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GENDER EQUALITY AND SKILLS DEVELOPMENT

ETF Gender Equality Series I

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FOREWORD

This literary review is prepared by Outi Kärkkäinen at the European Training Foundation (ETF).

The first draft of the document was prepared by Ms Kärkkäinen when she acted as gender advisor for the Section for Youth, Literacy and Skills Development at UNESCO, under the overall guidance of Borhene Chakroun, Director of the Policies and Lifelong Learning Systems Division, Hervé Huot-Marchand, Chief of the Section for Youth, Literacy and Skills Development (YLS) and Hiromichi Katayama, Programme Specialist. The author wishes to thank her colleagues at the YLS section, at the Section of Education for Inclusion and Gender Equality, and the UNESCO TVET network correspondents for their suggestions and comments on the production of the first draft that remains with YLS.

The author subsequently extensively revised the draft at the ETF to reflect the European Union's (EU) external cooperation framework, thus producing the current ETF report. Subsequent ETF publications in the series will address gender-based occupational segregation (II) and gender-based segregation in education (III) in greater detail.

The author also wishes to thank the peer reviewers Ummuhan Bardak and Piotr Stronkowski from ETF for their insightful feedback, helpful comments, and suggestions for improvement.

ABBREVIATIONS AND ACRONYMS

AD	Action Document
ADB	Asian Development Bank
AI	Artificial intelligence
ALE	Adult learning and education
ALMP	Active labour market program
CEDAW	Convention on the Elimination of All forms of Discrimination Against Women
CIL	Computer and information literacy
CT	Computational thinking
CVET	Continuous vocational education and training
DAC	Development Assistance Committee
DESA	(UN) Department of Economic and Social Affairs
EC	European Commission
ECEC	Early childhood education and care
ECDPM	European Centre for Development Policy Management
EFSD	European Fund for Sustainable Development
EIGE	European Institute for Gender Equality
EIF	European Investment Fund
EHW	Education, health and welfare
EMIS	Education management and information system
ETF	European Training Foundation
EU	European Union

FAWE	Forum for African Women Educationalists
GBV	Gender-based violence
GEC	Global Education Coalition
GEGI	Gender Employment Gap Index
GEM	Gender Equality Marker
GEWE	Gender equality and women's empowerment
GPI	Gender parity index
GRP	Gender responsive pedagogy
HCD	Human capital development
IAG	Inter-Agency Group
IBRD	International Bank for Reconstruction and Development
ICILS	International Computer and Information Literacy Study
ICT	Information and communication technologies
IEA	International Association for the Evaluation of Educational Achievement
IICBA	International Institute for Capacity-Building in Africa
ILO	International Labour Organization
INEE	Inter-Agency Network for Education in Emergencies
IVET	Initial vocational education and training
LLL	Lifelong learning
MDGs	Millenium Development Goals
MFF	Multi-Annual Financial Framework
MGI	McKinsey Global Institute

NDICI	Neighbourhood Development and International Cooperation Instrument
NEET	Not in employment, education or training
OECD	Organization of Economic Cooperation and Development
PASEC	Programme for the Analysis of Education Systems
PISA	Programme for International Student Assessment
pp	Percentage point/s
SDG	Sustainable Development Goal
SIDA	Swedish International Development Agency
STEM	Science, technology, engineering and mathematics
STEP	Skills and Technical Education Programme
TES	Transforming Education Summit
TIMSS	Trends in International Mathematics and Science Study
TT	Teacher training
TVET	Technical and vocational education and training
UIS	UNESCO Institute for Statistics
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
VPA	Virtual personal assistant
WEE	Women’s economic empowerment
WEF	World Economic Forum

CONTENTS

EXECUTIVE SUMMARY

This literature review examines barriers and opportunities in education and training—particularly technical and vocational education and training (TVET)—and explores how development efforts can improve gender equality and employment outcomes. This executive summary outlines the key issues, while the full report provides in-depth discussion on concepts, definitions, research debates, and data. Each of the four chapters in the main report can be read on its own.

Gender equality encompasses all genders, however, this review concentrates on women in recognition of persistent global disparities in education, skills development, and workforce inclusion. Women remain disproportionately affected by poverty, illiteracy, lower participation, pay gaps, and job segregation.

Promoting gender equality should be based on robust evidence, not just differing values, especially given recent anti-gender rhetoric. While gender equality has several undeniable positive outcomes on health and social wellbeing of populations, and on global issues such as environment and peace, this review is motivated in particular by the labour market outcomes and economic empowerment. Increasing female participation in education and training is widely documented to boost women's economic opportunities and fosters inclusive growth. Gender equality is not only a matter of human rights but also essential for sustainable economic progress. Since women and girls represent half of the world's population, empowering them enhances prosperity; if women fully participated in the workforce, GDP could rise substantially—by nearly 20% on average according to various global studies—helping drive development forward.

