (LFP) and Employment (E) gap

Definition: The difference between male and female LFP and E rates.

Gender LFP gap = Male LFP rate – Female LFP rate

Gender E gap = Male E rate – Female E rate

This indicator is the primary reference point for measurement of gender inequality in the labour market in most developing economies.

Measures of Gender Inequalities in the Labour Market

Gender Unemployment (U) Gap

Definition: The difference between male and female U rates (which is predominantly **negative** due to higher female unemployment and joblessness rates).

Gender U gap = Male U rate – Female U rate

The gender U gap is used as an indicator of the *differences in employment opportunities faced by women versus men.*

The ILO suggests that the **joblessness rate** is a better indicator of the true lack of employment opportunities

Measures of Gender Inequalities in the Labour Market

Gender Wage Gap

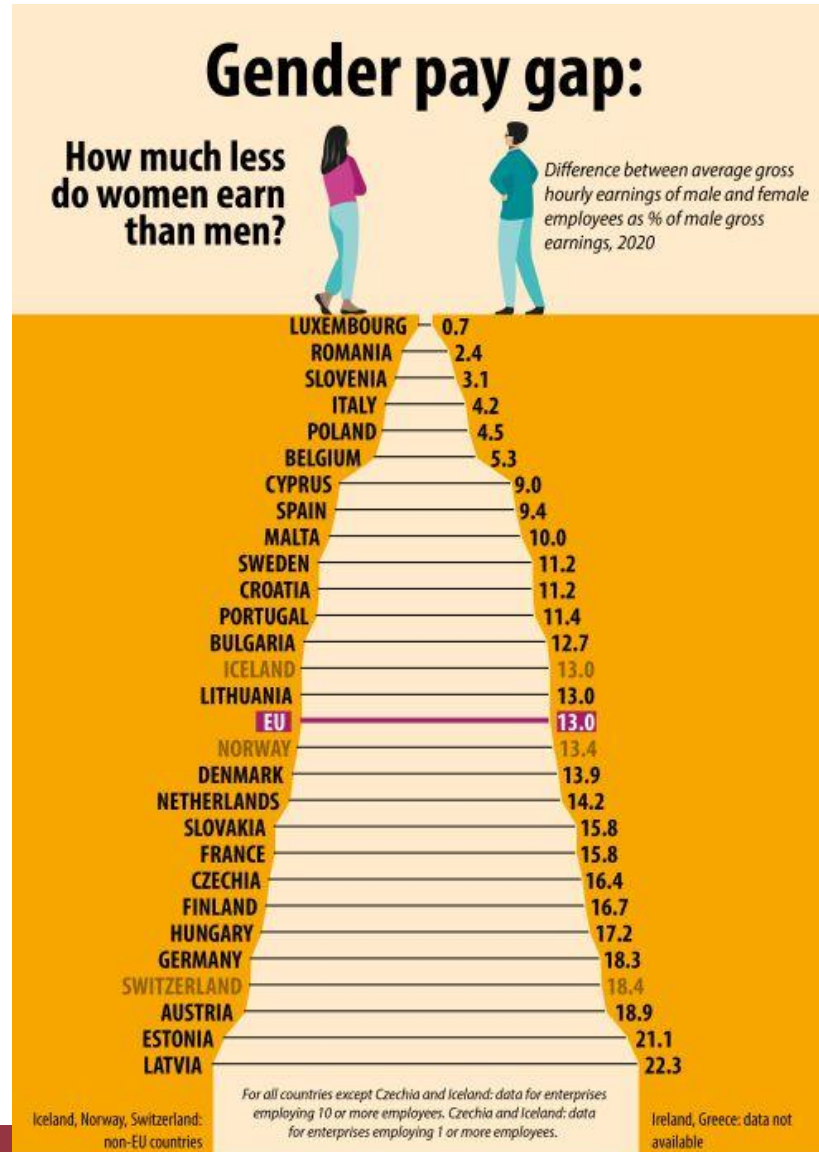
Definition: The difference between median male and female wages as a share of male median wages.

$$\text{Gender Wage Gap (GWG)} = ((W_m - W_f) / (W_m)) \times 100$$

The gender wage differential can also be expressed as the ratio of the average (median) female wage to male average (median) wage (W_f / W_m).

$$1 - \text{GWG} = W_f / W_m$$

Measures of Gender Inequalities in the Labour Market



Measures of Gender Inequalities in the Labour Market

Gender Wage Gap

can be expressed in **unadjusted (raw) form**, which is calculated based on all wage and salary workers.

The **raw gender pay gap** refers simply to the difference in pay between women and men at a specific point in time. For example, if women's pay is 75 per cent of men's, it is said that the gender pay gap is 25 per cent. In this context, the terms "women's pay" and "men's pay" refer to measures summarizing the full range of earnings received by, respectively, all women and all men who are classified as paid employees.



but...there are differences that are due to the differences in measures used
!look always at how indicators are calculated !!

Measures of Gender Inequalities in the Labour Market

Gender Wage Gap - unadjusted (raw) form Mean or Median Wage's values?

The two measures that are almost always used to summarize the information in such a distribution are:

- the mean (the average of all the values covered)
- and the median (the value located in the middle of the distribution)

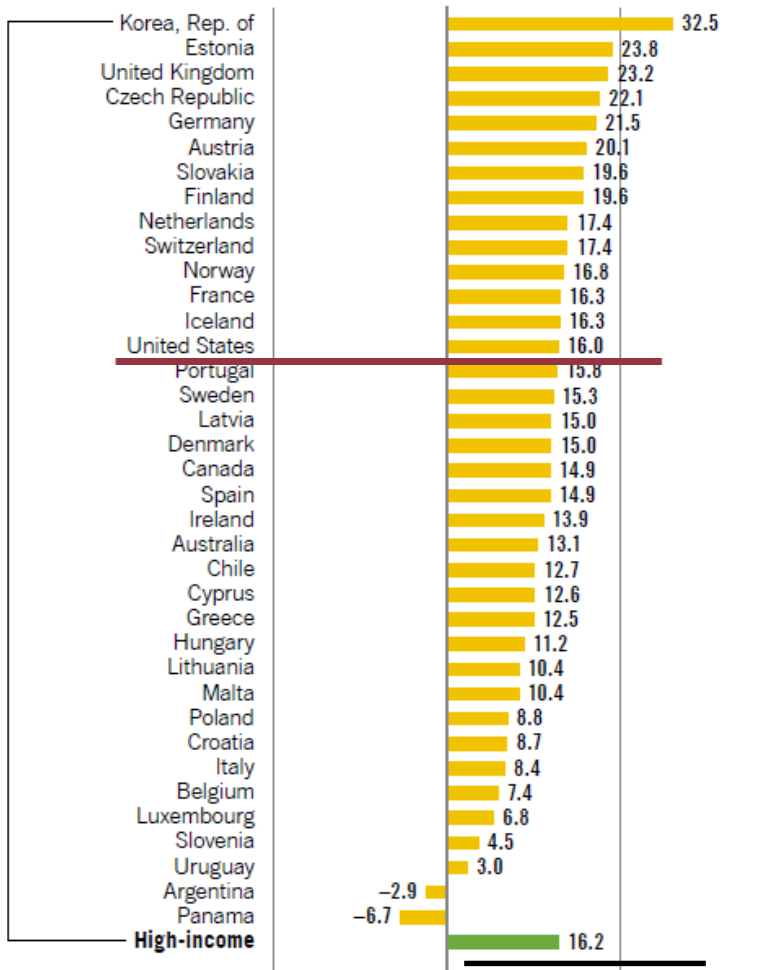
“**mean gender pay gap**” compares the average of the women’s pay distribution to the average of the men’s pay distribution,

while the “**median gender pay gap**” compares the value located in the middle of the women’s pay distribution to the value located in the middle of the men’s pay distribution.

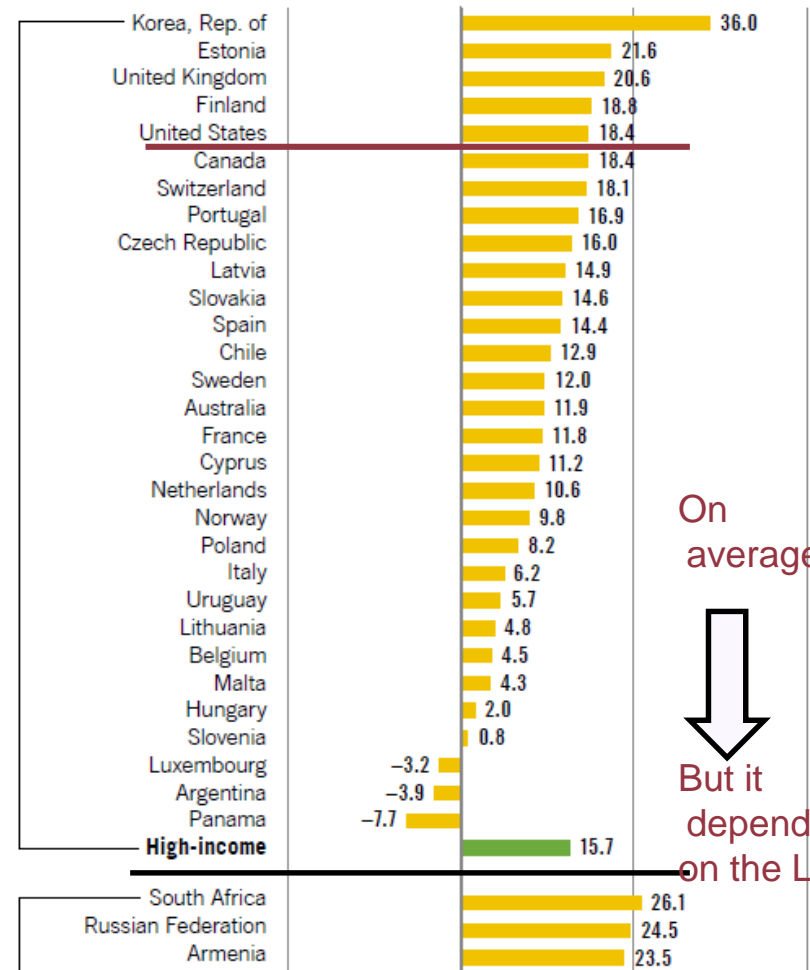
Measures of Gender Inequalities in the Labour Market

Gender Wage Gap - unadjusted (raw) form Mean or Median values? -ILO

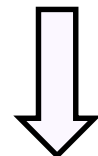
Mean gender pay gap



Median gender pay gap



On average



But it depends on the LMs

Measures of Gender Inequalities in the Labour Market

Gender Wage Gap - unadjusted (raw) form

Monthly or hourly wages?

Using hourly wages to estimate the gender pay gap, as per SDG indicator 8.5.1, has the advantage of disentangling working time from earnings.

Use of other measures (monthly, weekly or daily wages) can reflect differences not only in pay but also in the number of hours worked over a period of time.

