EIGE
European Institute for Gender Equality

Gender Equality Index 2020
Digitalisation and the future of work

Acknowledgements

The authors of *Gender Equality Index 2020* are Davide Barbieri, Jakub Caisl, Dr Marre Karu, Giulia Lanfredi, Blandine Mollard, Vytautas Peciukonis, Maria Belen Pilares La Hoz, Dr Jolanta Reingardė and Dr Lina Salanauskaitė of the European Institute for Gender Equality (EIGE).

A special thank you goes to Bernadette Gemmell, Cristina Fabre and Jurgita Pečiūrienė of EIGE for their highly relevant contributions to the report and to Gráinne Murphy (Milieu Consulting) for her editorial support.

Many thanks to other colleagues at EIGE for their intellectual insights, administrative support and encouragement.

Important contributions to the analysis of digitalisation and the future of work were made by Professor Ursula Huws, Eleni Kampouri, Neil H. Spencer and Matt Coates of the University of Hertfordshire in the United Kingdom.

The thematic focus of *Gender Equality Index 2020* has benefited greatly from expert advice received from the European Commission, in particular the Gender Equality Unit at the Directorate-General for Justice and Consumers, the Directorate-General for Employment, Social Affairs and Inclusion, the Directorate-General for Research and Innovation and the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs; the European Foundation for the Improvement of Living and Working Conditions; the International Labour Organization; the European Women's Lobby; MenEngage; BusinessEurope; and Professor Dr Aysel Yollu-Tok, Professor Dr Timm Teubner, Professor Dr Miriam Beblo and Dr Irem Güney-Frahm.

EIGE is very grateful to the many other individuals and institutions who provided valuable contributions and support to this update on the Gender Equality Index.

European Institute for Gender Equality

The European Institute for Gender Equality (EIGE) is an autonomous body of the European Union established to strengthen gender equality across the EU. Equality between women and men is a fundamental value of the EU and EIGE's task is to make this a reality in Europe and beyond. This includes becoming a European knowledge centre on gender equality issues, supporting gender mainstreaming in all EU and Member State policies, and fighting discrimination based on sex.

European Institute for Gender Equality, EIGE
Gedimino pr. 16
LT-01103 Vilnius
LITHUANIA

Tel. +370 52157444

Email: eige.sec@eige.europa.eu

http://www.eige.europa.eu

http://twitter.com/eurogender

http://www.facebook.com/eige.europa.eu

http://www.youtube.com/eurogender

http://eurogender.eige.europa.eu

https://www.linkedin.com/company/eige/

Luxembourg: Publications Office of the European Union, 2020

Print	ISBN 978-92-9482-568-1	ISSN 2599-8927	doi:10.2839/076536	MH-AF-20-001-EN-C
PDF	ISBN 978-92-9482-569-8	ISSN 2599-8935	doi:10.2839/79077	MH-AF-20-001-EN-N

Gender Equality Index 2020

Digitalisation and the future of work

Foreword

The coronavirus disease (COVID-19) pandemic was a wake-up call for gender equality in Europe. It reminded us about everyday gender inequalities in our society that often go unnoticed – from the shortage of men working in the care sector to the reality of violence facing women in abusive relationships. While it will still take time to fully understand the consequences of COVID-19 for gender equality, it's clear that it poses a serious threat to the fragile achievements made over the past decade.

The European Institute for Gender Equality's Gender Equality Index, as the EU's monitoring tool for gender equality, will play a crucial role in assessing these impacts and bringing evidence to policymakers in the years to come. Previous reports on the Index show us how Member States' policies following the global financial crisis affected gender equality, often to the disadvantage of women. We can learn from the past to ensure that recovery measures post COVID-19 leave no one behind.

The EU's progress on gender equality is still slow, with the Index score improving on average by 1 point every 2 years. At this rate, it will take over 60 years to reach gender equality. The biggest improvement has been in decision-making, which has been driving most of the change in the Gender Equality Index. Since 2010, the domain of power has contributed 65 % of the overall gain in gender equality in the EU. This shows us that change is possible, when legislative measures and other proactive government actions are implemented.

This year, the Index report focuses on the effects of digitalisation on the world of work and the consequences for gender equality. This topic is extremely relevant in the light of the COVID-19 pandemic, and the ways in which the working lives of women and men have been affected by it. New types of jobs and innovative ways of working through online platforms were analysed to gain an understanding of who is doing these jobs and whether they help or hinder gender equality.

With a detailed analysis for the EU and each Member State, the Index shows country-level achievements and areas for improvement. More than ever, policymakers need the data that the Index provides. We hope that our findings will help Europe's leaders to design future solutions that are inclusive and promote gender equality in our post-COVID-19 society.

Carlien Scheele
Director
European Institute for Gender Equality (EIGE)

Abbreviations

Member State abbreviations

BE	Belgium
BG	Bulgaria
CZ	Czechia
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
EU	28 EU Member States (2013–2020)

Frequently used abbreviations

AI	artificial intelligence
AsT	assistive technology
CEO	chief executive officer
COVID-19	coronavirus disease
EHIS	European Health Interview Survey
EQLS	European Quality of Life Survey
EU	European Union
EU2020	Europe 2020 strategy
EU-LFS	European Union Labour Force Survey
Eurofound	European Foundation for the Improvement of Living and Working Conditions
EU-SILC	European Union Statistics on Income and Living Conditions
EWCS	European Working Conditions Survey
FRA	European Union Agency for Fundamental Rights
FTE	full-time equivalent
GDP	gross domestic product
ICT	information and communications technology
ILO	International Labour Organization
ISOC	Digital Economy and Society
JRC	Joint Research Centre
LGBTQI*([1])	lesbian, gay, bisexual, transgender, queer, intersex and other non-dominant sexual orientations and gender identities in society
MS	Member State
OECD	Organisation for Economic Co-operation and Development
p.p.	percentage point(s)
PPS	purchasing power standard
R & D	research and development
SDGs	Sustainable Development Goals
SES	Structure of Earnings Survey
STEM	science, technology, engineering and mathematics
WAVE	Women Against Violence Europe
WHO	World Health Organization
WiD	Women in Digital
WMID	Women and Men in Decision-Making (EIGE Gender Statistics Database)

([1]) This report uses the abbreviation LGBTQI* as it is the most inclusive umbrella term for people whose sexual orientation differs from heteronormativity and whose gender identity falls outside binary categories. The language used to refer to this very heterogeneous group continuously evolves towards greater inclusion. For this reason, different researchers and organisations have adopted other versions of the abbreviation, such as LGBT and LGBTI. Accordingly, the report will use those researchers' and organisations' chosen abbreviations when describing the results of their work.

Contents

List of figures

List of tables

Highlights of the Gender Equality Index 2020

Main findings

- The overall Gender Equality Index score for the EU in 2018 is 67.9 points, showing the urgent need for progress in all Member States. The score has increased by only 0.5 points since 2017 and by 4.1 points since 2010. At this pace – 1 point every 2 years – it will take more than 60 years to achieve gender equality in the EU.

- The gender balance in decision-making is a major driver of change in almost all Member States. In the long term (2010–2018), the domain of power has contributed 65 % of the overall increase in the Gender Equality Index in the EU. In 2017–2018, the contribution was even more significant, reaching 81 %. Progress in the domains of work and knowledge contributed only 8 % and 6 %, respectively, to the overall improvement in gender equality in the EU.

- Initial results of analysis of the economic impact of the coronavirus disease (COVID-19) pandemic suggest that there is a risk that the fragile gains achieved with regard to women's independence in the past decade will be rolled back. Physical distancing measures have had a substantial impact on sectors employing a high proportion of women, with women's employment falling more sharply than it did during the 2008 recession. In addition, the closure of schools and other care services has greatly increased childcare needs, with a likely disproportionate impact on working mothers.

Domain of work

- Gender equality in the world of work is advancing at a slow pace in the EU. The Index score reached 72.2 in 2018, having increased by about 0.2 points since 2017 and 1.7 points since 2010. This growth was driven almost entirely by increases in women's employment, with barely any change to gender segregation in the EU labour market. The prospect of further increases in employment in the near future are in doubt in the light of the COVID-19 crisis.

- The gender gap in the full-time equivalent (FTE) employment rate has decreased in the EU since 2010, reflecting reduced gaps in 15 Member States, compared with increased gaps in only eight. However, inequalities are worsening among vulnerable groups, including lone parents, people with migrant backgrounds and those with low educational achievement.

- Reducing gender gaps in employment is crucial to achieving the Europe 2020 strategy (EU2020) employment rate target of 75 %. All five countries with the smallest gender employment gaps in the EU have already surpassed this target, while four of the five Member States with the highest gender employment gaps remain below the target.

Domain of money

- With a score of 80.6, the domain of money showed minor improvements – up 0.2 points since 2017 and with an increase of only 2.2 points since 2010. Closing gender gaps in monthly earnings and income from pensions, investments and other benefits is particularly slow.

- Since 2010, the gender gap in earnings has increased in 17 Member States, while the gender gap in income has gone up in 19 Member States, leading to an overall increase in gender inequality in earnings and income in the EU. Gender inequalities grow substantially

with age and level of education, peaking for women living in couples with children, and lone mothers.

- The poverty gender gap has increased in 14 Member States since 2010 and in 21 Member State since 2017. Poverty or social exclusion are concentrated among certain particularly vulnerable groups of women and men: lone mothers, women above 65 years of age, women and men with disabilities, women and men with a low level of education, and migrant populations.

Domain of knowledge

- The score for the domain of knowledge (63.6 points) has remained virtually unchanged since 2017 and improved only fractionally (1.8 points) since 2010. Gender segregation in higher education and low participation in adult learning remain the key challenges blocking more significant progress in this domain.

- Since 2010, gender segregation in education has increased slightly, with the situation worsening in 13 Member States and in other cases remaining almost unchanged (with very few exceptions). Gender segregation in education remains a major barrier to gender equality in the EU.

- The engagement of women and men (aged 15 or older) in formal or non-formal education and training remained low and stood at 17 % in the EU in 2018. Adult learning gradually stalls with age, increasing the risk of skills mismatches and a premature end to women's and men's careers.

Domain of time

- With an EU score of 61.6 points, the domain of time points to persistent gender inequalities not only in relation to informal care for family members but also in terms of access to leisure time and activities. Increasing time pressures from both paid and unpaid work, combined with gender norms and financial constraints, limit access to leisure for many groups of women, which can have ramifications for their overall well-being and even their health.

- A lack of availability of formal care services is linked to long-standing gender inequalities. Rising long-term care needs and lack of care services intensify gender inequalities within families and in employment. Care responsibilities are keeping 7.7 million women (aged 20–64) out of the labour market, compared with 450 000 men. Far more women than men also work part-time (8.9 million versus 560 000) owing to their care responsibilities.

- The COVID-19 pandemic in Europe and the associated closure of schools and lack of availability of social support systems (carers, childminders, grandparents) has considerably aggravated the pressure on families – especially women and lone mothers – to combine care work for children and older family members with paid work. Early data show that women have experienced an even greater burden of childcare and children's education while teleworking.

Domain of power

- Even though the score for the domain of power has increased by almost 12 points since 2010, and by 1.6 points since 2017, it remains the lowest of all domains, at 53.5 points. The EU has come just halfway towards gender equality in key decision-making positions in major political, economic and social institutions.

- The gender gap is narrowing in political decision-making. Many Member States have instituted legislative candidate quotas to increase gender balance in national parliaments, with strong results.

- The subdomain of economic power has made significant progress, with a 17.9 point increase

since 2010. The presence of women on the boards of the largest publicly quoted companies has increased strikingly with the application of quotas by Member States or other soft measures to address the gender imbalance.

Domain of health

- Only marginal progress (1.8 points) has been made since 2010, with the domain of health backsliding by 0.1. points since 2017. The score for access to health services decreased by 0.2 points and there were no changes in health status. The latest comparable data for health behaviour are from 2014, so the change cannot be monitored at this time.

- Health inequalities are accumulating for women with low education and women and men with disabilities, who have both the poorest health and the most limited access to health services. Health status, as well as access to services, is connected to labour market status and level of income.

- The COVID-19 pandemic will have repercussions for the mental and physical health of women and men well beyond the immediate effects of the virus, reversing progress already achieved in health equality. The mental health of women and men, as well as that of girls and boys, will require particular attention.

Domain of violence

- The lockdowns imposed in all Member States as a result of COVID-19 have proved a substantial threat to women victims of violence, who are forced to remain at home for a prolonged period of time and thus are constantly exposed to their abusers. The increased use of the internet and social networks that has resulted from lockdowns and social distancing measures, especially among young people, has been associated with a spike in cases of cyber-violence against women, such as sharing of intimate pictures without consent.

- Analysing data on femicide presents long-standing challenges, owing to the lack of a uniform EU legal definition of femicide and significant differences in data collection between the Member States. Nevertheless, in 2017, Eurostat recorded 854 women victims of homicide by a family member or intimate partner.

- Gender-based violence intersects with multiple axes of oppression. For this reason, Muslim women, women with disabilities and older women face more severe forms of discrimination and are exposed to a higher risk of violence. Within the lesbian, gay, bisexual, trans, queer and intersex (LGBTQI*) community, the gender component exacerbates the risk of falling victim to violence, with the most vulnerable individuals being those whose gender expression does not match their assigned sex at birth and intersex people.

Digitalisation and the future of work

Gendered patterns in use of new technologies

- Women and men are online to a more or less equal extent: 78 % of women and 80 % of men use the internet daily. However, older women and women with lower education lag behind. In addition, 25 % of women aged 55–74 (compared with 21 % of men) and 27 % of women with low education (21 % of men) have never had the chance to use the internet. Men are more likely to participate in professional networks, download software and look for online learning materials. Women outpace men in social networking and searches for information about education and training.

- In the EU, young women and men are the most digitally skilled generation and benefit equally from basic and above basic digital skills. However, at a later age, the gender divide is widening. Men are more advantaged

in terms of the digital skills necessary to thrive in a digitalised world of work than women, particularly among older people (aged 55 or older). Women also experience bigger obstacles than men in acquiring and upgrading digital skills.

- Despite the overall growth of the information and communications technology (ICT) sector in recent decades and the high demand for ICT skills in the labour market, only 20 % of graduates in ICT-related fields are women and the share of women in ICT jobs is 18 % (a decrease of 4 percentage points (p.p.) since 2010). Beyond ICT, a striking gender gap exists among scientists and engineers in the high-technology sectors likely to be mobilised in the design and development of new digital technologies. The untapped potential of talented female scientists, alongside gender-blind research, prevents the realisation of the full potential of technological and scientific advances.

Digital transformation of the world of work

- The digital transformation of the labour market brings with it several important challenges for gender equality. Notably, women are at a slightly higher risk than men of being replaced in their jobs (e.g. in clerical support work) by digitally enabled machines; and newly emerging jobs (e.g. ICT professionals) are often concentrated in the in male-dominated ICT and science, technology, engineering and mathematics (STEM) sectors. There is potential to promote gender equality as well – for example by breaking down the old patterns of labour market segregation or by upskilling certain jobs held mostly by women.

- Women are underrepresented among platform workers, accounting for about one third of this workforce. So far, it seems that platform work mostly reproduces, rather than challenges, key gender inequalities from the broader labour market, such as gender segregation and the gender pay gap.

- Platform work poses challenges for the application of the EU's gender equality and non-discrimination legislation in the area of employment, partly because of the fragmented and irregular nature of this work and partly because of new workforce management practices. For example, online customer ratings play a big role in evaluating workers' performance in some forms of platform work, often with consequences for job access and pay. Yet such ratings can mirror gender and racial stereotyping on the part of customers, rather than providing an objective assessment.

- Most platform workers are classified as self-employed or independent contractors, which results in limited access to social and work protection measures, including those essential for achieving gender equality. For example, around half of all self-employed mothers may not be entitled to maternity benefits in the EU, and access to parental leave is also limited for the self-employed in a number of Member States. The lack of social protection became especially problematic during the COVID-19 crisis, which highlighted the importance of access to, for example, unemployment benefits and sick pay.

- Some forms of platform work are highly flexible and provide important opportunities to combine paid work with unpaid care responsibilities. This is likely to support women's work participation in particular, since women usually undertake the lion's share of unpaid care. However, such opportunities do not seem to challenge the unequal distribution of unpaid work per se, and in some cases may even reinforce it. For example, women are more likely to perform online tasks via platforms because they need to work from home owing to caring responsibilities, while men are more likely to do so to top-up income from their other work. Thus, platform work

is unlikely to change the unequal division of unpaid care between women and men; this requires specific measures to support work–life balance, such as affordable, high-quality care provision and well-paid care-related leave available to all.

Broader consequences of digitalisation

- Artificial intelligence (AI) systems have the power to create an array of opportunities for European society and the economy, but they also pose new challenges. The increasing use of AI in every aspect of people's lives requires reflection on its ethical implications and the assessment of potential risks, such as algorithmic gender bias and discrimination. The lack of gender diversity in the development of AI technologies and the quality of the data used in algorithms are the key risk factors for potential biases and unfair treatment.

- Sexual harassment in the workplace is sadly a common experience for women in the EU. This form of gender-based violence is now increasingly mediated by digital technologies and affecting women's working lives in dramatic ways. Women public figures are particularly targeted, especially on social media, as a strategy to silence them and undermine their authority. Women platform workers are exposed to abuse and violence from users of platform services. Such abuse often stems from a situation of 'information asymmetry' between workers and users resulting from the platform's design and terms of service. On the one hand, these platforms give users access to a high volume of private information on the worker (e.g. including age, gender, location and photograph); on the other hand, they restrict the information accessible to the worker, which can limit their ability to assess the safety of a 'gig' before accepting it.

- The number of women and men needing long-term care is bound to increase, given the ageing population and increasing life expectancy across the EU. To contain costs and sustain the pressure of the growing number of patients, countries aim to promote independent living in any care setting (residential, home or community-based) together with greater use of ad hoc technological solutions (i.e. assistive technology, gerontechnology). Such technologies enable personalised interventions based on data collected from the environment or directly from the care recipient, and to some extent alleviate the caregiver burden.

Introduction

In March 2020, the European Commission presented the new EU gender equality strategy 2020–2025. The strategy builds on the promise of the newly appointed Commission President to strive for a Union of equality, where women and men, girls and boys, in all their diversity, are free to pursue their chosen path in life, with equal opportunities to thrive and to participate in and lead European society (European Commission, 2020c). The EU has made some improvements in gender equality in recent decades. However, given that the EU is considered a global leader in gender equality, this progress is taking place at a snail's pace. Gender equality is not yet a reality for millions of Europeans.

The COVID-19 pandemic in 2020 has infected millions, ended thousands of lives, and affected the lives of all women and men, girls and boys. Statistics on the COVID-19 outbreak show important sex differences in mortality and vulnerability to the disease (Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, 2020). However, the impact of COVID-19 and the resulting policy responses go far beyond the disease itself, reaching into all domains of society and life, including the economy and employment, education, time use and work–life balance. There is also worrying evidence of growing gender-based violence. Persistent and prevailing gender inequalities mean that women and men experience the COVID-19 crisis – and its repercussions – differently. Crucially, the pandemic poses a serious threat to the fragile achievements in gender equality made over the past decade.

This report presents the fifth edition of the Gender Equality Index. In view of the post-Europe 2020 discussions about the future of Europe and the commitments presented in the EU gender equality strategy 2020–2025, it is important to sustain effective monitoring of gender equality in the EU and thus ensure evidence-based policymaking.

The Gender Equality Index has been widely recognised for its contribution to monitoring progress on gender equality in the EU. The new EU gender equality strategy 2020–2025 acknowledges the European Institute for Gender Equality's (EIGE) Index as a key benchmark for gender equality and sets out its intention to introduce annual monitoring of gender equality building on the Gender Equality Index (European Commission, 2020c).

The Index covers a range of indicators in the domains of work, money, knowledge, time, power and health. It also integrates two additional domains: violence and intersecting inequalities. The indicators are closely linked to EU targets and international commitments such as the Beijing Platform for Action and the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). This edition tracks gender equality progress in the EU since 2010 ([2]). More detailed statistical analyses of Index results for every EU Member State and the United Kingdom will be provided separately.

This year's thematic focus of the Index explores how digitalisation is shaping the future of work for women and men. Recent decades have seen digital technologies radically transform the world of work, with profound consequences for workers, businesses, regulators and society. Digitalisation has led to automation and reorganisation of vast numbers of jobs, the emergence of new flexible working practices and forms of work (e.g. platform work), and the creation of new ICT occupations and strands of research. This has sparked debates on how to harness the potential

([2]) The 2020 edition of the Index covers data available up to and including January 2020. The newest data available by this point covers developments until 2018. As this is a reference period during which the United Kingdom still was a Member State, the EU aggregate used here refers to the 28 EU Member States (EU-28), including the United Kingdom.

of this transformation to increase the productivity, competitiveness and growth of the EU economy. However, such debates often neglect the broader transformative potential of digitalisation, notably its central role in transforming gender relations in both positive and negative ways.

The thematic focus takes stock of recent research to assess the opportunities, risks and challenges for gender equality in the world of work brought about by digitalisation. It shows the profound implications of new technologies for future progress towards gender equality across all Index domains, most notably for work, money and knowledge. While it highlights some well-known challenges – such as the gender segregation of ICT education, employment and research – it chiefly aims to shed light on less well-known aspects of digitalisation. These include, for example, the different effects of precarious working conditions on women and men in certain forms of platform work, and the ways in which digital technologies can enable new forms of harassment at work. The thematic focus therefore provides some fresh insights on monitoring gender equality not only in the broader context of the European Pillar of Social Rights but also in the context of specific strategies linked to digitalisation, such as the EU digital strategy 'Shaping Europe's digital future'.

Chapter 1 presents the main findings of the Gender Equality Index 2020 and provides a broad overview of the main trends in gender equality since 2010 and since the previous edition, which was based on 2017 data. Chapters 2–7 summarise the policy context, main findings and developments in relation to the core domains of the Index. Using the measurement framework for the domain of violence, Chapter 8 presents the most up-to-date (albeit scarce) data on violence against women. The thematic focus on digitalisation and its impact on the future of work is presented in Chapter 9.

1. Gender equality in the EU at a glance

1.1. Gender equality will be reached in over 60 years, at the current pace

The Gender Equality Index score is 67.9 points, showing the urgent need for progress in all Member States. It has grown by only 0.5 points since 2017 and by 4.1 points since 2010. At this pace – 1 point every 2 years – it will take more than 60 years to achieve gender equality in the EU.

The largest gender inequalities are observed in the domain of power, with a score of 53.5 points. The main progress in this domain stems from women's participation in economic decision-making. The second least equal domain is knowledge (63.6 points), where progress is limited by persistent gender segregation in different fields of study in tertiary education. The gender inequalities in time use for caring and social activities (65.7 points) have seen a drop of 0.6 points since 2010, although lack of new data prevents inclusion of the latest developments (Figure 1).

In the domain of work, the increases in shares of women in employment have continuously been counteracted by persistent gender segregation across occupations. Together with vertical segregation in the labour market, this has led to lifelong gender inequalities in earnings and income, and an overall higher risk of poverty for women, which has only fractionally improved since 2010.

The distance from reaching gender equality varies considerably between Member States (Figure 2). Ten countries are above the EU average, all scoring more than 70 points on the Gender Equality Index. Sweden (83.8 points), Denmark (77.4 points) and France (75.1 points) maintain their top status, as in 2017, with Sweden and Denmark having been the top performers since 2010, when the first Gender Equality Index was released. More than one third of Member States scored fewer than 60 points in 2018, with Greece (52.2 points) and Hungary (53.0 points) in particular need of improvement.

Since 2017, Gender Equality Index scores have seen the greatest increases in Croatia, the Netherlands and Spain (around 2 points or more), Portugal, Finland, Austria, Luxembourg and Latvia (1 to 1.4 points), and Greece, Hungary and Slovakia (around 1 point). Scores have decreased in Slovenia (– 0.6 points), Denmark and Romania (– 0.1 points).

Since 2010, the greatest progress on gender equality has been evident in Italy (10.2 points), Luxembourg (9.1 points), Malta (9 points), Estonia, Portugal, France, Austria and Cyprus (between 7.3 and 7.9 points), Bulgaria, Germany, Slovenia, Latvia, Spain, Croatia and Ireland (between 4.6 and 6.8 points). Czechia, Hungary, Poland and the Netherlands have progressed the least since 2010 (by less than 1 point). The remaining countries have progressed at a pace of between 1.2 and 4 points during this period.

The annual progress of the Gender Equality Index in the EU is a direct consequence of the different pace of change in each Member State in the short term (2017–2018) and in the long term (2010–2018). From 2017 to 2018, for example, countries progressed faster than their average annual increase in the long term (2010–2018). This was the case in Croatia, the Netherlands and Spain. By contrast, however, Romania, Italy and Slovenia had a low annual increase (or took a step back) in 2018 compared with their average annual progress in the long term.

Figure 1. Ranges of Gender Equality Index scores for Member States, and changes over time

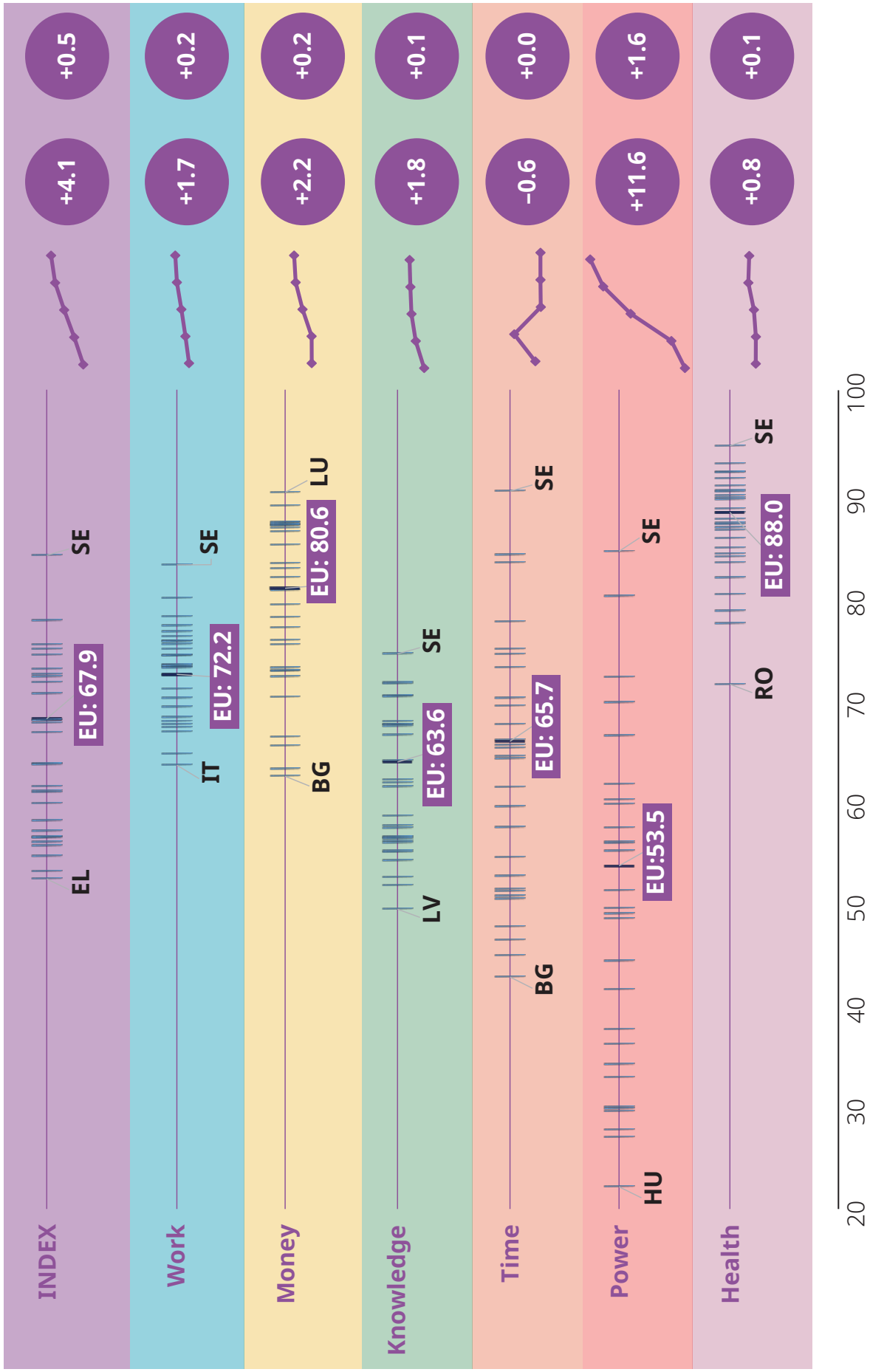
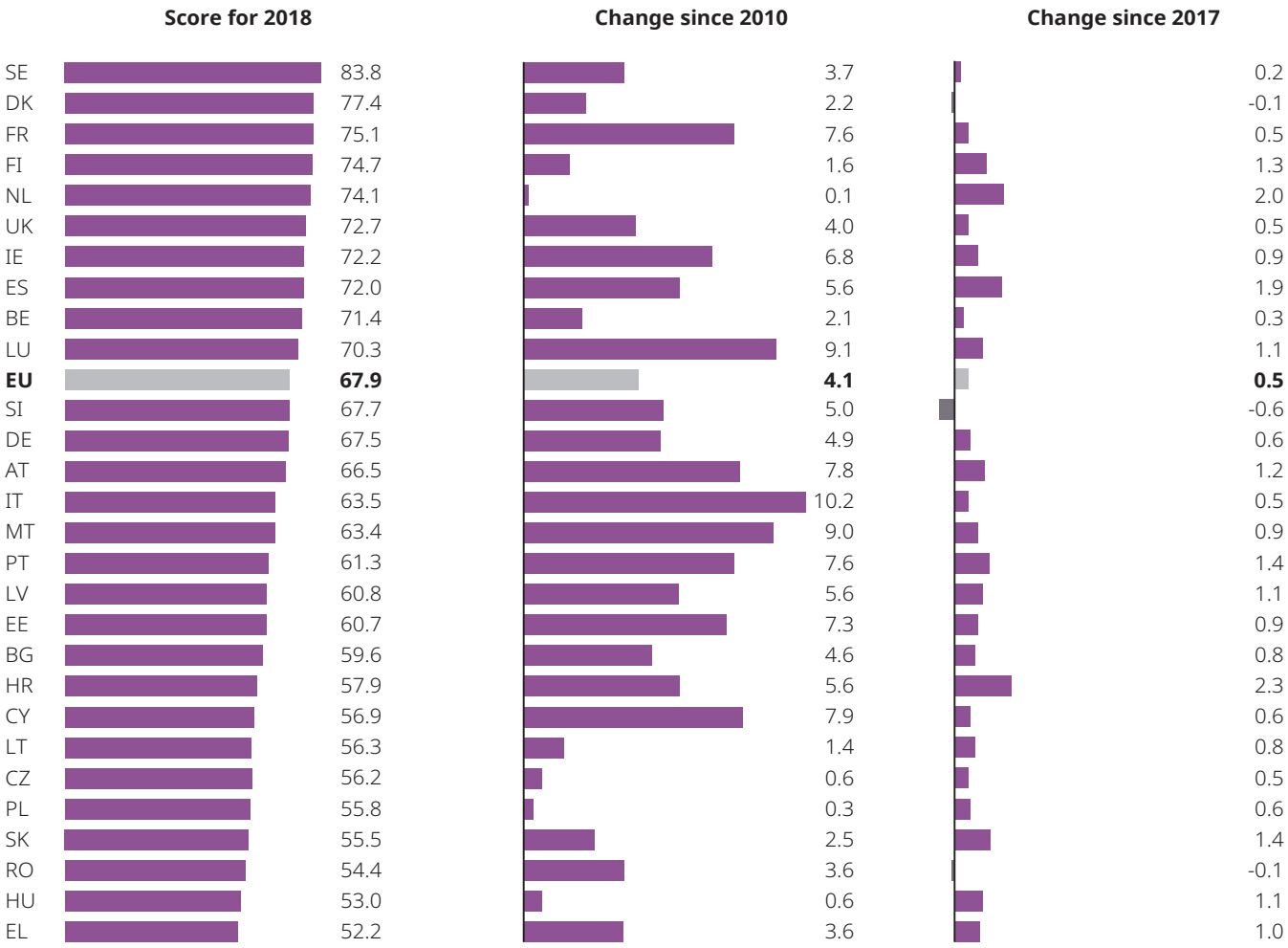


Figure 2. Gender Equality Index (changes compared with 2010 and 2017)



1.2. Gender equality needs faster progress in all domains

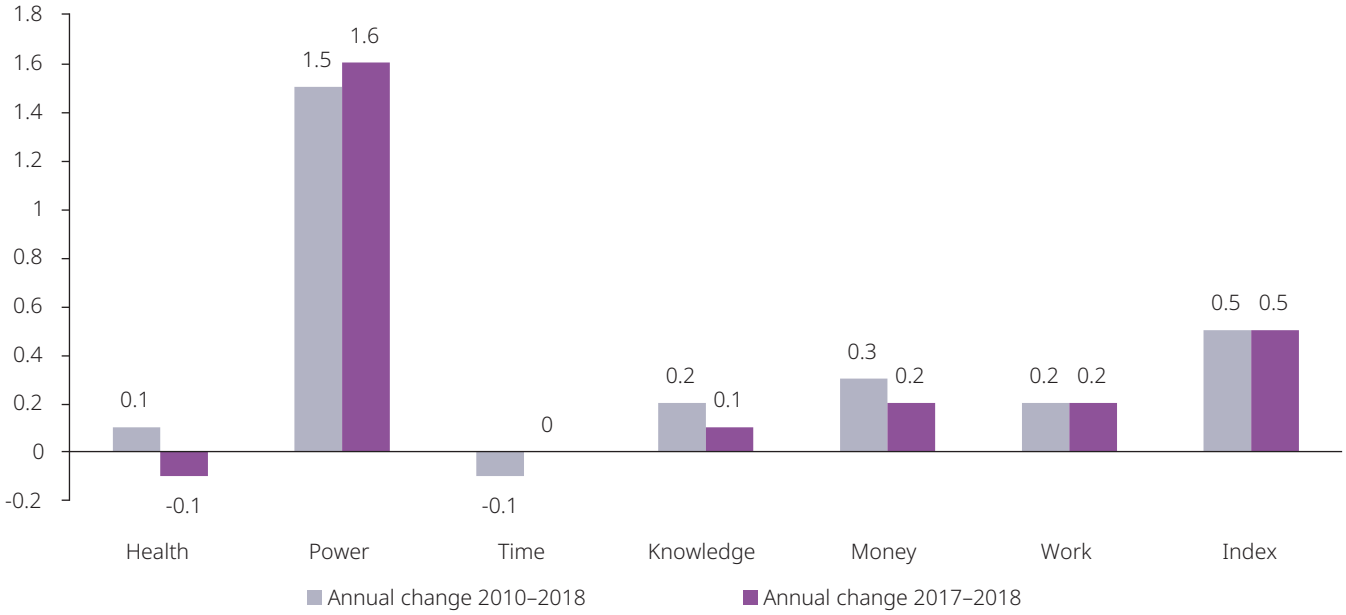
The annual increase in the Gender Equality Index since 2010 is the result of the different performances of EU countries in different domains (Table 1). As shown in Figure 3, the annual change in the Index score since the previous edition (2017–2018) is roughly the same as the annual change since 2010. The domain of power shows the highest annual increase since 2017, with the same pattern of change evident over the long term.

The domain of power has seen the highest overall increase in the EU since 2010, at 11.6 points. On average, scores in the domain of power have grown somewhat faster in the short term (2017-2018) than in the long term (2010-2018). Conversely, short term growth has been slower than long term growth in the domains of health, knowledge and time. Short and long term change was roughly the same in the domain of work. The variation in short and long term growth rates for individual countries is presented in Table 1.

1.3. Without gains in power, gender equality would barely be progressing

Despite being the lowest scoring, the domain of power continues to drive the increase in the Gender Equality Index, in both the short term and the long term. Between 2010 and 2018, the domain of power contributed around two thirds of the overall increase in the Index (65 %); the 2017–2018 contribution was even more marked, reaching 81 % (Table 2). The domain of power is also the major driving factor behind gender

Figure 3. Annual change, long term (2010–2018) and short term (2017–2018), by domain, EU



equality progress in almost all of the Member States in the long term, particularly in Belgium, Ireland, France, Croatia, Italy, Cyprus, Luxembourg and the United Kingdom. In the short term, the domain of power has contributed more than 80 % of overall gender equality progress in Czechia, Croatia, Spain, Latvia, Austria and the Netherlands, and 70–80 % in Germany, Greece, Cyprus, Portugal, Finland and the United Kingdom. In Slovenia, by contrast, the decrease in the Gender Equality Index by – 0.6 points during 2017–2018 was determined by a decrease in the domain of power (– 79 %).

In 2017–2018, progress in the domain of work contributed to an overall increase in the EU's Gender Equality Index score by 8 %, the domain of knowledge by 6 % and the domain of money by 5 % (Table 2). However, these lower contributions to gender equality progress at EU level hide important country differences. Closing gender gaps in the domain of work made a relatively high contribution to gender equality progress in Malta (+ 40 %), Belgium (+ 34 %) and France (+ 18 %) between 2017 and 2018. Changes in the domain of money had a substantial positive impact on gender equality in Lithuania (+ 22 %), Romania (+ 19 %) and France (+ 15 %) but reduced the Gender Equality Index scores for Germany, Luxembourg and the United Kingdom (by around – 14 % to – 16 %). The domain of knowledge contributed positively to progress in Bulgaria (+ 54 %), Sweden (+ 33 %) and Malta (+ 33 %) and made a negative contribution in Denmark (– 40 %), Czechia (– 16 %) and Greece (– 13 %). Finally, the domain of time reduced the EU's Gender Equality Index scores between 2010 and 2018 by 13 %, owing to diminishing gender equality in several Member States (the Netherlands, Finland, Sweden and Denmark).

Table 1. Changes in the Gender Equality Index and domain scores by Member State, long term (2010–2018) and short term (2017–2018), in points

MS	Long-term increase/decrease (2010–2018)						
	Index	Work	Money	Knowledge	Time	Power	Health
EU	4.1	1.7	2.2	1.8	-0.6	11.6	0.8
BE	2.1	2.0	3.2	0.8	-5.0	7.8	0.0
BG	4.6	1.1	1.5	4.5	-1.2	15.7	1.9
CZ	0.6	2.1	3.0	3.0	3.5	-3.3	0.6
DK	2.2	-0.1	3.2	-1.9	2.7	8.2	-0.6
DE	4.9	2.1	1.7	-2.3	-4.8	21.2	1.3
EE	7.3	0.9	4.5	4.7	1.0	14.2	-1.1
IE	6.8	2.4	1.0	2.0	3.4	18.6	0.6
EL	3.6	0.8	-2.8	1.4	9.1	4.7	-0.3
ES	5.6	1.4	0.7	4.1	3.2	16.8	1.5
FR	7.6	1.3	3.5	4.3	0.7	27.4	0.7
HR	5.6	2.7	4.0	1.7	1.2	13.0	2.2
IT	10.2	2.0	0.1	8.1	4.2	23.6	2.1
CY	7.9	0.3	1.0	0.7	5.4	14.4	1.6
LV	5.6	1.4	6.3	0.1	3.8	14.6	1.1
LT	1.4	1.5	5.3	1.9	-1.6	1.2	-0.4
LU	9.1	4.3	-1.8	3.7	-1.1	22.8	-0.3
HU	0.6	2.0	1.2	2.9	0.2	-1.3	1.6
MT	9.0	10.3	3.4	1.7	9.9	11.9	1.4
NL	0.1	1.5	-0.4	0.4	-2.0	0.3	-0.3
AT	7.8	1.1	3.9	4.9	5.2	15.8	0.8
PL	0.3	1.0	6.0	-0.6	-1.7	-0.6	1.5
PT	7.6	1.5	1.0	5.6	8.8	16.2	0.3
RO	3.6	-0.3	3.2	5.2	-0.3	6.7	1.3
SI	5.0	1.2	2.7	0.9	4.6	13.9	0.1
SK	2.5	1.8	4.9	1.7	6.4	0.1	0.7
FI	1.6	0.9	3.0	3.0	-2.7	2.8	-0.2
SE	3.7	2.5	1.5	3.5	5.6	6.4	1.3
UK	4.0	1.8	0.6	-3.2	-2.2	17.6	-1.3

MS	Short-term increase/decrease (2017–2018)						
	Index	Work	Money	Knowledge	Time	Power	Health
EU	0.5	0.2	0.2	0.1	–	1.6	-0.1
BE	0.3	0.6	0.4	0.1	–	0.5	0.2
BG	0.8	0.0	0.5	1.7	–	1.6	0.1
CZ	0.5	0.0	0.1	-0.6	–	1.6	0.0
DK	-0.1	0.1	-0.3	-1.0	–	1.3	-0.2
DE	0.6	0.0	-1.1	0.3	–	2.9	0.1
EE	0.9	0.6	0.6	0.8	–	1.5	-0.3
IE	0.9	0.4	1.0	0.4	–	2.4	0.4
EL	1.0	0.2	1.1	-0.9	–	2.7	0.5
ES	1.9	0.3	1.1	0.2	–	7.4	0.0
FR	0.5	0.4	0.6	0.3	–	1.5	0.0
HR	2.3	0.7	0.4	1.2	–	6.6	0.0
IT	0.5	0.2	0.2	0.7	–	1.2	-0.3
CY	0.6	0.1	0.9	-0.3	–	1.6	-0.4
LV	1.1	-0.2	-0.3	-0.4	–	5.3	0.1
LT	0.8	0.5	1.4	0.3	–	1.6	0.2
LU	1.1	1.1	-1.8	0.5	–	3.6	-0.1
HU	1.1	0.6	0.4	0.5	–	1.6	0.4
MT	0.9	2.1	0.1	1.3	–	0.6	-0.1
NL	2.0	0.4	-0.5	0.2	–	7.2	0.0
AT	1.2	-0.2	0.3	-0.3	–	4.3	0.2
PL	0.6	0.3	0.4	0.7	–	0.9	-0.1
PT	1.4	0.4	0.7	0.6	–	4.4	0.1
RO	-0.1	-0.1	1.0	0.9	–	-1.3	0.1
SI	-0.6	-0.2	0.6	-0.1	–	-2.6	-0.2
SK	1.4	0.1	0.9	0.8	–	2.8	-0.3
FI	1.3	0.5	-0.5	0.5	–	5.2	-0.4
SE	0.2	-0.1	0.0	0.4	–	0.8	-0.2
UK	0.5	0.0	-1.2	-0.3	–	3.5	-0.5

MS	Pace in the short term (2017–2018) compared with the long term (2010–2018)						
	Index	Work	Money	Knowledge	TIme	Power	Health
EU	●	●	●	●	–	●	●
BE	●	●	●	●	–	●	●
BG	●	●	●	●	–	●	●
CZ	●	●	●	●	–	●	●
DK	●	●	●	●	–	●	●
DE	●	●	●	●	–	●	●
EE	●	●	●	●	–	●	●
IE	●	●	●	●	–	●	●
EL	●	●	●	●	–	●	●
ES	●	●	●	●	–	●	●
FR	●	●	●	●	–	●	●
HR	●	●	●	●	–	●	●
IT	●	●	●	●	–	●	●
CY	●	●	●	●	–	●	●
LV	●	●	●	●	–	●	●
LT	●	●	●	●	–	●	●
LU	●	●	●	●	–	●	●
HU	●	●	●	●	–	●	●
MT	●	●	●	●	–	●	●
NL	●	●	●	●	–	●	●
AT	●	●	●	●	–	●	●
PL	●	●	●	●	–	●	●
PT	●	●	●	●	–	●	●
RO	●	●	●	●	–	●	●
SI	●	●	●	●	–	●	●
SK	●	●	●	●	–	●	●
FI	●	●	●	●	–	●	●
SE	●	●	●	●	–	●	●
UK	●	●	●	●	–	●	●

● Short-term > Long-term ● Short-term = Long-term ● Short-term < Long-term

NB: Fields in green, increased > 1 point; in red, decreased < 1 point; domain of time, no new data for 2018.

Table 2. Percentage contributions of the different domains to Gender Equality Index progress in the short term (2017–2018) and in the long term (2010–2018)

MS	Short term (2017–2018)						MS	Long term (2010–2018)					
	Work	Money	Knowledge	Time	Power	Health		Work	Money	Knowledge	Time	Power	Health
EU	8	5	6	–	81	–1	EU	6	6	9	–13	65	1
BE	34	14	7	–	40	6	BE	12	12	5	7	64	0
BG	0	9	54	–	37	0	BG	2	3	14	37	42	2
CZ	1	2	–16	–	81	0	CZ	10	10	18	28	–34	1
DK	1	–7	–40	–	48	–4	DK	0	9	–9	–41	39	–1
DE	1	–16	11	–	72	1	DE	4	2	–6	–36	51	1
EE	11	10	22	–	55	–2	EE	1	5	10	–33	50	–1
IE	7	14	10	–	66	4	IE	6	2	7	–11	74	1
EL	3	9	–13	–	74	2	EL	2	–4	4	64	26	0
ES	3	9	3	–	85	0	ES	4	1	14	24	54	2
FR	18	15	11	–	55	0	FR	3	6	14	–1	75	1
HR	5	2	13	–	81	0	HR	7	8	7	7	68	3
IT	7	4	28	–	56	–5	IT	4	0	16	14	65	1
CY	3	12	–6	–	76	–4	CY	1	1	2	26	70	1
LV	–2	–3	–8	–	87	0	LV	3	11	0	–37	47	1
LT	8	22	6	–	62	2	LT	8	27	15	34	15	–1
LU	12	–14	8	–	65	–1	LU	8	–2	8	0	81	0
HU	9	4	11	–	74	2	HU	13	5	25	29	–25	4
MT	40	1	31	–	27	–1	MT	17	4	3	26	49	1
NL	4	–3	3	–	90	0	NL	6	–1	2	–88	2	0
AT	–2	3	–5	–	88	1	AT	2	5	13	20	59	1
PL	9	8	25	–	58	–1	PL	8	36	–7	33	–12	5
PT	5	7	11	–	76	0	PT	2	1	13	43	40	0
RO	–2	19	29	–	–50	1	RO	–1	10	29	10	48	2
SI	–5	10	–4	–	–79	–3	SI	3	5	3	–40	49	0
SK	2	8	12	–	77	–1	SK	5	9	6	80	0	1
FI	7	–5	9	–	76	–2	FI	3	6	13	–69	9	0
SE	–7	–2	33	–	54	–5	SE	9	4	16	–44	24	2
UK	1	–15	–6	–	74	–4	UK	5	1	–11	–7	74	–2

2. Domain of work

EIGE's 2020 research assessing progress towards gender equality 25 years after the adoption of the Beijing Platform for Action suggests that the world of work in the EU remains characterised by a number of important gender inequalities (EIGE, 2020a). The employment rate of women is still significantly below that of men ([3]). The labour market remains heavily gender segregated, and women tend to be found more often in temporary, part-time or precarious employment. This contributes to significant gender gaps in pay and pensions (see Chapter 3, 'Domain of money'). Such inequalities have particularly dire consequences for vulnerable groups of women, including younger and older cohorts, lone mothers with dependent children, and those from migrant communities or other minority groups. Closing these gender gaps could generate considerable long-term gains for the EU economy, amounting to as much as 10 % of its gross domestic product (GDP) by 2050 (EIGE, 2017c).

Inequalities are often rooted in the unequal distribution of care and other responsibilities within the household (EIGE, 2020a). A disproportionate amount of caring activities falls on women, which limits their participation in paid employment (see Chapter 5, 'Domain of time'). The design of tax and benefit systems may also undermine the incentives for second earners ([4]) to participate in the labour market. This report highlights the potential impacts of two other important factors on the prospects for women's participation in the world of work. Firstly, as digitalisation continues to transform the EU labour market, it presents both challenges and opportunities for gender equality (see Chapter 9). Secondly, the COVID-19 crisis is likely to have huge employment impacts for both women and men (see below).

The Europe 2020 strategy has provided a broad plan for the EU economy since 2010, with the European Semester being a key process for coordinating the economic and social policies of Member States. While the strategy has a headline target of 75 % of people aged 20–64 in work by 2020, there are no separate targets for women and men. The gender perspective is more prominent in the European Pillar of Social Rights, introduced in 2017, the key principles of which include equal opportunities for women and men in all areas, including labour market participation, terms and conditions of employment, and career progression. The Pillar is accompanied by the Social Scoreboard, which includes indicators dedicated to monitoring gender equality in the labour market (the gender gap in employment, the gender gap in part-time employment and the gender pay gap). The EU is also strongly committed to the United Nations' 2030 Agenda for Sustainable Development and its SDGs, including to monitoring three indicators related to gender equality (SDG 5) within the area of employment: the gender employment gap, the gender pay gap and the inactive population due to caring responsibilities.

Key EU policy priorities and actions relating to gender equality in the labour market are outlined in the EU gender equality strategy 2020–2025. The most relevant measures from the perspective of employment include a focus on appropriate transposition and implementation of the Work–Life Balance Directive ([5]); supporting provision of quality childcare and long-term care using EU funding; a proposal to revise the targets set by the European Council in Barcelona in 2002 to ensure further upwards convergence on childcare across Member States; addressing the priorities set out in the European Pillar of Social Rights and monitoring their progress through the European Semester, notably through indicators from the Social Scoreboard; developing guidance for Member States on how national tax and benefits systems

([3]) Based on Eurostat table t2020_10 (available at https://ec.europa.eu/eurostat/web/products-datasets/-/t2020_10&lang=en).
([4]) Second earners are employed individuals who earn less than their partners.
([5]) European Parliament and Council of the European Union (2019).

affect incentives for second earners to work; introducing targeted measures to promote the participation of women in innovation, including a pilot project to promote women-led start-ups; and tackling gender segregation in the context of the digital transformation of the labour market (see Chapter 9).

2.1. Increases in women's employment have not challenged gender segregation

Gender equality in the world of work is advancing at a slow pace in the EU in both the short term and the long term (Figure 4). On average, the Index score for the domain of work ([6]) has grown by about 0.2 points per year, reaching 72.2 points in 2018. It may be optimistic to expect this growth to continue, as it is based on a period (2010–2018) characterised by recovery from the 2008 crisis and subsequent (relative) stability, and the latest figures do not take into account the potential implications of the COVID-19 crisis.

Changes in the work domain scores were almost entirely driven by increases in the labour market participation of women. Since 2010, the Index participation score has increased by about 0.4 points per year, owing to a combination of the following changes.

- The gender gaps in FTE employment rates and duration of working life have reduced slightly. For example, in 2010 women's FTE

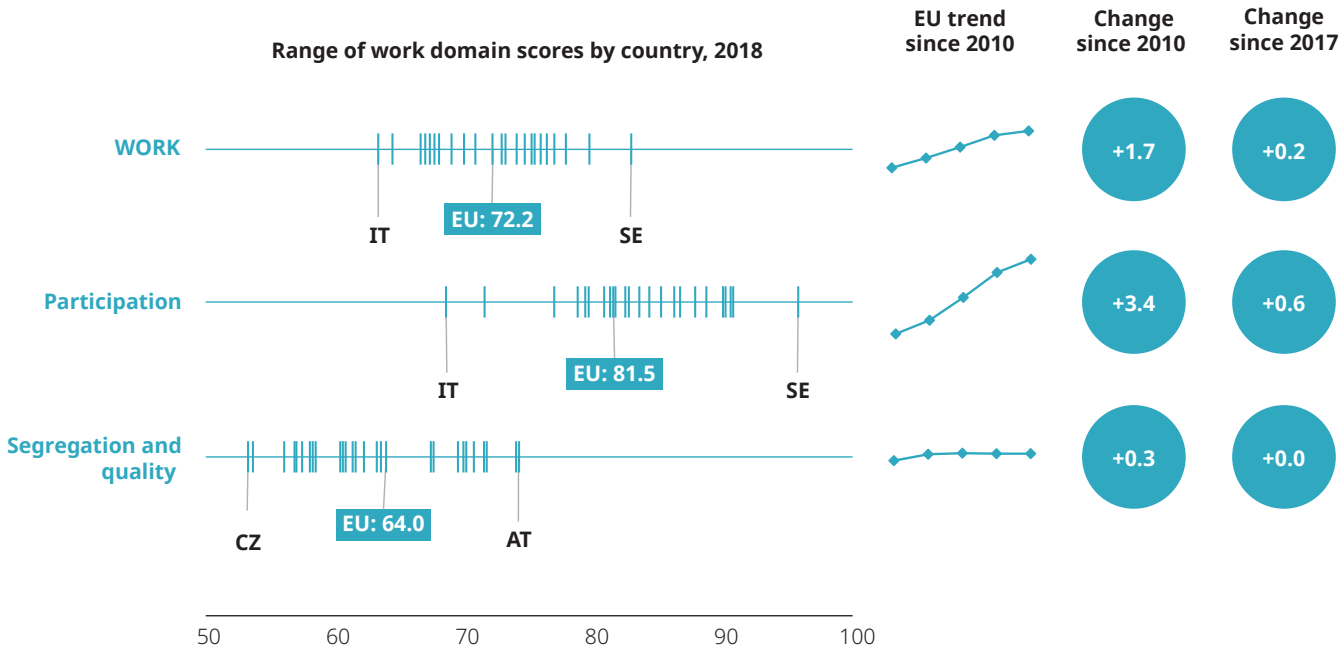
Preliminary data collected by the European Foundation for the Improvement of Living and Working Conditions (Eurofound) ([7]) show that the COVID-19 crisis is likely to lead to a sharp decline in employment in the EU. As of May 2020, around 5 % of workers had permanently lost their job owing to the pandemic, 23 % had temporarily lost their job and 15 % believed themselves likely to lose their job in the near future. The International Labour Organization (ILO) estimates that, in Europe and Central Asia, during the first quarter of 2020 working hours declined by 1.9 %, and during the second quarter they were projected to decline by almost 12 % (ILO, 2020b).

The Eurofound data indicates that initial employment losses are likely to affect similar proportions of women and men, although this needs to be considered in the light of limited data reliability and lack of evidence on impacts among specific groups. The proportion of women affected is more striking than in previous crises, such as the 2008 financial crisis, where the immediate impact disproportionately affected men (Alon et al., 2020; ILO, 2020a). This is partly because the sectors most severely affected by the COVID-19 pandemic (accommodation and food services, real estate, business and administrative activities, manufacturing and wholesale/retail, according to the ILO) account for a sizeable share of women's employment in the EU, around 40 %. Women may also be at increased risk of losing jobs because of additional unpaid care responsibilities resulting from closures of schools and childcare facilities, which may be difficult to combine with employment; this is particularly the case for lone parents, the large majority of whom are women (EWL, 2020). Women are more likely than men to be involved in precarious or informal work, with limited access to various work and social protections, which puts them at a particular disadvantage (EIGE, 2020a; ILO, 2020a).

([6]) 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.

([7]) Eurofound, 'Work, teleworking and COVID-19' (https://www.eurofound.europa.eu/data/covid-19/working-teleworking), data downloaded on 15.6.20.

Figure 4. Scores for the domain of work and its subdomains (2018), and changes over time



employment rate was 17.6 p.p. lower than men's, and this difference had reduced to 15.9 p.p. by 2018. The gender gap in FTE employment has decreased in 15 Member States, increased in eight and stayed roughly the same in the remaining countries.

- There have been overall increases in the FTE employment rate and the duration of working life for both women and men. For example, between 2010 and 2018 the FTE employment rate increased from 47.2 % to 49 % overall and from 38.9 % to 41.5 % for women.

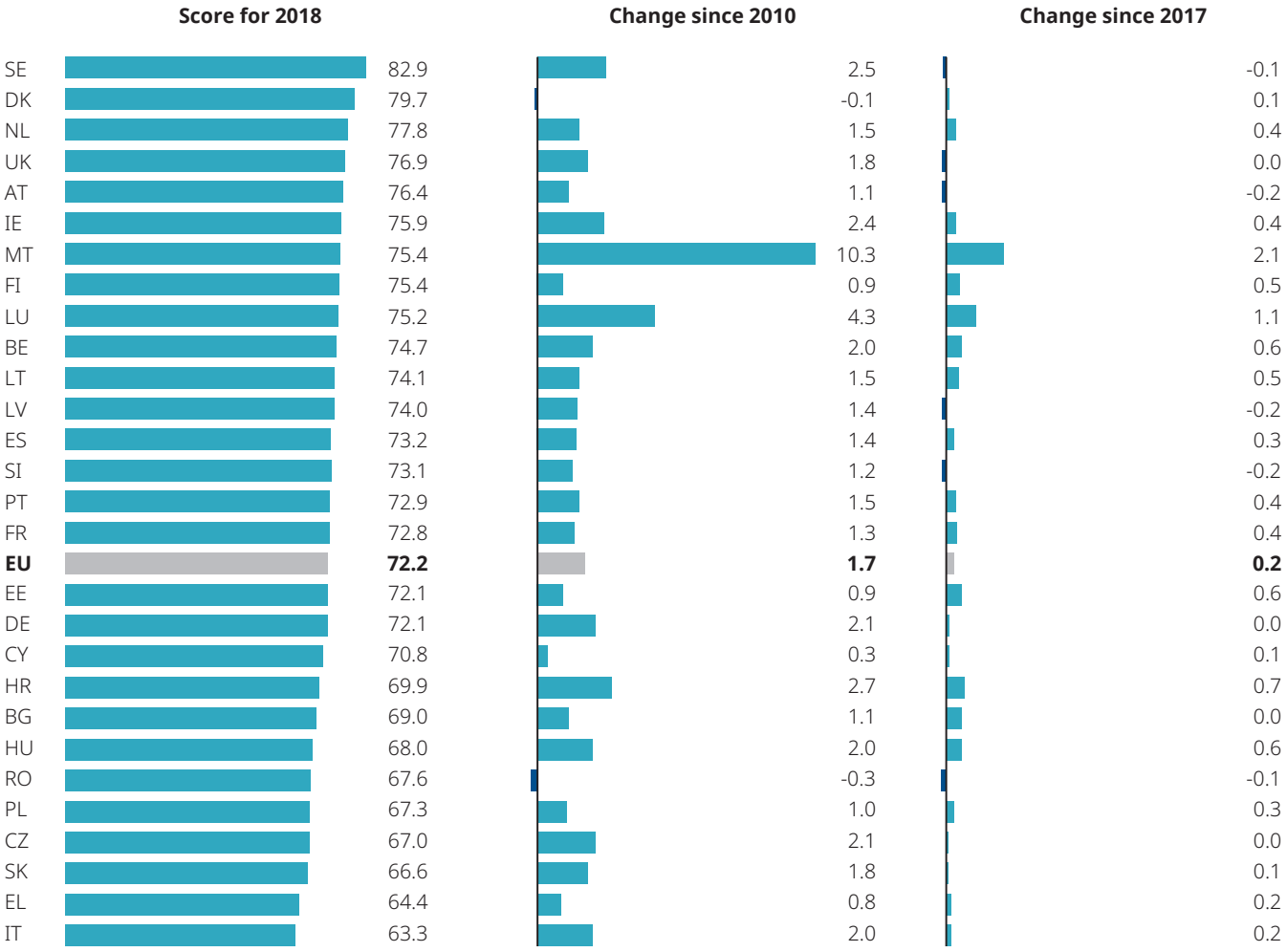
The progress on women's participation has not led to substantial changes to gendered patterns of employment in the labour market. The Index score for work quality and segregation has scarcely changed since 2010, standing at 64 points in 2018. Around 30 % of all employed women worked in education, health and social work activities, compared with 8 % of men. Other sectors and occupations remain dominated by men: for example, only 17 % of ICT specialists are women (see Chapter 9) ([8]). Women work more often in certain non-standard forms of employment, such as part-time work (31 % of women compared with 8 % of men) or temporary work (12 % versus 10 %), which contributes to higher incidence of precarious employment (26 % versus 15 %) (EIGE, 2020a).

The pattern of slow progress in the domain of work has been fairly consistent across countries since 2010 (Figure 5). Only Malta and Luxembourg have progressed at a substantially faster pace than average. Three countries recorded virtually no improvement in gender equality during this period: Denmark, Romania and Cyprus.

([8]) European Commission, 'Women in digital' (https://ec.europa.eu/digital-single-market/en/women-ict).

The gender segregation of some occupations came into particular focus during the COVID-19 crisis. Some strands of work were classified as essential during the pandemic, which often exposed these workers to unprecedented workloads, health risks and work–life balance challenges. Around 7 % of workers reported a large increase in their working hours during the pandemic ([9]). These included health professionals, of whom 72.5 % are women in the EU ([10]). Women dominate some occupations, especially those often characterised by lower salaries. For example, women account for more than 85 % of nursing and midwifery professionals and personal care workers in health services. Another example of a low-paid, female-dominated occupation that became essential during the crisis is food store cashier; these workers faced similar challenges to their health and work–life balance.

Figure 5. Scores for the domain of work, and changes since 2010 and 2017, in the EU Member States



([9]) Eurofound, 'Work, teleworking and COVID-19' (https://www.eurofound.europa.eu/data/covid-19/working-teleworking), data downloaded on 15/06/20.

([10]) EIGE, 'Covid-19 and gender equality' (https://eige.europa.eu/topics/health/covid-19-and-gender-equality).

2.2. Slow progress leaves women from vulnerable groups behind

More detailed analysis of FTE employment shows worsening inequality among groups at high risk of poverty or social exclusion, including lone parents, people with migrant backgrounds and those with low educational achievement. For all of these groups, the gender gap in FTE employment has increased by more than 1 p.p. since 2014 (Figure 6).

The gender differences in FTE employment rates are particularly high among those with low educational attainment or who were born abroad, reaching around 20 p.p. in each of these groups. This is higher than the FTE employment gap for the overall population (roughly 16 p.p.). The employment situation seems particularly dire for less educated women, where massive gender inequality is coupled with an FTE employment rate below 20 %. Around one in two people from a non-EU migrant background and one in three with low educational attainment are at risk of poverty and social exclusion (EIGE, 2020a). Many migrant women tend to work as domestic workers, often under informal working arrangements; while some managed to return to their home countries ahead of border closures triggered by the COVID-19 pandemic (Zacharenko, 2020), others remained 'trapped in host countries … with no income or place to go' (ILO, 2020b).

The employment situation of lone mothers (who account for 9 out of 10 lone parents) is quite different. Their FTE employment rate is around 60 %, roughly 15 p.p. below that of men. However, lone parents must often rely only on their own income to provide for their children, and women in particular are prone to be in precarious employment. Lone parents have faced extremely difficult circumstances during the COVID-19 pandemic owing to school and childcare facility closures, which have often required them to work

Figure 6. FTE employment rate by sex, family composition, age, education level, country of birth and disability, EU, 2018

Characteristic	Women (%)	Men (%)	Gender gap (p.p.)	Gap change since 2014
Family				
Couple with children	60	88	-28	no change
Lone parents	59	74	-15	gap increased
Age				
15 to 24	26	31	-5	no change
25 to 49	65	84	-19	no change
50 to 64	50	69	-19	no change
Education				
Low	18	37	-19	gap increased
Medium	46	63	-17	no change
High	66	74	-8	no change
Country of birth				
Native born	41	57	-16	no change
Foreign born	39	60	-21	gap increased
Disability				
With disability	21	29	-8	gap increased
Without disability	48	64	-16	no change
Overall				
Population 15 +	41	57	-16	no change

gap decreased · no change · gap increased

Source: EIGE's calculation, EU LFS. EU-SILC for disabilities is used (IE, SK, UK, 2017)

from home or stop working altogether (Alon et al., 2020). Every second lone parent is at risk of poverty or social exclusion (EIGE, 2020a).

People with disabilities are the only vulnerable group analysed for whom the data show a decline in the FTE employment gender gap. However, the overall FTE employment rate remains very low in this group, reaching around 21 % for women and 29 % for men, with almost no improvement since 2014. Around one third of women in this group are at risk of poverty and social exclusion (EIGE, 2020a).

Finally, data collected by the European Union Agency for Fundamental Rights (FRA) indicates very low employment among women from certain minority backgrounds. Fewer than one in five women from Roma communities work, and around 80 % of Roma people are estimated to live below the monetary poverty threshold in their country (FRA, 2016b).

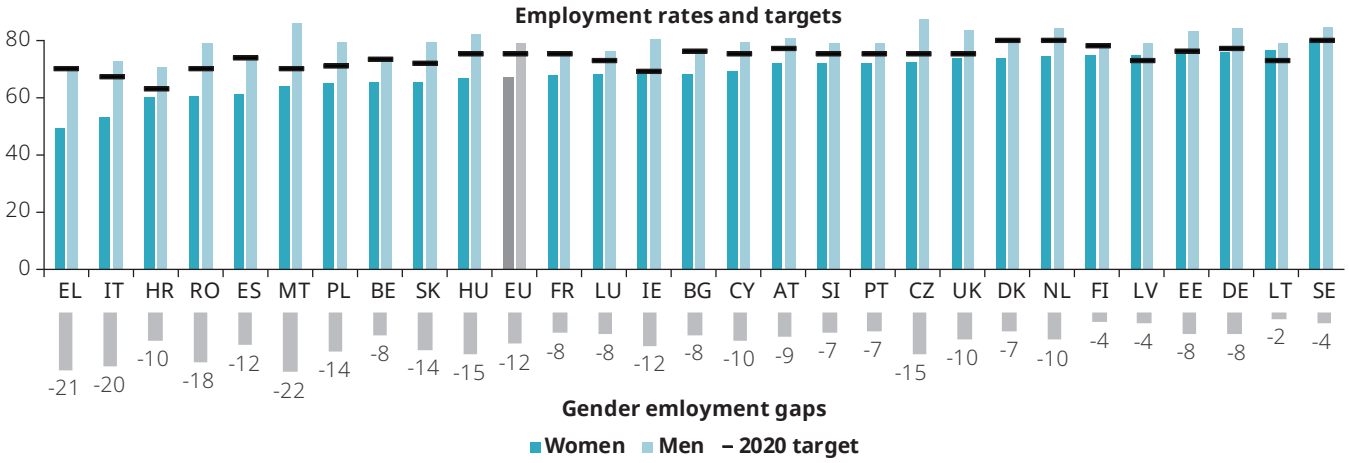
Other data collected by FRA highlight that people from the LGTBI community continue to be discriminated against in the world of work, with around 1 in 10 feeling discriminated against when looking for work, and 1 in 5 when working (FRA, 2020).

2.3. Europe 2020 employment target unlikely to be achieved without increased employment of women

The Europe 2020 strategy set an overall EU employment rate target of 75 % ([11]), which was then translated into varying employment targets at national level. Initially gender blind, the targets were later accompanied by other indicators from the Social Scoreboard and the SDGs, notably on the gender employment gap, the gender gap in part-time employment and the population inactive due to caring responsibilities.

There has been some progress towards achieving the EU2020 employment target since 2010, with the overall employment rate growing from 69 % in 2010 to 73 % in 2018 (Figure 7). Both women's and men's employment rates grew, to 67 % and 79 %, respectively, meaning that men have already met the EU employment target but women have not. It feels optimistic to expect the

Figure 7. Europe 2020 target – employment rate (% of people aged 20–64), EU, 2018



Source: Eurostat (t2020_10).

([11]) Defined as the percentage of the total population aged 20–64 in employment. The approach to labour market participation in the context of EU2020 is different from that in the context of the Index, in that EU2020 looks at employment regardless of its intensity. By contrast, the Index focuses on the FTE employment rate, which captures work intensity.

employment target to be met in 2020, as the current data does not account for the impact of the COVID-19 crisis.

The overall progress has reduced the gender employment gap only slightly. This gap stood at 12 p.p. in 2018, compared with 13 p.p. in 2010. The share of women working part-time continues to be much higher than the equivalent Figure for men (by 23 p.p.), with a marginal improvement in the past decade. The slow progress on closing gender gaps is linked to the disproportionate share of caring responsibilities borne by women: in 2018, 32 % of inactive women were inactive because of their care responsibilities, a proportion that had grown by more than 4 p.p. since 2010. Less than 5 % of inactive men were inactive for that same reason.

The EU employment target of 75 % was met in 23 EU Member States for men and only four for women (Germany, Estonia, Lithuania and Sweden). National targets were met for men in all EU Member States apart from Spain and the United Kingdom ([12]) but met for women only in Sweden, Lithuania and Latvia. Reducing gender employment gaps seems to be an important precondition for achieving such targets: all five countries with the lowest gender employment gaps (Sweden, Lithuania, Latvia, Finland and Portugal) had already surpassed the EU2020 employment target in 2018. By contrast, four of the five countries with the highest gender employment gaps (Malta, Greece, Italy, Romania and Hungary) remain below the EU2020 employment target, three by more than 5 p.p. ([13]).

([12]) Where a national target has not been set, but the employment rate exceeds the EU target of 75 %.

([13]) Only Malta achieved an employment rate higher than 75 %, but most of its recent employment gains have come from the greater involvement of women in the labour market.

3. Domain of money

Women's economic empowerment is central to realising women's rights and gender equality. Investing in women's economic independence enables more inclusive economic growth and the eradication of poverty and social exclusion. The 2030 Agenda for Sustainable Development is based on the premise that women's economic empowerment is crucial to sustainable development.

Throughout the economic crisis and subsequent recovery, many women continued to experience precarious working and living conditions across the EU, with the economic impact of the COVID-19 pandemic likely to have further detrimental effects on women. The ILO estimates that almost 25 million jobs could be lost worldwide as a result of COVID-19, with up to 35 million additional people facing working poverty ([14]). Women are more likely to be in temporary, part-time and precarious jobs, and to be employed in the informal sector, all of which are particularly vulnerable to economic shock. Women are lower paid, save less and have limited access to social protection.

Recent decades have seen the world of work radically transformed by advances in digital technologies. These pose some new challenges for and risks to gender equality. Digitalisation may hold out the promise of flexibility, achievement and creativity for well-educated and highly skilled women, but it simultaneously tends to increase non-standard and precarious employment, such as short-term, part-time, low-paid and socially unprotected forms of labour, for the less privileged segments of the female workforce (see Section 9.2).

Together, these inequalities tend to lead to particularly acute economic disadvantage, particularly for vulnerable groups of women, including younger and older women, lone mothers, and women from migrant communities or other minority groups (EIGE, 2020a). They therefore require a broader approach to analysing economic policies and their impact on the overall well-being of individuals, particularly women. This is reflected in the wider trend in EU policy towards a more social Europe. For example, gender equality is one of the key principles of the European Pillar of Social Rights and features in several of its other principles as well. The Pillar reinforces equal opportunities to access to financial resources, for instance, by reiterating the principle of equal pay for jobs of equal value. It establishes the rights to adequate minimum income benefits and to equal opportunities for women and men to acquire pension rights (European Commission, 2018e). However, the EU has limited competence to intervene directly in Member States' social policy initiatives, which means that the implementation of the main principles of the Pillar remains uncertain.

Since 2013, the EU has strengthened initiatives to tackle the gender pay gap. The 2014 pay transparency recommendation (Commission Recommendation 2014/124/EU) provided guidance to Member States on how to apply the principle of equal pay and achieve greater transparency in pay structure and levels. It was followed in 2017 by the EU action plan (2017–2019) on tackling the gender pay gap (COM(2017) 678 final), which called on Member States to apply effective equal pay legislation. The EU gender equality strategy 2020–2025 goes a step further and proposes binding measures on pay transparency. In the 2021 *Pension adequacy report*, the Commission, together with the Council's Social Protection Committee, will undertake an assessment of gender inequality in sharing risks and resources in pension systems. The provision of pension credits for care-related career breaks in occupational pension schemes has been proposed in the strategy

([14]) ILO, 'Almost 25 million jobs could be lost worldwide as a result of COVID-19, says ILO' (https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_738742/lang–en/index.htm).

as a means of strengthening gender equality in pension rights. The Commission also proposes to address the higher proportion of women living in poverty, particularly in older age, through the structural reform support programme.

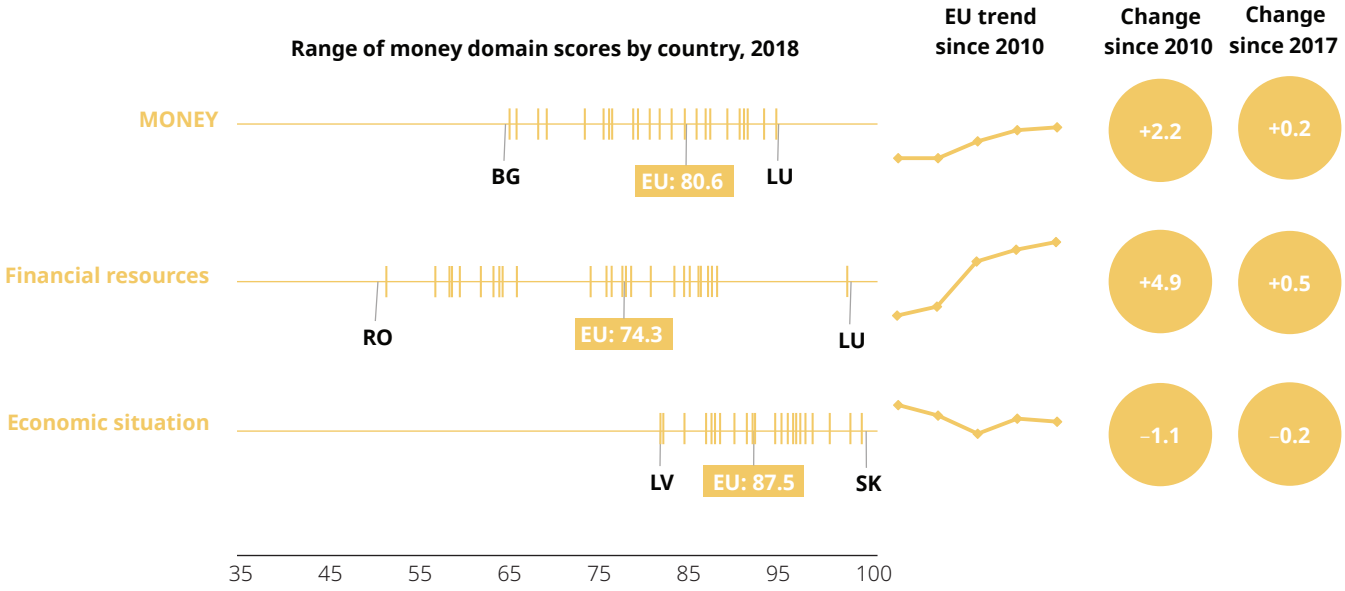
3.1. The pursuit of women's economic independence: nothing less than an uphill battle

Women's economic independence has long been a focus of EU gender equality policy. However, women remain in a more precarious economic situation, including when it comes to accessing financial resources. With a score of 80.6 points, the domain of money ([15]) shows very minor improvement (0.2 points) since 2017 and an increase of only 2.2 points since 2010 (Figure 8). This domain has the second highest score, after the domain of health.

The subdomain of financial resources scores 74.3 points, which is a slight improvement (up 4.9 points) since 2010. Closing gender gaps in monthly earnings and income from pensions, investments and other benefits is painfully slow. The score for the subdomain of economic situation is higher, albeit without substantial progress on closing gender gaps in poverty and income distribution.