1. GLOBAL AND EU DEVELOPMENT COOPERATION POLICY FRAMEWORK FOR GENDER EQUALITY

The gender equality objectives of the international community are enshrined in Sustainable Development Goals. Moreover, several international conventions and declarations have committed the signatory countries to equal rights regarding education, training and employment. Key international frameworks include the UNESCO Convention Against Discrimination in Education (1960), safeguarding equal educational opportunities and minority rights, and the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW, 1979), which legally obliges states to eradicate discrimination against women. UN world conferences on women, especially Beijing 1995, highlighted equal access to education and employment. Additionally, ILO conventions set global standards for equality and non-discrimination in the workplace, covering remuneration, family responsibilities, and maternity protection, with ratification requiring binding state commitments.

Notwithstanding some progress over the last decades, as the UNESCO Global Education Monitoring Report 2024/5 notes, the world is not on track to achieve gender equality by 2030 in terms of many human capital development related SDG indicators such as:

- Secondary education (SDG 4.1.2): Gender gaps in secondary completion rates have been eliminated globally, but remain wide in sub-Saharan Africa, where the pace of progress over the past decade has been half of that in Central and Southern Asia, the only other region where girls are behind boys.
- TVET (SDG 4.3.3): Globally it is estimated that 43 % of upper secondary enrolment in TVET is female, compared to 49 % in general upper secondary education.
- Adult education (SDG 4.3.1): Globally, 3% of adults, both men and women, participate in formal and non-formal education and training. This parity hides contextual gender disparities: in high-income countries, 73 men participate for every 100 women, whereas in low-income countries, only 50 women participate for every 100 men among 25-to-54-year-olds.
- Labour force participation (SDG 8.5): In 2023, women's global labour force participation rate aged 15+ stood at 48.7%, significantly lower than the rate of 73.0% for men—a gap of more than 24 pp.

- Employment (SDG 8.5): In 2024, 46.4% of working-age women were employed, compared to 69.5% of men. Over the last 30 years, the gender employment gap has narrowed by only 4 pp, with high-income and lower-middle-income countries exhibiting the largest reduction. If this slow pace of progress persists, it will take nearly two centuries to achieve gender parity in employment globally.
- Pay gap (SDG 8.5.1): According to the ILO, the global labour income gap is about 50%, while the relative labour income gap (assuming women were employed at the same rate as men) varies between 43% in low-income countries to 73% in high income countries.
- NEETs (SDG 8.6.1): One in five young people, or 20.4%, globally were NEET in 2023. Two in three of these NEETs were females.

Equality between women and men has been a core value of the European Union since 1957, beginning with the principle of equal pay in the Treaty of Rome. Over the decades, a comprehensive legislative framework was established to promote equality in employment, pay, social security, and parental rights. The Treaty of Amsterdam (1997) included gender equality as a central EU objective and introduced the principle of gender mainstreaming, requiring all EU policies to integrate a gender perspective. Accession to the EU means that each country must enact EU gender equality policy. The most recent Gender Equality Strategy, strategy, “A Union of Equality 2020–2025”, reinforces gender equality as vital for social rights and economic progress and, for the first time, adopts an intersectional approach to address overlapping inequalities.

Early efforts by the EU to promote gender equality in development policy began during the UN Decade for Women (1975–1985), leading to the establishment of the Women in Development policy, which focused on creating specific projects for women and addressing their exclusion from the development process. The 1995 UN Beijing Conference was pivotal, prompting the EU to declare the integration of a gender perspective in development cooperation as a core principle. This led to various policy documents and the adoption of a twin-track strategy: gender mainstreaming and targeted actions for women. In 2007, the EU shifted towards treating gender as a cross-cutting issue in all external actions. A series of Gender Action Plans (GAPs) in EU external action followed, with the first launched in 2010, The third plan, GAP III (2021–2027), introduced gender-transformative approaches and requires that 85% of new external actions to have gender equality as a significant or principal objective.

2. GENDER IN/EQUALITIES IN SKILLS DEVELOPMENT THROUGH TVET

TVET equips learners with job-specific skills, improves employability, and facilitates lifelong learning, smooth school-to-work transitions, and broader access beyond formal education. TVET also presents an opportunity for promoting gender equality in the labour market. However, a comprehensive and holistic discussion on the potential that TVET has to promote gender equality and the SDGs more broadly is lacking. It is also important to recognise the risk that TVET – like any education – may both reflect the gender dynamics of broader society and work to reinforce and perpetuate them. Instead of serving as a driver for gender equality and a catalyst for change, TVET may inadvertently act as a site for the reproduction of gender inequalities within the labour market, the economy and society at large. Hence, the importance of gender-transformative reforms based on understanding persistent gender regimes. To advance gender equality, it is essential to investigate the reasons behind gender differences in education and training pathways and address them proactively.