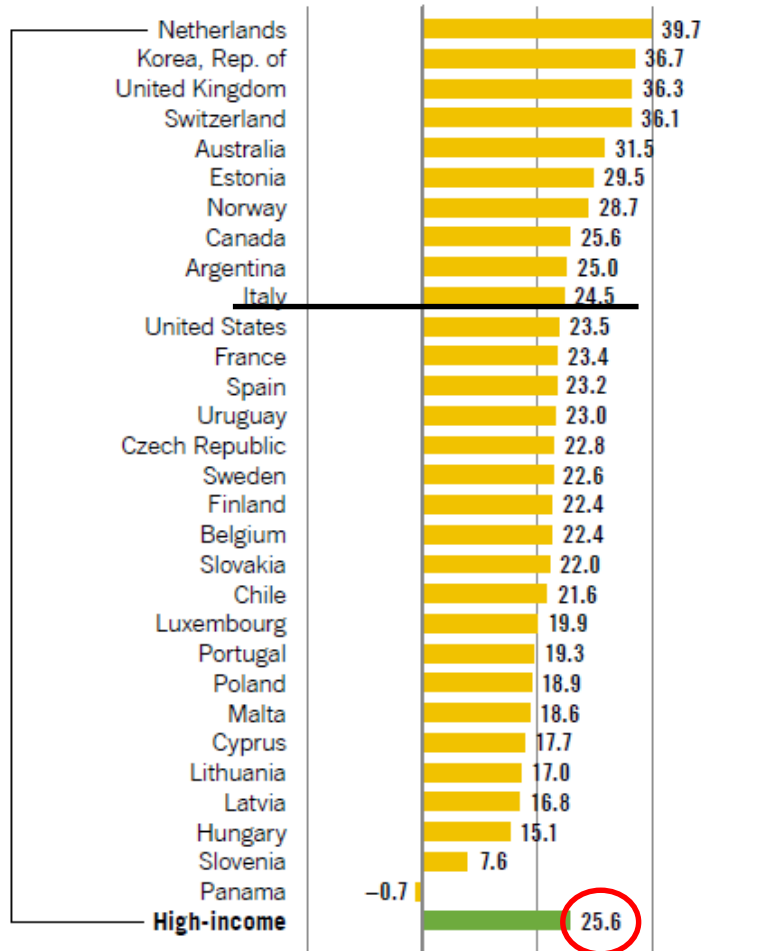
Measures of Gender Inequalities in the Labour Market

Monthly or hourly wages?

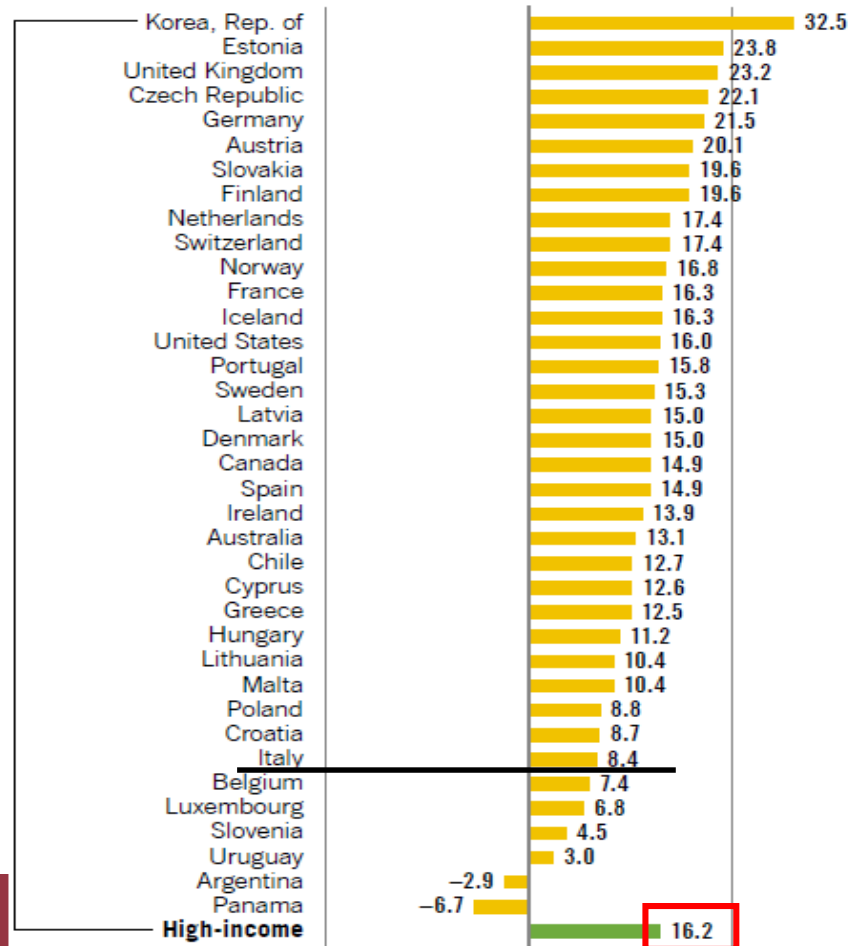
Figure 15 Gender pay gaps using monthly earnings

Figure 14 Gender pay gaps using hourly wages

Mean gender pay gap



Mean gender pay gap



Going beyond the raw gender pay gap

Measures of Gender Inequalities in the Labour Market

Gender Wage Gap adjusted

is also expressed in forms **adjusted for education groups, industries or occupations.**

Here, the GWG is measured based on median wages of female versus male workers disaggregated by the level of education or by occupation and industry.

This fully-adjusted narrow GWG reflects wage differentials due purely to gender, i.e. the difference between female and male wages for two workers with the same demographic, workplace and job characteristics.

ILO factor-weighted gender pay gap

more accurate way of calculating the gender pay gap

https://www.ilo.org/global/about-the-ilo/multimedia/maps-and-charts/enhanced/WCMS_650829/lang--en/index.htm

A complementary measure: The factor-weighted gender pay gap

↵ group women and men wage employees into more homogeneous subgroups

≈ estimate the gender pay gap in each of the subgroups

∩ construct a weighted sum of all the subgroups' specific gender pay gaps, with the weights reflecting the size of each subgroup in the population

ILO factor-weighted gender pay gap

What subgroups? Which characteristic?

ILO factor-weighted gender pay gap

What subgroups? Which characteristics?

Drawing on the human capital model (Mincer, 1974), it is widely accepted that **education** and **labour market experience** (age serving as an approximation of the latter) are two important indicators of the job profile of wage employees.

ILO factor-weighted gender pay gap

What subgroups have been selected?

What ILO considers

“education”

4 levels

Below secondary/Secondary-vocational/University and above/Overall
weighted average

“age”

4 levels

“working-time status”

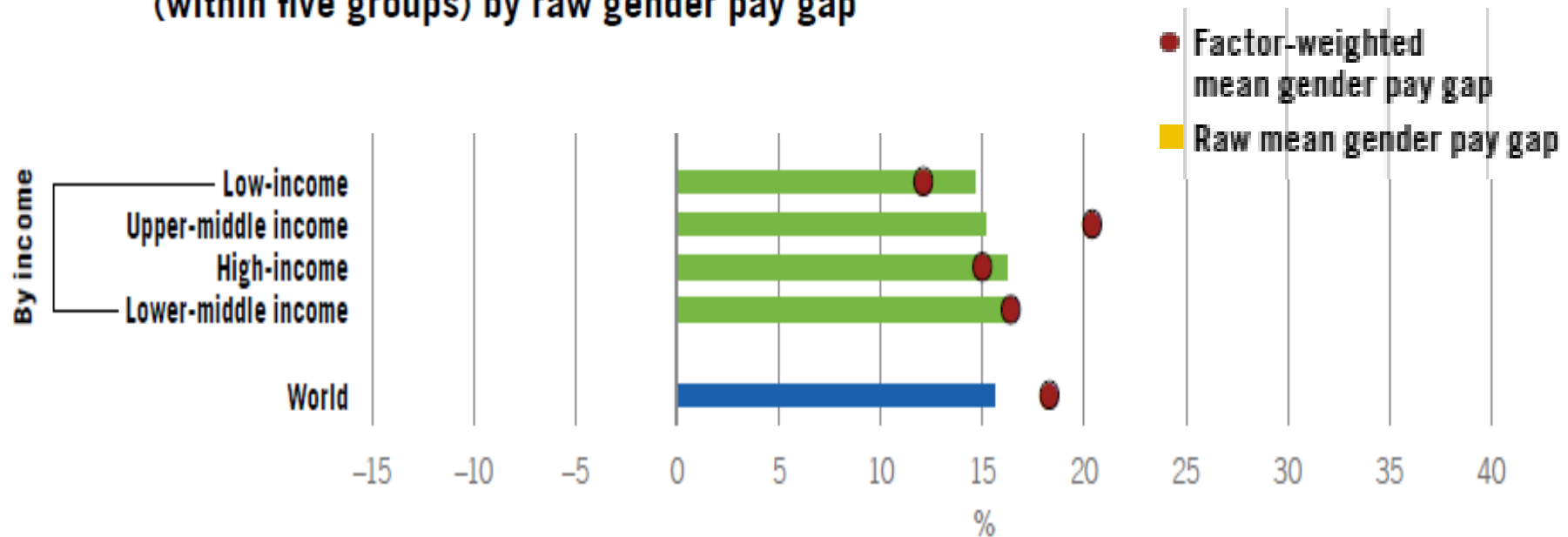
2 levels full time/ part time

“private/public-sector employment”