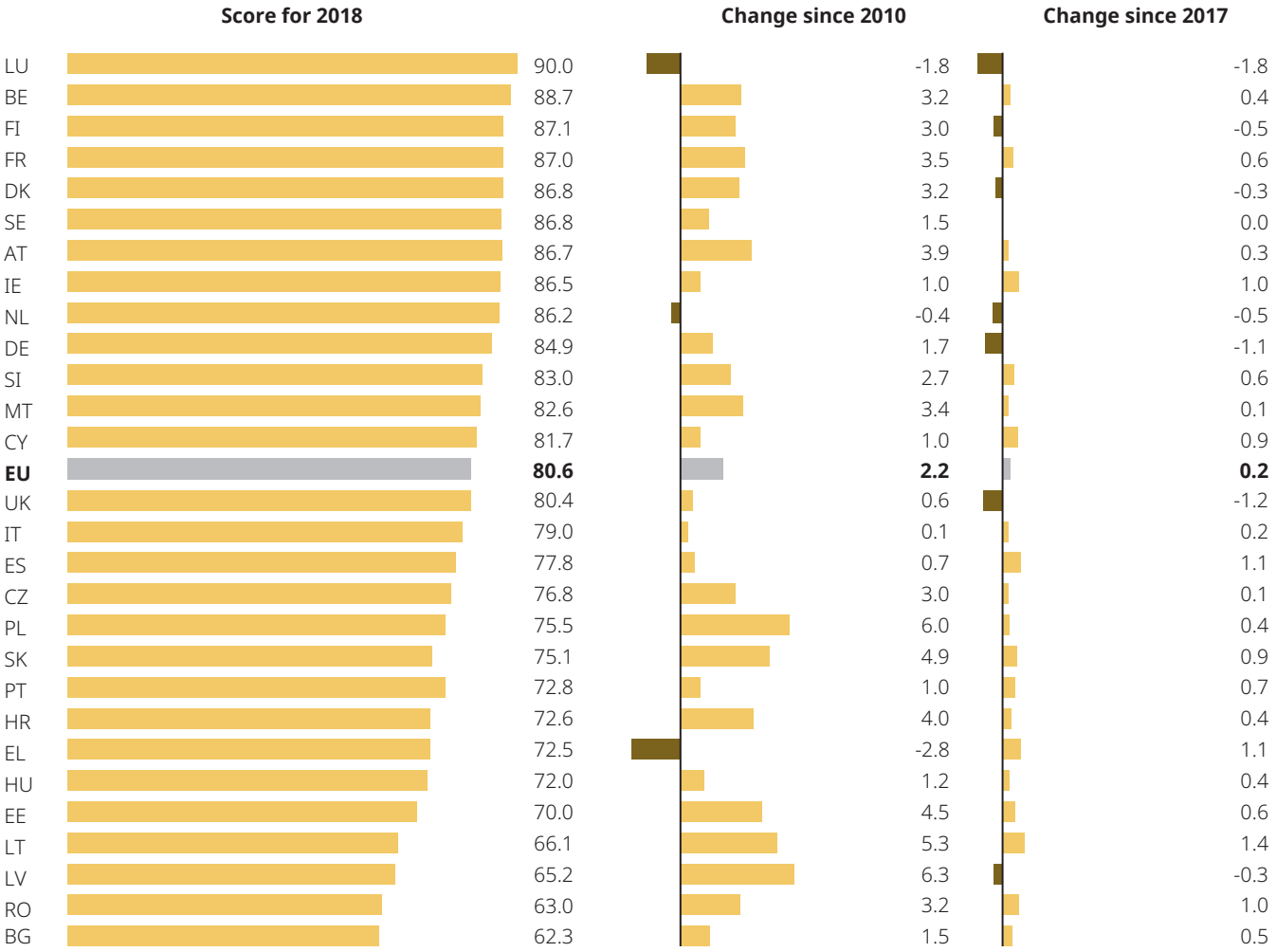
The majority of EU countries slightly narrowed their gender gaps and improved overall performance on financial resources and economic situation (Figure 9). The fastest progress since 2010 was in Latvia (+ 6.3), Poland (+ 6) and Lithuania (+ 5.3). Latvia and Lithuania slightly reduced income inequalities among women and men, while Poland fractionally narrowed the gender gap in poverty. Greece (– 2.8), Luxembourg (– 1.8) and the Netherlands (– 0.4) show a negative trend over the 8-year period. Although the country reduced the gender gap in earnings, income and poverty, data for Greece show that inequality in income distribution increased. In the Netherlands, gender inequalities in earnings – and particularly in income – have increased since 2010. Luxembourg ranks first in the subdomain of financial resources and managed to reduce the gender gaps in earning and income. Nevertheless, it fell considerably in the ranking of

Figure 8. Scores for the domain of money and its subdomains (2018), and changes over time



([15]) The domain of money measures gender inequalities in access to financial resources and economic situation. The subdomain of financial resources includes women's and men's mean monthly earnings from work and mean equivalised net income (from pensions, investments, benefits and any other source in addition to earnings from paid work). The subdomain of economic resources captures women's and men's risk of poverty and the income distribution among women and men.

Figure 9. Scores for the domain of money, and changes since 2010 and 2017, in the EU Member States



economic situation (from 9th in 2010 to 23rd in 2018) as an outcome of the increased risk of poverty for women and higher income inequalities among women.

Similar patterns are evident in Ireland, Denmark and Germany, which have relatively high rankings for gender equality in financial resources (3rd, 4th and 5th, respectively), but score much lower for gender equality in economic situation (ranking 15th, 14th and 17th, respectively). The opposite trends can be seen in Slovakia, Czechia and Slovenia, which take the top three positions in the subdomain of economic situation, with low gender gaps in poverty and income distribution. They rank relatively low for gender equality in earnings and income, however, at 23rd, 21st and 16th positions, respectively.

3.2. Ending gender inequalities in earnings and pensions – the EU is decades away without targeted action

Despite positive changes in women's employment rates and educational attainment, gender inequalities persist in pay, monthly earnings and income. The EU focuses primarily on the gender pay gap, standing at 16 %, and the gender pension gap, reaching 37 %, both to the disadvantage of women. These measures may underestimate the full extent of gender inequality in the labour market. For example, the gender pay gap does not take into account the number of hours worked or the shares of women and men in formal employment.

The domain of money looks at gender difference in mean monthly earnings, which considers the wider context of women's and men's employment opportunities. In addition to income from pensions, it looks at investments and other benefits. Since 2010, the gender gap in earnings has increased in 17 Member States, while the gender gap in income has gone up in 19 countries, leading to an overall increase in gender inequality in earnings and income in the EU.

Between 2010 and 2018, the gender gap in monthly earnings increased most in Italy, Poland and Latvia. The biggest progress on closing the gender gap was observed in Cyprus, the United Kingdom and Greece. In addition to gender inequalities in earnings, fewer women than men in the EU receive any type of main salary supplementary earnings (e.g. performance bonuses). In its 2019 research on gender segregation in education and the labour market, EIGE noted that, across remuneration sources, the gender gap is greatest in bonuses. Women are less likely to work in companies that offer higher premiums to their employees and they receive lower premiums than men working in the same companies (EIGE, 2019c).

Between 2010 and 2018, the gender gap in total disposable income (including income from pensions, investments and other benefits) increased most in Lithuania, Latvia and Denmark. A comparison with the 2017 data shows that gender inequality in income is on the rise in Denmark and Latvia. Czechia, Latvia, Lithuania and Romania show no progress, as the gender gap in income has grown steadily since 2010. France, Cyprus and Luxembourg show most progress on closing gender income gaps.

Gender inequalities in earnings and income grow substantially with age, level of education and increasing family demands. Women over 50 are the most disadvantaged compared with men. In addition, women with the highest levels of qualifications are the most underpaid compared with men with higher education, showing accumulating disadvantages for women as their careers progress. In terms of the different stages of life, gender inequalities in earnings and income peak for women living in couples with children and for lone mothers.

While EIGE's research on the gender pay gap shows considerable variation across different jobs, women earn less than men in all sectors (EIGE, 2019c). The gender pay gaps are largest in financial and insurance activities (35 %) and manufacturing (31 %), which particularly underpay older women. The gender pay gap is also substantial among health professionals (33 %), showing a dearth of women in high-level posts and a culture of underpayment in jobs dominated by women.

The first results of a Eurofound survey on living, working and COVID-19 ([16]) show widespread economic insecurity among respondents, with around 4 in 10 saying their financial situation is now worse than before the pandemic. On households' total monthly income, slightly more women than men (11 % and 9 %, respectively) indicated that their households would face difficulty or great difficulty in making ends meet. Nearly every third woman (31 %) and every fourth man (23 %) had no savings with which to maintain their pre-crisis standard of living.

Recent literature (Alon et al., 2020; EIGE, 2019c) has documented that gender inequalities in earnings and income are closely related to (expected and actual) care duties for children, which fall disproportionately on women, without appropriate income replacement. The COVID-19-linked shift of care duties back into private households will have more severe negative effects on women's income, as they take on this duty at the cost of their labour market participation, thus losing current and future income.

([16]) Eurofound, 'Work, teleworking and COVID-19' (https://www.eurofound.europa.eu/data/covid-19/working-teleworking).

3.3. Grave risk of poverty is the harsh reality for older women and every second lone mother

In 2010, the Europe 2020 strategy established a 10-year EU target to lift at least 20 million people out of the risk of poverty or social exclusion. Since then, the total number of women and men at risk of poverty or social exclusion has reduced by 8 million, welcome progress that nevertheless falls short of the target. In 2018, of the 21 Member States with national anti-poverty targets for the whole population, only eight countries had achieved them ([17]).

Across the EU, the difference between women and men at risk of poverty is 1.9 p.p., to the detriment of women, and has not improved since 2010. Given that incomes are typically measured at household level, assuming equal sharing of resources within households, this gender gap is likely to underestimate women's true exposure to poverty. Gender gaps in poverty have increased in 14 Member States since 2010 and have been on the rise in 21 Member States since 2017. The biggest increases since 2010 have been observed in Lithuania, Latvia and Estonia. Cyprus, Slovenia and France have shown most progress on closing their gender gaps (see Table 13 in Annex 3).

Poverty and social exclusion are often concentrated in certain particularly vulnerable groups of women and men (Figure 10). For instance, having children exacerbates the risk of poverty, with almost 4 in 10 lone parents –

Figure 10. At risk of poverty rate by sex, family composition, age, education level, country of birth and disability, EU, 2018

Characteristic	Women (%)	Men (%)	Gender gap (p.p.)	Gap change since 2014
Family				
Couple with children	14	14	0	no change
Lone parents	36	30	-6	gap decreased
Age				
15 to 24	23	21	-2	no change
25 to 49	16	15	-1	no change
50 to 64	16	16	0	no change
65 +	18	13	-5	no change
Education				
Low	27	25	-2	no change
Medium	16	14	-2	no change
High	8	8	0	no change
Country of birth				
Native born	16	14	-2	no change
Foreign born	27	25	-2	no change
Disability				
With disability	22	21	-1	no change
Without disability	16	14	-2	no change
Overall				
Population 15 +	17	15	-2	no change

gap decreased · no change · gap increased

Source: EIGE's calculation, EU-SILC (IE, SK, UK, 2017)

([17]) Eurostat, People at risk of poverty or social exclusion (T2020_50).

mostly lone mothers – at risk. Lone parents are also at a much higher risk of being deprived of acceptable housing and living conditions than other family types. For example, compared with other households, many more lone mothers with dependent children live in a dwelling with a leaking roof, damp walls, floors or foundations, or rot in window frames or floors ([18]). Although older people are less exposed to poverty than younger cohorts, the gender gap in poverty is largest among those aged 65 or older (18 % for women and 13 % for men). Women over 65 are at higher persistent risk of poverty during the preceding 3 years (12 % of women, compared with 8 % of men) ([19]).

Older women are more likely than men to live in deprivation, for example enduring overcrowded conditions (7 % and 5 %, respectively in 2018). They are also more overburdened with housing costs representing more than 40 % of the total disposable household income (12 % of women, compared with 9 % of men). The gender gap in in-work poverty is also highest among women and men over 65 (11 % and 8 %, respectively).

The risk of poverty is higher among women and men with disabilities, women and men with a low level of education, and migrant populations. In addition, four out of five members of Roma communities have incomes below the poverty threshold in their country of residence (EIGE, 2020a).

FRA's survey research in nine EU Member States (Bulgaria, Croatia, Czechia, Greece, Hungary, Portugal, Romania, Slovakia, Spain) found that 72 % of Roma women aged 16–24 are neither working nor in education or training, compared with 55 % of young Roma men. Poverty is considered a major factor underpinning early marriage, which, while often part of an economic survival strategy, undermines the future prospects of young women and girls (FRA, 2016a).

The increased risk of poverty or social exclusion for the abovementioned groups is often associated with a combination of unemployment or inactivity, low work intensity at household level, low educational attainment, poor working conditions, insufficient financial resources, material deprivation and/or discrimination (EIGE, 2020a). Whether and how women work is usually determined by their disproportionate caring and other household responsibilities. Such responsibilities are associated with unequal time-use patterns, which then result in time poverty (Francavilla et al., 2012). Women's employment decreases with the number of children in the family. Care responsibilities keep 7.7 million women out of the labour market. Nearly five times more women than men (29 % and 6 %, respectively) work part-time to care for children and other dependent family members. Lower salaries, a higher likelihood of working in atypical jobs (e.g. in the informal sector) and career breaks to care for dependants all result in women facing higher risks of poverty throughout their entire life course.

The higher risk of poverty goes hand in hand with multiple other inequalities faced by women and thus require a coordinated policy response. Lone mothers, older women and women with lower socioeconomic status are at greater risk of poor physical and mental health, while typically limited resources make them more vulnerable to energy poverty as well. High levels of economic inequality have detrimental effects on children's well-being and on economic growth (OECD, 2015, 2019b; Pickett and Wilkinson, 2007).

([18]) Eurostat, European Union Statistics on Income and Living Conditions (EU-SILC) (ilc_mdho01).
([19]) Eurostat, EU-SILC and European Community Household Panel (ilc_li21).

4. Domain of knowledge

Equal access to education, as well as fair and high-quality educational processes, are essential for gender equality and for Europe's future economic prosperity. The Index looks at gender segregation in higher education, graduates of tertiary education and participation in adult learning – the issues high on the EU policy agenda. Targets for tertiary education attainment levels and adult lifelong learning are included in the EU framework for education and training 2020 and are among the SDG targets. The European Pillar of Social Rights also emphasises the importance of education and training and lifelong learning to ensure that women and men acquire and maintain the skills they need to participate fully in society and successfully manage transitions in the labour market. The Council recommendation on key competencies for lifelong learning specifically encourages Member States to foster efforts to involve more women and men in lifelong learning activities, while the Commission's recommendation 'Upskilling pathways: new opportunities for adults' calls for improvements to adult learning provision, with a specific focus on the needs of low-skilled adults. Horizontal segregation in education is emphasised in the new EU gender equality strategy 2020–2025, which highlights the need to address gendered choices in study subjects and subsequent careers. Promoting 'equity, social cohesion, and active citizenship' is also reflected among the priorities set out in the EU framework for education and training 2020, although gender equality is not one of its primary objective.

The COVID-19 pandemic has had a considerable impact on learning activities at all levels of education. Universities and schools in many Member States shifted their learning processes to the digital environment, highlighting challenges in accessing personal computers and broadband connection, especially for families in difficult socioeconomic conditions. At the same time, the temporary closure of childcare services and schools in nearly all Member States saw lone parents and couples with children facing increased difficulties in combining their work and care responsibilities. With many women and men out of work because of the pandemic, adult education will play a major role in reintegrating them into the labour market.

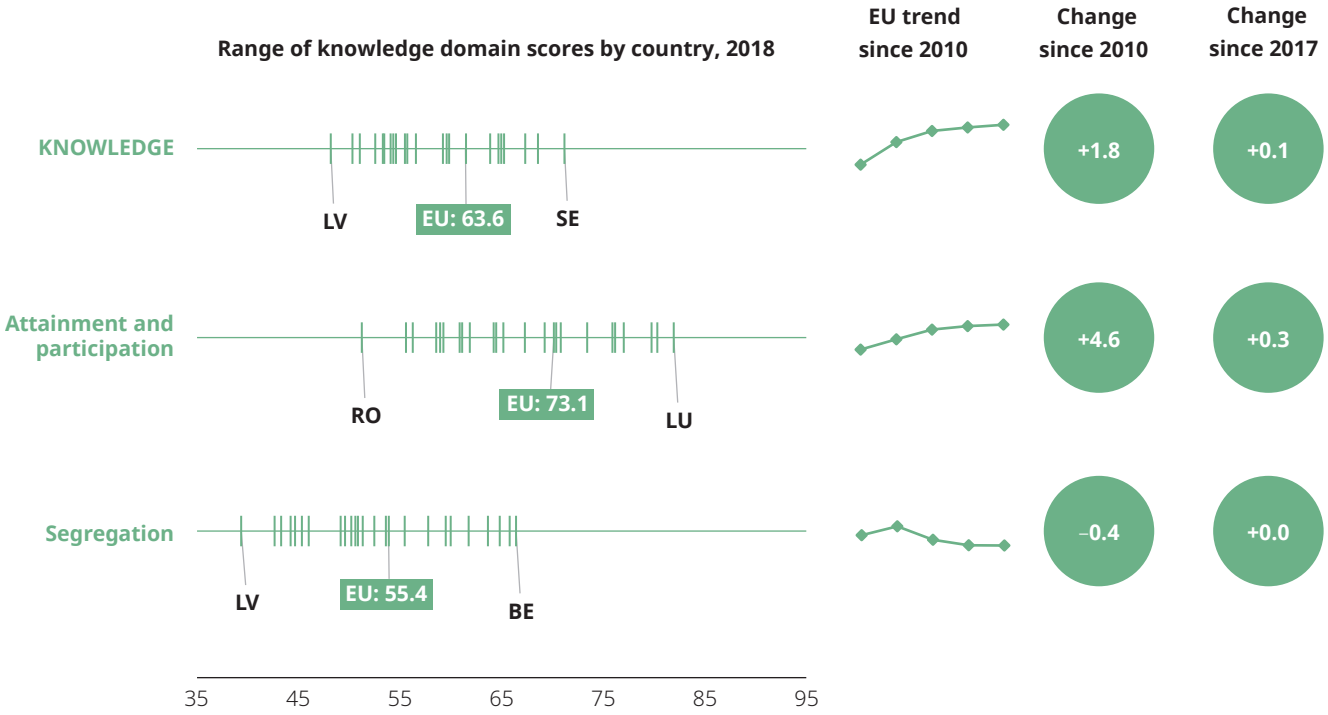
Digitalisation has had a significantly impact on the world of education and training, bringing new opportunities and challenges for gender equality (see Chapter 9 for a detailed discussion). Digital skills and competencies are increasingly necessary for the full participation of women and men in social and working life, yet significant gender differences exist in the levels and types of digital skills that women and men acquire. The lack of gender diversity among researchers inventing, designing and developing digital services and goods remains strikingly high, limiting the overall potential of research and development activities.

4.1. Stalled progress in the domain of knowledge

With an overall EU score of 63.6 points, the domain of knowledge ([20]) has remained stagnant since the previous edition of the Gender Equality Index, improving by only 1.8 points since 2010 (Figure 11 and Figure 12). Most Member States experienced little or no improvement – nor even any setbacks – in the knowledge domain between 2017 and 2018. Increases of at least 1 point were registered in Bulgaria (+ 1.8), Malta (+ 1.3) and Croatia (+ 1.2), while the score fell in

([20]) The domain of knowledge measures gender inequalities in educational attainment, lifelong learning and gender segregation in education. The subdomain of educational attainment is measured by two indicators: the percentages of women and men tertiary graduates, and the participation of women and men in formal and non-formal education and training over the life course. The second subdomain targets gender segregation in tertiary education by looking at the percentages of women and men students in the education, health and welfare, humanities and arts fields.

Figure 11. Scores for the domain of knowledge and its subdomains (2018), and changes over time



Denmark (– 1.0). The majority of Member States registered a modest growth in their knowledge domain score between 2010 and 2018, with the greatest overall progress achieved in Italy (+ 8.1), Portugal (+ 5.6) and Romania (+ 5.2). The biggest drops were reported in the United Kingdom (– 3.2), Germany (– 2.3) and Denmark (– 1.9). The best-performing countries in the knowledge domain were Sweden, Belgium, Denmark, the United Kingdom and Luxembourg, all with scores higher than 70 points. At the opposite end of the spectrum were Croatia, Latvia and Romania, all with scores lower than 55 points.

The subdomain of attainment and participation drives overall growth in the domain of knowledge. From 2010 to 2018, it increased from 68.5 to 73.1 points, but the score has changed little since 2017.

Ten EU Member States have registered an increase of at least 1 point since the previous edition of the Gender Equality Index (Bulgaria, Estonia, Ireland, France, Croatia, Italy, Luxembourg, Malta, Poland and Slovakia), while the situation has deteriorated significantly in Denmark (– 2.3), Czechia (– 2.2) and Latvia (– 1.2). Over the long term, the most significant improvements have been made by Austria (+ 12.1), France (+ 11.7), Luxembourg (+ 11.1) and Portugal (+ 10.5). Only three countries had lower scores in 2017 than in 2010: Denmark, Slovakia and the United Kingdom.

Gender segregation in education remains a major block to gender equality in the EU, with this subdomain showing no change since 2017 (at 55.4 points) and even slightly deteriorating compared with 2010 (when the score was 55.8 points). Only five Member States have registered either an increase (Bulgaria, Croatia, Malta and Romania) or a drop (Greece) of at least 1 point since 2017. Over the long term, Italy and Romania have achieved the most substantial progress (+ 12.1 and + 7.8 points, respectively). By contrast, there was significant regression in Germany (– 6.8), Malta (– 5.0), the United Kingdom (– 4.7) and the Netherlands (– 4.2) during 2010–2018.

4.2. Women continue to gradually outpace men in educational attainment

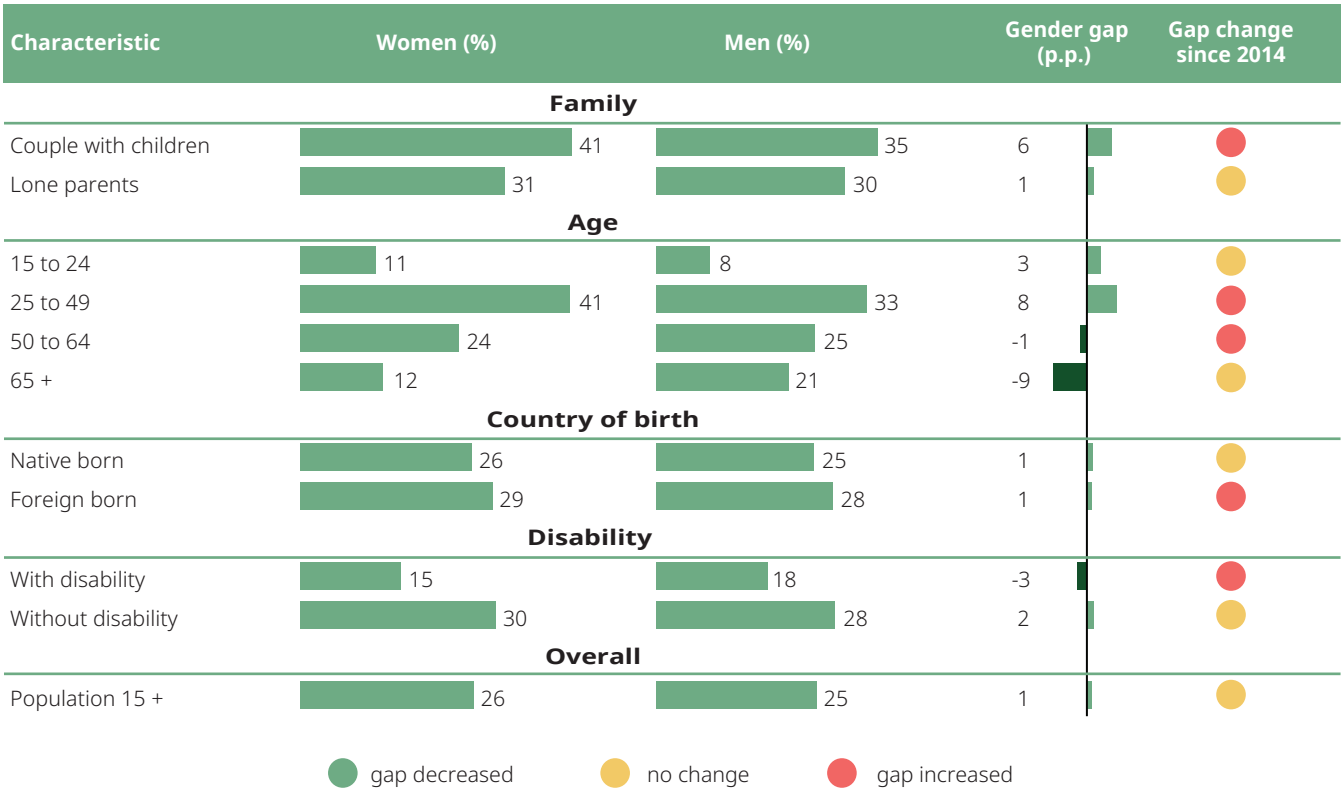
Over the past decade, the shares of women and men graduating from university have increased steadily in Europe, with the gender gap slowly

Figure 12. Scores for the domain of knowledge, and changes since 2010 and 2017, in the EU Member States

reversing to favour women. In 2010, 20 % of women and 21 % of men had gained tertiary education, while in 2018 more women than men had graduated from university in the 15 or older age group (26 % and 25 %, respectively). The largest gender gaps in favour of women tertiary graduates were registered in Estonia (17 p.p.), Latvia (14 p.p.) and Sweden (11 p.p.), while an additional nine Member States had gaps higher than 5 p.p. (Bulgaria, Denmark, Ireland, Cyprus, Lithuania, Poland, Portugal, Slovenia and Finland). Men were more likely than women to graduate from university in four countries: Germany (with the largest gender gap of 8 p.p.), Luxembourg, the Netherlands and Austria (all with gaps below 4.5 p.p.).

An intersectional analysis reveals that tertiary educational attainment differs substantially between women and men in terms of age, family composition and disability (Figure 13). More women than men aged 15–49 have gained tertiary education, but the reverse is evident in the 50 + age group. Furthermore, more women than men have gained tertiary education in the couples living with children cohort (+ 6 p.p.). Meanwhile, an analysis of the intersection of gender and disability found a gender gap in favour of men (3 p.p.). Among people without disabilities, this gap was reversed and stood at 2 p.p. Long-term tendencies suggest that these gender gaps have increased since 2014.

Figure 13. Graduates of tertiary education by sex, family composition, age, education level, country of birth and disability, EU, 2018



Source: EIGE's calculation, EU LFS. EU-SILC for disabilities is used (IE, SK, UK, 2017)

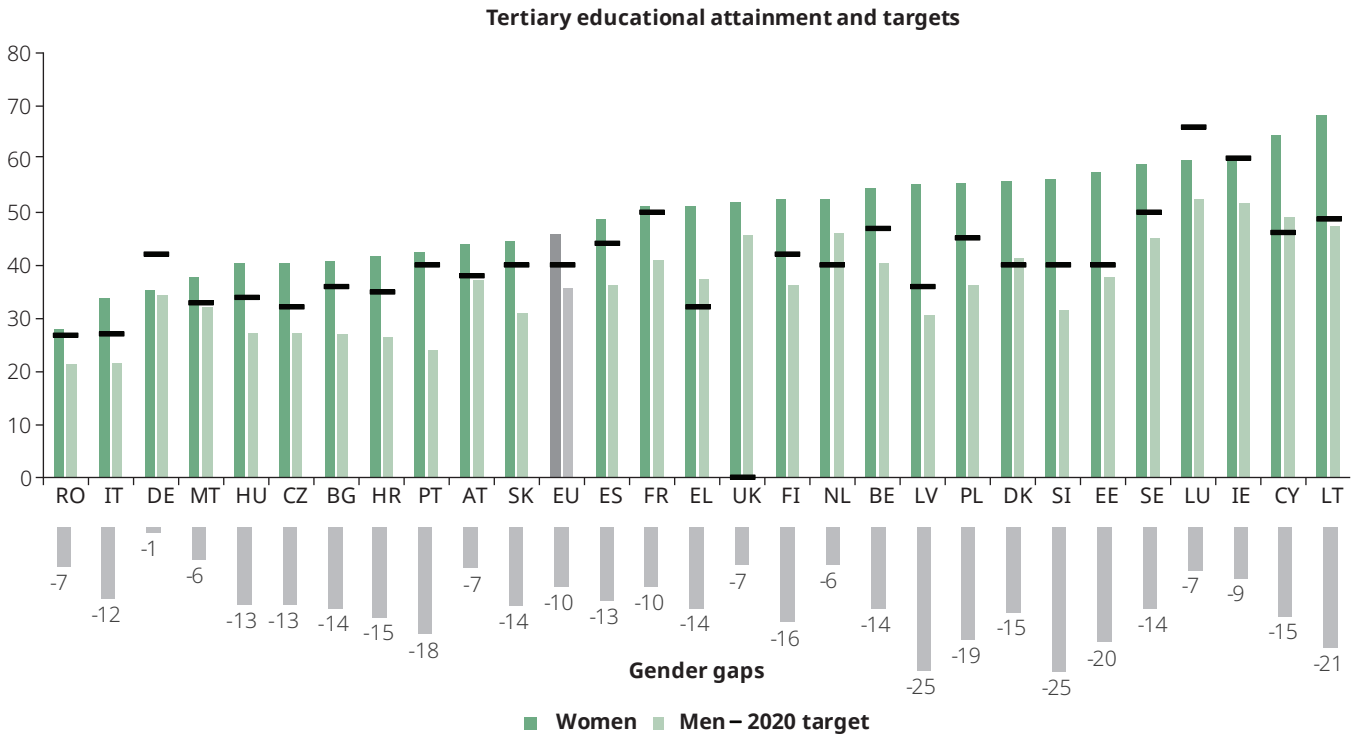
FRA's second European Union Minorities and Discrimination Survey in nine Member States found that only 16 % of Roma women and 22 % of Roma men had completed upper secondary, post-secondary, non-tertiary or tertiary education. Even among the younger generation (16–24), the shares of graduates from at least upper secondary education remain very low (21 % of young Roma women and 24 % of young Roma men) (FRA, 2019b).

The Gender Equality Index's indicator on educational attainment is closely related to the EU2020 goal of increasing attainment at tertiary level. The Index monitors tertiary educational attainment in the broader population aged 15 or older, while the EU2020 target focuses on the age group 30–34 and aims to increase the share of the population that has completed tertiary education to at least 40 %. At EU level, this target was achieved for women (46 %) but not men (36 %). A closer look at national targets – which range from 26 % for Italy to 66 % for Luxembourg – reveals that nearly all Member States achieved their national targets for women but that many fell short of their targets for men (Figure 14).

4.3. Low engagement in adult learning and gender divide in educational choice remain major barriers

The engagement of women and men (aged 15 or older) in formal or non-formal education and training remains low in the EU (17 %) ([21]). Nordic countries are clear leaders, with participation rates higher than 30 %, while Bulgaria and Romania have the lowest participation

Figure 14. Europe 2020 target – tertiary educational attainment (% of people aged 30–34), EU, 2018



Sources: Eurostat (t2020_41); national targets retrieved from Eurostat (https://ec.europa.eu/eurostat/documents/4411192/4411431/Europe_2020_Targets.pdf).
NB: The data and the target for Germany refer to International Standard Classification of Education levels 4–8; the target for France refers to 17–33 year olds; the target for Finland excludes former tertiary vocational education and training; the United Kingdom did not set a national target.

rates (both 9 %). Several EU countries have seen substantial changes in this metric since 2010: significant increases in participation levels have been registered in France (+ 12 p.p.) and Ireland (+ 5 p.p.), while they fell by more than 5 p.p. in Denmark, Slovenia and the United Kingdom. As overall participation levels are very low in most of the EU, gender differences are essentially non-existent in 16 Member States, and vary from 1 p.p. to 5 p.p. in another 10 EU countries. The only clear exceptions are the Member States with the highest overall participation rates in adult learning – Sweden, Denmark and Finland – where the gender gaps in favour of women are 12 p.p., 7 p.p. and 7 p.p., respectively.

Adult learning gradually stalls with age, heightening the risk of skills mismatches and a premature end to women's and men's careers. In 2018, only 15 % of women and 13 % of men aged 25–49 participated in adult learning. By the time people were approaching retirement age, participation rates had dropped to 9 % and 6 % for women and men, respectively. The European economy loses over 2 % of its potential productivity each year to the mismatch between supply and demand for skills, with the combination of demographic trends and technological change likely to exacerbate the situation (EESC, 2018). Lifelong learning could play an essential role in closing this skills gap.

Gender segregation in education remains a major barrier to gender equality in the EU. In 2017, 43 % of all women at university were studying education, health and welfare, humanities or the arts, with the gender gap in the EU as a whole standing at 22 p.p., unchanged since 2010. This divide is mirrored by gender segregation in the labour market, which determines women's and men's earnings, career prospects and working conditions.

([21]) EIGE calculations using European Union Labour Force Survey (EU-LFS) data, 2018.

The highest gender gaps in enrolment in education, health and welfare, humanities and the arts were registered in Finland and Cyprus (33 p.p. and 27 p.p., respectively), while in 20 countries the gap was greater than 20 p.p. Romania and Bulgaria recorded the lowest gender gaps in the EU, yet these were still very high, at 15 p.p. and 16 p.p., respectively. However, several EU countries have made significant progress since 2010: the Netherlands, for example, has closed the gap by 9 p.p., while Germany has reduced it by nearly 8 p.p. At the same time, five countries (Latvia, Lithuania, Hungary, Romania and Slovenia) all witnessed an increase in the gap of more than 5 p.p.

Although the gap is not directly measured by the Gender Equality Index, there is a significant gender difference among graduates in ICT and STEM subjects. In 2018, women constituted about 28 % of graduates in engineering, manufacturing and construction, and only around 20 % of ICT graduates ([22]). However, near gender parity was recorded among graduates in natural sciences, mathematics and statistics (54 % women and 46 % men). Gender differences in STEM subjects in higher education are not explained by academic performance, as girls and boys show similar levels of achievement in science and maths in secondary level education (European Commission, 2019g). Social norms and gendered expectations regarding career choices (often reinforced through educational content and curricula) are the key drivers of gender segregation in higher education (EIGE, 2020a).

([22]) Source: Eurostat (educ_uoe_grad02).

5. Domain of time

The unequal distribution of paid and unpaid work along gender lines is considered one of the root causes of gender inequality in society as a whole and in the labour market specifically, as it raises questions about women's exposure to the risk of poverty, access to decision-making and political representation. In 2019, the adoption of the Work–Life Balance Directive for parents and carers showed strong political will to facilitate better distribution of care and household work between women and men. Among the provisions are new or harmonised labour market rights, such as the right to flexible working arrangements for workers with care responsibilities, carer's leave, parental leave and increased job protection. The directive also includes non-legislative aspects, such as investment in infrastructure for care, particularly long-term care.

The newly released EU gender equality strategy 2020–2025 includes closing gender gaps in caring roles as one of its priorities. It proposes a series of measures, such as the transposition and implementation of the Work–Life Balance Directive, greater investment in quality care infrastructure for children, older people and people with disabilities, and the implementation of the European Pillar of Social Rights (European Commission, 2020c).

The COVID-19 pandemic in Europe brought with it the closure of schools and early education facilities and a lack of availability of social support systems (carers, childminders, grandparents); thus, it has exacerbated the pressure on families – especially women and lone mothers – to combine work caring for children and older family members with paid work (Fodor et al., 2020). Eurostat data show that, in 2019, about 13.4 million adults lived in households with young children where all the adults were working full-time ([23]). The shift to telework in response to the pandemic has affected women and men differently, with preliminary data showing that, among 18–34 year olds, more women than men started teleworking during the pandemic (50 % and 37 %, respectively) ([24]), which could reflect women taking on a disproportionate share of childcare and education while maintaining their paid work. Research from the United Kingdom carried out during the lockdown has shown that, while women were still spending more time on childcare than men, the gender gap in childcare was smaller than before the pandemic. It highlighted that the division of childcare had grown more equal in households where men either were teleworking or had lost their jobs (Sevilla and Smith, 2020).

In several Member States (Belgium, Germany, Ireland, Spain, France, Italy, Sweden and the United Kingdom), people living in residential care facilities have suffered a very high death toll as result of the COVID-19 outbreak. Data from May 2020 show that mortality in long-term care facilities has accounted for a significant share of all COVID-19 deaths, from 21 % in England to 66 % in Spain (Comas-Herrera et al., 2020; ECDC, 2020). This tragic loss of life has highlighted the systematic understaffing and underfunding of most residential long-term care institutions. This could create an upswing towards autonomous living and prompt families to move away from residential care and intensify their efforts to provide home-based long-term care (EIGE, 2020e), potentially further aggravating the disproportionate burden of informal care shouldered by women (EIGE, 2019b).

More generally, lockdown situations have highlighted that, despite being invisible, devalued and unaccounted for in GDP measures, daily unpaid care shouldered disproportionately by women is essential to the functioning of society.

([23]) Of the nearly 42 million adults living in households with at least one child aged less than 6 years, 32 % were in a situation where all the adults were working full-time. Data from Eurostat for the EU-27, 2019, lfst_hhwhacc.

([24]) Eurofound, 'Living, working and COVID-19 data' (http://eurofound.link/covid19data).

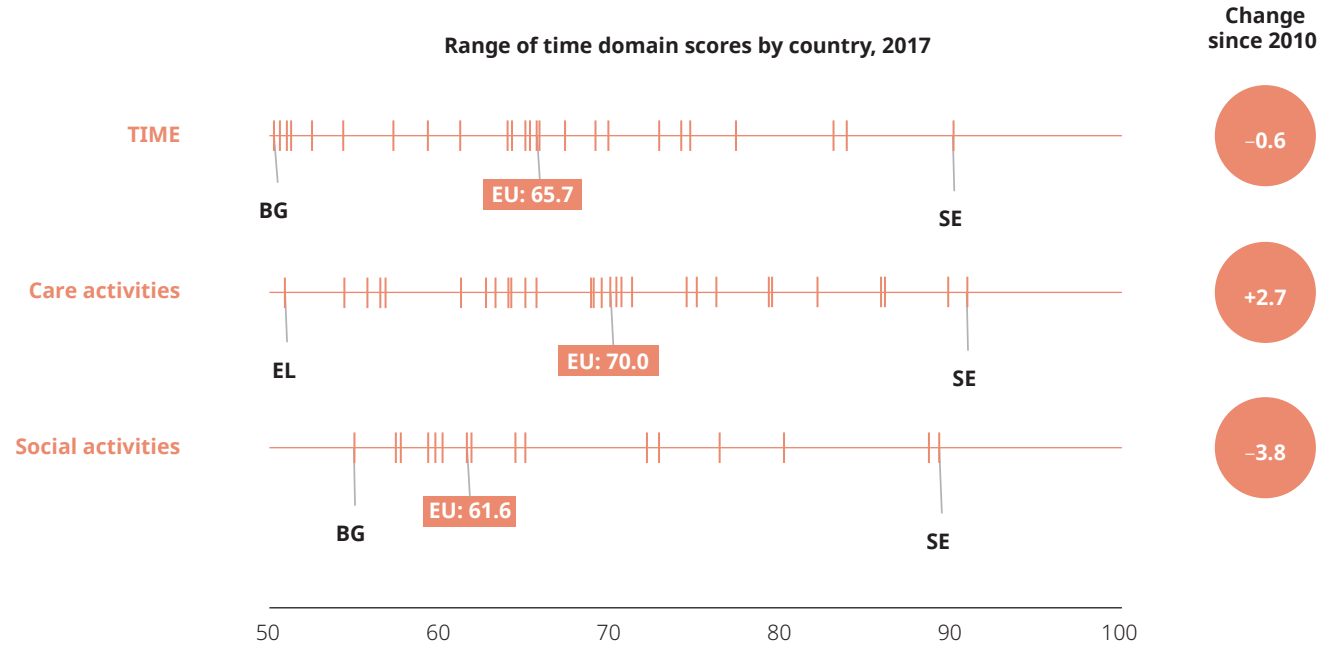
5.1. Gender equality in time use: some gains but not sufficient to offset overall stalling

The domain of time ([25]) is the third lowest scoring of the six domains comprising the Gender Equality Index and is characterised by a persistent lack of progress and growing inequality (EIGE, 2017e, 2019b). Since 2010, the EU score has stagnated, with a slight decrease of 0.6 points (Figure 15) ([26]) to 65.7.

Owing to the absence of up-to-date data on time use, the score for the domain of time has not been updated since 2017. Since 2010, 10 Member States have seen their score decrease (the Netherlands, Finland, the United Kingdom, Luxembourg, Belgium, Germany, Poland, Lithuania, Romania and Bulgaria). The most pronounced regressions have been seen in Belgium (– 5 points), Germany (– 4.8 points) and Finland (– 2.7 points). The majority of EU countries have observed improvements in their scores since 2010, ranging from increases of 9.9 points in Malta, 9.1 points in Greece and 8.8 points in Portugal to increases of 1.2 points in Croatia and 1 point in Estonia. France and Hungary have not seen their scores change substantially since 2010 (+ 0.7 and + 0.2 points, respectively).

As shown in Figure 16, the EU score for the domain of time (65.7 points) masks a variety of national circumstances, with scores ranging from 42.7 in Bulgaria to 90.1 in Sweden. Time has the second broadest dispersion of countries' scores in the Gender Equality Index (after the domain of power). The social activities subdomain, with a score of 61.6 points in 2018, reveals higher levels of gender inequality than the care subdomain (70 points).

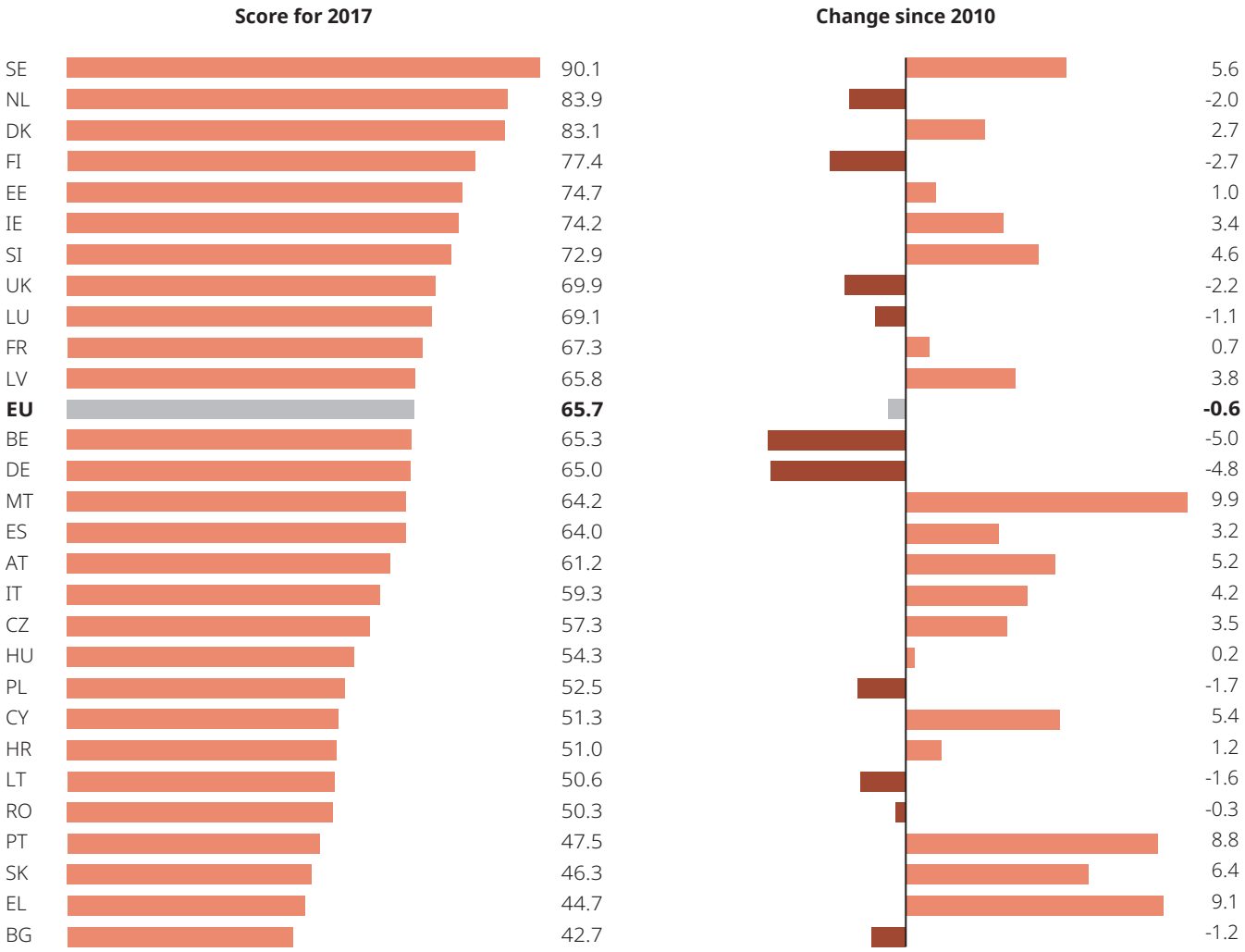
Figure 15. Scores for the domain of time and its subdomains (2017), and changes over time



([25]) The domain of time measures gender inequality in the allocation of time to care and domestic work and social activities. The first subdomain of care activities measures gender gaps in women's and men's involvement in the care and/or education of their children and grandchildren and older people or people with disabilities. It also measures their involvement in cooking and housework. The second subdomain explores how many women and men engage in social activities, i.e. participate in sporting, cultural or leisure activities outside the home, combined with their engagement in voluntary and charitable activities.

([26]) Note that Figure 15 presents only current scores and changes since 2010, owing to limited availability of data on the time domain data over the relevant period, which prevents other trends being presented.

Figure 16. Scores for the domain of time, and changes since 2010, in the EU Member States



5.2. Insufficient care infrastructure pushes women to fill the gaps

The availability of high-quality, affordable care services has long been acknowledged as essential to enable people to reconcile paid work and care responsibilities. This is particularly true for women with children, who are still expected to shoulder a disproportionate amount of unpaid care work, including housework, care for children, and care for older people and people with disabilities (EIGE, 2019b).

While most EU Member States have achieved the Barcelona target of 90 % of children between the age of 3 and compulsory school age attending formal childcare services, several Member States are still far from meeting the first Barcelona target of 33 % of children under 3 years old attending such services ([27]). Furthermore, significant differences in enrolment rates persist between Member States, especially when looking at children under 3 years old (EIGE, 2020a). For many families, cost remains an important barrier to accessing the care services they need (EIGE, 2019b).

When it comes to long-term care services ([28]), the level of availability of formal services is considered gravely insufficient to meet the rising needs of an ageing population (European Commission, 2014b; Spasova et al.,

([27]) In 2002, the Barcelona European Council set objectives for the availability of high-quality and affordable childcare facilities for pre-school children, through two targets, namely facilities accommodating 90 % of children from the age of 3 years until mandatory school age and 33 % of children under 3 years old. The Barcelona objectives (and the related targets) were restated in the European Pact for Gender Equality (2011–2020) and referred to in the Europe 2020 strategy.

([28]) Long-term care is 'a range of services and assistance for people who, as a result of mental and/or physical frailty and/or disability over an extended period of time, depend on help with daily living activities and/or [are] in need of some permanent care' (European Commission, 2014b).

2018). In 2017, one in four people in the EU had a long-term disability ([29]), and about 5 % of families with children had a child with disabilities (EIGE, 2020e). As a result, long-term care in the EU is characterised by informality, with informal carers outnumbering formal caregivers by an estimated two-to-one ratio (European Commission, 2014b). As a consequence, families often forgo adequate care entirely, relying instead on domestic workers in precarious working conditions or providing care themselves (EIGE, 2020e). Gaps in care services disproportionately affect women as care recipients, as more women than men are dependent on long-term care, and also as caregivers, with the vast majority of formal and informal carers being women ([30]). Across the Member States, women from migrant backgrounds employed as domestic workers are often employed in irregular jobs with no access to social protection or labour rights (ILO, 2018b; Spasova et al., 2018). The COVID-19 crisis, which has seen thousands of migrant care workers (mostly women) return to their home countries ahead of border closures, has highlighted the older EU countries' reliance on the work of women, usually from eastern European countries and deprived of proper work status (Zacharenko, 2020).

The effects of insufficient care coverage are significant and profoundly gendered. Eurostat data show that, in the EU, care responsibilities keep some 7.7 million women out of the labour market, compared with just 450 000 men ([31]). In addition, far more women than men work part-time (8.9 million versus 560 000) owing to their care responsibilities ([32]). Women are therefore more likely than men to report difficulties in combining paid work and care responsibilities ([33]), which has clear consequences for their participation in the labour market.

At the societal level, the employment lost as a result of women's caring responsibilities leads to a loss of an estimated EUR 370 billion per year for Europe (European Commission, 2018a).

5.3. Gender, age and education affect workers' access to social activities

With an EU score of 61.6 points, social activities is the subdomain with the lower score in the time domain, pointing to persistent gender inequalities. This is important from both a gender equality and a well-being perspective (Brajša-Žganec et al., 2011). Access to leisure time and activities, while an essential aspect of quality of life, is largely determined by time pressures from both paid and unpaid work (European Parliament, 2016).

Research shows that for workers, overall time dedicated to paid work has increased, reducing the time and energy available for other activities (Haworth and Lewis, 2005). In addition, the diminishing boundaries between professional and personal time brought about by digitalisation sees paid work increasingly encroaching on leisure time (European Parliament, 2016; Wajcman, 2015). This is particularly true for people in precarious employment, such as platform workers (see Chapter 9).

Looking at the specific indicator for sporting, cultural and leisure activities carried out outside the home, the participation of working women and men is extremely low in some countries and varies significantly between countries. In nine countries ([34]), fewer than one in five workers engaged in any sporting, cultural or leisure activities outside the home at least every other day. The rates in another 11 countries ([35]) ranged from 19 % in Poland to 36 % in Belgium and Estonia.

([29]) Women (27 %) more than men (22 %). Eurostat, health variables, EU-SILC, 2017 (hlth_silc_06).
([30]) More women (19.7 %) than men (14.9 %) provide care for older people and people with disabilities, particularly among the population aged 50–64
([31]) Eurostat, EU-LFS (lfsa_igar), data for women aged 20–64.
([32]) A further 15.1 % of women, compared with 8.0 % of men, work part-time because of other family or personal responsibilities, widening this gap further.
([33]) Based on data from the 2016 European Quality of Life Survey (EQLS).
([34]) Bulgaria, Greece, Croatia, Cyprus, Lithuania, Hungary, Portugal, Romania and Slovakia.

As seen in Figure 17, workers' involvement in social activities ([36]) reveals important inequalities in how women and men in the EU combine work with other aspects of their lives. While the overall gender gap in participation in sporting, cultural and leisure activities is rather modest (4 p.p.) it reaches 13 p.p. among lone parents and 17 p.p. among young workers (aged 15–24). This significant gender gap in social activities among young workers mirrors the gap in physical activity between young women and men (19 p.p.), covered by the domain of health ([37]).

Physical activity habits among adults are often established in youth. Analysis of data from the international Health Behaviour in School-aged Children survey highlights that the overall activity levels of children in Europe tend to decline between the ages of 11 and 15, especially among girls (WHO, 2016, 2017), with parental income levels a key determinant of access to sports for children (Richter et al., 2009).

When it comes to leisure activities outside the home in general, the gendered division of labour (which sees most childcare responsibilities assigned to women), women's lower income and gender norms surrounding motherhood all contribute to women with children, especially lone mothers, engaging less in leisure activities (Brajša-Žganec et al., 2011; Dlugonski and Motl, 2013; European Parliament, 2016; McIntyre and Rhodes, 2009). For all workers, involvement in social activities declines with age and increases with education, pointing to the ways in which gender and class differences shape access to cultural and recreational resources.

Figure 17. Shares of workers engaging in social activities by sex, family composition, age, education level, country of birth and disability, EU, 2015

Characteristic	Women (%)	Men (%)	Gender gap (p.p.)
Family			
Couple with children	26	29	-3
Lone parents	26	39	-13
Age			
15 to 24	39	56	-17
25 to 49	28	33	-5
50 to 64	25	25	0
Education			
Low	20	21	-1
Medium	23	28	-5
High	37	43	-6
Country of birth			
Native born	28	32	-4
Foreign born	26	31	-5
Disability			
With disability	27	27	0
Without disability	28	32	-4
Overall			
Employed population 15 +	28	32	-4

Source: EIGE's calculation, EWCS

([35]) Belgium, Czechia, Germany, Estonia, France, Italy, Latvia, Malta, Austria, Poland and the United Kingdom.
([36]) The indicator focuses on workers and is thus limited to certain age groups, including 15–24 and 50–64. Nor does it reflect the situations of those excluded from the labour market, for example owing to care responsibilities.
([37]) EIGE, 'Health in European Union for 2019' (https://eige.europa.eu/gender-equality-index/2019/domain/health/age).

6. Domain of power

The first woman President of the European Commission, Ursula von der Leyen, was elected in 2019, breaking the long-standing absence of women in the top positions in the EU system. With no woman having previously led the European Council, the European Central Bank or the Commission, the appointment of a woman President of the Commission, followed by the appointment of Christine Lagarde as President of the European Central Bank, marks a long overdue change. In line with this breakthrough, the new Commissioners have the best gender balance to date, with 12 women (46 %) and 15 men (56 %), as Member States responded to calls to nominate more women candidates. The European Parliament, which has not had a women leader since 2002, passed the 40 % threshold for each gender's representation in its constitutive session in July 2019, with women making up 304 (41 %) of the 747 Members of the European Parliament. This represents an increase of 4 p.p. on the 2014 election result (37 %).

The European Commission has brought the issue of gender balance in decision-making and politics to the fore, as one of the five priority areas of the EU gender equality strategy 2020–2025, thereby underlining the importance of having women in leadership positions in politics and the economy. The Commission states that it will continue to push for the adoption of the 2012 proposal for a directive on improving gender balance in corporate boards and, in the meantime, calls on Member States to proactively improve that balance. Through funding and promoting best practice, the Commission will promote the participation of women (as both voters and candidates) in the 2024 European Parliament elections, in collaboration with the European Parliament, national parliaments, Member States and civil society. Gender balance in economic decision-making also forms part of the SDGs, as part of which the shares of women board members in the largest publicly listed companies are measured.

The lack of women's presence in decision-making bodies established around the world specifically to tackle COVID-19 is striking, despite the World Health Organization (WHO) underlining the importance of balance in this respect (WHO, 2020d). The overwhelming majority of healthcare workers in the EU are women, who make up 70 % of health professionals and 80 % of health associate professionals (EIGE, 2018b). This majority does not translate into participation in leadership positions in the healthcare sector, with only 30 % of health ministers in the EU. As gender continues to be a key determinant of health, women's inclusion in crisis response decision-making is crucial (Davies and Bennett, 2016).

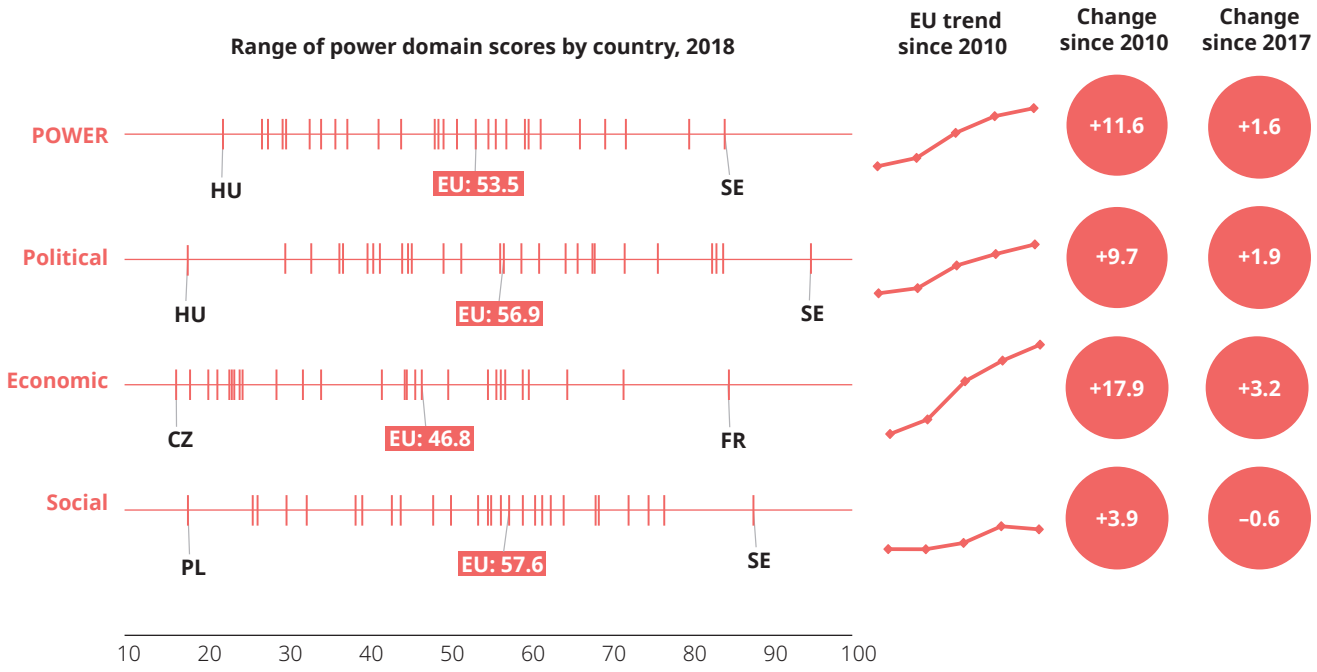
6.1. Halfway to gender equality in decision-making

The EU score in the domain of power ([38]) has increased by almost 12 points since 2010, and by 1.6 points between 2017 and 2018, maintaining the same pace of increase registered between 2016 and 2017. Nevertheless, the EU score for the power domain (53.5) remains the lowest for any domain (Figure 18).

The biggest improvements in the power domain in 2018 were in Spain (7.4 points) and the Netherlands (7.2 points) (Figure 19). Both have made great leaps forward in economic decision-making, with increases of 11.4 points and 16.6 points, respectively. However, while Spain showed improvement in gender equality in all

([38]) The domain of power measures gender equality in the highest decision-making positions across the political, economic and social spheres. The subdomain of political power looks at the representation of women and men in national parliaments, government and regional/local assemblies. The subdomain of economic power examines the proportions of women and men on the corporate boards of the largest nationally registered companies and national central banks. The subdomain of social power includes data on decision-making in research funding organisations, the media and sport.

Figure 18. Scores for the domain of power and its subdomains (2018), and changes over time



subdomains, the Netherlands lost ground in the subdomain of social power (– 3.5 points). The Member State with the biggest increase since 2010 was France, with 27.4 points, followed by Italy, Luxembourg and Germany, all surpassing 20 points of improvement. Those four Member States saw the greatest increases in economic decision-making, although Italy and Luxembourg showed decreases in gender equality in decision-making in the social subdomain (– 4.7 and – 2.9 points, respectively).

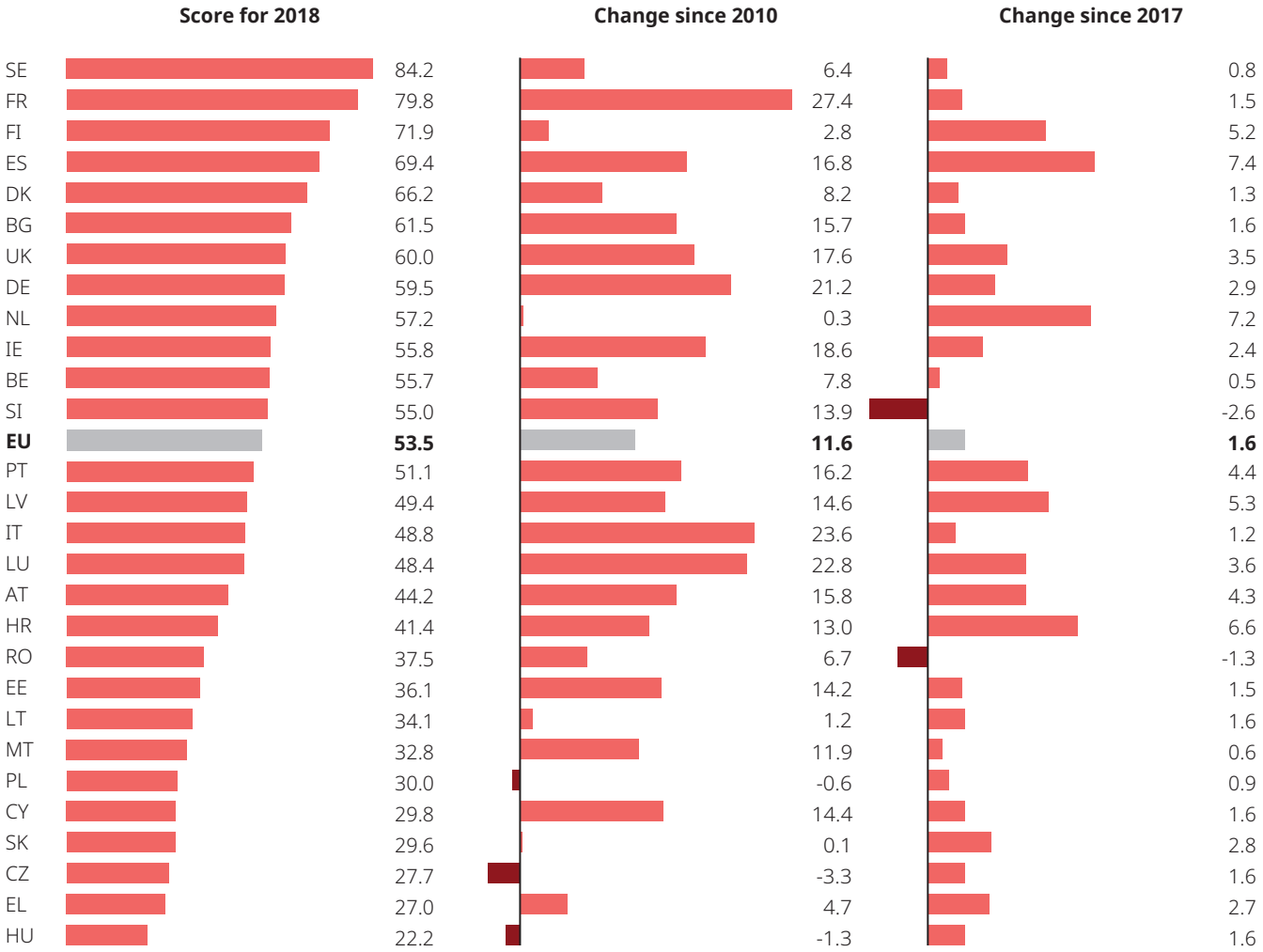
Romania and Slovenia experienced a regression between 2017 and 2018, showing a decrease of 2.6 points and 1.3 points each. Romania's score for social decision-making decreased by 10 points, with little improvement (barely 1 point) in other subdomains. Slovenia was the only EU Member State that showed a significant decrease (– 5.7 points) in economic decision-making, countering the overall positive trend for this subdomain from 2017 to 2018; it also had the biggest decrease in gender equality in political decision-making for the same period. Poland, Hungary and Czechia showed a decrease in their overall scores in the power domain from 2010. Czechia and Hungary had the biggest decreases in economic decision-making (– 11 and – 14 points, respectively), while Poland's score for social decision-making decreased by 11 points, the biggest decrease in social decision-making among the Member States for that period.

Improved gender equality in economic decision-making meant that it continued to lead the scores among the subdomains, increasing by 3.2 points between 2017 and 2018 and by 17.9 points overall since 2010. This trend was underpinned by the push for greater gender equality on the boards of the largest publicly quoted companies.

There was a 1.9 point increase in gender equality in political decision-making from 2017 to 2018, an increase of 11.6 points overall since 2010. Sweden, France and Finland continued to display the greatest gender balance in this domain.

Even though women's representation in decision-making in research, the media and sport remains the highest among all subdomains (57.6 points), it has decreased (– 0.6 points) since 2017. However, it increased by a total of 3.9 points between 2010 and 2018.

Figure 19. Scores for the domain of power, and changes since 2010 and 2017, in the EU Member States



6.2. Legislative action advances gender equality in politics

The presence of women in EU national parliaments (both houses) has increased by 10 p.p., from 24 % in 2010 to 32 % in 2020 ([39]). Parliaments in Sweden, Finland, Belgium, Spain, Portugal and Austria have reached gender balance; that is, they comprise at least 40 % of each gender. The parliaments of Croatia, Malta and Hungary have less than 20 % women members.

Several parliamentary elections took place in 2019, with two big improvements in gender balance: in Finland, from 40 % in 2010 to 46 % in 2020, and in Portugal, from 30 % in 2010 to 40 % in 2020. Luxembourg improved dramatically recently, gaining almost 7 p.p., while progress has also been made in Belgium, Greece and Spain (+ 3 p.p. each) since the beginning of 2019. There has been little change in Poland (28 %), while in Spain, the share of women dropped by 4 p.p., but the parliament nevertheless remains well balanced (42 % women). No progress has been made in Estonia.

A number of countries have undertaken initiatives to improve the gender balance in their parliaments and speed up the rate of change. Legislative candidate quotas are currently in place in 10 Member States: Belgium, Ireland, Greece, Spain, France, Croatia, Italy, Poland,

([39]) In the domain of power, the most recent data for Women and men in decision-making is used (WMID). 2020 data refers to 1st quarter of 2020. For comparability, 2010 data also refers to 1st quarter (https://eige.europa.eu/gender-statistics/dgs)

Portugal and Slovenia ([40]). Typically, the quota applies to the list of candidates submitted for election to the national assembly, with sanctions for non-compliance.

With the exception of in Croatia, the representation of women improved following the application of a quota. To date, however, the proportion of elected members surpasses the quota target only in Spain and Portugal. In Portugal, the quota introduced in 2006 requires one third (33 %) of each gender on candidate lists and was first surpassed in parliament following the 2015 elections. The latest elections in October 2019 resulted in 40 % women members. Spain has had a 40 % candidate quota since 2007, which was translated into actual members of parliament in 2013 (mid-term) and, more recently, resulted in 42 % women members following the October 2019 elections. All other countries with legislative candidate quotas still need substantial improvements: the proportion of women among elected members remains below the candidate quota level by 4 p.p. in Italy, 6 p.p. in Poland, 8 p.p. in Belgium and Ireland, 11 p.p. in France, Slovenia and Greece, and 19 p.p. in Croatia.

Gender balance has improved among cabinet ministers in national governments, from 26 % in 2010 to 32 % in 2020. However, there are significant differences between Member States. Three Member States have reached gender parity: in Finland, Austria and Sweden, women hold over 50 % of ministerial positions in government. Spain, France, Germany and Portugal have gender-balanced cabinets (with at least 40 % of senior ministers of each gender). In 2020, Malta, Lithuania and Cyprus each had only one woman among their ministers, with men holding over 90 % of ministerial positions. Estonia has seen a dramatic drop (– 20 p.p.) in women's representation, from 33 % to 13 %. In 2020, there were significant increases in Finland (35 % to 59 %), Austria (36 % to 53 %), Portugal (28 % to 37 %) and Italy (26 % to 34 %).

Although addressing the unequal participation of women in government is a priority, the sidelining of women when allocating portfolios is also concerning. Portfolios with a high profile (so-called basic or economic functions) were assigned to almost two in three men cabinet ministers (64 %), compared with only one in two women ministers (50 %) in 2020. This is more evident in sociocultural portfolios, or 'soft' portfolios, which were assigned to 40 % of women ministers but only 21 % of men cabinet ministers.

At regional and local levels, the rate of change continues to be extremely slow (29% in 2019), with an improvement of less than 1 p.p. since 2018. In 2019, women held only one third (33 %) of the seats in regional assemblies in 20 Member States in 2019. Gender balance – at least 40 % of each gender – was reached in five Member States (Belgium, Spain, France, Finland and Sweden) in 2019 and has not changed since. By contrast, Hungary, Slovakia and Romania continued to have more than 80 % male representation in regional assemblies, while Italy surpassed the 20 % threshold only in 2019.

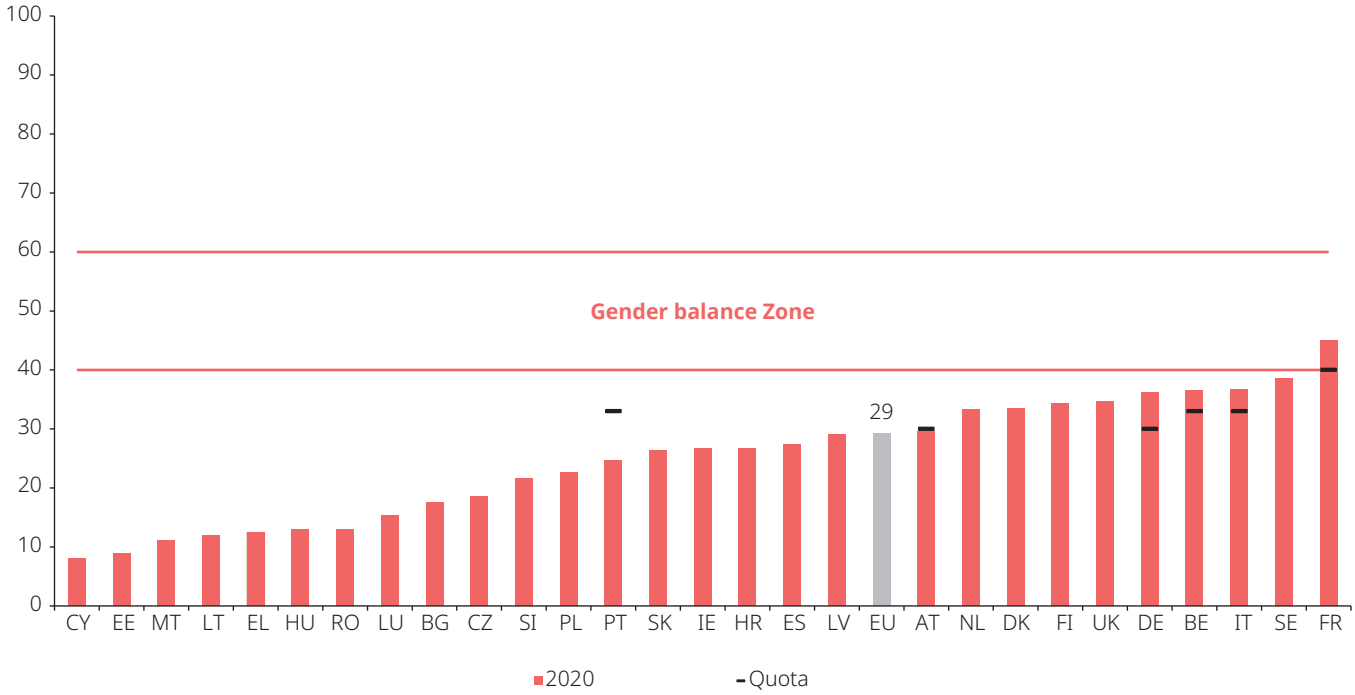
An improvement of 0.5 p.p. indicates that there has been no significant change in women's representation at local/municipal council level between 2017 and 2019. France and Sweden were the only two Member States with gender-balanced councils in 2019, while those in Romania, Cyprus and Greece have continued to have over 80 % men on councils since 2017. Across the EU, leadership in local government continues to elude women, stagnating at 15 % in 2019, with the same improvement rate as council representation (+ 0.5 p.p.).

6.3. Progress on gender equality is most notable on company boards

In 2012, the European Commission proposed legislative action to guarantee representation of both sexes amounting to at least 40 % of non-executive directors of listed companies, putting the issue at the centre of the policy agenda. Although the proposal has not yet been adopted,

([40]) Luxembourg introduced a 40 % quota in 2016, but the quota was not fully applied in the 2018 election (it will be applied during the next election). Therefore, Luxembourg has not been included in the 'legislative quota' group.

Figure 20. Percentages of women on the boards of the largest quoted companies (supervisory boards or board of directors) and binding quotas, by EU Member State, 2020



Source: EIGE calculations, EIGE Gender Statistics Database, Women and Men in Decision-Making (WMID).

women have made great progress in this area of decision-making, with a 2-p.p. increase between 2019 and 2020 (from 26 % to 29 %) (Figure 20). France remains the only Member State to have surpassed the 40 % threshold. The number of countries in which women account for at least one third of boards has grown to eight in 2020 (Belgium, Denmark, Germany, Italy, the Netherlands, Finland, Sweden and the United Kingdom), while substantial progress has been made in Croatia (+ 8 p.p.), Ireland (+ 8 p.p.) and Portugal (+ 5 p.p.). However, there are still 10 Member States with boards consisting of over 80 % men, including Estonia and Cyprus, each of which has less than 10 % women board members and has shown little or negative progress since 2018.

Across the EU, several Member States have taken action to promote more gender-balanced representation in corporate leadership. The strategies adopted vary from 'soft' measures, aimed at encouraging companies to self-regulate and take action independently, to 'hard' regulatory approaches, which include the application of legally binding quotas for the minimum representation of each gender, in some cases with sanctions for non-compliance. To date, six Member States have adopted mandatory quotas for large listed companies: Belgium, France and Italy in 2011, followed by Germany in 2015 and, more recently, Austria and Portugal in 2017. The impact of these quotas is clear. In 2020, women accounted for 37 % of the board members of the largest listed companies in Member States with binding quotas, compared with 25 % in countries with only soft measures or which have taken no action at all.

The presence of women in executive hierarchies is slowly growing, with women accounting for almost 19 % of senior executive positions and 31 % of non-executives, roughly a 2-p.p. increase in each since 2018. However, the low proportions of women among board chairs and chief executive officers (CEOs) have improved only marginally, with a 1-p.p. increase since 2018, stagnating at 8 % each. This uneven progress invites policymakers to take action in Member States that are lagging behind in the promotion of balanced representation in economic decision-making positions.

7. Domain of health

The worldwide experience of the COVID-19 pandemic is a painful reminder that health is one of humans' most valuable resources, as well as an asset that keeps societies functioning. While the overall level of health and capacity of healthcare in the EU are among the best in the world, inequalities in health and access to services become increasingly visible during unprecedented emergency situations. The cost of health inequalities normally across 25 European countries was estimated to be EUR 980 billion, or 9.4 % of GDP, in 2004 (Mackenbach et al., 2011; WHO, 2014a)2011; WHO, 2014a. Counting the cost and health impacts of COVID-19 and related measures will be an almost impossible undertaking.

Using evidence from the pre-COVID-19 period is vital to set the baseline, recognising existing deficiencies in health systems and identifying the most vulnerable people. Statistics on the COVID-19 outbreak show important sex differences in mortality and vulnerability to the disease (Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, 2020). Experiences from past outbreaks show the importance of incorporating gender analysis into preparedness plans and institutional responses to improve the effectiveness of health interventions and promote gender and health equity goals (Wenham et al., 2020). Policies and public health systems have not addressed the gendered impacts of disease outbreaks in the past (Wenham et al., 2020). Recognising the different extents to which disease outbreaks affect women and men is a fundamental step in understanding the effects of a health emergency on different individuals and communities, and in creating effective, equitable policies and interventions (Wenham et al., 2020).

Improving health and reducing inequalities within and between Member States are among the strategic objectives of both the EU third health programme (2014–2020) (European Commission, 2014b) and Health 2020, the WHO-led regional health strategy for Europe adopted in 2012 (WHO, 2013). The importance of achieving universal health is also enshrined in the SDGs, with Goal 3 focusing on health and well-being while the Goal 5 gender equality targets encompass health issues affecting women. Achieving such goals – or even maintaining the status quo – will be a challenge in the present situation. New, smarter and more efficient ways of providing healthcare are needed to overcome the bottlenecks that have been created. Among the key activities of the EU's digital strategy is the promotion of electronic health records to give European citizens secure access to their health data and facilitate the exchange of health data across the EU, as well as creating a European health data space to improve the (secure) accessibility of health data, allowing for targeted research, diagnosis and treatment (European Commission, 2020a).