There is no global recent data available on the gender gap in TVET, a sign of the lack of attention to the issue in itself. As mentioned above, the UIS estimated that, globally, 43% of students enrolled in secondary vocational education were females in 2017. The World Bank Gender Portal data for 146 countries by regions shows the largest gender gaps in access and participation to TVET in South Asia (5 pp), East Asia and Pacific (8 pp) and Europe & Central Asia (9 pp) in 2018. Access and participation of girls and women is impacted by several factors.

Gender norms and stereotypes

Perceptions that TVET is primarily a male domain discourages women's participation. Available courses are traditionally split along gender lines, with more options for male-dominated fields, limiting women's occupational choice. Girls predominantly choose health and social care fields, while boys opt for energy, industry, and construction. These patterns stem from subject streaming and stereotypes established in earlier schooling, reinforcing traditional roles. Studies highlight that females remain under-represented in STEM TVET programmes, with further gender segregation even within STEM subjects: in health sciences for example women concentrate on occupations such as laboratory technicians and assistants medicine-related diagnostics. Additionally, employer bias and discrimination reduce demand for female TVET graduates, as jobs are often seen as suitable only for men, and in some countries, legal restrictions bar women from certain roles. These factors collectively discourage women from pursuing TVET, highlighting the need for greater support for women in non-traditional sectors to address entrenched occupational segregation and bias in the labour market. For instance, scholarships may be offered to women entering male-dominated sectors and similarly provided to men in female-dominated areas, while incentives can be implemented for training programs that successfully place individuals in roles typically held by the opposite gender. Additionally, advocacy campaigns addressing prevailing gender stereotypes in TVET, alongside collaborative efforts with employers and families to foster positive attitudes toward girls' participation in TVET, may contribute to greater inclusivity.

Career guidance and counselling

Untrained career counsellors on gender-transformative approaches may discourage women from technical careers and reinforce gendered job choices. Girls, on average, receive less career guidance linked to the labour market than boys, limiting their exposure to various career pathways. Research shows gender roles and expectations and occupational aspirations develop early making early intervention crucial: by age 5 gender lines start appearing and by age 15, girls mostly aim for careers in female-dominated fields and boys prefer male-dominated ones. For adolescents and young people, sustained, unbiased career guidance—supported by anti-bias training for counsellors—can promote gender equality and encourage both genders to explore non-traditional sectors. Involving employers and offering workplace exposure, especially in STEM for girls or care sectors for boys, broadens horizons. For adults, especially during employment transitions, accessible and gender-responsive career services further support equitable participation. While career guidance alone cannot overcome labour market discrimination, it plays a key role in empowering individuals to pursue personal aspirations free from stereotypes. Ultimately, freedom of choice in careers is only genuine when young people are liberated from restrictive gender norms, making gender-transformative career guidance an essential part of fostering inclusion in education and the workforce.

Work-based learning

TVET emphasises practical and work-based learning, allowing students to gain labour market experience through internships and industry placements during their studies. However, globally, women are less likely to participate in work-based learning and apprenticeships. Opportunities often remain concentrated in male-dominated fields and occupations, and women frequently encounter barriers, such as inadequate workplace amenities. Families may also hesitate to send daughters for apprenticeships due to concerns about harassment and gender-based violence, especially in environments dominated by male tutors. Furthermore, paid placements are less common in female-dominated service sector areas compared to male-dominated sectors. The absence of work experience during education is linked to lower employment rates for women later in life. This highlights the need to enhance collaboration with the private sector through formal agreements, such as including temporary quotas to ensure job placements for female trainees or offering financial incentives either to apprentices from underrepresented genders or to employers who support their inclusion, as well as encouraging female entrepreneurs in accepting apprentices into their businesses.

Teaching staff and leadership

Achieving gender equality in education requires not only providing girls with access to learning and training, but also ensuring women have equal opportunities in teaching and leadership roles. Despite women comprising the majority of the global teaching workforce, their representation diminishes at higher education levels: according to UNESCO, in 2023, women made up 93% of pre-primary teachers, 68% in primary, 59% in lower secondary, 52% in upper secondary, and only 44% in tertiary education. Data on TVET is limited, but evidence suggests female teachers are underrepresented, with school leadership even more male-dominated. The prevalence of women in early education reflects stereotypes around caregiving and a lack of female teachers and supervisors in higher levels of education can discourage girls from entering male-dominated fields. Women are also underrepresented in school leadership; there are at least 20 percentage points fewer female principals than female teachers in primary and secondary education according to UNESCO. Evidence links female school leaders to improved student outcomes—especially for girls—and greater organisational innovation and profitability. Despite these benefits, few countries actively promote gender diversity in leadership recruitment. Teacher education and hiring policies should ensure balanced representation of men and women across subjects and educational levels. To advance gender equality, schools can create professional development plans focusing on women in male-dominated fields and men in traditionally female areas, recruit qualified women from industry with pedagogical training, and maintain transparent and equitable evaluation practices.