2 levels private/public

ILO factor-weighted gender pay gap

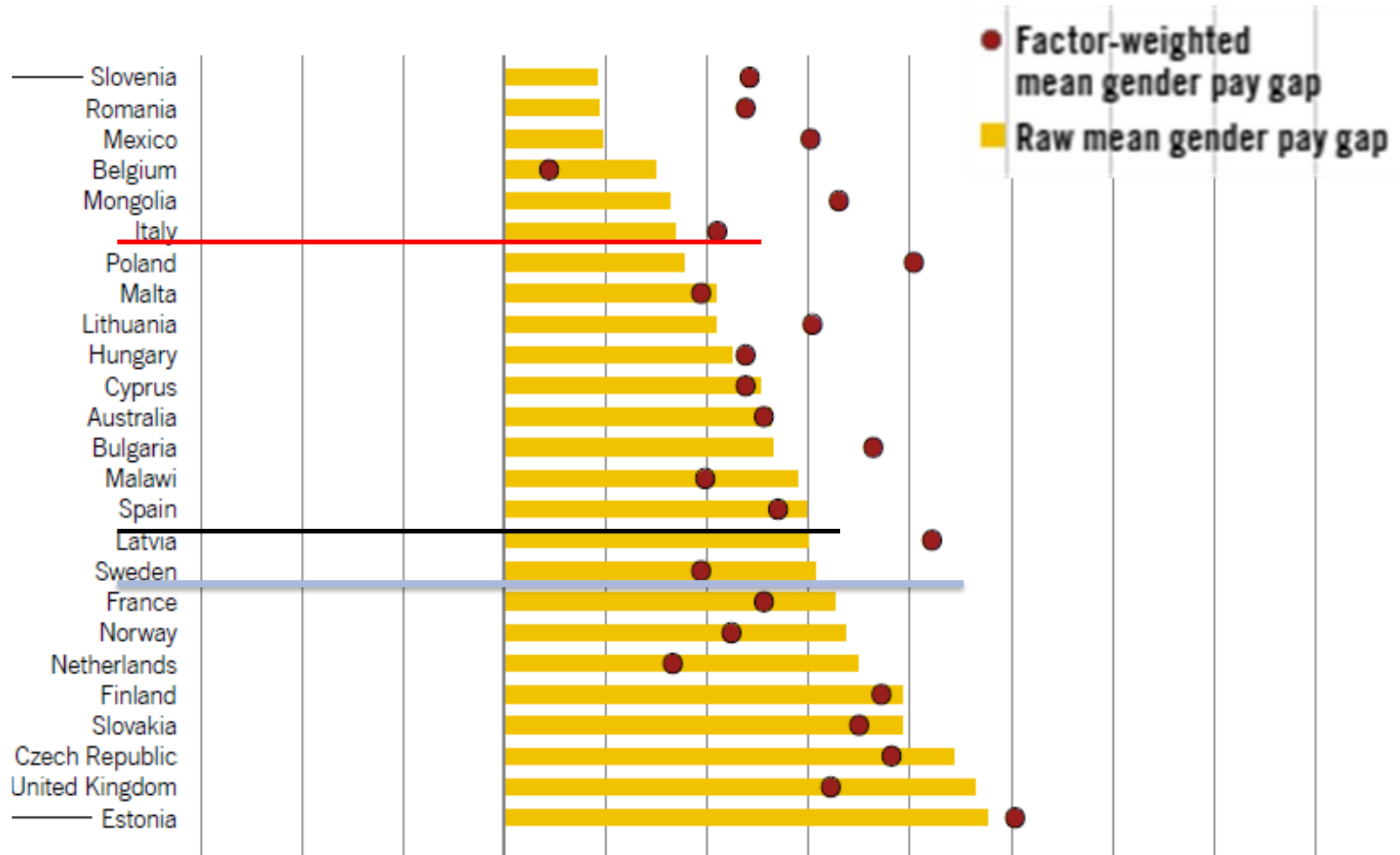
Figure 23 Comparing raw gender pay gaps and factor-weighted gender pay gaps using mean hourly wage in both cases: Classification based on ranking countries (within five groups) by raw gender pay gap



Source: ILO estimates combining the gender pay gaps from figure 14 (bars) and figure 19 (dots).

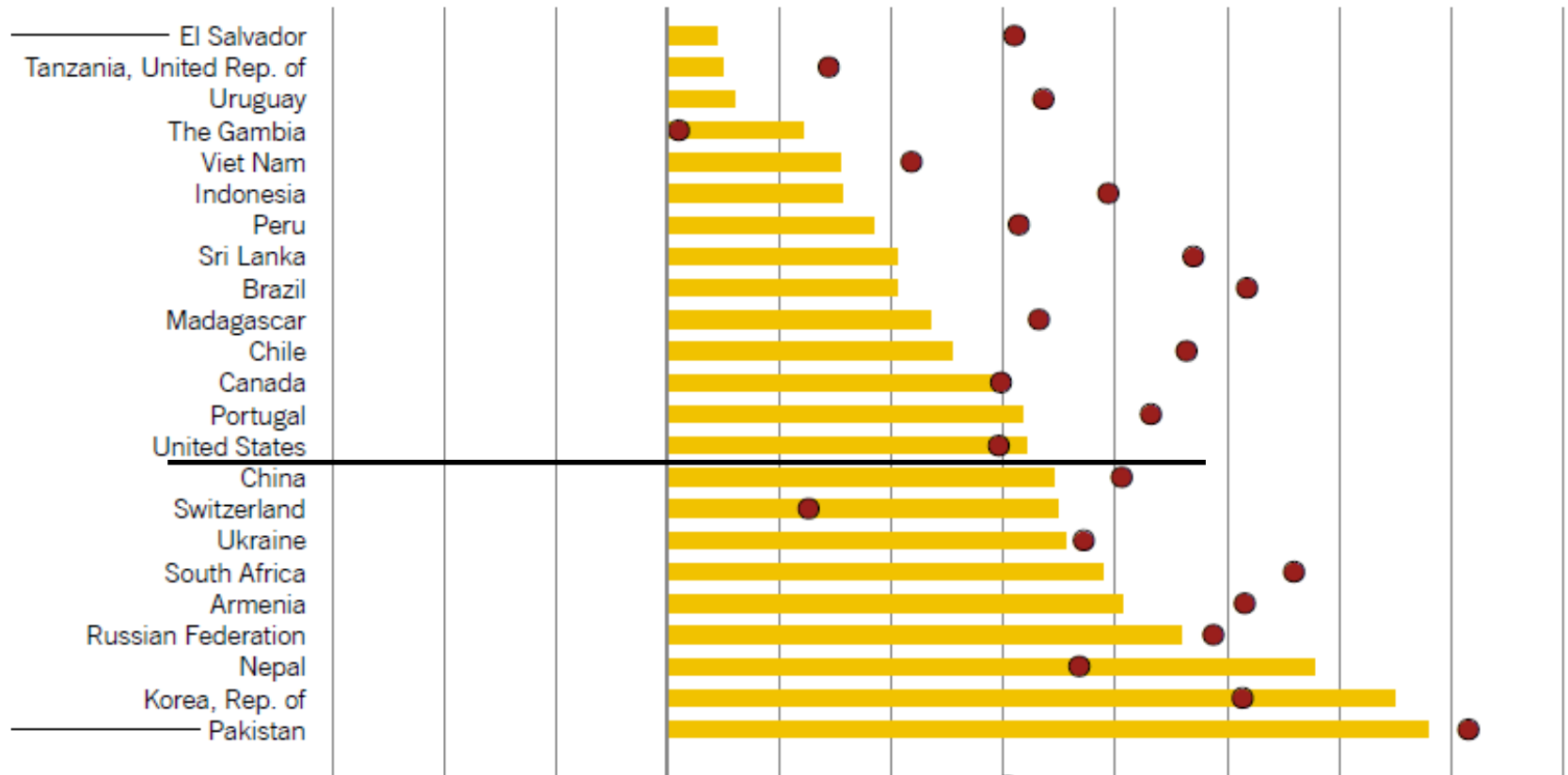
ILO factor-weighted gender pay gap

Comparing raw gender pay gaps and factor-weighted gender pay gaps using mean hourly wage in both cases: Classification based on ranking countries (within five groups) by raw gender pay gap

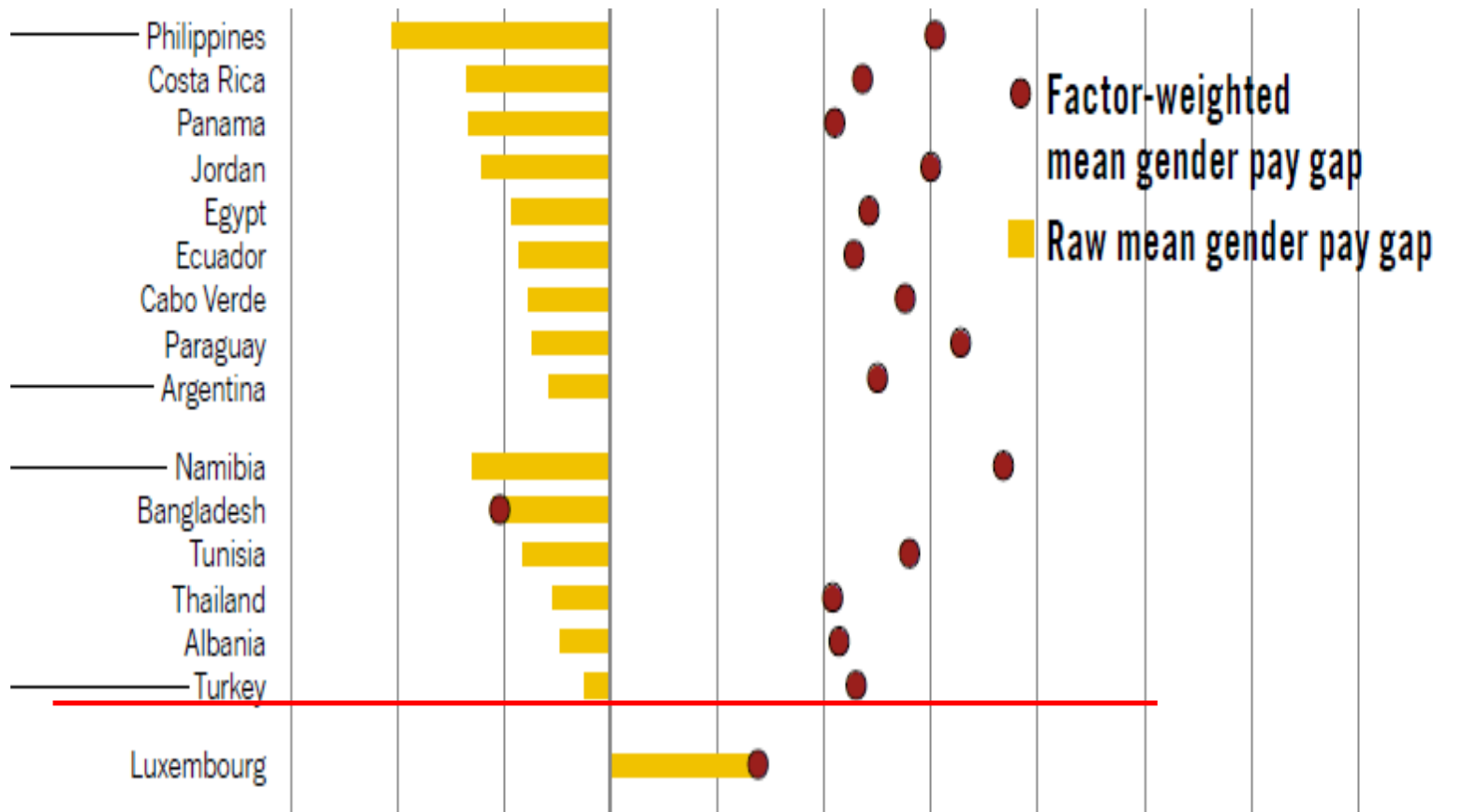


ILO factor-weighted gender pay gap

High Income countries



ILO factor-weighted gender pay gap



Measures of Gender Inequalities in the Labour Market

Horizontal (Industrial and Occupational) Gender Segregation

Definition: The difference in the distribution of male and female employees among the different industries and occupations.