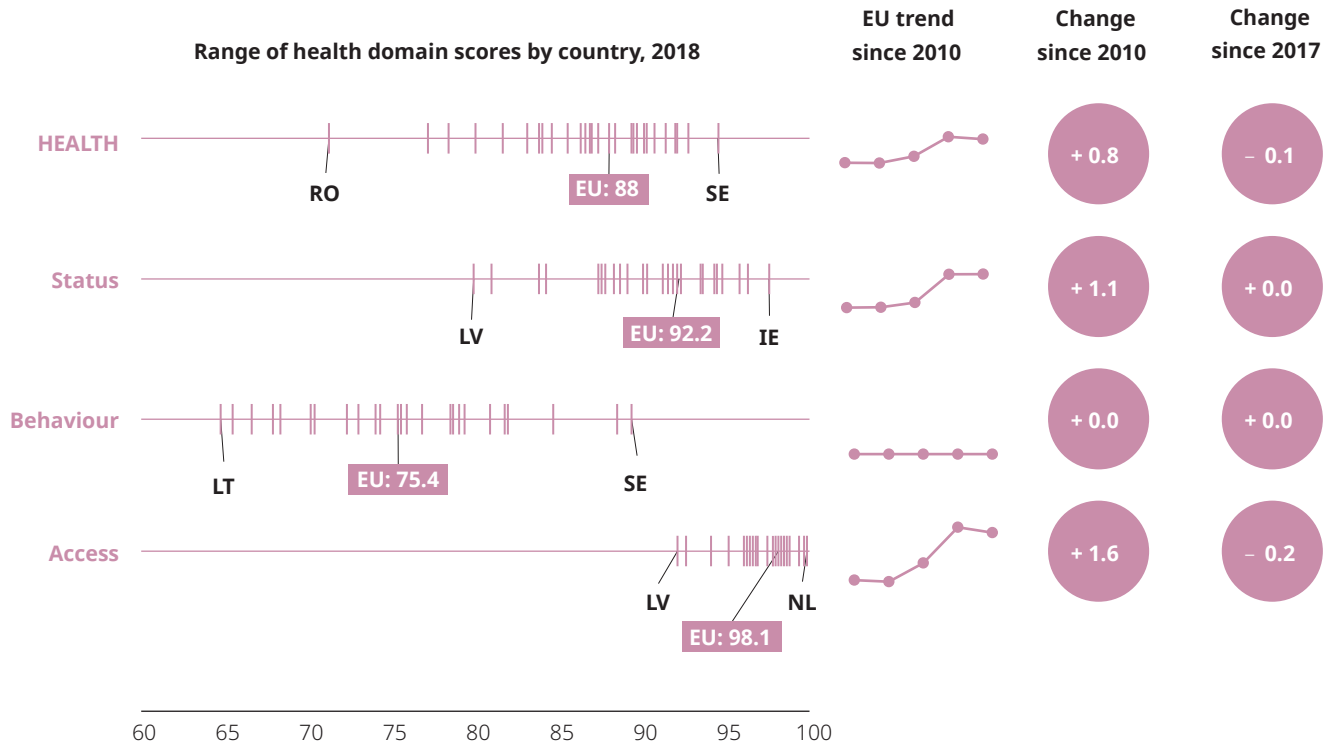
7.1. Lack of data obstructs monitoring of gender progress on health behaviour

The 2020 Gender Equality Index still reflects the pre-COVID-19 period. Although its score of 88 points sees the domain of health ([41]) ranked the highest of all six domains, progress has been negligible (+ 0.8 points) since 2010 (Figure 21). The latest year even showed a minor loss in progress, of – 0.1 point.

Since 2010, 12 countries have improved their score by more than 1 point, with Sweden and the United Kingdom alternating between 1st and 2nd position. The most significant progress was in Croatia, Italy and Bulgaria. Seven countries experienced some decrease, while two lost over 1 point (Estonia and the United Kingdom). In

([41]) The domain of health measures three health-related aspects of gender equality: health status, health behaviour and access to health services. Health status looks at the gender differences in life expectancy, self-perceived health and healthy life years (also called disability-free life expectancy). This is complemented by a set of health behaviour factors based on WHO recommendations: fruit and vegetable consumption, engagement in physical activity, smoking and excessive alcohol consumption. Access to health services looks at the percentages of people who report unmet medical and/or dental needs.

Figure 21. Scores for the domain of health and its subdomains (2018), and changes over time



the short term, from 2017 to 2018, the changes ranged from a mere + 0.5 points in Greece to – 0.5 points in the United Kingdom. The subdomain measuring equal access to health services had the highest score and showed most rapid progress (+ 1.6 since 2010), although 2018 saw a slight backslide of 0.2 points. Bulgaria was the most prominent improver in equal access (+ 5.9), which lifted the country from 26th to 10th position in this subdomain. Croatia, with its 5.2-point improvement, rose from 25th to 13th in the ranking. The third fastest improver, Romania, went up by only three positions to 24th place, despite a 4.4-point improvement (Figure 22).

Changes since 2017 were marginal everywhere in the subdomain of access. Only the United Kingdom lost 1.1 points, continuing the gradual decline since 2010 that has seen it fall from 4th to 22nd in the rankings. Estonia's access to services score also declined: it lost 4.2 points (– 0.9 since 2017) and dropped from 15th to 27th position. Latvia has remained in last (28th) position throughout the years.

The subdomain of health status is much less dynamic, in terms of both scores and rankings. The score for the EU has improved by 1.1 points since 2010 and shows no change since 2017. Croatia (+ 2.3), Italy (+ 3.2), Hungary (+ 3.3) and Slovakia (+ 2.4) are most improved since 2010. Since 2017, five countries have improved their score by at least 1 point, with Greece improving most (+ 1.1 points). Estonia, Latvia, Lithuania and Portugal have been at the bottom of the board throughout, but Lithuania (+ 1.0) and Latvia (+ 0.9) show slight improvements since 2017. Luxembourg went backwards by 2.3 points, falling from 5th position in 2010 to 14th in 2018. In 2018, Cyprus and Denmark lost most points (1.4 and 1.3, respectively).

The largest gender inequalities are found in health behaviour: the score at EU level is a mere 75.4 points. Data show that men are more likely to engage in smoking and drinking, while women are more likely to eat healthily and engage in physical activity. These are major health determinants and closely related to the type of health prevention that can lessen the need for expensive attempts to cure illness or manage disease over the long term (WHO, 2008). The latest data on health behaviour are from 2014, making it impossible to monitor progress on this important area effectively. There is a body of evidence showing that legislative and public policies can be effective in changing behaviour (WHO, 2014b), but regular data

Figure 22. Scores for the domain of health, and changes since 2010 and 2017, in the EU Member States

collection and analysis are essential to monitor the effectiveness of Member States' approaches.

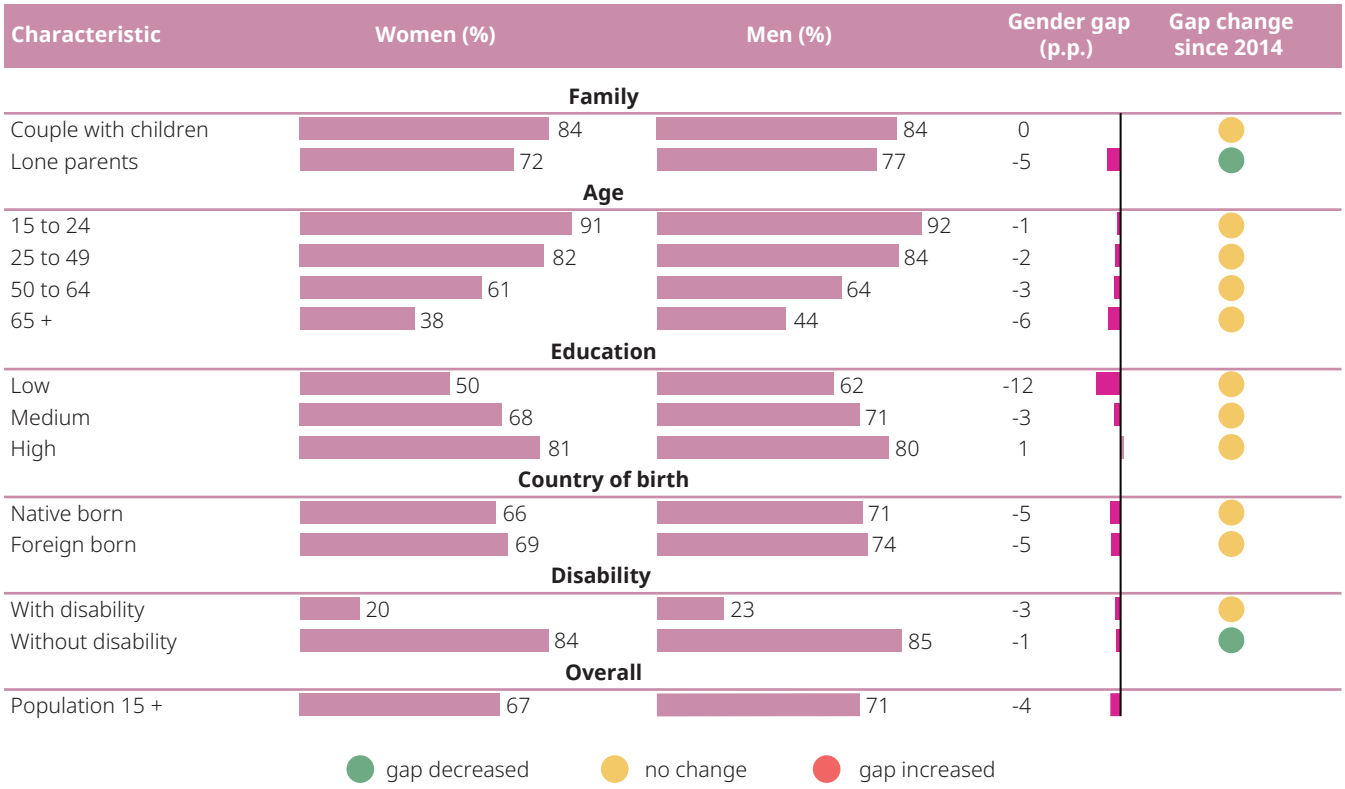
7.2. Disability and education significantly affect health and access to healthcare

Examination of the Gender Equality Index confirms that good health and healthcare are not enjoyed equally by all women and men. Age, education, migration status, family status and disability all intersect with gender to some extent and impact one of the main indicators of self-perceived health (Figure 23). Recent evidence suggests that certain groups of LGBTI people may experience poorer health than other groups. For instance, 80 % of lesbian women and 84 % of gay men report good or very good health, on average, compared with only 64 % of trans people and 65 % of intersex people (and 79 % of LGBTI people on average) (FRA, 2020).

People with disabilities are clearly among the most disadvantaged groups. While only 20 % of women with disabilities report having good or very good health (compared with 23 % of men with disabilities), as many as 7 % of women and 6 % of men with disabilities have experienced an unmet need for medical care (compared with 4 % of women and 3 % of men among the total population). Similarly, 7 % of women and 7 % of men with disabilities reported an unmet need for dental care in the EU on average. While the numbers experiencing unmet need are relatively low, there is significant variation across the Member States.

Women with low education have significantly poorer self-assessed health than men with low education or women with high education. These education-related inequalities increase with

Figure 23. Self-perceived health by sex, family composition, age, education level, country of birth and disability, EU, 2018



Source: EIGE's calculation, EU-SILC (IE, SK, UK, 2017)

age: for the youngest (16–24 year olds), the gap between those with low education and those with high education is only 2 p.p. for women and 3 p.p. for men. By time of retirement (aged 65–74), however, that difference grows to 24 p.p. between women with low education and those with high education and 19 p.p. between men with high education and those with low education ([42]). In 2018, only 41 % of older women (aged 65–75) with low education reported having good or very good health, compared with 64 % of highly educated women. In addition to poorer health, those with low education were more likely to experience difficulties in accessing the health services they needed. Cost was the main barrier to accessing health and dental services, with a very large share viewing them as too expensive ([43]). There is a clear correlation between income and health: the higher the income, the better the health, regardless of age ([44]). Women and men with disabilities and women with low education are all more likely than other groups of women and men to be out of the labour market or in precarious work (EIGE, 2018b) and therefore to have a low income. Indeed, the data show that access to health services – especially dental care – was connected to employment status, as well as level of income: 9.9 % of unemployed men and 9.4 % of unemployed women reported an unmet need for dental care ([45]), with as many as 80 % of those people giving cost as the reason (81 % of men and 83 % of women who are unemployed and have an unmet need) ([46]). In the lowest income quintile, 7 % of women and men reported an unmet need for dental examination, compared with only 2 % of the highest quintile in 2018 ([47]). Countries where health insurance provides at least some coverage for dental care services have a narrower margin of inequality in access to dental care (Palència et al., 2014).

([42]) Eurostat (hlth_silc_02).
([43]) Eurostat (hlth_silc_16).
([44]) Eurostat (hlth_silc_10).
([45]) Eurostat (hlth_silc_15).
([46]) EIGE calculations based on Eurostat (hlth_silc_15).
([47]) Eurostat (hlth_silc_09).

The data highlight how different inequalities accumulate: poor health, low educational achievement, inactivity or unemployment, and low income go hand in hand, resulting in a situation where healthcare services are least accessible to those who are most in need. This, in turn, can have further detrimental consequences for health. Gender differences in ill health are often due to differences in employment status, as employment is one of the main predictors of better health (Lahelma et al., 2001). Poor work and employment conditions – which are often concentrated among populations in vulnerable situations – can widen inequalities in health (Forster et al., 2018). Overall, health and access to health services are connected to 'social status', which can be measured by level of education, occupation or income level (Forster et al., 2018).

The economic crisis and the strain on the health services created by the COVID-19 pandemic highlight the need to strengthen social and health protections for unemployed people and those with low incomes. Women with low education and women with disabilities fall into these categories particularly often and are thus at greater risk of remaining without proper healthcare, even while being among those most likely to suffer from poor health. The 2008 recession made access to medical care more difficult, as a result of unemployment and financial hardship (Madureira-Lima et al., 2018).

7.3. Unprecedented impact of COVID-19 calls for gender-sensitive policies and research

The COVID-19 pandemic has challenged health systems and affected the health and lives of innumerable people, both directly and indirectly. Although gender-disaggregated data are not provided by all countries, data suggest that infected men are more likely to die from COVID-19 than infected women (BMJ Global Health, 2020). A similar trend was seen in the SARS outbreak in 2003 (Jin et al., 2020). Gender disparities may be rooted in biological differences (e.g. genetic and immunological differences, gender differences in pre-existing health problems), behavioural risk factors (e.g. a history of smoking), working conditions and other social factors (Gebhard et al., 2020). For example, women participate less in the labour market, but they work as front-line providers of healthcare and social care. A study of eight countries found that women are more likely to see COVID-19 as a very serious health problem, to agree with restrictive public policy measures adopted in response to it and to comply with them (Galasso et al., 2020).

The number of victims extends beyond the count of those who have died from COVID-19, with the unprecedented increase in deaths exceeding the recorded numbers of directly COVID-linked deaths. This may be because health systems have become overwhelmed and people have not received the help they need (Wu et al., 2020) and because people have not sought help because of a fear of leaving home (Roxby, 2020). The situation is most grave for those with pre-existing physical or mental health conditions.

The impact of the COVID-19 pandemic and the policy responses of closing infrastructure (including health facilities) and social distancing may have a more far-reaching impact. The grief of losing people to COVID-19, the fear of infection, unpredictability, work–life balance struggles due to closures of schools and kindergartens, the stress of job and income loss, and the loneliness and isolation caused by social distancing, stigma and discrimination are likely to generate significant stress, anxiety and thus related mental health issues. For instance, a study found that the number of calls to a German helpline increased significantly during the pandemic owing to increased loneliness, anxiety and suicidal ideation (Armbruster and Klotzbücher, 2020).

The gender differences in mental shealth are well established and it is likely that the pandemic and resulting economic crisis will only exacerbate these differences. For instance, job loss is a major stressor for men. Studies have shown that during periods of high unemployment during the financial crisis suicide rates in men significantly increased – particularly among those of working age and the unemployed – while suicide rates among women were largely unaffected (Parmar et al., 2016). However, women's struggle with work–life balance may have been aggravated by

the unbalanced division of care responsibilities within the family. Living in lockdown may foster unhealthy lifestyles, substance abuse, lack of physical exercise and unhealthy eating habits. The subdomain of health behaviour shows that these behaviours are more common in men than women, although lockdown and the resulting economic crisis may increase unhealthy behaviour among both women and men.

Social isolation over long periods of time can increase the risk of a variety of negative health outcomes, including heart disease, depression, dementia and even death (Miller, 2020). It has been shown to be comparable to well-established risk factors for mortality, such as smoking and alcohol consumption, and worse than physical inactivity and obesity (Holt-Lunstad et al., 2010). There is added stress for older adults and people with certain health conditions, who are at particular risk and who may also be cut off from care by physical distancing. Women, particularly older women, are more likely to live alone than men (EIGE, 2020e). Women may be at risk of exposure as a result of occupational gender segregation: globally, women make up 70 % of the health workforce and are more likely to be frontline health workers, especially nurses, midwives and community health workers (WHO, 2018).

In its mental health guidance, WHO specifically targets healthcare workers, health facility managers, childcare providers, older adults, care providers, people with underlying health conditions, and those living in isolation to try and contain the spread of the pandemic (WHO, 2020c). Children's mental health also needs special attention, with children affected by the changing situation, isolation and general anxiety levels in the home, particularly in tense/violent households. Of young people with a history of mental illness in the United Kingdom, 83 % said that the COVID-19 pandemic had made their condition worse and 26 % said that they were unable to access mental health support. Peer support groups and face-to-face services have been cancelled, and support by phone or online can be challenging for some young people (YoungMinds, 2020).

The total costs of mental ill health are estimated to amount to more than 4 % of GDP across EU Member States (over EUR 600 billion per year) ([48]) (OECD-EU, 2018). A considerable number of children experience mental health problems, with many such issues beginning in adolescence or even younger (OECD-EU, 2018). Mental health issues are among the health conditions with the highest burden of disease for young children and young people, particularly adolescent girls (Baranne and Falissard, 2018). Children who have been isolated or quarantined during pandemic outbreaks have been found to be more likely to develop acute stress disorders, adjustment disorders and grief disorders (Sprang and Silman, 2013).

Only 1 % of all academic research on previous outbreaks of Zika and Ebola explored the gendered impact of those outbreaks (Criado Perez, 2019) ([49]). The COVID-19 outbreak has seen quite numerous publications on gender implications, but WHO points out that there is limited availability of sex- and age-disaggregated data, which hampers analysis of the gendered implications of COVID-19 and the development of appropriate responses (WHO, 2020b). The biological differences between women and men need to be considered in clinical testing of vaccines and drug treatments for COVID-19, including the special situation of pregnancy. Sufficient and timely research on mechanisms of spreading the virus is needed to advise pregnant and breastfeeding women. Health pandemics can make it more difficult for women and girls to access sexual and reproductive health services, as a result of the reallocation of resources and priorities (UN Women, 2020; WHO, 2020b). Those with specific conditions (e.g. autism) may be particularly at risk, as they may not be able to tolerate disruption to their daily routines (Lee, 2020).

A more in-depth analysis of gender inequalities in health will be reported on in 2021, when health will be the thematic focus of the Gender Equality Index. That Index will also focus on important topics such as mental health, reproductive and sexual health, and the gendered impacts of pandemics.

([48]) A large part of these costs arises from lower employment rates and productivity of people with mental health issues but also from spending on social security programmes and direct spending on healthcare.

([49]) In her book *Invisible Women: Exposing data bias in a world designed for men,* Criado Perez (2019) notes that 29 million papers were published in more than 15 000 peer-reviewed titles around the time of the Zika and Ebola epidemics, but less than 1 % explored the gendered impact of the outbreaks.

8. Domain of violence

The domain of violence provides a set of indicators that can help the EU and its Member States to monitor the extent of the most common and documented forms of violence against women. Unlike the other domains, the domain of violence does not measure differences between women and men; rather, it examines women's experiences of violence. The main objective is to eliminate violence against women, not to reduce gaps.

EIGE developed **a three-tier structure of measurement** to provide the most complete and reliable picture of violence against women in the EU.

1. A **composite measure** combines indicators on the extent of violence against women. The composite measure does not affect the final score of the Gender Equality Index. However, violence against women must be considered alongside the other domains, as it mirrors the rest of the enduring inequalities captured by the Index. In 2017, the EU composite measure score was 27.5 (EIGE, 2017d). This measure is calculated on a scale from 1 to 100, where the highest score indicates the highest prevalence of violence against women. The latest calculation of the composite measure score relied on data from a 2014 FRA survey (FRA, 2014b). Until the completion of the next EU-wide survey on violence against women, led by Eurostat ([50]), scores for this domain cannot be updated.

2. **Additional indicators** cover the broader range of forms of violence against women described in the Istanbul Convention (Council of Europe, 2011). These indicators may be included in the calculation of the single score if more reliable and comparable data becomes available. They includes EIGE's indicators on administrative data (EIGE, 2018a).

3. **Contextual factors** include some of the root causes of violence against women. Designed to monitor Member State compliance with the obligations set out in the Istanbul Convention, they cover six dimensions: policies,

Violence against women surged during the COVID-19 pandemic

The COVID-19 pandemic that hit the EU in early 2020 has had substantial health and economic implications, including for gender-based violence. The lockdowns imposed across all Member States heightened the threat to women victims of violence. According to WHO, violence against women increases during every type of emergency, including pandemics (WHO, 2020a). In France, for example, during the first 3 weeks of lockdown, the number of registered cases of domestic violence increased by over 30 % (Euronews, 2020). Lockdown exacerbated the risk of domestic abuse by forcing women to remain at home for a prolonged period of time, while constant exposure to their abuser made it very difficult to contact helplines or other sources of help. It has also weakened women's ability to leave abusive partners after the crisis, owing to the ensuing financial insecurity (EIGE, 2020d). Several countries adopted ad hoc measures to facilitate reporting of cases of violence in pharmacies, establishing a code system for women to signal that they were in danger, and arranged hotel accommodation to enable at-risk women to self-isolate in safety (Talmazan et al., 2020). Italy developed a smartphone app that allowed situations of abuse to be reported directly to the police without making a phone call (Ferrari, 2020).

([50]) The data collection is planned to take place between 2020 and 2022.

prevention, protection and support, substantive legislation, involvement of law enforcement agencies, and societal framework.

8.1. Collecting data on violence presents long-standing challenges

Across the three levels that comprise the domain of violence's measurement framework, recent data is available only for femicide. This form of violence is commonly understood as 'the killing of a woman in the context of intimate partner violence' (EIGE, 2017a, p. 4), but there is no legal definition of femicide as a criminal offence, either at EU or Member State level (Schröttle and Meshkova, 2018). This implies that capturing the current situation requires a proxy (albeit one that is unable to account for the motive of the killing): the number of female victims of intentional homicide killed by an intimate partner or family member (EIGE, 2018c). In 2017, Eurostat recorded 854 women victims of homicide by a family member or intimate partner ([51]). The country with the highest rate of femicide (calculated per 100 000 women) was Latvia, while the lowest rate was recorded in Greece (Figure 24). These figures should be read in the light of the fact that Eurostat data is based on harmonised national police statistics, which can differ in their methods of collection and aggregation (Corradi et al., 2018). Another caveat to consider is the fact that violence against women is universally under-reported; therefore, the data is unable to capture the 'grey zone' resulting from the difference between actual prevalence and disclosed violence (EIGE, 2016; Walklate et al., 2019).

For the other forms of violence, no new data has become available since the publication of the Gender Equality Index 2019, except for some new insights into trafficking in human beings. Data presented by the Council of Europe in its latest general report on the activity of the Group of Experts on Action against Trafficking in Human Beings revealed that in the EU the number of identified victims of trafficking rose from 9 510 in 2015 to 14 363 in 2018: an increase of 51 %. The numbers are not directly comparable between

Figure 24. Women victims of intentional homicide by an intimate partner or family member (per 100 000 female population), 2017

Source: Eurostat, 2019 (crim_hom_vrel).
NB: Data related to the number of women victims of intentional homicide by family or relatives in 2017 is not available for Northern Ireland, Romania, Italy and Greece. Slovakia recorded zero women killed by family members in 2017.

([51]) Data is available for 16 Member States, as well as England and Wales, Scotland, and Northern Ireland.

countries, because of different collection and registration methods and difficulties in the process of identifying victims, and nor are they disaggregated by gender. The Council of Europe also highlighted that these data presents an underestimation of the problem (the hidden nature of which makes it extremely hard to measure).

8.2. Gender-based violence intersects with multiple axes of oppression

Minority groups face different kinds of discriminations in Europe. The intersection between belonging to a minority group and identifying as a woman creates a particularly vulnerable condition that poses several threats to physical and psychological integrity. For example, extensive research shows that Muslim women are disproportionately affected by Islamophobic attacks across Europe, as wearing a headscarf makes their religious affiliation easily recognisable (Abdelkader, 2017; Mahr and Nadeem, 2019; Seta, 2016). Attacks on these women – usually perpetrated by unknown white men – are motivated by a combination of Islamophobia and sexism (Seta, 2016).

Older women are disproportionately exposed to the risk of abuse, compared with older men (Saripapa, 2019). Gender is a risk factor for victims of elderly abuse not only because women have a longer life expectancy and are over-represented among people in need of long-term care (EIGE, 2020e) but also because gendered power dynamics are exacerbated by old-age physical and economic fragility (Van Bavel et al., 2010). In December 2019, Women Against Violence Europe (WAVE) launched its Multi-Agency Responses to Violence against Older Women project to develop provision of support to elderly survivors of violence. Later life stages reflect the accumulation of a lifetime of inequality, economic dependence, violence and abuse, which makes older women particularly vulnerable, including to femicide (Brennan et al., 2017). This is especially true for those in need of long-term care and medical assistance (WAVE, 2019).

Disability, too, substantially increases women's vulnerability to violence (EIGE, 2020a). Like older women, women with disabilities are more likely to be in some way dependent on their abuser, which prevents them from accessing help (Tatara et al., 1998). In its EU-wide survey on violence against women, FRA found that women with disabilities were more likely to be victims of all forms of violence (physical, sexual and psychological violence and stalking) than women who did not identify as having disabilities (FRA, 2014b). Of women with disabilities, 34 % have suffered intimate partner violence, compared with 19 % of women without disabilities (EIGE, 2020a).

Within the LGBTQI* community, the gender component exacerbates the risk of violence and discrimination. According to FRA's 2012 EU LGBT survey, individuals whose gender expression did not match the sex they were assigned at birth were twice as likely to experience hate-motivated violence than those who fitted with societal expectations. This included not only transgender individuals ([52]), but also gay men presenting in a 'feminine' way, and bisexual and lesbian women presenting in a 'masculine' way (FRA, 2014a). Indeed, the latest version of FRA's LGBTI survey revealed that 46 % of bisexual women and 29 % of lesbian women experienced harassment due to their assigned sex, in addition to their sexual orientation, compared with only 2 % of gay men (FRA, 2020). Another form of violence affecting the LGBTQI* community is intersex genital mutilation, the practice of subjecting intersex ([53]) infants to 'corrective' genital surgeries to modify their sex characteristics (Jones, 2017). According to FRA (2020), in Europe 62 % of these interventions are non-consensual, as they are performed

([52]) Individuals who are openly transgender or intersex are the most likely to be sexually or physically assaulted (24 % and 26 % prevalence of attacks, compared with 11 % among LGBTI respondents overall) (FRA, 2020).

([53]) The term refers to 'a range of physical traits or variations that lie between stereotypical ideals of male and female. Intersex people are born with physical, hormonal or genetic features that are neither wholly female nor wholly male; or a combination of female and male; or neither female nor male. Many forms of intersex exist; it is a spectrum or umbrella term, rather than a single category' (ILGA-EUROPE, 2015, p. 5).

on infants who are unable to express their informed consent to the treatment. The gendered aspect of intersex genital mutilation is particularly relevant, since the medicalisation of intersex bodies consists in the non-consensual mutilation of gender-non-conforming bodies, in order to 'normalise' them and align them with the assigned gender roles and sex of rearing (Carpenter, 2016). In February 2019, the European Parliament adopted a resolution on the rights of intersex people (2018/2878 (RSP)), recognising that such surgeries are medically unnecessary (serving only a cosmetic purpose) and cause lifelong damage to the physical and psychological integrity of intersex people. The Parliament thus 'strongly condemns sex-normalising treatments and surgery; welcomes laws that prohibit such surgery, as in Malta and Portugal, and encourages other Member States to adopt similar legislation as soon as possible' (European Parliament, 2019b).

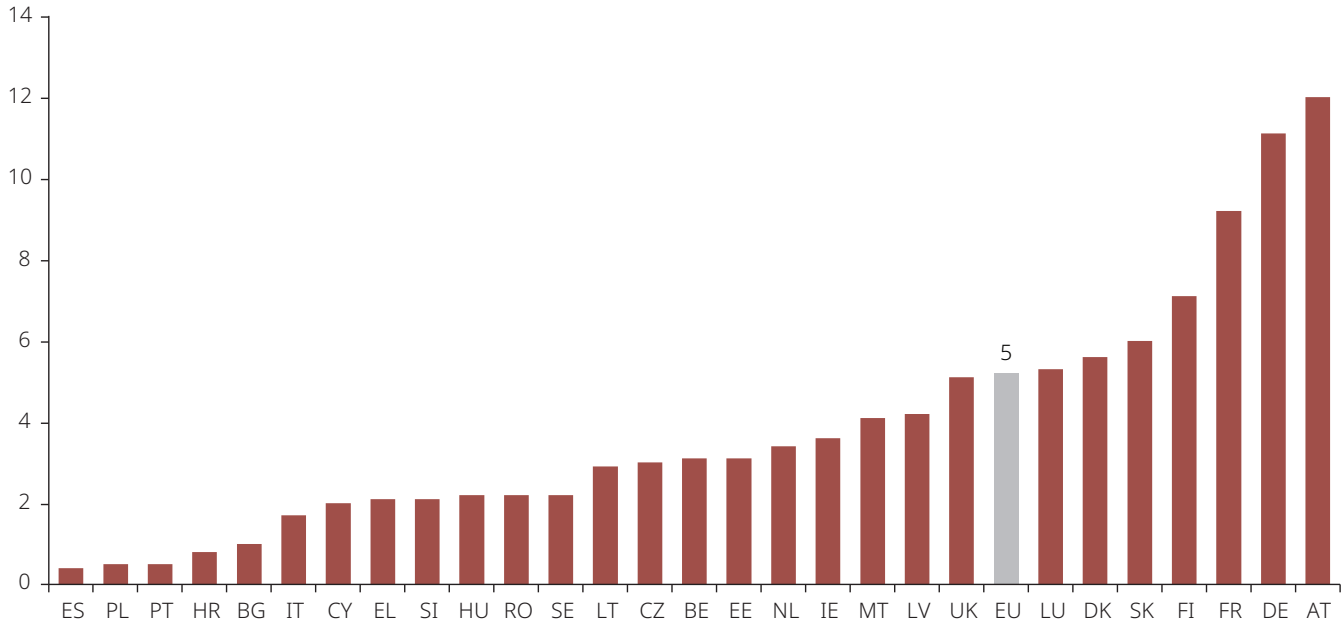
8.3. When gender-based violence goes digital

The emergence of digital technologies has had far-reaching impacts on women's and girls' exposure to gender-based violence. Firstly, in providing abusers with access to more varied and powerful tools of control and coercion over the women in their lives, digital technologies can aggravate traditional forms of intimate partner violence (EIGE, 2017b). Secondly, digital technologies have enabled the emergence of new forms of gender-based violence, which are likely to affect women differently depending on their personal characteristics. Online abuse towards women and girls is now understood as an iteration or extension of gender-based violence experienced offline (Lewis et al., 2017). This section focuses on some of the forms of violence that have emerged from digital technological development and their impact on women's online and offline lives.

As shown in Figure 25, 5 % of adult women in the EU have experienced some form of online harassment in the 12 months preceding the survey. This percentage reaches 12 % in Austria, 11 % in Germany and 9 % in France.

As discussed in EIGE (2019a), adolescent girls and young women are very active internet users, especially on social networking sites, and commonly face unwanted and inappropriate advances online in that context. This is reflected in the higher prevalence of cyber-harassment

Figure 25. Percentages of women aged 18 or older who experienced online harassment in the 12 months prior to the survey, by country, 2016



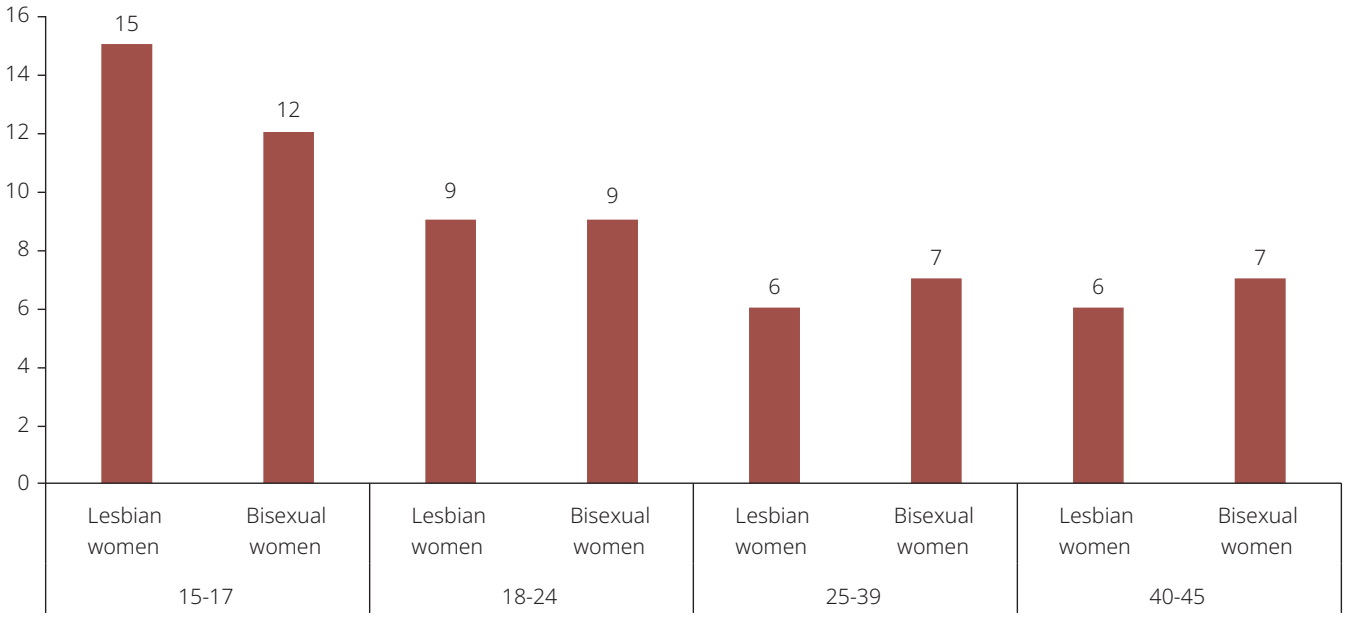
Source: EIGE calculations using microdata from Eurofound's 2016 European Quality of Life Survey (EQLS).

among young women, with 20 % of 18–29-year-old women living in the EU having experienced sexual harassment online since the age of 15 (FRA, 2014b). Abuse on social media and other networking sites is so ubiquitous that it is often characterised as routine for young people (Bryce and Fraser, 2013). When asked if they had witnessed or experienced cases where abuse, hate speech or threats were directed at journalists, bloggers and people active on social media, 57 % of young women and 62 % of young men aged 16–19 responded that they had ([54]). If gender and age are strong predictors of exposure to abuse on social networks, so too are sexual orientation and gender identity. Young women belonging to the LGBTI community are at particular risk of cyber-harassment, with 15 % of lesbian young women and 12 % of bisexual young women aged 15–17 having experienced cyber-harassment in the previous 12 months (Figure 26).

In addition to cyber-harassment, several emerging forms of cyber-violence revolve around sexual images shared without consent, with the intention of shaming women for their sexuality, such as the dissemination of intimate pictures and videos without consent and the creation of social media accounts dedicated to publicly shaming and humiliating individual young women and girls by exposing intimate (real or fabricated) images of them (McGlynn et al., 2017). Another alarming development is 'upskirting', where boys or men use their phones to stealthily take pictures up women's skirts or dresses to post on social media (McGlynn and Rackley, 2017). Some functionalities of mobile devices are used to harass women and girls, such as in cyber-flashing, where Bluetooth or Airdrop functions are used to send unsolicited sexual pictures or messages, particularly to very young women and often in public places or on public transport (Milner and Donald, 2019; Thompson, 2016).

As for other forms of gender-based violence, evidence suggests that the lockdowns and social distancing measures mandated to reduce the spread of COVID-19 have been associated with a spike in digital forms of violence affecting women, such as online harassment and non-consensual pornography, in part as a result of increased internet usage (CNews, 2020; Davies, 2020; EIGE, 2020b; Euronews, 2020; UN Women, 2020). Similarly, Europol has pointed to the pandemic being associated with an increased number of attempts to access illegal websites featuring child sexual exploitation material (Europol, 2020).

Figure 26. Percentages of respondents who experienced cyber-harassment as a result of being LGBTI in the past 12 months, by age and orientation, EU, 2020



Source: FRA (2020)

([54]) Special Eurobarometer 452, 2016.

9. Digitalisation and the future of work: a thematic focus

Recent decades have seen digitalisation transform socioeconomic and political realities. With the integration of digital technologies, the world of work has changed – creating both opportunities for and risks to gender equality. However, academic, public and policy debates on the digital future of work have often adopted gender-neutral perspectives that fail to address the central role of digitalisation in transforming gender relations in positive and negative ways (Scheele, 2005).

The EU digital strategy 'Shaping Europe's digital future' presents a vision of digital transition that works for all, 'putting people first and opening new opportunities for business' (European Commission, 2020a). The EU gender equality strategy 2020–2025 observes that integration of a gender perspective in this area is essential to reach the goal of gender equality. While a number of positive policy developments can be noted, major challenges remain if gender equality in the digital world of work is to be achieved.

In 2019, EU countries committed to boosting the participation of women in digital and technology sectors through the Ministerial Declaration of Commitment on Women in Digital (WiD), with a strong focus on improving the representation of women in certain high-skilled, well-paid activities (notably STEM). While systematic monitoring of progress achieved under the WiD declaration is envisaged, its coverage of gender equality issues linked to digitalisation is limited, often owing to lack of availability or poor quality of gender-disaggregated data (for additional suggestions for indicators to be monitored, see Annex 5). Mainstreaming of gender equality into other aspects of digitalisation is not well developed. For example, policy literature has little to say about the implications of new platform work opportunities for gender equality (for an exception, see European Commission (2018f)).

The limited treatment of equality issues in digital policy contrasts with feminist scholars' long-standing interest in this topic. Since the 1970s, feminist research has criticised the gender biases of scientific thought as dominated by the perspectives and interests of Western middle-class white men (Harding, 1986, 1991; Keller and Longino, 1996). The gendered, racial and class-based division of labour was associated with the prevailing gender-blind technological practices (Cockburn and Ormrod, 1993). The scope and understanding of the debate on gender and technology later expanded, with influential thinkers identifying the potential to transform bodies beyond biological boundaries and transcend gender inequalities through the use of digital technologies (Haraway, 1984, 1991; Wajcman, 2004, 2015). At the same time, however, a number of studies of digital discourse on race and gender showed the persistence of – and even the emergence of new forms of – racist and sexist stereotyping online (Nakamura, 2013).

Feminist research has also highlighted links between gender, technology and the labour market, focusing on the different ways in which technology has substituted or transformed the work of women and men. Various forms of gender segregation have been identified, including vertical, horizontal and contractual segregation (e.g. in part-time or temporary work) (Rubery and Fagan, 1993). Further research has built on this evidence and analysed how new kinds of technology-enabled work, such as telework and platform work, have reproduced or changed dominant patterns of gender segregation and inequality (Freeman, 2010; Mirchandani, 2010; Overseas Development Institute, 2019).

This thematic focus takes stock (briefly) of the research on the positive and negative

consequences of digitalisation for gender equality in the world of work, particularly those consequences that are not (fully) addressed in the EU policy framework. It shows that digitalisation of work is likely to have profound implications for future progress towards gender equality across all Index domains, especially work, money and knowledge. It concludes with several broad policy and research recommendations on promoting gender equality in the context of future digitalisation.

In addition, the chapter explores the gendered consequences of digitalisation for groups facing additional disadvantages, such as women with disabilities or women from migrant and ethnic backgrounds. It also reflects on variations in the impact of digitalisation across Member States. Finally, it explores how the COVID-19 crisis (ongoing at the time of writing) may affect the trends analysed here. The scope of this analysis is limited by (1) data gaps – even basic gender-disaggregated data on some issues (e.g. platform work and the COVID-19 crisis) are often missing; and (2) the brief, exploratory nature of the chapter, which allows only limited attention to detail.

The thematic focus is structured in three sections. The first provides a gender perspective on the use and development of digital technologies, exploring how women and men use technologies, gendered patterns in the development of digital skills, and the composition of the workforce driving technological change. The second section looks at the implications of the digital transformation of the labour market for gender equality. It analyses the prospects for women and men as new technologies replace or complement labour, increase work flexibility and enable new forms of work, such as platform work. The final section discusses three broad technological developments to illustrate how they might affect gender equality: the increasing use of AI algorithms, the emerging phenomenon of cyber-violence and the ways in which new technologies are transforming the world of care.

9.1. Who uses and develops digital technologies?

The spread of technology is having a colossal impact on the labour market and the types of skills needed in the economy and society (European Commission, 2019c). The creation of a digital single market has been a key EU policy since 2015. It aims to support an inclusive digital society, which requires the integration of ICT learning and skills acquisition across different sectors in order to provide women and men of all ages with opportunities to advance. The European Commission's Digital Skills and Jobs Coalition promotes this objective by bringing together local and national authorities, educational and ICT companies, consumers and social partners, who collaborate to reduce digital skill gaps in civic participation, the labour market and education (European Commission, 2016a).

A study undertaken on behalf of the Commission, however, found that gender mainstreaming is not well developed in digital single market policies and that substantial discrepancies persist between different EU Member States, depending (primarily) on national policies and legislation (European Commission, 2016a). The WiD Scoreboard ([55]) is one of the mechanisms put in place by the Commission to assess women's inclusion in digital jobs, careers and entrepreneurship. According to the Scoreboard, even in those Member States where gender mainstreaming is more advanced, 'stereotypes and preconceptions' continue to create obstacles for women and girls (European Commission, 2019j). These findings confirm that gender inequalities continue to prevent women from reaching their full potential and hinder EU societies from taking full advantage of women's digital potential and current contributions (European Commission, 2018i).

([55]) The WiD Scoreboard is a composite indicator combining 13 indicators under three dimensions: (1) internet use, (2) internet user skills and (3) specialist skills and employment (https://ec.europa.eu/digital-single-market/en/women-digital-scoreboard).

The new College of Commissioners made a strong commitment to invest in digital skills and address the widening skills gap in its forthcoming digital education action plan and new European skills agenda. A communication on the future of research and innovation and the European research area will look at how the EU can better pool resources, as well as deepen research, innovation and knowledge capacity in the digital age.

This section highlights numerous gender inequalities in the use and creation of technologies and digital skills. It is structured in three subsections: the first focuses on gender patterns in the use of new technologies and reveals gender differences in confidence and concerns about technologies; the second looks at gender differences in digital skill levels and types; and the third presents some insights into control of the invention, design, evaluation, development, commercialisation and dissemination of digital services and goods.

9.1.1. Gendered patterns in use of new technologies

Technology can be perceived as gendered in many ways, for example if the relationship between gender and technology is viewed as mutually constitutive: technological change is shaped and structured according to societal norms and relations, which are in turn influenced by technological transformations. On the one hand, this means that the types of technologies used in different historical, political and cultural contexts, their design and meaning are created within gender relations and thus reflect pre-existing gender inequalities. On the other hand, by offering different tools and methodologies for work, entertainment and care, technologies themselves shape those gender relations.

Digital transformation and technological innovation represent opportunities and challenges across Member States in relation to economic growth, productivity and employment (see Section 9.2). The digital performance of the EU is measured by the Digital Economy and Society Index, which brings together a set of relevant indicators on Europe's current digital policies ([56]). The correlation between the Gender Equality Index and the Digital Economy and Society Index shows that societies with greater equality between women and men also perform better in the area of the digital economy (Figure 27), which is vital for sustainable economic growth.

The best performing Member States in the Digital Economy and Society Index are Finland, Sweden, the Netherlands and Denmark, which are also among the Member States with the highest scores on the Gender Equality Index. The strong relationship between the Digital Economy and Society Index and the Gender Equality Index suggests that digital performance can be improved while tackling the digital gender divide (e.g. gender gaps in access to and use of digital technologies, in digital-related education, in entrepreneurship, in ICT). Thus, advancements in digital transformation can go hand in hand with advancements in gender equality.

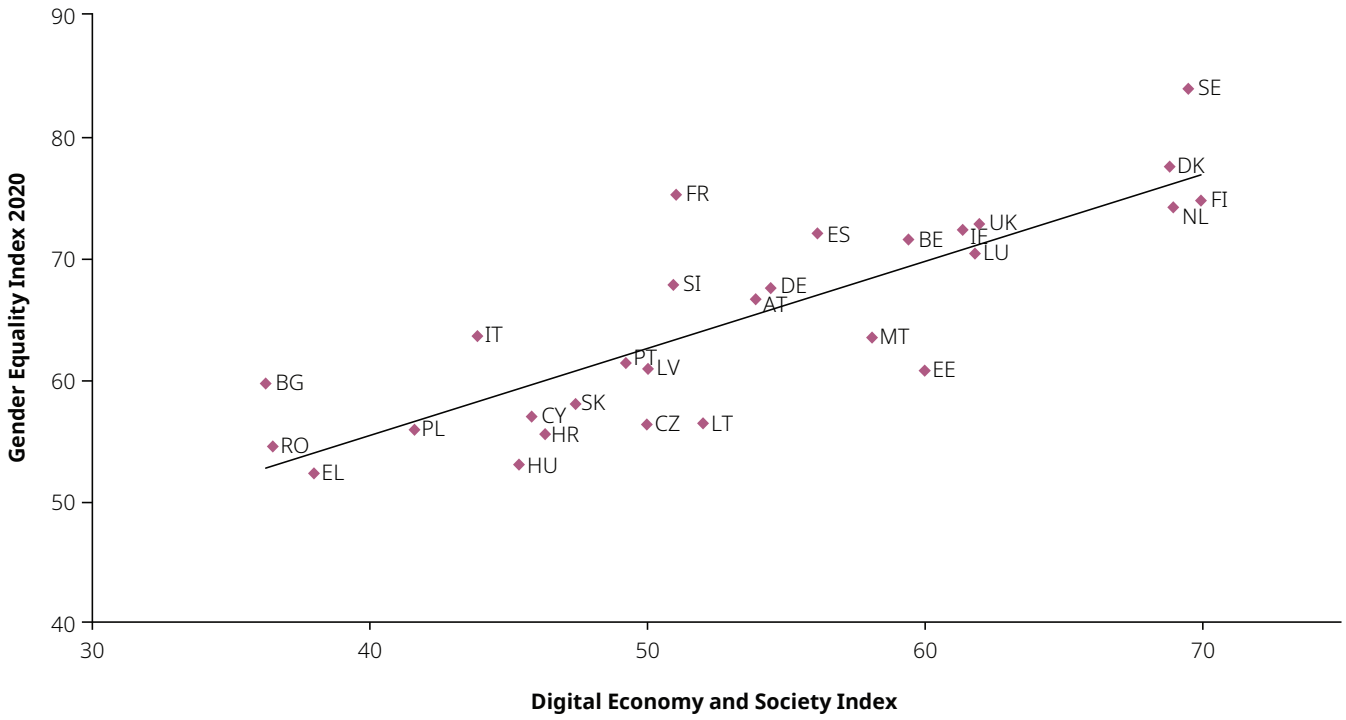
Is confidence in technology gendered?

Gender analysis of the use of technology reveals a historically unequal power relationship between women and men. Differences in access to economic resources and knowledge, together with gender norms and perceptions of technology, can sideline women from technological developments.

Historically, women have provided a substantial contribution to technological innovation as programmers and computer scientists. Yet the role of those women in influencing computer history is often invisible and unrecognised. Presenting the field as overwhelmingly dominated by men creates a false and unfounded impression of ICT inferiority among women (Hicks, 2017). A literature review of gender differences in technology use shows women to be more anxious than men about IT use, reducing their self-effectiveness and increasing perceptions of IT requiring greater

([56]) It captures five dimensions: connectivity; human capital and digital skills; use of internet services by citizens; integration of digital technology by businesses; and digital public services. More information is available from the European Commission's website (https://ec.europa.eu/digital-single-market/en/desi).

Figure 27. Relationship between the Gender Equality Index and the Digital Economy and Society Index



Source: European Commission, Digital Economy and Society Index.

effort (Goswami and Dutta, 2015). 'Impostor syndrome' – or a fear of failure – has a real impact on women, and men's reactions to women's discomfort with technology is often mocking or dismissive, making many women more reluctant to engage (Tedesco, 2019).

Self-efficacy in the use of digital technologies is considered a key motivational construct underpinning their use (Rohatgi et al., 2016). Women and men tend to differ in their levels of confidence in their capacity to acquire and use digital skills. EIGE research into the opportunities and risks of digitalisation for young people (EIGE, 2019a) shows that while digital skills and access to digital technologies is becoming less of an issue for young Europeans, boys consistently express higher self-confidence across a range of skills in relation to the use of digital technologies. In fact, boys tend to overestimate their performance and abilities, while girls underestimate both. This reflects the influence of wider gender norms on perceptions of technological self-efficacy (Huffman et al., 2013).

The Eurobarometer 460 survey presenting European citizens' opinions on the impact of digitalisation and automation on daily life reveals that women are somewhat more concerned about, and have more negative perceptions of, digital technologies (European Commission, 2018i). For example, men are more likely to think newer digital technologies have had a positive impact on the economy (78 % versus 72 % of women) or their quality of life (70 % versus 63 %). Only one in two women (54 %) has positive views about robots and AI, compared with 67 % of men. Women also tend to be less informed than men about new technologies, which may contribute to their greater mistrust of them. In the case of AI, 41 % of women had heard, read or seen something about it in the past year, compared with 53 % of men. A gender gap also exists in relation to other technological topics (European Commission, 2018i).

Explicit and implicit gender biases embedded in digital services and products have been

researched in recent years, particularly in the area of software development (Wang and Redmiles, 2019). Research has shown that the needs of users whose characteristics match those of the designers (in terms of gender, age, (dis)ability) tend to be best served by the software (Burnett et al., 2018). Three main types of biases were identified: bias in understanding who the user is and how they might use the software; bias in the data used to enable the software, which may then deliver incorrect or biased suggestions to the user; and bias in the design of the product, making it unappealing or impractical for certain categories of users (Vorvoreanu et al., 2019). Gender biases have received attention in relation to, for example, 'tracking and datafication of the body and daily activities, such as running, sleeping, walking and eating' (Søndergaard and Hansen, 2017) and the internet of things ([57]).

Multiple research findings suggest that exclusivity in the design of digital technologies and lack of testing on women contribute to women's reduced confidence with regard to technologies. For example, extensive studies have examined gender-based differences in the motion sickness experienced with virtual reality exposure. A recent study demonstrated that inter-pupillary distance contributed to motion sickness among women, as virtual reality headsets were simply not designed for female physiology (Stanney et al., 2020).

Growing connectivity does not reach everyone

The ownership and use of digital technologies have substantial potential for economic empowerment of women and increasing gender equality. Access to the internet and ownership of and access to digital devices can offer additional employment opportunities, income and knowledge. They can alleviate caring burdens and help with basic tasks, such as shopping for goods or services and banking online. However, the unprecedented growth in connectivity and use of the internet are not enjoyed equally. Certain groups of women, in particular, have unequal access to connectivity and digital technologies, contributing to the digital gender divide (OECD, 2018b).

EU-wide data shows that women fare more or less equally with men online: 78 % of women and 80 % of men use the internet daily (an increase from 49 % of women and 57 % of men in 2010). However, older women and women with low education lag behind (Figure 28). In addition, 25 % of women aged 55–74 and 27 % of women with low education have never had the chance to use the internet, compared with 21 % of men aged 55–74 and 21 % of men with low education ([58]). Although these numbers have declined since 2010, equal connectivity continues to need attention.

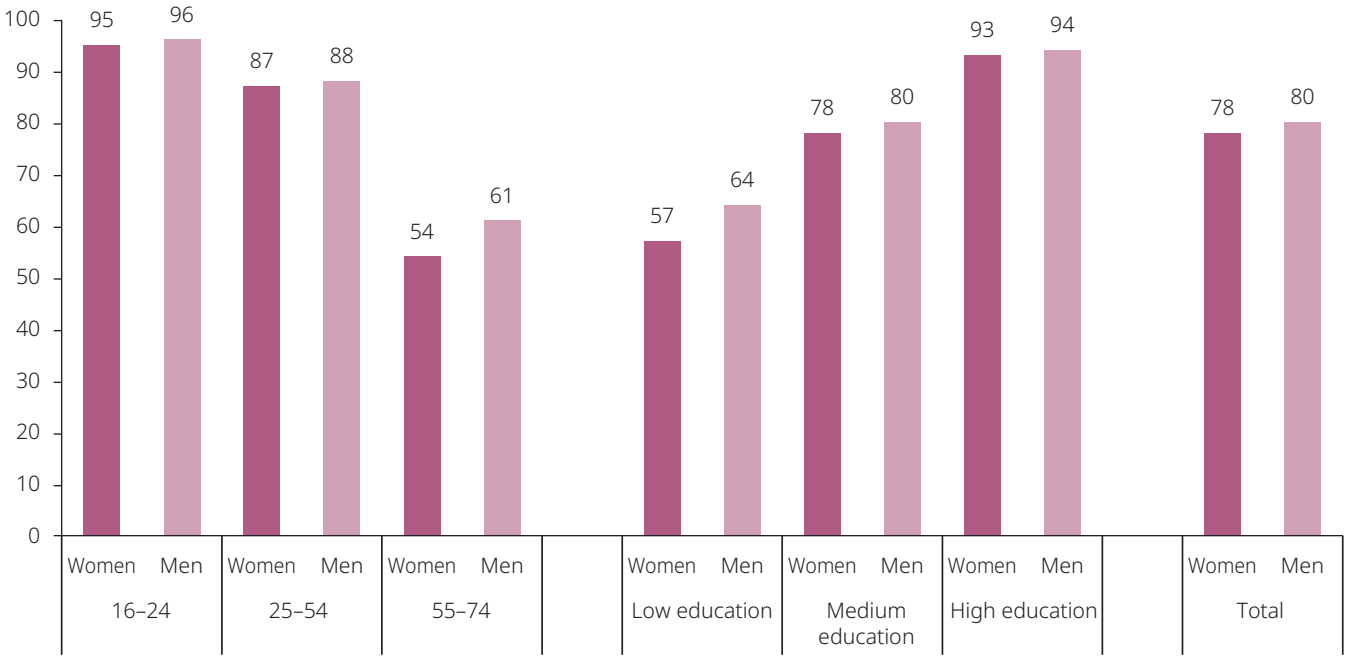
In a number of EU Member States, the groups of women who most need opportunities for economic empowerment are most cut off from those opportunities. The biggest gender gaps among daily internet users (to the detriment of women) are found in Austria (8 p.p.), Croatia (7 p.p.) and Luxembourg (6 p.p.). Older women (aged 55–74) are particularly disadvantaged in Austria (a 20-p.p. gender gap), Luxembourg (13 p.p.) and Germany (12 p.p.). Women with low education are clearly lagging behind in Austria (28 p.p.), Czechia (26 p.p.) and Croatia (20 p.p.).

Similar gender differences are observed in mobile connectivity, which is spreading quickly but not always equally (Yang et al., 2018). In 2019, 74 % of women and 76 % of men had mobile internet access ([59]). This is a substantial increase since 2012, when only 31 % of women and 40 % of men accessed the internet away from home or work.

The gender difference among older people (aged 55–74) with mobile internet access is slightly higher (50 % of women and 54 % of men), although there are significant differences between countries. Older women in Denmark,

([57]) Referring to everyday objects that are digitally enhanced, connected to the internet and collect/use user data.
([58]) Eurostat, ISOC, 'Individuals – internet use' (isoc_ci_ifp_iu).
([59]) Individuals who used a portable computer or handheld device to access the internet away from home or work. Eurostat, ISOC, 'Individuals – places of internet use' (isoc_ci_ifp_pu).

Figure 28. Percentages of people (aged 16–74) who use the internet daily in the EU, by sex, age and education level, 2019



Source: Eurostat, Digital Economy and Society section (ISOC) (isoc_ci_ifp_fu).

the Netherlands and Sweden have the much better access to mobile internet (around 80 %) than women in Greece, Italy, Poland or Portugal (slightly above 20 %), but the gender gaps are greatest in Austria (14 p.p.), Greece (8 p.p.) and Luxembourg (8 p.p.).

Gender gaps in the use of mobile technologies have qualitative dimensions as well. For example, Yang et al. (2018) found that adolescent women (aged 16–20) exhibited significantly higher degrees of smartphone dependence and influence than adolescent men, who depend more on computers and videogame devices. EIGE research on youth and digitalisation shows that young women aged 16–24 are more likely than men of the same age to use technologies creatively for sharing online (EIGE, 2019a). For instance, they are more likely than young men to share self-created content (text, photos, music, videos, software, etc.) on websites (60 % versus 56 %). This gender gap in favour of young women decreases with age (50 % for young women (aged 25–29) compared with 48 % for young men) ([60]). The literature suggests that this could be linked to self-presentation behaviour, such as posting 'selfies', with

Numerous sources suggest that the quarantine measures and self-isolation policies associated with the COVID-19 pandemic have increased internet usage by 50–70 %. Women and girls are using the internet with greater frequency during the pandemic, and many more women turned to the internet for work, school, services or social activities. However, ICT also facilitated the spread of gender-based abusive online material, in which women and girls are over-represented. This may, in turn, restrict or alter women's use of the internet and access to services online. Research shows that women tend to restrict their engagement online for fear of cyber-aggression, sexualised cyberbullying, gossip and hateful comments (EIGE, 2019a). The broader consequences of gender-based violence enabled by technology are discussed in subsection 9.3.2.

([60]) Eurostat, ISOC (isoc_ci_ac_i).

young women facing an expectation that they will maintain an online presence displaying 'appropriate femininity' (Bailey and Steeves, 2015).

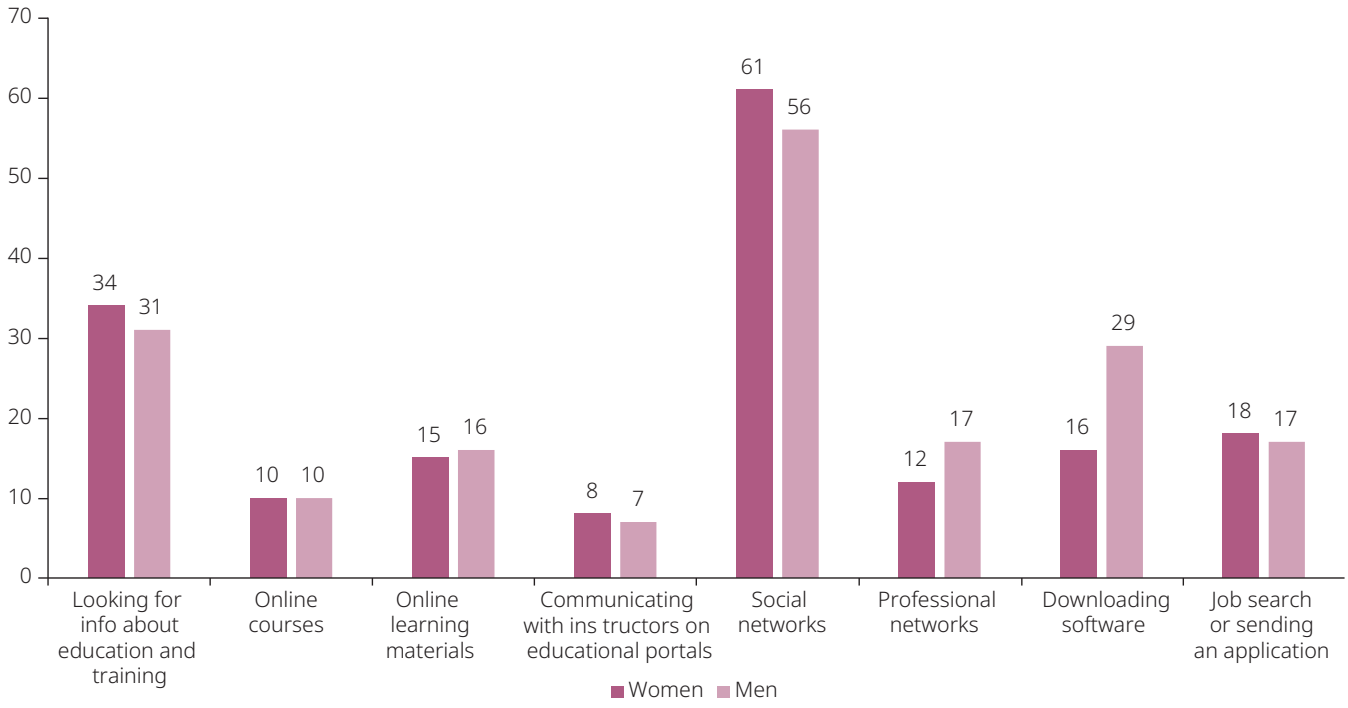
Online activities for professional empowerment: a narrowing gender gap?

Women and men alike go to the internet for a wide variety of activities. Men are slightly more likely to participate in professional networks, download software and look for online learning materials. Women outpace men in social networking and searches for information about education and training (Figure 29). Although – generally – women are quickly catching up with men in internet use, this progress is uneven across the Member States. The proportion of women engaged in online activities on a daily basis ranges from 95 % in Sweden to 66 % in Bulgaria.

Use of the internet for learning purposes reveals small gender gaps. Overall, women are slightly more engaged in e-learning activities for professional development, particularly looking for information about education and training or course offers. Overall, the highest levels of engagement among women in various e-learning activities are found in Sweden, Finland, Estonia and the United Kingdom, while the lowest are found in Bulgaria and Romania. The biggest increases in women's uptake of learning opportunities since 2015 are observed in Sweden, Malta and Ireland. For more on training activities to improve digital skills, see subsection 9.1.2.

Women and men were equally engaged in looking for a job or sending a job application online in the 3 months preceding the 2019 survey (18 % and 17 %, respectively) (Figure 29). This online activity is most prevalent in Denmark (37 %), Finland (32 %) and Sweden (30 %). Using the internet to search for a job is least common among women in Romania, Czechia and Bulgaria.

Figure 29. Percentages of people (aged 16–74) who engaged in certain online activities in the past 3 months for private purposes in the EU, by sex



Source: Eurostat, ISOC (isoc_ci_ac_i).
NB: 2019 data was used for all activities except participation in professional networks (2017 data), downloading software (2015 data) and looking for information on education and training (2015 data).

Women outnumber men in using the internet to search for a job in Sweden, Malta, Slovakia, Croatia and France.

Participation in online professional networks (LinkedIn, Xing, etc.) reveals a larger gender gap (12 % of women compared with 17 % of men) and an overall increase in engagement since 2011 (from 6 % of women and 9 % of men). Women's participation ranges from 29 % in the Netherlands and 27 % in Denmark to as low as 2 % in Bulgaria and 3 % in Czechia, Romania and Slovakia. The biggest gender gaps are found in the Netherlands (9 p.p.), Sweden (8 p.p.), Denmark and Luxembourg (6 p.p. each). Since 2017, the biggest increases in participation in professional networks among women have been observed in the United Kingdom, Poland, Austria and the Netherlands. In April 2020, 43 % of LinkedIn users were women and 57 % were men ([61]).

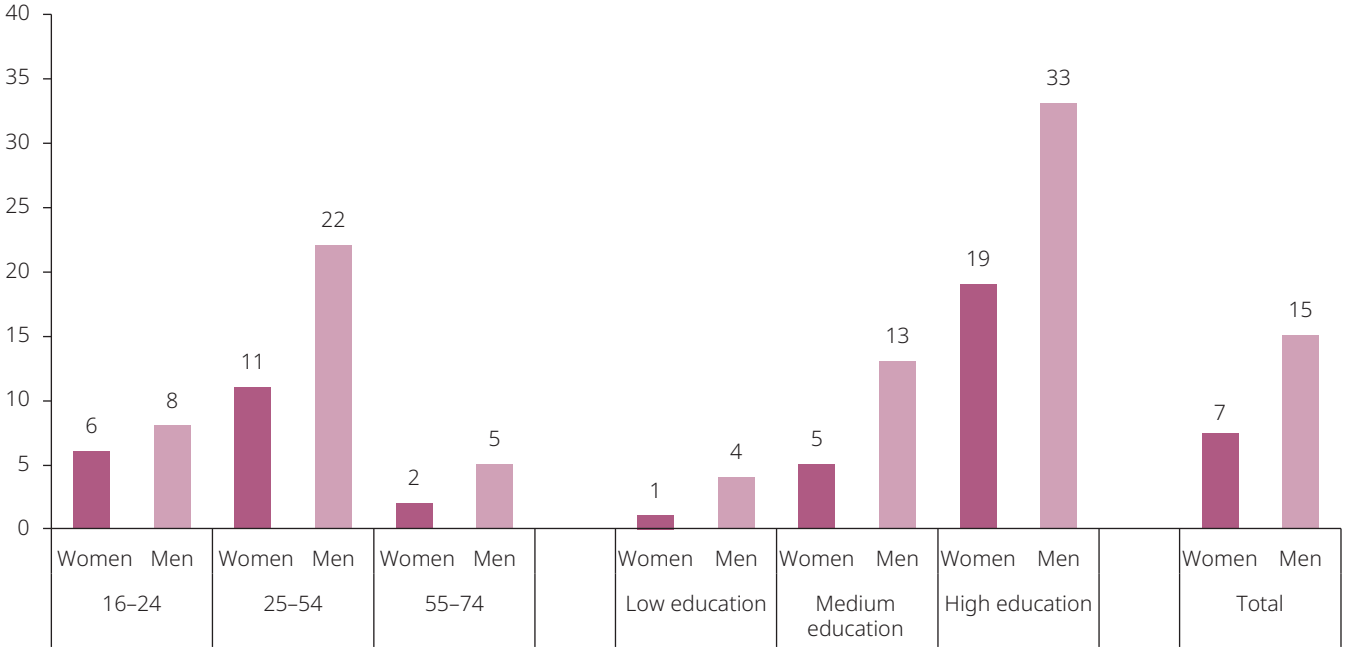
Data on users of mobile internet for professional purposes (via portable computer or handheld device) show substantial gender differences. In 2012, twice as many men as women aged 25–54 (22 % and 11 %, respectively) used mobile internet for professional purposes. The gender gap increased with level of education (Figure 30). Highly educated men were nearly twice as likely to use mobile internet for professional purposes than highly educated women (33 % and 19 %, respectively).

Using digital technologies for professional purposes is an important prerequisite for successful integration into the digitalised economy and more advanced forms of IT work. Overall in the EU, women are behind men in the use of various ICT technologies at work (see subsection 9.1.1). The COVID-19 crisis may well have brought substantial changes in relation to online activity and the use of mobile internet for professional purposes by both women and men, especially parents with children under 12, and those changes remain to be assessed.

9.1.2. Digital skills and training

Digital skills have increasingly become a basis for global competitiveness, boosting jobs and growth. Digital societies require digital

Figure 30. Percentages of people (aged 16–74) using mobile internet for professional purposes in the EU, by sex, age and education level, 2012



Source: Eurostat, ISOC (isoc_cimobi_purp).

([61]) https://www.statista.com/statistics/933964/distribution-of-users-on-linkedin-worldwide-gender/

competencies if they are to ensure full participation of people in social and working life. The internet has been of paramount importance in working towards high-quality education at all levels, while the COVID-19 crisis has shown that most jobs can be done remotely using technology. The crisis has caused education and training to be moved online or digitalised, placing the digital skills and competence of learners and teachers/trainers front and centre when it comes to engaging in learning at all levels.

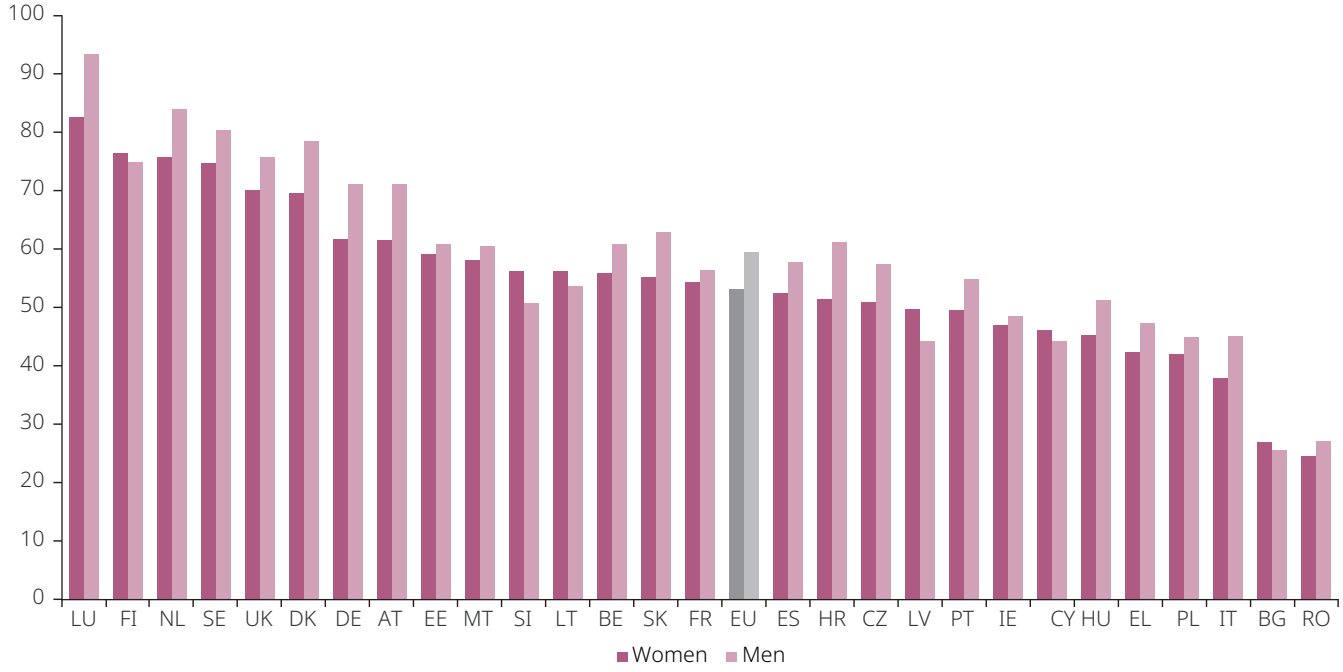
Building on the various concepts used to define digital skills (Kaarakainen et al., 2017) and the EU Digital Scoreboard (Digital Economy and Society Index, Women in Digital (WiD)), the following analysis looks at gender differences in information, communication, problem-solving and software skills ([62]) and in training opportunities to advance those skills.

Advanced digital skills of women and gender equality go hand in hand

The WiD Scoreboard monitors women's participation in the digital economy. Its second dimension looks at women's internet use skills, as measured by three indicators: at least basic digital skills, above basic digital skills and software skills (Figure 31). Luxembourg, Finland, the Netherlands and Sweden have the highest scores in internet user skills, while Romania, Bulgaria, Italy and Poland score lowest. Only six Member States (Finland, Slovenia, Lithuania, Latvia, Cyprus and Bulgaria) show women scoring higher than men on internet user skills. The biggest gender gaps (to women's disadvantage) are in Luxembourg, Austria and Croatia.

The correlation between the Gender Equality Index and internet user skills suggests that these two areas reinforce one another. Women's

Figure 31. Internet user skill scores by sex, 2017



Source: European Commission, WiD Scoreboard, dimension 2 (European Commission, 2019i); scores for men based on EIGE calculations.

NB: WiD Scoreboard, dimension 2, internet user skills, is calculated as the weighted average of the three indicators 2.1, at least basic digital skills (33.3 %); 2.2, above basic digital skills (33.3 %); and 2.3, at least basic software skills (33.3 %).

([62]) Digital skills indicators are based on selected activities related to internet or software use performed by people in four specific dimensions (information, communication, problem-solving, software skills). It is assumed that individuals having performed certain activities have the corresponding skills. Therefore, the indicators can be considered a proxy for the digital competencies and skills of individuals. According to the variety or complexity of activities performed, two levels of skills are computed for each of the four dimensions: basic and above basic.
Individuals with above basic skills displayed them across all four dimensions; individuals with a basic level of skills had at least one basic skill level and no 'no skills' across the four dimensions.

internet skills are highest in Luxembourg, which ranks 10th on the Gender Equality Index, while Finland, the Netherlands, Sweden, the United Kingdom and Denmark are in the top rankings on both indices.

Gender divide in digital skills widens with age

Given the likely future of jobs, it is important to distinguish between basic and advanced digital skills. While basic digital skills, such as the use of search engines or digital bank services, are necessary, advanced digital skills open opportunities for access to well-paid jobs for which there is significant demand in the European digital economy. Both types of skills are increasingly essential in the labour market. As noted by the Organisation for Economic Co-operation and Development, workers who are successful in penetrating competitive labour markets typically have a mix of basic and advanced digital skills (OECD, 2018a).

In the EU, men often have more advantages than women when it comes to the digital skills (information, communication, problem-solving and software skills) necessary to thrive in the digitalised world of work. This is particularly evident among older people (aged 55 or older). Finland, the Netherlands, Denmark, the United Kingdom and Sweden have the highest shares of women with above basic digital skills, while Greece, Poland, Italy, Bulgaria and Romania have the lowest shares. The correlation between Gender Equality Index scores (domain of work, subdomain of participation, domain of money) and the shares of women with above basic skills confirms that countries with high shares of digitally skilled women also have higher gender equality in the labour market.

Young women and men are the most digitally skilled generation and benefit equally from basic and above basic digital skills – 59 % of women and 60 % of men aged 16–24 have above basic digital skills (Figure 32). Finland, Malta and Croatia have the highest shares of young women with above basic digital skills, while Italy, Bulgaria and Romania have the lowest shares. However, at a later age, the gender divide widens, with most older people having low to basic digital skills. Finland, Denmark and Sweden have the highest shares of digitally skilled women aged 55–74, while Greece, Bulgaria and Romania have the lowest shares. Aside from generational and country differences, women generally experience bigger obstacles in trying to improve their digital skills, owing to factors such as gender stereotypes, family status, and the broader societal, economic and technological environment (OECD, 2018a).