Curriculum and learning materials

Curriculum objectives are key to inform the development of teaching and learning materials**.** The lack of gender-sensitive managers, curriculum developers and trainers in TVET may result in a situation whereby curricula reflect the traditional gender stereotypes prevalent in the wider culture as to what skills and occupations are appropriate for women and men. Teaching and learning materials are also fundamental to the pedagogical process; they contribute to the construction of beliefs and values in students about gender norms, vocational choices and future opportunities. Textbooks, especially older ones, often portray women as passive and associated with domestic and caregiver roles, and as those who worry about their appearance while men are depicted as leaders in influential positions. Assessing and reviewing national TVET curricula, instructional materials, and teachers' guides through a gender lens helps improve the integration of gender issues and ensure the content does not perpetuate stereotypes.

Teacher qualifications

Teachers exert considerable influence on young individuals who are in the process of developing their identities and understanding their potential roles within society. In TVET, the focus on teachers' technical expertise often overlooks the ability to challenge gender stereotypes. Teachers' own biases, shaped by their background and experiences, can influence how they interact with and encourage male and female students, sometimes reflected in both language and nonverbal cues. Many educators lack awareness or training in gender equality principles and inclusive teaching practices. Gender-responsive pedagogy is essential for fostering equality, as it tailors teaching methods to the needs of all students and encourages critical engagement with concepts, promoting balanced participation. Gender-transformative pedagogies go further, challenging stereotypes, power relations, and societal norms. To prevent teachers from perpetuating gender stereotypes, gender-transformative pedagogy should be integrated into TVET teacher training and qualification standards. Ongoing professional development is essential for school leaders, instructors, and teachers to deepen their understanding of gender issues.

Adult learning

Globally, there is gender parity in adult education participation rates with males at 3.1% and females at 3% in 2023. Gender-specific barriers are however evident. Across the OECD countries, women are far more likely to cite family obligations as a hindrance to participation, with 27% of women with children affected compared to 4% of men. In the informal economy, especially in lower- and middle-income countries where more women are informally employed, women face greater challenges

accessing learning due to opportunity costs and restrictive entry requirements. These factors collectively highlight the need to address gendered barriers to adult education and training by offering flexible training schedules in both formal and non-formal contexts to accommodate household, childcare, and seasonal work responsibilities, by reducing course durations and expanding online learning options to increase accessibility and by implementing policies promoting equal sharing of domestic responsibilities.

Informal on-the-job learning

Gender gaps in literacy and numeracy evolve over time reflecting differences in use of such skills at work and at home. Gender gaps in numeracy grow larger and increasingly favour boys and men as individuals age. By contrast, gender gaps in literacy – which favour girls and women – peak during adolescence and then become smaller as individuals age. Segregation by field of study, industry and occupation means that women and men do not have the same opportunities to learn, practice and maintain their level of proficiency in different types of skills and abilities. Men are more likely to specialise in fields of study and occupations that use math and numeracy more intensively, which may contribute to growing gaps as people age. By contrast, literacy is a skill used across all fields of study and occupations and is key to success in education and in the labour market which may contribute to shrinking gaps across the life course.

Upskilling and reskilling

Both are important active labour market measures and part of lifelong learning and, if implemented in a gender transformative way, may pave way for more gender equality in the labour market. First, upskilling and reskilling through flexible and shorter skills development activities can support women to re-enter the workforce after longer term career break. Second, it can also address gender inequalities by offering women reskilling into non-traditional female jobs. Thirdly, upskilling and reskilling are also an opportunity to guarantee that women have equal access to job opportunities emerging from the digital and green transitions. While research and media attention often focuses on gender disparities and workforce gaps in STEM roles within green and digital industries among recent school graduates, there is significant potential for women to upskill or reskill for careers in ICT or green sectors. For this, public employment services and career counselling centres can play an important role in providing gender-transformative guidance, skills assessment, and training advice for adults.

3. GENDER IN/EQUALITIES IN EMPLOYMENT THROUGH TVET

Education and training can play a double role in promoting gender equality. First, it can promote new attitudes and patterns of belief, transforming the way people think about traditional gender roles and helping to build lasting change. Second, it can provide the relevant skills and empower and equip men and women to participate in the labour market ensuring the labour market return to skills. However, despite rising levels of education of women, gender inequality has proven to be a stubborn and damaging reality of the global labour market. Explanations vary from biases in recruitment, sexist work cultures, difficulties for women in striking a work-life balance, the unequal distribution of domestic and care work, to unsafe transport and workplaces etc. The TVET sector as a bridge to the labour market has strategic importance in addressing gender inequalities existing on the labour markets.