A **quantitative measure** used for expressing the extent of the different distributions is the **Industrial or Occupational Gender Segregation Index (IGSI or OGSi)** where i stands for occupation, industry or jobs classification;

M_i , F_i means share of males/females in category i (in %).

$$\text{IGSI or OGSi} = 1/2 \sum_i | M_i - F_i |$$

Measures of Gender Inequalities in the Labour Market

Horizontal (Industrial and Occupational) Gender Segregation

$$\text{IGSI or OGSI} = 1/2 \sum_i |M_i - F_i|$$

IGSI (OGSI) shows the share (%) of employed women and men who would need to trade places with one another across industries (occupations) in order for their distribution to become identical

0 full equality -1 full segregation

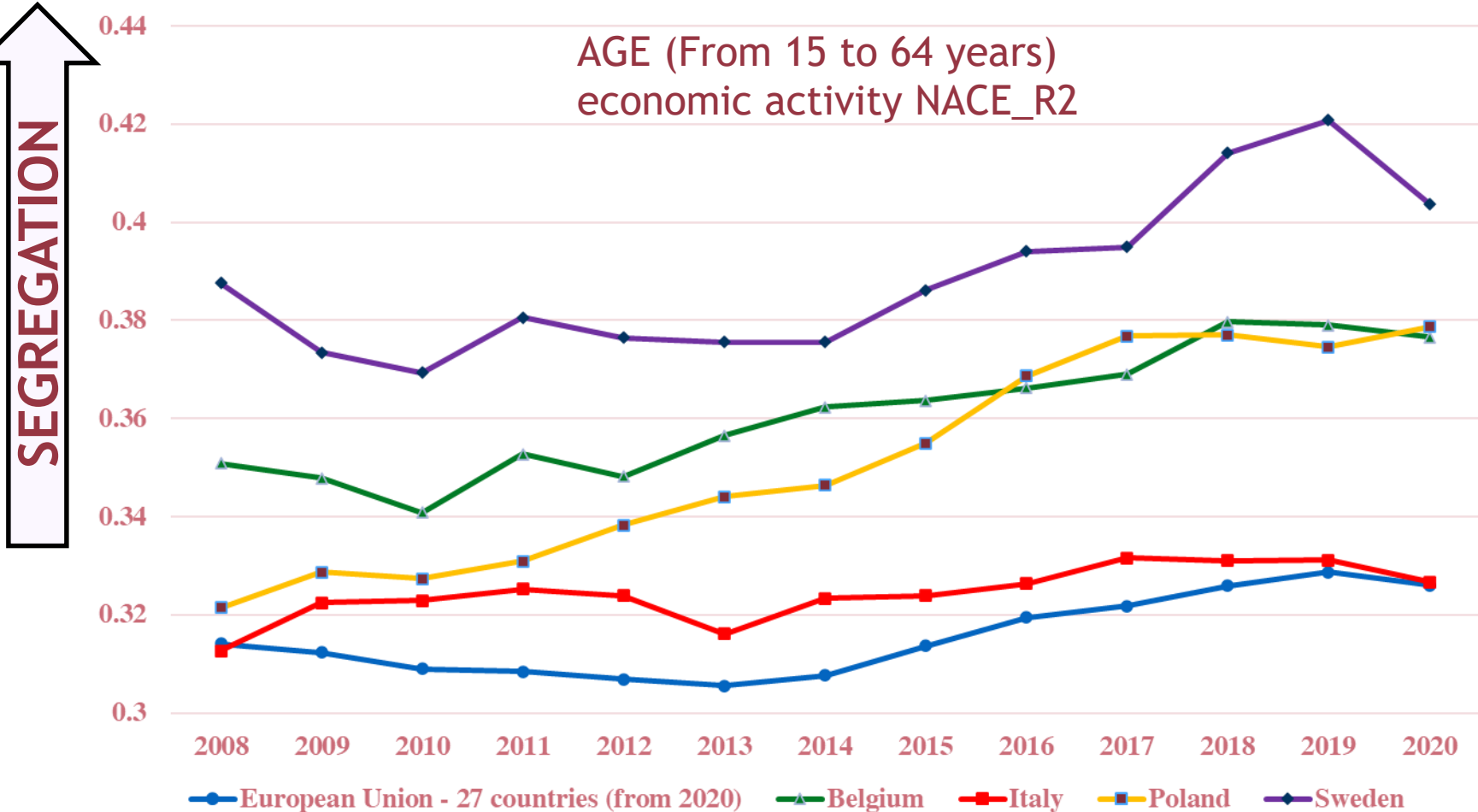


eurostat

1. Horizontal Segregation

Ducan Index

AGE (From 15 to 64 years)
economic activity NACE_R2



Measures of Gender Inequalities in the Labour Market

Vertical Gender Segregation and the

Glass Ceiling

Definition: Female share of employment (representation) in managerial and decision-making positions.

The term glass ceiling refers to the set of subtle barriers that inhibit women (as well as minorities) from reaching the upper management tiers in private sector firms, governments and academia. It is an indicator of vertical gender segregation.



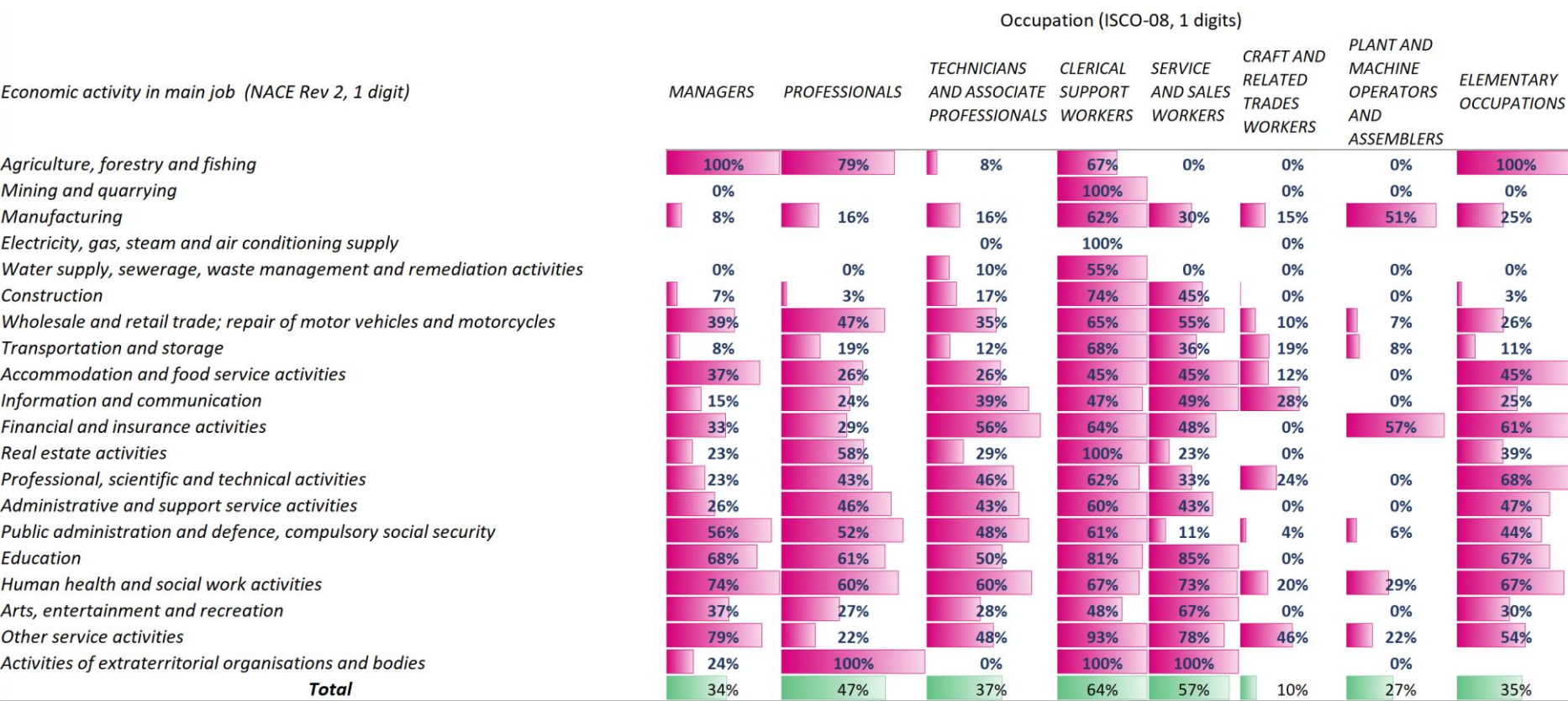
eurostat

Labour Force Survey 2008-2019

Vertical segregation

Gender gaps in professional status by economic activities

For example



Labour Market Data for EU

Labour market data (on paid work) is gathered through periodic household **labour force surveys (HLFSs)** at the household and individual level.

These surveys are conducted with a sample representative of the adult working age (15 years of age and older) population.

Periodic conduct of such surveys (monthly to bi-monthly) by national statistics agencies takes place in nearly all countries around the world.

i.e. **EUROSTAT LFS**

<https://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>

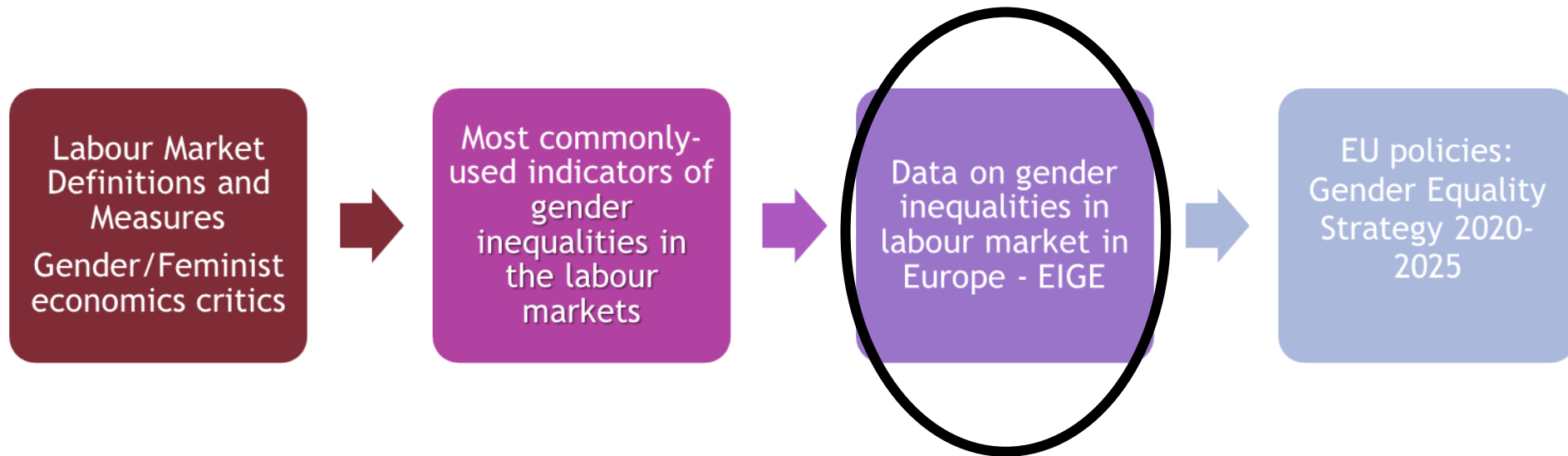
Data collection covers data from 1983 onwards.

Eurostat can then make available data that are comparable across countries and over time at European level:

- using the same concepts and definitions
- following International Labour Organisation guidelines
- using common classifications (NACE, ISCO, ISCED, NUTS)
- recording the same set of characteristics in each country.