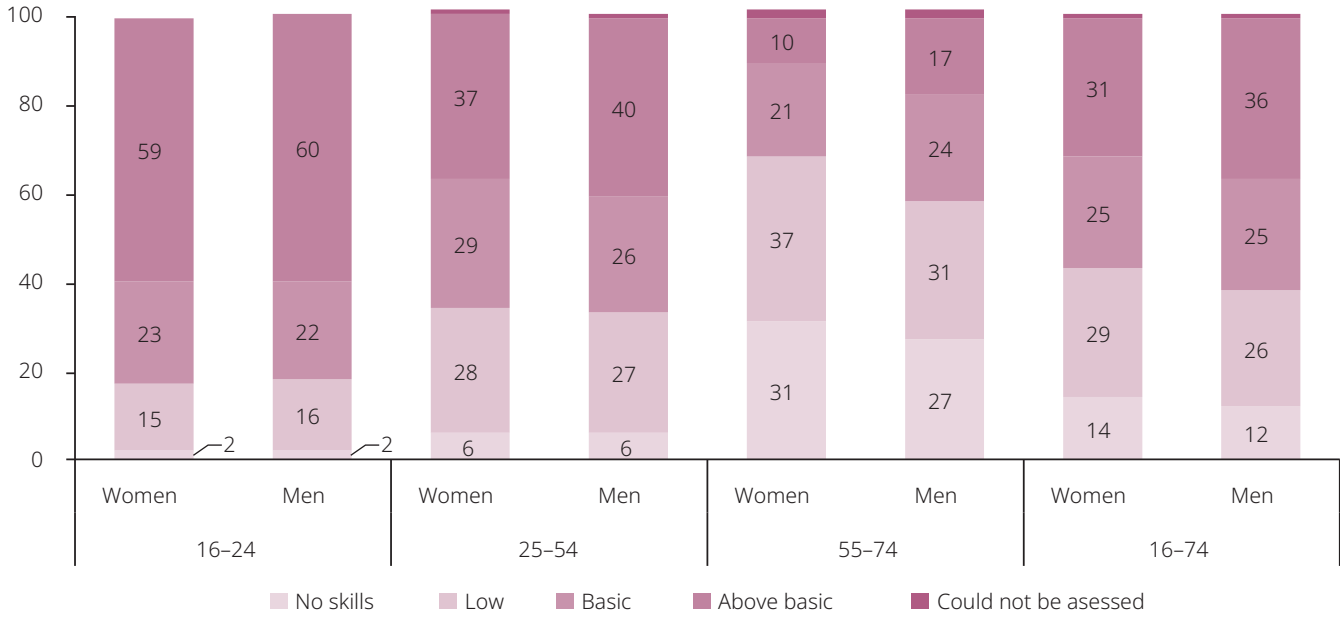
The digital skills of young people are improving quickly, with a somewhat faster pace observed for men than for women. Between 2015 and 2019, the share of women aged 16–24 with above basic digital skills increased by 7 p.p., compared with 9 p.p. for men, with no substantial gender gap observed during this period. Greece, Cyprus and Ireland made the greatest progress in 4 years, while the shares of young women with above basic digital skills declined in Luxembourg, Denmark and Bulgaria. Across the EU, the gender gap decreased among those aged 25–54 (– 4 p.p. in 2015, – 3 p.p. in 2019). Cyprus, Austria and Ireland progressed most, while Luxembourg, Latvia and Denmark showed least progress during this period. Among older people (aged 55 or older), progress was slower, and older people still remain the least digitally skilled age group, with a gender gap of around – 7 p.p. in 2019 (compared with – 6 p.p. in 2015) ([63]).

In addition to gender differences in levels of digital skill in some age groups, women and men also acquire different types of digital skills (see subsection 9.1.1.). The gender gap in overall digital skills is primarily associated with problem-solving digital skills ([64]), to the detriment of women. More men than women have above basic digital skills in problem-solving and software skills, with a smaller gap evident in information and communications skills. The Council recommendation 'Upskilling pathways: new opportunities for adults' seeks to improve low-qualified adults'

([63]) Eurostat, ISOC (isoc_sk_dskl_i).

([64]) For example, making informed decisions on the most appropriate digital tools, solving conceptual and technical problems, updating own and others' competencies.

Figure 32. Levels of digital skills of individuals in the EU, by sex and age group (%), 2019



Source: Eurostat, ISOC (isoc_sk_dskl_i).
NB: Digital skills are measured in relation to activities performed across four domains of digital competence: information, communication, problem-solving and software skills. Individuals with above basic skills displayed them across all four dimensions; individuals with a basic level had at least one basic level of skills and no 'no skills' across four domains; individuals with a low level of skills missed some type of basic skills, i.e. had from one to three 'no skills' across the four domains; individuals with no skills did not perform any activities in any of the four domains, despite declaring that they had used the internet at least once during the past 3 months; digital skills could not be assessed for those who had not used the internet in the past 3 months. EIGE used numerical data rounded to zero decimal places by Eurostat; therefore the percentages may not add up to 100 %.

access to basic skills, including basic digital skills (European Commission, 2016c).

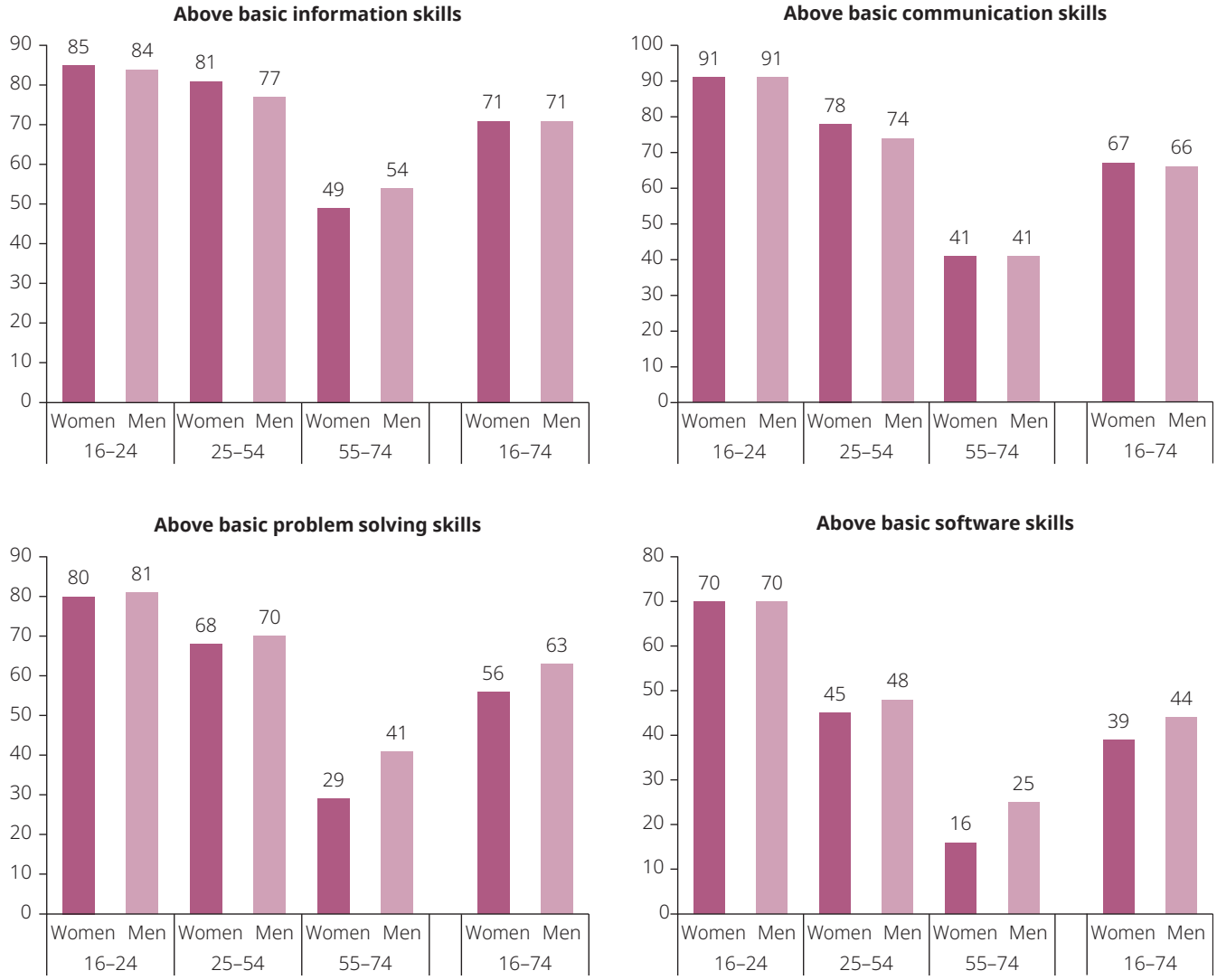
Differences are also found across age groups (Figure 33). Women aged 25–54 have higher information and communication skills than men, while the opposite is true for problem-solving and software skills. Older men outperform older women (aged 55 or older) on all dimensions except communications skills. There are almost no gender gaps among the younger generation, suggesting the importance of levelling digital problem-solving and software skills among women and men in older age groups in order to close the gender gap in overall digital skills (EIGE, 2019a).

The digital skills of both women and men increase with level of education. Gender differences in all types of digital skills are largest among those with low education, particularly women. Across all levels of education, women have fallen behind in problem-solving and software skills.

Broader gender inequalities limit women's training opportunities

Given the extent to which digital innovations are progressing, workers must adapt by undertaking ongoing training to improve their digital skills, depending on their sector and specific tasks. It is also important to ensure that people entering the labour market have the necessary skills, meaning that education systems play a crucial role. While age influences participation in both basic and advanced skill enhancement activities, gender inequality tends to have a negative impact, especially in relation to lifelong learning and re-skilling or upskilling. Negative gender stereotyping often deters women from selecting ICT-related training. Even where women have access to advanced training opportunities

Figure 33. Percentages of people (aged 16–74) with above basic digital skills in the EU, by type of skill, gender and age group, 2019



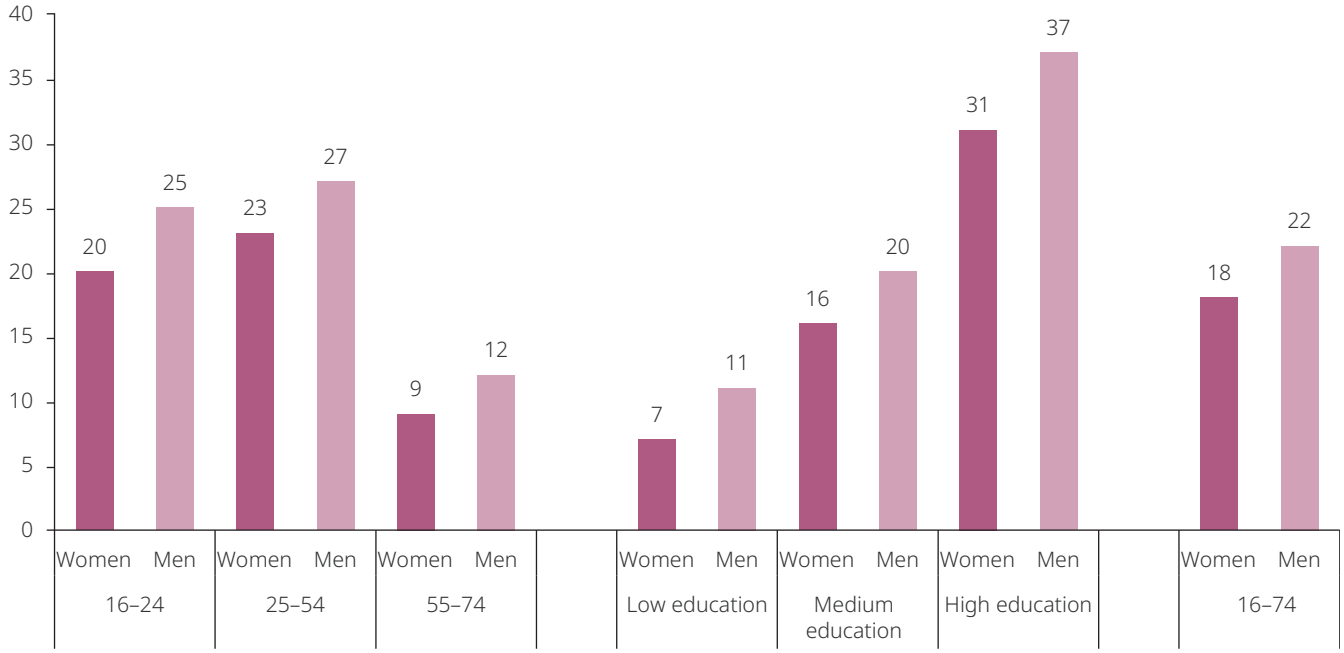
Source: Eurostat, ISOC (isoc_sk_dskl_i).

through their existing professional networks, the burden of unpaid care or domestic responsibilities may prevent them from availing themselves of these opportunities (EIGE, 2018b, 2018d).

In 2018, around one in five people (18 % of women compared with 22 % men) had carried out at least one training activity in the previous 12 months to improve skills relating to the use of computers, software or applications (Figure 34). Finland, Denmark and the Netherlands had the highest shares of women who had carried out at least one such training activity, while Greece, Italy, Hungary, Croatia and Cyprus had the lowest shares. Men were more likely to have participated in training than women, in all age groups and across different levels of education. Women with higher education aged 25–54 were more likely to have been involved in training to increase their digital skills than other women.

Although most women and men (62 % and 67 %, respectively) consider themselves sufficiently skilled with digital technologies to benefit from digital and online learning opportunities (European Commission, 2017), a range of barriers can put participation in training out of reach. For both women and men, lack of time is the most relevant barrier, usually due to work schedules, caring responsibilities and household duties. Although women aged 25–64 are more likely to participate in lifelong learning than men (12 % and 10 %, respectively), on average 40 % of women – compared

Figure 34. Percentages of people (aged 16–74) in the EU who carried out at least one training activity to improve computer, software or application skills, by sex, age, and education level, 2018



Source: Eurostat, ISOC (isoc_sk_how_i).

with 24 % of men in the same age group – report that they cannot participate in in life-long learning because of family responsibilities (in Cyprus, Malta, Greece, Austria and Spain, more than 50 % of women identified this reason) ([65]). Work schedule conflicts are bigger barriers for men in most EU countries (EIGE, 2019b). Finally, around one in four Europeans perceive a lack of training opportunities as an obstacle to increasing their digital skills, highlighting their awareness of the importance of digital skills training. A similar proportion do not know what specific skills to improve (European Commission, 2020b).

9.1.3. Men dominate technology development

Gender differences in digital skills and use of digital devices are gradually levelling out, particularly among young people. However, the lack of gender diversity in the workforce likely to invent, design, evaluate, develop, commercialise and disseminate digital services and goods remains striking. Two aspects are particularly relevant to the contribution of women and men to the development of digital technologies and the gender dynamics at play in that sector: the gender make-up of people with STEM skills and qualifications, particularly in ICT ([66]), and the gender composition of the research and development (R & D) sector.

Aspirations for ICT careers are strongly gendered

Gender attitudes to and confidence in digital skills and ICT are reflected in career aspirations, along with education choices. In 2018, only 1 % of girls, on average, reported that they expected to work in an ICT-related occupation, compared with 10 % of boys (Figure 35). In some Member States, including Bulgaria, Estonia, Lithuania and

([65]) Eurostat, EU LFS, 2019 (trng_lfs_01); Adult Education Survey, 2016 (trng_aes_176).

([66]) ICT education is defined as the achievement of formal qualifications at least at upper secondary level within the field of computer use, computer science, database and network design and administration, or software and applications development and analysis (Eurostat, 2019a).

Poland, over 15 % of boys reported expecting to work in an ICT-related profession (OECD, 2019a).

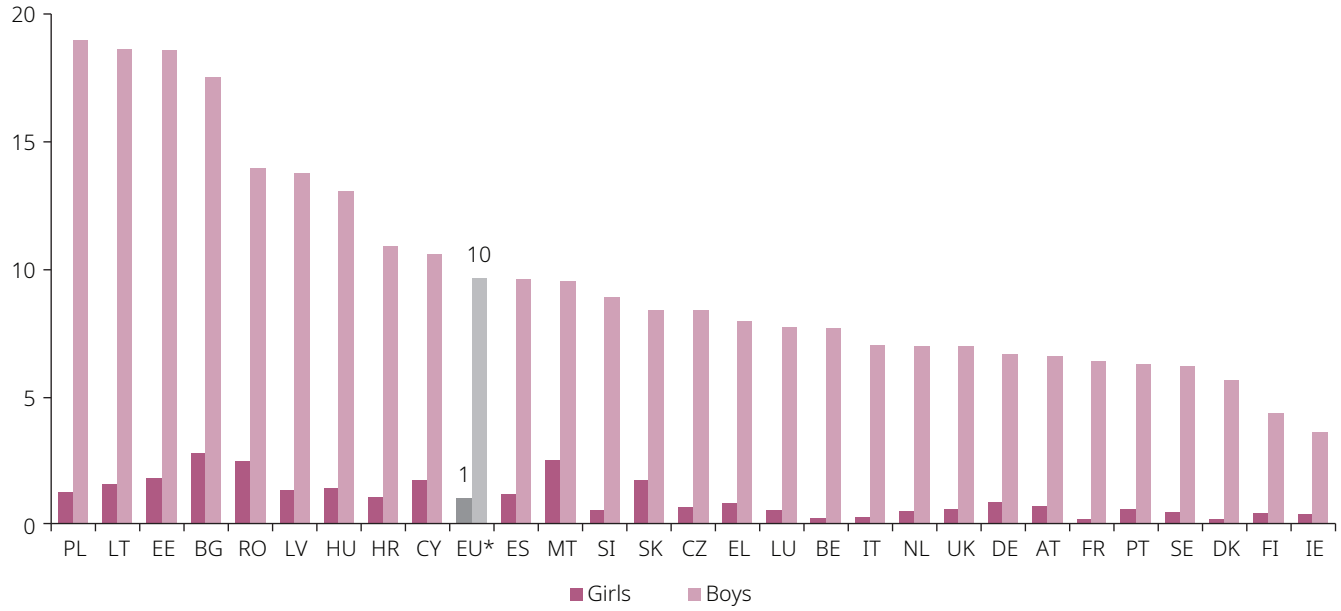
While women outnumber men among tertiary education students (54 % compared with 46 %), they tend to be unequally represented across study fields, a phenomenon referred to as gender segregation. In 2018, only 17 % of female students had opted to enrol in STEM studies, compared with 42 % of male students. As a result, STEM studies are largely dominated by male students (68 % versus 32 % of female students) ([67]). Stark levels of gender segregation among STEM students and graduates lay the ground for future gender segregation in labour markets and subsequent gender disparity in the development of digital products, for example.

Although some STEM fields, such as natural sciences, mathematics and statistics, are quite gender-balanced, ICT is characterised by a high degree of gender segregation, with 82 % of students being male. In 2018, 9 % of male students chose to study ICT, compared with only 1.6 % of female students in the EU (Figure 36 and Figure 37). This level of under-representation of women among ICT students is hardly surprising, given the small number of young girls aspiring to become ICT professionals (Figure 35). Women represent only 20 % of graduates in ICT-related fields, or 1.3 % of all women graduates from tertiary education, compared with 7 % of men graduates (Figure 36 and Figure 37).

On average, over 8 in 10 ICT specialists ([68]) in the EU are men (Figure 38). Despite the overall growth of the ICT sector in recent decades, the share of women in ICT jobs in the EU has decreased by 4 p.p. since 2010, standing at 18 % in 2019. The high level of gender segregation in ICT jobs surpasses the gender imbalance in many other STEM jobs. For example, women represent about 27 % of science and engineering professionals in the EU ([69]).

The data on entrepreneurship in the ICT sector points to even greater marginalisation of women. Only 7 % of self-employed ICT specialists with at least one staff member are women. Across all

Figure 35. Percentages of 15 year olds expecting to work as ICT professionals at age 30, by country and gender, 2018



Source: OECD (2019a) based on the 2018 Programme for International Student Assessment survey.
NB: EU based on average of country percentages. Belgium uses data for the French-speaking community only.

([67]) EIGE calculations based on Eurostat data from 2018, 'Students enrolled in tertiary education by education level, programme orientation, sex and field of education' (educ_uoe_enrt03).
([68]) Eurostat defines ICT specialists as workers who have the ability to develop, operate and maintain ICT systems, and for whom ICT constitutes the main part of their job.
([69]) EIGE calculations based on EU-LFS 2018 microdata.

Figure 36. Percentages of ICT students and graduates in the total student population, by sex, 2018

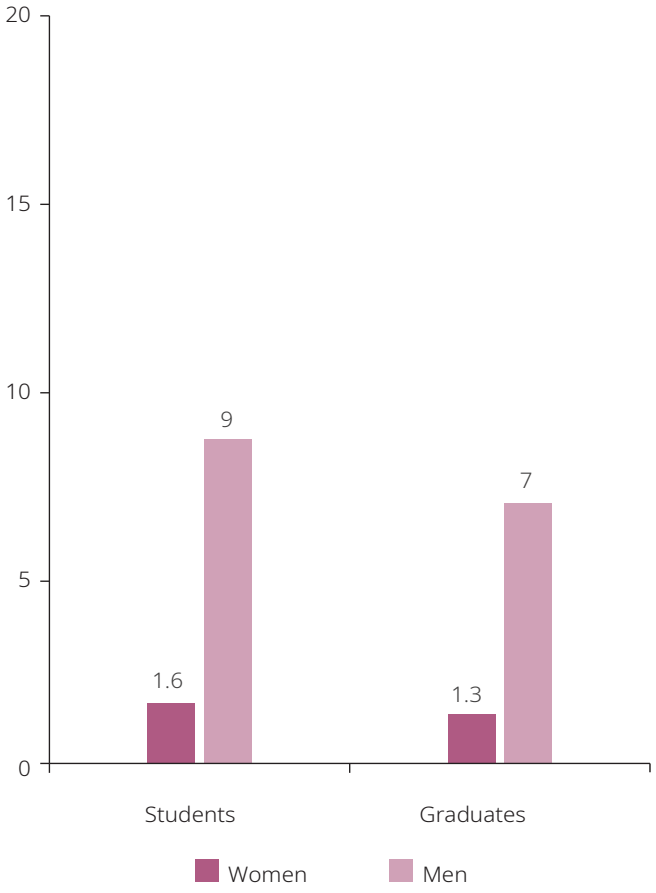
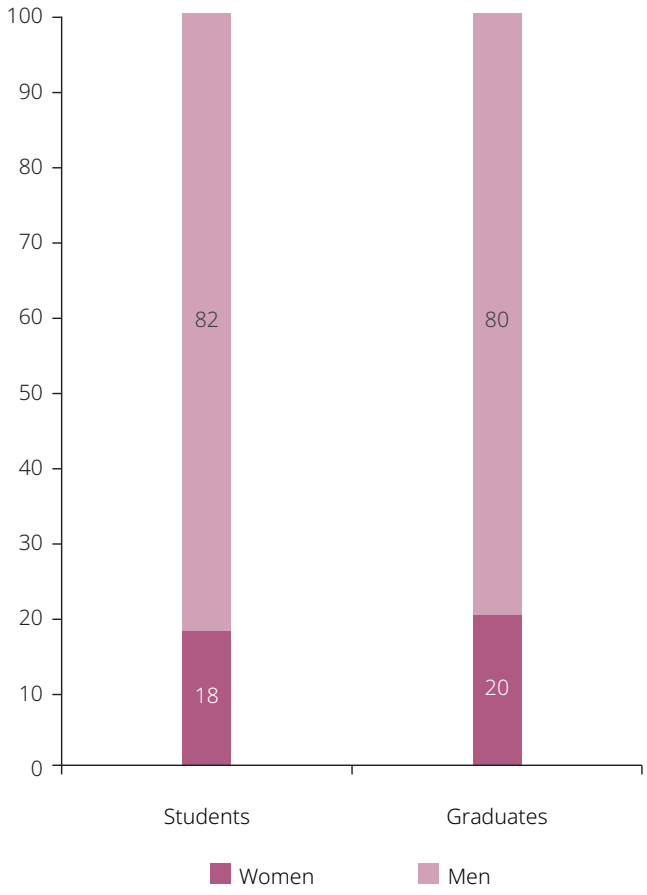


Figure 37. Percentages of women and men among ICT students and graduates, 2018



Source: Eurostat (educ_uoe_enrt03, educ_uoe_grad02).

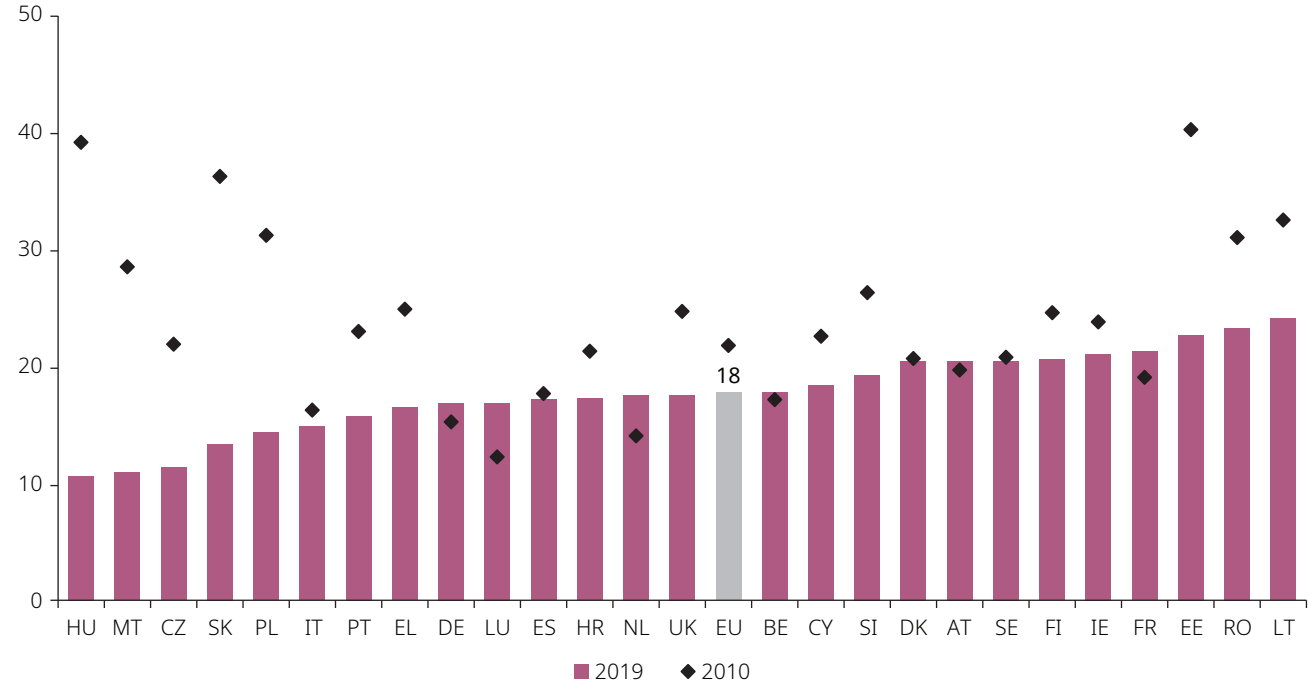
sectors, women entrepreneurs represent about 27 % of all self-employed people with at least one employee ([70]).

The gender gap in start-ups and venture capital investment is similarly striking. According to the EU Startup Monitor 2018, only 17 % of start-up founders are women. OECD analysis shows that women-owned start-ups receive on average 23 % less funding than men-led businesses (European Commission, 2018d). On a positive note, the OECD observes that venture capital firms with at least one woman partner are more than twice as likely to invest in a company with a woman on the management team, and three times as likely to invest in women CEOs (OECD, 2018a). The evidence also shows that, despite the scarcity of women entrepreneurs, women-led digital start-ups are more likely to be successful than those owned by men (Roland Berger et al., 2017), while investments in female-founded start-ups perform 63 % better than investments with all-male founding teams (Marion, 2016).

Even though ICT skills are in high demand in the labour market (see subsection 9.2.2), women ICT professionals do not fare as well as their male counterparts. For women, the probability of being employed in the ICT sector following ICT-related studies is between 1 p.p. and 2 p.p. smaller than the probability of employment in a relevant field of women following other programmes of study (European Commission, 2016b). EIGE's research shows that only one third of recent STEM

([70]) EIGE calculations based on EU-LFS 2018 microdata.

Figure 38. Percentages of women among ICT specialists (aged 15 or older), 2010 and 2019



Source: Eurostat (isoc_sks_itsps).

graduate women work in STEM occupations, compared with one in two recent STEM graduate men. Among vocational education graduates, the gap is more substantial, with only 10 % of women STEM graduates and 41 % of men STEM graduates working in STEM occupations. The majority continue on gender-segregated pathways, with 21 % of women with tertiary education working as teaching professionals and 20 % of women vocational education graduates working as sales workers (EIGE, 2018b).

Beyond ICT: women are under-represented in high-technology sectors

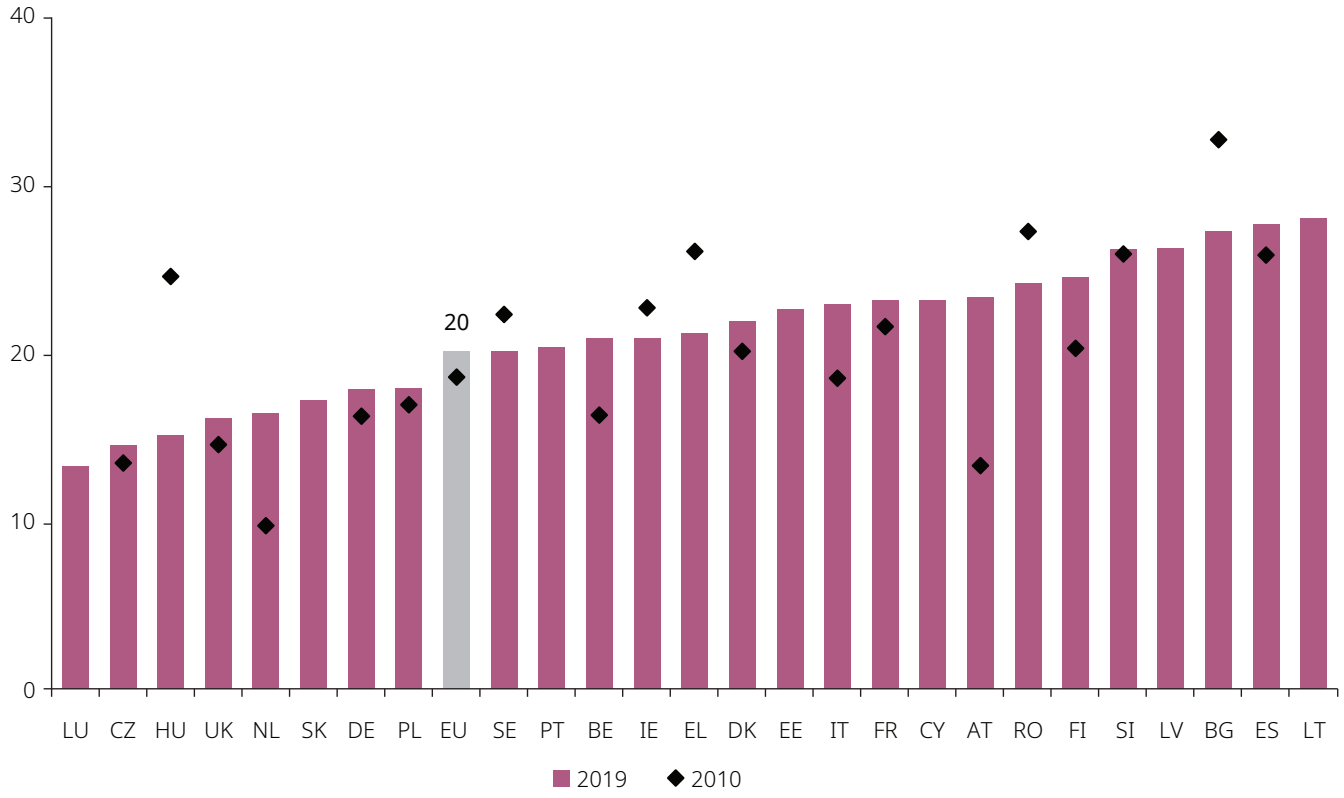
Beyond ICT, there are very few women scientists and engineers in the high-technology sectors likely to be mobilised in the design and development of new digital technologies. In 2019, across the EU, there were close to 32 million scientists and engineers employed in high-technology sectors ([71]), of whom only one fifth were women. That proportion has remained unchanged since 2010 (Figure 39).

A closer look at more specific technologies reveals even more striking gender gaps. For instance, only about 12 % of leading machine learning researchers are women (Simonite, 2018). The World Economic Forum, in collaboration with LinkedIn, found that out of 40 % of all professionals employed in software and IT services and who possess some level of AI skills, women make up only 7.4 %. Globally, only 22 % of AI professionals are women, a trend that has remained fairly constant in recent years (World Economic Forum, 2018).

R & D plays an essential role in the creation of new knowledge and finding practical applications for it in innovative processes and devices. Data from the OECD and the Joint Research Centre (JRC) shows 'computers and electronics' as the second leading sector in terms of R & D workforce globally, representing 367 companies and accounting for 13 % of R & D employees (JRC and OECD, 2019). In addition, the IT services and telecommunications sectors accounted for 4 % and 3 % of that workforce, respectively ([72]).

([71]) High-technology sectors include high-technology manufacturing and knowledge-intensive high-technology services.
([72]) Total workforce of world's top R & D investors by sector, 2016, source: JRC and OECD (2019). Calculations based on EU Industrial R & D Investment Scoreboard (2017).

Figure 39. Percentages of women among scientists and engineers (aged 25–64) in high-technology sectors, 2010 and 2019



Source: Eurostat (hrst_st_nsecsex2).
NB: Data missing for Malta for both years. Data for 2010 missing for Estonia, Cyprus, Latvia, Lithuania, Portugal and Slovakia.

Despite R & D's importance for the development of digital technologies, little is known about the representation of women among R & D personnel and researchers in high-technology sectors of the business industry, especially ICT.

Patenting activity is one of the most observable outputs of the R & D process. Of the top 50 patenting companies globally, 24 were operating in the 'computers and electronics' sector (JRC and OECD, 2019). An analysis of outputs of the research process in terms of patents, trademarks and scientific publications highlights the persistent under-representation of women as contributors to research and innovation. Women account for approximately 9 % of European patent applications (European Commission, 2019h).

The extent to which women and men collaborate on innovative activities reveals a substantial gender gap. In the EU (2013–2016), the majority of inventors worked in all-male teams (47 %), with another 33 % of teams consisting of one male only inventor. Only 5 % of teams were gender-balanced, while teams composed entirely or mainly of women accounted for 0.7 % and 1.6 %, respectively (European Commission, 2019h). The compound annual growth of gender-balanced teams since 2005 stands at only 0.7 %.

The data shows that for the period 2013–2017, one of the lowest ratios of women to men (0.4) as contributing authors of articles was observed in the field of engineering and technology in the EU (European Commission, 2019h). On average, at the beginning of their careers, women tend to publish almost as frequently as men in their field, but, as seniority increases, male authors widen the gap and publish more often than their female colleagues. While this trend holds true for all

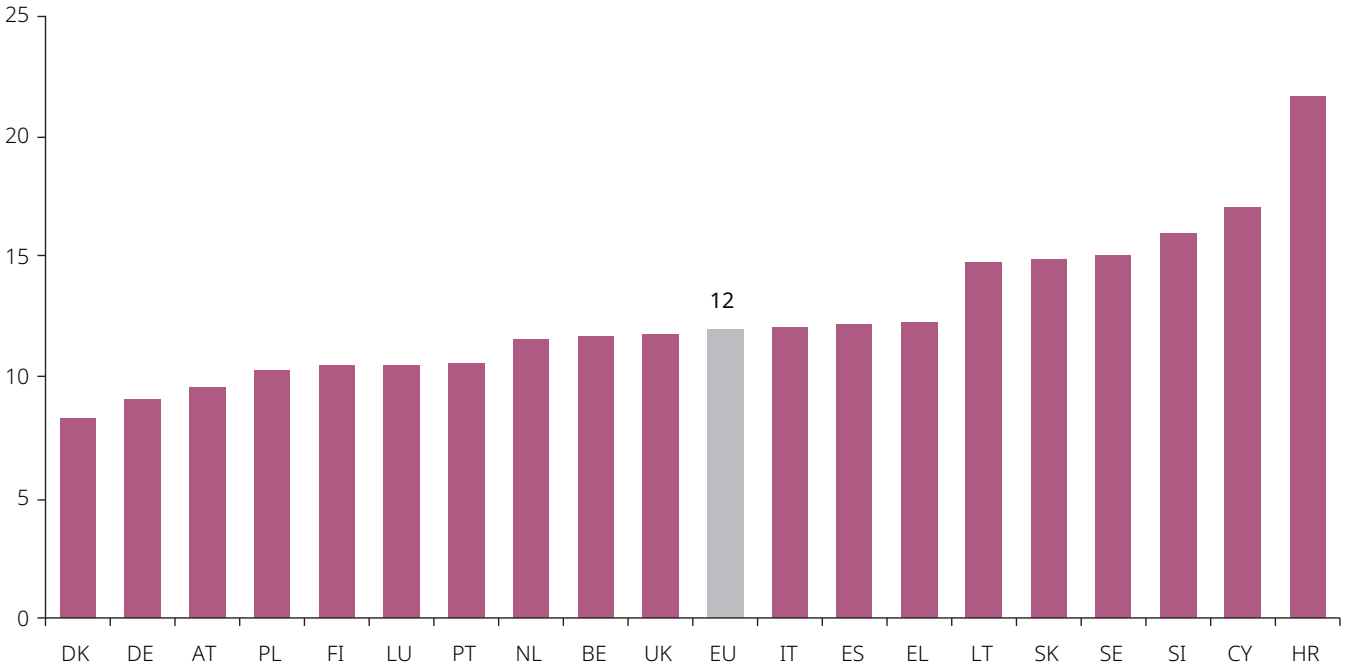
R & D fields, it is accentuated in engineering and technology (European Commission, 2019h).

The low share (12 %) of women academics in engineering and technology points to the stark under-representation of women in decision-making positions (Grade A staff) in R & D functions (Figure 40).

While around half of research institutions in the EU have adopted a gender equality plan (European Commission, 2019h) ([73]), representation of women in decision-making positions in research still shows room for improvement. Men account for 78 % of heads of institutions ([74]), while boards of publicly funded research organisations have only 38 % women members ([75]).

The persistent gender imbalance among key decision-makers in large corporations remains a cause for concern. In 2018, 25 % of those in managerial positions in the EU ICT sector were women (17 % of chief executives were women) ([76]). Across all economic sectors in 2020, the proportion of women on the boards of the largest listed companies in EU Member States has reached 29 %, but the top positions are still largely occupied by men, with women accounting for just 8 % of board chairs and 8 % of CEOs ([77]) (see Chapter 6, 'Domain of power'). Women thus face a systematic disadvantage in taking up jobs with higher levels of responsibility. At the same age, with the same or better education, and with the same family and other circumstances, women still have 25 % lower

Figure 40. Percentages of women among Grade A staff in engineering and technology R & D, 2016



Source: Women in Science database, She Figures 2018, Directorate-General for Research and Innovation.
NB: Data unavailable for Bulgaria, Czechia, Estonia, Ireland, France, Latvia, Hungary and Romania. Data of low reliability for Malta.

([73]) As part of its gender mainstreaming platform, EIGE has co-developed with the Directorate-General for Research and Innovation the Gender Equality in Academia and Research tool to support research institutions in their efforts to advance gender equality in both their institutions and their research outputs.
([74]) Percentages of women among heads of institutions in the higher education sector, 2017, source: Women in Science database, She Figures 2018, Directorate-General for Research and Innovation.
([75]) Data cover presidents/heads and members of evaluation committees set up to assess the projects submitted in response to the latest call. EIGE, Gender Statistics Database, WMID, 2019. Data for Italy and Romania refer to 2018.
([76]) EIGE calculations based on EU-LFS microdata, 2018.
([77]) EIGE Gender Statistics Database.

odds of progressing to higher profile jobs (European Commission, 2018c).

Many factors influence the persistent gender segregation in STEM and R & D jobs. These include gender stereotypes and the gender divide in digital skills and educational background, but also masculine organisational culture and a lack of work–life balance options and role models (Valenduc, 2011; Valenduc et al., 2004), (see subsection 9.2.4). While data are scarce for the EU on the prevalence of sexual harassment in the science and technology sector, evidence from other parts of the world highlights systemic sexual harassment, which may discourage women from entering the sector or encourage their exit from it (National Academies of Sciences Engineering and Medicine, 2018; Seiner, 2019).

9.2. Digital transformation of the world of work

Advances in digitalisation have had profound impacts on the labour market, chiefly resulting from the adoption of new ICT, increased use and storage of digitally codified information, and new developments in AI and robotics (Autor, 2015; Valenduc and Vendramin, 2017). Public debate on this transformation usually focuses either on its potential to boost economic productivity and growth or on the challenges it presents for workers, businesses and labour market regulation, paying only limited attention to gender equality prospects.

This section focuses on the gendered implications of several key advances in the digitalisation of the world of work. While these can be understood as a continuation of long-term trends in labour market transformation (Valenduc and Vendramin, 2017), the analysis here is mostly limited to developments within the past decade and their implications for the future. More specifically, it covers the following.

- Job automation – that is, a process in which human labour input is replaced by (digitally enabled) machine input (Eurofound, 2018a). In the past decade, the 'exponential growth in the collection, storage, and processing of digitised information' (Valenduc and Vendramin, 2017, p. 124) has enabled the development of powerful algorithms that exploit these data to 'learn' how to perform an increasing range of tasks. This has enhanced the capacity of machines to perform tasks previously done by workers (Autor, 2015; Frey and Osborne, 2017), encouraging further transformation of employment structures and content as new technologies increasingly replace or complement workers.

- Use of new technologies at work. With workers increasingly working alongside digitally enabled machines, there is higher demand for both basic and advanced digital skills in the labour market. This contributes to the growth of employment in certain well-paid sectors that require advanced digital skills, such as ICT. It also supports the use of new technologies in other sectors, often resulting in transformation of work practices, conditions and quality.

- Greater flexibility of work. The spread of portable devices (e.g. computers, tablets and smartphones) and improvements in internet connectivity and infrastructure have enabled increasing amounts of work to be carried out at various places and times. This allows (and sometimes obliges) people to work 'anytime, anywhere' (Eurofound and ILO, 2017).

- New forms of work. The remote working enabled by ICT has contributed to an increasing amount of work being contracted out (Howcroft and Rubery, 2018; Piasna and Drahokoupil, 2017), with new contracting practices emerging in the context of platform work.

Within the EU policy framework, the digital transformation of work is addressed under the European Pillar of Social Rights, which endorses the

principles of fair working conditions, access to social protection and gender equality. Although the Pillar underlines the importance of supporting emerging business models, innovative forms of work, entrepreneurship and self-employment, support for such new business models should entail quality working conditions and equal treatment of workers irrespective of the type of employment relationship. In 2018, the European Commission set up a high-level expert group to look at the process of the digital transformation of the EU labour market, provide analysis and explore policy options. To date, much of the gender equality focus has been on the gender segregation of some key sectors linked to digitalisation, such as ICT and STEM, notably in the context of the recent WiD declaration. When it comes to platform work, this is part of the EU's single market strategy and also part of the digital strategy. In its communication on the European agenda for the collaborative economy (June 2016), the Commission provided guidance for Member States on the application of existing EU rules to the platform economy, including fair working conditions, and adequate and sustainable consumer and social protection. More recently, the President of the European Commission stated that she 'will look at ways of improving the labour conditions of platform workers' (von der Leyen, 2019). Platform work will be covered by the preparations for the Digital Services Act ([78]), which should upgrade the liability and safety rules for digital platforms, services and products, and complete the digital single market.

The analysis of the gendered implications of digital transformation of work is structured in five subsections. The first looks at the broad labour market transformation resulting from automation of work and increased use of new technologies, and gives a broad overview of the gendered implications of these changes. The remaining subsections then provide a more detailed analysis of the challenges and opportunities for gender equality in the context of two economic activities closely linked to digitalisation, one usually offering well-paid, high-quality jobs (the ICT sector) and the other often providing low-paid, less secure but highly flexible opportunities (certain types of platform work). The second subsection analyses the employment prospects for women and men within these economic activities, while the third discusses new forms of work and flexible working practices from a gender equality perspective. The fourth and fifth subsections look at the implications of digitalisation for work–life balance and gender differences in pay, respectively.

As the analysis focuses chiefly on recent technological developments, it is often severely constrained by the availability of (gender-disaggregated) data. Quantitative data on platform work, for example, is limited to several recent surveys covering a number of EU Member States. There is no EU-wide survey and existing surveys suffer from a range of methodological weaknesses inherent in monitoring a newly emerging phenomenon. As gender-disaggregated data on platform work is extremely limited, the gender analysis relies on qualitative, and sometimes rather speculative, research. This is, to a considerable degree, true for the analysis of job automation as well.

9.2.1. Job automation, use of new technologies and transformation of the labour market

Much of the current policy debate about the future of work centres on the increased use of digital technologies and their capacity to replace or complement workers in an ever-broadening range of tasks. The spread of new technologies is often seen as a way to increase the productivity and competitiveness of the EU economy. Notably, a range of time-consuming or physically demanding routine tasks have proven feasible to automate (JRC, 2020b), enabling some workers to focus on more creative aspects of their work, increasing added value and – in some cases – leading to improvements in working conditions (Eurofound, 2018c; JRC, 2019a). However, technological progress also has the potential to be highly disruptive, as many jobs need to be reorganised and technology will

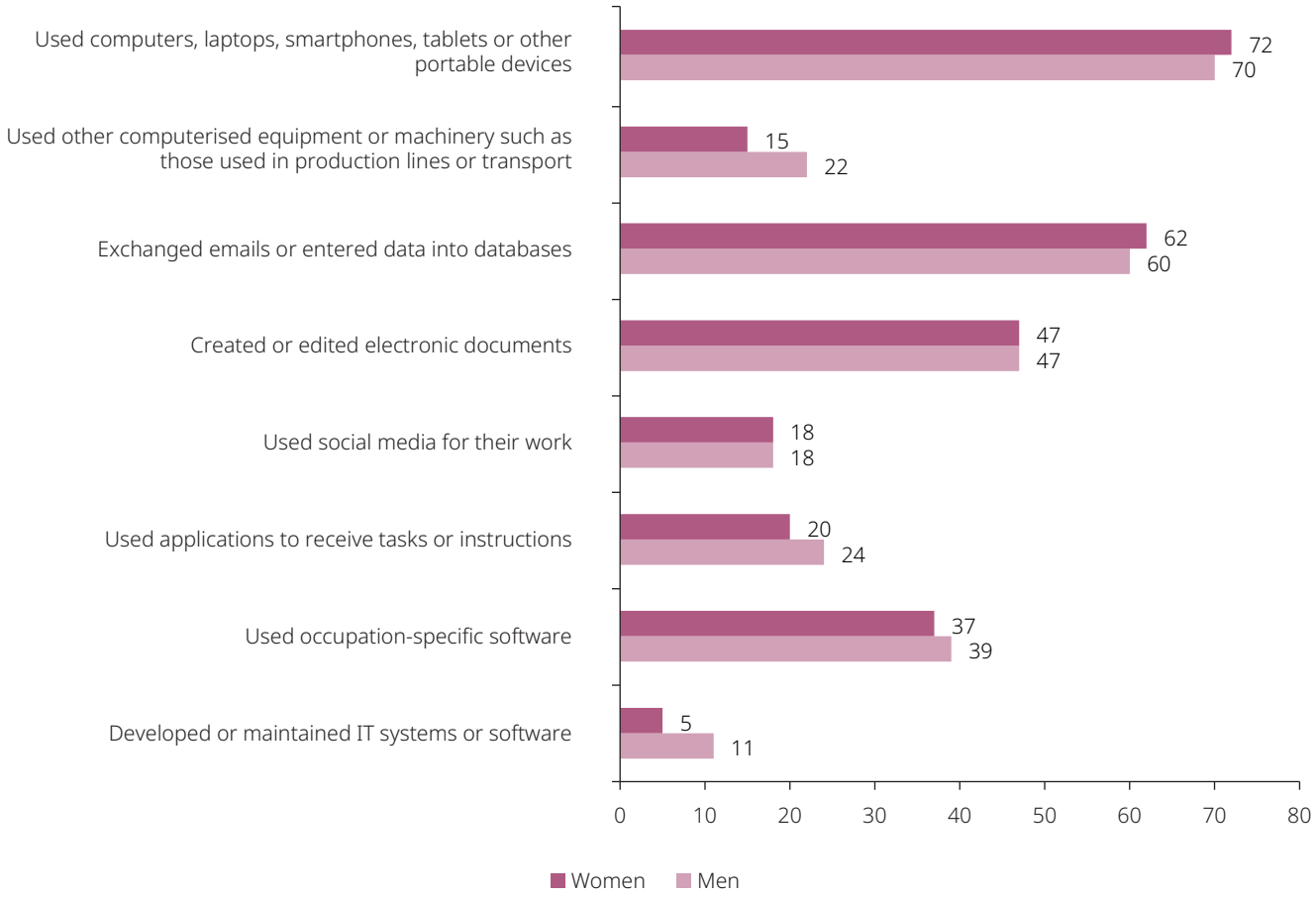
([78]) https://ec.europa.eu/digital-single-market/en/digital-services-act-package

completely replace workers in some instances (Eurofound, 2020a).

While digital technologies have transformed the majority of workplaces in the EU labour market, gender differences in the use of ICT at work persist. Eurostat data show that 71 % of those in employment ([79]) use computers, laptops, smartphones, tablets or other portable devices at work, with the proportion reaching 95 % in some sectors ([80]). The past 5 years have seen the use of digital technologies increase in almost 9 out of 10 workplaces in the EU (European Commission, 2016b). Yet women continue to use some digital technologies less frequently than men (Figure 41), which is likely to limit their employment prospects in jobs that depend on the use of such technologies.

Earlier estimates predicted that digitalisation could lead to alarmingly high rates of job loss due to automation in the next decade or so (Frey and Osborne, 2017; World Economic Forum, 2016), but these have since been tempered by more modest estimates for OECD economies of 10–20 % of jobs at risk (International Monetary Fund, 2018; OECD, 2016; PwC, 2019). Increasingly, it looks like many jobs will be transformed rather than fully automated, with workers switching to tasks that complement new technologies from tasks that are being replaced by them (Autor, 2015; European Commission, 2019e). Some entirely new jobs (or jobs transformed so profoundly as to effectively constitute new jobs) are also likely to appear (Eurofound, 2020a), for example in the STEM sector.

Figure 41. Use of ICT at work and activities performed by women and men (aged 16–74) in the EU (%), 2018



Source: Eurostat, ISOC (isoc_iw_ap).
NB: The Figure presents the percentages of individuals who use ICT at work as a proportion of all employees and self-employed people who used the internet in the past year.

([79]) Percentage of employees and self-employed people who used the internet within the past year.
([80]) Eurostat (isoc_iw_ap).

This transformation is likely to have profound effects on the structure of the labour market, with two potential outcomes often discussed: job polarisation, where automation prompts the disappearance of middle-skilled jobs with a high level of routine content, leaving the labour market increasingly divided into low and high-skilled employment (Autor, 2015; Goos et al., 2014; OECD, 2017b)); and job upgrading, where new technologies lead to increased demand for higher-skilled staff while lower-skilled jobs disappear (Oesch and Piccitto, 2019).

While the evidence is far from conclusive, the most recent findings from EU-based studies point towards a pattern of job upgrading in recent years (Eurofound, 2017a; European Commission, 2019f; Oesch and Piccitto, 2019), especially among women (Eurofound, 2016; OECD, 2017a; Piasna and Drahokoupil, 2017). There are also some signs of job polarisation, however, and these are often more apparent among men. It is important to note that such changes in employment structure often depend on factors other than just technological progress; for example, the skill upgrading of jobs held by women may well be linked to increased participation of highly qualified women in the labour market (Eurofound, 2016; OECD, 2017a; Piasna and Drahokoupil, 2017). The pattern of change also varies a lot by country.

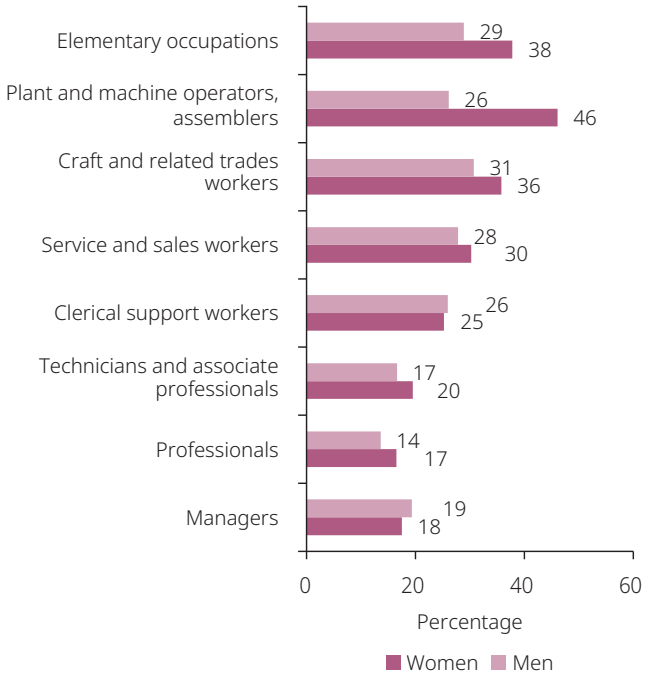
This transformation is likely to change the occupational and sectoral structure of EU employment and is thus likely to present different prospects for women and men, whose employment follows well-established patterns of vertical and horizontal segregation. It is likely to have profound implications for gendered patterns in labour market participation and skill demand, as well as certain broader aspects of gender equality. It may well contribute to future changes in Gender Equality Index scores in several domains, primarily the domain of work.

Women face slightly higher risk of job loss due to automation

Women are usually reported to be at a slightly higher risk of job loss due to automation than men (International Monetary Fund, 2018; OECD, 2016; PwC, 2019). A recent International Monetary Fund (2018) study on the gendered impacts of automation found that around 11 % of employed women were at risk of job loss, compared with 9 % of men. This gap seems to be driven by significant differences in a few countries (e.g. Cyprus and Austria), while others show little or no difference (e.g. Belgium, Denmark, Germany, France and the United Kingdom). The higher risk of automation for women relates to gendered differences in work content; in the EU, women across different occupational categories are somewhat more likely to undertake routine, repetitive tasks and less likely to undertake complex tasks (Piasna and Drahokoupil, 2017) (Figure 42 and Figure 43). Another study (Lordan, 2019) also suggests that women are more vulnerable than men to automation in some countries (Belgium, Czechia, Germany, Estonia, Cyprus, Luxembourg, Hungary, Austria, Finland and the United Kingdom), whereas they face the same risks in others (Greece, France, Croatia, the Netherlands and Slovenia).

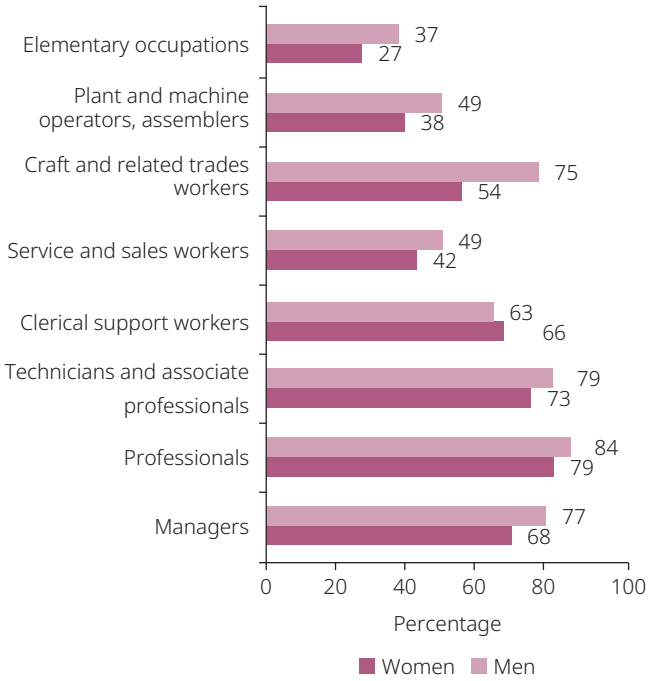
In addition to being more exposed to the dangers of automation, women may also benefit less from the resulting changes in income distribution. Automation is likely to be a capital-intensive process, relying on increasing use of new technologies and thus particularly benefiting owners of capital. Using data from advanced economies, similar technological changes have been linked to a decreasing share of national income flowing to workers (Dao et al., 2017). Instead, income is likely to flow to owners of capital (Dao et al., 2017), who typically hold that capital indirectly through a range of financial products, such as stocks or shares (IPPR, 2019). This financial wealth tends to be highly concentrated among the wealthiest individuals, and among men in particular; there are sizeable gender gaps in financial wealth among the top 5 % of wealthiest individuals in a number of EU Member States (Schneebaum et al., 2018).

Figure 42. Percentages of workers undertaking repetitive tasks of less than 10 minutes' duration, by sex and occupation, EU, 2015



Source: Calculations based on EWCS data presented in Piasna and Drahokoupil (2017).

Figure 43. Percentages of workers undertaking complex tasks, by sex and occupation, EU, 2015



Source: Calculations based on EWCS data presented in Piasna and Drahokoupil (2017).

Automation is likely to affect both female- and male-dominated occupations

The slightly higher overall risk posed by automation to women conceals considerable variation in how different occupations (and sectors) will be affected. Digitally enabled machines are likely to replace human labour, particularly in routine, easily codifiable tasks (Autor, 2015; Frey and Osborne, 2017; Lordan, 2019), the distribution of which varies considerably across occupations (Figure 42 and Figure 43). Less predictable tasks, such as abstract thinking or unstructured social interactions, are proving more difficult to automate, leaving some occupations at a much lower risk of automation than others (Autor, 2015; Frey and Osborne, 2017; Lordan, 2019).

Historically, automation was linked to elimination of clerical jobs and reduced availability of jobs in the retail and financial service sectors that, up to that point, had provided an expanding field of employment for women (Huws, 1982). At the same time, technological change began to de-skill many traditionally 'male' jobs (Cockburn, 1987), opening them up to women with newer technological skills. This renewed interest in the statistical analysis of occupational segregation by gender. Research was carried out to identify horizontal and vertical patterns of segregation by occupation and industry, such as the concentration of women and men at different levels in organisational hierarchies (Rubery, 2010), and to identify ways in which new kinds of technology-enabled work reproduced and expanded dominant patterns of gender segregation and inequality (Howcroft and Richardson, 2009).

More recent studies covering EU Member States (Lordan, 2019) and OECD member countries (International Monetary Fund, 2018) show that some female- and male-dominated occupations are unlikely to be substantially automated in the near future, as they typically involve a high

degree of intellectual tasks or a mix of intellectual and social tasks. For example, some health, education and social service occupations dominated by women, such as schoolteacher or personal care worker in a residential service, are considered difficult to automate. In fact, the number of personal care workers has risen substantially in recent years (Eurofound, 2017a), mostly as a result of demographic shifts in the EU population that have increased demand for such services. Some male-dominated occupations, such as ICT/engineering professional or high-ranking manager, are also unlikely to face large job losses due to automation (Eurofound, 2017a; Lordan, 2019). For ICT/engineering professionals, technological progress instead drives job creation, as demonstrated by strong sustained growth in employment in these activities (see subsection 9.2.2). This makes the lack of women in these sectors particularly concerning.

Conversely, some female- and male-dominated occupations are characterised by high levels of routine content and are thus at increased risk of automation. For example, certain key tasks carried out (mostly by men) in transport, storage and manufacturing activities (e.g. physical manipulation of heavy goods) may become automated (Eurofound, 2018c; Lordan, 2019). Clerical support work, carried out primarily by women, may also be increasingly performed by machines (Lordan, 2019). This may lead to job loss in some cases, while, in others, it will prompt a profound job transformation that will require workers to perform new, often higher-skilled tasks (Eurofound, 2018c).

Highly educated women often enter new jobs that are difficult to automate

While women face a somewhat higher risk of automation based on current employment patterns, there are signs that the structure of women's employment is changing, with high-skilled work increasingly prevalent. Women's educational attainment has grown rapidly and many education gender gaps that existed in the past have already been eliminated, as can be seen from the Gender Equality Index scores in the domain of knowledge. Women have begun to take most of the new high-skilled jobs ([81]) that are unlikely to be automated in the near future: around 8 million of the 12 million high-skilled jobs created between 2003 and 2015 in the EU went to women (OECD, 2017a). This led to an 'upgrading in the female occupational structure, with the share of women in high skilled occupations … increasing' (Piasna and Drahokoupil, 2017, p. 7). This does not, however, mean that women are paid equally to men in these jobs.

The fact that women have, on average, lower wages than men may affect the patterns of automation (Rubery, 2018). Firstly, the low-paid nature of certain female-dominated occupations (e.g. domestic work) may slow down the pace of digital innovation, since such innovation can be, at least initially, quite costly and may not always pay off when labour costs are low (Rubery, 2018). This may protect some women from job loss at least in the short term, although it brings little prospect of better pay or working conditions. Secondly, since women tend to earn less than men in the same occupations, this may provide them with new opportunities when male-dominated occupations become reorganised or restructured as a result of automation. In such cases, employers may favour hiring women into new positions because of their lower salary demands. Based on previous experience, this often results in 'first a period of desegregation of male-dominated jobs, followed by either the feminisation of the whole occupation or the emergence of new feminised subdivisions within the occupation' (Rubery, 2018). In the service sector, for example, programming tasks that were well-paid and highly skilled in the recent past may become 'feminised' – although more women are recruited, they continue to be treated as 'secondary earners' and their wages drop (Howcroft and Richardson, 2009). Thus, efforts to ensure equal pay for equal work will be needed if women are to fully benefit from such new opportunities.

([81]) These include jobs classified under major groups 1, 2, and 3 in the third version of the International Standard Classification of Occupations (ISCO-88), namely legislators, senior officials and managers (group 1); professionals (group 2); and technicians and associate professionals (group 3).

Potential of job automation to improve gender equality

Scenario 1 – Index domain of work. Transformation of the labour market structure offers an opportunity **to change established gendered patterns of employment**, especially in the context of the rapid growth of women's skills (IPPR, 2019; Rubery, 2018). However, evidence from the past decade shows little – if any – progress on the desegregation of the EU labour market (Piasna and Drahokoupil, 2017). Jobs within the STEM and ICT sectors are a stark example of this lack of progress (see subsection 9.1.3).

Scenario 2 – Index domain of time. Potential job loss due to automation has sparked debates about more **balanced distribution of paid and unpaid work among women and men** (Howcroft and Rubery, 2018; IPPR, 2019; Rubery, 2018). If machines replace a significant share of human work input, this may reduce the overall amount of jobs available. To better distribute the remaining work, proposals to reduce the duration of the working week are frequently discussed, with potential positive outcomes for gendered division of unpaid work. In this context, the recognition of women and men as equal earners and equal carers across the life cycle will be important.

Scenario 3 – Index domain of money. Automating some routine tasks can free up more time for tasks requiring interpersonal, creative or advanced ICT skills (Howcroft and Rubery, 2018; IPPR, 2019). This is an opportunity to **upskill certain low-paid jobs held by women and perhaps even achieve higher wages and reduced pay gaps**.

The potential of automation to challenge existing gender inequalities remains unclear

Given the uncertain nature of changes in technology and gender relations, it is difficult to go beyond stylised lists of factors likely to influence the gender equality outcomes of automation in the future. The current literature mostly limits itself to speculating about the ways in which this process could affect gender equality, namely gender segregation, division of unpaid work, pay gaps and working conditions. All of these speculative scenarios have something in common: the changes have the potential to improve gender equality but their outcomes are highly uncertain and there is no guarantee that their promise will be fulfilled. Indeed, the research reviewed (Howcroft and Rubery, 2018; IPPR, 2019; Rubery, 2018) suggests that this is unlikely to happen without (1) gender-sensitive regulation, institutions and policies; (2) challenges to established gender stereotypes, such as those relating to ICT and STEM participation and caring activities; and (3) greater representation of women in key decision-making positions.

9.2.2. Employment prospects in the ICT sector and platform work

Apart from its potential to replace human work, digitalisation offers a range of new opportunities, either by transforming existing jobs or creating entirely new ones. Access to such opportunities is likely to be highly gendered, given the segregated nature of the EU labour market, the variety of gender stereotypes around employment in certain jobs and related gender differences in career expectations. This section analyses the differences in participation of women and men in two quite different types of job opportunities linked to digitalisation.

Firstly, the increasing digitalisation of work has created a growing demand for high-skilled workers with advanced digital skills, apparent across all economic sectors. This section looks in particular at the job prospects of women and men in the ICT sector, in view of the high demand for ICT specialists during the past decade or so (Eurostat, 2019b) and the fact that the workforce remains male dominated.

Perhaps less obvious is the fact that digitalisation enables the creation of a broad range of low-skilled opportunities, for example in the context of certain forms of platform work. While platform work includes some well-paid, high-skilled opportunities (Eurofound, 2018b), there are many poorly paid jobs that serve only to supplement income from other sources (Huws et al., 2019; ILO, 2018c; JRC, 2018). Women are currently under-represented in platform work, with the employment structure following the well-established patterns of gender segregation in the broader economy.

Definition of platform work

There are many definitions of platform work, resulting in a lack of consistency in the use of the term. This report adopts Eurofound's understanding of **platform work as a 'form of employment that uses an online platform to enable organisations or individuals to access other organisations or individuals to solve problems or to provide services in exchange for payment'** (Eurofound, 2018b, p. 9). According to this definition, platform work has several key features:

- paid work is organised through an online platform;
- three parties are involved: the online platform, the client and the worker;
- the aim is to carry out specific tasks or solve specific problems;
- the work is outsourced or contracted out;
- jobs are broken down into tasks;
- services are provided on demand.

Generally, platforms can be divided into those where work is delivered purely online (e.g. Amazon Mechanical Turk) and those where work is delivered on-site (e.g. Uber). The most common tasks performed include (1) professional tasks (e.g. software development or translation); (2) transport (e.g. personal transport or food delivery); (3) household tasks (e.g. cleaning or plumbing); and (4) micro tasks (e.g. tagging images online).

Full potential of the ICT sector cannot be realised without gender equality

Recent decades have seen EU Member States gradually transform their labour markets, reflecting the trends towards digitalised and knowledge-based economies. The STEM sector and in particular the ICT sector have increased in importance in the overall economy and secured their status as providing well-paid, secure and high-quality jobs. From 2008 to 2018, the growth in employment of ICT specialists was more than 12 times the average employment growth in the EU, with the share of ICT specialists in total employment increasing by 1.1 p.p. (from 2.8 % to 3.9 %) (Eurostat, 2019b). The ICT sector was one of the few that withstood the effects of the financial crisis and continued to experience growth. However, of the 9 million ICT specialists, only around 18 % are women, and the share of women in ICT jobs in the EU has decreased by 4 % since 2010 (see subsection 9.1.3).

Even larger growth of the ICT sector has been limited by the substantial mismatch between high demand and relatively low supply of ICT specialists in the EU labour market. The majority of EU Member States report difficulties in finding a sufficient number of science, engineering and ICT professionals (European Commission, 2014a). A recent estimate suggested that the EU faced a shortage of some 600 000 ICT specialists in 2018 (European Commission, 2018h). This mismatch between the supply of ICT specialists and employer demand is likely to remain for some time, as STEM specialists and in particular ICT specialists continue to be in high demand (Cedefop, 2018).

With the ICT sector heavily gender segregated and facing a huge demand for new specialists, the greater involvement of women seems to be a policy strategy with obvious economic and social benefits. EIGE has estimated that attracting more women into the STEM and ICT sectors would lead to economic growth in the EU, with more jobs (an increase of up to 1.2 million by 2050) and an increase in GDP over the long term (by up to EUR 820 billion by 2050) (EIGE, 2017c).

Growth in personal and household services provided via platforms could support women's employment

The platform economy ([82]) in the EU is, as yet, a relatively small phenomenon. In 2015, revenue in the five key sectors of the platform economy ([83]) were estimated at roughly EUR 4 billion (European Commission, 2019b), with the highest revenues recorded for peer-to-peer transport (EUR 1.7 billion) and accommodation (EUR 1.2 billion). These revenues were predicted to grow rapidly in the coming years (PwC, 2016), but this may turn out to be overly optimistic in the light of the COVID-19 pandemic.

Despite the uncertainty about future growth of the platform economy, it is interesting to note that on-demand personal and household services (cooking, cleaning, plumbing, etc.) were estimated to have the highest growth potential (PwC, 2016). This suggests that there is considerable demand for outsourcing unpaid domestic work via platforms. This could support the labour market participation of women (Overseas Development Institute, 2019). Highly qualified women

The scant early information on the impacts of the COVID-19 pandemic on the platform economy available at the time of writing indicates that there will be negative consequences. Early survey statistics published by the World Economic Forum ([84]) show that, globally, as much as half of platform workers may have lost their jobs, and a further 26 % have seen their working hours decrease. The impacts on certain on-site services, such as ride-hailing or accommodation rental, seem to have been particularly damaging ([85]). Other services, such as delivery or online work, appear to be less affected ([86]). However, there are some concerns about the influx of newly unemployed people into the platform economy, resulting in lower wages and reduced work available per worker ([87]).

([82]) Denoting for-profit companies using platforms, apps and other digital technologies to organise exchanges. Note that this is a broader definition than that of platform work, which refers to online platforms matching the supply of and demand for paid labour.
([83]) Peer-to-peer accommodation, peer-to-peer transport, on-demand household services, on-demand professional services and collaborative finance.
([84]) https://www.weforum.org/agenda/2020/04/gig-workers-hardest-hit-coronavirus-pandemic/
([85]) See, for example, https://www.businessinsider.com/uber-announces-layoffs-3700-job-cuts-14-percent-employees-coronavirus-2020-5, https://www.forbes.com/sites/jonathankeane/2020/05/22/from-the-us-to-india-the-gig-economy-job-cuts-went-even-deeper-this-week/#4b165abc6999 and https://news.airbnb.com/a-message-from-co-founder-and-ceo-brian-chesky/
([86]) See, for example, https://time.com/5836868/gig-economy-coronavirus/ and https://www.eurofound.europa.eu/publications/article/2020/coronavirus-highlights-sick-pay-void-for-platform-workers
([87]) https://time.com/5836868/gig-economy-coronavirus/

whose participation in the labour market is held back by their disproportionate share of unpaid work may decide to outsource this work, often to poorer women from migrant backgrounds (EIGE, 2020a). However, questions remain about the domestic tasks most likely to be outsourced and under what working conditions (see subsection 9.2.3). Serious concerns have been raised about the precarious, exploitative nature of domestic work provided by women, especially when they are excluded from safe employment as a result of their legal migration status or discrimination (European Parliament, 2017; FRA, 2018).

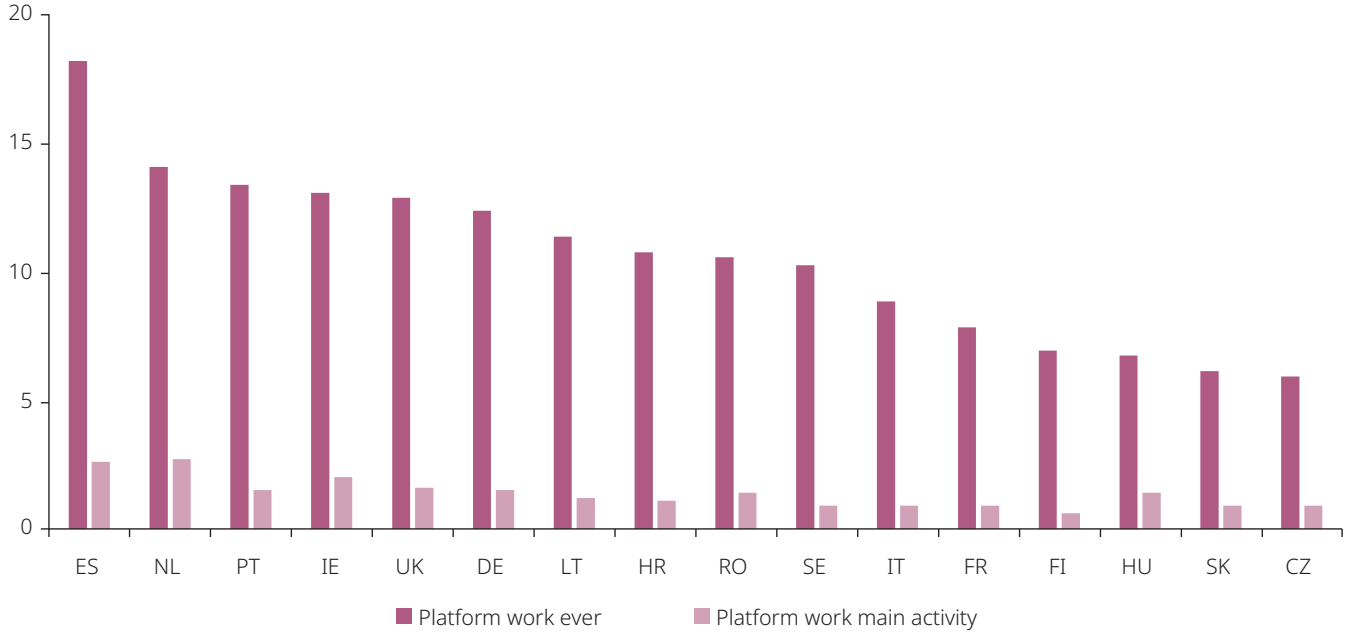
Platform work seems to reproduce the usual gender segregation patterns

While data on platform work in the EU is incomplete and difficult to compare, it suggests that a relatively small share of the EU population is involved in platform work. From three recent surveys carried out in multiple EU Member States (Huws et al., 2019; JRC, 2018, 2020a), it appears that around 10 % of the EU population has ever provided some services via platforms. This constitutes the main employment activity of only around 2 % of the population. The share of platform work varies substantially by country (Figure 44).

The majority of platform workers dedicate only a few hours a week to this work and use it to supplement income from other, more important sources (Huws et al., 2019; JRC, 2018, 2020a). Their work often consists of several tasks on different platforms that top up their income from primary jobs. Thus, a substantial share of platform workers seem to piece together their livelihood from whatever opportunities may bring extra money, using platform work as a minor income supplement to improve their economic situation.

Platform workers deliver a broad range of services, the provision of which mostly seems to follow well-known patterns of gender segregation. Services can be broadly divided into those

Figure 44. Percentages of the adult population participating in platform work, by country, 2017



Source: JRC (2020a).
NB: Platform work is considered the main activity where individuals work at least 20 hours a week on platforms or when they get at least 50 % of their monthly income from platform work.

delivered purely online (e.g. software development or tagging of images online) and those requiring a physical presence on location (e.g. cleaning or personal transport) ([88]). Most platform workers in the EU are engaged in online professional tasks (e.g. accounting, legal services, project management services or translation) and clerical tasks (e.g. customer service, data entry or transcription) (Huws et al., 2019; JRC, 2018, 2020a). The survey data indicate that gender plays an important role when choosing which services to provide: for example, men dominate in software development and transport services, whereas women work more frequently in certain on-site services, such as personal or household services, and in translation (JRC, 2018).

Women are under-represented in platform work

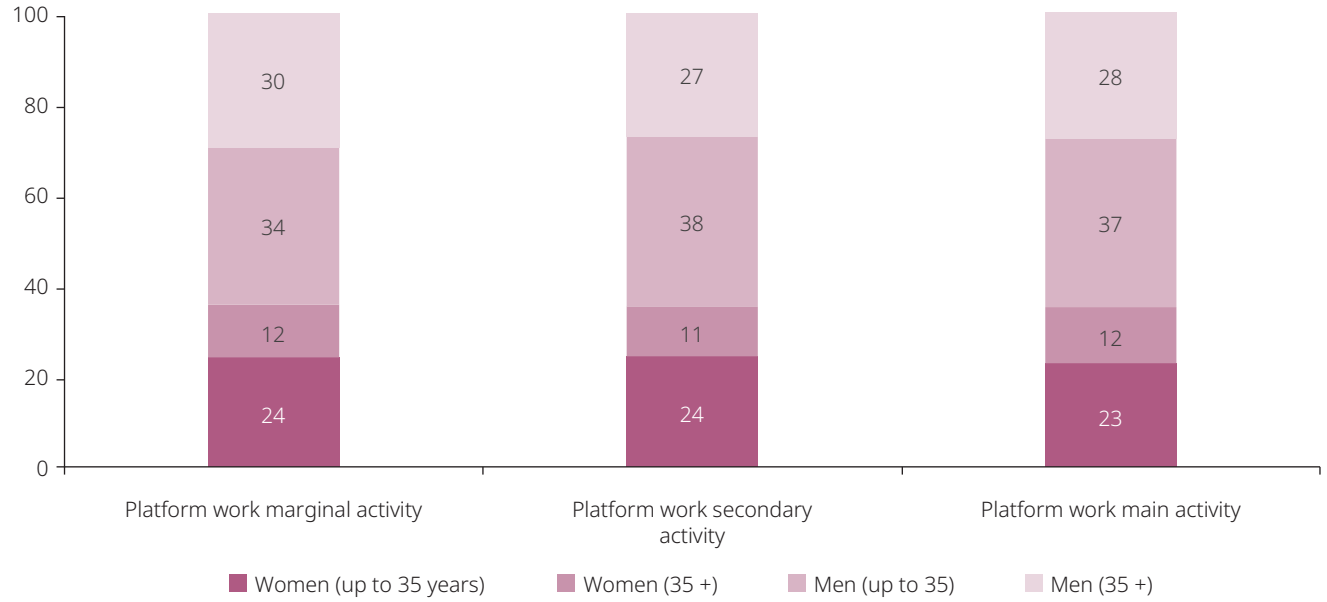
Based on the most recent EU data, around one in three platform workers are women, regardless of platform work intensity (JRC, 2020a) (Figure 45). The share of women who undertake platform work as a main or secondary activity has increased somewhat since 2017. Platform workers are usually young and well educated, and their educational attainment often exceeds that required for the low-skilled nature of certain types of platform work (ILO, 2018c; JRC, 2018).