Labour force participation

Data indicates that educational achievement and investment do not translate into equal labour market outcomes for women and men. The ILO School-to-Work Transition Survey 2020 reports that for persons aged 25–29 years, a man is 1.9 times more likely to complete their labour market transition than a woman. When obtaining a job, women and girls are still less likely to work full time and are more likely than men to be in low-paid occupations. No matter how we look at the labour statistics, women - who make up half of the world population - represent an untapped human potential. According to the ILO, among people aged 15+, in 2023, women's global labour force participation rate stood at 48.7%, significantly lower than the rate of 73.0% for men - a gender gap of more than 24pp, as noted above. The gender labour force participation gap was 26.6% in 1991 and 19.5% in 2021 implying a reduction rate of 1.03% per year. On that basis IMF has estimated that if the gap continued

to decrease at the observed rate, it could take even 445 years to achieve gender equality in labour force participation.

Unemployment

The global unemployment rates were estimated by ILO at 5.0% for men and 5.3% for women in 2023. Focusing on the unemployment rate by itself understates the challenges that women face in finding a job. Indeed, in 2022, the ILO started monitoring a new indicator, the *jobs gap,* that captures all persons who would like to work but do not have a job, including those who are not either available or seeking for a job. Relaxing the restrictions on search and availability inherent in unemployment statistics results in much greater gender imbalances in access to employment: the jobs gap rate for women was 15.0% compared with 10.5% for men in 2022. As national income decreases, the jobs gap increases, as does the gap between women and men. In lower-income countries the jobs gap was 16.6% for men and 25% of women. The estimates point to severe difficulties faced by women in finding a job, particularly in the least developed countries.

NEETs

NEETs represent wasted human potential, leading to significant economic costs and burden for the society and risk of social exclusion and long-term inactivity. Globally in 2023, one in five young people (15-24), or 20.4%, were NEET and two in three of these NEETs were female. The female and male NEETs have different profiles, men are more often unemployed, and women inactive, i.e. female NEETs are outside the labour force to a larger extent than men. Being unemployed suggests that the individual still has some kind of connection to the labour market while people outside the labour force do not have this connection. An ETF study in 2015 found that most of the female NEETs who were inactive were not working or not actively seeking for a job because of their family responsibilities. The relevant policies to tackle the phenomenon of NEETs should be formulated with the awareness that being a woman is one of the highest risk factors.

Informal employment

While informal employment is a greater source of employment for men than for women at the world level (63% vs 58%), in developing countries the percentage of female workers who are informally employed (92%) is higher than the percentage of male workers (87%). Women are more exposed to informal employment in more than 90% of sub-Saharan African countries, 89% of countries from Southern Asia and almost 75% of Latin American countries. A major difference between women and men in informal employment is the proportion of women contributing family workers, representing 28.1% of women in informal employment compared to 8.7% for men, usually unpaid and particularly vulnerable status.

Labour market segregation

Gender-based horizontal segregation (‘glass wall’) trends over time in most regions show a persistent over-representation of men in industry, with women increasingly likely to be working in the service sector – in particular education, healthcare and welfare. Gender-based vertical segregation (‘glass ceiling or sticky floor’) results in both high-income and developing countries in concentration of women and men in different grades, levels of responsibility or potential for promotion, with men more often holding the more senior, prestigious and better remunerated positions. Gender-based occupational segregation is resilient to economic development and market forces and remains present in developed and developing countries alike and under all political systems, and in diverse religious, social and cultural settings. It is detrimental to women’s status and income as the gender-based occupational segregation is usually reflected in a gender gap in pay and other benefits, with jobs where women are highly represented being less valued and less well-remunerated. Greater female labour force participation alone does not increase gender equality if employment segregation implies that women enter low return occupations, or they crowd into a limited number of occupations resulting in lower wages.

As gender gaps in human capital are reduced or even reversed, women's concentration in low-productivity sectors and low-productivity industries within the sectors is an important form of labour misallocation. Therefore, targeting gender-based occupational segregation is key to improving labour market efficiency. National policies that address segregation in the labour market most often try to attract more women to sectors with technical content, i.e. STEM and in particular ICT activities. They try less often to attract more men into the education and care sector - possibly because this would also require improving the working conditions and remuneration in that sector. At the same time, the social and health sectors are experiencing severe worker shortages, highlighting the need to improve the working conditions in these sectors to attract or retain both men and women.