EIGE

Measure of Gender Equality





European Institute for Gender Equality



The European Institute for Gender Equality (EIGE) is **an autonomous body of the European Union**, established in 2006, becoming fully independent and hence operational in June 2010:

to contribute to and strengthen the promotion of gender equality, including gender mainstreaming in all EU policies and the resulting national policies, and the fight against discrimination based on sex, as well as to raise EU citizens' awareness of gender equality.

As an autonomous body, EIGE **operates within the framework of European Union policies and initiatives.**

The European Parliament and the Council of the European Union defined the grounds for the Institute's objectives and tasks in its Founding Regulation and assigned it the central role of addressing the challenges of and promoting equality between women and men across the European Union.

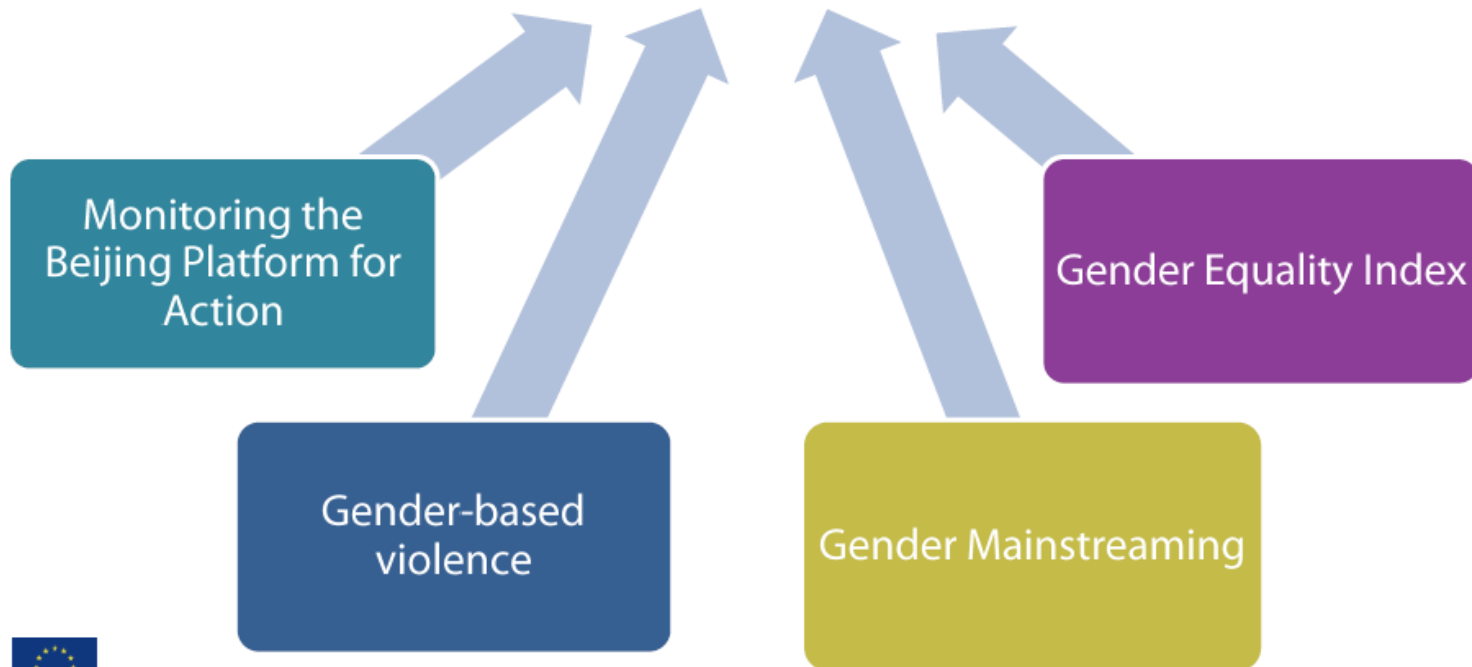
EIGE'S mission is to become the European knowledge centre on gender equality issues. It employs 40 staff members.

2019-2021 Key objectives and priorities

EIGE's three strategic objectives for the programming period 2019 to 2021 are as follows:

- To provide high quality research and data to support better informed and evidence based decision-making by policymakers and other key stakeholders working to achieve gender equality;
- To manage all knowledge produced by EIGE to enable timely and innovative communication that meets the targeted needs of key stakeholders;
- To meet the highest administrative and financial standards while supporting the needs of EIGE's personnel.

Gender Statistics Database





Browsing trees

- Thematic areas
- Policy areas
- EU strategies
- Gender Equality Index
- Beijing Platform for Action (BPfA)
- Women and men in decision making
- **Gender-based violence (?)**



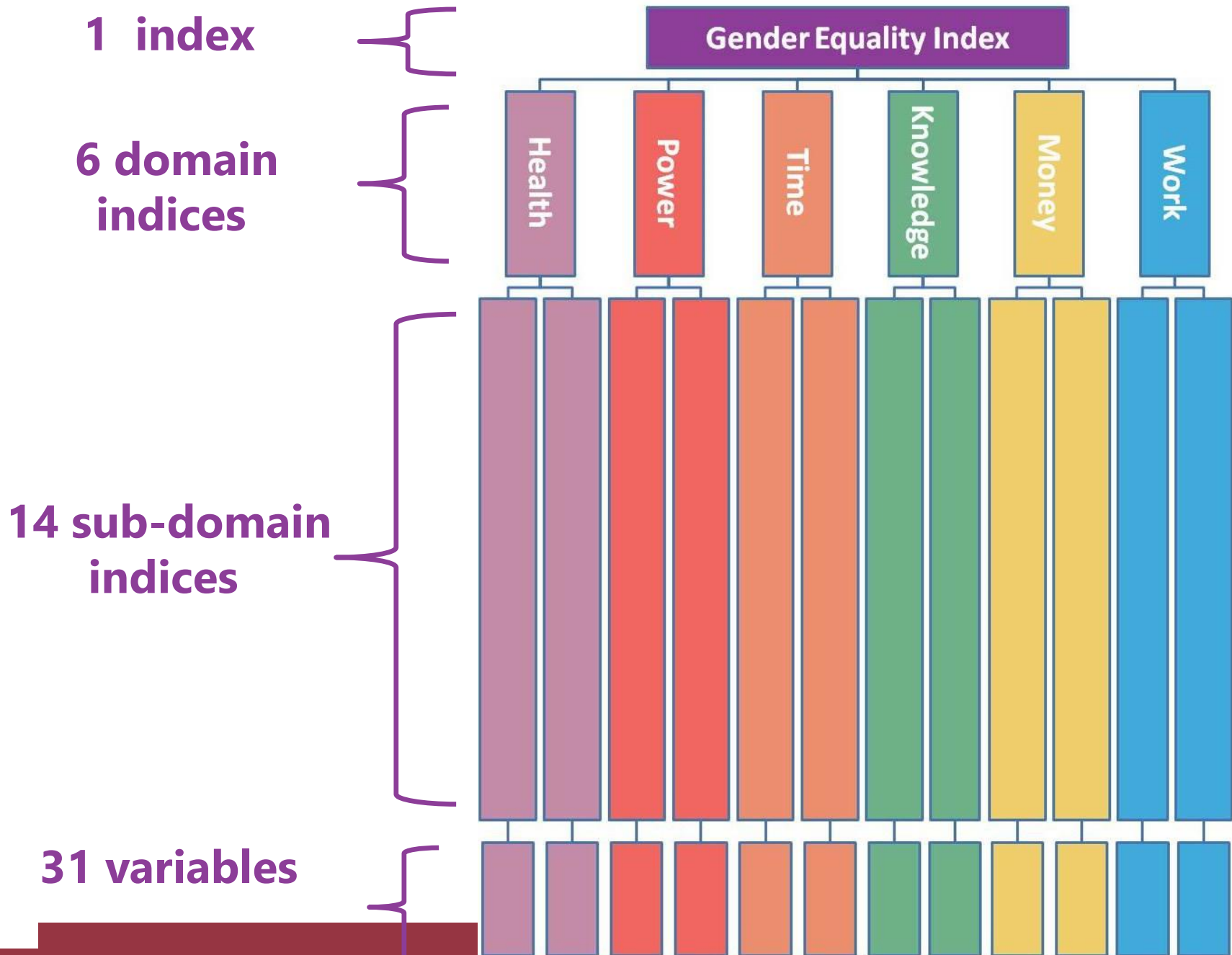
Data sources



Member States

The Gender Equality Index is adapted to the **context of the EU** and is based on **EU policy priorities**

The Gender Equality Index adopts a **gender approach** that measures gaps between **both women and men**



Selecting variables

- Conceptual criteria
- Quality criteria

Conceptual criteria

– Variables focus on **individuals**, rather than on institutions or countries



Healthy life years



Health care expenditure



Conceptual criteria



– **Outcome** variables, measuring a current status



Time spend on care activities



Provision on childcare services



Quality criteria

- **Reliable**
- **Comparable** over time
- **Harmonised** for the EU-28 MSs
- No more than **10% missing** data points



Variable transformation

- Same direction of the interpretation
- Relative terms (when needed)
- Computation of gender gaps

Direction of the interpretation

- All variables need to have the same interpretation (positive or negative)
 - Healthy life years (+)
 - Population at-risk-of-poverty (-)
- Alternatives:
 - Calculating the complementary value of the variables when dealing with percentages. Ex. 20% of people at risk of poverty is equivalent to 80% not at risk of poverty
 - Computing the inverse. Ex. S80/S20 income quintile share is equivalent to S20/S80





Relative terms

- To allow comparisons between populations, each variable was divided by its closest reference population
- Examples:
 - Labour force participation: the number of women and men in employment was divided by the active population (closest reference population)
 - Training at work: the number of women and men receiving training at work was divided by the total number of workers (closest reference population)



Computing the Index

Steps:

- Normalisation
- Imputation
- Weighting
- Aggregation

Eliminating as much subjectivity as possible



Computing a set of potential indices



Selecting the best index

The final score

	Variables	Sub-domains	Domains
Weighting	Equal	Equal	Experts (AHP)
Aggregation	Arithmetic	Geometric	Geometric

Table 2: Mean experts' weights used for the Gender Equality Index (rounded) (%)

Work	Money	Knowledge	Time	Power	Health
0.19	0.15	0.22	0.15	0.19	0.10

The final score



Each year EIGE scores EU Member States and the EU as a whole to see how far they are from reaching gender equality. The Index uses a scale of 1 to 100, where 1 is for total inequality and 100 is for total equality.