As many as half of platform workers live in a couple with children, often aged under 5 (ILO, 2018c; JRC, 2018, 2020a). Based on global data on online platform work, the proportion of workers with small children at home appears to be much higher among women, who also more frequently report the need to work from home to combine work with caring responsibilities (see subsection 9.2.4). Platform work can give them an additional opportunity to do this.

Yet such generalisations obscure a lot of diversity among the platform workforce, whose composition often depends on the specific platform and type of service provided.

- Some (United States-based) studies indicate that workers who rely on low-wage platform

Figure 45. Percentages of women and men in platform work by intensity, EU, 2018



Source: JRC (2018, 2020a)
NB: Percentages are reported out of the total number of workers per degree of intensity, i.e. women account for 35.2 % of workers for whom their platform job is a main job, with men accounting for the rest. Platform work is considered a main job when it accounts for at least 50 % of monthly income or is performed for more than 20 hours a week. Platform work is considered marginal if it accounts for less than 25 % of monthly income and is performed for less than 10 hours a week. Platform work is considered a secondary activity in the remaining cases.

([88]) See https://www.eurofound.europa.eu/observatories/eurwork/industrial-relations-dictionary/platform-work for a more detailed breakdown.

work as a main source of income often come from low-income, less educated households and are more likely to have minority ethnic backgrounds (Smith, 2016; Van Doorn, 2017). Most recent EU data indicates that around 15 % of platform workers are foreign born, a higher proportion than in overall employment (JRC, 2020a).

- Online platform work performed from home also offers opportunities for people with health limitations that prevent them from working outside the home. A global survey found that almost one in five online platform workers reported health limitations (ILO, 2018c).

9.2.3. New forms of work and flexible working practices in the context of the ICT sector and platform work

For several decades, advances in digitalisation have been associated with two closely related processes: increased flexibility of work and the emergence of new forms of work. Increases in work flexibility date back to the 1980s, when the introduction of ICT transformed the world of work by enabling home-based and other forms of remote labour, such as teleworking (Huws et al., 1996). In 2002, the European framework agreement on telework was negotiated by the social partners, establishing teleworking as a way for companies to modernise their work organisation and for workers to reconcile work with other aspects of their lives. As the use of portable computers, tablets and smartphones spread throughout the labour market, and internet infrastructure and connectivity improved, a growing proportion of the workforce adopted flexible working patterns, working 'anytime, anywhere' (Eurofound, 2020b; Eurofound and ILO, 2017).

At the same time, the adoption of various remote working practices contributed to the emergence of new forms of work. The possibility to manage work remotely allowed employers to outsource and offshore an increasing amount (Rubery, 2015). This signalled a move away from the standard full-time open-ended contract with fixed working time towards less secure forms of employment situated within a 'complex and multi-faceted network of relations between "independent contractors", clients and intermediaries' (Bergvall-Kåreborn and Howcroft, 2014; Piasna and Drahokoupil, 2017; Rubery, 2015). It led to increasingly fragmented nature of work, which was often broken down into 'highly specified services and tasks' to be delivered via 'one-off contracts' (Howcroft and Rubery, 2018). The past decade saw this process culminate in the emergence of platform work, which usually involves self-employed people working on multiple small-scale tasks mediated via online platforms, often alongside other, more stable jobs.

These changes can affect gender equality both positively and negatively. On the one hand, the increased flexibility of work is hailed as a promising way to support further participation of women and certain disadvantaged groups in the labour market (De Stefano, 2016; Overseas Development Institute, 2019), potentially leading to improvements in the Gender Equality Index domain of work. This is because flexible working is often the only option for people to combine substantial unpaid care responsibilities (primarily taken on by women) with paid employment, and because it can encompass those who cannot work outside the home, such as people with certain disabilities. More broadly, the increasing flexibility of work is seen as a way to improve work–life balance (see subsection 9.2.4) and potentially reduce gender inequalities in the distribution of unpaid work (and thus contribute to gender equality in the Index domain of time). On the other hand, some new forms of employment deprive workers of much of the traditional labour and social protections crucial for achieving gender equality (Howcroft and Rubery, 2018; ILO, 2018c; Overseas Development Institute, 2019; Piasna and Drahokoupil, 2017).

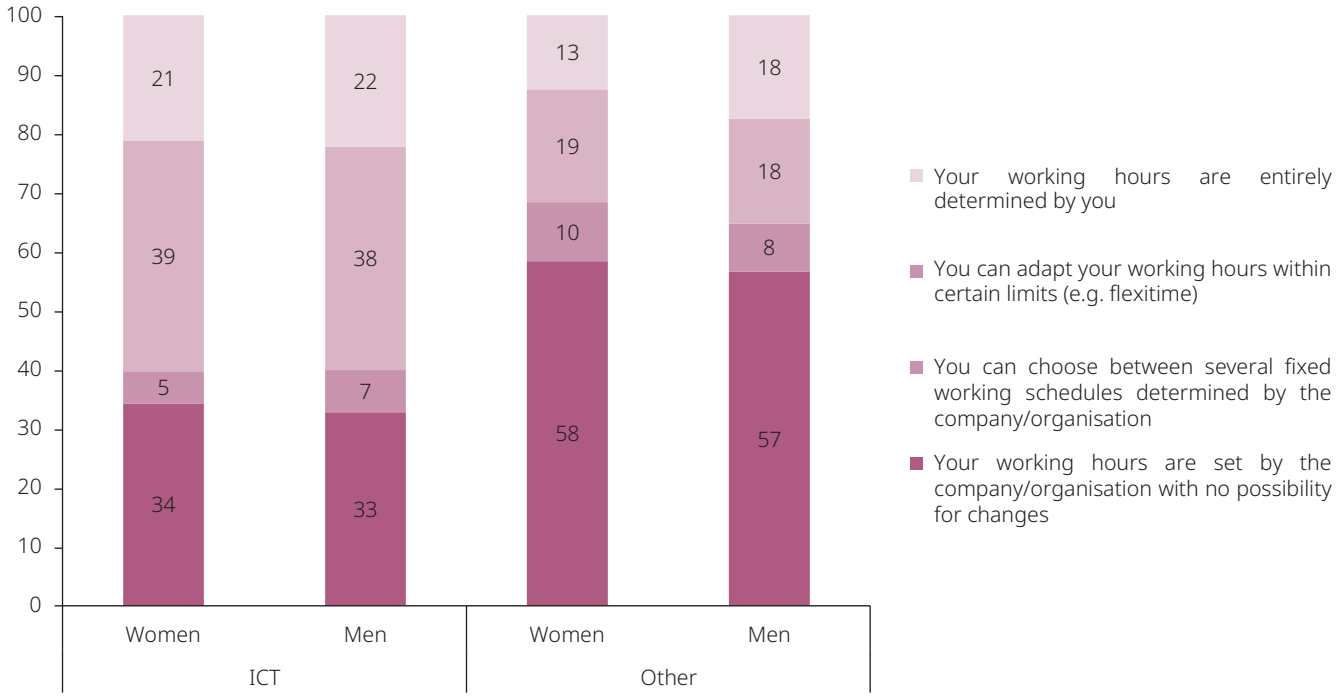
The remainder of this subsection examines the gendered consequences of changes in the form and flexibility of work enabled by digitalisation in two dynamic and growing segments of the economy: the ICT sector and platform work.

ICT jobs offer favourable working conditions but few women benefit

Newly emerging high-skilled occupations in the STEM and ICT sectors tend to offer somewhat safe and flexible working conditions, but few women have joined these sectors and benefited. The standard employment relationship is highly prevalent in ICT: 93 % of women and 88 % of men ICT specialists are employees; ICT workers are more likely to work a standard 40-hour week than the rest of the working population; and few have temporary work contracts (8 % of women and men) ([89]). Only 7 % of women and 12 % of men in ICT are self-employed, which are lower proportions than for other occupations (10 % of women and 18 % of men) ([90]). Evidence from the literature suggests that women and men tend to choose self-employment for different reasons. Women are more likely to opt for it because of the potential for better working time flexibility, work–life balance and opportunities to combine care and work responsibilities, while men are more likely to be self-employed for career-related reasons, such as to control their own work or to earn more money (IPSE, 2019). Despite the rather standard form of employment, teleworking and mobile working arrangements are highly prevalent in the ICT sector, especially among the self-employed, indicating a high degree of flexibility in working arrangements in this sector (Eurofound, 2020c).

ICT jobs generally offer favourable working conditions: they are relatively well paid, require less work during atypical working hours, and give workers considerable flexibility and autonomy to arrange their working time (EIGE, 2018d). For instance, 83 % of women and 80 % of men in ICT find it very easy or fairly easy to arrange an hour or two off during working hours to take care of personal or family matters. There is also significant overall working time autonomy. Only one quarter of ICT sector employees have their working time arrangements strictly set by the company with no possibility for change (compared with almost 60 % of the rest of the working population). The remaining ICT sector employees enjoy various amounts of flexibility or even full autonomy (Figure 46).

Figure 46. Percentages of women and men (aged 20–64) in ICT and non-ICT sectors, by working time arrangements, EU, 2015



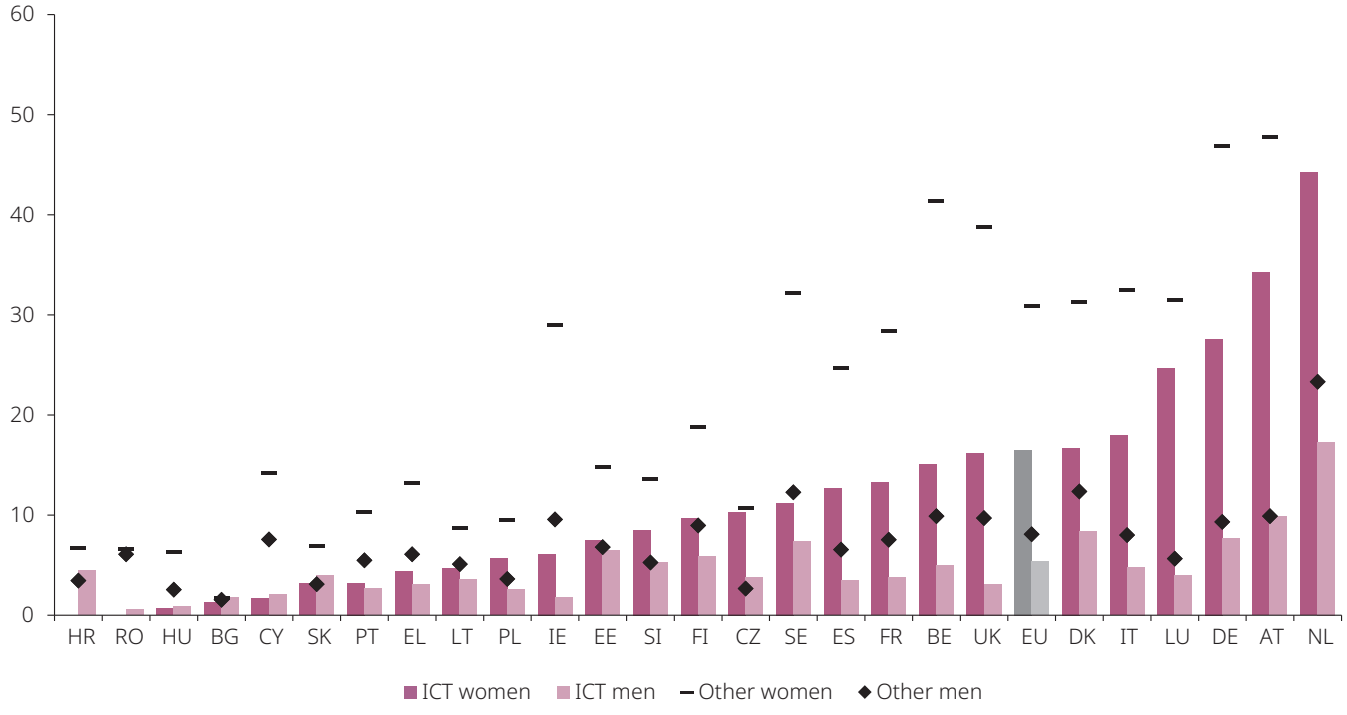
Source: EIGE calculations based on EWCS 2015 microdata.

([89]) EIGE calculations based on EU-LFS 2018 microdata.
([90]) EIGE calculations based on EU-LFS 2018 microdata.

However, part-time work – which, in some cases, facilitates a better work–life balance – is less common among ICT specialists than in other occupations in many Member States, suggesting lower availability (i.e. owing to a shortage of ICT specialists) or lower need (i.e. many employees forgo care duties). In ICT, 17 % of women and 5 % of men work part-time (Figure 47), compared with 31 % of women and 8 % of men in other occupations. Around two thirds of women in ICT jobs work part-time because of their care responsibilities, while only one quarter of men choose to work part-time for this reason (EIGE, 2018d). As with self-employment, women and men are likely to use their control of their working time differently: women tend to use it to achieve a better work–life balance, while men use it to increase their work commitments (Hofäcker and König, 2013).

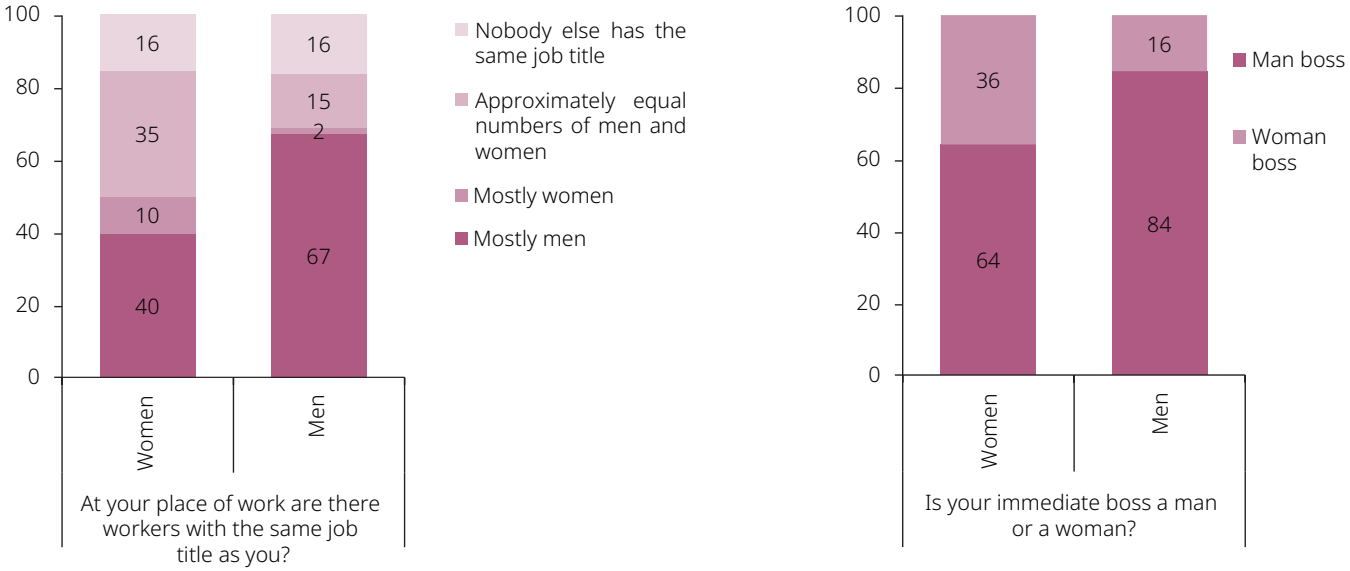
Despite rather favourable working conditions, few women choose a career in the ICT sector, with women holding only 2 in 10 ICT jobs in the EU. Many different factors contribute to gender segregation in the ICT sector (see subsection 9.1.3), including a highly gendered organisational culture. This often consists of prejudices and institutionalised or informal barriers established in personnel practices, job descriptions, mobility ladders and professional networks (Reimer and Steinmetz, 2009). Only 15 % of men have jobs in workplaces with approximately equal numbers of women and men with the same job title, while 39 % of women (67 % of men) have mostly male co-workers within the same function (Figure 48). This may indicate that there are still ICT jobs that are predominantly held by men and that only certain occupations in ICT are more open to women (EIGE, 2018d). In addition, women in ICT often work under female supervision, despite an overall small share of women in this sector (Figure 48). Such workplaces may be more open to having women as both employees and leaders (EIGE, 2018d).

Figure 47. Percentages of people (aged 20–64) working part-time in ICT and other occupations, by gender and country, 2018



Source: EIGE calculations based on European Union Labour Force Survey (EU-LFS) 2018 microdata.
NB: 'ICT' refers to all ICT service managers, professionals and technicians. The EU figures exclude Malta (data not available). Latvia is not shown because of the low number of observations. Bulgaria, Poland and Slovenia: data for service managers not available. For the Netherlands, the share of women in part-time work among non-ICT employees is off the scale of this graph, with the actual level at 74 %.

Figure 48. Gender composition of the workplaces of ICT specialists (aged 20–64) in the EU (%), 2015



Source: EIGE calculations based on EWCS 2015 microdata.

Platforms can both empower and exploit workers, with a range of gendered consequences

While there are some well-paid, high-skilled services performed via platforms (e.g. software development), most platform work does not seem to fit into this category. In the absence of robust quantitative data, recent studies explored the earnings of platform workers qualitatively and indicated that they are often insufficient to make a decent living (Eurofound, 2018b). Some forms of platform work seem to be particularly poorly paid. For example, income from providing small-scale online services via platforms (also called 'clickwork') is very low for the majority of workers (Hara et al., 2018), with a significant proportion earning below the local minimum wage. This may not always be a problem for the 70–80 % of platform workers who use small gigs to top up their income from other jobs, but there is now a non-negligible share of the EU adult population (around 2 %) who rely on platform work as their main employment activity (Huws et al., 2019; JRC, 2018). When these workers work in precarious, poorly paid jobs, this is likely to have severe consequences for their overall well-being and quality of life.

The debate on the extent to which platforms empower or exploit their workers is controversial, and is currently characterised by a number of ongoing court cases in the EU around platform worker status (Eurofound, 2018b). Much of the discourse surrounding platforms describes them as providing empowering entrepreneurship that gives workers' greater autonomy over their workplace and schedule and thus supports work–life balance (ILO, 2018a; Overseas Development Institute, 2019). Most platforms routinely classify their employees as self-employed or 'independent contractors' who bear responsibility for key aspects of their work (Overseas Development Institute, 2019). In practice, platforms focusing on certain services (e.g. personal transport or clickwork) commonly adopt practices to disempower workers and limit their autonomy (ILO, 2018a). Here, the entrepreneurship discourse can be seen as a strategy to lower workforce-related costs (De Stefano, 2016; Overseas Development Institute, 2019); classifying platform workers as self-employed shifts much of the work-related risk (and the mitigation costs) to workers and denies them important work and social protections (De Stefano, 2016; Overseas Development Institute, 2019).

Much of the debate overlooks the fact that platform practices are likely to affect women and men in different ways because of gendered employment patterns in platform work and the implications of some work and social protections (e.g. parental leave) for gender equality. The rest of this section briefly reviews the gendered consequences of platform practices related to:

- work security and autonomy of platform workers;
- discrimination, harassment and violence at work;
- access of platform workers to social protection;
- collective representation of workers.

Platform practices that restrict worker autonomy can reduce women's participation

Platform work can be an opportunity to increase the participation of women in the labour force (De Stefano, 2016; Overseas Development Institute, 2019). It can offer workers considerable autonomy in terms of their workplace and schedule, including the freedom to choose which tasks they do, their working time, and how to organise and perform their work (Eurofound, 2018b). This can benefit women in particular, supporting them to combine work with their disproportionate share of care and family responsibilities.

However, the autonomy and flexibility of platform work varies significantly depending on the type of service provided and the work management practices of individual platforms (Eurofound, 2018b; ILO, 2018a). Representation of women and men varies across the different types of services and platforms (see subsection 9.2.2), and their degree of autonomy is likely to do so as well. For example, men currently dominate the provision of certain platform services associated with higher work autonomy, such as software development. Other workers are likely to face platform practices that impose a combination of low work/lack of pay security and limited work autonomy. This may well put people with significant caring and family responsibilities at a disadvantage and is likely to have negative consequences, particularly for women's participation.

Some examples are provided below to better illustrate the variation in work autonomy for different types of platform work and its gendered implications.

- The control that platforms assume over work schedules and work practices varies significantly, depending on the features of a given platform design. For example, the algorithms used to manage workforces determine whether workers have to search for tasks or customers search for workers; the degree to which customers and workers can set a schedule for performing a task; and the ability of customers to reject work of poor quality (Eurofound, 2018b).
- There is an important distinction between services carried out online and on-site. Most platform work performed online ([91]), such as translation or software development, allows a higher degree of flexibility and control over working hours and place (Eurofound, 2018b). On-site work, such as ride-hailing or personal and household services, usually offers some flexibility in work schedules, but the place of work is determined by the customer.
- More autonomy is often found in high-skilled services involving complex tasks (e.g. software development, dominated by men). Work autonomy may well be a mirage for workers providing low-skilled, highly standardised services (Eurofound, 2019; ILO, 2018a; Overseas Development Institute, 2019), especially

([91]) Except, for example, work on platforms focusing on micro tasks.

those depending on platform work as a major source of income. Here, platforms often encourage working patterns that do not combine well with caring and family responsibilities (ILO, 2018a; Smorto, 2018), such as long or unsocial working hours, intense work at times and places of high demand, and immediate availability to perform irregular work (De Stefano, 2016; Overseas Development Institute, 2019).

- The limited autonomy of platform work for low-skilled services is exacerbated by low job and pay security, reducing workers' capacity to resist the control that platforms exert over their work (ILO, 2018a, 2018c). Platforms usually retain control over workers' job access, in some cases even price setting, with at least some not hesitating to use this as effective leverage to influence worker behaviour (ILO, 2018a; Smorto, 2018). For example, pay and job access can depend on achieving desirable outcomes measured by tools used to monitor workers, such as customer ratings or key performance criteria (De Stefano, 2016; ILO, 2018a; Overseas Development Institute, 2019).

Gendered consequences of platform practices that limit worker autonomy

Example 1. Ride-hailing platforms, such as Uber, often exert considerable control over their workers to ensure the immediate availability of their services to customers. They commonly retain the power to set prices for rides and can use this to influence workers' driving patterns by applying price surges to periods and places of high demand (ILO, 2018a). In some cases, they use worker-monitoring systems to promote immediate availability among drivers: drivers who decline or cancel ride requests face the risk of deactivation (i.e. employment loss). In other cases, they encourage longer availability of drivers on the platform (e.g. rewards for a certain number of trips in a day), even though this leads to longer periods of (unpaid) waiting for rides.

Gendered consequences. Such practices do not favour combining (well-paid) ride-hailing work with caring responsibilities and may help to explain the gender pay gaps (Cook et al., 2018) and employment gaps (Huws et al., 2019; JRC, 2018) in ride-hailing services.

Example 2. Platforms focusing on small online tasks (**clickwork**, such as in Amazon Mechanical Turk), tend to grant workers more autonomy in terms of their work schedule and place. However, they still adopt practices that favour workers who work longer, without interruption and on demand (Adams and Berg, 2017). They usually gather online tasks from clients and invite workers to bid for these. The tasks often need to be completed quickly and are posted at ad hoc times that suit clients. This requires workers to spend unpaid time searching for tasks and to then bid for them quickly once they are available (ILO, 2018c). Platforms sometimes monitor whether workers work without interruptions, for example by taking screenshots of workers' screens or recording keystrokes and mouse clicks (ILO, 2018a).

Gendered consequences. Such working patterns are not suitable for women who wish to combine platform work with care responsibilities, and are likely to contribute to the gender pay gap (Adams and Berg, 2017).

Platform workers may face discrimination and harassment in some settings

Work-related discrimination in the highly diverse platform economy is a complex, multifaceted topic, with outcomes often heavily dependent on the type of service provided and the workforce practices of a given platform. Nevertheless, several broad points emerge from the literature and are reviewed here. This is not intended as a comprehensive review but, rather, an illustration of ways in which platform work can foster or constrain discrimination based on gender or other grounds.

Firstly, platform work poses challenges for the application of the EU's gender equality and non-discrimination legislation, making it difficult for platform workers to prove discrimination on gender or other grounds. This is primarily due to the fragmentation of work into small tasks performed for different clients on an irregular basis (Countouris and Ratti, 2018). Such fragmentation makes it difficult to identify comparable workers or the sources of discrimination when dealing with discrimination claims ([92]).

Secondly, to the extent that platform work enables anonymous interactions between workers and clients in virtual settings, this can help to reduce discrimination based on individual worker characteristics such as gender or ethnicity (De Stefano, 2016; Eurofound, 2019). However, many platforms regularly publish workers' personal information online, including name, age, gender and photo. Where such information is available, it allows people to make decisions reflecting their own personal biases based on gender, ethnicity or other grounds (Rosenblat et al., 2017; Schoenbaum, 2016). One United States-based study found, for example, that Airbnb hosts from Asian backgrounds were found to earn 20 % less than their white counterparts. In some cases, platforms may even promote or enforce certain discriminatory choices by design and use sexist advertising. For example, Lyft began as a ride-sharing service for women only, and in 2014 Uber 'offered a promotion in France for rides with "Avions de Chasse" ("hot chick" drivers) with the tagline "Who said women don't know how to drive?" ' (Schoenbaum, 2016).

Thirdly, platforms often use reputation systems (e.g. customer ratings) to encourage worker accountability and inform customer choices (Rosenblat et al., 2017), but these may actually become a vehicle of customer bias. Research has found gender and ethnicity biases in the context of online market places (Ayres et al., 2015; Doleac and Stein, 2013), in performance evaluations by managers (Castilla, 2008; Elvira and Town, 2001), in online evaluation of teachers (Mitchell and Martin, 2018) and in online hiring decisions (Uhlmann and Silberzahn, 2014). It is highly likely that such biases also creep into customer ratings of platform workers (Rosenblat et al., 2017), which may penalise workers for their gender, ethnicity and/or other characteristics. This is particularly concerning for those platforms where workers lack the ability to contest customer ratings, where reputation systems apply only to workers, with no possibility to flag problematic customer behaviour, and where customer ratings directly affect workers' ability to continue using the platform (e.g. Uber) and/or their remuneration (e.g. Handy ([93])). For example, the system used by Uber to rate drivers enables customers to 'directly assert their preferences and biases in ways that companies would be prohibited from doing directly. In effect, [platforms] may perpetuate bias without being liable for it, as the grounds for firing or "deactivating" a particular driver may be derived from a large corpus of individual ratings, whose discriminatory character is currently impossible to verify or oversee by researchers external to the company' (Rosenblat et al., 2017, p. 8).

([92]) The scope of the new ILO Violence and Harassment Convention No 190 is considerably broader than the workplace, covering, for example, individual exchanges with customers. Those are also covered by the anti-harassment provisions of the Goods and Services Directive (Council Directive 2004/113/EC). The process of authorising Member States to ratify the Convention is pending at the Council.

([93]) For example, see the remuneration system on Handy (https://prohelp.handy.com/hc/en-us/articles/217290407-Payment-tiers).

Finally, serious concerns have been raised about the prevalence of sexual harassment and gender-based violence in certain types of platform work, such as ride-sharing and home rental (see subsection 9.3.2). Beyond the immediate impacts on victims' mental and physical health, this is also likely to have broader labour market consequences. For example, a recent large-scale study of Uber drivers in the United States shows that women drivers are less willing to drive in areas with higher crime and more drinking establishments, which contributes to the gender pay gap in ride-hailing (Cook et al., 2018).

Platform workers often lack access to key social and work protections, including parental leave

Owing to the fragmented nature of their work and their self-employed/independent contractor status, many platform workers lack access to key social and work protections. While eligibility varies considerably by Member State, a substantial share of platform workers have little or no access to sickness and healthcare benefits, unemployment benefit, paid holiday entitlements, insurance against work-related accidents and illnesses, old-age and disability benefits, and maternity and paternity benefits (Eurofound, 2018d; European Commission, 2019a; ILO, 2018c; Overseas Development Institute, 2019).

This is an issue especially for those platform workers who do not combine platform work with other employment that provides them with access to social and work protections. While there are no comprehensive, gender-disaggregated data on platform work as a sole source of employment, it may well be that this is a more common situation for women than men. For example, men providing online services via platforms are more likely to do so to top up income from other work than women (Adams and Berg, 2017). For a notable share of platform workers, social protection coverage is ensured through their main jobs in the traditional economy, but here women are observed to have less social insurance coverage than men (Behrendt et al., 2019).

The lack of access to social protection linked to childbirth and childcare has a particularly strong gender dimension, as it limits women's ability to stay in employment and prevents more equal sharing of unpaid care responsibilities. According to a study by the European Commission (2015), only around half of self-employed women aged 15–49 were entitled to maternity benefits. EIGE's study on eligibility for parental leave (EIGE, 2020c) similarly found that in a number of Member States access was lacking among people who were self-employed or without a stable employment relationship. Access to some other benefits is also likely to have a gendered dimension. For example, women's lack of access to old-age and disability benefits may be particularly problematic, as they tend to live longer and to spend more years living with disabilities (EIGE, 2020a).

Platform workers' poor access to certain types of social protection, such as sick pay or unemployment benefits, has come to the fore during the COVID-19 pandemic ([94]). At the time of writing, data on the impacts of the pandemic on platform workers ([95]) were not disaggregated by gender, so it was not possible to compare how lack of social protection affected women and men in this sector.

([94]) https://www.eurofound.europa.eu/publications/article/2020/coronavirus-highlights-sick-pay-void-for-platform-workers
([95]) https://www.weforum.org/agenda/2020/04/gig-workers-hardest-hit-coronavirus-pandemic/

The situation was likely to be difficult, especially for workers who relied on platform work as their sole source of employment (women may well be over-represented in this group, as discussed above), and those affected by work stoppages caused by various isolation and lockdown requirements (e.g. male-dominated ride-hailing but also some female-dominated domestic services). Media reports showed that, in the absence of statutory sick pay, these workers were often faced with an extremely difficult choice between losing vital income or exposing themselves and others to health risks ([96]). Initial evidence suggests that platforms took only limited steps to protect their workers. For example, only 5 in 120 platforms surveyed by Fairwork introduced some form of financial compensation for earnings lost as a result of COVID-19 ([97]). Early evidence also indicates that platform workers often could not access government income support schemes ([98]). This highlights the importance of certain recent EU policy actions, such as the adoption of the proposal for a Council recommendation on access to social protection for workers and the self-employed.

Weak collective representation of platform workers can increase gender-based pay inequalities

Representation of platform workers by trade unions is generally weak, although there are now some examples ([99]) of trade unions representing or supporting platform workers at Member State level (Eurofound, 2018d) ([100]). Less formal worker-organised initiatives seem much more common (Eurofound, 2018d; ILO, 2018a) ([101]). One of the key obstacles to platform workers joining or organising unions is the fact that they are self-employed and are, therefore, excluded from the right to collective bargaining in some jurisdictions (Eurofound, 2018d). Another complication is the piecemeal structure of platform work, which often relies on isolated workers with very limited communication with one another (Eurofound, 2018d; ILO, 2018a). Finally, the lack of job security is likely to inhibit workers' efforts to organise, as platforms often reserve the right to terminate workers' access to the platform without giving a reason (Eurofound, 2018d; ILO, 2018a).

Poor union coverage of platform workers is likely to have gendered consequences, for example in terms of pay. This is because women generally fare poorer in settings that rely on individual negotiations when it comes to pay (see subsection 9.2.5) (Barzilay, 2018; Barzilay and Ben-David, 2016; Piasna and Drahokoupil, 2017). Lack of worker representation can make it more difficult to resist exploitative practices by platforms that limit worker autonomy and flexibility (ILO, 2018a), in turn making platform work less attractive for people (mostly women) with significant caring responsibilities.

([96]) See, for example, https://www.theguardian.com/technology/2020/mar/25/uber-lyft-gig-economy-coronavirus, https://www.theguardian.com/world/2020/mar/16/coronavirus-unions-attack-paltry-sick-pay-for-self-isolating-couriers and https://www.wired.com/story/covid-19-pandemic-aggravates-disputes-gig-work/

([97]) https://www.transformationalupskilling.org/post/the-gig-economy-and-covid-19-fairwork-report-on-platform-policies

([98]) https://voxeu.org/article/covid-19-inequality-and-gig-economy-workers

([99]) For a more detailed list of initiatives, see https://www.eurofound.europa.eu/data/platform-economy/initiatives#organisingworkers

([100]) For a sample list of crowdworkers' unions, see http://faircrowd.work/unions-for-crowdworkers/

([101]) For example, online forums and social network groups available to workers on certain platforms (e.g. Amazon Mechanical Turk and Uber) to talk, support each other and share information; setting up worker-led organisations to promote workers' rights; and online protests against platform policies and strikes (often by workers providing ride-hailing and food delivery services).

Platform work in the care sector: opportunities and challenges

Platform work in the care sector has the potential to provide new solutions to some of care work's long-standing problems. In fact, platforms act as intermediaries, matching demand and supply more efficiently, minimising geographical distance and allowing both parties to select flexible working arrangements (Trojansky, 2020). Platform work offers new opportunities for the provision of home-based care, which has become a priority in the process of 'deinstitutionalisation' in the EU (EIGE, 2020e). At the same time, however, platforms alone cannot solve the vulnerability of care professionals, or adequately address their disadvantaged working conditions (Ticona and Mateescu, 2018b).

Care services mediated through platforms are usually performed by medium-skilled workers, who are often selected manually by users, rather than being matched with users entirely through algorithms (Eurofound, 2018b). Platforms therefore offer intermediation services between care demand and supply, replacing offline agencies (e.g. nanny agencies) and reducing transaction costs (Nurvala, 2015). This allows a closer personal relationship between the caregiver and careseeker over time, compared with the rapid one-off interaction typical of, for example, food delivery services (Trojansky, 2020). The composition of the workforce providing care via platforms reflects the overall care industry, being female dominated (Eurofound, 2018b; Schwellnus et al., 2019).

The most striking difference between the provision of care services and most other types of services via platforms is the care industry itself, which is known for a high prevalence of irregular employment, informal and precarious working arrangements, heavy workloads and low wages. The workforce is predominantly female, mostly composed of women from a migrant background and often undocumented (Trojansky, 2020). The deprivation of social and employment protections observed in other types of platform work does not apply as strongly to care services mediated through platforms. In fact, platforms could introduce job formalisation and standard payment procedures, as well as increased market visibility for care workers (Ticona and Mateescu, 2018b)[102]. This new work paradigm thus has the potential to improve care providers' working conditions and remuneration, in sharp contrast with some other sectors (e.g. transport and food delivery), where digital employment undermined previously fair working arrangements and higher worker protection standards (Trojansky, 2020).

There are important limits to the potential for such positive transformation. The opportunities for improvement that platform work offers in terms of higher salaries and employment formalisation do not offset the risks. Extreme job flexibility can easily turn into uncertainty, given the lack of a stable employer and the absence of social security (owing to workers' self-employed status) (Eurofound, 2018b). These risks are exacerbated by the fact that care workers are a vulnerable group, chiefly migrant women, who receive low wages and little to no social recognition and who bear heavy workloads. While platforms may bring about some improvements for these workers, they are unlikely to change the overall dynamic of exploiting cheap labour prevalent in the sector (Ticona and Mateescu, 2018b).

([102]) The topic will also be explored in a forthcoming publication by EIGE. See https://eige.europa.eu/about/projects/gender-inequalities-unpaid-care-work-and-labour-market-eu

9.2.4. Digitalisation and work–life balance

The use of mobile devices, digitalisation of working processes and online communication allow more flexibility in where and when people work. Flexible working arrangements typically relate to how much, when and where employees can work (Eurofound, 2017b; Laundon and Williams, 2018).

This flexibility in time and place is typically assumed to allow work to fit better around home and family responsibilities (Eurofound, 2020c). There is indeed evidence that the use of ICT (smartphones, tablets, laptops, desktop computers) to work outside the employer's premises can help to facilitate better work–life balance. Workers report shorter commuting times, greater working time autonomy, more flexibility in working time, better productivity and improved overall work–life balance (Eurofound and ILO, 2017). There is evidence that mothers using flexitime and teleworking are less likely to reduce their working hours after childbirth (Chung and Van der Horst, 2018).

The European Commission's Work–Life Balance Directive (adopted in 2019) sees flexible working arrangements as one of the key tools to reconcile work and life for parents and carers and to contribute to the achievement of equality between women and men in the labour market. The Gender Equality Index 2019 showed that work–life balance challenges are closely linked to gender inequalities, and that flexible working arrangements can increase gender-equal opportunities (EIGE, 2019b). A strong link was established between the score for the domain of time (which measures gender equality in engagement in care and social activities) and the availability of some flexible working arrangements, such as women's ability to set their own working hours.

The relationship between flexible working and work–life balance is not self-evident, however (Chung and Van der Lippe, 2018). The impact of using ICT and teleworking depends on how it is implemented: while regular home-based teleworkers have a better work–life balance than those who always work at their employer's premises, highly mobile workers (i.e. with very extensive use of technology and no fixed workplace) have a poorer work–life balance. For parents or others with family responsibilities, the occasional opportunity to telework is particularly beneficial (Eurofound, 2020c)

The use of technology promotes work–life balance only under certain conditions (e.g. when childcare is available) and it carries major drawbacks and risks. Flexible and non-standard working arrangements may have negative impacts, depending on the kind of flexibility and employees' control over their working arrangements (EIGE, 2018d). Some studies show that working from home leads to more work–family conflict (Chung and Van der Lippe, 2018) and often goes hand in hand with working overtime (Eurofound, 2018e). Some evidence shows that working from home and flexible work schedules are more effective for single people, less so for families with children (Ten Brummelhuis and Van Der Lippe, 2010). The overall impact of flexible working arrangements on work–life balance is highly

The COVID-19 pandemic, and particularly the resulting quarantine, created a natural experiment, in which the limits of extensive teleworking have been explored. By April 2020, 35 % of men and 39 % of women had begun to work from home as a result of the pandemic, while only 11 % of men and 10 % of women had done so previously. Among younger women (aged 18–34), as many as 50 % started working from home (compared with 37 % of men of that age) (Eurofound, 2020b). The situation has shown the unused potential of technology, as well as the limitations of such arrangements for work–life balance. For instance, taken together with tele-schooling and closure of childcare facilities, home working has intensified work–life conflicts for many families with children (Eurofound, 2020b)(Eurofound, 2020b). Telework is evidently not a sustainable solution to solve childcare shortages and does not remove the need for other work–life balance policies.

gendered (Chung and Van der Lippe, 2018), as is the actual use of flexible working arrangements. For instance, more women do regular home-based telework than their male partners in order to combine work and domestic demands (Eurofound, 2020c). This is presumably to accommodate their disproportionate burden of household work, despite also being in paid work (see Chapter 5, 'Domain of time').

The rest of this section investigates how technology-based flexibility supports or undermines workers' work–life balance. Again, the focus is on the ICT sector and platform work, where technology plays a particularly important role.

High flexibility and autonomy in ICT, but also more work–life spillover effects

The first condition for technology-driven flexibility to support work–life balance is workers' autonomy and control over their working time and place. The Work–Life Balance Directive envisages giving workers the right 'to request flexible working arrangements for the purpose of adjusting their working patterns, including, where possible, through the use of remote working arrangements, flexible working schedules, or a reduction in working hours, for the purposes of providing care.' In other words, the directive calls for flexibility controlled by the employee, rather than the employer.

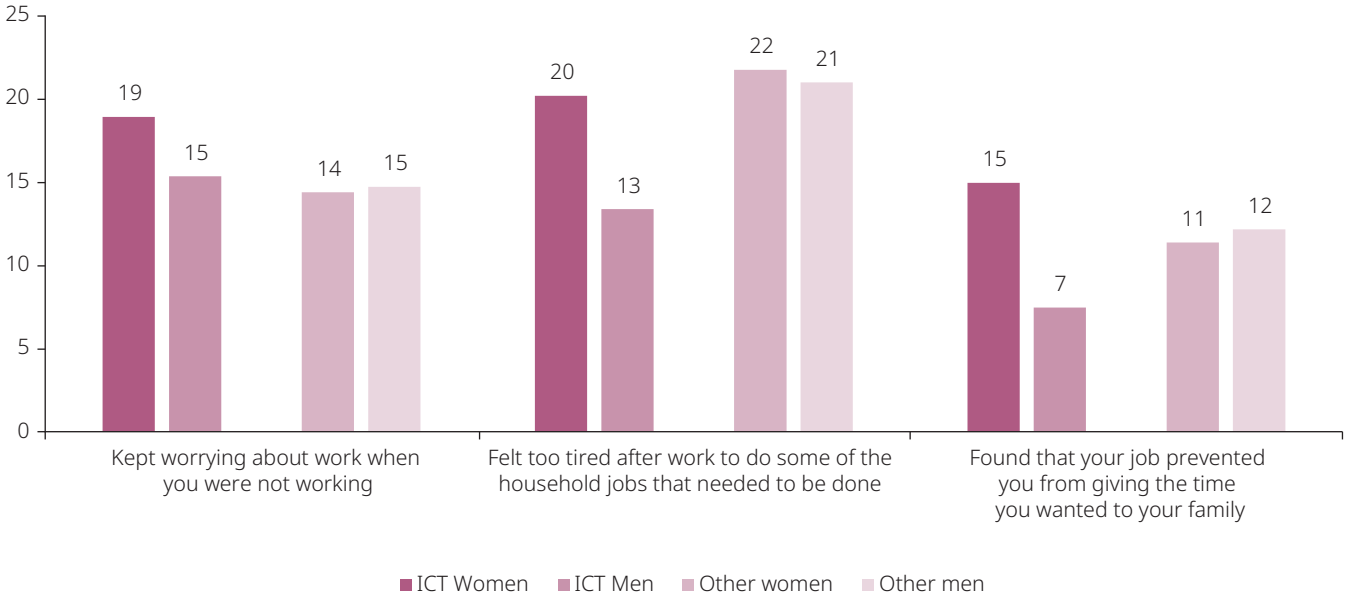
In the ICT sector, digitalisation provides the greatest opportunities for work that is flexible in both time and location (see subsection 9.2.3). In spite of above average flexibility and control over their working time, women and men in ICT are only slightly more satisfied with the fit between their working hours and other responsibilities than others: 87 % of women and 84 % of men in ICT view their working hours as fitting well or very well with their family or social commitments outside work, which is only somewhat higher than among other employed women and men (84 % and 79 %, respectively) ([103]).

One reason may be that the use of technology can blur the boundaries between work and private life. In the past, temporal and physical boundaries existed between work and home (McCloskey, 2016), but digital technology has now created both the possibility and the expectation of being constantly online and available. The use of smartphones can create high after-hours availability pressure (Ninaus et al., 2015), give rise to difficulties with psychologically detaching from work during free time (Mellner, 2016), and have a negative impact on work–life balance and stress levels (Harris, 2014). Family members can make personal demands on workers while they are teleworking at home (McCloskey, 2016), which increases the need to multitask and blurs boundaries (Glavin and Schieman, 2012; Schieman and Young, 2010).

Data suggests that this spillover effect is more often felt by women working in ICT than their male ICT peers or women in other sectors, although the differences are not dramatic (Figure 49). There may be several reasons for such gaps. One may be that women in ICT – as in in the rest of the economy – have primary responsibility for home and family affairs. This double burden may be particularly challenging while teleworking from home or with the requirement to be constantly available for work. For men, however, the spillover effects are smaller when they work in ICT, compared with men in other sectors. Some studies indicate that women's motivation to work from home (or to take up self-employment) is to obtain a higher degree of flexibility and autonomy that will better accommodate work and family responsibilities, while men report labour market and job-related motivations (Hilbrecht et al., 2017). Women's time tends to be fragmented and characterised by blurred boundaries between leisure time and unpaid care, with phenomena such as contamination (leisure time spent in the presence of children) and fragmentation (interruption of leisure time to care for children) (European Parliament, 2016).

([103]) EIGE calculations, EWCS 2015.

Figure 49. Percentages of employees (aged 20–64) frequently perceiving spillover from work to home and family in the EU, by occupational group and gender, 2015



Source: EIGE calculations based on EWCS 2015 microdata (Q45: 'How often in the last 12 months, have you ...?').

The slightly higher spillover felt by women working in the ICT sector is all the more remarkable given that they are on average younger and have fewer daily or weekly childcare responsibilities than women working in other sectors. In 2015, 34 % of women and 28 % of men in the ICT sector cared for children daily, in comparison with 42 % and 25 %, respectively, in other sectors ([104]). It has been suggested that younger generations of women working in ICT may delay having children, with the postponement of parenthood generally more common among women who work in higher paid jobs or who have non-standard contracts (EIGE, 2018d).

Several studies have shown that flexible working results in the expansion of the work sphere (Chung and Van der Lippe, 2018). Digitalisation can contribute to overall intensification of work and overworking (Peña-Casas et al., 2018), as can self-managing: workers with apparently high levels of autonomy work beyond their limits, burning out and severely harming their health and personal relationships (Pérez-Zapata et al., 2016). Women are more likely to experience work-related burnout than men, and when they do they feel more emotional exhaustion, while men tend to feel burnout as depersonalisation (distancing themselves psychologically from clients and co-workers) (Purvanova and Muros, 2010). Working in male-dominated jobs may add to the overall stress for women, for reasons such as conflicting gender-role expectations arising from working in a male-dominated occupation while being a woman and a carer. Inconsistency between the requirements of a woman's work and expectations about her gender role may result in significant role conflict (Purvanova and Muros, 2010).

Certain forms of platform work can support or undermine work–life balance

Although platforms vary significantly in their design and the autonomy they provide to their workers, they are nevertheless often characterised by a higher degree of flexibility and autonomy than 'regular' work as an employee. Indeed, flexibility of when and where to work is among the most significant reasons to pick up platform work (JRC, 2018). For example, women are more likely to perform online tasks via platforms because it is difficult for them to work outside the home, while men are more likely to do so to top up income from their other work (Adams and Berg, 2017). Of people working across five English-speaking microtask platforms, 15 % of women and 5 % of men said that they could work only from home

([104]) EIGE calculations for age group 20–64, EWCS 2015.

because of care responsibilities (ILO, 2018c). One in five women had a child under 5 years old, while 30 % of women and 10 % of men platform workers had been engaged in caring activities prior to taking up platform work. The flexibility of platform work provides opportunities to take up some work and to combine it with childcare and other care responsibilities.

> *I can only work from home because my husband is away the whole day at work and I have to take care of my children and home.* (Respondent on CrowdFlower, Italy)
>
> Source: ILO (2018c)

As discussed in subsection 9.2.3, platforms vary significantly in the autonomy they afford their workers. The degree of control that workers have over their own working time, workplace and working arrangements is the key to their work–life balance. For example, platforms providing certain services (e.g. ride-hailing or clickwork) often adopt practices that limit worker autonomy and flexibility, especially for workers who rely on platform work as their main source of income (Eurofound, 2018b; ILO, 2018a). Employer-oriented flexibility – where either the platform or the client is in charge – creates unpredictable and unreliable schedules, often involving a considerable amount of unpaid time spent searching for work and the need to be available on demand (Eurofound, 2018b; ILO, 2018a). This undermines work–life balance (Ropponen et al., 2019). Women have been shown to suffer particularly from the increased work–life spillover effects created by employer-oriented schedules (Lott, 2018), with negative effects on working time quality and increased stress levels (Eurofound, 2019). Directive (EU) 2019/1152 (European Parliament, 2019a) on transparent and predictable working conditions is a direct follow-up to the proclamation of the European Pillar of Social Rights and states (among other things) that workers with very unpredictable working schedules (e.g. on-demand work) need reasonable notice of when work will take place.

> *I feel in control of the work but have no control over when work will be available.*
>
> Source: ILO (2018c)

Women often take up platform work alongside unpaid care work, and such arrangements may support work–life balance but may also present challenges. While platform work provides opportunities to take up jobs in between care and other responsibilities, highly flexible schedules may require complex logistics that involve commuting, pre-agreed appointments or arranging childcare for a specific time, often at short notice. Arranging, scheduling and providing childcare for on-call workers makes coordination of work and family responsibilities more difficult to sustain (Cherry, 2010; Harris, 2009). At the same time, fragmented and occasional work may perpetuate the gendered division of unpaid and paid work, instead of giving rise to questions about or challenges to such arrangements.

Platform work is not a systemic solution to gender inequalities in paid and unpaid work

While full autonomy with no time constraints or rules on working time and arrangements makes platform work sound appealing, the downside to such freedom creates an 'autonomy paradox' (Huws et al., 1996; Pérez-Zapata et al., 2016; Shevchuk et al., 2019). A high degree of autonomy and flexibility often leads to unsocial working hours (Ropponen et al., 2019). Platform workers often work unsocial hours (at evenings, nights or weekends) to optimise their income, match the time preferences of clients in different time zones or meet work–life balance challenges. (ILO, 2018c).

The same paradox applies to freelancers and independent contractors in general, and was pointed out long before platform work emerged (Huws et al., 1996). Self-employed translators who seemed to be fully autonomous found that they actually had little or no control over their workflow and that their working times were

externally driven by deadlines set by their clients (Huws et al., 1996). In 2017, translation was one of the most female-dominated areas of platform work (JRC, 2018).

There is evidence that full autonomy of working arrangements leads to the highest degree of work-to-home spillover, higher even than for fixed and fully inflexible schedules. This is particularly true for men, mainly due to the increased overtime hours that men work when they have working time autonomy (Chung and Van der Lippe, 2018). People may set themselves unrealistic work schedules that lead to increased workload and eventually have negative consequences for work–life balance, health and well-being (Ropponen et al., 2019). There is a connection between working time and leisure time for recovery and sleeping. Keeping work and leisure time separate enables detachment from work during leisure time, which is important for recovery, particularly when the worker is highly stressed (Ropponen et al., 2019).

> *I haven't really had a time when I rest. I don't know what holiday means. … I also work when I am travelling. It is just that if you have regular clients, you need to do everything in order to keep them. And if you don't respond immediately to their emails then you can easily lose them. It is relatively harsh to be honest.*
>
> Source: Huws et al. (2019).

An ILO survey of workers performing online tasks via platforms found that women with young children (0–5 years) spend on average about 19.7 hours working on platforms in a week, while men with small children work over 30 hours. Of these women, 36 % work at night (10 p.m. to 5 a.m.) and 65 % work during the evening (6 p.m. to 10 p.m.); 14 % of women with young children reported working for more than 2 hours at night on more than 15 days in a month (ILO, 2018c). The proportion of mothers working evenings/nights is lower than for platform workers in general.

While platform work can improve work–life balance – especially for parents, other carers or those who face other obstacles to their full participation in the traditional labour market – it is necessary to ensure that it does not further polarise the labour market and marginalise these groups of people, pushing them into more precarious jobs. It cannot be seen as a substitute for proper support for carers or as a solution to the unbalanced division of care between women and men. It is important to point out that such arrangements – while being preferred and beneficial for some – may reinforce gender imbalances and inequalities in the labour market. Women who have heavy loads of care and other unpaid work take up 'job bites' around their care and home responsibilities, when in fact they would benefit more from proper care services and more balanced division of unpaid work at home. Work–life balance policies need to take this into account and provide comprehensive services and measures that support women's participation in work, rather than relying on women to take odd jobs in order to earn some income alongside their unpaid work.

9.2.5. Gender pay gap in ICT and platform work

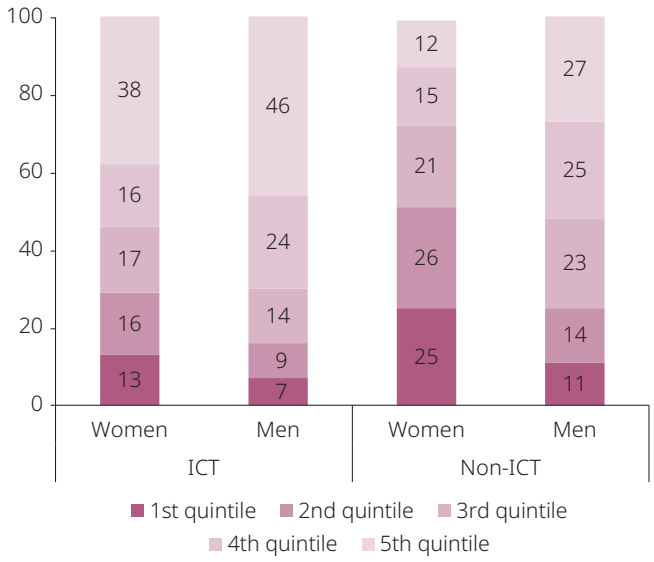
Despite recent policy actions at EU and Member State levels, the gender pay gap persists. In 2018, on average, women's gross hourly pay was 14.8 % lower than men's (Eurostat, 2020). The pay gap stems from a combination of factors, including occupational and sectoral segregation, part-time or temporary work, gender stereotypes and norms, difficulties in reconciling work and private life, discrimination, opaque wage structures, and undervaluing of women's work and skills (European Commission, 2009, 2018a, 2018g). Major biases, such as horizontal and vertical segregation in education and the labour market, are crucial factors underpinning the pay gap (EIGE, 2019c; Eurostat, 2018). A large share of the pay differences (around one third) results from the fact that women and men work in different economic activities and occupations (Eurostat, 2018), with those that are female dominated often being underpaid and undervalued.

Both women and men are well paid in ICT but the gender pay gap persists

Attracting women to well-paid ICT and STEM jobs is seen as an important policy tool to reduce the gender pay gap (EIGE, 2019c). In these generally male-dominated jobs, the pay tends to be higher than in much of the EU labour market, including the jobs requiring equally high qualifications in which women tend to work, such as in the health sector (EIGE, 2018d). In 2015, the average monthly income of both women and men working in ICT was higher than the average income of women and men working elsewhere (Figure 50). Of men working in ICT, 70 % had a monthly income falling into the top two income quintiles (52 % of men working elsewhere), compared with 54 % of women working in ICT (28 % of women working elsewhere) ([105]).

Despite earning more than other female workers, women in ICT have lower monthly earnings than men. This reflects gender differences in the average working hours of women and men, their different positions within the ICT sector and differences in their hourly pay. In 2014 in the EU, the gender pay gap among ICT professionals and technicians was 11 %. This is among the lowest occupational gender pay gaps across all sectors in the EU (EIGE, 2019c). In all Member States, the gender pay gap in the STEM sector is lower than the general pay gap, except in Ireland and Czechia (EIGE, 2019c). Overall, smaller gender pay gaps in occupations with very few women employees may not necessarily point to gender-equal opportunities but, rather, to large differences in educational qualifications (and thus pay) among the average employed women and men.

Figure 50. Income distribution of women and men (aged 20–64) working in ICT and non-ICT sectors (%), EU, 2015



Source: EIGE calculations, EWCS (EIGE, 2018d).

([105]) EIGE calculations, EWCS 2015.

Gender pay gaps are often reproduced in the context of platform work

The general assumption has been that platform work will help to eliminate the gender pay gap and gender inequalities by improving women's access to the labour market (Barzilay and Ben-David, 2016). For instance, using gender-blind algorithms has the potential to promote equal access to jobs and more flexible work schemes that would allow women to assume dual roles as employees and caregivers (Barzilay and Ben-David, 2016; Liang et al., 2018). Of female platform workers in the United States, 86 % believe that gig work offers the opportunity to earn equal pay to their male counterparts (41 % of female gig workers believe that traditional work offers this opportunity) (Hyperwallet, 2017).

Recent studies suggest that the platform economy is not an easy remedy for the gender pay gap (Silbermann, 2020). Estimates vary, with studies finding pay gaps ranging from 4 % in the EU online labour market (PeoplePerHour) (JRC, 2019b) to 7 % in Uber (Cook et al., 2018) and 20 % in Amazon Mechanical Turk (Adams, 2020). A mixed picture emerged from an ILO study of five platforms in 2017, with women having a higher hourly pay rate than men on one platform (Microworkers) and an almost equal pay rate on another (Clickworker), while there was a pay gap of between 5 % and 18 % on other platforms (AMT, Crowdflower, Prolific) (ILO, 2018c). Just as in the traditional economy, a small gender pay gap may hide a number of imbalances, such as lower pay for women despite their higher educational qualifications or skills. There is evidence that the pay gap affects women with young children in

particular, especially when their domestic responsibilities affect their ability to plan and complete work online (Adams, 2020).

The ILO (2018c) study accounts for both the paid and unpaid work that underpins platform work: searching for tasks, taking unpaid qualification tests, researching clients to mitigate fraud and writing reviews, as well as unpaid or rejected tasks and tasks ultimately not submitted. In a typical week, both women and men spend about 6 hours doing unpaid tasks, while women (on average) do fewer hours of paid work (around 16 hours) than men (close to 20 hours) (ILO, 2018c).

Gender segregation and other gendered practices are common on platforms

Depending on the platform, pay inequalities can be due to several factors, including biased algorithms and behaviours – on the part of both workers and clients – that reflect broader biases in the traditional labour market. The segregation of the labour market is reflected in platform work, with the imbalanced division of care between women and men restricting women's choices more than those of men. Gender segregation within and between platforms (see subsection 9.2.2) persists, as a result of very strong gender stereotyping in platforms, with women more likely to be selected for 'female-type' jobs (writing, translation) and less likely to be selected for 'male-type' jobs (software development) than equally qualified male candidates (Galperin, 2019).

There are some signs that customer ratings – which often affect pay levels (ILO, 2018c) – can discriminate on racial and gender grounds (Rosenblat et al., 2017), favouring men over women (Kim, 2018). Hannák et al. (2017) report that workers' race and gender affect the social feedback that they receive, although the impact is different on each platform. A survey carried out in the United States showed that one third of female platform workers adopted a gender-neutral username in order to maintain anonymity (Hyperwallet, 2017). However, data from an online crowdworking platform in which workers' gender is not revealed to the employer showed that women earned on average 82 % of men's earnings (Adams and Berg, 2017). This shows that while direct gender discrimination may have a role in pay inequality, other factors are also at play.

Studies often conclude that women's behaviour and personal choices in doing platform work are the reason for their unequal pay (Liang et al., 2018). A study on Uber concluded that the pay difference experienced by women and men was explained by the fact that men drove faster, allowing them to complete more rides per hour. Men were also more likely to drive in less safe areas and during times that yielded a higher fee (Cook et al., 2018). Similar reasons were given to explain older drivers (aged 60 or older) earning almost 10 % less than drivers who are 30 years old (Cook et al., 2018). Where platform workers themselves set the pay, women tend to set their rates at lower levels (Barzilay and Ben-David, 2016; Liang et al., 2018) and, in general, take up lower paid jobs (Foong et al., 2018). While the cause is not entirely clear from the available research, it is a result of women's lower propensity to negotiate salary, alongside gendered expectations about remuneration (among both workers and employers) (Piasna and Drahokoupil, 2017).

The explanation for lower pay cannot be reduced to individual behaviour. There is a structural bias in the gender division of unpaid work and care responsibilities, restricting women's choices in the labour market in general, including in relation to platform work. For instance, women appear to be less able to select longer, more complex tasks – some of which require a quiet working environment – because of interruptions from young children or adult family members (Adams and Berg, 2017). The platform may prefer to allocate work to those with higher ratings, restricting the ability of those with lower ratings to make a decent living (Ropponen et al., 2019). This disadvantages those who are working fewer hours, particularly women with care responsibilities, and those with poor health. A study of the Amazon Mechanical Turk platform showed that women earned 20 % less per hour on average, with half of the gap explained by the fact that women had

more fragmented working patterns, with consequences for their task completion speed (Adams, 2020). Weak collective representation of platform workers (see subsection 9.2.3) prevents efforts at collective salary negotiation, often leaving the responsibility for salary negotiation to workers. This is likely to put women at a disadvantage, as discussed above.

9.3. Broader consequences of digitalisation

While earlier sections of Chapter 9 discussed digitalisation primarily in the context of work, knowledge and skills, some technological trends have broader implications for gender equality. The availability of high computing power and broadband connections and the emergence of big data, cloud computing, robotics, AI algorithms and other digital trends have transformative potential for healthcare systems, public transport and other public services, new generations of products and services, a more sustainable and eco-friendly economy, and better informed public policies. However, largely positive discussions about the impact of digital technologies often lack assessments of their broader social, economic and political implications, especially from a gender perspective.

This section aims to close that gap by discussing three broad trends in digitalisation that may have significant consequences for gender equality: (1) the ever-increasing use of AI algorithms, (2) ways in which digital technologies may enable violence against women in the context of work and (3) the potential of digital technologies to transform the world of care.

9.3.1. Digitalisation and equal rights – the role of AI algorithms

AI is being developed at an unprecedented rate, with decision-making algorithms becoming an intrinsic part of our everyday lives. AI refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-linked, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or internet of things applications) (European Commission, 2018b). AI systems have the power to create an array of opportunities for European society and the economy, but they also pose new challenges. The increasing use of AI in every aspect of people's lives requires reflection on its ethical implications and assessment of potential risks, such as algorithmic gender bias and discrimination.

AI has been high on the EU agenda since the European Commission launched the European strategy on artificial intelligence, which set the basis for discussions on a coordinated EU approach to addressing the challenges and opportunities of these new technologies (European Commission, 2018b). In her political guidelines, the Commission President highlighted the need for a coordinated European approach to the human and ethical implications of AI while prioritising investments (von der Leyen, 2019). In 2020, the Commission's White Paper on Artificial Intelligence proposed a policy framework for the creation of a dynamic and trustworthy AI industry. It recognised the need to increase the number of women trained and employed in this area, as well as the risk of bias and discrimination against women by AI systems (European Commission, 2020d). In the EU gender equality strategy 2020–2025, the Commission reiterated the importance of AI as a leading driver of economic progress and the importance of women as creators and users in order to avoid gender bias (European Commission, 2020c).

Gender bias in AI puts gender equality at risk

There is growing concern that AI tools may be harmfully biased against certain groups, determined by characteristics such as gender, ethnicity, age or disability. Existing biases within society, organisations and individuals – particularly those

engaged in the development of AI – can be built into the systems and algorithms, with or without intent. The lack of gender diversity in the science and technology workforce (see subsection 9.1.3), especially in sectors developing digital technologies, has been credited with enabling and aggravating explicit and implicit gender biases embedded in digital services and products (Wang and Redmiles, 2019). Recent research into gender biases in software development points to the fact that the needs of users whose characteristics (gender/age/disability) match those of the design team tend to be best served by the software (Burnett et al., 2018).

Algorithms, an automated data processing technique, are the basis of AI and require the right governance mechanisms. Automated decision-making is certainly helpful, but when it produces a gender-biased (or otherwise wrong) decision, detection can come too late or its decision could be impossible to change. The term 'black box' is used to describe how algorithms work, neatly encapsulating the fact that, while inputs and outputs can be seen and understood, everything in between – what happens inside the 'black box' – is unfathomable. The complexity of an algorithm is such that even full access would not bring any clarity as to how the output was created, not even for the developers of the algorithm themselves (Bathaee, 2017). This lack of transparency poses considerable challenges for the evaluation and regulation of algorithms, which are important, particularly for the community that will be ultimately affected by an algorithm's decisions (Al-Amoudi and Latsis, 2019; Goodman and Flaxman, 2017).

The quality of data is an important risk factor for bias in AI. Unprecedented data availability, especially through online collection, has seen much attention paid to the quantity of data available rather than their quality. Problems may arise, such as accurate representation – when data does not represent the population intended – or in measurement – when data does not measure what it aims to (FRA, 2019). When it comes to algorithms, the correct input is a prerequisite for a correct output (known in data science as the 'garbage in, garbage out' principle). The use of data that reflects existing biases can lead to unfair treatment of certain individuals, resulting in discrimination based on gender, age, dis/ability, ethnic origin, religion, education and sexual orientation (LIBE Committee, 2018).

Use of AI may have gendered consequences in a wide range of settings

Word embedding (a type of algorithm) is used to power translations and autocomplete features in everyday technology. This technology is trained on a body of data of ordinary human language, usually from online sources such as news articles (Bolukbasi et al., 2016; Caliskan et al., 2017). The real novelty of word embedding is that it tries to understand and calculate the relationship between words, instead of taking a word-by-word approach (Nissim et al., 2020). Leaving aside its innovative nature, word embedding is an example of how the blind application of machine learning risks amplifying gender bias. For instance, one study testing a system's ability to complete analogies resulted in 'man is to computer science as woman is to homemaker' (Bolukbasi et al., 2016). Another study found that use of this tool can result in gender bias in relation to occupations that should be considered gender neutral, with different results given when the system was fed 'he' (doctor) and 'she' (nurse) (Lu et al., 2018). It is not gender bias alone that surfaces, but other problematic cultural associations, too. Fortunately, there is a push to develop tools to detect and eliminate such bias (Bolukbasi et al., 2016; Chakraborty et al., 2016; Lu et al., 2018; Prates et al., 2019).

AI is increasingly used in hiring or pre-employment assessments, which constitute a clear determinant of economic opportunity for any individual (Bogen and Rieke, 2018; Metz, 2020). AI hiring tools not only offer employers reduced costs but may also help to address or mitigate bias, giving (more) equal opportunities to future and current employees. One of the selling points of such technology is the ability to assess candidates objectively, without human bias. However, if the algorithm is built without taking into account sensitive characteristics or learns from data on previous biased

hiring decisions, it will reproduce institutional and systematic bias while providing the appearance of objectivity (Bogen and Rieke, 2018; Raghavan et al., 2020). Such cases have already occurred in the labour market: recently, several US companies were found to use algorithms that disadvantaged women candidates, having learned from the hiring history of the company and failed to identify relevant and sensitive characteristics from the data, thus reinforcing gender bias and segregation (Dastin, 2018). The potential for AI to correct discrimination and deliver workplace diversity is undeniable, but it can be fully realised only with awareness, transparency and oversight.

AI has substantial potential to change healthcare through the increasing availability of data and analytical techniques. AI can learn from a large volume of healthcare data, self-correcting to improve its accuracy and the accuracy of medical diagnoses and therapy, all while providing the latest medical information to health professionals (Jiang et al., 2017). However, medical research is a field historically lacking gender sensitivity, where the lack of representation of women in clinical research has translated into gender-blind or biased healthcare services (EIGE, 2020a). When applying AI to the healthcare sector, bias may arise from the data used to create, train and run the algorithms, while the limitations of an AI tool can easily translate into inaccurate, incomplete or skewed results. The complexity of the systems makes it difficult to identify and regulate discriminatory practices, a serious concern given their widespread use and the potential to worsen lives. The absence of gender analysis in designing, implementing and evaluating the application of AI in health policy can result in existing health and gender inequalities being overlooked, or new inequalities being created (Sinha and Schryer-Roy, 2018).

9.3.2. Gender-based violence enabled by digital technology: a new occupational hazard?

The use of digital technologies has become an integral part of the professional lives of women and men in various work circumstances. It is therefore logical that common experiences affecting women in the workplace, such as sexual harassment, are increasingly mediated by digital technologies (European Commission, 2019d; European Parliament, 2018a, 2018b). Online abuse affecting women in their work context is getting increased attention from both researchers and policymakers (Council of Europe, 2016; European Commission, 2019d; European Parliament, 2018a, 2018b). While the magnitude of the phenomenon is unknown, a FRA survey on violence against women asked respondents about their experience of online gender-based violence. While 14 % of women who had experienced such harassment could not identify the perpetrator, 9 % were harassed by someone from their work context (FRA, 2014b). This subsection will highlight two forms of violence affecting women at work that are enabled by digital technology: online abuse of women public figures and gender-based violence affecting platform workers.

Online abuse against women active in the public sphere

Subsection 9.2.1 highlighted that 9 % of employed women and 11 % of employed men use social media in the context of their work. Increasingly, workers in various industries including the media, politics, the arts and culture, public administration and academia may feel that they must or be required by their employers to maintain a strong online presence. In this context, insults, defamation, threats and hate speech are enabled and facilitated by digital technologies. While abuse against public figures predates the emergence of digital technologies, the volume of abuse and increased anonymity are strong enabling factors. Such abuse disproportionately affects women, people of colour and members of the LGBTI community, all of whom are attacked for their personal characteristics (gender, ethnicity, sexual orientation), while abuse directed at men from the dominant group is more often based on their opinions or status in society (FRA, 2017).

Most of the literature on online abuse against women in professional contexts covers journalists

(Edstrom, 2016; European Parliament, 2018b; Ferrier and Garud-Patkar, 2018; Henrichsen et al., 2015; Posetti, 2017; Rego, 2018), political figures and human rights defenders, including feminist activists (Inter-Parliamentary Union, 2018; Lewis et al., 2017), and academics (Kavanagh and Brown, 2019). A 2018 study by the Inter-Parliamentary Union in 45 European countries found that over half of the women parliamentarians and parliamentary staff interviewed (58 %) had experienced sexist attacks on social media, including repeated misogynistic insults and incitement to hatred, nude photomontages and pornographic videos. This was the leading form of gender-based violence experienced by study respondents but fewer than 10 % of them had reported the incidents. Half of the respondents (47 %) had experienced death or rape threats. In the majority of cases (76 %), the perpetrators were anonymous males (Inter-Parliamentary Union, 2018).

In other instances, attacks are orchestrated by peers to humiliate and degrade the professional reputation of women in their fields ([106]). Cases include cybermob harassment of female journalists, where users of online forums – mostly young men – are called on to collectively attack a specific individual through digital means (Edstrom, 2016; European Parliament, 2018b; Ferrier and Garud-Patkar, 2018). Such forms of abuse exemplify the potential scale of online harassment, with thousands of insults and threats received in a few hours (FRA, 2016c).

Cyber-violence is used against women in positions of power, especially where they are young or belong to an ethnic or sexual minority, in a bid to delegitimise their power and influence (Lehr and Bechrakis, 2018; Zeid, 2018) and to reaffirm the notion that they do not belong in public spaces (FRA, 2017). The literature reveals the far-reaching impact of abuse on women's professional and personal lives, with many affected women choosing to opt out of certain social networks despite their usefulness in their profession, to write only anonymously, to avoid disseminating their work and to withdraw from an exposed profession altogether.

Abuse of women online is so rampant that witnessing abuse can affect young women's online behaviour and reduce their likelihood of considering a career in public affairs. After witnessing or experiencing online hate speech or abuse, 51 % of young women and 42 % of young men in the EU hesitated to engage in social media debates, out of fear of experiencing abuse, hate speech or threats. Cyber-harassment from peers and strangers often makes young people, especially girls, less willing to be politically active online (EIGE, 2019a).

Women platform workers placed at risk

Subsection 9.2.3 examined how the emergence of platform work and the gig economy has to some extent shifted the traditional power dynamic between employers and employees (De Stefano, 2016; Johnston and Land-Kazlauskas, 2018). With the employment status of workers in the platform economy shifting towards that of 'independent contractor', for many workers power relations are now between 'service provider' and 'service purchaser' – that is, between platform workers and users/clients – and are mediated by technology (Drahokoupil and Fabo, 2016; Overseas Development Institute, 2019). The sense of impunity and anonymity given to clients of on-demand platforms has been seen as placing vulnerable workers in a precarious situation, including putting them at risk of gender-based biases, discrimination and abuse (Van Doorn, 2017).

Although there is a lack of quantitative data on the abuse and violence experienced by women platform workers, research has highlighted ways in which women engaged in the platform economy are exposed to a risk of violence from users. This is particularly the case in roles where platform workers interact with users and clients in enclosed spaces with no third party present, such as ride-hailing, home-sharing or personal and household services (Overseas Development Institute, 2016, 2019; Schoenbaum, 2016; Ticona and Mateescu, 2018a).

Women working in these sectors are routinely exposed to the risk of sexual harassment and

([106]) Recent examples include secret online groups of French male journalists using social networks such as Twitter to harass fellow journalists, especially women, gay men and men from ethnic minorities, in a bid to compromise their career opportunities (Breeden, 2019).

assault, and the physical and sexual abuse of women platform workers is often facilitated or enabled by certain aspects of platform design and terms of service. For example, rewarding the platform workers with the most detailed profiles encourages them to share a significant amount of private information, such as their name, location, age and photograph, for users to use as selection criteria (Ticona and Mateescu, 2018a). Some platforms also prevent workers from accessing information that would help them to assess the safety of a gig before accepting it, a strategy referred to as 'information asymmetry'. As described by Van Doorn (2017), platforms '[orchestrate] information asymmetries that skew power relations to the advantage of requesters rather than workers. The provider interface usually offers very minimal information about service requesters and frequently even the most basic information becomes available only after the provider has accepted the request and thus commits to taking on the gig' (Van Doorn, 2017, p. 902). Similarly, workers are usually prevented from accessing other workers' ratings for particular clients (in the rare cases where clients can be rated), which can limit workers' ability to avoid risky encounters with clients already identified as abusive. Turning down tasks or gigs because of safety concerns can also lead to women platform workers receiving negative ratings, which can reduce pay or lead to suspension (see subsection 9.2.3).

While some platforms have reacted to the safety concerns of female users and service providers by offering possibilities for women-only interactions or through increased outreach to women platform workers (Schoenbaum, 2016), these efforts are considered insufficient. Accounts from female drivers in ride-hailing contexts highlight that sexual harassment is a systemic issue for women drivers and determines their driving behaviour, including avoiding night-time work and certain areas as a way to minimise risk (Rapier, 2019). They also point to the inaction of platforms in preventing or addressing incidents of gender-based violence (Sainato, 2019).

Digitally enabled violence against women affects women very differently depending on their professional circumstances. Notwithstanding this variation, it is testing the limits of legal instruments on both occupational safety (ILO, 2017) and gender-based violence prevention (Council of Europe, 2011).

9.3.3. New technologies and care

In coming years, the number of people needing long-term care will increase, given the ageing population and increasing life expectancy across the EU (EIGE, 2020e; Iancu and Iancu, 2017; Stavrotheodoros et al., 2018). In order to contain costs and allow the long-term care system to sustain the pressure of growing patient numbers, countries are promoting independent living in any care setting (residential, home or community-based). Policy solutions are being developed, together with technological options (Grabowski, 2006). The COVID-19 pandemic has emphasised the key role of the care sector in the good functioning of welfare states, and how a shortage of healthcare and long-term care professionals, as well as insufficient stocks of medical equipment, puts the safety of entire countries at risk. Technology-based solutions were at the forefront of public health strategies to contain the pandemic.

Assistive technology can improve long-term care

Assistive technology (AsT) has been defined as 'any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customised, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities' (Gamberini et al., 2006, p. 288). The application of AsT solutions to the specific needs of an ageing population is called 'gerontechnology', in addition to which there are a wide range of general technologies that can be converted for use by elderly people, for example Alexa and Siri (Piau et al., 2014; Woyke, 2017). These solutions are designed or can be used to play a growing role in the provision of residential and formal home-based care while maintaining high quality standards (Koop et al., 2008; Micera et al., 2008).

In practical terms, AsT allows improved service provision by identifying individuals at risk (e.g. of falling or isolation), monitoring health conditions through sensors, monitoring daily life activities (e.g. social and physical activities), helping to manage daily tasks and developing a safer environment (Iancu and Iancu, 2017; Medrano-Gil et al., 2018). The greatest advantage of these devices is their ability to collect large amounts of data from the environment, thus interacting with patients in a smart way, providing personalised interventions and improving service efficiency (Medrano-Gil et al., 2018). AsT's benefits thus go beyond the medical sphere, increasing people's independence, facilitating social interaction and access to information, and reducing loneliness and isolation (Iancu and Iancu, 2017).