Pay gap

The occupational gender segregation being high in TVET, female and male learners from TVET end up in either very female or male-dominated sectors and occupations and hence with high gender wage gaps. The pay gap is due to lower wages in female-dominated sectors and occupations, but also due to the within-the-sector gender pay gaps that tend to be smaller in male-dominated sectors than in female-dominated sectors. According to ILO, globally, for each dollar men receive in *labour income*, women receive only 51 cents - almost 50% less. In the developing world, the differences are exacerbated, with women earning only 29 and 33 cents on the dollar in lower middle-income and low-income countries respectively. The *relative labour income* of women, assuming women were employed at the same rate as men, shows the very large gaps that would still be left, even after the hypothetical massive shift in participation. In low-income countries, working women would earn 43 cents for each dollar earned by men, in lower- and upper-middle income countries 61 and 71 cents respectively, reaching 73 cents in high income countries. This underscores the importance of not only the overall participation of women in the labour market, but also the quality of women's employment and the expansion of their access to employment across occupations. Additionally, enforcing anti-discrimination laws promoting pay equality, implementing pay transparency tools like gender pay audits or gender-disaggregated pay disclosure requirements, and encouraging wage-setting systems that discourage competition on low wages can help narrow the gender pay gap.

"Motherhood penalty"

Mothers with young children are less likely to be active in the workforce than their peers ('motherhood penalty'), whereas fathers tend to have higher participation rates ('paternity premium'). In addition to societal expectations that position women as the primary caregivers, this is largely attributable to limited availability of affordable quality childcare and parental leave options, child tax credits that more often benefit single-income families and low up-take of paternity leave if available. The "motherhood penalty" significantly impacts women's participation in the labour force, with the greatest reductions seen in upper-middle and high-income countries (20% and 13% respectively), while lower-middle and low-income countries experience smaller penalties (4% and 5%). In many lower-income regions, economic necessity and community support can help mitigate the penalty, whereas in wealthier countries, the lack of complementary child-rearing and employment practices, alongside nuclear family structures, magnifies the effect. These gender gaps accumulate over the life course, resulting in penalties in career progress and wage growth, reduced pension entitlements and higher risk of poverty and social exclusion for older women. Addressing this requires affordable childcare, publicly funded maternity affordable to both employees and employers, tax/benefit systems that give both partners in a couple equally strong incentives to work and free training programmes or other active labour market measures to help women return to work after child or elder care responsibilities.

Gender leave gap

Maternity and parental leave entitlements are essential for workplace gender equality, allowing parents to share care, improving work–life balance, and supporting child development and having a positive effect on women's labour force participation and wages. While ILO reports on slow but consistent trend toward reducing the gender leave gap, globally, there is a difference of five months between the duration of paid parental leaves available to mothers and that reserved for fathers. For employers, well-designed parental leaves offer a strategic advantage by supporting workforce stability,

attracting and retaining skilled talent, and enhancing employee engagement. Publicly funded parental leave minimizes direct costs for businesses, especially micro-, small- and medium- sized enterprises, ensuring that inclusive work environments are sustainable for enterprises of all sizes. Often it is necessary to set-up measures to promote equal use of parental leave, for example through reserving leave time specifically for the father or non-primary caregiving parent, to promote change.

Unpaid work

There are several global estimates on the quantity of unpaid care work by women and men. According to UN Women, women and girls devote 2.5 times as many hours per day to unpaid domestic and care work compared to men. In Northern Africa and Western Asia, women spend over four times as many hours as men. According to UNESCO, unpaid care and domestic work takes nearly three times larger share of women's 24-hour day (17.8%) as of men's (6.5%). The unequal burden of unpaid work that falls on women impacts not only their participation in the labour market but also their hours of work when they are employed. Globally in 2022, women in employment worked around seven paid hours per week less than men. Teleworking can encourage gender equality by enabling men and women to better manage their work and personal responsibilities, which may help narrow differences in unpaid care and household tasks. Nevertheless, if women are more likely to use flexible work options because of established social expectations, it can reinforce traditional views that women should juggle both career and family duties. In fact, research from the Covid-19 pandemic shows teleworking's impact on inequalities in work-life balance largely depended on existing gender norms.

4. TRANSVERSAL ISSUES

Science, technology, engineering and mathematics

STEM careers are widely regarded as essential for future workforce development, with skills in these areas increasingly relevant to emerging opportunities within the digital and green economies. Despite their importance, women remain significantly underrepresented in both STEM education and professional roles. Under-representation of women in STEM education is well-known. UNESCO estimates that in 2023 women were 35% of STEM graduates showing no progress over the last ten years. According to OECD, on average across OECD countries women are 28 percentage points less likely than men to have completed bachelor's or more advanced programmes with a STEM orientation and 52 percentage points less likely to have completed vocational programmes with a STEM orientation. Gender gaps in tertiary enrolment in STEM increase as country income rises.