Biannual updating

First edition



2005

Second edition



2013

Third edition



2015

Forth edition



2017

Fifth edition



2019

Sixth edition Seventh edition

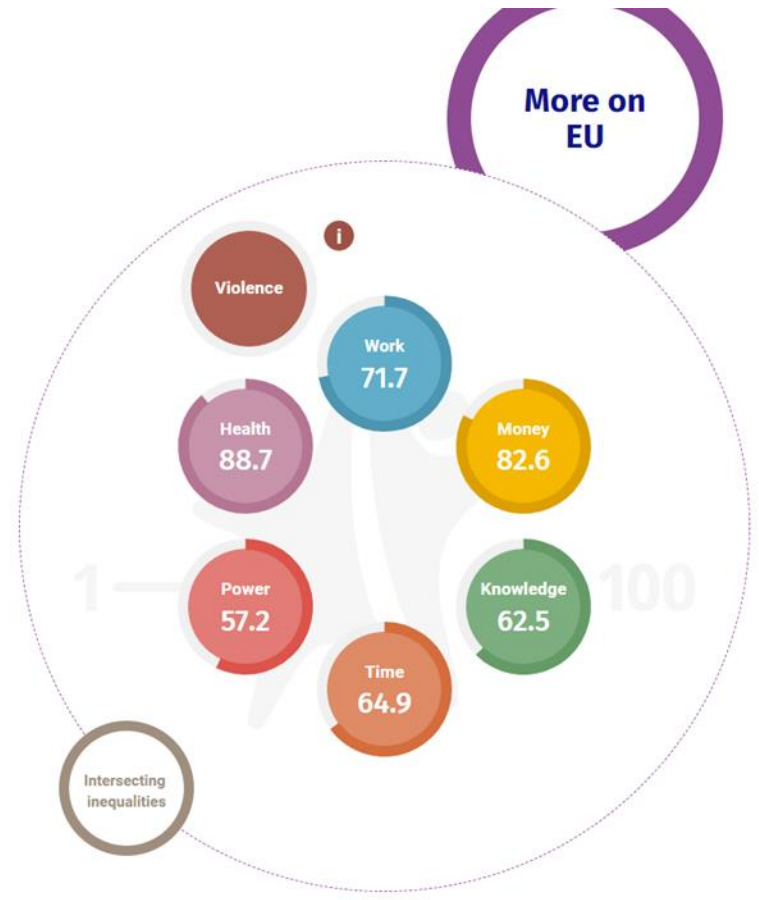
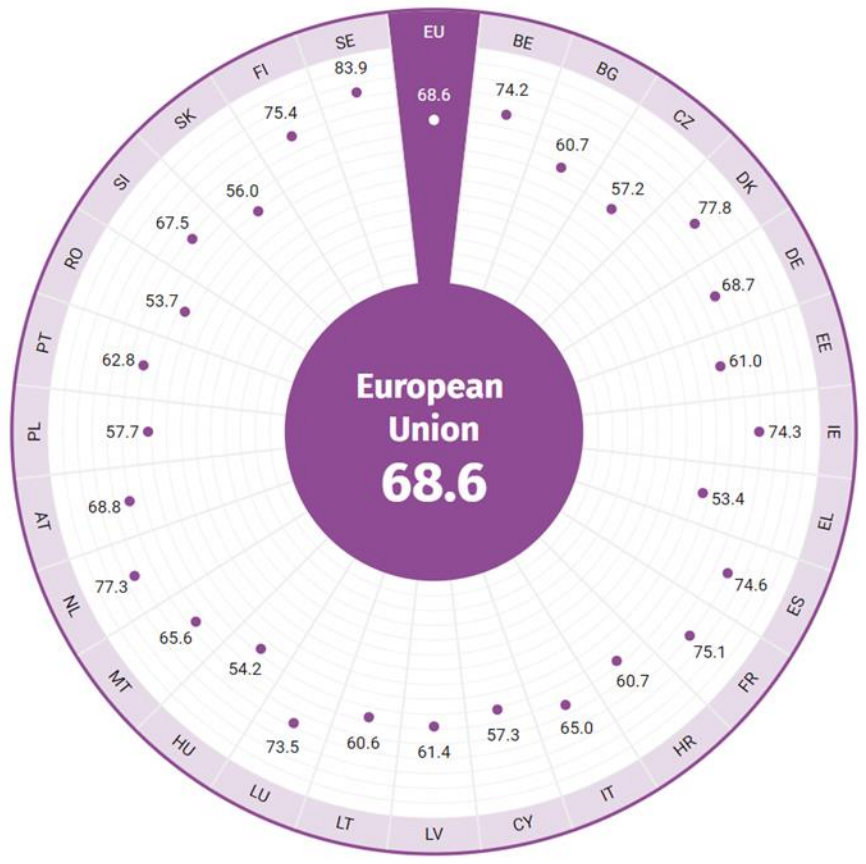


2020

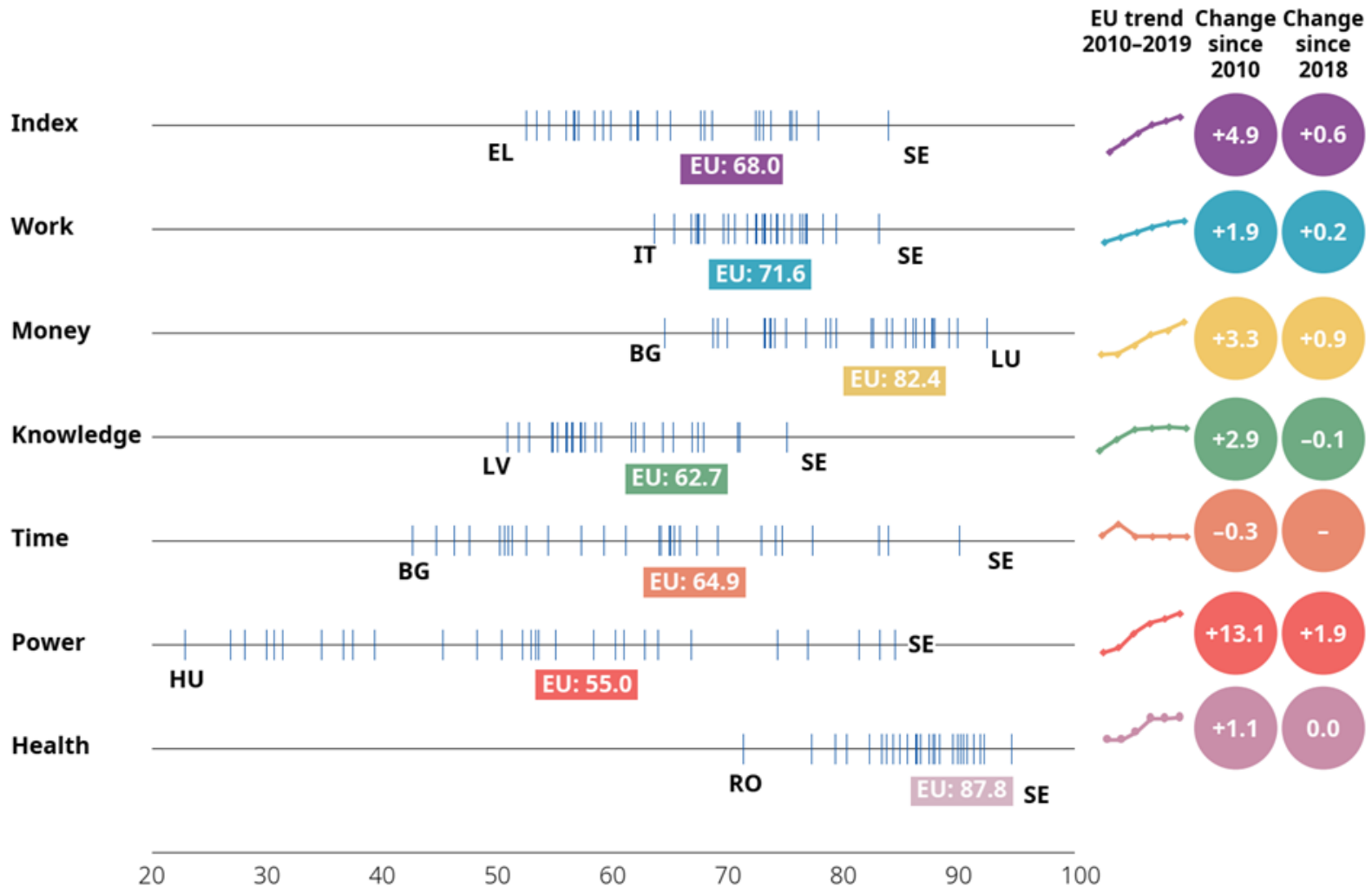


2021

- Gender Equality Index 2022
68 out of 100



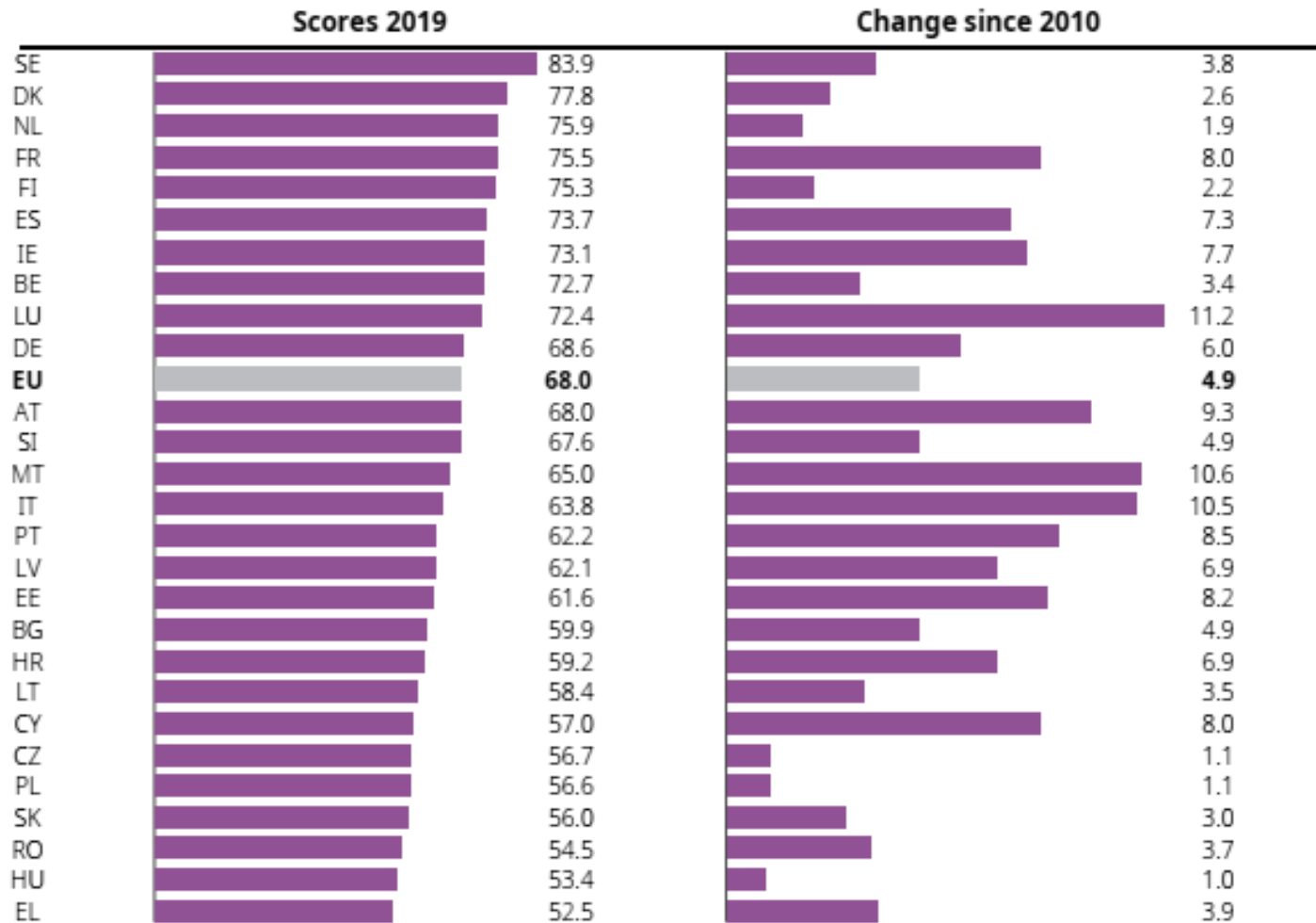
Gender Equality Index 2021



“With gender equality inching forward by only 1 point every 2 years, it will take nearly three generations to achieve gender parity at the current pace. And even that projection is threatened by COVID-19. **The pandemic presents a real risk, not only slowing progress, but also rolling back fragile gains made since 2010.**”