Women are the primary beneficiaries of these technological innovations, as they are significantly more likely to be in need of long-term care. In fact, despite their longer life expectancy, they spend fewer years living in good health than men, and are more likely to develop health problems and live with disabilities (EIGE, 2020b). Longer life expectancy, combined with the fact that women tend to marry older men, means that they often outlive their partners and, unlike men, are unable to count on their spouse's assistance in later life (Bisdee et al., 2013; Markson and Hollis-Sawyer, 2000). AsT is therefore an incredibly valuable resource for providing long-term care to older women living alone, as it allows medical professionals to improve standards of home-based care without relying on formal care institutions.

Technology can alleviate women's caregiver burden

Technology presents many advantages for the well-being of care recipients, but even more for caregivers. Caring (paid or unpaid) for an old person takes a considerable toll on the caregiver's welfare, at physical, psychological and emotional levels. The phenomenon is known as the 'caregiver burden' and it encompasses a wide range of symptoms, including physical and mental health problems, financial problems, social isolation, depression, anxiety, fear, task difficulty, stress and burnout (Lopez-Hartmann et al., 2012; Madara Marasinghe, 2016). Poor caregiver well-being has direct consequences for the careseeker as well, who ends up not receiving the appropriate assistance (Madara Marasinghe, 2016). Several studies have confirmed that the use of ICT-based solutions can significantly alleviate caregiver burden by taking on some care tasks (Lopez-Hartmann et al., 2012; Madara Marasinghe, 2016). For example, digital solutions are a substantial support to people with Alzheimer's disease, helping caregivers to better understand the disease process and to manage critical situations more effectively (Martínez-Alcalá et al., 2016). Such technologies can also help caregivers to monitor the status of frail old people. Starting with the data they collect, these devices can conduct physical activity tracking, fall risk assessment, isolation risk assessment, behavioural analysis (to assess cognitive decline), outdoor tracking (using walking patterns to detect erratic navigation as an indication that the user is lost) (Medrano-Gil et al., 2018). Having access to this kind of information can significantly support caregivers in their daily activities and alleviate the burden imposed by such care.

This positive effect is highly relevant to gender equality, as women are the majority of caregivers, across all care settings (ILO, 2018b). It is estimated that, in the EU, only 17 % of social workers who provide home-based professional care to people with disabilities and to older people are men (EIGE, 2020e). The caregiver burden is especially heavy for those who are not professionals: the mothers, daughters, wives and sisters who are required to interrupt or give up entirely their professional career to reinvent themselves as unpaid caregivers when a member of the family needs assistance (Martínez-Alcalá et al., 2016). Forthcoming EIGE research highlights that the gender care gap is the 'missing link' in analysis of the gender pay gap and gender inequalities in the labour market generally (e.g. in relation to labour market participation and quality of employment). Technology could help to decrease the disproportionate amount of care work for which women are responsible and thereby reduce gender inequalities in the economy overall[107].

([107]) The topic will be further explored in a forthcoming publication by EIGE. See https://eige.europa.eu/about/projects/gender-inequalities-unpaid-care-work-and-labour-market-eu

Technology and the healthcare sector during COVID-19

During the COVID-19 pandemic, technology was effectively deployed to track and trace the spread of the virus among the population in order to plan the most suitable medical response. In France, for example, some online platforms were developed for remote monitoring of infected patients isolated at home (e.g. Covidom and COVID AP-HM). These services were designed by local health precincts to aggregate and analyse data submitted twice a day by patients, and they helped in providing adequate interventions tailored to the needs of the community (Mouterde, 2020). Data collection through devices such as smart thermometers proved to be one of the greatest advantages of technology, as the optimal allocation of scarce resources was a key determinant of success in containing the emergency (Statucki, 2020).

Another crucial application of digital technology was the possibility to monitor and treat patients with mild symptoms remotely, without exposing healthcare professionals directly to the risk of contagion. One of the biggest challenges of COVID-19 was the high infection rate among doctors and nurses, causing a medical staff shortage in several countries (Nugent, 2020). Given the disease's highly contagious nature, some healthcare facilities placed sensors under patients' pillows to monitor their status, reducing human contact to a minimum.

COVID-19 played a crucial role in shedding light on the dire working conditions faced by healthcare workers across the EU, most of whom (76 %) are women. They bear heavy workloads, work long shifts (including nights and weekends) and undertake physically demanding tasks, for very low wages. The low economic value assigned to care is a result of cultural norms (care is stereotypically considered women's natural role within the household, not valued as 'work'), as well as cutbacks in public spending, which translate into low wages across the whole care industry (ILO, 2018b). In addition, during the pandemic healthcare workers were disproportionately exposed to the risk of infection and were asked to reduce their time off in order that hospitals might cope with the increased workload. Here, technological solutions were essential in helping them to face these challenging circumstances and secure safe working arrangements insofar as possible.

10. Conclusions

Progress towards gender equality in the EU remains slow. The Gender Equality Index score in 2018 was 67.9 points, just 0.5 points higher than in 2017 and 4.1 points higher than in 2010. Sweden, Denmark, France and Finland took the top rankings in gender quality. Italy, Luxembourg and Malta experienced the largest improvements since 2010, and the situation remained almost the same in Czechia, Hungary and Poland. Romania, Hungary and Greece remained at the bottom of the rankings, although Romania and Greece had experienced a significant improvement in gender equality since 2010, particularly Greece since 2017.

Although there has been noticeable progress in the EU towards increased women's employment rates, lower risks of poverty for both women and men, improved gender balance in political and economic decision-making, and policy developments to support work–life balance, there remains a need for more structural change in all domains and Member States.

Gender equality in the EU is facing new, emerging challenges, including those brought about by digitalisation (the thematic focus of this report), recent migration flows and a mounting backlash against gender equality. Some Member States have seen a backlash against women's human rights that has undermined the discourse on gender equality or developed into measures to prevent progress on women's rights. The backlash against gender equality has also contributed to the shrinking space for civil society and women's rights non-governmental organisations, a problem that has deepened and accelerated in several Member States in recent years (EIGE, 2020a).

Although further investigation is needed, emerging evidence suggests that the COVID-19 pandemic of 2020 poses new risks to and challenges for gender equality, in particular to women's economic independence and in relation to violence against women. Several aspects of the lockdown measures taken by Member States to curb the pandemic have had a considerable impact on economic sectors with a high presence of women and on professions dominated by women. Women have also experienced additional childcare burdens owing to the closure of schools and crèche services, with a particularly marked impact on working mothers. The lockdown and social distancing measures have been associated with an increase in requests for support from women victims of intimate partner violence in many Member States.

Domain of work

Today's world of work is characterised by several important gender inequalities. The employment rate of women is significantly below that of men. The labour market is heavily gender segregated, and women tend to be found more often in temporary, part-time or precarious employment. This contributes to significant gender gaps in pay and pensions. Such inequalities have particularly dire consequences for vulnerable groups of women, including younger and older cohorts, lone mothers with dependent children, and those from migrant communities or other minority groups. These inequalities are often rooted in the unequal distribution of care and other responsibilities within the household.

Progress on eliminating these inequalities is slow and, looking to the near future, uncertain. According to the Index, gender equality in the domain of work has grown only slightly (by about 1.7 points) since 2010. That growth has been almost entirely driven by increases in women's employment, which makes its sustainability questionable in the light of the COVID-19 pandemic. This crisis is likely to lead to a sharp downturn in employment in the EU, at least in the short term: initial ILO estimates for Europe and Central Asia indicate that the first quarter of 2020 saw working hours decline by 2 %, with a projected decline of almost 12 % during the second quarter. The

immediate job loss impacts of the crisis are likely to be borne equally by women and men, unlike the situation during previous crises, where the immediate impacts tended to affect men disproportionately. This reflects the fact that the most severely affected sectors (accommodation and food service, real estate, business and administrative activities, manufacturing and wholesale/retail) account for a considerable share of women's employment. Women's employment may also be disproportionately affected by the unpaid care responsibilities resulting from childcare and school closures, for example in the case of lone mothers, or from additional care for older and other dependent family members. In addition, more women than men are involved in precarious or informal work, with limited access to various work and social protections, placing them in especially dire circumstances.

In recent years, some promising steps have been taken towards achieving greater equality in the EU labour market. Most notably, the European Pillar of Social Rights was introduced in 2017 to ensure equal opportunities for women and men in areas such as working conditions and career progression. Following the principles of the Pillar, the 2019 directive on work–life balance for parents and carers seeks to address the unequal distribution of unpaid care and encourage men to take up more caregiving responsibilities. Much remains to be done, however. The EU gender equality strategy 2020–2025 outlines several policy priorities, including the transposition and implementation of the Work–Life Balance Directive, increasing the gender sensitivity of national tax and benefits systems, ensuring sufficient availability and quality of childcare, and tackling gender segregation. Following the COVID-19 crisis, it will be important to ensure that non-standard, flexible or informal forms of employment are better paid, formalised and covered by social protection. It will also be crucial to provide gender-sensitive support to those worst affected by the crisis, for example by making sure that targeted support measures reach beyond male-dominated sectors or by recognising the value of some female-dominated activities that proved critical during the crisis (e.g. healthcare) and investing in them appropriately.

Domain of money

Equal economic independence is a prerequisite for women taking full control of their lives, personal freedom and self-realisation. However, progress for women looks like nothing less than an uphill battle. Women persistently experience greater disadvantages in the labour market than men and earn less than men; with progress on closing the gender pay gap painfully slow, the feminisation of poverty continues. The EU has only slightly narrowed gender gaps and improved overall performance on financial resources and economic situation since 2010, as shown by an increase of only 2.2 points in this domain. The current COVID-19 health crisis has brought new challenges for everybody, including undermining of women's economic opportunities. It has widened social and economic divisions and deepened the consequences of inequality, pushing many of the burdens resulting from it onto the most deprived among the labour force, primarily women.

In 2014, in response to long-standing pay inequality, the European Commission recommended that Member States adopt pay transparency measures. However, the 2017 report on the implementation of the recommendation revealed that such measures were entirely absent in one third of Member States and insufficient in others. The EU gender equality strategy 2020–2025 goes a step further, promising to introduce binding pay transparency measures. Such measures are necessary to tackle the asymmetry of information between employees and employers on pay, the lack of information on wage structure, the lack of understanding of some existing legal concepts (the concepts of 'pay', 'same work' and 'work of equal value'), and the lack of gender neutrality in job classification and evaluation systems. This legislation is even more relevant now that the economic impact of the COVID-19 pandemic risks undermining the fragile gains in women's independence since the 2008 financial crisis.

A range of economic gender inequalities increase women's risk of exposure to poverty and social exclusion. These are often concentrated among

certain particularly vulnerable groups, such as lone mothers, migrant and Roma women, and women with disabilities. The gender gap in poverty is highest among people aged 65 or older (18 % for women compared with 13 % for men). This underlines the cumulative effects of women's lifelong economic disadvantage in the labour market on pension income in old age. Women's lower level of labour market activity stems primarily from their disproportionate caring and other household responsibilities, which are associated with unequal time-use patterns that result in time poverty (EIGE, 2020a). The COVID-19 pandemic will exacerbate the gender aspect of time poverty, as the increase in unpaid work will hit women hardest.

While income constraints have always been recognised as an element of poverty by policymakers, time constraints have not. Consideration of time poverty is key for gender-sensitive poverty reduction strategies (Goldin, 2014, 2015). The EU gender equality strategy 2020–2025 provides a promising basis for putting care work more solidly at the centre of EU economic activity and for addressing structural discrimination and gender inequalities built into the current economic, fiscal and social systems. It is crucial that the measures proposed by the strategy are given political priority in the context of the current economic disruption. They need to be placed at the core of the post-pandemic recovery strategies that are likely to reshape our societies.

Domain of knowledge

The domain of knowledge has remained unchanged since the previous edition of the Gender Equality Index, with progress slow overall over the past 10 years. Although educational attainment is increasing among young women and men, more significant progress is hampered by persistent gender segregation in higher education and by low participation in lifelong learning.

Young women continue to outpace young men in educational attainment, with the gender gap gradually widening to the detriment of men. This trend has already had an effect on the achievement of the EU2020 target, with the goal met only for young women in the EU (46 % have graduated from tertiary education). Access to high-quality inclusive education – in accordance with the European Pillar of Social Rights – could be further improved for women and men with disabilities and those from deprived socioeconomic backgrounds.

Lifelong learning activities are essential policy tools to promote employability, adaptability, and the professional and personal fulfilment of women and men. Yet participation in adult education remains below the EU framework for education and training 2020 benchmark of 15 % for both women and men. Participation in lifelong learning is especially low among women and men with low levels of qualifications, who could benefit most from it. As highlighted in the Council recommendation 'Upskilling pathways', well-tailored and flexible learning opportunities could benefit those in need by upgrading their skills. Similarly, work–life balance policies could facilitate participation in adult learning by allowing women and men to better manage their training, work and family responsibilities.

Persistent gender segregation remains the most pronounced challenge for gender equality in the domain of knowledge. The share of men studying in education, health and welfare, humanities and the arts (and vice versa, that is, the share of women studying in STEM fields) is not increasing. The EU gender equality strategy 2020–2025 aims to address this long-standing gender equality challenge by reducing gendered choices in relation to study subjects and subsequent careers. This could be done by developing gender-sensitive and stereotype-free education and career counselling and by carrying out media campaigns encouraging and enabling women and men to choose non-traditional educational paths and occupations.

Domain of time

The domain of time is characterised by a persistent lack of progress and growing inequality;

since 2010, the EU score has stagnated, with a slight decrease of 0.6 points to 65.7. Owing to the absence of up-to-date data on time use, the score for the domain of time has not been updated since the last edition of the Index.

The European Pillar of Social Rights endorses everyone's right to accessible, good-quality and affordable long-term care services, in particular at-home care and community-based services. The Work–Life Balance Directive has bolstered entitlements to family-related leave and flexible working arrangements; for example, it introduced the new right for workers to take at least 5 working days of carer's leave per year in case of a relative's serious illness or dependency. These provisions seek to remove some of the barriers faced by informal carers, especially women, in entering and staying in employment.

A strong commitment to the implementation of both instruments is essential in the context of the COVID-19 pandemic, particularly with regard to long-term care needs. In addition, Europe's rapidly ageing population will increase the need for long-term care – already insufficiently met across the EU – and potentially add to women's disproportionate burden of unpaid care responsibilities. Although long-term care challenges have been on the EU policy agenda for some time, the policies seldom take a gender equality approach.

Domain of power

The domain of power has shown the biggest and most sustained improvement against the Gender Equality Index (an increase of 1.6 points since 2017 and almost 12 points since 2010), despite being the lowest scoring domain (53.5). The improvement in gender balance in political and economic decision-making can be attributed to the implementation of gender quotas, both binding and voluntary.

Gender parity is essential for a democratic society. The presence of women in parliaments has increased in 2020, with more Member States reaching gender balance (i.e. at least 40 % of each gender). Several countries have undertaken initiatives to improve the gender balance in their parliaments and speed up the rate of change. In fact, legislative candidate quotas are currently in place in 10 Member States and the representation of women generally improved following their application. Gender balance among cabinet ministers in national governments has also improved, although there are significant differences between Member States. While the unequal participation of women in government is a priority, the sidelining of women in allocating portfolios is also an issue. High-profile portfolios (the so-called basic or economic functions) are assigned primarily to men, while sociocultural ('soft') portfolios, are predominantly assigned to women ministers.

In 2012, the European Commission proposed legislative action to guarantee that the under-represented sex would constitute at least 40 % of non-executive directors of listed companies. The gender equality strategy 2020–2025 commits to pushing for the adoption of this regulation. Substantial progress has been made in this area of decision-making, with a 2-p.p. increase since last year, but only France surpasses the 40 % representation threshold. Several Member States have taken action to promote gender-balanced representation in corporate leadership, varying from soft measures, aimed at encouraging companies to self-regulate and take action independently, to hard regulatory approaches, including the application of legally binding quotas for the minimum representation of each gender and (in some cases) sanctions for non-compliance. The impact of binding regulation is clear, with women accounting for 37 % of the boards of the largest listed companies in Member States with binding quotas, compared with 25 % in countries that have taken only soft measures or no action at all. It has had a similarly positive impact on other areas of decision-making as well.

In the context of the COVID-19 pandemic, the lack of women's presence in the decision-making bodies managing the crisis unveils deeply rooted

issues. This stark contrast is evident in the fact that the overwhelming majority of healthcare workers are women, yet they are absent from key decision-making positions. Gender continues to be a crucial determinant of health and it is necessary to include women in decision-making on recovery strategies.

Domain of health

The EU has shown few notable signs of progress towards gender equality in the domain of health in recent years. Progress since 2010 has been negligible (+ 0.8 points), with a minor loss recorded between 2017 and 2018 (– 0.1 points). Inequalities are most marked in the subdomain of health behaviour – smoking, alcohol consumption, eating fruit and vegetables and taking physical exercise – but progress in this area is impossible to monitor, owing to a lack of up-to-date data.

In the wake of the COVID-19 pandemic, health inequalities will continue to accumulate and be felt most by those more likely to be out of the labour market and in low-income situations, namely women with low education and women and men with disabilities. Despite healthcare in the EU being generally very accessible, these groups tend to have poor access to healthcare services while being most likely to suffer poor health. In 2018, the most common reason given for unmet health and dental care needs was inability to afford the services. It can therefore be expected that the post-COVID-19 economic crisis and associated unemployment will continue to significantly restrict access to health services for even larger shares of people.

Gender inequalities in society have determined how COVID-19 has impacted the health and lives of all women and men. Apart from the direct health consequences of the virus itself, there are secondary impacts on health and mental health, which are often long-lasting and gender specific.

In this context, the strategic objectives of the EU health programme and the WHO strategy to improve health and reduce health inequalities within and between Member States will not be achievable unless a clearly gendered approach is applied to mitigate the impact of the COVID-19 pandemic on health.

Domain of violence

Gender-based violence remains a pervasive issue in the EU, with serious ramifications for women's lives. Women from minority groups find themselves in particularly vulnerable situations that pose several threats to their physical and psychological integrity.

Europe has developed one of the most progressive legal instruments to combat this phenomenon: the Istanbul Convention. However, persistent challenges related to its ratification in some Member States, together with gaps in the implementation of national legislation on violence against women, are causes for concern. Further progress requires that all Member States ratify the Istanbul Convention and provide training for law enforcement personnel and judges to ensure adequate implementation of legal instruments. It is also important to invest in support services for victims of violence against women and in the collection of high-quality, comparable data on all forms of such violence.

The emergence of cyber-violence (including online hate speech, cyberstalking, cyberbullying and cyber-harassment, and non-consensual pornography) is a growing concern. Such violence can silence women and discourage them from taking a prominent role in public life. Certain aspects of the digital world have a particularly negative impact on girls, including pornography, child sexual abuse material and cyberbullying. There is no specific EU-level instrument to tackle these forms of cyber-violence.

Research on gender-based violence points to the shrinking divide between the reality of offline and online spaces. In this era of digitalisation, these spaces should no longer be understood

as separate. Rather, legal instruments, policies and programmes should approach and deal with them in a comprehensive way.

Digitalisation and the future of work

Using and developing digital technologies

Digitalisation is having profound effects on the lives of women and men. Together with new opportunities and high social transformational potential, digitalisation carries the promise of change for gender relations. Yet rapidly evolving technological innovations remain strongly embedded in pre-existing gender stereotypes and biases. Too few women are engaged in high-technology industries, research and innovation. Here, even when women are recruited, they face gender prejudices and work–life balance strains that contribute to the gender pay gap and to horizontal and vertical segregation. It is imperative to take measures to actively shape digital change and use the potential of digitalisation in a way that promotes gender equality and women's rights across all aspects of social, economic and political life.

The impacts of digitalisation on gender equality have rarely been explicitly recognised in EU digital policy, although, as shown in this report, societies with greater equality between women and men also perform better in the digital economy. The new EU gender equality strategy 2020–2025 reaffirms the EU's commitment to integrating a gender perspective into all major European Commission initiatives, including the digital transition (European Commission, 2020c). The EU has recognised that fighting gender bias and opening up new jobs for women in high-technology industries is a question of innovation, social equality and justice that requires targeted interventions across all levels of education, up to and including the highest levels of research careers. Crucially, integration of the gender dimension into the digital transition is a way to increase the responsibility and trustworthiness of new technologies and digital innovation. Current initiatives to bring more women into the ICT sector and address specific labour market needs can be considered an initial step towards addressing the digital gender divide.

Gender differences in digital skills and use of digital devices, particularly among young people, are gradually levelling out. Young women and men are the most digitally skilled generation and benefit equally from digital skills. The gender divide widens with age, however. Women generally experience bigger obstacles than men in developing or updating their digital skills. Although women are more likely to participate in learning than men, they consistently report that they cannot participate in lifelong learning because of their family responsibilities.

Women tend to indicate somewhat lower confidence in their digital skills and use of technologies. Despite representing 58 % of tertiary graduates in the EU across all study fields, women make up only 19 % of graduates in ICT-related fields. Gender stereotypes affect young people's career aspirations and occupational choices, leading to gender segregation in education and subsequently in the labour market.

The digital education action plan and the updated European skills agenda provide a promising basis for addressing gender stereotypes in relation to the use of digital technologies and taking concrete measures to address the gender gap in digital skills and competencies, including in self-confidence. It is necessary to take steps to prevent and combat gender stereotypes and gender segregation in education, as well as to raise awareness of the empowering potential of digitalisation.

Further analysis of intersectional inequalities in the acquisition of certain digital skills (problem-solving and software skills) is needed, especially given the fast pace of digitalisation and risk of exclusion. This is particularly relevant to closing the gender gaps for older people and people with low education. Lack of training opportunities is another obstacle to increasing and updating digital skills for women and men, highlighting the importance of increased attention to and resources for digital skills training.

The European Commission and the Member States have made some progress on implementing gender targets and quotas in research and innovation. However, the gender differences at higher levels of scientific careers remain striking. The EU and national government bodies should maintain and reinforce the structural change approach as a sustainable policy framework for integrating gender equality into research and innovation. Research and innovation organisations, together with funding organisations and the business sector, need to take specific action to overcome persistent gender gaps in scientific careers and ensure gender balance in decision-making. Equally crucial is the integration of gender analysis into all phases of research, from deciding which technologies to develop to gathering and analysing data and transferring ideas to market. The EU has recognised the concept of 'gendered innovations', which refers precisely to the potential to radically alter scientific knowledge and technological production by introducing gender perspectives, approaches and methodologies[108] (European Commission, 2013). The untapped potential of talented female scientists, as well as the effects of gender-blind research, hold back the realisation of technological and scientific advances.

Digital transformation of the world of work

While gender segregation in research and innovation receives some attention in EU policy, the impacts of digitalisation on gender equality in the labour market are frequently overlooked. This is striking, as digitalisation is resulting in a profound labour market transformation, with many jobs automated or reorganised, often along highly gendered sectoral or occupational lines. Notably, women are at a slightly higher risk of job loss due to automation, many new jobs emerging in the context of this transformation are concentrated in male-dominated sectors (ICT, STEM) and much of the benefit may end up in the hands of the wealthiest capital owners (primarily men).

Yet digitalisation of work holds out some prospects for increased gender equality. It offers opportunities to break down old patterns of segregation, to upskill certain low-skilled jobs usually held by women (with associated rises in pay), and to contribute to a more balanced distribution of paid and unpaid work among women and men. For such benefits to be realised, a number of policy interventions are needed. Firstly, it will be necessary to ensure gender equality in relation to policies that support workers displaced by digitalisation; historically, such policies have often been inadvertently biased against women, focusing on industrial sectors dominated by men rather than the service sector. Secondly, it will be necessary to involve women in the management of this transformation, for example by adopting the proposed directive on gender balance on corporate boards to ensure women's representation in business leadership. Thirdly, the benefits of the transformation need to be broadly distributed among working women and men (e.g. through pay rises, especially for women; expansion of employee ownership of businesses; and better collective representation), rather than disproportionately benefiting wealthy capital owners (mostly men). Finally, efforts will be needed to make new job opportunities available to all, for example by breaking occupational gender stereotypes and promoting sustainable employment that allows a good work–life balance. Ensuring full transposition of the Work–Life Balance Directive at Member State level will be a good starting point in this context.

Women may face challenges other than being replaced by machines, stemming primarily from some of the flexible modes of working that digitalisation enables, such as certain types of platform work. While flexibility can enable women with unpaid care responsibilities to undertake paid employment, it is often coupled with unstable working arrangements, including short-term, part-time and precarious forms of labour for the less privileged segments of the female workforce. These are associated with a lack of social protection, limited access to welfare entitlements

([108]) https://www.jst.go.jp/pdf/event_diversity160316.pdf

(including benefits and paid leave) and worker exploitation. Such precarious employment is common in certain forms of platform work, with a range of consequences for gender equality. For example, exploited workers cannot fully enjoy the work–life balance benefits associated with increased work flexibility; lack of access to social benefits prevents workers from using maternity, paternity or parental leave; and certain workforce management practices expose workers to discrimination based on gender and other grounds. To date, platform work seems to replicate rather than challenge the inequalities in the traditional labour market, such as the gender pay gap and segregation.

Alongside measures to promote the participation of girls and women in STEM and ICT education, policies should urgently address the lack of stable working arrangements, as well as work and social protections, in the context of new forms of digitised work, such as platform work. More generally, it will be necessary to implement the ILO Conventions on Decent Work and associated instruments to create a robust policy framework around the platform economy. This framework should be supported by high-quality, gender-disaggregated data on platform work, comparable across Member States. As yet, only piecemeal data from surveys with limited coverage is available, which severely limits the understanding of challenges faced by platform workers. Comprehensive, gender-disaggregated data would support more robust gender analysis of these challenges.

For the policy framework around platform economy to be gender sensitive, it will need to ensure that:

1. traditional labour market policies to tackle pay gaps and gender segregation apply in the context of the platform economy;

2. EU gender equality and non-discrimination legislation applies to the platform economy to prevent discriminatory practices based on gender and other grounds;

3. platform workers have access to the social and work protections that are crucial for gender equality, such as parental leave and contributory pension schemes;

4. flexible working arrangements meet workers' work–life balance needs (and prevent exploitative practices that limit worker autonomy);

5. even the most vulnerable workers – such as the migrant women who are the group meeting the sharp growth in demand for domestic services provided via platforms – have decent working conditions.

Some steps have been taken in this direction, including highlighting the importance of mainstreaming gender into digitalisation policies in the EU gender equality strategy 2020–2025, the provision of policy guidance and recommendations through the Commission's communication 'A European agenda for the collaborative economy', the adoption of a Council recommendation on access to social protection for workers and the self-employed, and the adoption of the directive on transparent and predictable working conditions in the European Union. However, these documents pay little attention to the different ways in which women and men are affected by the new forms of work. Much remains to be done if the principles of fair working conditions, access to social protection and gender equality, as outlined in the European Pillar of Social Rights, are to become a reality within platform work.

Broader consequences of digitalisation

The effects of digitalisation on women's and men's lives extend far beyond the worlds of work and education. The increased presence of high-powered AI technologies creates huge opportunities to transform our economy and society but also recreates old risks and poses new challenges for fundamental rights and gender equality. A recent Commission communication on Europe's digital future addressed both the challenges and the opportunities of digitalisation, highlighting that only trustworthy development of technologies

can ensure sustainable growth and foster an open and democratic society. Further steps have been taken in this direction with the release of the White Paper on Artificial Intelligence, the *Ethics guidelines for trustworthy AI* and the European data strategy. However, scope for broader action remains, for example, in promoting the participation of diverse groups of women and men in the development of AI, or supporting and building the capacity of national equality bodies to detect and address discrimination in the context of digitalisation, especially AI.

More effort is required to combat cyber-violence, which has become a common and often traumatising dimension of women's work and lives. The EU's accession to the Istanbul Convention would be a positive step forward. As the Convention does not cover the most pervasive forms of cyber-violence, synergies with other Council of Europe conventions (the Budapest Convention and the Lanzarote Convention) and their respective committees could be explored with respect to protection from, and prevention and prosecution of, cyber-violence against women and girls (EIGE, 2020a; European Parliament, 2018b). In line with data collection commitments enshrined in both the Istanbul Convention and the Victims' Rights Directive, more emphasis should be placed on data collection to gain a better understanding of women's exposure to this form of violence and to design adequate responses. The inclusion of this form of violence in the upcoming EU-wide survey on gender-based violence will provide much needed information on women's experiences of cyber-violence in different contexts.

Assistive technologies (AsT) are likely to play a growing role in the provision of formal and informal home-based care. AsT facilitates home-based medical and social care by monitoring the health and daily life activities of care recipients and by creating better conditions for independent living. Broader use of AsT is highly relevant from a gender equality perspective, as women account for 83 % of the social workers who provide home-based professional care to people with disabilities and older people. Women are also in greater need of long-term care, as they live longer than men and are more likely to develop serious health problems. AsT has potential to decrease the disproportionate amount of formal and informal care work that falls to women, but this alone is not sufficient. Work in the care sector is hugely devalued, underpaid and characterised by a high rate of precarious and irregular work. Improving working conditions and attracting more men into the care sector (to overcome horizontal segregation) are essential steps towards guaranteeing more equity not within the care industry alone but in the economy and society overall.

References

Abdelkader, E. (2017). A Comparative Analysis of European Islamophobia: France, UK, Germany, Netherlands and Sweden. *UCLA J. Islamic & Near EL, 16*, 29.

Adams, A. (2020). The Gender Wage Gap on an Online Labour Market: The Cost of Interruptions. *Centre for Economic Policy Research*. Retrieved from https://cepr.org/active/publications/discussion_papers/dp.php?dpno=14294

Adams, A., and Berg, J. (2017). When home affects pay: An analysis of the gender pay gap among crowdworkers. *Social Science Research Network*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3048711

Al-Amoudi, I., and Latsis, J. (2019). Anormative black boxes: Artificial intelligence and health policy. In I. Al-Amoudi and E. Lazega (Eds.), *Post-human institutions and organizations: Confronting the matrix*. London: Routledge.

Alon, T. M., Doepke, M., Olmstead-Rumsey, J., and Tertilt, M. (2020). The impact of COVID-19 on gender equality. *National Bureau of Economic Research*. Retrieved from https://www.nber.org/papers/w26947#:~:text=The%20economic%20downturn%20caused%20by,downturn%20and%20the%20subsequent%20recovery.&text=Beyond%20the%20immediate%20crisis%2C%20there,equality%20in%20the%20labor%20market.

Armbruster, S., and Klotzbücher, V. (2020). *Lost in lockdown? COVID-19, social distancing, and mental health in Germany*. Retrieved from https://www.researchgate.net/publication/341453550_Lost_in_Lockdown_Covid-19_Social_Distancing_and_Mental_Health_in_Germany

Autor, D. (2015). Why are there still so many jobs? The history and future of workplace automation. *Journal of economic perspectives, 29*(3), 3-30.

Ayres, I., Banaji, M., and Jolls, C. (2015). Race effects on eBay. *The RAND Journal of Economics, 46*(4), 891-917.

Bailey, J., and Steeves, V. (2015). *eGirls, eCitizens: Putting Technology, Theory and Policy into Dialogue with Girls' and Young Women's Voices*: University of Ottawa Press/Les Presses de l'Université d'Ottawa.

Baranne, M. L., and Falissard, B. (2018). Global burden of mental disorders among children aged 5–14 years. *Child and adolescent psychiatry and mental health, 12*(1), 19.

Barzilay, A. R. (2018). Discrimination without Discriminating: Learned Gender Inequality in the Labor Market and Gig Economy. *Cornell Journal of Law and Public Policy, 28*, 545.

Barzilay, A. R., and Ben-David, A. (2016). Platform inequality: gender in the gig-economy. *Seton Hall Law Review, 47*, 393.

Bathaee, Y. (2017). The artificial intelligence black box and the failure of intent and causation. *Harvard Journal of Law and Technology, 31*, 889.

Behrendt, C., Nguyen, Q. A., and Rani, U. (2019). Social protection systems and the future of work: Ensuring social security for digital platform workers. *International Social Security Review, 72*(3), 17-41.

Bergvall-Kåreborn, B., and Howcroft, D. (2014). Amazon Mechanical Turk and the commodification of labour. *New technology, work and employment, 29*(3), 213-223.

Bisdee, D., Daly, T., and Price, D. (2013). Behind closed doors: Older couples and the gendered management of household money. *Social Policy and Society, 12*(1), 163-174.

BMJ Global Health. (2020). Sex, gender and COVID-19: Disaggregated data and health disparities. Retrieved from https://blogs.bmj.com/bmjgh/2020/03/24/sex-gender-and-covid-19-disaggregated-data-and-health-disparities/

Bogen, M., and Rieke, A. (2018). *Help Wanted: An Examination of Hiring Algorithms, Equity, and Bias*.

Retrieved from https://pdfs.semanticscholar.org/8775/1e071235c53fdb4411545b449537cb8ab96d.pdf?_ga=2.77241493.1435391397.1598427709-1591646695.1598259436

Bolukbasi, T., Chang, K.-W., Zou, J. Y., Saligrama, V., and Kalai, A. T. (2016). *Man is to computer programmer as woman is to homemaker? debiasing word embeddings*. Paper presented at the Advances in neural information processing systems. http://papers.nips.cc/paper/6228-man-is-to-computer-programmer-as-woman-is-to-homemaker-debiasing-word-embeddings.pdf

Brajša-Žganec, A., Merkaš, M., and Šverko, I. (2011). Quality of life and leisure activities: How do leisure activities contribute to subjective well-being? *Social Indicators Research, 102*(1), 81-91.

Breeden, A. (2019). Facebook Group of French Journalists Harassed Women for Years. *New York Times*. Retrieved from https://www.nytimes.com/2019/02/12/world/europe/la-ligue-du-lol-sexual-harassment.html

Brennan, D., Fisher, H., and Smith, K. I. (2017). Femicides of elderly women in England and Wales. In *Femicide Volume VIII. Abuse and femicide of the older woman*: ACUNS.

Bryce, J., and Fraser, J. (2013). "It's Common Sense That It's Wrong": Young People's Perceptions and Experiences of Cyberbullying. *Cyberpsychology, Behavior, and Social Networking, 16*(11), 783-787.

Burnett, M., Sarma, A., Mendez, C., Oleson, A., Hilderbrand, C., Steine-Hanson, Z., and Ko, A. J. (2018). *Gender biases in software for problem-solving*. Paper presented at the Designing Technologies to Support Human Problem Solving Workshop. At VL/HCC 2018, Lisbon. ftp://ftp.cs.orst.edu/pub/burnett/vlhcc18-workshopPaper-problemSolving.pdf

Caliskan, A., Bryson, J. J., and Narayanan, A. (2017). Semantics derived automatically from language corpora contain human-like biases. *Science, 356*(6334), 183-186.

Carpenter, M. (2016). The human rights of intersex people: addressing harmful practices and rhetoric of change. *Reproductive Health Matters, 24*(47), 74-84.

Castilla, E. J. (2008). Gender, race, and meritocracy in organizational careers. *American Journal of Sociology, 113*(6), 1479-1526.

Cedefop. (2018). *Skills forecast: trends and challenges to 2030*. Retrieved from https://www.cedefop.europa.eu/en/publications-and-resources/publications/3077

Chakraborty, T., Badie, G., and Rudder, B. (2016). Reducing gender bias in word embeddings. Retrieved from http://cs229.stanford.edu/proj2016/report/BadieChakrabortyRudder-ReducingGenderBiasInWordEmbeddings-report.pdf

Cherry, M. A. (2010). A taxonomy of virtual work. *Georgia Law Review, 45*, 951.

Chung, H., and Van der Horst, M. (2018). Women's employment patterns after childbirth and the perceived access to and use of flexitime and teleworking. *human relations, 71*(1), 47-72.

Chung, H., and Van der Lippe, T. (2018). Flexible working, work–life balance, and gender equality: Introduction. *Social Indicators Research*, 1-17.

CNews. (2020). Avec le confinement, le «revenge porn» a explosé. Retrieved from https://www.cnews.fr/vie-numerique/2020-04-21/avec-le-confinement-le-revenge-porn-explose-949211

Cockburn, C. (1987). Machinery of dominance. *Capital & Class, 11*(2), 170-181.

Cockburn, C., and Ormrod, S. (1993). *Gender and Technology in the Making*. London: SAGE Publications Ltd.

Comas-Herrera, A., Zalakain, J., Litwin, C., Hsu, A. T., Lane, N., and Fernández, J.-L. (2020). Mortality associated with COVID-19 outbreaks in care homes: early international evidence. *International Long Term Care Policy Network*. Retrieved from https://ltccovid.org/2020/04/12/

mortality-associated-with-covid-19-outbreaks-in-care-homes-early-international-evidence/

Cook, C., Diamond, R., Hall, J., List, J. A., and Oyer, P. (2018). *The gender earnings gap in the gig economy: Evidence from over a million rideshare drivers*. Retrieved from https://www.nber.org/papers/w24732.pdf

Corradi, Baldry, Buran, Kouta, Schröttle, and Stevkovic. (2018). Exploring the data on femicide across Europe. In S. Weil, Corradi, C., & Naudi, M. (Ed.), *Femicide across Europe* (pp. 93-166): Policy Press.

Council of Europe. (2011). *Convention on Preventing and Combating Violence against Women and Domestic Violence (Istanbul Convention) and explanatory report*. Retrieved from https://www.coe.int/en/web/conventions/full-list/-/conventions/rms/090000168008482e

Council of Europe. (2016). Combating Sexist Hate Speech. Retrieved from https://rm.coe.int/1680651592

Countouris, N., and Ratti, L. (2018). The Sharing Economy and EU Anti-discrimination Law. In N. M. Davidson, M. l. Finck, and J. J. Infranca (Eds.), *The Cambridge Handbook of the Law of the Sharing Economy* (pp. 486-498). Cambridge: Cambridge University Press.

Criado Perez, C. (2019). *Invisible Women: Exposing data bias in a world designed for men*. London: Penguin Random House.

Dao, M., Das, M., Koczan, Z., and Lian, W. (2017). Drivers of Declining Labor Share of Income. *International Monetary Fund Blog*. Retrieved from https://blogs.imf.org/2017/04/12/drivers-of-declining-labor-share-of-income/

Dastin, J. (2018, October 10, 2018). Amazon scraps secret AI recruiting tool that showed bias against women. *Reuters*. Retrieved from https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G

Davies. (2020). Revenge porn soars in Europe's coronavirus lockdown as student fights back. *Thomson Reuters Foundation*. Retrieved from http://cms.trust.org/tem/20200505165904-e8umi

Davies, and Bennett. (2016). A gendered human rights analysis of Ebola and Zika: locating gender in global health emergencies. *International Affairs, 92*(5), 1041-1060.

De Stefano, V. (2016). The rise of the just-in-time workforce: On-demand work, crowdwork, and labor protection in the gig-economy. *Comparative labor law and policy journal, 37*(3), 461-471.

Dlugonski, D., and Motl, R. W. (2013). Marital status and motherhood: Implications for physical activity. *Women & health, 53*(2), 203-215.

Doleac, J. L., and Stein, L. C. (2013). The visible hand: Race and online market outcomes. *The Economic Journal, 123*(572), F469-F492.

Drahokoupil, J., and Fabo, B. (2016). The platform economy and the disruption of the employment relationship. *ETUI Research Paper-Policy Brief, 5*. Retrieved from https://www.etui.org/publications/policy-briefs/european-economic-employment-and-social-policy/the-platform-economy-and-the-disruption-of-the-employment-relationship

ECDC. (2020). *Surveillance of COVID-19 at long-term care facilities in the EU/EEA*. Retrieved from https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-long-term-care-facilities-surveillance-guidance.pdf

Edstrom, M. (2016). The trolls disappear in the light: Swedish experiences of mediated sexualised hate speech in the aftermath of Behring Breivik. *International Journal for Crime, Justice and Social Democracy, 5*(2), 96.

EESC. (2018). *Skills mismatches: EU businesses are losing millions, and will be losing even more!* Retrieved from https://www.eesc.europa.eu/en/news-media/press-releases/skills-mismatches-eu-businesses-are-losing-millions-and-will-be-losing-even-more

EIGE. (2016). Data Collection on Violence Against Women. Retrieved from https://eige.europa.eu/gender-based-violence/data-collection#2016

EIGE. (2017a). *Administrative data collection on rape, femicide and intimate partner violence in EU Member States*. Retrieved from https://eige.europa.eu/publications/administrative-data-collection-rape-femicide-and-intimate-partner-violence-eu-member-states

EIGE. (2017b). *Cyber violence against women and girls*. Retrieved from http://eige.europa.eu/rdc/eige-publications/cyber-violence-against-women-and-girls

EIGE. (2017c). *Economic benefits of gender equality in the European Union, Literature review: existing evidence and methodological approaches*. Retrieved from http://eige.europa.eu/sites/default/files/documents/ti_pubpdf_mh0116176ennpdfweb_20170516164243.pdf

EIGE. (2017d). *Gender Equality Index 2017: Measurement framework of violence against women*. Retrieved from https://eige.europa.eu/publications/gender-equality-index-2017-measurement-framework-of-violence-against-women

EIGE. (2017e). *Gender Equality Index 2017: Measuring gender equality in the European Union 2005-2015*. Retrieved from https://eige.europa.eu/rdc/eige-publications/gender-equality-index-2017-measuring-gender-equality-european-union-2005-2015-report

EIGE. (2018a). *Indicators on intimate partner violence and rape for the police and justice sectors*. Retrieved from https://eige.europa.eu/publications/indicators-intimate-partner-violence-and-rape-police-and-justice-sectors

EIGE. (2018b). Study and work in the EU: set apart by gender - Review of the implementation of the Beijing Platform for Action in the EU Member States. ISBN 978-92-9493-894-7. Retrieved from https://eige.europa.eu/rdc/eige-publications/study-and-work-eu-set-apart-gender-report

EIGE. (2018c). Towards a Uniform Approach to Data Collection: EIGE's Femicide Definition and Indicator. In ACUNS (Ed.), *Femicide Volume IX: Femicide, State Accountability and Punishment* (pp. 78-82). Vienna: ACUNS.

EIGE. (2018d). *Women and men in ICT: a chance for better work-life balance. Research note*. Retrieved from https://eige.europa.eu/publications/women-and-men-ict-chance-better-work-life-balance-research-note

EIGE. (2019a). Gender equality and youth: opportunities and risks of digitalisation. Beijing Platform for Action. Retrieved from https://eige.europa.eu/publications/gender-equality-and-youth-opportunities-and-risks-digitalisation

EIGE. (2019b). *Gender Equality Index 2019*. Work-life balance. Retrieved from https://eige.europa.eu/publications/gender-equality-index-2019-work-life-balance

EIGE. (2019c). *Tackling the gender pay gap: not without a better work-life balance*. Retrieved from https://eige.europa.eu/publications/tackling-gender-pay-gap-not-without-better-work-life-balance

EIGE. (2020a). *Beijing + 25: the fifth review of the implementation of the Beijing Platform for Action in the EU Member States*. Retrieved from https://eige.europa.eu/publications/beijing-25-fifth-review-implementation-beijing-platform-action-eu-member-states

EIGE. (2020b). Covid-19 and gender equality. Retrieved from https://eige.europa.eu/topics/health/covid-19-and-gender-equality

EIGE. (2020c). *Eligibility for parental leave in EU Member States*. Retrieved from https://eige.europa.eu/publications/eligibility-parental-leave-eu-member-states

EIGE. (2020d). Gender-based violence. *Covid-19 and gender equality.* Retrieved from https://eige.europa.eu/covid-19-and-gender-equality/gender-based-violence

EIGE. (2020e). *Gender Equality and Lon-Term Care at home: Research note to the Croatian Presidency*. Retrieved from https://eige.europa.

eu/publications/gender-equality-and-long-term-care-home

Elvira, M., and Town, R. (2001). The effects of race and worker productivity on performance evaluations. *Industrial Relations: A Journal of Economy and Society, 40*(4), 571-590.

Eurofound. (2016). *What do Europeans do at work? A task-based analysis: European Jobs Monitor 2016*. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1617en.pdf

Eurofound. (2017a). *Occupational change and wage inequality: European Jobs Monitor 2017*. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1710en.pdf

Eurofound. (2017b). *Work-life balance and flexible working arrangements in the European Union*. Retrieved from https://www.eurofound.europa.eu/publications/customised-report/2017/work-life-balance-and-flexible-working-arrangements-in-the-european-union

Eurofound. (2018a). *Automation, digitisation and platforms: Implications for work and employment*. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef18002en.pdf

Eurofound. (2018b). Employment and working conditions of selected types of platform work. Retrieved from https://www.eurofound.europa.eu/publications/report/2018/employment-and-working-conditions-of-selected-types-of-platform-work

Eurofound. (2018c). *New tasks in old jobs: Drivers of change and implications for job quality*. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/fomeef18004en.pdf

Eurofound. (2018d). *Platform work: Types and implications for work and employment - Literature Review*. Retrieved from https://www.eurofound.europa.eu/data/platform-economy/records/platform-work-types-and-implications-for-work-and-employment-literature-review

Eurofound. (2018e). *Striking a balance: Reconciling work and life in the EU*. Retrieved from https://www.eurofound.europa.eu/publications/report/2018/striking-a-balance-reconciling-work-and-life-in-the-eu

Eurofound. (2019). *Platform work: Maximising the potential while safeguarding standards?*. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef19045en.pdf

Eurofound. (2020a). *Game-changing technologies: Transforming production and employment in Europe*. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef19047en.pdf

Eurofound. (2020b). Living, working and COVID-19 dataset Retrieved from https://www.eurofound.europa.eu/data/covid-19

Eurofound. (2020c). *Telework and ICT-based mobile work: Flexible working in the digital age*. Retrieved from https://www.eurofound.europa.eu/publications/report/2020/telework-and-ict-based-mobile-work-flexible-working-in-the-digital-age

Eurofound, and ILO. (2017). *Working anytime, anywhere: The effects on the world of work*. Retrieved from https://www.eurofound.europa.eu/publications/report/2017/working-anytime-anywhere-the-effects-on-the-world-of-work

Euronews. (2020). Domestic violence cases jump 30% during lockdown in France. Retrieved from https://www.euronews.com/2020/03/28/domestic-violence-cases-jump-30-during-lockdown-in-france?fbclid=IwAR0zKgyaALr9vNUoNghbVTkV08xvhEWwoLPgJzrYM13ICW2DxNGZ1hhmC78

European Commission. (2009). *Opinion on the effectiveness of the current legal framework on Equal pay for equal work or work of equal value in tackling the gender pay gap*. Retrieved from https://ec.europa.eu/social/BlobServlet?docId=3176

European Commission. (2013). *Gendered Innovations: How Gender Analysis Contributes to*

Research. Report of the Expert Group "Innovation through Gender" Retrieved from http://ec.europa.eu/research/science-society/document_library/pdf_06/gendered_innovations.pdf.

European Commission. (2014a). *Mapping and analysing bottleneck vacancies in EU labour markets*. Retrieved from https://ec.europa.eu/eures/downloadSectionFile.do?fileId=8010

European Commission. (2014b). *The Third Health Programme 2014-2020 Funding Health Initiatives. Regulation (EU) 282/2014.* . Retrieved from https://ec.europa.eu/health/sites/health/files/programme/docs/factsheet_healthprogramme2014_2020_en.pdf

European Commission. (2015). *Non-standard employment and access to social security benefits. Research note 8/2015*. Retrieved from https://ec.europa.eu/social/BlobServlet?docId=15687&langId=en

European Commission. (2016a). *The Digital Skills and Jobs Coalition. Members Charter*. Retrieved from https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/digital_skills_and_jobs_coalition_members_charter_0.pdf

European Commission. (2016b). *ICT for work: Digital skills in the workplace*. Retrieved from https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=44434

European Commission. (2016c). Resolutions, recommendations and opinions. *Official Journal of the European Unione, 59*(C 484), 1. Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2016:484:FULL&from=LT

European Commission. (2017). Special Eurobarometer 460: Attitudes towards the impact of digitisation and automation on daily life. Retrieved from https://data.europa.eu/euodp/en/data/dataset/S2160_87_1_460_ENG

European Commission. (2018a). *2018 Report on Equality between Women and Men in the EU.* Retrieved from https://op.europa.eu/en/publication-detail/-/publication/950dce57-6222-11e8-ab9c-01aa75ed71a1

European Commission. (2018b). *Artificial Intelligence for Europe*. Brussels Retrieved from https://ec.europa.eu/digital-single-market/en/news/communication-artificial-intelligence-europe

European Commission. (2018c). *Employment and social developments in Europe: annual review 2018*. Retrieved from https://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=9150

European Commission. (2018d). EU-Startup Monitor. Retrieved from http://startupmonitor.eu/EU-Startup-Monitor-2018-Report-WEB.pdf

European Commission. (2018e). The European Pillar of Social Rights in 20 principles. Retrieved from https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en

European Commission. (2018f). *Gender equality and the collaborative economy*. Retrieved from https://www.equalitylaw.eu/downloads/4573-gender-equality-and-the-collaborative-economy-pdf-721-kb

European Commission. (2018g). *Gender pay gap in EU countries based on SES (2014)*. Retrieved from https://ec.europa.eu/info/sites/info/files/aid_development_cooperation_fundamental_rights/report-gender-pay-gap-eu-countries_october2018_en_0.pdf

European Commission. (2018h). Pilot project monitors online vacancies for ICT specialists in real-time. Retrieved from https://ec.europa.eu/digital-single-market/en/news/pilot-project-monitors-online-vacancies-ict-specialists-real-time

European Commission. (2018i). *Women in the Digital Age*. Retrieved from https://op.europa.eu/en/publication-detail/-/publication/84bd6dea-2351-11e8-ac73-01aa75ed71a1

European Commission. (2019a). *Access to social protection for workers and self-employed.* Retrieved from https://ec.europa.eu/social/BlobServlet?docId=20982&langId=en

European Commission. (2019b). *Assessing the size and presence of the collaborative economy in Europe*. Retrieved from https://op.europa.eu/en/publication-detail/-/publication/2acb7619-b544-11e7-837e-01aa75ed71a1

European Commission. (2019c). Digital Skills & Jobs. *Shaping Europe's digital future.* Retrieved from https://ec.europa.eu/digital-single-market/en/policies/digital-skills

European Commission. (2019d). #DigitalRespect 4Her. Retrieved from https://ec.europa.eu/digital-single-market/en/digitalrespect4her

European Commission. (2019e). Final report of the High-Level Expert Group on the Impact of the Digital Transformation on EU Labour Markets. Retrieved from https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-impact-digital-transformation-eu-labour-markets

European Commission. (2019f). *Labour market and wage developments in Europe: annual review 2019*. Retrieved from https://ec.europa.eu/social/BlobServlet?docId=21904&langId=en

European Commission. (2019g). *PISA 2018 and the EU. Striving for social fairness through education*. Retrieved from https://ec.europa.eu/education/resources-and-tools/document-library/pisa-2018-and-the-eu-striving-for-social-fairness-through-education_en

European Commission. (2019h). She Figures 2018. Gender in Research and Innovation. Retrieved from https://ec.europa.eu/info/publications/she-figures-2018_en

European Commission. (2019i). Women in Digital. *Shaping Europe's digital future.* Retrieved from https://ec.europa.eu/digital-single-market/en/women-ict

European Commission. (2019j). Women in Digital Scoreboard 2019 - Country Reports. *Shaping Europe's digital future.* Retrieved from https://ec.europa.eu/digital-single-market/en/news/women-digital-scoreboard-2019-country-reports

European Commission. (2020a). *Shaping Europe's Digital Future*. Retrieved from https://ec.europa.eu/info/sites/info/files/communication-shaping-europes-digital-future-feb2020_en_4.pdf

European Commission. (2020b). Special Eurobarometer 503: Attitudes towards the impact of digitalisation on daily lives. Retrieved from https://data.europa.eu/euodp/en/data/dataset/S2228_92_4_503_ENG

European Commission. (2020c). *A Union of Equality: Gender Equality Strategy 2020-2025*. (COM/2020/152 final). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A152%3AFIN

European Commission. (2020d). *White Paper on Artificial Intelligence - A European approach to excellence and trust*. Brussels Retrieved from https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf

European Parliament. (2016). *Differences in men's and women's work, care and leisure time*. Retrieved fromhttps://op.europa.eu/en/publication-detail/-/publication/97c41fae-9440-11e7-b92d-01aa75ed71a1

European Parliament. (2017). *Report on working conditions and precarious employment* Retrieved from https://www.europarl.europa.eu/doceo/document/A-8-2017-0224_EN.html

European Parliament. (2018a). *Bullying and sexual harassment at the workplace, in public spaces, and in political life in the EU. A study requested by the FEMM committee*. Retrieved from http://www.europarl.europa.eu/RegData/etudes/STUD/2018/604949/IPOL_STU(2018)604949_EN.pdf

European Parliament. (2018b). *Cyber violence and hate speech online against women. Women's Rights & Gender Equality. A study for the FEMM committee*. Retrieved from http://www.europarl.europa.eu/RegData/etudes/STUD/2018/604979/IPOL_STU(2018)604979_EN.pdf

European Parliament. (2019a). *Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union*. Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019L1152

European Parliament. (2019b). European Parliament resolution of 14 February 2019 on the rights of intersex people (2018/2878(RSP)). Retrieved from http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2019-0128+0+DOC+XML+V0//EN

European Parliament, and Council of the European Union. (2019). Directive (EU) 2019/1158 Work-life balance for parents and carers and repealing Council Directive 2010/18/EU. Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1566206987716&uri=CELEX:32019L1158

Europol. (2020). *Catching the virus: cybercrime, disinformation and the COVID-19 pandemic*. Retrieved from https://www.europol.europa.eu/publications-documents/catching-virus-cybercrime-disinformation-and-covid-19-pandemic

Eurostat. (2018). *A decomposition of the unadjusted gender pay gap using Structure of Earnings Survey data. 2018 edition*. Retrieved from https://ec.europa.eu/eurostat/documents/3888793/8979317/KS-TC-18-003-EN-N.pdf/3a6c9295-5e66-4b79-b009-ea1604770676

Eurostat. (2019a). ICT education - a statistical overview. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=ICT_education_-_a_statistical_overview&oldid=454538

Eurostat. (2019b). ICT specialists in employment. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php/ICT_specialists_in_employment

Eurostat. (2020). Gender pay gap statistics. . Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Gender_pay_gap_statistics

EWL. (2020). *Women must not pay the price for COVID-19!* Retrieved from https://www.womenlobby.org/IMG/pdf/ewl_policy_brief_on_covid-19_impact_on_women_and_girls-2.pdf

Ferrari, E. (2020). Polizia, con l'app YouPol è possibile segnalare da casa reati di violenza domestica. Retrieved from https://www.lastampa.it/imperia-sanremo/2020/03/31/news/polizia-con-l-app-youpol-e-possibile-segnalare-da-casa-reati-di-violenza-domestica-1.38661932

Ferrier, M., and Garud-Patkar, N. (2018). TrollBusters: Fighting online harassment of women journalists. In *Mediating Misogyny* (pp. 311-332): Springer.

Fodor, E., Gregor, A., Koltai, J., and Kováts, E. (2020). Revolution unstalled? The impact of the Covid-19 crisis on the domestic division of labour in Hungary. *Gender & Society blog*. Retrieved from https://gendersociety.wordpress.com/2020/05/28/revolution-unstalled-the-impact-of-the-covid-19-crisis-on-the-domestic-division-of-labor-in-hungary/?fbclid=IwAR3Q-zwuritRdHP3t-a3KZ2olLp9H7CqUuDMVmu-InBYUxBLWP273bIIRDw

Foong, E., Vincent, N., Hecht, B., and Gerber, E. M. (2018). Women (still) ask for less: Gender differences in hourly rate in an online labor marketplace. *Proceedings of the ACM on Human-Computer Interaction, 2*(CSCW), 1-21.

Forster, T., Kentikelenis, A., and Bambra, C. (2018). *Health inequalities in Europe: setting the stage for progressive policy action*. Retrieved from https://www.feps-europe.eu/attachments/publications/1845-6%20health%20inequalities%20inner-hr.pdf

FRA. (2014a). *EU LGBT survey: European Union lesbian, gay, bisexual and transgender survey*. Retrieved from https://fra.europa.eu/sites/default/files/fra-eu-lgbt-survey-main-results_tk3113640enc_1.pdf

FRA. (2014b). *Violence against women: An EU-wide survey*. Retrieved from https://fra.

europa.eu/sites/default/files/fra_uploads/fra-2014-vaw-survey-main-results-apr14_en.pdf

FRA. (2016a). *Second European Union Minorities and Discrimination Survey. Roma women in nine EU Member States*. Retrieved from https://fra.europa.eu/sites/default/files/fra_uploads/fra-2019-eu-minorities-survey-roma-women_en.pdf

FRA. (2016b). *Second European Union Minorities and Discrimination Survey: Roma — Selected findings*. Retrieved from https://fra.europa.eu/sites/default/files/fra_uploads/fra-2016-eu-minorities-survey-roma-selected-findings_en.pdf

FRA. (2016c). *Violence, threats and pressures against journalists and other media actors in the EU. Contribution to the second Annual Colloquium on Fundamental Rights - November 2016.* Retrieved from https://fra.europa.eu/sites/default/files/fra_uploads/fra-2016-threats-and-pressures-journalists_en.pdf

FRA. (2017). *Challenges to women's human rights in the EU. Gender discrimination, sexist hate speech and gender-based violence against women and girls.* Retrieved from https://fra.europa.eu/sites/default/files/fra_uploads/fra-2017-challenges-to-women-human-rights_en.pdf

FRA. (2018). *Out of sight: migrant women exploited in domestic work*. Retrieved from https://fra.europa.eu/sites/default/files/fra_uploads/fra-2018-migrant-women-labour-exploitation-domestic-work_en.pdf

FRA. (2019). *Data quality and artificial intelligence – mitigating bias and error to protect fundamental rights*. Retrieved from https://fra.europa.eu/en/publication/2019/data-quality-and-artificial-intelligence-mitigating-bias-and-error-protect

FRA. (2020). *EU-LGBTI II. A long way to go for LGBTI equality*. Retrieved from https://fra.europa.eu/sites/default/files/fra_uploads/fra-2020-lgbti-equality_en.pdf

Francavilla, Giannelli, Mancgiavacchi, and Piccoli. (2012). Unpaid work in Europe: gender and country differences. In F. Bettio, Plantenga, J. and Smith, M. (Ed.), *Gender and the European labour market* (pp. 69-88): Routledge.

Freeman, C. (2010). Respectability and flexibility in the neoliberal service economy. In *Work and Life in the Global Economy* (pp. 33-51): Springer.

Frey, C. B., and Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological forecasting and social change, 114*, 254-280.

Galasso, V., Pons, V., Profeta, P., Becher, M., Brouard, S., and Foucault, M. (2020). *Gender Differences in COVID-19 Related Attitudes and Behavior: Evidence from a Panel Survey in Eight OECD Countries* (0898-2937). Retrieved from

Galperin, H. (2019). "This Gig Is Not for Women": Gender Stereotyping in Online Hiring. *Social Science Computer Review*.

Gamberini, L., Raya, M. A., Barresi, G., Fabregat, M., Ibanez, F., and Prontu, L. (2006). Cognition, technology and games for the elderly: An introduction to ELDERGAMES Project. *PsychNology Journal, 4*(3), 285-308.

Gebhard, C., Regitz-Zagrosek, V., Neuhauser, H. K., Morgan, R., and Klein, S. L. (2020). Impact of sex and gender on COVID-19 outcomes in Europe. *Biology of Sex Differences, 11*(1), 1-13.

Glavin, P., and Schieman, S. (2012). Work–family role blurring and work–family conflict: The moderating influence of job resources and job demands. *Work and Occupations, 39*(1), 71-98.

Goldin, C. (2014). A grand gender convergence: Its last chapter. *American economic review, 104*(4), 1091-1119.

Goldin, C. (2015). *Hours flexibility and the gender gap in pay*. Retrieved from https://scholar.harvard.edu/files/goldin/files/goldin_equalpay-cap.pdf

Goodman, B., and Flaxman, S. (2017). European Union regulations on algorithmic decision-

making and a "right to explanation". *AI magazine, 38*(3), 50-57.

Goos, M., Manning, A., and Salomons, A. (2014). Explaining job polarization: Routine-biased technological change and offshoring. *American economic review, 104*(8), 2509-2526.

Goswami, A., and Dutta, S. (2015). Gender differences in technology usage — A literature review. *Open Journal of Business and Management, 4*(1), 51-59.

Grabowski, D. C. (2006). The cost-effectiveness of noninstitutional long-term care services: Review and synthesis of the most recent evidence. *Medical care research and review, 63*(1), 3-28.

Hannák, A., Wagner, C., Garcia, D., Mislove, A., Strohmaier, M., and Wilson, C. (2017). *Bias in online freelance marketplaces: Evidence from taskrabbit and fiverr.* Paper presented at the Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing.

Hara, K., Adams, A., Milland, K., Savage, S., Callison-Burch, C., and Bigham, J. P. (2018). *A data-driven analysis of workers' earnings on Amazon Mechanical Turk.* Paper presented at the Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems.

Haraway, D. (1984). A cyborg manifesto: Science, technology, and socialist-feminism in the late 20th century. In *The international handbook of virtual learning environments* (pp. 117-158): Springer.

Haraway, D. (1991). *Simians, Cyborgs, and Women: the reinvention of nature*. New York: Routledge.

Harding, S. (1986). *The science question in feminism*: Cornell University Press.

Harding, S. (1991). Whose science? Whose knowledge? Thinking from women's lives. Ithaca, NY: Cornell University Press.

Harris. (2009). Theorizing class, gender, and the law: Three approaches. *Law and Contemporary Problems, 72*, 37.

Harris. (2014). *The impact of smartphones on work-life balance.* Middle Tennessee State University, Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.880.4222&rep=rep1&type=pdf

Haworth, J., and Lewis, S. (2005). Work, leisure and well-being. *British Journal of Guidance & Counselling, 33*(1), 67-79.

Henrichsen, J. R., Betz, M., and Lisosky, J. M. (2015). *Building digital safety for journalism: A survey of selected issues*. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000232358

Hicks, M. (2017). *Programmed inequality: How Britain discarded women technologists and lost its edge in competition*. London: The MIT Press.

Hilbrecht, M., Lero, D. S., Schryer, E., Mock, S. E., and Smale, B. (2017). Understanding the association between time spent caregiving and well-being among employed adults: testing a model of work–life fit and sense of community. *Community, Work & Family, 20*(2), 162-180.

Hofäcker, D., and König, S. (2013). Flexibility and work-life conflict in times of crisis: a gender perspective. *International Journal of Sociology and Social Policy, 33*(9/10), 613-635.

Holt-Lunstad, J., Smith, T. B., and Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. *PLOS Medicine, 7*(7).

Howcroft, D., and Richardson, H. (2009). *Work and life in the global economy: A gendered analysis of service work*: Palgrave Macmillan UK.

Howcroft, D., and Rubery, J. (2018). Gender equality prospects and the fourth industrial revolution. In M. Neufeind, O'Reilly, J., Ranft, F (Ed.), *Work in the Digital Age. Challenges of the fourth industrial revolution* (pp. 63): Rowman & Littlefield.

Huffman, A. H., Whetten, J., and Huffman, W. H. (2013). Using technology in higher education: The influence of gender roles on technology self-efficacy. *Computers in Human Behavior, 29*(4), 1779-1786.

Huws, U. (1982). *New Technology and Women's Employment. Case Studies from West Yorkshire*: ERIC.

Huws, U., Podro, S., Gunnarsson, E., Weijers, T., Arvanitaki, K., and Trova, V. (1996). *Teleworking and Gender*. Retrieved from https://www.employment-studies.co.uk/system/files/resources/files/317.pdf

Huws, U., Spencer, N., Coates, M., Sverre Syrdal, D., and Holts, K. (2019). *The Platformisation Of Work In Europe: Results from research in 13 European countries*. Retrieved from https://www.feps-europe.eu/attachments/publications/platformisation%20of%20work%20report%20-%20highlights.pdf

Hyperwallet. (2017). *The Future of Gig Work is Female: A study on the behaviors and career aspirations of women in the gig economy*. Retrieved from https://www.hyperwallet.com/app/uploads/HW_The_Future_of_Gig_Work_is_Female.pdf?mkt_tok=eyJpIjoiTVRjMU9UQmlOakk1TW1WaSIsInQiOiJYaVQrNEtTTzUzNWliUzZOSTQ3R2wxTnlwY00xZG9MZmErTnVXUkJVdGhMRm9EUW9GWTFcL1huaXZPbnBmdGN1RnBaWjAwa2tjTW5PXC82NnR5Z0o1VFcrOFhWbEZMbVd3UGcramZvdTg0Y1Y0Q3orMjlcL1wvVUpJaFBROVhMeXRyU1QifQ%3D%3D

Iancu, I., and Iancu, B. (2017). Elderly in the digital era. theoretical perspectives on assistive technologies. *Technologies, 5*(3), 60.

ILGA-EUROPE. (2015). Glossary. Retrieved from https://www.ilga-europe.org/sites/default/files/glossary_october_2015_edition.pdf

ILO. (2017). *Ending Violence and Harassment Against Women and Men in the World of Work.* Paper presented at the Report V (1), International Labour Conference, 107th Session, 2018.

ILO. (2018a). *The architecture of digital labour platforms: Policy recommendations on platform design for worker well-being*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_630603.pdf

ILO. (2018b). *Care work and care jobs for the future of decent work*. Retrieved from https://www.ilo.org/global/publications/books/WCMS_633135/lang--en/index.htm

ILO. (2018c). *Digital labour platforms and the future of work. Towards decent work in the online world*. Retrieved from http://wtf.tw/text/digital_labour_platforms_and_the_future_of_work.pdf

ILO. (2020a). *The COVID-19 response: Getting gender equality right for a better future for women at work*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms_744685.pdf

ILO. (2020b). *ILO Monitor: COVID-19 and the world of work. Third edition*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_743146.pdf

Inter-Parliamentary Union. (2018). *Sexism, harassment and violence Against Women in Parliaments in Europe*. Retrieved from https://www.ipu.org/resources/publications/issue-briefs/2018-10/sexism-harassment-and-violence-against-women-in-parliaments-in-europe

International Monetary Fund. (2018). *Gender, technology, and the future of work*. Retrieved from https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2018/10/09/Gender-Technology-and-the-Future-of-Work-46236

IPPR. (2019). *The future is ours. Women, automation and equality in the digital age*. Retrieved from

https://www.ippr.org/files/2019-07/the-future-is-ours-women-automation-equality-july19.pdf

IPSE. (2019). *Women in self-employment: Understanding the female self-employed community*. Retrieved from https://www.ipse.co.uk/resource/women-in-self-employment.html

Jiang, F., Jiang, Y., Zhi, H., Dong, Y., Li, H., Ma, S., . . . Wang, Y. (2017). Artificial intelligence in healthcare: past, present and future. *Stroke and vascular neurology, 2*(4), 230-243.

Jin, J.-M., Bai, P., He, W., Wu, F., Liu, X.-F., Han, D.-M., . . . Yang, J.-K. (2020). Gender differences in patients with COVID-19: Focus on severity and mortality. *Frontiers in Public Health, 8*, 152.

Johnston, H., and Land-Kazlauskas, C. (2018). Organizing on-demand: Representation, voice, and collective bargaining in the gig economy. *Conditions of work and employment series, 94*.

Jones, M. (2017). Intersex genital mutilation – A Western version of FGM. *The International Journal of Children's Rights, 25*(2), 396-411.

JRC. (2018). *Platform Workers in Europe. Evidence from the COLLEEM Survey*. Retrieved from https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/platform-workers-europe-evidence-colleem-survey

JRC. (2019a). *How computerisation is transforming jobs*. Retrieved from https://ec.europa.eu/jrc/sites/jrcsh/files/jrc117167.pdf

JRC. (2019b). *Is There a Gender Wage Gap in Online Labor Markets? Evidence from Over 250,000 Projects and 2.5 Million Wage Bill Proposals.* Retrieved from https://ec.europa.eu/jrc/sites/jrcsh/files/jrc115771.pdf

JRC. (2020a). *New evidence on platform workers in Europe. Results from the second COLLEEM survey*. Retrieved from https://publications.jrc.ec.europa.eu/repository/bitstream/JRC118570/jrc118570_jrc118570_final.pdf

JRC. (2020b). *A Taxonomy of Tasks for Assessing the Impact of New Technologies on Work*. Retrieved from https://www.eurofound.europa.eu/sites/default/files/wpef20007.pdf

JRC, and OECD. (2019). *World Corporate Top R&D investors: Shaping the Future of Technologies and of AI*. Retrieved from https://ec.europa.eu/jrc/en/publication/world-corporate-top-rd-investors-shaping-future-technologies-and-ai

Kaarakainen, M.-T., Kivinen, A., and Kaarakainen, S.-S. (2017). *Differences between the genders in ICT skills for Finnish upper comprehensive school students: Does gender matter?* Paper presented at the Seminar.net.

Kavanagh, E., and Brown, L. (2019). Towards a research agenda for examining online gender-based violence against women academics. *Journal of Further and Higher Education*, 1-9.

Keller, E. F., and Longino, H. E. (1996). *Feminism and science*. Oxford: Oxford University Press.

Kim, L. (2018). Gender Bias in Online Marketing: Data Shows Women Are Undervalued by 21%. *WordStream*. Retrieved from https://www.wordstream.com/blog/ws/2014/05/13/gender-bias

Koop, C. E., Mosher, R., Kun, L., Geiling, J., Grigg, E., Long, S., . . . Rosen, J. M. (2008). Future delivery of health care: Cybercare. *IEEE Engineering in Medicine and Biology Magazine, 27*(6), 29-38.

Lahelma, E., Arber, S., Martikainen, P., Rahkonen, O., and Silventoinen, K. (2001). The myth of gender differences in health: social structural determinants across adult ages in Britain and Finland. *Current Sociology, 49*(3), 31-54.

Laundon, M., and Williams, P. (2018). Flexible work: barrier to benefits? *Financial Planning Research Journal, 4*(2), 51-68.

Lee, J. (2020). Mental health effects of school closures during COVID-19. *The Lancet. Child & Adolescent Health, 4*(6), 421.

Lehr, A., and Bechrakis, M. (2018). Against The Odds: Overcoming Online Harassment of Women in Politics. Center for Strategic & International Studies. Retrieved from https://www.csis.org/analysis/against-odds-overcoming-online-harassment-women-politics

Lewis, R., Rowe, M., and Wiper, C. (2017). Online abuse of feminists as an emerging form of violence against women and girls. *British journal of criminology, 57*(6), 1462-1481.

Liang, C., Hong, Y., Gu, B., and Peng, J. (2018). Gender wage gap in online gig economy and gender differences in job preferences. Retrieved from http://www.netinst.org/Chen_18-03.pdf

LIBE Committee. (2018). *Opinion of the Committee on Civil Liberties, Justice and Home Affairs for the Committee on Industry, Research and Energy on a comprehensive European industrial policy on artificial intelligence and robotics*. Retrieved from https://www.europarl.europa.eu/doceo/document/A-8-2019-0019_EN.html

Lopez-Hartmann, M., Wens, J., Verhoeven, V., and Remmen, R. (2012). The effect of caregiver support interventions for informal caregivers of community-dwelling frail elderly: a systematic review. *International journal of integrated care, 12*, e133.

Lordan, G. (2019). *What work disappears? Automation and the changing nature of work*. Retrieved from https://op.europa.eu/en/publication-detail/-/publication/1246be88-329a-11ea-ba6e-01aa75ed71a1/

Lott, Y. (2018). Does flexibility help employees switch off from work? Flexible working-time arrangements and cognitive work-to-home spillover for women and men in Germany. *Social Indicators Research*, 1-24.

Lu, K., Mardziel, P., Wu, F., Amancharla, P., and Datta, A. (2018). Gender bias in neural natural language processing. Retrieved from https://arxiv.org/abs/1807.11714

Mackenbach, J. P., Meerding, W. J., and Kunst, A. E. (2011). Economic costs of health inequalities in the European Union. *Journal of Epidemiology & Community Health, 65*(5), 412-419.

Madara Marasinghe, K. (2016). Assistive technologies in reducing caregiver burden among informal caregivers of older adults: a systematic review. *Disability and Rehabilitation: Assistive Technology, 11*(5), 353-360.

Madureira-Lima, J., Reeves, A., Clair, A., and Stuckler, D. (2018). The Great Recession and inequalities in access to health care: a study of unemployment and unmet medical need in Europe in the economic crisis. *International journal of epidemiology, 47*(1), 58-68.

Mahr, F., and Nadeem, T. (2019). Muslim women and Islamophobia. In H. S. Moffic, J. R. Peteet, A. Hankir, and R. Awaad (Eds.), *Islamophobia and Psychiatry* (pp. 295-305): Springer.

Marion, T. J. (2016). 4 Factors That Predict Startup Success, and One That Doesn't. *Harvard Business Review, May, 3*.

Markson, E. W., and Hollis-Sawyer, L. A. (2000). *Intersections of aging: readings in social gerontology*: Roxbury Publishing Company.

Martínez-Alcalá, C. I., Pliego-Pastrana, P., Rosales-Lagarde, A., Lopez-Noguerola, J., and Molina-Trinidad, E. M. (2016). Information and communication technologies in the care of the elderly: systematic review of applications aimed at patients with dementia and caregivers. *JMIR rehabilitation and assistive technologies, 3*(1), e6.

McCloskey, D. W. (2016). Finding work-life balance in a digital age: An exploratory study of boundary flexibility and permeability. *Information Resources Management Journal 29*(3), 53-70.

McGlynn, C., and Rackley, E. (2017). Why 'upskirting'needs to be made a sex crime. *The conversation.* Retrieved from https://theconversation.com/why-upskirting-needs-to-be-made-a-sex-crime-82357

McGlynn, C., Rackley, E., and Houghton, R. (2017). Beyond 'revenge porn': The continuum of image-based sexual abuse. *Feminist Legal Studies, 25*(1), 25-46.

McIntyre, C. A., and Rhodes, R. E. (2009). Correlates of leisure-time physical activity during transitions to motherhood. *Women & health, 49*(1), 66-83.

Medrano-Gil, A. M., de los Ríos Pérez, S., Fico, G., Montalvá Colomer, J. B., Cea Sáncez, G., Cabrera-Umpierrez, M. F., and Arredondo Waldmeyer, M. T. (2018). Definition of technological solutions based on the internet of things and smart cities paradigms for active and healthy ageing through Cocreation. *Wireless Communications and Mobile Computing*. Retrieved from https://www.hindawi.com/journals/wcmc/2018/1949835/

Mellner, C. (2016). After-hours availability expectations, work-related smartphone use during leisure, and psychological detachment. *International Journal of Workplace Health Management, 9*(2), 146-164.

Metz, R. (2020, 15 January, 2020). There's a new obstacle to landing a job after college: Getting approved by AI. *CNN Business*. Retrieved from https://edition.cnn.com/2020/01/15/tech/ai-job-interview/index.html

Micera, S., Bonato, P., and Tamura, T. (2008). Gerontechnology. *IEEE Engineering in Medicine and Biology Magazine, 27*(4), 10-14.

Miller, G. (2020). Social distancing prevents infections, but it can have unintended consequences. *Science*. Retrieved from https://www.sciencemag.org/news/2020/03/we-are-social-species-how-will-social-distancing-affect-us#

Milner, R. J., and Donald, E. (2019). Technology Facilitated Sexual Violence: Cyberflashing on the Digital Playground. Retrieved from https://dc.etsu.edu/etsu-works/2976/

Mirchandani, K. (2010). Gendered hierarchies in transnational call centres in India. In *Work and Life in the Global Economy* (pp. 78-98): Springer.

Mitchell, K. M., and Martin, J. (2018). Gender bias in student evaluations. *PS: Political Science & Politics, 51*(3), 648-652.