There is no systemic gender skills gap in mathematics and science in secondary education. The fact that women now count for higher proportion of students in a limited number of STEM fields such as natural sciences, mathematics and statistics confirms that the ability to perform in STEM does not depend on the gender of the individual. Also, while boys continue to have higher grades in mathematics in most EU and OECD countries according to PISA, these gender gaps tend to be smaller than for other characteristics such as socio-economic background. Reasons for the under-representation of women in STEM have been found in self-confidence, self-efficacy and stereotypes.

The TIMSS 2019 data showed that there is a high correlation between the confidence in mathematics and science and the desire to work in these fields, and that girls' self-assessment of their skills in mathematics and science demonstrates less self-confidence than boys. Gender bias by parents, teachers and friends regarding interest in and aptitude for certain areas of work or fields of study reflect not only the gender norms and stereotypes around skills and abilities but also gendered expectations of educational and economic opportunities. Girls may put less personal effort into the study of mathematics, as current patterns of occupational segregation lead them to aspire to and expect to work in careers that do not require high levels of mathematics. Parents and teachers, observing the same patterns, may expect less of girls than of boys and encourage them less in the study of mathematics.

Globally, women represent less than on-third of the STEM workforce. This contributes to horizontal segregation and women's under-representation in sectors such as energy, transport, infrastructure. The gender gap in STEM career also contributes to larger gender pay gap and it also means

economies miss out on valuable talent and face less efficient use of labour. Shortages in STEM workers are a threat to economies, compromising the potential to reap the benefits of advances in STEM.

Globally, women are less likely than men to enter and more likely to leave the STEM workforce. A 2020 UNEVOC study in ten countries around the world found that not only are females under-represented in STEM-related TVET programmes, but also the 'pipeline is leaking', i.e. females transit less than men to STEM related occupations (or leave them earlier) after the relevant STEM-TVET programme. The WEF also reports a 'drop off' of women during the first year in the workforce: women graduating in 2017 accounted for 35.5% of STEM graduates, but only 29.6% of STEM job entrants in 2018.

The so-called 'gender-equality paradox' refers to the fact that gender segregation across educational fields and occupations is more pronounced in more gender-egalitarian and more developed countries. This correlation seems to be particularly strong for STEM. Many of the countries displaying quasi-gender parity among graduates in ICTs and other STEM fields have majority-Muslim populations, with high levels of general gender inequality. According to UNESCO, 34%-57% of STEM graduates in Arab countries are women - a far higher percentage figure than that seen in universities across the US or Europe. Research shows that the gender equality paradox also holds for TVET: more gender-equal societies have fewer women taking STEM-related TVET degrees.

Green transition

The green transition and moving to a green economy require new skills. TVET, lying at the intersection between education and the labour market, plays a key role in equipping individuals with the skills necessary for the green transition.

The green economy transition process is not gender neutral. The transition the green economy will result in job creation, substitution, elimination, transformation and redefinition, bringing benefits for some workers to the detriment of others. Women are significantly underrepresented in sectors predicted to experience green growth such as renewables, manufacturing, and construction. Occupational and industrial segregation means that job losses linked to the green transition are expected to be more pronounced for men than for women, while women are less likely to benefit from growing job opportunities in expanding sectors. The net gendered impact is unclear *ex ante* but there is a risk bringing down the share of women in total employment unless action is taken to reduce occupational segregation.

The green transition could be an opportunity to tackle systemic gender discrimination by promoting skilling women in green sector needs. This justifies stepping up efforts to narrow the gender gap in entry, retention, and advancement rates in TVET programmes in STEM fields. Gender equality in skills, careers, and business can also help drive the green transition. According to the European Investment Fund, women leaders are more likely to invest in renewable energy, leading to reduced greenhouse-gas emissions and improved environmental outcomes, and women-owned businesses are more likely to pursue greater energy efficiency and recycling. Banks run by women lend less to big polluters. In the workplace, women's leadership is associated with increased transparency regarding environmental footprints, and a higher percentage of women on a corporate board is known to correlate positively with the accurate disclosure of greenhouse gas emissions.

Digital transformation

While inequalities still exist in terms of access to digital technology in developing and emerging economies, the digital gender divide is now more about deficits in digital learning and skills. Worldwide, women are less likely to know how to operate a smartphone, navigate the internet, use social media, and understand how to safeguard information in digital mediums - abilities that are relevant to people of all ages in everyday life. The ICILS found already in 2018 that despite demonstrating promising early performance, girls in the participating countries had lower levels of self-efficacy even when they outperformed or performed similarly to boys on measures of digital skills. The data suggest that confidence drops slowly at first and then precipitously, so that by the time female

students complete higher education, only a tiny fraction graduate with an ICT degree. Globally in higher education, less than one third of students enrolled in ICT studies are women - a gender disparity without parallel in other disciplines. Furthermore, women's transition and retention rates in ICT studies are lower than men's.