- Gender Equality Index 2021
Geographical differences



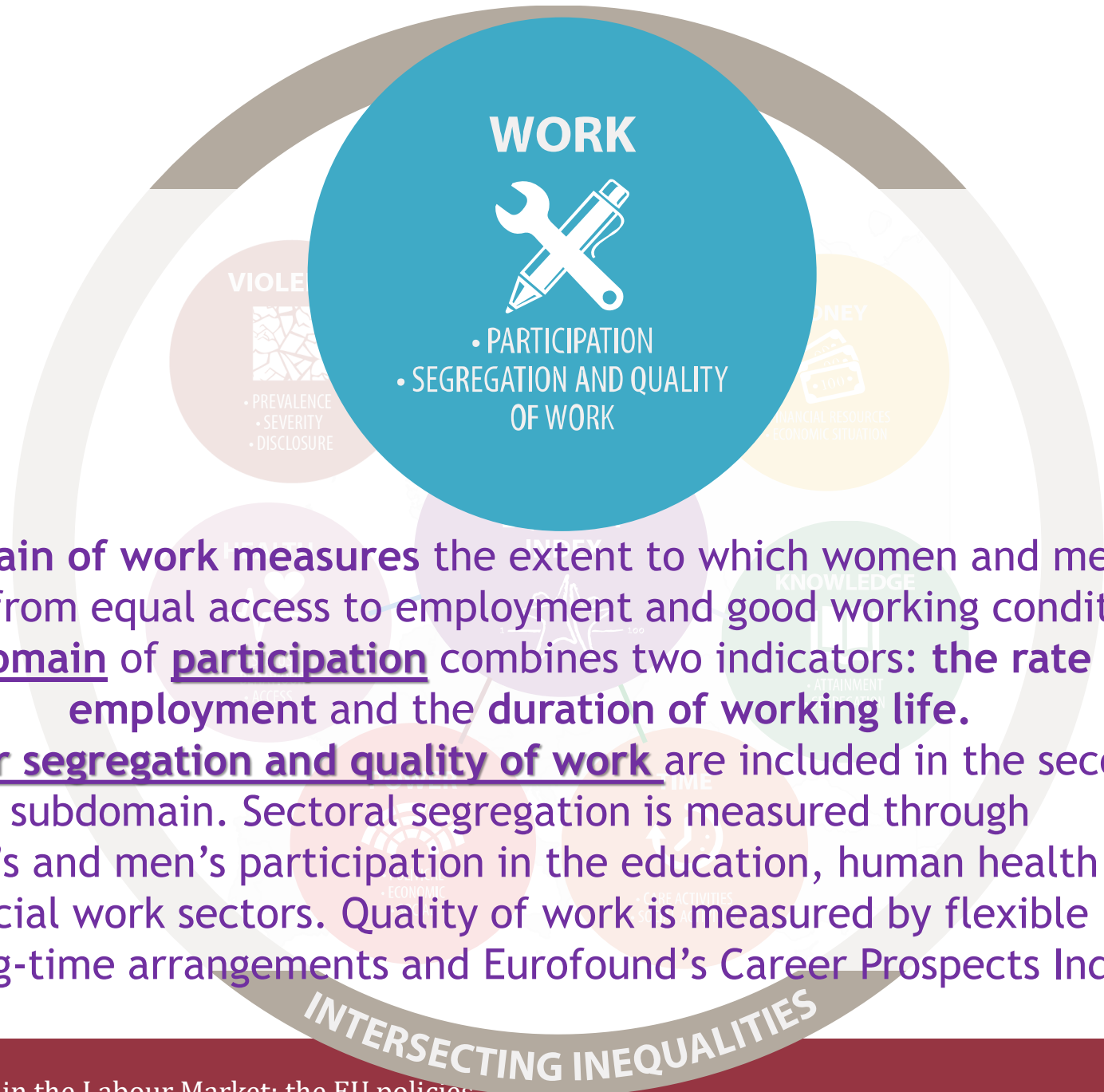


• Gender

1

MS	Long-term increase/decrease (2010-2019)						
	Index	Work	Money	Knowledge	Time	Power	Health
EU	4.9	1.9	3.3	2.9	-0.3	13.1	1.1
BE	3.4	2.2	4.4	0.2	-5.0	13.1	-0.2
BG	4.9	1.7	3.7	4.8	-1.2	14.4	1.9
CZ	1.1	2.5	5.1	3.1	3.5	-2.9	0.6
DK	2.6	-0.4	5.5	-2.2	2.7	8.8	-0.8
DE	6.0	2.4	2.8	-1.6	-4.8	24.5	1.4
EE	8.2	1.3	7.7	5.7	1.0	14.7	-0.5
IE	7.7	3.0	2.3	2.1	3.4	21.2	0.6
EL	3.9	1.7	-1.6	1.5	9.1	4.7	0.0
ES	7.3	1.9	1.3	4.4	3.2	24.3	1.7
FR	8.0	1.7	2.8	5.0	0.7	29.0	0.7
HR	6.9	2.9	5.4	1.9	1.2	16.9	2.3
IT	10.5	2.4	0.5	5.2	4.2	27.0	2.1
CY	8.0	0.1	1.9	0.5	5.4	14.6	1.5
LV	6.9	1.7	9.8	1.7	3.8	15.6	2.0
LT	3.5	1.6	9.1	1.8	-1.6	6.4	-0.1
LU	11.2	5.4	0.6	4.5	-1.1	27.8	0.1
HU	1.0	2.0	2.5	2.7	0.2	-0.6	1.3
MT	10.6	11.7	5.0	-0.2	9.9	16.6	1.7
NL	1.9	2.0	0.4	0.5	-2.0	7.1	-0.1
AT	9.3	1.5	4.9	5.4	5.2	19.8	0.8
PL	1.1	0.9	7.2	-0.2	-1.7	0.9	1.7
PT	8.5	1.8	1.8	6.4	8.8	18.7	0.5
RO	3.7	-0.4	9.3	5.6	-0.3	3.9	1.4
SI	4.9	1.1	3.4	1.6	4.6	11.9	1.0
SK	3.0	2.0	4.9	2.1	6.4	1.2	0.7
FI	2.2	1.0	3.8	3.3	-2.7	5.2	0.0
SE	3.8	2.7	0.1	4.5	5.6	6.7	1.4



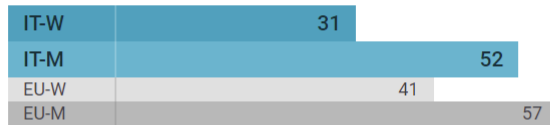


The domain of work measures the extent to which women and men can benefit from equal access to employment and good working conditions. The subdomain of participation combines two indicators: the rate of FTE employment and the duration of working life.

Gender segregation and quality of work are included in the second subdomain. Sectoral segregation is measured through women’s and men’s participation in the education, human health and social work sectors. Quality of work is measured by flexible working-time arrangements and Eurofound’s Career Prospects Index.



FTE employment rate (%) i



Source: Eurostat, EU LFS, 2019. Eurostat calculations according to EIGE's request 2015). EIGE's calculations 2017, 2018, 2019.

Duration of working life (years) i



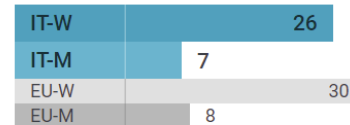
Source: Eurostat, EU LFS, 2019. lfsi_dwl_a.

status (self-employed or employee), type of contract, the prospects for career advancement as perceived by the worker, perceived likelihood of losing one's job and experience of downsizing in the organisation. It is measured on a scale of 0-100, where the higher the score, the higher the job quality.



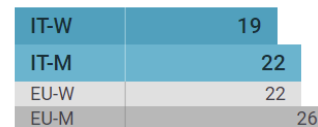
Segregation and quality of work

Employed people in education, human health and social work activities (%) i



Source: Eurostat, EU LFS, 2019. lfsa_egan2, lfsa_egana.

Ability to take one hour or two off during working hours to take care of personal or family matters (%) i



Source: Eurofound, EWCS, 2015. EIGE's calculation with microdata.

Career Prospects Index (points, 0-100) i



Source: Eurofound, EWCS, 2015. Calculated by Eurofound.

Career Prospects Index (points, 0-100)

The Career Prospects Index combines the indicators of employment status (self-employed or employee), type of contract, the prospects for career advancement as perceived by the worker, perceived likelihood of losing one's job and experience of downsizing in the organisation. It is measured on a scale of 0-100, where the higher the score, the higher the job quality.