Mouterde, P. (2020). Des plates-formes assurent le suivi des malades infectés par le coronavirus à domicile. *Le Monde*. Retrieved from https://www.lemonde.fr/planete/article/2020/04/01/des-plates-formes-assurent-le-suivi-des-malades-du-covid-19-a-domicile_6035153_3244.html

Nakamura, L. (2013). *Cybertypes: Race, ethnicity, and identity on the Internet*: Routledge.

National Academies of Sciences Engineering and Medicine. (2018). *Sexual harassment of women: climate, culture, and consequences in academic sciences, engineering, and medicine*: National Academies Press.

Ninaus, K., Diehl, S., Terlutter, R., Chan, K., and Huang, A. (2015). Benefits and stressors – Perceived effects of ICT use on employee health and work stress: An exploratory study from Austria and Hong Kong. *International journal of qualitative studies on health and well-being, 10*(1), 28838.

Nissim, M., van Noord, R., and van der Goot, R. (2020). Fair is better than sensational: Man is to doctor as woman is to doctor. *Computational Linguistics, 46*(2), 487-497.

Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. (2020). The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19)—China, 2020. *China CDC Weekly, 2*(8), 113-122.

Nugent, C. (2020). 'It's Like Being a War Medic.' A Madrid Doctor Speaks Out About Grave Shortages in Protective Gear. *Time*. Retrieved from https://time.com/5813848/spain-coronavirus-outbreak-doctor/

Nurvala, J.-P. (2015). 'Uberisation' is the future of the digitalised labour market. *European View, 14*(2), 231-239.

OECD-EU. (2018). *Health at a Glance: Europe 2018*. Retrieved from https://www.oecd.org/health/health-at-a-glance-europe-23056088.htm

OECD. (2015). *In It Together: Why less inequality benefits all*. Retrieved from https://www.oecd.org/social/in-it-together-why-less-inequality-benefits-all-9789264235120-en.htm

OECD. (2016). *The risk of automation for jobs in OECD countries: a comparative analysis. OECD Social, Employment and Migration Working Papers, No. 189.* Retrieved from https://www.oecd-ilibrary.org/docserver/5jlz9h56dvq7-en.pdf?expires=1590486914&id=id&accname=guest&checksum=588D590D27725ED07AF4F67F1DE36AB5

OECD. (2017a). *Going Digital: The Future of Work for Women* Retrieved from https://www.oecd.org/employment/Going-Digital-the-Future-of-Work-for-Women.pdf

OECD. (2017b). *How technology and globalisation are transforming the labour market*. Retrieved from https://www.oecd-ilibrary.org/employment/oecd-employment-outlook-2017_empl_outlook-2017-en

OECD. (2018a). *Bridging the digital gender divide: include, upskill, innovate*. Retrieved from http://www.oecd.org/internet/bridging-the-digital-gender-divide.pdf

OECD. (2018b). *Empowering women in the digital age. Where do we stand?* Retrieved from https://www.oecd.org/social/empowering-women-in-the-digital-age-brochure.pdf

OECD. (2019a). *PISA 2018 Results (Volume II). Where All Students Can Succeed*. Retrieved from http://www.oecd.org/publications/pisa-2018-results-volume-ii-b5fd1b8f-en.htm

OECD. (2019b). *Under Pressure: The Squeezed Middle Class*. Retrieved from https://www.oecd.org/social/under-pressure-the-squeezed-middle-class-689afed1-en.htm

Oesch, D., and Piccitto, G. (2019). The Polarization Myth: Occupational Upgrading in Germany, Spain, Sweden, and the UK, 1992–2015. *Work and Occupations, 46*(4), 441-469.

Overseas Development Institute. (2016). *A good gig? The rise of on-demand domestic work*. Retrieved from https://www.odi.org/publications/10658-good-gig-rise-demand-domestic-work

Overseas Development Institute. (2019). *Gender and the gig economy. Critical steps for evidence-based policy*. Retrieved from https://www.odi.org/publications/11272-gender-and-gig-economy-critical-steps-evidence-based-policy

Palència, L., Espelt, A., Cornejo-Ovalle, M., and Borrell, C. (2014). Socioeconomic inequalities in the use of dental care services in Europe: what is the role of public coverage? *Community dentistry and oral epidemiology, 42*(2), 97-105.

Parmar, D., Stavropoulou, C., and Ioannidis, J. P. A. (2016). Health outcomes during the 2008 financial crisis in Europe: systematic literature review. *Bmj, 354*, i4588. Retrieved from https://www.bmj.com/content/bmj/354/bmj.i4588.full.pdf

Peña-Casas, R., Ghaliani, D., and Coster, S. (2018). *The impact of digitalization on job quality in European public services. The case of homecare and employment service workers*. Retrieved from https://www.epsu.org/sites/default/files/article/files/FINAL%20REPORT%20EPSU%20DIGITALISATION%20-%20OSE%20June%202018.pdf

Pérez-Zapata, O., Pascual, A. S., Álvarez-Hernández, G., and Collado, C. C. (2016). Knowledge work intensification and self-management: the autonomy paradox. *Work Organisation, Labour and Globalisation, 10*(2), 27-49.

Piasna, A., and Drahokoupil, J. (2017). Gender inequalities in the new world of work. *Transfer: European Review of Labour and Research, 23*(3), 313-332.

Piau, A., Campo, E., Rumeau, P., Vellas, B., and Nourhashemi, F. (2014). Aging society and gerontechnology: A solution for an independent living? *The journal of nutrition, health & aging, 18*(1), 97-112.

Pickett, K. E., and Wilkinson, R. G. (2007). Child wellbeing and income inequality in rich societies: ecological cross sectional study. *Bmj, 335*(7629), 1080.

Posetti, J. (2017). Fighting Back Against Prolific Online Harassment: Maria Ressa. In L. Kilman (Ed.), *An Attack on One is an Attack on All* (pp. 37-40): UNESCO.

Prates, M. O., Avelar, P. H., and Lamb, L. C. (2019). Assessing gender bias in machine translation: a case study with Google Translate. *Neural Computing and Applications*, 1-19.

Purvanova, R. K., and Muros, J. P. (2010). Gender differences in burnout: A meta-analysis. *Journal of vocational behavior, 77*(2), 168-185.

PwC. (2016). The sharing economy presents Europe with a €570 billion opportunity. Retrieved from https://www.pwc.com/hu/en/pressroom/2016/sharing_economy_europe.html

PwC. (2019). *Will robots really steal our jobs? An international analysis of the potential long term impact of automation* Retrieved from https://www.pwc.com/hu/hu/kiadvanyok/assets/pdf/impact_of_automation_on_jobs.pdf

Raghavan, M., Barocas, S., Kleinberg, J., and Levy, K. (2020). *Mitigating bias in algorithmic hiring: evaluating claims and practices.* Paper presented at the Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency.

Rapier, G. (2019). Female drivers for Uber and Lyft say sexual harassment is the norm — and getting help from the companies isn't easy. *Business Insider*. Retrieved from https://www.businessinsider.com/female-uber-lyft-drivers-say-sexual-harassment-is-rampant-2019-6

Rego, R. (2018). Changing Forms and Platforms of Misogyny: Sexual Harassment of Women Journalists on Twitter. *Media Watch, 9*(3), 472-485.

Reimer, D., and Steinmetz, S. (2009). Highly educated but in the wrong field? Educational specialisation and labour market risks of men and women in Spain and Germany. *European Societies, 11*(5), 723-746.

Richter, M., Vereecken, C. A., Boyce, W., Maes, L., Gabhainn, S. N., and Currie, C. E. (2009). Parental occupation, family affluence and adolescent health behaviour in 28 countries. *International journal of public health, 54*(4), 203-212.

Rohatgi, A., Scherer, R., and Hatlevik, O. E. (2016). The role of ICT self-efficacy for students' ICT use and their achievement in a computer and information literacy test. *Computers & Education, 102*, 103-116.

Roland Berger, La Journée de La Femme Digitale, and NUMA. (2017). *Digital equality? Women in the digital revolution*. Retrieved from https://www.rolandberger.com/en/Publications/Digital-equality-for-women.html#:~:text=63%25%20believe%20digital%20will%20help,of%20professional%20opportunity%20for%20women.

Ropponen, A., Hakanen, J. J., Hasu, M., and Seppänen, L. (2019). Workers' Health, Wellbeing, and Safety in the Digitalizing Platform Economy. In S. Poutanen, A. Kovalainen, and P. Rouvinen (Eds.), *Digital Work and the Platform Economy: Understanding Tasks, Skills and Capabilities in the New Era.*: Routledge.

Rosenblat, A., Levy, K. E., Barocas, S., and Hwang, T. (2017). Discriminating tastes: Uber's customer ratings as vehicles for workplace discrimination. *Policy & Internet, 9*(3), 256-279.

Roxby, P. (2020). Coronavirus: Plea for public to get medical care when they need it. *BBC*. Retrieved from https://www.bbc.com/news/health-52417599

Rubery, J. (2010). *Women and Recession*. London: Routledge.

Rubery, J. (2015). Change at work: feminisation, flexibilisation, fragmentation and financialisation. *Employee Relations, 37*(6), 633.

Rubery, J. (2018). A gender lens on the future of work. *Journal of International Affairs, 72*(1), 91-106.

Rubery, J., and Fagan, C. (1993). *Occupational segregation of women and men in the European Community*: Publications Office of the European Union.

Sainato, M. (2019). Female drivers feel abandoned by Uber and Lyft after reporting a sexual assault. *The Guardian*. Retrieved from https://www.theguardian.com/technology/2019/jun/19/uber-lyft-female-drivers-sexual-assault

Saripapa, N. (2019). *Analytical report on abuse of older women in selected European countries*. Retrieved from http://www.voiva.fi/wp-content/uploads/2019/03/TISOVA_O1-report-1.pdf

Scheele, A. (2005). The future of work – What kind of work? Impacts of gender on the definition of work and research methodology. *Transfer: European Review of Labour and Research, 11*(1), 014-025.

Schieman, S., and Young, M. (2010). Is there a downside to schedule control for the work-family interface? *Journal of Family Issues, 31*(10), 1391-1414.

Schneebaum, A., Rehm, M., Mader, K., and Hollan, K. (2018). The gender wealth gap across European countries. *Review of Income and Wealth, 64*(2), 295-331.

Schoenbaum, N. (2016). Gender and the sharing economy. *Fordham Urban Law Journal 43*(4), 1023-1070.

Schröttle, and Meshkova. (2018). Data collection: challenges and opportunities. In S. Weil, Corradi, C., & Naudi, M. (Ed.), *Femicide Across Europe* (pp. 33-52): Policy Press.

Schwellnus, C., Geva, A., Pak, M., and Veiel, R. (2019). *Gig economy platforms: Boon or Bane?* Retrieved from https://www.oecd-ilibrary.org/economics/gig-economy-platforms-boon-or-bane_fdb0570b-en

Seiner, J. A. (2019). Harassment, Technology, and the Modern Worker. *Employee Rights and Employment Policy Journal, 23*, 85.

Seta, Đ. (2016). *Forgotten Women: The Impact of Islamophobia on Muslim Women*. Retrieved from https://www.enar-eu.org/IMG/pdf/20095_forgottenwomenpublication_v5_1_.pdf

Sevilla, A., and Smith, S. (2020). *Baby steps: The gender division of childcare during the COVID19 pandemic*. Retrieved from https://www.iza.org/publications/dp/13302/baby-steps-the-gender-division-of-childcare-during-the-covid-19-pandemic

Shevchuk, A., Strebkov, D., and Davis, S. N. (2019). The autonomy paradox: how night work undermines subjective well-being of internet-based freelancers. *ILR Review, 72*(1), 75-100.

Silbermann, J. (2020). Gender-based pay gaps in the gig economy. *Harward Journal of Law and Gender*. Retrieved from https://harvardjlg.com/2020/02/gender-based-pay-gaps-in-the-gig-economy/

Simonite, T. (2018). AI is the future – But where are the women. *Wired*. Retrieved from https://www.wired.com/story/artificial-intelligence-researchers-gender-imbalance/

Sinha, C., and Schryer-Roy, A.-M. (2018). Digital health, gender and health equity: invisible imperatives. *Journal of Public Health, 40*(suppl_2), ii1-ii5.

Smith, A. (2016). *Gig work, online selling and home sharing*. Retrieved from https://www.pewresearch.org/internet/2016/11/17/gig-work-online-selling-and-home-sharing/

Smorto, G. (2018). Protecting the weaker parties in the platform economy. In N. Davidson, M. Finck, and J. Infranca (Eds.), *Cambridge Handbook*

on Law and Regulation of the Sharing Economy: Cambridge University Press.

Søndergaard, M. L. J., and Hansen, L. K. (2017). Designing with Bias and Privilege. *Nordes 2017, 7*.

Spasova, S., Baeten, R., Coster, S., Ghailani, D., Peña-Casas, R., and Vanhercke, B. (2018). *Challenges in long-term care in Europe. A study of national policies*. Retrieved from https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8128&furtherPubs=yes

Sprang, G., and Silman, M. (2013). Posttraumatic stress disorder in parents and youth after health-related disasters. *Disaster medicine and public health preparedness, 7*(1), 105-110.

Stanney, K., Fidopiastis, C., and Foster, L. (2020). Virtual Reality is Sexist: But It Does Not Have to Be. *Frontiers in Robotics and AI, 7*, 4.

Statucki, T., Howard, N., Ackerman, W. & Kuhn, C. (2020, 09/04/2020). The Potential Benefits of Digital Health Technology in Managing COVID-19. *Covington Digital Health*. Retrieved from https://www.covingtondigitalhealth.com/2020/03/the-potential-benefits-of-digital-health-technology-in-managing-covid-19/

Stavrotheodoros, S., Kaklanis, N., Votis, K., and Tzovaras, D. (2018). *A smart-home IoT infrastructure for the support of independent living of older adults.* Paper presented at the IFIP international conference on artificial intelligence applications and innovations.

Talmazan, Y., Sirna, L., Ratto, H. M., and Ing, N. (2020). European countries develop new ways to tackle domestic violence during coronavirus lockdowns. *NBC News*. Retrieved from https://www.nbcnews.com/news/world/european-countries-develop-new-ways-tackle-domestic-violence-during-coronavirus-n1174301

Tatara, T., Kuzmeskus, L., and Duckhorn, E. (1998). *The National Elder Abuse Incidence Study – Final Report*. Retrieved from https://acl.gov/sites/default/files/programs/2016-09/ABuseReport_Full.pdf

Tedesco, C. (2019). Confidence Not Competence: What Holds Women Back from Embracing Tech in Development. *DAI*. Retrieved from https://dai-global-digital.com/confidence-not-competence-what-holds-women-back-from-embracing-tech-in-development.html

Ten Brummelhuis, L. L., and Van Der Lippe, T. (2010). Effective work-life balance support for various household structures. *Human Resource Management, 49*(2), 173-193.

Thompson, L. (2016). #DickPics are no joke: cyber-flashing, misogyny and online dating. *The Conversation*. Retrieved from https://theconversation.com/dickpics-are-no-joke-cyber-flashing-misogyny-and-online-dating-53843

Ticona, J., and Mateescu, A. (2018a). How Domestic Workers Wager Safety In The Platform Economy. *Fast Company*. Retrieved from https://www.fastcompany.com/40541050/how-domestic-workers-wager-safety-in-the-platform-economy

Ticona, J., and Mateescu, A. (2018b). Trusted strangers: Carework platforms' cultural entrepreneurship in the on-demand economy. *New Media & Society, 20*(11), 4384-4404.

Trojansky, A. (2020). *Towards the "Uber-isation" of care? Platform work in the sector of long-term care and its implications for workers' rights*. Retrieved from https://op.europa.eu/en/publication-detail/-/publication/95798e0e-59dc-11ea-8b81-01aa75ed71a1:

Uhlmann, E. L., and Silberzahn, R. (2014). Conformity under uncertainty: Reliance on gender stereotypes in online hiring decisions. *Behavioral and Brain Sciences, 37*(1), 103-104.

UN Women. (2020). Policy Brief: The Impact of COVID-19 on Women. Retrieved from https://www2.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/policy-brief-the-impact-of-covid-19-on-women-en.pdf?la=en&vs=1406

Valenduc, G. (2011). Not a job for life? Women's progression, conversion and dropout in ICT professions. *International Journal of Gender, Science and Technology, 3*(2), 483-500.

Valenduc, G., and Vendramin, P. (2017). Digitalisation, between disruption and evolution. *Transfer: European Review of Labour and Research, 23*(2), 121-134.

Valenduc, G., Vendramin, P., Guffens, C., Ponzellini, A. M., Lebano, A., d'Ouville, L., . . . Tolar, M. (2004). *Widening women's work in information and communication technology*. Retrieved from http://www.ftu-namur.org/fichiers/D12-print.pdf

Van Bavel, M., Janssens, K., Schakenraad, W., and Thurlings, N. (2010). *Elder abuse in Europe: Background and position paper*. Retrieved from https://www.aanpak-ouderenmishandeling.nl/doc/Elder-Abuse-in-Europe.pdf

Van Doorn, N. (2017). Platform labor: on the gendered and racialized exploitation of low-income service work in the 'on-demand' economy. *Information, Communication & Society, 20*(6), 898-914.

von der Leyen, U. (2019). *Political Guidelines for the next European Commission 2019-2024*. Retrieved from https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

Vorvoreanu, M., Zhang, L., Huang, Y.-H., Hilderbrand, C., Steine-Hanson, Z., and Burnett, M. (2019). *From gender biases to gender-inclusive design: An empirical investigation.* Paper presented at the Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems.

Wajcman, J. (2004). *Technofeminism*. Cambridge: Polity.

Wajcman, J. (2015). *Pressed for time: The acceleration of life in digital capitalism*: University of Chicago Press.

Walklate, S., Fitz-Gibbon, K., McCulloch, J., and Maher, J. (2019). *Towards a Global Femicide Index: Counting the Costs*. London: Routledge.

Wang, Y., and Redmiles, D. (2019). *Implicit gender biases in professional software development: An empirical study.* Paper presented at the 2019 IEEE/ACM 41st International Conference on Software Engineering: Software Engineering in Society (ICSE-SEIS).

WAVE. (2019). Launch of a new EU-Project: MARVOW - Multi-Agency Responses to Violence against Older Women – in Austria, Estonia, Greece and Germany Retrieved from https://www.wave-network.org/wp-content/uploads/Pressrelease_MARVOW_.pdf

Wenham, C., Smith, J., and Morgan, R. (2020). COVID-19: the gendered impacts of the outbreak. *The Lancet, 395*(10227), 846-848.

WHO. (2008). *Behaviour change strategies and health: the role of health systems*. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0003/70185/RC58_edoc10.pdf

WHO. (2013). *Health 2020: a European policy framework supporting action across government and society for health and well-being*. Retrieved from http://www.euro.who.int/en/publications/abstracts/health-2020-a-european-policy-framework-supporting-action-across-government-and-society-for-health-and-well-being

WHO. (2014a). *The case for investing in public health. A public health summary report for EPHO 8.* Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0009/278073/Case-Investing-Public-Health.pdf

WHO. (2014b). *Policy summary 15. What do we know about the strengths and weakness of different policy mechanisms to influence health behaviour in the population?* Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0003/270138/PS15-web.pdf

WHO. (2016). *Growing Up Unequal: Gender and Socioeconomic Differences in Young People's Health and Well-being* (9289051361). Retrieved from https://www.euro.who.int/__data/assets/pdf_file/0003/303438/HSBC-No.7-Growing-up-unequal-Full-Report.pdf

WHO. (2017). *Adolescent obesity and related behaviours: trends and inequalities in the WHO European Region, 2002–2014*. Retrieved from https://www.euro.who.int/__data/assets/pdf_file/0019/339211/WHO_ObesityReport_2017_v3.pdf

WHO. (2018). Working paper on Gender & Equity in the Health and Social Care Workforce. Retrieved from https://www.who.int/hrh/news/2018/GEH-working-paper-ZeroDraft.pdf

WHO. (2020a). COVID-19 and violence against women. What the health sector/system can do. Retrieved from https://www.who.int/reproductivehealth/publications/vaw-covid-19/en/

WHO. (2020b). *Gender and COVID-19*. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/332080/WHO-2019-nCoV-Advocacy_brief-Gender-2020.1-eng.pdf?sequence=1&isAllowed=y

WHO. (2020c). *Mental health and psychosocial considerations during the COVID-19 outbreak* Retrieved from https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf

WHO. (2020d). *Strengthening Preparedness for Health Emergencies; Implementation of International Health Regulations. Draft resolution proposed by Argentina, Chile, Finland, France, Indonesia, Netherlands, Rwanda, Singapore and Zambia*. Paper presented at the Executive Board: 146th session. https://apps.who.int/gb/ebwha/pdf_files/EB146/B146_CONF17-en.pdf

World Economic Forum. (2016). The Future of Jobs. Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. Retrieved from https://www.weforum.org/reports/the-future-of-jobs

World Economic Forum. (2018). *The Global Gender Gap Report*. Retrieved from http://www3.weforum.org/docs/WEF_GGGR_2018.pdf

Woyke, E. (2017). The Octogenarians Who Love Amazon's Alexa. *MIT Technology Review*. Retrieved from https://www.technologyreview.com/2017/06/09/151317/the-octogenarians-who-love-amazons-alexa/

Wu, J., McCann, A., Katz, J., and Peltier, E. (2020). 74,000 Missing Deaths: Tracking the True Toll of the Coronavirus Outbreak. *New York Times*. Retrieved from https://www.nytimes.com/interactive/2020/04/21/world/coronavirus-missing-deaths.html

Yang, S.-Y., Lin, C.-Y., Huang, Y.-C., and Chang, J.-H. (2018). Gender differences in the association of smartphone use with the vitality and mental health of adolescent students. *Journal of American college health, 66*(7), 693-701.

YoungMinds. (2020). *Coronavirus: Impact on young people with mental health needs*. Retrieved from https://youngminds.org.uk/media/3708/coronavirus-report_march2020.pdf

Zacharenko, E. (2020). The coronavirus crisis exposes the systemic exploitation between the EU's West and East. *The Progressive Post*. Retrieved from https://progressivepost.eu/no-category/the-coronavirus-crisis-exposes-the-systemic-exploitation-between-the-eus-west-and-east

Zeid, A. (2018). The impact of online violence on women human rights defenders and women's organisations. Statement by UN High Commissioner for Human Rights. 38th session of the Human Rights Council. Retrieved from https://www.ohchr.org/EN/HRBodies/HRC/Pages/NewsDetail.aspx?NewsID=23238&LangID=E

Annexes

Annex 1. List of indicators of the Gender Equality Index

Domain	Sub-domain	N	Indicator and reference population	Description	Data used					
					Source	Index				
						2010	2012	2015	2017	2018
Work	Participation	1	Full-time equivalent employment rate (%, 15+ population)	The full-time equivalent (FTE) employment rate is a unit to measure employed persons in a way that makes them comparable even though they may work a different number of hours per week. The unit is obtained by comparing an employee's average number of hours worked to the average number of hours worked by a full-time worker. A full-time worker is therefore counted as one FTE, while a part-time worker gets a score in proportion to the hours she or he works. For example, a part-time worker employed for 20 hours a week where full-time work consists of 40 hours, is counted as 0.5 FTE.	Eurostat, EU-LFS Eurostat calculations according to EIGE request (2010-2015). EIGE calculations 2017, 2018	2010	2012	2015	2017	2018
		2	Duration of working life (years, 15+ population)	The duration of working life indicator (DWL) measures the number of years a person aged 15 is expected to be active in the labour market throughout his/her life.	Eurostat, EU-LFS lfsi_dwl_a	2010	2012	2015	2017	2018
	Segregation and quality of work	3	Employed people in education, human health and social work activities (%, 15+ employed)	Percentage of people employed in the following economic activities out of total employed (based on NACE Rev 2) are included: P. Education + Q. Human health and social work, as percentage from TOTAL activities (All NACE activities).	Eurostat, EU-LFS lfsa_egan2, lfsa_egana	2010	2012	2015	2017	2018
		4	Ability to take an hour or two off during working hours to take care of personal or family matters (%,15+ workers)	Percentage of persons who answered 'very easy' out of total (1, 2, 3, 4), question Q47. Would you say that, for you, arranging to take an hour or two off during working hours to take care of personal or family matters is ... ? 1 Very easy; 2 Fairly easy; 3 Fairly difficult; 4 Very difficult.	Eurofound, EWCS EIGE calculation with microdata	2015	2015	2015	2015	2015
		5	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.	Eurofound, EWCS Calculated by Eurofound	2015	2015	2015	2015	2015

Domain	Sub-domain	N	Indicator and reference population	Description	Data used					
					Source	Index				
						2010	2012	2015	2017	2018
Money	**Financial resources**	6	Mean monthly earnings (PPS, working population)	Mean monthly earnings in PPS (Purchasing Power Standard) in the sectors of industry, construction and services (except public administration, defence, compulsory social security) (NACE_R2: B-S_X_O, total age group, working in companies of 10 employees or more)	Eurostat, SES earn_ses06_20, earn_ses10_20, earn_ses14_20	2010	2010	2014 EL and HR 2010	2014	2014
		7	Mean equivalised net income (PPS, 16+ population)	Equivalised disposable income in PPS (Purchasing Power Standard) is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale.	Eurostat, EU-SILC ilc_di03	2010 EU: Non-weighted average.	2012 EU: Non-weighted average.	2015 EU: Non-weighted average.	2017 EU: Non-weighted average.	2018 EU: Non-weighted average.
	Economic situation	8	Not-at-risk-of-poverty, ≥60 % of median income (%,16+ population)	Reversed indicator of 'at-risk-of poverty' rate, calculated as 100 minus 'at-risk-of-poverty rate'. The at-risk-of-poverty rate is the share of people with an equivalised disposable income (after social transfers) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers.	Eurostat, EU-SILC ilc_li02	2010	2012	2015	2017	2018
		9	S20/S80 income quintile share (16+ population)	Calculated as 1/ 'S80/S20 income quintile share ratio' * 100. The income quintile share ratio (also called the S80/S20 ratio) is a measure of the inequality of income distribution. It is calculated as the ratio of total income received by the 20 % of the population with the highest income (the top quintile) to that received by the 20 % of the population with the lowest income (the bottom quintile). The Index uses a 'reversed' version of this indicator.	Eurostat, EU-SILC Eurostat calculations according to EIGE request	2010	2012	2015 IE 2014	2017	2018

Domain	Sub-domain	N	Indicator and reference population	Description	Data used					
					Source	Index				
						2010	2012	2015	2017	2018
Knowledge	Attainment and participation	10	Graduates of tertiary education (%, 15+ population)	Educational attainment measures the share of highly educated people among women and men. People with tertiary education as their highest level successfully completed (levels 5-8), percentage from total 15+ population	Eurostat, EU-LFS Eurostat calculations according to EIGE request (2010-2015). EIGE calculations 2017, 2018	2010	2012	2015	2017	2018
		11	People participating in formal or non-formal education and training (%, 15+ population)	Percentage of people participating in formal or non-formal education and training, in the last four weeks	Eurostat, EU-LFS Eurostat calculations according to EIGE request (2010-2015). EIGE calculations 2017, 2018	2010	2012	2015	2017	2018
	Segregation	12	Tertiary students in the fields of education, health and welfare, humanities and arts (tertiary students) (%, 15+ population)	Percentage of persons studying education, arts and humanities, and health and welfare (ISCED 5-8).	Eurostat, education statistics educ_enrl5, educ_uoe_enrt03	2010 LU 2011.	2012	2015 EL, IE, 2014.	2017 BG, CZ, IE, EL, FR, HR, IT, CY, HU, MT, PT, RO, SK, FI, SE, UK. 2016. SI, ED7 (Master or equivalent) n/a, 2016 used	2017 SI, ED7 (Master or equivalent) n/a, 2016 used

Domain	Sub-domain	N	Indicator and reference population	Description	Data used					
					Source	Index				
						2010	2012	2015	2017	2018
Time	Care activities	13	People caring for and educating their children or grandchildren, elderly or people with disabilities, every day (%, 18+ population)	Percentage of people involved in at least one of these caring activities outside of paid work every day: care for children, grandchildren, elderly and people with disabilities. Question: (in general) how often are you involved in any of the following activities outside of paid work? 2016: Q42a Caring for and/or educating your children; Q42b Caring for and/or educating your grandchildren; Q42d Caring for disables or infirm members, neighbours or friends under 75 y.o.; Q42e Caring for disables or infirm members, neighbours or friends aged 75 or over; 2012: Q36a caring for your children/grandchildren; Q36c Caring for elderly or disables relatives; 2007: Q36c Caring for elderly or disables relatives; 2003: Q37a Caring for and educating children; Q37c Caring for elderly or disables relatives;	Eurofound, EQLS EIGE's calculation with microdata	2007	2012	2016	2016	2016
		14	People cooking and/or doing housework, every day (%, 18+ population)	Percentage of people involved in cooking and/or housework outside of paid work, every day. Questions: How often are you involved in any of the following activities outside of paid work? 2016: Q42c Cooking and/or housework; 2012 Q36b Cooking and/or housework; 2007: Q36b Cooking and housework; 2003: Q37b Housework	Eurofound, EQLS EIGE calculation with microdata	2007	2012	2016	2016	2016
	Social activities	15	Workers doing sporting, cultural or leisure activities outside of their home, at least daily or several times a week (%, 15+ workers)	Percentage of working people doing sporting, cultural or leisure activities at least every other day (daily + several times a month out of total). 2015: Q95 On average, how many hours per day do you spend on the activity? Q95g Sporting, cultural or leisure activity outside your home.	Eurofound, EWCS EIGE calculation with microdata	2015	2015	2015	2015	2015
		16	Workers involved in voluntary or charitable activities, at least once a month (%, 15+ workers)	Percentage of working people involved in voluntary or charitable activities at least once a month. 2015: Q95 On average, how many hours per day do you spend on the activity? Q95a Voluntary or charitable activities; daily; several times a week; several times a month; Less often; Never. (1-3 out of total (who answered 1-5)). 2005 (EF4.1a), 2010 (EF3a) In general, how often are you involved in voluntary or charitable activity outside your home outside work? 1 Every day for 1hour or more; 2 Every day or every second day for less than 1 hour; 3 Once or twice a week; 4 Once or twice a month; 5 Once or twice a year; 6 Never. (1-4 out of total (who answered 1-6)).	Eurofound, EWCS EIGE calculation with microdata	2010	2010	2015	2015	2015

Domain	Sub-domain	N	Indicator and reference population	Description	Data used					
					Source	Index				
						2010	2012	2015	2017	2018
Power	Political	17	Share of ministers (% W, M)	Share of ministers (three-year average). National governments (all ministers: junior ministers + senior ministers)	EIGE, Gender Statistics Database, WMID EIGE calculation.	2009-2010-2011	2011-2012-2013	2014-2015-2016	2016-2017-2018	2017-2018-2019
		18	Share of members of parliament (% W, M)	Share of members of parliament (three-year average). National parliaments (both houses)	EIGE, Gender Statistics Database, WMID EIGE calculation	2009-2010-2011	2011-2012-2013	2014-2015-2016	2016-2017-2018	2017-2018-2019
		19	Share of members of regional assemblies (% W, M)	Share of members of regional assemblies (three-year average). Regional assemblies. If regional assemblies do not exist in the country, local level politics are included	EIGE, Gender Statistics Database, WMID EIGE calculation.	Regional assembly 2009-2010-2011	Regional assembly 2011-2012-2013	Regional assembly 2014-2015-2016	Regional assembly 2016-2017-2018	Regional assembly 2017-2018-2019
						Local level politics 2011	Local level politics 2013	Local level politics 2015	Local level politics 2017	Local level politics 2019
	Economic	20	Share of members of boards in largest quoted companies, supervisory board or board of directors (% W, M)	Share of members of boards in largest quoted companies (three-year average).	EIGE, Gender Statistics Database, WMID EIGE calculation.	2009-2010-2011	2011-2012-2013	2014-2015-2016	2016-2017-2018	2017-2018-2019
		21	Share of board members of central bank (% W, M)	Share of board members of central bank (three-year average).	EIGE, Gender statistics Database, WMID EIGE calculation.	2009-2010-2011	2011-2012-2013	2014-2015-2016	2016-2017-2018	2017-2018-2019
	Social	22	Share of board members of research funding organisations (% W, M)	Share of members of the highest decision-making bodies of research funding organisations (three-year average).	EIGE, Gender Statistics Database, WMID EIGE calculation.	2017	2017	2017	2017-2018 IT: only 2017	2017-2018-2019 IT, RO: only 2018 (break in time series)
		23	Share of board members in publicly owned broadcasting organisations (% W, M)	Share of board members in publicly owned broadcasting organisations (three-year average).	EIGE, Gender Statistics Database, WMID EIGE calculation.	2014	2014	2014-2015-2016	2016-2017-2018	2017-2018-2019
		24	Share of members of highest decision-making body of the national Olympic sport organisations (% W, M)	Share of members of highest decision-making body of the 10 most popular national Olympic sport organisations (three-year average).	EIGE, Gender Statistics Database, WMID EIGE calculation.	2015	2015	2015	2015-2018	2015-2018-2019

Domain	Sub-domain	N	Indicator and reference population	Description	Data used					
					Source	Index				
						2010	2012	2015	2017	2018
Health	Status	25	Self-perceived health, good or very good (%, 16+ population)	Percentage of people assessing their health as 'very good' or 'good' out of total. The concept is operationalised by a question on how a person perceives his/her health in general, using one of the answer categories very good/good/ fair/bad/very bad.	Eurostat, EU-SILC hlth_silc_01	2010	2012 HR, 2011 (M)	2015	2017	2018
		26	Life expectancy in absolute value at birth (years)	Life expectancy at a certain age is the mean additional number of years that a person of that age can expect to live, if subjected throughout the rest of his or her life to current mortality conditions.	Eurostat, mortality data hlth_hlye	2010 Total: average of women and men. IT: 2009.	2012 Total: average of women and men. SE: 2011.	2015 Total: average of women and men.	2016 Total: average of women and men.	2018
		27	Healthy life years in absolute value at birth (years)	Healthy life years measures the number of remaining years that a person of a specific age is expected to live without any severe or moderate health problems.	Eurostat, EU-SILC and mortality data hlth_hlye	2010 Total: average of women and men. IT: 2009.	2012 Total: average of women and men. SE: 2011.	2015 Total: average of women and men.	2016 Total: average of women and men.	2018
	Behaviour	28	People who do not smoke and are not involved in harmful drinking (%, 16+ population)	Percentage of people who are not involved in risky behaviour, i.e. do not smoke and are not involved in heavy episodic drinking. Heavy episodic drinking is intake of six drinks or 60+ grammes of pure alcohol on one occasion, monthly or more often, during the past 12 months.	Eurostat, EHIS Eurostat calculations according to EIGE request	2014 EU: Non-weighted average. FR, NL: EIGE estimation.	2014 EU: Non-weighted average. FR, NL: EIGE estimation.	2014 EU: Non-weighted average. FR, NL: EIGE estimation.	2014 EU: Non-weighted average. FR, NL: EIGE estimation.	2014 EU: Non-weighted average. FR, NL: EIGE estimation.
		29	People doing physical activities and/ or consuming fruits and vegetables (%, 16+ population)	Percentage of people who are physically active at least 150 minutes per week and/or consume at least five portions of fruit and vegetables per day.	Eurostat, EHIS Eurostat calculations according to EIGE request	2014 EU: Non-weighted average. BE, NL: EIGE estimation.	2014 EU: Non-weighted average. BE, NL: EIGE estimation.	2014 EU: Non-weighted average. BE, NL: EIGE estimation.	2014 EU: Non-weighted average. BE, NL: EIGE estimation.	2014 EU: Non-weighted average. BE, NL: EIGE estimation.
Health	Access	30	Population without unmet needs for medical examination (%, 16+ population)	Self-reported unmet need for medical examination.	Eurostat, EU-SILC hlth_silc_08	2010	2012	2015	2017	2018
		31	People without unmet needs for dental examination (%, 16+ population)	Self-reported unmet need for dental examination.	Eurostat, EU-SILC hlth_silc_09	2010	2012	2015	2017	2018
Additional variable			Population in age group 18+	Number of people in age 18+ in country	Eurostat, population statistics demo_pjanbroad, demo_pjan	2009-2010-2011	2011-2012-2013	2014-2015-2016	2016-2017-2018	2017-2018-2019

Annex 2. Gender Equality Index scores

Table 3. Gender Equality Index scores, ranks and changes in score by EU Member State, 2010, 2012, 2015, 2017, 2018

MS	Scores (points)					Ranks					Changes in score	
	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010 to 2018	2017 to 2018
EU	**63.8**	**65.0**	**66.2**	**67.4**	**67.9**	–	–	–	–	–	**4.1**	**0.5**
BE	69.3	70.2	70.5	71.1	71.4	5	5	7	8	9	2.1	0.3
BG	55.0	56.9	58.0	58.8	59.6	17	15	16	19	19	4.6	0.8
CZ	55.6	56.7	53.6	55.7	56.2	14	17	23	21	23	0.6	0.5
DK	75.2	75.6	76.8	77.5	77.4	2	2	2	2	2	2.2	–0.1
DE	62.6	64.9	65.5	66.9	67.5	11	12	12	12	12	4.9	0.6
EE	53.4	53.5	56.7	59.8	60.7	21	22	20	17	18	7.3	0.9
IE	65.4	67.7	69.5	71.3	72.2	9	8	8	7	7	6.8	0.9
EL	48.6	50.1	50.0	51.2	52.2	28	28	28	28	28	3.6	1.0
ES	66.4	67.4	68.3	70.1	72.0	8	9	11	9	8	5.6	1.9
FR	67.5	68.9	72.6	74.6	75.1	7	6	5	3	3	7.6	0.5
HR	52.3	52.6	53.1	55.6	57.9	25	23	24	22	20	5.6	2.3
IT	53.3	56.5	62.1	63.0	63.5	22	18	14	14	14	10.2	0.5
CY	49.0	50.6	55.1	56.3	56.9	27	27	22	20	21	7.9	0.6
LV	55.2	56.2	57.9	59.7	60.8	16	19	17	18	17	5.6	1.1
LT	54.9	54.2	56.8	55.5	56.3	18	21	19	23	22	1.4	0.8
LU	61.2	65.9	69.0	69.2	70.3	12	11	9	10	10	9.1	1.1
HU	52.4	51.8	50.8	51.9	53.0	24	25	27	27	27	0.6	1.1
MT	54.4	57.8	60.1	62.5	63.4	19	14	15	15	15	9.0	0.9
NL	74.0	74.0	72.9	72.1	74.1	3	4	4	6	5	0.1	2.0
AT	58.7	61.3	63.3	65.3	66.5	13	13	13	13	13	7.8	1.2
PL	55.5	56.9	56.8	55.2	55.8	15	16	18	24	24	0.3	0.6
PT	53.7	54.4	56.0	59.9	61.3	20	20	21	16	16	7.6	1.4
RO	50.8	51.2	52.4	54.5	54.4	26	26	25	25	26	3.6	–0.1
SI	62.7	66.1	68.4	68.3	67.7	10	10	10	11	11	5.0	
SK	53.0	52.4	52.4	54.1	55.5	23	24	26	26	25	2.5	1.4
FI	73.1	74.4	73.0	73.4	74.7	4	3	3	4	4	1.6	1.3
SE	80.1	79.7	82.6	83.6	83.8	1	1	1	1	1	3.7	0.2
UK	68.7	68.9	71.5	72.2	72.7	6	7	6	5	6	4.0	0.5

Table 4. Gender Equality Index scores and ranks, by domain and EU Member State, 2010

MS	Scores (points)							Ranks						
	Index	Work	Money	Knowledge	Time	Power	Health	Index	Work	Money	Knowledge	Time	Power	Health
EU	**63.8**	**70.5**	**78.4**	**61.8**	**66.3**	**41.9**	**87.2**	-	-	-	-	-	-	-
BE	69.3	72.7	85.5	70.6	70.3	47.9	86.5	5	8	4	4	8	7	14
BG	55.0	67.9	60.8	50.4	43.9	45.8	75.3	17	20	25	24	25	8	27
CZ	55.6	64.9	73.8	55.4	53.8	31.0	85.7	14	25	18	17	20	16	17
DK	75.2	79.8	83.6	73.2	80.4	58.0	90.3	2	2	7	2	3	3	6
DE	62.6	70.0	83.2	56.3	69.8	38.3	89.3	11	18	9	15	10	11	10
EE	53.4	71.2	65.5	51.6	73.7	21.9	82.7	21	15	24	23	5	26	22
IE	65.4	73.5	85.5	65.3	70.8	37.2	90.7	9	7	3	8	7	12	4
EL	48.6	63.6	75.3	53.4	35.6	22.3	84.3	28	27	17	22	28	25	20
ES	66.4	71.8	77.1	63.5	60.8	52.6	88.6	8	12	16	9	14	5	11
FR	67.5	71.5	83.5	62.0	66.6	52.4	86.7	7	13	8	10	12	6	13
HR	52.3	67.2	68.6	49.9	49.8	28.4	81.5	25	21	23	26	23	21	24
IT	53.3	61.3	78.9	53.8	55.1	25.2	86.3	22	28	15	21	16	23	16
CY	49.0	70.5	80.7	55.5	45.9	15.4	86.4	27	17	11	16	24	28	15
LV	55.2	72.6	58.9	49.2	62.0	34.8	77.3	16	9	28	27	13	14	26
LT	54.9	72.6	60.8	54.3	52.2	32.9	80.4	18	10	26	20	21	15	25
LU	61.2	70.9	91.8	66.3	70.2	25.6	89.8	12	16	1	6	9	22	8
HU	52.4	66.0	70.8	54.5	54.1	23.5	85.4	24	23	20	19	19	24	18
MT	54.4	65.1	79.2	65.4	54.3	20.9	90.6	19	24	14	7	17	27	5
NL	74.0	76.3	86.6	66.9	85.9	56.9	90.3	3	3	2	5	1	4	7
AT	58.7	75.3	82.8	58.9	56.0	28.4	91.1	13	4	10	12	15	20	3
PL	55.5	66.3	69.5	57.8	54.2	30.6	81.6	15	22	22	14	18	18	23
PT	53.7	71.4	71.8	50.1	38.7	34.9	84.3	20	14	19	25	27	13	21
RO	50.8	67.9	59.8	47.2	50.6	30.8	69.9	26	19	27	28	22	17	28
SI	62.7	71.9	80.3	55.0	68.3	41.1	86.8	10	11	12	18	11	10	12
SK	53.0	64.8	70.2	59.5	39.9	29.5	84.8	23	26	21	11	26	19	19
FI	73.1	74.5	84.1	58.6	80.1	69.1	89.5	4	6	6	13	4	2	9
SE	80.1	80.4	85.3	70.7	84.5	77.8	93.2	1	1	5	3	2	1	2
UK	68.7	75.1	79.8	73.3	72.1	42.4	94.1	6	5	13	1	6	9	1

Table 5. Gender Equality Index scores and ranks, by domain and EU Member State, 2018

MS	Scores (points)							Ranks						
	Index	Work	Money	Knowledge	Time	Power	Health	Index	Work	Money	Knowledge	Time	Power	Health
EU	**67.9**	**72.2**	**80.6**	**63.6**	**65.7**	**53.5**	**88.0**	-	-	-	-	-	-	-
BE	71.4	74.7	88.7	71.4	65.3	55.7	86.5	9	10	2	2	12	11	17
BG	59.6	69.0	62.3	54.9	42.7	61.5	77.2	19	21	28	23	28	6	27
CZ	56.2	67.0	76.8	58.4	57.3	27.7	86.3	23	25	17	15	18	26	18
DK	77.4	79.7	86.8	71.3	83.1	66.2	89.7	2	2	5	3	3	5	9
DE	67.5	72.1	84.9	54.0	65.0	59.5	90.6	12	18	10	25	13	8	6
EE	60.7	72.1	70.0	56.3	74.7	36.1	81.6	18	17	24	18	5	20	24
IE	72.2	75.9	86.5	67.3	74.2	55.8	91.3	7	6	8	8	6	10	5
EL	52.2	64.4	72.5	54.8	44.7	27.0	84.0	28	27	22	24	27	27	21
ES	72.0	73.2	77.8	67.6	64.0	69.4	90.1	8	13	16	6	15	4	7
FR	75.1	72.8	87.0	66.3	67.3	79.8	87.4	3	16	4	10	10	2	14
HR	57.9	69.9	72.6	51.6	51.0	41.4	83.7	20	20	21	27	22	18	22
IT	63.5	63.3	79.0	61.9	59.3	48.8	88.4	14	28	15	12	17	15	12
CY	56.9	70.8	81.7	56.2	51.3	29.8	88.0	21	19	13	19	21	24	13
LV	60.8	74.0	65.2	49.3	65.8	49.4	78.4	17	12	26	28	11	14	26
LT	56.3	74.1	66.1	56.2	50.6	34.1	80.0	22	11	25	20	23	21	25
LU	70.3	75.2	90.0	70.0	69.1	48.4	89.5	10	9	1	5	9	16	10
HU	53.0	68.0	72.0	57.4	54.3	22.2	87.0	27	22	23	16	19	28	15
MT	63.4	75.4	82.6	67.1	64.2	32.8	92.0	15	7	12	9	14	22	3
NL	74.1	77.8	86.2	67.3	83.9	57.2	90.0	5	3	9	7	2	9	8
AT	66.5	76.4	86.7	63.8	61.2	44.2	91.9	13	5	7	11	16	17	4
PL	55.8	67.3	75.5	57.2	52.5	30.0	83.1	24	24	18	17	20	23	23
PT	61.3	72.9	72.8	55.7	47.5	51.1	84.6	16	15	20	22	25	13	20
RO	54.4	67.6	63.0	52.4	50.3	37.5	71.2	26	23	27	26	24	19	28
SI	67.7	73.1	83.0	55.9	72.9	55.0	86.9	11	14	11	21	7	12	16
SK	55.5	66.6	75.1	61.2	46.3	29.6	85.5	25	26	19	14	26	25	19
FI	74.7	75.4	87.1	61.6	77.4	71.9	89.3	4	8	3	13	4	3	11
SE	83.8	82.9	86.8	74.2	90.1	84.2	94.5	1	1	6	1	1	1	1
UK	72.7	76.9	80.4	70.1	69.9	60.0	92.8	6	4	14	4	8	7	2

Table 6. Gender Equality Index scores in the domain of work and its subdomains, by EU Member State, 2010, 2012, 2015, 2017, 2018

MS	Score (points)														
	Domain of work					Participation					Segregation and quality of work				
	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018
EU	**70.5**	**71.0**	**71.5**	**72.0**	**72.2**	**78.1**	**78.7**	**79.8**	**80.9**	**81.5**	**63.7**	**64.0**	**64.0**	**64.0**	**64.0**
BE	72.7	72.8	73.8	74.1	74.7	75.7	75.4	77.5	78.2	79.5	69.8	70.4	70.2	70.2	70.1
BG	67.9	68.7	68.6	69.0	69.0	81.3	82.0	82.7	83.5	83.5	56.7	57.6	56.9	57.0	57.0
CZ	64.9	65.3	66.1	67.0	67.0	78.9	79.9	81.8	83.5	84.3	53.3	53.3	53.5	53.7	53.3
DK	79.8	79.7	79.2	79.6	79.7	88.5	88.3	87.2	88.3	88.7	71.9	72.1	72.0	71.8	71.5
DE	70.0	70.6	71.4	72.1	72.1	79.0	80.2	81.9	83.3	83.6	62.1	62.1	62.2	62.3	62.2
EE	71.2	71.4	72.1	71.5	72.1	87.3	87.7	88.6	89.8	90.6	58.1	58.1	58.7	57.0	57.5
IE	73.5	73.7	73.9	75.5	75.9	77.4	77.3	78.3	81.7	82.4	69.8	70.2	69.7	69.8	69.9
EL	63.6	63.6	64.2	64.2	64.4	71.1	69.4	71.0	71.4	71.6	57.0	58.4	58.0	57.7	58.0
ES	71.8	72.3	72.4	72.9	73.2	77.0	77.5	78.0	79.1	79.3	66.9	67.4	67.3	67.1	67.5
FR	71.5	71.9	72.1	72.4	72.8	81.1	81.4	82.3	82.4	83.5	63.1	63.5	63.2	63.5	63.5
HR	67.2	68.3	69.4	69.2	69.9	75.0	75.5	78.5	78.9	79.6	60.3	61.8	61.4	60.7	61.4
IT	61.3	62.4	62.4	63.1	63.3	64.9	66.7	66.7	68.2	68.6	57.8	58.5	58.4	58.5	58.5
CY	70.5	68.9	70.7	70.7	70.8	85.2	83.4	84.7	84.9	86.2	58.3	56.9	59.0	58.8	58.2
LV	72.6	74.3	73.6	74.2	74.0	86.9	86.9	87.8	89.3	90.1	60.7	63.5	61.8	61.7	60.8
LT	72.6	72.6	73.2	73.6	74.1	86.0	86.8	88.2	89.7	90.7	61.3	60.8	60.7	60.4	60.4
LU	70.9	72.5	74.0	74.1	75.2	74.8	77.7	81.3	82.4	83.5	67.3	67.7	67.4	66.7	67.6
HU	66.0	66.4	67.2	67.4	68.0	75.8	76.9	79.6	81.0	81.3	57.5	57.4	56.7	56.0	56.9
MT	65.1	68.2	71.0	73.3	75.4	58.6	63.2	68.9	73.1	76.9	72.3	73.7	73.1	73.5	74.0
NL	76.3	76.2	76.7	77.4	77.8	78.5	78.6	79.2	80.7	81.7	74.1	73.9	74.3	74.2	74.2
AT	75.3	75.6	76.1	76.6	76.4	80.3	80.9	81.4	82.4	82.4	70.6	70.6	71.2	71.2	70.7
PL	66.3	66.6	66.8	67.0	67.3	77.9	78.3	79.5	80.2	80.8	56.5	56.5	56.2	56.0	56.1
PT	71.4	71.4	72.0	72.5	72.9	85.6	84.1	85.4	86.6	87.8	59.5	60.6	60.8	60.7	60.6
RO	67.9	67.8	67.1	67.7	67.6	78.8	78.5	77.5	79.0	78.8	58.6	58.5	58.1	58.0	58.0
SI	71.9	71.3	71.8	73.3	73.1	84.4	83.7	83.5	86.5	86.7	61.3	60.7	61.7	62.1	61.6
SK	64.8	64.9	65.5	66.5	66.6	79.0	78.8	80.6	82.6	82.7	53.1	53.4	53.2	53.5	53.7
FI	74.5	74.8	74.7	74.9	75.4	88.9	89.2	89.2	88.9	90.0	62.4	62.7	62.6	63.1	63.2
SE	80.4	81.4	82.6	83.0	82.9	91.9	93.8	95.4	95.7	95.8	70.4	70.6	71.5	71.9	71.7
UK	75.1	75.4	76.6	76.9	76.9	81.1	81.6	83.6	84.6	85.2	69.5	69.6	70.2	69.9	69.5

Table 7. Gender Equality Index scores in the domain of money and its subdomains, by EU Member State, 2010, 2012, 2015, 2017, 2018

MS	Score (points)														
	Domain of money					Financial resources					Economic situation				
	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018
EU	**78.4**	**78.4**	**79.6**	**80.4**	**80.6**	**69.4**	**70.0**	**73.0**	**73.8**	**74.3**	**88.6**	**87.9**	**86.7**	**87.7**	**87.5**
BE	85.5	85.6	87.5	88.3	88.7	77.9	78.6	82.7	83.3	83.8	94.0	93.3	92.6	93.6	93.8
BG	60.8	60.5	61.9	61.8	62.3	44.7	44.2	48.2	50.2	49.6	82.8	82.7	79.5	76.1	78.2
CZ	73.8	74.0	75.9	76.7	76.8	55.1	55.8	58.8	59.8	60.4	98.7	98.1	98.1	98.2	97.6
DK	83.6	85.7	86.6	87.1	86.8	78.3	80.4	82.4	83.2	83.3	89.3	91.4	91.1	91.2	90.5
DE	83.2	84.0	84.2	86.0	84.9	77.1	78.1	81.2	82.1	82.9	89.8	90.2	87.4	90.1	86.9
EE	65.5	64.9	66.7	69.4	70.0	49.5	50.2	56.4	58.3	59.3	86.7	84.0	79.0	82.5	82.7
IE	85.5	84.4	84.7	85.5	86.5	81.1	80.7	81.0	81.7	83.3	90.2	88.2	88.6	89.5	89.8
EL	75.3	71.1	70.7	71.4	72.5	66.7	62.7	61.4	61.3	61.4	84.9	80.7	81.4	83.2	85.6
ES	77.1	76.0	75.9	76.7	77.8	70.4	69.6	71.0	72.2	72.3	84.4	82.9	81.2	81.4	83.6
FR	83.5	83.7	86.1	86.4	87.0	75.9	77.2	80.4	81.0	80.9	91.8	90.6	92.3	92.1	93.5
HR	68.6	68.9	69.9	72.2	72.6	56.2	55.7	57.1	60.1	60.6	83.8	85.2	85.6	86.9	86.9
IT	78.9	78.7	78.6	78.8	79.0	72.5	72.8	73.0	74.4	74.8	86.0	85.1	84.6	83.5	83.4
CY	80.7	81.7	79.2	80.8	81.7	74.8	76.4	72.1	72.8	72.8	87.1	87.4	87.1	89.7	91.6
LV	58.9	59.6	64.3	65.5	65.2	43.5	43.5	51.9	53.7	54.6	79.8	81.5	79.5	80.0	78.0
LT	60.8	64.3	65.6	64.7	66.1	47.8	48.4	53.5	55.0	56.0	77.3	85.5	80.4	76.1	78.0
LU	91.8	92.1	94.4	91.8	90.0	91.2	91.6	97.0	96.8	97.3	92.5	92.7	92.0	87.2	83.2
HU	70.8	69.8	70.7	71.6	72.0	51.0	52.5	55.2	55.5	56.2	98.3	92.9	90.5	92.5	92.2
MT	79.2	80.6	82.4	82.5	82.6	68.6	69.5	73.3	74.4	74.8	91.3	93.3	92.8	91.4	91.1
NL	86.6	87.0	86.8	86.7	86.2	77.7	77.6	79.1	80.4	80.4	96.5	97.5	95.4	93.5	92.4
AT	82.8	83.6	85.9	86.4	86.7	74.7	75.8	79.8	81.4	80.9	91.8	92.2	92.5	91.7	93.1
PL	69.5	70.3	73.3	75.1	75.5	54.6	56.2	61.4	62.8	63.0	88.5	88.0	87.5	89.9	90.5
PT	71.8	71.7	70.9	72.1	72.8	60.4	60.7	60.3	61.2	61.2	85.3	84.8	83.5	84.8	86.8
RO	59.8	59.2	59.4	62.0	63.0	42.5	42.7	45.7	47.2	49.3	84.2	82.1	77.3	81.6	80.4
SI	80.3	81.3	81.6	82.4	83.0	67.3	68.3	69.8	70.0	70.7	95.8	96.7	95.5	97.1	97.4
SK	70.2	72.1	74.0	74.2	75.1	51.9	53.9	56.4	56.8	57.1	95.1	96.4	97.2	96.9	98.8
FI	84.1	84.8	86.4	87.6	87.1	74.6	76.2	78.5	79.2	79.4	94.9	94.4	95.2	96.9	95.5
SE	85.3	85.3	87.5	86.8	86.8	75.9	77.4	82.3	82.1	82.0	95.8	93.9	93.1	91.9	91.9
UK	79.8	80.5	81.2	81.6	80.4	74.4	75.1	77.0	77.1	76.9	85.7	86.3	85.6	86.4	84.0

Table 8. Gender Equality Index scores in the domain of knowledge and its subdomains, by EU Member State, 2010, 2012, 2015, 2017, 2018

MS	Score (points)														
	Domain of knowledge					Attainment and participation					Segregation				
	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018
EU	**61.8**	**62.8**	**63.4**	**63.5**	**63.6**	**68.5**	**70.4**	**72.1**	**72.8**	**73.1**	**55.8**	**56.1**	**55.6**	**55.4**	**55.4**
BE	70.6	70.6	71.1	71.3	71.4	73.3	72.5	73.3	74.3	73.8	68.1	68.8	68.9	68.4	69.0
BG	50.4	51.9	53.3	53.2	54.9	53.9	54.6	56.1	55.4	57.3	47.1	49.3	50.7	51.0	52.7
CZ	55.4	57.7	57.3	59.0	58.4	61.4	66.3	66.9	69.9	67.7	50.0	50.2	49.2	49.8	50.3
DK	73.2	71.3	73.6	72.3	71.3	81.7	80.5	82.1	81.8	79.5	65.6	63.1	66.0	64.0	64.0
DE	56.3	57.1	52.9	53.7	54.0	59.9	62.7	61.0	62.4	63.2	53.0	51.9	45.9	46.2	46.2
EE	51.6	53.8	53.2	55.5	56.3	67.4	70.5	67.9	70.1	72.1	39.5	41.1	41.7	44.0	44.0
IE	65.3	67.7	66.4	66.9	67.3	72.7	74.0	74.1	77.8	79.3	58.6	62.0	59.6	57.6	57.2
EL	53.4	54.3	55.6	55.7	54.8	59.8	60.7	63.9	66.3	66.8	47.7	48.5	48.4	46.8	45.0
ES	63.5	64.2	65.3	67.4	67.6	71.8	73.0	73.3	76.0	76.6	56.2	56.6	58.1	59.7	59.7
FR	62.0	62.4	66.1	66.0	66.3	67.9	69.7	77.5	78.5	79.6	56.6	55.8	56.4	55.6	55.2
HR	49.9	48.5	49.8	50.4	51.6	57.5	58.7	59.3	59.2	60.6	43.3	40.0	41.8	42.9	43.9
IT	53.8	56.7	61.4	61.2	61.9	53.7	54.4	56.1	57.0	58.0	53.9	59.2	67.1	65.8	66.0
CY	55.5	58.2	58.5	56.5	56.2	73.6	73.2	73.3	73.2	73.1	41.9	46.2	46.6	43.5	43.3
LV	49.2	48.8	48.9	49.7	49.3	60.5	62.2	59.1	62.3	61.1	40.0	38.3	40.5	39.7	39.7
LT	54.3	54.7	55.8	55.9	56.2	65.0	66.2	68.4	69.4	70.0	45.4	45.3	45.4	45.0	45.0
LU	66.3	68.7	69.4	69.5	70.0	74.8	78.6	84.1	84.5	85.9	58.7	60.1	57.2	57.1	57.1
HU	54.5	54.3	56.9	56.9	57.4	59.2	59.6	64.6	63.4	64.1	50.1	49.5	50.0	51.0	51.5
MT	65.4	66.3	65.2	65.8	67.1	59.2	60.2	61.3	65.9	67.0	72.3	73.0	69.5	65.8	67.3
NL	66.9	66.9	67.3	67.1	67.3	77.1	78.0	80.9	83.4	84.1	58.1	57.5	56.0	53.9	53.9
AT	58.9	59.9	63.2	64.1	63.8	61.2	61.8	72.0	74.1	73.3	56.6	58.1	55.5	55.5	55.5
PL	57.8	56.5	56.0	56.5	57.2	62.3	61.5	61.3	61.5	63.0	53.6	51.9	51.1	51.9	51.9
PT	50.1	54.9	54.8	55.1	55.7	50.8	59.1	59.5	60.4	61.3	49.5	51.0	50.6	50.3	50.7
RO	47.2	50.2	51.8	51.5	52.4	50.1	52.7	52.9	52.4	52.6	44.4	47.9	50.7	50.7	52.2
SI	55.0	54.9	55.0	56.0	55.9	68.4	67.1	67.4	66.9	66.6	44.2	45.0	44.9	46.9	46.9
SK	59.5	59.6	60.0	60.4	61.2	59.1	58.8	58.8	59.7	60.9	59.9	60.3	61.2	61.1	61.5
FI	58.6	59.5	61.3	61.1	61.6	78.3	79.5	81.4	83.0	83.6	43.9	44.6	46.1	45.0	45.5
SE	70.7	70.9	72.8	73.8	74.2	74.4	75.6	78.5	80.2	80.5	67.1	66.6	67.5	67.9	68.4
UK	73.3	73.5	71.8	70.4	70.1	80.6	81.7	82.2	79.7	79.3	66.7	66.0	62.7	62.2	62.0

Table 9. Gender Equality Index scores in the domain of time and its subdomains, by EU Member State, 2010, 2012, 2015, 2017, 2018

MS	Score (points)														
	Domain of time					Care activities					Social activities				
	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018
EU	**66.3**	**68.9**	**65.7**	**65.7**	**65.7**	**67.3**	**72.6**	**70.0**	**70.0**	**70.0**	**65.4**	**65.4**	**61.6**	**61.6**	**61.6**
BE	70.3	71.8	65.3	65.3	65.3	72.6	75.7	68.9	68.9	68.9	68.1	68.1	61.9	61.9	61.9
BG	43.9	47.4	42.7	42.7	42.7	48.6	56.6	55.7	55.7	55.7	39.7	39.7	32.6	32.6	32.6
CZ	53.8	55.5	57.3	57.3	57.3	55.8	59.4	56.8	56.8	56.8	51.9	51.9	57.7	57.7	57.7
DK	80.4	85.4	83.1	83.1	83.1	75.8	85.5	86.1	86.1	86.1	85.3	85.3	80.2	80.2	80.2
DE	69.8	67.8	65.0	65.0	65.0	70.1	66.1	71.3	71.3	71.3	69.6	69.6	59.3	59.3	59.3
EE	73.7	70.1	74.7	74.7	74.7	80.7	73.0	85.9	85.9	85.9	67.2	67.2	65.0	65.0	65.0
IE	70.8	76.5	74.2	74.2	74.2	69.9	81.6	76.2	76.2	76.2	71.8	71.8	72.1	72.1	72.1
EL	35.6	45.2	44.7	44.7	44.7	34.2	55.1	50.9	50.9	50.9	37.1	37.1	39.3	39.3	39.3
ES	60.8	65.8	64.0	64.0	64.0	60.9	71.4	74.5	74.5	74.5	60.6	60.6	55.0	55.0	55.0
FR	66.6	70.3	67.3	67.3	67.3	70.3	78.5	70.4	70.4	70.4	63.0	63.0	64.4	64.4	64.4
HR	49.8	54.7	51.0	51.0	51.0	53.0	63.9	54.4	54.4	54.4	46.7	46.7	47.9	47.9	47.9
IT	55.1	61.4	59.3	59.3	59.3	54.5	67.6	61.2	61.2	61.2	55.7	55.7	57.4	57.4	57.4
CY	45.9	45.9	51.3	51.3	51.3	52.6	52.7	65.7	65.7	65.7	40.0	40.0	40.0	40.0	40.0
LV	62.0	60.8	65.8	65.8	65.8	78.2	75.1	89.8	89.8	89.8	49.2	49.2	48.2	48.2	48.2
LT	52.2	55.7	50.6	50.6	50.6	65.4	74.5	64.0	64.0	64.0	41.7	41.7	40.0	40.0	40.0
LU	70.2	71.5	69.1	69.1	69.1	72.1	74.8	79.4	79.4	79.4	68.3	68.3	60.2	60.2	60.2
HU	54.1	55.2	54.3	54.3	54.3	68.7	71.6	65.0	65.0	65.0	42.6	42.6	45.4	45.4	45.4
MT	54.3	58.7	64.2	64.2	64.2	49.7	57.9	69.0	69.0	69.0	59.4	59.4	59.8	59.8	59.8
NL	85.9	86.7	83.9	83.9	83.9	76.5	78.0	79.3	79.3	79.3	96.4	96.4	88.7	88.7	88.7
AT	56.0	65.3	61.2	61.2	61.2	44.9	61.0	62.7	62.7	62.7	69.8	69.8	59.7	59.7	59.7
PL	54.2	55.3	52.5	52.5	52.5	63.0	65.6	64.1	64.1	64.1	46.5	46.5	43.0	43.0	43.0
PT	38.7	46.0	47.5	47.5	47.5	49.3	69.5	63.3	63.3	63.3	30.4	30.4	35.7	35.7	35.7
RO	50.6	53.2	50.3	50.3	50.3	70.9	78.1	70.7	70.7	70.7	36.2	36.2	35.8	35.8	35.8
SI	68.3	72.4	72.9	72.9	72.9	64.5	72.3	69.5	69.5	69.5	72.4	72.4	76.4	76.4	76.4
SK	39.9	43.4	46.3	46.3	46.3	52.7	62.5	56.5	56.5	56.5	30.2	30.2	37.9	37.9	37.9
FI	80.1	81.0	77.4	77.4	77.4	84.2	86.0	82.2	82.2	82.2	76.3	76.3	72.9	72.9	72.9
SE	84.5	83.5	90.1	90.1	90.1	84.6	82.6	90.9	90.9	90.9	84.3	84.3	89.3	89.3	89.3
UK	72.1	73.2	69.9	69.9	69.9	78.4	80.8	75.1	75.1	75.1	66.3	66.3	65.1	65.1	65.1

NB: Scores for the domain of time have not changed since the previous edition of the Index because of a lack of new data.

Table 10. Gender Equality Index scores in the domain of power and its subdomains, by EU Member State, 2010, 2012, 2015, 2017, 2018

MS	Score (points)																			
	Domain of power					Political					Economic					Social				
	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018
EU	**41.9**	**43.5**	**48.5**	**51.9**	**53.5**	**47.2**	**48.3**	**52.7**	**55.0**	**56.9**	**28.9**	**31.8**	**39.5**	**43.6**	**46.8**	**53.7**	**53.7**	**55.0**	**58.2**	**57.6**
BE	47.9	50.5	53.4	55.2	55.7	65.8	70.0	70.2	67.8	68.1	32.8	36.0	38.0	40.2	41.8	50.9	51.0	57.1	61.7	60.8
BG	45.8	49.4	56.0	59.9	61.5	50.3	53.4	49.2	53.8	56.5	27.6	32.7	53.2	59.9	60.0	69.3	69.3	67.0	66.8	68.5
CZ	31.0	32.0	22.6	26.1	27.7	30.7	31.7	36.6	37.8	40.0	27.4	29.0	9.2	13.6	16.4	35.6	35.6	34.2	34.3	32.5
DK	58.0	57.5	61.5	64.9	66.2	75.1	76.1	71.2	74.2	76.0	47.5	45.6	55.7	56.5	56.0	54.8	54.8	58.7	65.3	68.3
DE	38.3	46.0	53.0	56.6	59.5	60.2	59.9	71.5	69.6	67.8	19.0	33.0	42.1	49.7	56.5	49.2	49.1	49.5	52.4	55.0
EE	21.9	22.0	28.2	34.6	36.1	34.9	33.7	44.9	48.5	49.3	21.6	22.7	23.2	23.4	24.2	13.9	13.9	21.4	36.5	39.4
IE	37.2	40.7	48.6	53.4	55.8	32.9	37.0	39.8	44.1	45.3	21.7	25.4	39.9	46.4	50.0	72.1	71.7	72.4	74.5	76.8
EL	22.3	22.3	21.7	24.3	27.0	34.3	30.7	34.7	35.8	36.5	13.6	15.3	12.1	14.9	20.4	23.8	23.6	24.2	27.0	26.4
ES	52.6	52.9	57.0	62.0	69.4	73.7	69.7	72.3	76.8	82.5	33.3	35.8	43.5	53.4	64.8	59.4	59.2	58.9	58.1	62.7
FR	52.4	55.1	68.2	78.3	79.8	64.1	70.8	77.1	80.8	83.1	41.2	43.2	70.2	82.9	84.6	54.6	54.6	58.4	71.7	72.3
HR	28.4	27.3	28.5	34.8	41.4	40.2	40.0	38.7	42.2	45.1	24.8	22.2	19.0	19.8	28.6	22.9	22.9	31.6	50.2	55.1
IT	25.2	29.4	45.3	47.6	48.8	31.7	35.8	47.4	47.9	49.3	10.6	14.8	44.7	53.1	54.9	47.8	47.8	43.7	42.5	43.1
CY	15.4	17.4	24.7	28.2	29.8	30.1	30.2	25.8	27.5	29.9	4.7	6.8	22.6	23.0	23.0	25.9	25.7	25.8	35.6	38.6
LV	34.8	37.9	39.0	44.1	49.4	38.1	43.7	40.5	36.7	40.6	37.5	42.1	44.2	45.6	46.1	29.5	29.5	33.2	51.4	64.3
LT	32.9	27.7	36.6	32.5	34.1	34.0	34.8	40.0	40.9	45.5	23.7	13.9	30.1	18.5	18.1	44.3	44.2	40.9	45.3	48.2
LU	25.6	34.9	43.5	44.8	48.4	45.3	47.6	51.1	48.9	51.5	5.2	12.5	23.5	28.2	32.1	71.5	71.2	68.2	65.2	68.6
HU	23.5	21.9	18.7	20.6	22.2	16.1	15.9	14.3	15.0	17.8	37.8	31.0	22.1	23.1	23.7	21.4	21.5	20.9	25.1	25.8
MT	20.9	25.0	27.4	32.2	32.8	30.0	29.1	30.5	32.9	33.1	12.4	21.9	24.4	24.0	24.2	24.5	24.6	27.5	42.2	44.2
NL	56.9	56.6	52.9	50.0	57.2	69.5	66.0	70.6	70.6	71.9	40.4	41.8	33.1	29.3	45.9	65.8	65.8	63.4	60.2	56.7
AT	28.4	30.8	34.9	39.9	44.2	60.3	60.3	59.1	61.1	65.9	9.3	11.8	17.4	21.1	24.4	40.7	40.8	41.1	49.3	53.7
PL	30.6	34.8	35.1	29.1	30.0	36.6	43.5	46.1	43.6	44.3	27.5	33.8	38.2	33.1	34.1	28.6	28.6	24.4	17.0	17.8
PT	34.9	29.7	33.9	46.7	51.1	41.9	42.4	48.7	56.7	59.0	20.4	12.6	16.4	36.3	44.9	49.6	49.3	48.9	49.4	50.4
RO	30.8	28.8	33.2	38.8	37.5	23.5	26.5	32.9	40.8	41.6	28.0	20.4	21.4	20.5	21.5	44.4	44.4	51.8	69.7	59.3
SI	41.1	51.5	60.6	57.6	55.0	44.5	46.3	65.4	67.3	64.4	29.9	56.4	61.5	50.4	44.7	52.3	52.3	55.3	56.2	57.7
SK	29.5	25.4	23.1	26.8	29.6	31.0	28.4	29.0	35.3	36.9	34.1	23.7	14.6	17.9	23.3	24.3	24.4	29.1	30.4	30.0
FI	69.1	73.2	65.3	66.7	71.9	86.1	86.3	84.8	78.8	83.9	52.5	62.0	47.6	52.5	59.2	73.1	73.2	68.9	71.5	74.8
SE	77.8	75.2	79.5	83.4	84.2	92.1	93.0	93.9	95.1	94.9	58.7	52.6	60.8	69.4	71.7	87.1	87.1	87.8	87.9	87.8
UK	42.4	42.0	53.0	56.5	60.0	47.5	45.7	53.0	58.7	61.3	22.9	23.0	40.8	50.2	57.1	70.2	70.2	68.8	61.2	61.7

Table 11. Gender Equality Index scores in the domain of health and its subdomains, by EU Member State, 2010, 2012, 2015, 2017, 2018

MS	Scores (points)																			
	Domain of health					Status					Behaviour					Access				
	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018	2010	2012	2015	2017	2018
EU	**87.2**	**87.2**	**87.4**	**88.1**	**88.0**	**91.1**	**91.1**	**91.2**	**92.2**	**92.2**	**75.4**	**75.4**	**75.4**	**75.4**	**75.4**	**96.6**	**96.5**	**97.1**	**98.3**	**98.1**
BE	86.5	86.4	86.3	86.3	86.5	92.6	93.4	93.3	93.3	93.6	70.3	70.3	70.3	70.3	70.3	99.3	98.1	98.0	97.9	98.4
BG	75.3	75.8	76.4	77.1	77.2	88.1	88.4	88.1	89.0	89.1	52.3	52.3	52.3	52.3	52.3	92.6	94.1	96.9	98.5	98.5
CZ	85.7	85.7	86.0	86.3	86.3	89.1	89.0	89.6	90.0	90.0	72.3	72.3	72.3	72.3	72.3	97.9	98.0	98.2	98.7	98.9
DK	90.3	90.2	89.6	89.9	89.7	92.2	92.6	91.6	92.4	91.1	81.7	81.7	81.7	81.7	81.7	97.8	96.9	96.2	96.3	96.8
DE	89.3	89.4	90.5	90.5	90.6	90.4	90.2	91.8	92.0	92.3	80.9	80.9	80.9	80.9	80.9	97.5	97.9	99.7	99.7	99.7
EE	82.7	82.1	81.5	81.9	81.6	83.4	83.2	84.1	83.9	83.8	70.1	70.1	70.1	70.1	70.1	96.8	94.7	91.9	93.5	92.6
IE	90.7	90.4	90.6	90.9	91.3	96.5	96.5	96.8	97.1	97.6	79.0	79.0	79.0	79.0	79.0	98.0	97.0	97.3	97.9	98.8
EL	84.3	83.9	83.1	83.5	84.0	94.1	93.5	93.4	93.3	94.4	66.6	66.6	66.6	66.6	66.6	95.7	94.8	92.3	93.8	94.1
ES	88.6	89.1	89.6	90.1	90.1	92.4	93.6	93.2	94.1	94.4	78.6	78.6	78.6	78.6	78.6	95.7	96.2	98.3	98.9	98.7
FR	86.7	86.8	87.1	87.4	87.4	91.0	91.6	91.6	91.9	92.1	74.0	74.0	74.0	74.0	74.0	96.8	96.6	97.6	98.1	97.9
HR	81.5	82.8	83.3	83.7	83.7	85.1	85.7	86.4	87.5	87.4	68.3	68.3	68.3	68.3	68.3	93.1	97.0	97.8	98.1	98.3
IT	86.3	86.5	86.3	88.7	88.4	91.1	91.3	91.3	95.1	94.3	74.2	74.2	74.2	74.2	74.2	94.9	95.5	94.8	99.0	98.6
CY	86.4	87.1	88.2	88.4	88.0	93.7	94.4	95.5	96.1	94.8	73.0	73.0	73.0	73.0	73.0	94.4	96.0	98.4	98.4	98.4
LV	77.3	77.9	78.4	78.3	78.4	80.0	80.5	79.8	79.0	79.9	65.5	65.5	65.5	65.5	65.5	88.3	89.7	92.3	92.9	92.1
LT	80.4	79.6	79.1	79.8	80.0	81.9	79.7	78.5	80.0	81.0	64.8	64.8	64.8	64.8	64.8	98.1	97.7	97.5	98.2	97.8
LU	89.8	90.0	89.0	89.6	89.5	93.8	94.4	92.0	91.9	91.5	78.5	78.5	78.5	78.5	78.5	98.3	98.4	97.7	99.7	99.7
HU	85.4	85.9	86.0	86.6	87.0	84.2	85.9	85.8	86.6	87.6	76.8	76.8	76.8	76.8	76.8	96.3	96.0	96.5	97.6	97.9
MT	90.6	91.6	91.8	92.1	92.0	93.8	95.3	95.6	96.2	95.8	81.7	81.7	81.7	81.7	81.7	97.0	98.6	99.0	99.6	99.4
NL	90.3	89.7	89.9	90.0	90.0	93.6	91.8	91.7	92.1	92.2	79.3	79.3	79.3	79.3	79.3	99.2	99.3	99.9	99.9	99.9
AT	91.1	91.5	91.7	91.7	91.9	91.0	91.7	91.3	91.5	91.8	84.6	84.6	84.6	84.6	84.6	98.1	98.8	99.8	99.7	99.9
PL	81.6	81.7	82.2	83.2	83.1	85.8	85.9	86.6	87.3	87.4	67.9	67.9	67.9	67.9	67.9	93.4	93.6	94.5	97.0	96.7
PT	84.3	84.4	83.6	84.5	84.6	83.3	84.6	82.6	84.0	84.2	75.5	75.5	75.5	75.5	75.5	95.2	94.2	93.9	95.2	95.2
RO	69.9	70.2	70.4	71.1	71.2	87.9	88.5	88.6	88.6	88.7	42.5	42.5	42.5	42.5	42.5	91.6	92.1	92.9	95.7	96.0
SI	86.8	87.3	87.7	87.1	86.9	86.3	87.9	89.1	89.4	88.3	75.9	75.9	75.9	75.9	75.9	99.8	99.8	99.8	97.5	97.8
SK	84.8	85.0	85.3	85.8	85.5	85.4	86.1	87.4	88.1	87.8	73.1	73.1	73.1	73.1	73.1	97.6	97.5	97.3	98.0	97.4
FI	89.5	89.3	89.7	89.7	89.3	90.5	90.2	91.1	90.9	90.3	81.9	81.9	81.9	81.9	81.9	96.6	96.4	96.8	96.8	96.3
SE	93.2	93.0	94.1	94.7	94.5	95.7	95.7	97.4	96.9	96.3	89.3	89.3	89.3	89.3	89.3	94.5	94.2	95.8	98.0	98.1
UK	94.1	93.7	93.1	93.3	92.8	95.6	94.3	93.7	94.1	93.5	88.5	88.5	88.5	88.5	88.5	98.4	98.4	97.5	97.6	96.5

Annex 3. Indicators included in the Gender Equality Index

Table 12. Indicators included in the domain of work, by EU Member State, 2018

MS	Participation						Segregation and quality of work								
	FTE employment (%, 15 +)			Duration of working life (years)			Employed people in education, human health and social work activities (%, 15+ employed)			Ability to take an hour or two off during working hours to take care of personal or family matters (%,15+ employed)			Career Prospect Index (0-100 points)		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**41.5**	**57.4**	**– 15.9**	**33.7**	**38.6**	**– 4.9**	**30.5**	**8.3**	**22.2**	**22.8**	**27.3**	**– 4.5**	**62.6**	**63.7**	**– 1.1**
BE	39.4	53.0	– 13.6	31.2	35.1	– 3.9	39.7	11.0	28.7	29.5	33.2	– 3.7	66.2	66.5	– 0.3
BG	45.3	55.9	– 10.6	31.4	34.6	– 3.2	18.9	4.1	14.8	20.3	31.3	– 11.0	65.6	62.3	3.3
CZ	48.9	66.7	– 17.8	33.2	39.2	– 6.0	24.5	4.9	19.6	11.0	10.6	0.4	60.9	65.4	– 4.5
DK	46.7	57.7	– 11.0	38.3	41.5	– 3.2	43.5	13.2	30.3	31.8	50.1	– 18.3	70.4	72.9	– 2.5
DE	42.1	60.3	– 18.2	36.5	40.7	– 4.2	31.8	9.2	22.6	15.8	18.2	– 2.4	65.5	67.9	– 2.4
EE	51.1	65.6	– 14.5	38.4	39.7	– 1.3	26.5	4.8	21.7	15.4	15.8	– 0.4	65.8	64.8	1.0
IE	44.6	60.7	– 16.1	33.6	40.4	– 6.8	33.9	8.4	25.5	37.1	43.4	– 6.3	64.6	64.1	0.5
EL	31.4	49.5	– 18.1	29.2	36.3	– 7.1	22.8	8.2	14.6	14.4	16.1	– 1.7	51.0	52.2	– 1.2
ES	37.7	51.9	– 14.2	32.8	37.4	– 4.6	24.2	7.7	16.5	32.9	35.3	– 2.4	56.1	57.3	– 1.2
FR	42.4	52.9	– 10.5	33.7	37.1	– 3.4	34.1	10.3	23.8	17.9	22.1	– 4.2	63.8	66.7	– 2.9
HR	39.9	52.1	– 12.2	30.5	34.2	– 3.7	25.0	5.4	19.6	25.1	29.4	– 4.3	59.8	61.0	– 1.2
IT	31.1	51.4	– 20.3	27.0	36.4	– 9.4	25.8	7.1	18.7	19.3	22.0	– 2.7	51.9	55.7	– 3.8
CY	48.8	59.9	– 11.1	34.1	39.9	– 5.8	18.9	6.3	12.6	17.5	18.5	– 1.0	53.0	50.8	2.2
LV	50.4	62.0	– 11.6	36.7	36.7	0.0	25.8	4.5	21.3	24.9	26.0	– 1.1	62.7	60.7	2.0
LT	51.5	61.9	– 10.4	36.8	36.6	0.2	26.9	6.2	20.7	19.0	21.0	– 2.0	61.9	63.2	– 1.3
LU	46.0	58.4	– 12.4	31.6	35.2	– 3.6	25.9	9.6	16.3	22.7	30.0	– 7.3	70.1	72.5	– 2.4
HU	45.6	63.0	– 17.4	31.1	36.9	– 5.8	25.2	5.9	19.3	16.5	13.4	3.1	64.4	63.5	0.9
MT	42.3	65.4	– 23.1	30.3	40.9	– 10.6	30.7	10.7	20.0	36.5	37.8	– 1.3	69.0	67.0	2.0
NL	38.0	58.0	– 20.0	38.0	42.9	– 4.9	35.3	9.5	25.8	48.5	56.3	– 7.8	61.0	62.4	– 1.4
AT	42.1	60.8	– 18.7	35.2	39.7	– 4.5	28.1	8.1	20.0	35.5	36.4	– 0.9	64.3	65.4	– 1.1
PL	45.0	62.5	– 17.5	30.7	36.1	– 5.4	24.6	4.8	19.8	16.1	18.8	– 2.7	60.1	59.2	0.9
PT	46.8	56.8	– 10.0	36.5	39.4	– 2.9	29.8	6.7	23.1	23.4	28.3	– 4.9	55.6	57.0	– 1.4
RO	42.6	60.6	– 18.0	30.2	36.7	– 6.5	16.1	3.5	12.6	18.2	20.2	– 2.0	66.0	67.1	– 1.1
SI	47.6	59.9	– 12.3	34.6	37.4	– 2.8	27.0	6.0	21.0	25.1	31.8	– 6.7	60.4	61.5	– 1.1
SK	46.7	62.7	– 16.0	31.6	36.5	– 4.9	27.6	4.9	22.7	11.0	15.1	– 4.1	65.7	66.8	– 1.1
FI	47.4	55.3	– 7.9	38.0	39.3	– 1.3	39.4	9.1	30.3	26.7	50.7	– 24.0	65.4	66.7	– 1.3
SE	59.2	67.1	– 7.9	41.0	42.9	– 1.9	41.9	11.9	30.0	34.9	47.1	– 12.2	66.7	68.1	– 1.4
UK	44.7	61.1	– 16.4	36.8	41.5	– 4.7	37.7	10.6	27.1	29.7	36.5	– 6.8	69.2	67.1	2.1
	Source: Eurostat, EU-LFS, 2018; EIGE calculations.			*Source*: Eurostat, EU-LFS (lfsi_dwl_a), 2018.			*Source*: Eurostat, EU-LFS (lfsa_egan2), 2018.			*Source*: Eurofound, EWCS, 2015; EIGE calculations.			*Source*: Eurofound, EWCS, 2015; EIGE calculations.		