Figure 4. Scores for the domain of work and its subdomains (2019), and changes over time

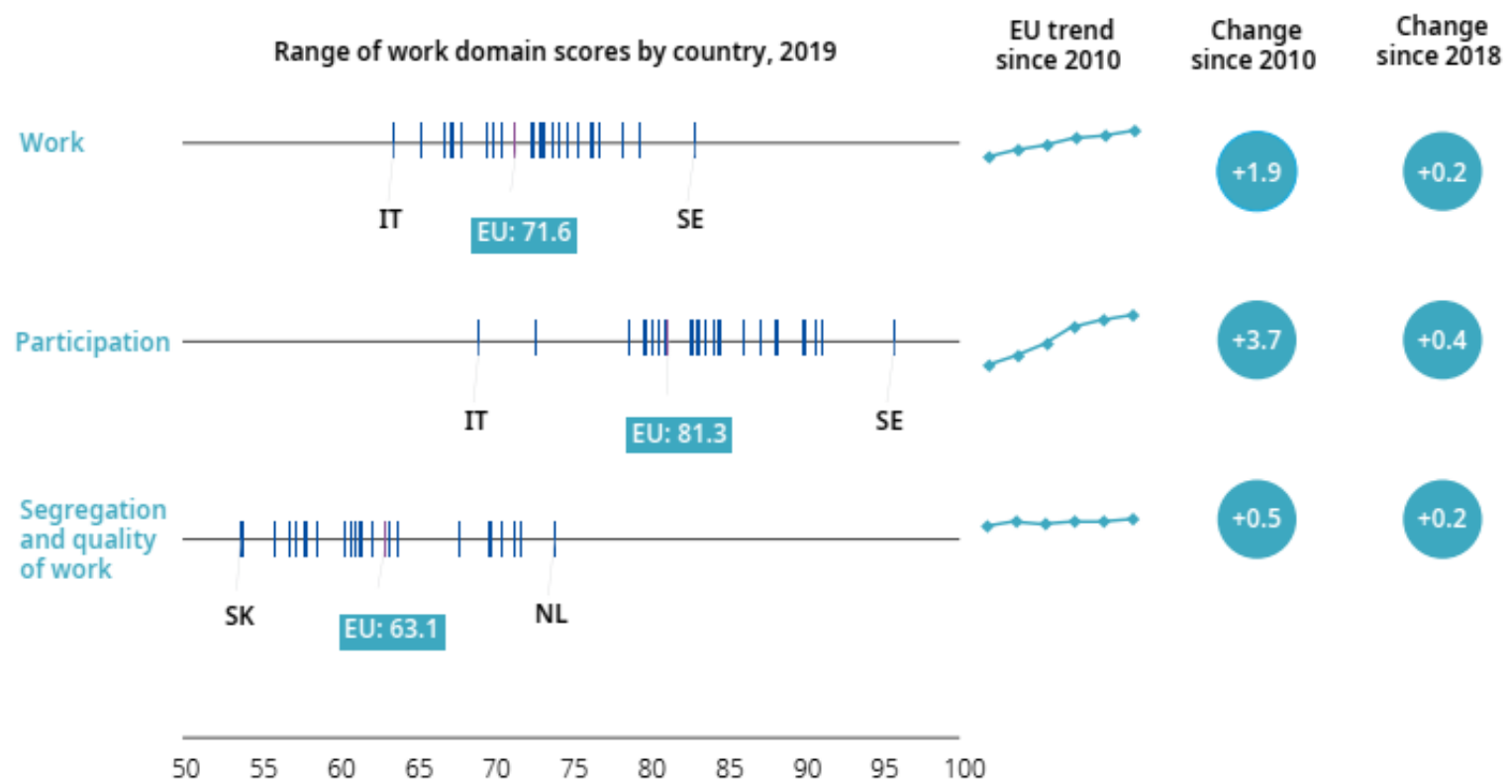
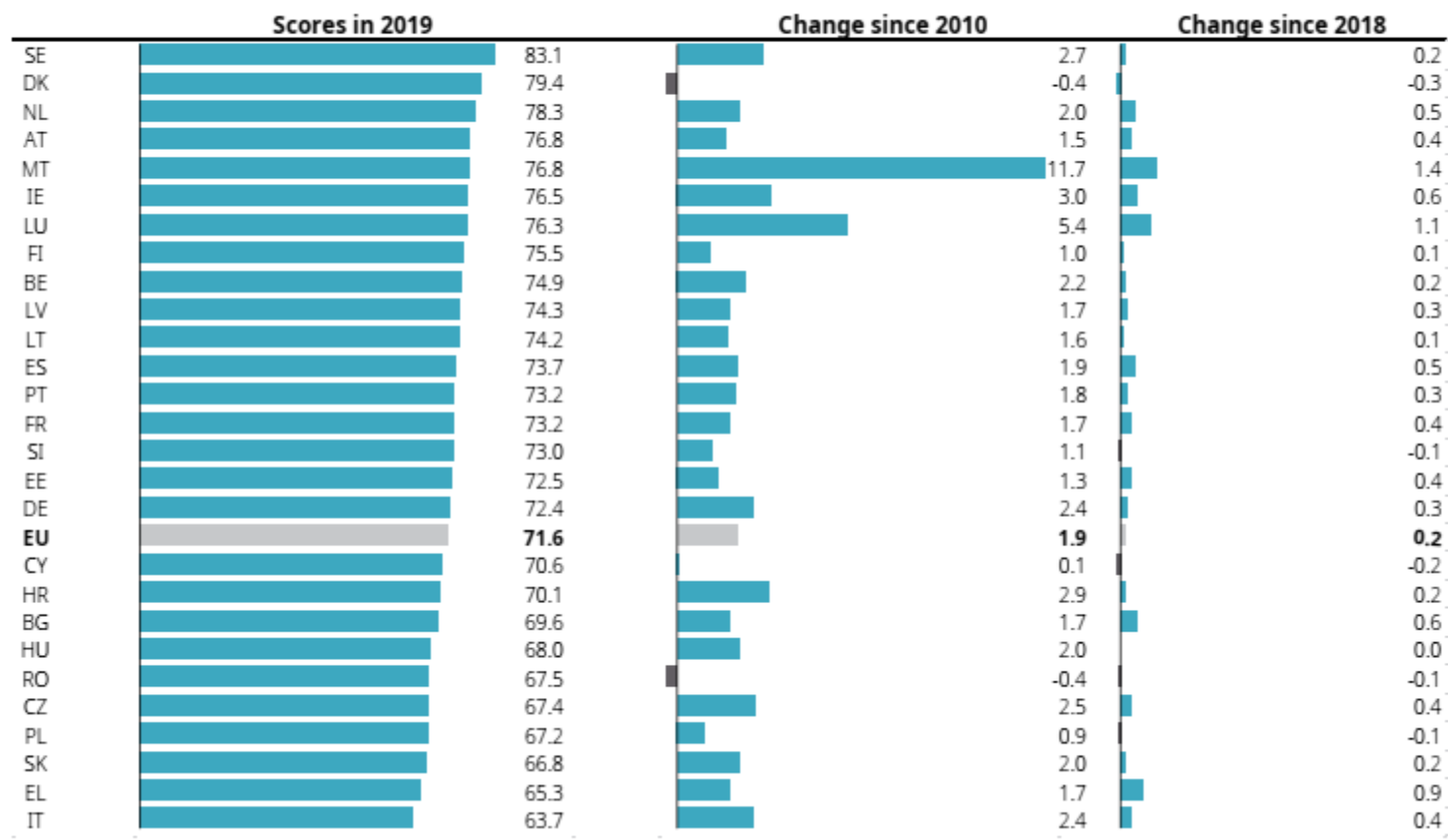




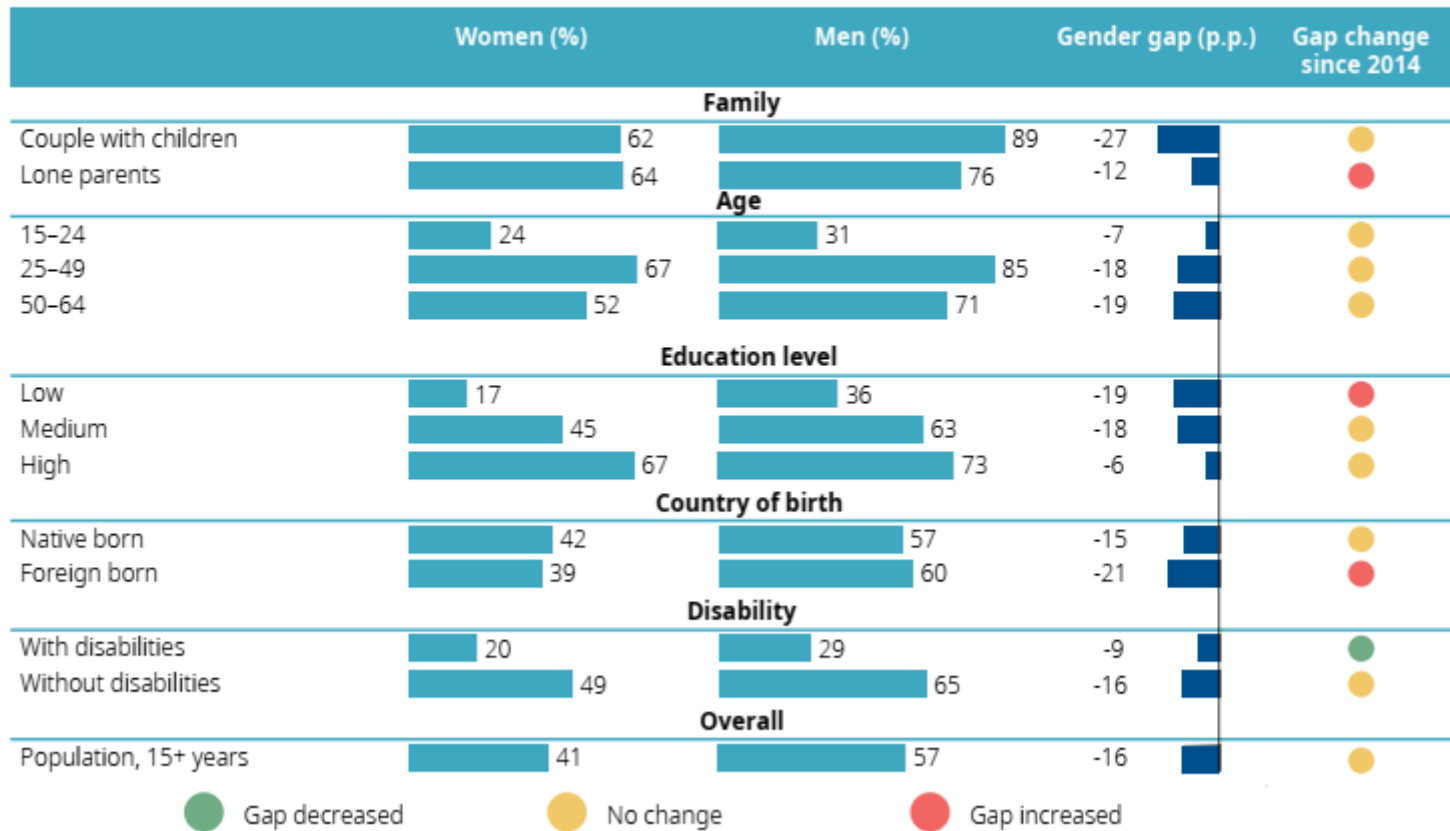
Figure 5. Scores for the domain of work (2019) and changes since 2010 and 2018, by EU Member State



intersectionality

FTE employment rates are widely divergent across population groups, and consistently disadvantageous for women

Figure 6. FTE employment rates by sex, family composition, age, education level, country of birth and disability (% , 15+ years, EU, 2019)





Awareness with data!

What does your life look like? As a Woman in Italy

- <https://eige.europa.eu/gender-equality-index/game>



In your national parliament, **36%** of decision-makers are **women**.



You have a **16%** chance of graduating from university, compared to **14%** for **men**.



During your life, you will work **9** year(s) **less** than an average **man** in **Italy**



You are **61 percentage points*** more likely to do housework or cook every day, compared to **men**.



You live in a country where **51%** of women have experienced sexual harassment.

Exercise: Explore Data on Gender Inequalities in the Labour Market in EU

Before the beginning of next lesson please try to find the following data and send me the results of your consultations of the main datasets in the following google form

<https://forms.gle/bYL4M78U1Dw9AmHFA>





DEPARTMENT OF STATISTICAL SCIENCES

www.dss.uniroma1.it



Thank you for your attention!

giulia.zacchia@uniroma1.it