Table 13. Indicators included in the domain of money, by EU Member State, 2018

MS	Financial resources						Economic situation					
	Mean monthly earnings (PPS, working population)			Mean equivalised net income (PPS,16+)			Not-at-risk-of-poverty, ≥ 60 % of median income (% 16+)			S20/S80 income quintile share (% 16+)		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**2 249.0**	**2 809**	**– 560**	**17 860**	**18 668**	**– 807**	**82.6**	**84.4**	**– 1.8**	**19.5**	**19.3**	**0.2**
BE	2 771	3 108	– 337	22 338	23 634	– 1 296	83.5	85.5	– 2.0	27.0	26.1	0.9
BG	830	970	– 140	9 134	9 776	– 642	77.5	80.5	– 3.0	14.3	13.1	1.2
CZ	1 244	1 624	– 380	14 316	15 424	– 1 108	88.4	93.0	– 4.6	29.7	30.8	– 1.1
DK	2 719	3 347	– 628	23 712	25 105	– 1 393	86.6	87.4	– 0.8	24.4	22.1	2.3
DE	2 602	3 354	– 752	24 359	25 410	– 1 051	82.8	84.7	– 1.9	19.0	19.6	– 0.6
EE	1 199	1 692	– 493	14 521	15 254	– 733	74.1	79.6	– 5.5	20.4	18.6	1.8
IE	2 808	3 423	– 615	22 629	23 463	– 834	83.3	86.8	– 3.5	22.2	23.3	– 1.1
EL	1 669	1 971	– 302	10 541	10 860	– 319	81.8	82.2	– 0.4	18.6	17.8	0.8
ES	1 937	2 345	– 408	18 179	18 806	– 627	78.7	80.1	– 1.4	17.0	16.8	0.2
FR	2 310	2 818	– 508	23 729	23 983	– 254	87.9	88.1	– 0.2	23.8	24.0	– 0.2
HR	1 520	1 676	– 156	10 730	11 196	– 466	79.3	82.2	– 2.9	19.9	20.0	– 0.1
IT	2 134	2 589	– 455	19 019	19 975	– 956	79.6	82.0	– 2.4	16.5	16.6	– 0.1
CY	1 845	2 244	– 399	19 605	20 190	– 585	84.1	85.9	– 1.8	23.4	23.2	0.2
LV	1 047	1 283	– 236	11 344	12 514	– 1 170	72.5	78.6	– 6.1	14.8	14.4	0.4
LT	1 036	1 228	– 192	12 436	13 856	– 1 420	74.4	80.7	– 6.3	14.9	14.1	0.8
LU	3 322	3 601	– 279	38 187	39 265	– 1 078	81.1	83.8	– 2.7	16.5	18.0	– 1.5
HU	1 285	1 524	– 239	9 697	9 988	– 291	86.4	88.2	– 1.8	23.1	23.3	– 0.2
MT	1 932	2 266	– 334	20 300	20 969	– 669	82.4	85.4	– 3.0	23.5	24.1	– 0.6
NL	2 398	3 029	– 631	23 299	24 602	– 1 303	86.3	87.1	– 0.8	25.5	23.9	1.6
AT	2 235	2 947	– 712	25 575	27 065	– 1 490	85.6	87.8	– 2.2	25.0	24.5	0.5
PL	1 577	1 916	– 339	12 753	13 128	– 375	84.5	84.9	– 0.4	23.9	22.3	1.6
PT	1 398	1 670	– 272	12 774	13 207	– 433	82.3	83.7	– 1.4	19.4	18.9	0.5
RO	953	1 003	– 50	7 241	7 576	– 335	76.9	79.4	– 2.5	14.8	14.6	0.2
SI	1 845	2 021	– 176	16 580	17 172	– 592	85.5	87.4	– 1.9	29.4	29.3	0.1
SK	1 210	1 527	– 317	11 370	11 685	– 315	89.1	89.6	– 0.5	34.2	33.8	0.4
FI	2 381	2 952	– 571	22 189	22 978	– 789	87.5	87.9	– 0.4	27.1	26.3	0.8
SE	2 626	3 085	– 459	22 101	22 887	– 786	83.1	85.5	– 2.4	24.0	23.8	0.2
UK	2 242	2 942	– 700	21 432	22 722	– 1,290	80.8	83.7	– 2.9	17.1	16.8	0.3
	Source: Eurostat, SES (earn_ses14_20), 2014.			*Source*: Eurostat, EU-SILC (ilc_di03), 2018.			*Source*: Eurostat, EU-SILC (ilc_li02), 2018.			*Source*: Eurostat, EU-SILC, 2018; Eurostat calculations.		

Table 14. Indicators included in the domain of knowledge, by EU Member State, 2018

MS	Attainment and participation						Segregation		
	Graduates of tertiary education (%, 15+)			People participating in formal or non-formal education and training (%, 15 +)			Tertiary students in the fields of education, health and welfare, humanities and the arts (%, 15 +)		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**26.3**	**25.3**	**1.0**	**17.2**	**16.2**	**1.0**	**43.1**	**21.4**	**21.7**
BE	33.3	29.4	3.9	14.7	14.4	0.3	54.3	30.7	23.6
BG	26.9	19.5	7.4	8.8	9.2	– 0.4	33.9	18.3	15.6
CZ	19.1	18.9	0.2	15.6	15.6	0.0	40.9	18.3	22.6
DK	33.7	27.0	6.7	33.7	26.6	7.1	53.1	27.5	25.6
DE	20.4	28.3	– 7.9	13.5	14.9	– 1.4	41.3	17.3	24.0
EE	44.0	27.2	16.8	22.8	19.5	3.3	41.9	15.5	26.4
IE	39.6	33.9	5.7	21.2	18.3	2.9	48.5	23.5	25.0
EL	23.3	23.7	– 0.4	11.4	11.7	– 0.3	35.8	15.7	20.1
ES	30.4	29.4	1.0	16.8	16.3	0.5	48.7	24.7	24.0
FR	30.0	27.9	2.1	27.0	22.8	4.2	41.2	20.9	20.3
HR	21.6	19.4	2.2	10.6	10.0	0.6	34.0	14.4	19.6
IT	15.9	13.4	2.5	12.9	12.8	0.1	43.9	26.8	17.1
CY	37.9	31.5	6.4	13.1	13.6	– 0.5	42.7	15.7	27.0
LV	36.2	22.1	14.1	15.3	12.4	2.9	39.0	13.4	25.6
LT	36.1	27.6	8.5	14.1	13.5	0.6	41.2	16.1	25.1
LU	34.2	36.2	– 2.0	23.6	25.2	– 1.6	38.3	21.5	16.8
HU	21.8	18.9	2.9	13.3	13.4	– 0.1	41.0	19.1	21.9
MT	21.3	20.7	0.6	15.9	14.2	1.7	49.2	28.6	20.6
NL	30.1	31.7	– 1.6	25.0	24.4	0.6	37.9	19.8	18.1
AT	25.3	29.7	– 4.4	20.0	18.2	1.8	40.6	21.0	19.6
PL	27.6	20.8	6.8	12.4	12.1	0.3	38.6	18.5	20.1
PT	21.7	15.3	6.4	15.5	15.8	– 0.3	39.6	18.6	21.0
RO	13.6	13.1	0.5	8.3	8.9	– 0.6	32.9	17.9	15.0
SI	28.7	22.5	6.2	18.2	15.1	3.1	41.2	16.8	24.4
SK	22.1	18.6	3.5	11.1	11.3	– 0.2	48.5	25.0	23.5
FI	39.0	30.8	8.2	35.3	28.5	6.8	51.2	18.1	33.1
SE	41.7	30.6	11.1	39.5	28.0	11.5	54.5	29.9	24.6
UK	38.7	34.8	3.9	18.1	16.5	1.6	47.0	25.2	21.8
	Source: Eurostat, EU-LFS, 2018; EIGE calculations.			*Source*: Eurostat, EU-LFS, 2018;. EIGE calculations.			*Source*: Eurostat, education statistics (educ_uoe_enrt03), 2017SI, ED7 (masters or equivalent) n/a, 2016 used.		

Table 15. Indicators included in the domain of time, by EU Member State, 2018

MS	Care activities						Social activities					
	People caring for and educating their children or grandchildren, elderly or people with disabilities, every day (%, 18+)			People cooking and/or doing housework, every day (%, 18+)			Workers doing sporting, cultural or leisurve activities outside of their home, at least daily or several times a week (%, 15+, employed)			Workers involved in voluntary or charitable activities, at least once a month (%, 15+ employed)		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**37.5**	**24.7**	**12.8**	**78.7**	**33.7**	**45.0**	**27.5**	**31.9**	**– 4.4**	**12.2**	**11.4**	**0.8**
BE	43.1	28.7	14.4	81.2	32.5	48.7	32.3	38.7	– 6.4	9.5	9.9	– 0.4
BG	38.5	25.8	12.7	72.9	13.0	59.9	11.7	19.5	– 7.8	2.9	2.4	0.5
CZ	33.2	19.8	13.4	67.4	15.8	51.6	22.6	27.8	– 5.2	12.3	11.3	1.0
DK	25.0	21.3	3.7	82.3	55.0	27.3	52.8	50.5	2.3	17.3	20.3	– 3.0
DE	25.5	18.7	6.8	72.3	29.1	43.2	21.8	25.2	– 3.4	15.8	13.3	2.5
EE	34.6	31.0	3.6	75.8	47.4	28.4	33.5	38.4	– 4.9	12.5	11.4	1.1
IE	44.1	30.5	13.6	88.7	48.0	40.7	40.4	48.4	– 8.0	15.4	17.9	– 2.5
EL	38.2	20.2	18.0	85.3	16.0	69.3	11.0	17.6	– 6.6	6.6	5.7	0.9
ES	39.8	27.7	12.1	84.5	41.9	42.6	39.3	45.5	– 6.2	5.7	3.8	1.9
FR	45.6	29.4	16.2	79.6	35.6	44.0	32.1	39.0	– 6.9	12.3	14.1	– 1.8
HR	34.9	21.3	13.6	62.4	11.9	50.5	12.5	19.1	– 6.6	10.8	10.3	0.5
IT	34.1	24.0	10.1	80.9	19.7	61.2	23.6	28.2	– 4.6	12.8	10.8	2.0
CY	50.1	34.1	16.0	80.8	26.6	54.2	9.7	21.7	– 12.0	8.8	8.0	0.8
LV	39.9	38.0	1.9	81.7	56.6	25.1	17.4	22.6	– 5.2	8.5	7.4	1.1
LT	41.3	24.2	17.1	79.0	28.8	50.2	13.5	17.9	– 4.4	5.2	4.4	0.8
LU	41.5	35.6	5.9	78.3	38.6	39.7	36.8	45.8	– 9.0	10.4	22.2	– 11.8
HU	30.1	24.5	5.6	55.8	13.8	42.0	16.6	12.5	4.1	11.3	8.7	2.6
MT	42.3	24.9	17.4	80.5	37.3	43.2	25.4	26.2	– 0.8	10.0	10.7	– 0.7
NL	38.5	28.2	10.3	81.4	47.4	34.0	56.0	58.3	– 2.3	22.3	22.3	0.0
AT	35.6	20.8	14.8	83.3	28.4	54.9	24.6	25.3	– 0.7	11.6	14.8	– 3.2
PL	47.0	25.0	22.0	81.7	33.5	48.2	16.9	21.3	– 4.4	6.5	4.7	1.8
PT	36.5	28.1	8.4	78.1	18.8	59.3	10.3	19.6	– 9.3	6.9	5.1	1.8
RO	45.8	25.0	20.8	75.3	40.6	34.7	6.3	8.4	– 2.1	6.1	7.6	– 1.5
SI	35.2	27.5	7.7	81.0	27.5	53.5	41.4	42.7	– 1.3	18.0	21.5	– 3.5
SK	35.3	19.2	16.1	59.5	15.7	43.8	10.6	19.9	– 9.3	8.6	6.3	2.3
FI	36.3	26.3	10.0	85.7	57.2	28.5	60.1	44.5	15.6	14.9	15.9	– 1.0
SE	29.5	26.7	2.8	73.6	56.1	17.5	51.0	55.0	– 4.0	27.2	29.8	– 2.6
UK	41.1	25.3	15.8	84.6	49.0	35.6	33.4	35.8	– 2.4	13.5	11.4	2.1
	Source: Eurofound, EQLS, 2016. EIGE's calculation.			*Source:* Eurofound, EQLS, 2016. EIGE's calculation.			*Source:* Eurofound, EWCS, 2015. EIGE's calculation.			*Source:* Eurofound, EWCS, 2015. EIGE's calculation.		

Table 16. Indicators included in the domain of power, by EU Member State, 2018

MS	Political						Economic				Social					
	Share of ministers (%)		Share of members of parliament (%)		Share of members of regional assemblies (%)		Share of members of boards in largest quoted companies, supervisory board or board of directors (%)		Share of members of central banks (%)		Share of members of public research funding decision-making bodies (%)		Share of board members in publicly owned broadcasting organisations (%)		Share of members of highest decision-making body of national Olympic sport organisations (%)	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
EU	**29.5**	**70.5**	**30.3**	**69.7**	**29.0**	**71.0**	**26.6**	**73.4**	**22.1**	**77.9**	**37.6**	**62.4**	**36.7**	**63.3**	**15.4**	**84.6**
BE	23.0	77.0	40.8	59.2	41.1	58.9	32.1	67.9	10.6	89.4	45.2	54.8	36.6	63.4	11.6	88.4
BG	37.5	62.5	25.7	74.3	25.8	74.2	15.8	84.2	57.1	42.9	40.0	60.0	46.7	53.3	21.0	79.0
CZ	19.9	80.1	20.9	79.1	20.8	79.2	16.2	83.8	0.0	100.0	27.6	72.4	14.8	85.2	7.4	92.6
DK	39.8	60.2	37.5	62.5	38.0	62.0	29.5	70.5	27.1	72.9	38.8	61.3	46.7	53.3	18.1	81.9
DE	40.1	59.9	33.0	67.0	31.1	68.9	32.9	67.1	25.0	75.0	39.0	61.0	29.6	70.4	15.7	84.3
EE	25.6	74.4	28.1	71.9	28.6	71.4	8.0	92.0	18.8	81.3	9.5	90.5	44.8	55.2	10.4	89.6
IE	21.2	78.8	24.3	75.7	23.8	76.2	20.0	80.0	31.0	69.0	49.3	50.7	49.2	50.8	18.9	81.1
EL	17.6	82.4	18.9	81.1	21.2	78.8	10.0	90.0	11.1	88.9	12.0	88.0	20.0	80.0	9.4	90.6
ES	41.6	58.4	39.7	60.3	46.5	53.5	23.6	76.4	43.3	56.7	45.2	54.8	33.3	66.7	18.6	81.4
FR	48.9	51.1	34.9	65.1	47.6	52.4	43.8	56.2	45.5	54.5	40.6	59.4	45.2	54.8	29.0	71.0
HR	24.2	75.8	19.5	80.5	28.0	72.0	21.8	78.2	8.3	91.7	28.6	71.4	50.0	50.0	8.4	91.6
IT	24.4	75.6	33.3	66.7	19.7	80.3	35.2	64.8	22.2	77.8	30.4	69.6	26.1	73.9	11.0	89.0
CY	13.2	86.8	18.0	82.0	15.3	84.7	10.6	89.4	13.0	87.0	25.0	75.0	29.6	70.4	5.4	94.6
LV	23.9	76.1	22.3	77.7	24.4	75.6	29.1	70.9	24.2	75.8	36.4	63.6	53.3	46.7	19.2	80.8
LT	26.8	73.2	21.6	78.4	29.8	70.2	12.9	87.1	7.7	92.3	35.1	64.9	33.3	66.7	13.8	86.3
LU	24.6	75.4	27.1	72.9	24.8	75.2	12.9	87.1	18.5	81.5	51.9	48.1	37.0	63.0	17.2	82.8
HU	4.9	95.1	11.3	88.7	12.1	87.9	14.3	85.7	11.1	88.9	0.0	100.0	31.8	68.2	9.3	90.7
MT	11.6	88.4	14.2	85.8	22.1	77.9	8.8	91.2	14.3	85.7	33.3	66.7	23.8	76.2	7.4	92.6
NL	41.5	58.5	34.9	65.1	33.1	66.9	31.1	68.9	15.4	84.6	27.8	72.2	32.4	67.6	26.1	73.9
AT	35.6	64.4	34.9	65.1	31.4	68.6	24.6	75.4	0.0	100.0	28.9	71.1	40.0	60.0	13.9	86.1
PL	17.7	82.3	26.1	73.9	26.6	73.4	20.6	79.4	15.4	84.6	24.0	76.0	0.0	100.0	3.3	96.7
PT	34.4	65.6	36.0	64.0	26.4	73.6	19.9	80.1	29.4	70.6	37.5	62.5	33.3	66.7	11.6	88.4
RO	28.0	72.0	19.3	80.7	17.5	82.5	10.8	89.2	11.1	88.9	44.9	55.1	36.4	63.6	10.8	89.2
SI	41.0	59.0	24.4	75.6	32.3	67.7	25.0	75.0	20.0	80.0	42.9	57.1	39.4	60.6	5.0	95.0
SK	22.5	77.5	20.9	79.1	14.3	85.7	23.8	76.3	0.0	100.0	15.8	84.2	22.2	77.8	8.6	91.4
FI	40.0	60.0	42.9	57.1	46.0	54.0	33.7	66.3	27.0	73.0	45.2	54.8	42.9	57.1	26.8	73.2
SE	51.8	48.2	46.4	53.6	47.8	52.2	36.4	63.6	35.3	64.7	57.7	42.3	56.1	43.9	45.1	54.9
UK	29.3	70.7	28.8	71.2	36.3	63.7	29.7	70.3	28.8	71.2	35.9	64.1	31.6	68.4	27.4	72.6
	Source: EIGE, Gender Statistics Database, WMID (3-year average, 2017–2018–2019); national governments (all ministers: junior ministers + senior ministers); EIGE calculations.		*Source*: EIGE, Gender Statistics Database, WMID (3-year average, 2017–2018–2019); national parliaments (both houses); EIGE calculations.		*Source*: EIGE, Gender Statistics Database, WMID (3-year average, 2017–2018–2019); BG, EE, IE, CY, LT, LU, MT, SI, local level used (2019); EIGE calculations.		*Source*: EIGE, Gender Statistics Database, WMID (3-year average, 2017–2018–2019); EIGE calculations.		*Source*: EIGE, Gender Statistics Database, WMID (3-year average, 2017–2018–2019); EIGE calculations.		*Source*: EIGE, Gender Statistics Database, WMID (3-year average, 2017–2018–2019); IT, RO, break in time series (only 2018); EIGE calculations.		*Source*: EIGE, Gender Statistics Database, WMID (3-year average, 2017–2018–2019); EIGE calculations.		*Source*: EIGE, Gender Statistics Database, WMID (3-year average, 2015–2018–2019); EIGE calculations.	

Table 17. Indicators included in the domain of health, by EU Member State, 2018

MS	Status									Behaviour						Access					
	Self-perceived health, good or very good (%, 16 +)			Life expectancy in absolute value at birth (years)			Healthy life years in absolute value at birth (years)			Population who do not smoke and are not involved in harmful drinking (%, 16 +)			Population doing physical activities and/ or consuming fruit and vegetables (%, 16 +)			Population without unmet need for medical examination (%, 16 +)			Population without unmet need for dental examination (%, 16 +)		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**66.9**	**71.6**	**– 4.7**	**83.6**	**78.3**	**5.3**	**63.8**	**63.4**	**0.4**	**72.4**	**52.2**	**20.2**	**36.1**	**40.1**	**– 4.0**	**96.1**	**96.8**	**– 0.7**	**95.9**	**95.9**	**0.0**
BE	72.3	77.3	– 5.0	83.9	79.4	4.5	63.8	63.2	0.6	68.3	50.1	18.2	29.5	36.4	– 6.9	97.7	98.0	– 0.3	95.5	95.9	– 0.4
BG	62.8	70.0	– 7.2	78.6	71.5	7.1	67.6	64.0	3.6	67.5	46.7	20.8	9.4	18.2	– 8.8	96.8	96.8	0.0	96.6	97.0	– 0.4
CZ	60.7	64.0	– 3.3	82.0	76.2	5.8	63.4	62.2	1.2	72.7	54.2	18.5	30.1	37.5	– 7.4	97.6	97.6	0.0	97.6	97.1	0.5
DK	68.0	74.5	– 6.5	82.9	79.1	3.8	59.1	62.5	– 3.4	60.7	43.7	17.0	68.2	59.1	9.1	93.2	94.1	– 0.9	93.8	93.7	0.1
DE	64.3	66.7	– 2.4	83.3	78.6	4.7	66.3	65.1	1.2	63.3	46.6	16.7	50.8	53.1	– 2.3	99.4	99.5	– 0.1	99.1	98.6	0.5
EE	49.7	54.2	– 4.5	82.7	74.0	8.7	55.0	52.7	2.3	74.0	43.2	30.8	35.4	35.8	– 0.4	79.6	83.1	– 3.5	93.2	93.0	0.2
IE	84.4	83.9	0.5	84.1	80.5	3.6	70.4	68.4	2.0	65.8	46.5	19.3	48.4	47.2	1.2	97.6	97.8	– 0.2	97.0	97.5	– 0.5
EL	74.2	78.4	– 4.2	84.4	79.3	5.1	65.9	65.0	0.9	70.4	54.2	16.2	19.8	24.7	– 4.9	88.7	91.0	– 2.3	89.1	90.3	– 1.2
ES	70.7	76.6	– 5.9	86.3	80.7	5.6	68.0	68.0	0.0	75.9	61.6	14.3	36.1	46.0	– 9.9	99.6	99.5	0.1	94.5	94.9	– 0.4
FR	65.5	69.7	– 4.2	85.9	79.7	6.2	64.5	63.4	1.1	69.7	54.2	15.5	32.0	38.7	– 6.7	96.7	96.5	0.2	94.5	94.3	0.2
HR	58.2	63.1	– 4.9	81.5	74.9	6.6	58.5	56.5	2.0	72.5	57.2	15.3	21.1	28.0	– 6.9	95.7	95.9	– 0.2	97.5	96.9	0.6
IT	70.5	76.3	– 5.8	85.6	81.2	4.4	66.9	66.8	0.1	79.9	65.6	14.3	24.5	30.4	– 5.9	97.1	97.8	– 0.7	96.8	97.2	– 0.4
CY	76.4	79.3	– 2.9	84.8	80.9	3.9	62.4	62.0	0.4	81.4	53.9	27.5	33.0	38.6	– 5.6	98.4	98.2	0.2	94.6	94.8	– 0.2
LV	42.9	52.0	– 9.1	79.7	70.1	9.6	53.7	51.0	2.7	76.4	43.5	32.9	28.7	34.0	– 5.3	89.1	88.7	0.4	83.9	81.3	2.6
LT	41.1	48.9	– 7.8	80.7	70.9	9.8	59.1	56.3	2.8	81.5	45.0	36.5	27.6	33.6	– 6.0	96.6	97.4	– 0.8	95.0	96.6	– 1.6
LU	66.4	70.8	– 4.4	84.6	80.1	4.5	59.8	61.4	– 1.6	65.1	45.6	19.5	48.0	51.5	– 3.5	98.9	99.4	– 0.5	99.2	99.3	– 0.1
HU	57.5	64.1	– 6.6	79.6	72.7	6.9	61.8	60.4	1.4	75.7	59.4	16.3	32.7	37.7	– 5.0	94.5	94.2	0.3	96.5	96.6	– 0.1
MT	72.4	77.3	– 4.9	84.6	80.4	4.2	73.4	71.9	1.5	70.0	56.3	13.7	42.7	45.1	– 2.4	99.4	99.6	– 0.2	97.8	99.1	– 1.3
NL	73.1	78.2	– 5.1	83.4	80.3	3.1	57.2	61.1	– 3.9	72.2	58.4	13.8	37.0	41.0	– 4.0	99.2	99.2	0.0	99.6	99.5	0.1
AT	70.3	73.2	– 2.9	84.1	79.4	4.7	57.0	56.8	0.2	65.3	53.3	12.0	51.5	54.7	– 3.2	99.7	99.4	0.3	99.1	99.2	– 0.1
PL	56.8	61.8	– 5.0	81.7	73.7	8.0	64.3	60.5	3.8	74.5	51.9	22.6	23.4	26.2	– 2.8	91.3	91.8	– 0.5	96.4	95.5	0.9
PT	44.7	54.5	– 9.8	84.5	78.3	6.2	57.5	59.8	– 2.3	84.5	62.6	21.9	29.7	35.0	– 5.3	96.0	96.9	– 0.9	85.2	86.2	– 1.0
RO	65.7	75.8	– 10.1	79.2	71.7	7.5	59.6	59.2	0.4	73.4	36.2	37.2	7.4	16.3	– 8.9	91.6	94.6	– 3.0	93.2	93.2	0.0
SI	61.6	69.2	– 7.6	84.4	78.5	5.9	54.6	56.3	– 1.7	72.2	54.0	18.2	37.0	45.6	– 8.6	95.6	96.7	– 1.1	95.3	95.4	– 0.1
SK	62.8	70.6	– 7.8	80.8	73.9	6.9	56.6	55.5	1.1	75.6	53.2	22.4	33.0	39.7	– 6.7	93.7	94.2	– 0.5	95.6	95.4	0.2
FI	67.1	70.5	– 3.4	84.5	79.1	5.4	55.7	58.8	– 3.1	69.9	45.7	24.2	60.1	56.9	3.2	93.1	95.7	– 2.6	92.9	93.9	– 1.0
SE	73.6	78.4	– 4.8	84.3	80.9	3.4	72.0	73.7	– 1.7	76.3	61.3	15.0	58.0	55.8	2.2	95.5	96.7	– 1.2	96.9	97.3	– 0.4
UK	72.4	74.0	– 1.6	83.1	79.5	3.6	60.8	61.5	– 0.7	73.6	58.5	15.1	55.0	55.4	– 0.4	90.6	93.1	– 2.5	96.1	96.5	– 0.4
	Source: Eurostat, EU-SILC (hlth_silc_01), 2018.			*Source*: Eurostat, Mortality data (hlth_hlye), 2018.			*Source*: Eurostat, mortality data (hlth_hlye), 2018.			*Source*: Eurostat, EHIS, 2014; Eurostat calculations; FR, NL, EIGE estimation.			*Source*: Eurostat, EHIS, 2014; Eurostat calculations; BE, NL, EIGE estimation.			*Source*: Eurostat, EU-SILC (hlth_silc_08), 2018.			*Source*: Eurostat, EU-SILC (hlth_silc_09), 2018.		

Annex 4. List of main indicators of digitalisation and world of work

Areas of concern	Indicator	Disaggregation	Source	Year
Digital skills	1. Percentages of people (aged 16–74) using the internet daily	Sex, MS, age, level of education	Eurostat (isoc_ci_ifp_fu)	2019
	2. Percentages of people (aged 16–74) with above basic digital skills, by type of skill (information, communication, problem solving, software)	Sex, MS, age, level of education	Eurostat (isoc_sk_dskl_i)	2019
	3. Percentages of people (aged 16–74) who carried out at least one training activity to improve skills relating to the use of computers, software or applications	Sex, MS, age, level of education	Eurostat (isoc_sk_how_i)	2018
Segregation in education and labour market	4. Percentages of women and men among ICT graduates	Sex, MS	Eurostat (educ_uoe_grad02)	2018
	5. Percentages of women and men among ICT specialists (15 or older)	Sex, MS	Eurostat (isoc_sks_itsps)	2019
	6. Percentages of women and men among scientists and engineers in high-technology sectors (aged 25–64)	Sex, MS	Eurostat (hrst_st_nsecsex2)	2019
Working in ICT	7. Percentages of employed people (aged 16–74) who perform ICT activities at work, by type of activity	Sex, MS	Eurostat (isoc_iw_ap)	2018
	8. Percentages of people (aged 20–64) working part-time in ICT	Sex, MS	EU-LFS, EIGE calculations using microdata	2018
	9. Percentages of employed people (aged 20–64) by different working time arrangements in ICT	Sex	EWCS, EIGE calculations using microdata	2015
	10. Gender pay gap in ICT (%)	MS	SES, EIGE calculations using microdata	2014

Annex 5. Indicators on digitalisation and the world of work

Table 18. Percentages of people (aged 16–74) using the internet daily, by gender, age and educational level, 2019

MS	Percentage of people using internet daily (16–74, %)			Percentage of people using internet daily, by age									Percentage of people using internet daily, by level of education								
				16–24			25–54			55–74			Low			Medium			High		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**78**	**80**	**– 2**	**95**	**96**	**– 1**	**88**	**87**	**1**	**54**	**61**	**– 7**	**57**	**64**	**– 7**	**78**	**80**	**– 2**	**93**	**94**	**– 1**
BE	83	86	– 3	94	96	– 2	91	92	– 1	64	71	– 7	63	74	– 11	84	87	– 3	95	97	– 2
BG	59	60	– 1	88	89	– 1	76	74	2	28	26	2	28	36	– 8	59	61	– 2	87	88	– 1
CZ	75	78	– 3	97	98	– 1	87	88	– 1	46	51	– 5	53	79	– 26	72	73	– 1	96	94	2
DK	92	92	0	99	97	2	96	96	0	82	84	– 2	86	88	– 2	92	93	– 1	97	98	– 1
DE	83	87	– 4	98	98	0	93	94	– 1	60	72	– 12	72	84	– 12	83	85	– 2	93	95	– 2
EE	83	83	0	100	97	3	95	93	2	60	58	2	76	84	– 8	77	80	– 3	90	89	1
IE	83	82	1	98	95	3	90	90	0	62	57	5	65	59	6	81	84	– 3	94	96	– 2
EL	63	66	– 3	95	95	0	78	75	3	30	38	– 8	28	34	– 6	70	72	– 2	89	91	– 2
ES	78	77	1	93	94	– 1	87	85	2	56	55	1	62	64	– 2	84	83	1	92	90	2
FR	77	78	– 1	91	95	– 4	87	84	3	56	60	– 4	57	62	– 5	79	77	2	90	92	– 2
HR	68	75	– 7	98	100	– 2	81	86	– 5	39	48	– 9	31	51	– 20	79	77	2	91	92	– 1
IT	71	75	– 4	91	91	0	81	82	– 1	48	57	– 9	50	59	– 9	82	84	– 2	91	93	– 2
CY	79	79	0	100	99	1	89	88	1	47	50	– 3	47	54	– 7	82	80	2	93	94	– 1
LV	75	76	– 1	98	98	0	90	85	5	48	48	0	53	66	– 13	67	72	– 5	92	91	1
LT	73	72	1	99	97	2	87	82	5	45	41	4	63	69	– 6	57	59	– 2	91	95	– 4
LU	84	90	– 6	98	98	0	92	96	– 4	59	72	– 13	70	81	– 11	87	93	– 6	98	96	2
HU	74	76	– 2	97	97	0	88	86	2	46	45	1	46	56	– 10	78	75	3	90	94	– 4
MT	83	82	31	100	99	1	96	89	7	52	61	– 9	67	65	2	95	96	– 1	98	99	– 1
NL	91	93	– 2	99	97	2	95	96	– 1	80	85	– 5	79	83	– 4	94	96	– 2	97	97	0
AT	76	84	– 8	97	99	– 2	88	91	– 3	45	65	– 20	52	80	– 28	72	79	– 7	94	92	2
PL	68	69	– 1	98	97	1	81	79	2	35	37	– 2	53	59	– 6	58	62	– 4	92	95	– 3
PT	64	67	– 3	96	97	– 1	78	78	0	30	37	– 7	38	45	– 7	85	90	– 5	93	96	– 3
RO	56	58	– 2	88	90	– 2	67	67	0	25	24	1	34	44	– 10	57	55	2	88	88	0
SI	73	76	– 3	97	95	2	86	87	– 1	45	47	– 2	45	64	– 19	72	72	0	95	95	0
SK	75	77	– 2	98	98	0	88	87	1	42	46	– 4	46	64	– 18	71	74	– 3	94	93	1
FI	90	90	0	98	98	0	96	96	0	78	77	1	81	83	– 2	87	90	– 3	97	98	– 1
SE	92	91	1	100	90	10	96	96	0	82	83	– 1	84	81	3	90	93	– 3	97	97	0
UK	90	92	– 2	100	100	0	97	96	1	75	81	– 6	58	53	5	88	94	– 6	97	97	0

Source:
Eurostat (isoc_ci_ifp_fu), 2019.

Table 19. Percentages of people (aged 16–74) with above basic digital skills, by gender, age and educational level, 2019

MS	Percentage of people (aged 16–74) with above basic digital skills			Percentage of people with above-basic digital skills, by age									Percentage of people with above basic digital skills, by level of education								
				16–24			25–54			55–74			Low			Medium			High		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**31**	**36**	**– 5**	**59**	**60**	**– 1**	**37**	**40**	**– 3**	**10**	**17**	**– 7**	**14**	**18**	**– 4**	**26**	**31**	**– 5**	**53**	**61**	**– 8**
BE	32	37	– 5	53	49	4	40	42	– 2	10	21	– 11	12	17	– 5	25	31	– 6	52	64	– 12
BG	12	10	2	31	27	4	16	11	5	3	2	1	4	5	– 1	8	6	2	29	28	1
CZ	24 u	28 u	– 4	63 u	59 u	4	27 u	32 u	– 5	6 u	9 u	– 3	17 u	38 u	– 21	18 u	19 *	– 1	46 u	56 u	– 10
DK	45	52	– 7	74	73	1	53	59	– 6	20	30	– 10	40	42	– 2	40	45	– 5	56	71	– 15
DE	35	42	– 7	68	60	8	43	50	– 7	11	23	– 12	27	34	– 7	32	36	– 4	56	61	– 5
EE	36	38	– 2	77	75	2	45	44	1	8	9	– 1	37	41	– 4	25	31	– 6	45	48	– 3
IE	33	36	– 3	53	58	– 5	39	40	– 1	10	16	– 6	11	12	– 1	25	28	– 3	49	61	– 12
EL	22	25	– 3	46	44	2	27	30	– 3	4	9	– 5	1	3	– 2	19	22	– 3	45	53	– 8
ES	35	37	– 2	70	66	4	41	42	– 1	10	17	– 7	14	16	– 2	38	42	– 4	55	62	– 7
FR	30	32	– 2	58	60	– 2	34	35	– 1	11	15	– 4	13	18	– 5	26	24	2	48	56	– 8
HR	33	38	– 5	84	80	4	38	43	– 5	7	14	– 7	7	16	– 9	34	35	– 1	70	70	0
IT	19	25	– 6	39	40	– 1	24	29	– 5	5	12	– 7	6	9	– 3	21	30	– 9	43	56	– 13
CY	25	25	0	45	39	6	30	29	1	6	9	– 3	5	7	– 2	17	14	3	46	51	– 5
LV	26	22	4	56	50	6	34	26	8	7	4	3	21	18	3	14	15	– 1	44	41	3
LT	33	32	1	72	67	5	40	36	4	10	7	3	31	33	– 2	16	18	– 2	50	53	– 3
LU	32	40	– 8	56	55	1	35	43	– 8	11	23	– 12	14	22	– 8	32	37	– 5	54	69	– 15
HU	23	28	– 5	39	42	– 3	31	33	– 2	6	10	– 4	7	14	– 7	19	21	– 2	47	57	– 10
MT	37	40	31	84	47	37	43	49	– 6	6	18	– 12	13	10	3	51	56	– 5	69	75	– 6
NL	45	54	– 9	80	76	4	53	61	– 8	16	33	– 17	27	33	– 6	41	52	– 11	63	74	– 11
AT	37	41	– 4	72	69	3	45	47	– 2	10	20	– 10	15	31	– 16	30	33	– 3	60	57	3
PL	21	22	– 1	47	49	– 2	25	25	0	4	5	– 1	19	25	– 6	10	14	– 4	41	48	– 7
PT	30	34	– 4	60	69	– 9	39	39	0	6	11	– 5	7	12	– 5	40	49	– 9	66	70	– 4
RO	10	11	– 1	22	23	– 1	11	12	– 1	3	3	0	4	7	– 3	6	6	0	33	39	– 6
SI	32	30	2	68	56	12	40	34	6	9	12	– 3	17	27	– 10	23	22	1	57	59	– 2
SK	27	27	0	60	57	3	32	30	2	6	7	– 1	20	26	– 6	18	21	– 3	52	51	1
FI	50	50	0	84	65	19	60	59	1	25	31	– 6	47	41	6	37	43	– 6	64	73	– 9
SE	44 u	48 u	– 4	65 u	63 u	2	52 u	60 u	– 8	20 u	20 u	0	27 u	30 u	– 3	35 u	40 u	– 5	62 u	76 u	– 14
UK	44	53	– 9	66	83	– 17	54	60	– 6	17	26	– 9	3	4	– 1	33	48	– 15	64	72	– 8

Source:
Eurostat (isoc_sk_dskl_i), 2019.
NB: u, low reliability.

Table 20. Percentages of people (aged 16–74) with above basic information skills, by gender, age and educational level, 2019

MS	Percentage of people (aged 16–74) with above basic information skills			Percentage of people with above basic information skills, by age									Percentage of people with above basic information skills, by level of education								
				16–24			25–54			55–74			Low			Medium			High		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**71**	**71**	**0**	**85**	**84**	**1**	**81**	**77**	**4**	**49**	**54**	**– 5**	**44**	**47**	**– 3**	**72**	**71**	**1**	**91**	**91**	**0**
BE	73	74	– 1	83	84	– 1	82	79	3	53	61	– 8	47	55	– 8	72	74	– 2	92	93	– 1
BG	47	43	4	67	60	7	61	52	9	22	20	2	14	15	– 1	45	42	3	80	77	3
CZ	77	73	4	92	89	3	88	81	7	54	53	1	49	68	– 19	76	68	8	96	93	3
DK	90	91	– 1	96	92	4	94	94	0	82	83	– 1	83	83	0	90	92	– 2	97	98	– 1
DE	84	83	1	93	87	6	93	89	4	66	72	– 6	68	71	– 3	86	82	4	95	94	1
EE	81	79	2	100	95	5	94	90	4	57	51	6	73	80	– 7	75	74	1	89	87	2
IE	77	73	4	88	86	2	83	80	3	58	51	7	49	48	1	77	74	3	91	89	2
EL	66	69	– 3	97	96	1	81	78	3	32	42	– 10	27	33	– 6	74	77	– 3	93	95	– 2
ES	74	73	1	92	92	0	86	81	5	46	51	– 5	51	54	– 3	83	83	0	92	93	– 1
FR	70	67	3	82	82	0	79	73	6	51	51	0	47	48	– 1	72	65	7	87	87	0
HR	70	74	– 4	96	98	– 2	84	84	0	41	49	– 8	32	45	– 13	82	77	5	92	94	– 2
IT	44	49	– 5	61	59	2	53	55	– 2	26	36	– 10	21	27	– 6	54	60	– 6	75	80	– 5
CY	73	72	1	95	91	4	83	78	5	42	47	– 5	35	36	– 1	74	71	3	93	93	0
LV	70	66	4	89	84	5	84	76	8	44	41	3	47	53	– 6	61	63	– 2	87	82	5
LT	73	70	3	95	91	4	87	80	7	46	42	4	57	61	– 4	58	57	1	93	95	– 2
LU	71	76	– 5	79	82	– 3	79	80	– 1	49	63	– 14	52	58	– 6	76	79	– 3	89	93	– 4
HU	70	70	0	83	87	– 4	85	79	6	44	45	– 1	40	43	– 3	72	70	2	91	90	1
MT	74	68	31	100	81	19	88	77	11	39	45	– 6	51	45	6	91	83	8	99	95	4
NL	88	91	– 3	94	93	1	93	93	0	78	86	– 8	73	79	– 6	93	93	0	97	98	– 1
AT	72	75	– 3	93	88	5	83	82	1	44	57	– 13	45	58	– 13	67	69	– 2	94	90	4
PL	64	61	3	82	82	0	78	70	8	34	34	0	41	49	– 8	55	54	1	90	88	2
PT	61	63	– 2	90	93	– 3	77	73	4	27	34	– 7	32	38	– 6	84	88	– 4	95	96	– 1
RO	49	49	0	65	65	0	59	55	4	28	27	1	26	29	– 3	51	47	4	81	80	1
SI	69	69	0	90	86	4	82	79	3	42	44	– 2	39	51	– 12	68	66	2	93	94	– 1
SK	69	71	– 2	90	92	– 2	82	80	2	40	42	– 2	39	54	– 15	65	68	– 3	92	89	3
FI	90	87	3	97	93	4	97	94	3	79	75	4	77	74	3	90	89	1	98	98	0
SE	88	86	2	91	91	0	94	93	1	75	70	5	72	73	– 1	86	87	– 1	97	96	1
UK	82	82	0	92	94	– 2	91	86	5	64	70	– 6	33	25	8	77	82	– 5	96	94	2

Source:
Eurostat (isoc_sk_dskl_i), 2019.

Table 21. Percentages of people (aged 16–74) with above basic communication skills, by gender, age and educational level, 2019

MS	Percentage of people (aged 16–74) with above basic communication skills			Percentage of people with above basic communication skills, by age									Percentage of people with above basic communication skills, by level of education								
				16–24			25–54			55–74			Low			Medium			High		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**67**	**66**	**1**	**91**	**91**	**0**	**78**	**74**	**4**	**41**	**41**	**0**	**46**	**50**	**– 4**	**68**	**66**	**2**	**83**	**80**	**3**
BE	79	78	1	91	93	– 2	88	85	3	58	60	– 2	59	66	– 7	79	80	– 1	91	89	2
BG	55	54	1	82	82	0	71	67	4	24	20	4	25	31	– 6	54	54	0	81	79	2
CZ	67	65	2	97	98	– 1	81	77	4	33	31	2	51	74	– 23	64	60	4	86	78	8
DK	87	84	3	99	96	3	93	89	4	73	67	6	81	79	2	87	81	6	93	92	1
DE	72	71	1	97	94	3	81	78	3	47	51	– 4	67	76	– 9	71	68	3	78	76	2
EE	75	69	6	100	95	5	88	80	8	47	35	12	70	76	– 6	71	65	6	81	72	9
IE	73	67	6	88	88	0	82	76	6	46	38	8	49	42	7	72	68	4	86	83	3
EL	58	58	0	92	91	1	71	68	3	24	28	– 4	29	29	0	64	65	– 1	77	80	– 3
ES	67	66	1	92	91	1	78	73	5	39	41	– 2	47	50	– 3	77	74	3	82	80	2
FR	61	57	4	84	84	0	70	63	7	37	35	2	42	44	– 2	62	55	7	74	72	2
HR	58	62	– 4	96	89	7	71	72	– 1	26	33	– 7	27	37	– 10	66	62	4	84	84	0
IT	53	56	– 3	82	79	3	64	65	– 1	27	33	– 6	33	40	– 7	63	65	– 2	75	76	– 1
CY	72	71	1	97	96	1	84	80	4	36	38	– 2	39	42	– 3	73	71	2	89	87	2
LV	71	65	6	96	94	2	86	76	10	42	33	9	53	58	– 5	63	62	1	85	79	6
LT	68	62	6	96	94	2	82	72	10	38	28	10	56	61	– 5	53	49	4	85	85	0
LU	72	72	0	90	87	3	80	77	3	43	51	– 8	55	57	– 2	78	76	2	85	84	1
HU	71	71	0	94	95	– 1	85	81	4	41	41	0	43	51	– 8	74	71	3	86	86	0
MT	73	72	31	95	95	31	88	80	31	40	46	31	56	52	31	88	88	31	90	91	31
NL	84	82	2	99	94	5	89	86	3	71	70	1	71	73	– 2	89	84	5	91	87	4
AT	64	65	– 1	95	91	4	77	74	3	31	38	– 7	43	67	– 24	61	60	1	80	72	8
PL	59	57	2	94	93	1	73	67	6	25	23	2	47	53	– 6	50	51	– 1	81	80	1
PT	62	62	0	95	96	– 1	76	71	5	27	31	– 4	35	41	– 6	87	83	4	89	87	2
RO	54	56	– 2	83	84	– 1	65	64	1	26	26	0	31	40	– 9	57	54	3	81	84	– 3
SI	59	58	1	93	83	10	72	69	3	28	29	– 1	35	49	– 14	57	55	2	80	74	6
SK	66	65	1	96	92	4	78	76	2	34	28	6	41	56	– 15	62	62	0	86	78	8
FI	83	77	6	97	91	6	93	88	5	65	54	11	74	71	3	80	74	6	91	86	5
SE	83	79	4	96	89	7	90	91	– 1	65	54	11	73	63	10	80	80	0	92	90	2
UK	81	78	3	93	98	– 5	90	85	5	59	54	5	42	16	26	78	81	– 3	89	84	5

Source:
Eurostat (isoc_sk_dskl_i), 2019.

Table 22. Percentages of people (aged 16–74) with above basic problem-solving skills, by gender, age and educational level, 2019

MS	Percentage of people (aged 16–74) with above basic problem-solving skills			Percentage of people with above basic problem-solving skills, by age									Percentage of people with above basic problem-solving skills, by level of education								
				16–24			25–54			55–74			Low			Medium			High		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**56**	**63**	**– 7**	**80**	**81**	**– 1**	**68**	**70**	**– 2**	**29**	**41**	**– 12**	**30**	**38**	**– 8**	**55**	**62**	**– 7**	**79**	**86**	**– 7**
BE	59	65	– 6	78	73	5	70	73	– 3	34	48	– 14	34	43	– 9	57	66	– 9	79	86	– 7
BG	25	24	1	49	47	2	33	30	3	8	6	2	8	10	– 2	20	21	– 1	50	51	– 1
CZ	61 u	66 u	– 5	91 u	87 u	4	75 u	79 u	– 4	28 u	35 u	– 7	37 u	62 u	– 25	57 u	61 u	– 4	88 u	89 u	– 1
DK	69	76	– 7	90	87	3	78	83	– 5	45	58	– 13	61	67	– 6	65	74	– 9	81	89	– 8
DE	69	77	– 8	86	86	0	83	86	– 3	40	58	– 18	54	67	– 13	69	74	– 5	85	89	– 4
EE	64	70	– 6	95	96	– 1	80	82	– 2	32	34	– 2	60	73	– 13	55	64	– 9	75	78	– 3
IE	53	57	– 4	76	76	0	60	64	– 4	26	32	– 6	26	27	– 1	48	54	– 6	70	81	– 11
EL	38	45	– 7	67	64	3	48	55	– 7	11	20	– 9	8	13	– 5	38	49	– 11	66	74	– 8
ES	58	61	– 3	81	82	– 1	70	69	1	27	38	– 11	31	38	– 7	65	71	– 6	81	85	– 4
FR	61	64	– 3	84	85	– 1	70	72	– 2	36	42	– 6	34	40	– 6	61	62	– 1	81	87	– 6
HR	47	57	– 10	87	93	– 6	61	65	– 4	15	28	– 13	9	22	– 13	55	59	– 4	84	83	1
IT	33	42	– 9	59	60	– 1	40	49	– 9	13	26	– 13	13	21	– 8	39	52	– 13	62	74	– 12
CY	43	44	– 1	60	60	0	52	51	1	14	22	– 8	8	12	– 4	35	36	– 1	70	75	– 5
LV	51	54	– 3	77	81	– 4	65	64	1	23	23	0	38	40	– 2	39	49	– 10	69	74	– 5
LT	56	59	– 3	92	90	2	70	68	2	24	27	– 3	48	52	– 4	37	45	– 8	78	84	– 6
LU	57	69	– 12	67	74	– 7	64	76	– 12	36	52	– 16	40	45	– 5	56	76	– 20	79	89	– 10
HU	40	48	– 8	56	64	– 8	53	59	– 6	14	19	– 5	15	22	– 7	38	44	– 6	66	77	– 11
MT	53	59	31	95	85	10	64	67	– 3	17	30	– 13	27	30	– 3	68	74	– 6	88	94	– 6
NL	78	83	– 5	92	90	2	85	89	– 4	61	71	– 10	58	65	– 7	81	87	– 6	93	94	– 1
AT	59	70	– 11	87	87	0	71	79	– 8	27	46	– 19	31	54	– 23	52	63	– 11	85	86	– 1
PL	44	50	– 6	74	75	– 1	57	59	– 2	13	21	– 8	33	40	– 7	32	42	– 10	74	80	– 6
PT	40	47	– 7	72	80	– 8	53	55	– 2	10	19	– 9	14	21	– 7	56	71	– 15	77	82	– 5
RO	33	34	– 1	53	55	– 2	41	39	2	13	14	– 1	14	19	– 5	32	30	2	69	72	– 3
SI	52	53	– 1	82	74	8	64	64	0	22	26	– 4	26	43	– 17	46	46	0	79	84	– 5
SK	58	60	– 2	85	88	– 3	72	70	2	24	27	– 3	33	41	– 8	52	57	– 5	83	82	1
FI	76	79	– 3	93	95	– 2	90	90	0	51	56	– 5	65	67	– 2	70	79	– 9	89	92	– 3
SE	71 u	79 u	– 8	80 u	88 u	– 8	81 u	89 u	– 8	51 u	56 u	– 5	57 u	58 u	– 1	68 u	80 u	– 12	82 u	93 u	– 11
UK	72	80	– 8	92	99	– 7	85	86	– 1	40	59	– 19	9	21	– 12	68	79	– 11	86	92	– 6

Source:
Eurostat (isoc_sk_dskl_i), 2019.
NB: u, Low reliability.

Table 23. Percentages of people (aged 16–74) with above basic software skills, by gender, age and educational level, 2019

MS	Percentage of people (aged 16–74) with above basic software skills			Percentage of people with above basic software skills, by age									Percentage of people with above basic software skills, by level of education								
				16–24			25–54			55–74			Low			Medium			High		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**39**	**44**	**– 5**	**70**	**70**	**0**	**45**	**48**	**– 3**	**16**	**25**	**– 9**	**18**	**24**	**– 6**	**33**	**38**	**– 5**	**64**	**74**	**– 10**
BE	36	42	– 6	62	56	6	44	46	– 2	13	27	– 14	16	20	– 4	29	37	– 8	57	70	– 13
BG	18	15	3	41	41	0	22	17	5	5	3	2	6	8	– 2	11	10	1	41	42	– 1
CZ	27	33	– 6	67	66	1	31	36	– 5	8	14	– 6	19	43	– 24	20	22	– 2	51	66	– 15
DK	51	59	– 8	79	76	3	58	65	– 7	26	38	– 12	45	48	– 3	46	53	– 7	62	77	– 15
DE	44	53	– 9	77	70	7	51	60	– 9	20	34	– 14	34	42	– 8	40	45	– 5	68	77	– 9
EE	40	44	– 4	78	80	– 2	50	51	– 1	13	15	– 2	39	44	– 5	28	36	– 8	52	58	– 6
IE	40	43	– 3	64	67	– 3	46	47	– 1	16	22	– 6	16	19	– 3	33	34	– 1	58	69	– 11
EL	31	35	– 4	57	64	– 7	40	40	0	8	14	– 6	4	6	– 2	28	34	– 6	63	67	– 4
ES	42	45	– 3	82	77	5	49	49	0	15	24	– 9	18	20	– 2	45	50	– 5	66	74	– 8
FR	40	44	– 4	71	74	– 3	45	46	– 1	19	26	– 7	18	25	– 7	36	34	2	62	73	– 11
HR	41	46	– 5	96	89	7	48	52	– 4	11	19	– 8	10	18	– 8	44	43	1	79	81	– 2
IT	29	36	– 7	55	55	0	35	40	– 5	10	21	– 11	10	15	– 5	33	43	– 10	58	72	– 14
CY	31	29	2	64	54	10	34	32	2	9	10	– 1	13	13	0	20	17	3	54	56	– 2
LV	31	27	4	66	62	4	39	29	10	10	7	3	25	25	0	15	17	– 2	53	50	3
LT	36	35	1	78	72	6	43	39	4	13	9	4	35	36	– 1	17	20	– 3	56	58	– 2
LU	43	50	– 7	75	70	5	47	53	– 6	17	32	– 15	22	28	– 6	44	49	– 5	68	82	– 14
HU	30	34	– 4	51	50	1	38	41	– 3	11	14	– 3	13	19	– 6	25	27	– 2	57	65	– 8
MT	43	46	31	84	58	26	54	54	0	8	26	– 18	17	17	0	60	62	– 2	75	83	– 8
NL	49	61	– 12	86	82	4	57	68	– 11	20	41	– 21	30	37	– 7	44	58	– 14	69	82	– 13
AT	46	55	– 9	79	79	0	54	61	– 7	18	34	– 16	20	44	– 24	37	44	– 7	72	76	– 4
PL	25	28	– 3	61	63	– 2	30	31	– 1	6	7	– 1	29	36	– 7	11	16	– 5	50	60	– 10
PT	40	44	– 4	81	79	2	48	50	– 2	11	19	– 8	11	20	– 9	55	62	– 7	78	83	– 5
RO	14	16	– 2	32	36	– 4	16	17	– 1	5	5	0	7	12	– 5	10	10	0	41	50	– 9
SI	44	41	3	81	72	9	55	47	8	15	20	– 5	22	40	– 18	33	29	4	77	80	– 3
SK	32	32	0	65	63	2	38	36	2	9	10	– 1	23	31	– 8	22	25	– 3	60	61	– 1
FI	54	56	– 2	88	72	16	64	65	– 1	29	36	– 7	53	46	7	41	48	– 7	68	80	– 12
SE	49	53	– 4	70	74	– 4	58	61	– 3	24	28	– 4	32	38	– 6	39	44	– 5	69	79	– 10
UK	53	60	– 7	79	85	– 6	63	64	– 1	26	38	– 12	4	5	– 1	42	53	– 11	74	81	– 7

Source:
Eurostat (isoc_sk_dskl_i), 2019.

Table 24. Percentages of people (aged 16–74) who carried out at least one training activity to improve skills relating to the use of computers, software or applications, by gender, age and educational level, 2018

MS	Percentage of people (aged 16–74) who carried out at least one training activity to improve skills relating to the use of computers, software or applications			Percentage of people who carried out at least one training activity to improve skills relating to the use of computers, software or applications, by age									Percentage of people who carried out at least one training activity to improve skills relating to the use of computers, software or applications, by level of education								
				16–24			25–54			55–74			Low			Medium			High		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**18**	**22**	**– 4**	**20**	**25**	**– 5**	**23**	**27**	**– 4**	**9**	**12**	**– 3**	**7**	**11**	**– 4**	**16**	**20**	**– 4**	**31**	**37**	**– 6**
BE	27	32	– 5	25	26	– 1	35	39	– 4	16	22	– 6	11	15	– 4	25	28	– 3	42	52	– 10
BG	13	12	1	22	25	– 3	16	14	2	5	5	0	4	8	– 4	9	10	– 1	28	26	2
CZ	28	31	– 3	48	49	– 1	32	36	– 4	16	17	– 1	20	30	– 10	25	28	– 3	42	48	– 6
DK	32	38	– 6	18	34	– 16	38	44	– 6	29	30	– 1	18	28	– 10	32	37	– 5	45	52	– 7
DE	24	33	– 9	24	35	– 11	31	40	– 9	13	19	– 6	8	18	– 10	26	30	– 4	38	48	– 10
EE	22	23	– 1	26	32	– 6	27	26	1	14	12	2	13	20	– 7	14	18	– 4	33	33	0
IE	16	18	– 2	25	27	– 2	20	22	– 2	5	7	– 2	4	8	– 4	12	19	– 7	29	29	0
EL	10	12	– 2	14	17	– 3	13	17	– 4	3	3	0	3	3	0	9	12	– 3	19	23	– 4
ES	20	23	– 3	25	30	– 5	24	25	– 1	11	14	– 3	8	10	– 2	21	24	– 3	34	39	– 5
FR	14	18	– 4	16	24	– 8	16	20	– 4	10	10	0	7	11	– 4	13	14	– 1	22	29	– 7
HR	9	12	– 3	13	21	– 8	13	15	– 2	3	4	– 1	3	3	0	8	11	– 3	20	25	– 5
IT	10	12	– 2	9	12	– 3	13	15	– 2	6	7	– 1	2	5	– 3	11	15	– 4	24	25	– 1
CY	8	9	– 1	9	9	0	11	11	0	2	4	– 2	1	3	– 2	7	5	2	15	17	– 2
LV	17	15	2	19	20	– 1	20	17	3	11	6	5	10	11	– 1	11	10	1	27	30	– 3
LT	21	23	– 2	35	42	– 7	24	24	0	12	10	2	19	26	– 7	12	11	1	31	40	– 9
LU	24	37	– 13	14	32	– 18	31	44	– 13	13	23	– 10	8	22	– 14	22	38	– 16	45	53	– 8
HU	10	14	– 4	7	18	– 11	15	17	– 2	4	6	– 2	3	6	– 3	8	10	– 2	22	30	– 8
MT	25	23	2	48	33	15	30	28	2	5	9	– 4	12	14	– 2	30	23	7	43	48	– 5
NL	31	37	– 6	44	43	1	37	43	– 6	15	22	– 7	15	22	– 7	35	38	– 3	41	46	– 5
AT	19	32	– 13	19	31	– 12	25	40	– 15	10	17	– 7	7	13	– 6	16	28	– 12	32	45	– 13
PL	12	13	– 1	12	16	– 4	17	17	0	4	4	0	3	7	– 4	6	7	– 1	30	35	– 5
PT	16	22	– 6	32	42	– 10	20	26	– 6	5	7	– 2	6	11	– 5	26	34	– 8	30	38	– 8
RO	16	16	0	28	26	2	19	18	1	6	7	– 1	7	10	– 3	15	13	2	35	37	– 2
SI	26	27	– 1	40	47	– 7	31	31	0	12	14	– 2	10	20	– 10	23	24	– 1	41	46	– 5
SK	23	25	– 2	26	21	5	29	33	– 4	11	9	2	10	9	1	18	20	– 2	45	52	– 7
FI	66	63	3	71	76	– 5	74	73	1	52	44	8	46	47	– 1	61	62	– 1	81	83	– 2
SE	28	34	– 6	24	30	– 6	34	44	– 10	20	18	2	10	23	– 13	27	32	– 5	38	48	– 10
UK	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

Source:
Eurostat (isoc_sk_how_i), 2018.
NB: :, not available.

Table 25. Indicator on segregation in education and the labour market in ICT

MS	Percentages of women and men among ICT graduates		Percentages of women and men among ICT specialists (15 or older)		Percentages of women and men among scientists and engineers in high-technology sectors (aged 25–64)	
	Women	Men	Women	Men	Women	Men
EU	**20.1**	**79.9**	**17.7 s**	**82.3 s**	**20.0**	**80.0**
BE	11.8	88.2	17.7	82.3	20.8	79.2
BG	34.8	65.2	28.0 s	72.0 s	27.1	73.1
CZ	15.9	84.1	11.3	88.7	14.5	85.5
DK	23.0	77.0	20.4 s	79.6 s	21.8	78.4
DE	19.7	80.3	16.8	83.2	17.8	82.2
EE	29.6	70.4	22.6	77.4	22.5	77.5
IE	26.2 d	73.8 d	21.0	79.0	20.8	79.4
EL	39.2	60.8	16.4 s	83.6 s	21.1	78.9
ES	12.0	88.0	17.1 s	82.9 s	27.5	72.5
FR	19.5 d	80.5 d	21.2	78.8	23.1	77.0
HR	21.3	78.7	17.2	82.8	34.0 u	66.0
IT	20.9	79.1	14.8	85.2	22.8	77.2
CY	29.8	70.2	18.3	81.7	23.1 u	74.4
LV	25.5	74.5	36.5 s	63.5 s	26.1	73.9
LT	16.9	83.1	24.0	76.0	27.9	72.1
LU	9.8	90.2	16.8	83.2	13.2 u	84.9
HU	16.8	83.2	10.6	89.4 u	15.0	85.0
MT	15.9	84.1	10.9	89.1	:	96.8
NL	15.6	84.4	17.5	82.5	16.4	83.6
AT	15.4	84.6	20.4	79.6	23.3	76.7
PL	22.9	77.1	14.3	85.7	17.8	82.2
PT	18.6	81.4	15.7 s	84.3 s	20.2	79.8
RO	34.5	65.5	23.2	76.8	24.0	76.0
SI	16.4	83.6	19.2	80.8	26.1	73.9
SK	15.1	84.9	13.3	86.7	17.1	82.9
FI	21.4	78.6	20.5	79.5	24.4	75.6
SE	30.9	69.1	20.4	79.6	20.0	79.9
UK	18.1 d	81.9 d	17.5	82.5	16.0	84.0
	Source: Eurostat (educ_uoe_grad02), 2018. NB: d, definition differs, see Eurostat.		*Source*: Eurostat (isoc_sks_itsps), 2019. NB: s, Eurostat estimate; u, low reliability.		*Source*: Eurostat (hrst_st_nsecsex2), 2019, NB: :, not available; u, low reliability,	

Table 26. Percentages of employed people (aged 16–74) who performed ICT activities at work, by gender and type of activity

MS	Individuals who used computers, laptops, smartphones, tablets or other portable devices at work (16–74, %)			Individuals who used other computerised equipment or machinery such as those used in production lines, transport or other services at work (16–74, %)			Individuals who exchanged emails or entered data into databases in their work (16–74, %)			Individuals who created or edited electronic documents in their work (16–74, %)			Individuals who used social media for their work (16–74, %)			Individuals who used applications to receive tasks or instructions in their work (16–74, %)			Individuals who used occupational-specific software in their work (16–74, %)			Individuals who developed or maintained IT systems or software in their work (16–74, %)		
	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap	Women	Men	Gap
EU	**37**	**42**	**– 5**	**8**	**13**	**– 5**	**32**	**36**	**– 4**	**24**	**28**	**– 4**	**9**	**11**	**– 2**	**10**	**14**	**– 4**	**19**	**24**	**– 5**	**3**	**7**	**– 4**
BE	41	43	– 2	14	21	– 7	36	39	– 3	20	27	– 7	9	10	– 1	13	18	– 5	21	25	– 4	2	6	– 4
BG	21	20	1	3	5	– 2	16	14	2	14	11	3	4	5	– 1	5	5	0	8	8	0	1	2	– 1
CZ	34	38	– 4	14	23	– 9	32	36	– 4	29	31	– 2	8	9	– 1	10	15	– 5	22	23	– 1	1	5	– 4
DK	47	55	– 8	14	23	– 9	39	47	– 8	28	36	– 8	13	16	– 3	7	15	– 8	15	27	– 12	5	12	– 7
DE	47	55	– 8	8	18	– 10	41	48	– 7	32	39	– 7	9	11	– 2	5	11	– 6	28	35	– 7	2	8	– 6
EE	44	50	– 6	14	25	– 11	41	45	– 4	36	36	0	17	13	4	23	28	– 5	25	27	– 2	3	7	– 4
IE	29	36	– 7	9	17	– 8	24	28	– 4	18	21	– 3	7	8	– 1	11	15	– 4	11	16	– 5	3	5	– 2
EL	20	28	– 8	9	14	– 5	16	21	– 5	16	20	– 4	5	8	– 3	4	7	– 3	8	13	– 5	2	5	– 3
ES	31	35	– 4	6	11	– 5	26	29	– 3	20	22	– 2	10	11	– 1	13	15	– 2	18	21	– 3	3	6	– 3
FR	39	43	– 4	6	12	– 6	32	35	– 3	22	25	– 3	7	8	– 1	12	16	– 4	21	24	– 3	2	5	– 3
HR	27	29	– 2	1	2	– 1	24	27	– 3	20	21	– 1	5	5	0	0 n	2	– 2	13	14	– 1	2	3	– 1
IT	27	37	– 10	1	5	– 4	23	30	– 7	16	21	– 5	7	10	– 3	6	10	– 4	10	15	– 5	3	6	– 3
CY	35	35	0	1	2	– 1	28	29	– 1	27	27	0	10	10	0	5	9	– 4	13	15	– 2	1	4	– 3
LV	38	34	4	17	15	2	31	26	5	22	17	5	11	8	3	11	12	– 1	21	17	4	1	4	– 3
LT	36	34	2	8	12	– 4	30	27	3	20	18	2	12	10	2	9	9	0	19	18	1	1	4	– 3
LU	42	49	– 7	10	17	– 7	37	42	– 5	32	35	– 3	9	12	– 3	12	18	– 6	19	27	– 8	3	9	– 6
HU	26	32	– 6	5	10	– 5	23	28	– 5	20	23	– 3	8	10	– 2	13	18	– 5	14	19	– 5	2	7	– 5
MT	45	49	– 4	11	13	– 2	39	43	– 4	28	30	– 2	17	20	– 3	16	26	– 10	21	30	– 9	4	9	– 5
NL	56	62	– 6	16	25	– 9	49	54	– 5	40	48	– 8	19	22	– 3	20	26	– 6	26	37	– 11	2	13	– 11
AT	42	51	– 9	7	16	– 9	39	48	– 9	29	35	– 6	10	11	– 1	7	14	– 7	28	39	– 11	3	10	– 7
PL	30	32	– 2	5	10	– 5	24	26	– 2	20	20	0	7	8	– 1	8	11	– 3	12	15	– 3	1	4	– 3
PT	34	37	– 3	6	10	– 4	32	33	– 1	19	19	0	9	11	– 2	15	18	– 3	22	23	– 1	3	6	– 3
RO	17	17	0	3	4	– 1	14	14	0	9	9	0	5	6	– 1	5	5	0	7	7	0	1	1	0
SI	39	38	1	12	18	– 6	33	32	1	30	25	5	9	7	2	12	13	– 1	18	20	– 2	7	8	– 1
SK	30	32	– 2	3	5	– 2	25	28	– 3	18	18	0	7	7	0	9	11	– 2	9	11	– 2	0 n	2	– 2
FI	46	51	– 5	10	19	– 9	44	47	– 3	31	34	– 3	15	13	2	20	24	– 4	28	32	– 4	6	11	– 5
SE	41	49	– 8	:	:	:	36	45	– 9	27	34	– 7	12	13	– 1	8	15	– 7	16	26	– 10	3	10	– 7
UK	46	51	– 5	10	15	– 5	40	44	– 4	34	39	– 5	12	16	– 4	17	25	– 8	25	29	– 4	5	11	– 6

Source:
Eurostat (isoc_iw_ap), 2018,
NB: :, not available; n, not significant,

Table 27. Percentages of people (aged 20–64) working part-time in ICT, by gender, and gender pay gap in ICT

MS	Percentage of people (aged 20–64) working part-time in ICT			Gender pay gap (%)	
	Women	Men	Gap	ICT professions	All professions
EU	**16.5**	**5.4**	**11.1**	**11.1**	**17.1**
BE	15.1	5.0	10.1	1.6	6.6
BG	1.2 d	1.8 d	– 0.6	8.7	14.2
CZ	10.3	3.8	6.5	17.2	22.5
DK	16.7	8.3	8.4	5.7	16.0
DE	27.6	7.7	19.9	6.3	22.3
EE	7.5	6.5	1.0	17.5	28.1
IE	6.1	1.8	4.3	11.6	13.9
EL	4.3	3.1	1.2	12.1	12.5
ES	12.7	3.5	9.2	6.4	14.9
FR	13.2	3.8	9.4	2.1	15.5
HR	0.0	4.5	– 4.5	6.9	8.7
IT	18.0	4.8	13.2	14.6	6.1
CY	1.7	2.1	– 0.4	– 7.6	14.2
LV	:	0.9	:	9.4	17.3
LT	4.6	3.6	1.0	18.0	13.3
LU	24.7	4.0	20.7	6.9	5.4
HU	0.7	0.9	– 0.2	:	15.1
MT	:	:	:	8.4	10.6
NL	44.2	17.3	26.9	9.0	16.1
AT	34.2	9.8	24.4	15.9	22.2
PL	5.7 d	2.5 d	3.2	16.6	7.7
PT	3.2	2.7	0.5	– 1.5	14.9
RO	0.0	0.6	– 0.6	13.9	4.5
SI	8.5 d	5.3 d	3.2	7.4	7.0
SK	3.2	4.0	– 0.8	13.6	19.7
FI	9.7	5.9	3.8	3.8	18.4
SE	11.2	7.4	3.8	3.6	13.8
UK	16.2	3.1	13.1	13.9	20.9
	Source: EU-LFS, EIGE's elaboration on microdata, 2018, NB: d, definition differs (ICT workers do not include service managers).			*Source*: SES, EIGE calculations using microdata, 2014. NB: :, not available.	

GETTING IN TOUCH WITH THE EU

IN PERSON
All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

ON THE PHONE OR BY EMAIL
Europe Direct is a service that answers your questions about the European Union.

You can contact this service:
– by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
– at the following standard number: +32 22999696, or
– by email via: https://europa.eu/european-union/contact_en

FINDING INFORMATION ABOUT THE EU

ONLINE
Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU PUBLICATIONS
You can download or order free and priced EU publications from: https://publications.europa.eu/en/publications. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

EU LAW AND RELATED DOCUMENTS
For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: http://eur-lex.europa.eu

OPEN DATA FROM THE EU
The EU Open Data Portal (http://data.europa.eu/euodp/en) provides access to datasets from the EU. Data can be downloaded and reused for free, for both commercial and non-commercial purposes.

www.eige.europa.eu

Publications Office
of the European Union