The high level of gender segregation in ICT jobs also surpasses the gender imbalance in many other STEM jobs. Explanations vary from subtle cultural masculine practices at the workplace to very high occupational segregation in the technology sector. Platform labour markets are often viewed as an opportunity for women to enter the workforce, since they lower entry barriers and offer greater flexibility for those with care responsibilities. The platform-based work may appear to be gender-neutral, however, the promotion of platform employment for women for flexibility reasons reinforces the gender stereotype of women being responsible for care. Furthermore, platform labour markets largely mirror existing inequalities in traditional labour markets and seem to replicate, suffer from, or reinforce many of the pre-existing flaws. Research has revealed a persistent gender gap in both participation and pay. ETF studies have found that women receive fewer job offers and lower pay for the same services than men, leading to some female platform workers adopting names and identities that do not reveal their gender in order to avoid discrimination.

The rapid expansion of generative artificial intelligence is reshaping labour markets, redefining job profiles, driving new demands for skills, and changing how and where people work. As pointed out by a recent literature review by the ETF, AI will not increase gender equality by itself unless this is deliberate; on the contrary, it may exacerbate the gender inequality in labour markets, contributing to further occupational segregation and a more extensive gender pay gap. Differences in access to AI are often connected to the fact that fewer women take part in science and ICT-focused higher education, along with general gaps in digital skills. Only a small proportion of women choose high-paying careers in ICT and AI, where they encounter major obstacles in employment, representation, pay, and career advancement. According to the WEF, female representation in AI is progressing very slowly: 30% of people working in AI were women in 2022 – 4pp higher than in the corresponding figure for 2016. As a result, predominantly male developer teams create AI systems and applications, which may overlook the needs of diverse users and reinforce gender stereotypes, leading to the risk of encoding gender biases in technology. When machines are trained on mega-data that reflects the inequalities present in society, miss or includes incomplete date on women, they tend to reinforce and even magnify the biases, presenting human prejudices as 'objective' facts. This creates a continuous feedback loop in the AI industry, embedding a gendered perspective into digital technologies.

Narrowing the gender gap in STEM, and in digital and green skills in particular, calls for actions addressing the root causes of the divide. Support programmes targeting women in underrepresented fields such as computing, physics, mathematics, and engineering tend to remain gender-accommodating: they reward those with the tenacity to make it through the system against the odds, rather than changing the system itself. Although this approach can make a difference to individual careers, it cannot reduce gender inequality or address the gender systems that contribute to inequality. To overcome the gaps, it is necessary to work from the basis of inclusive, quality, and equal education that promotes paths free of bias, prejudice and gender stereotypes, as well as to increase awareness in society, families, and public and private institutions and employers so that appropriate measures are launched to ensure that technologies are tools for equality. Success in increasing the number of girls and women studying STEM will do little to bridge gaps if they come up against unchanged biases in the workplace.

1. INTRODUCTION

1.1 Aim and focus of the report

The aim of this report review is to create a resource for policymakers, practitioners, officials and civil society representatives to support gender equality and women's empowerment through skills development by highlighting the barriers and opportunities in education and training, especially in technical and vocational education and training (TVET) and by examining how development interventions can foster gender equality and better labour market outcomes. While gender equality has several undeniable positive outcomes on the health and social wellbeing of populations, and on global issues such as the environment and peace (Campbell, 2023; Kwauk and Steer, 2023; Malala Fund, 2021; ILO, 2018a; OECD, 2024; UN Women, 2022, UNESCO, 2022a; UNICEF, 2022), a particular focus of this report is on labour market outcomes and economic empowerment. It is based on a desk study of existing literature. Additionally, it lists actions from development cooperation initiatives - especially those from the EU and UNESCO - as indications to help advance gender equality through related initiatives (see Chapter 4 Gender In/equalities).

Gender equality is an issue for all genders; it is not a women's issue and not only about women and girls. Nonetheless, the focus in this literature review is on gender equality in terms of promoting women's opportunities in education and training and in labour market integration triggered by the persistence of global inequalities to the detriment of women in these areas. Boys' early school leaving, lower learning outcomes, and educational underachievement have gained attention, however, the majority of the world's poor and illiterate continue to be women. Moreover, women's labour force participation is much lower than men's and when women participate, they face unjustified gender pay gaps and horizontal and vertical labour market segregation.

While this review is focused on skills development to enhance girls' and women' rights, opportunities and resources, it does not consider men as a uniformly privileged and homogenous group, or women as universally oppressed. Information and data are presented by sex, however, the term 'gender' is used as it is commonly found in the most recent research and literature. On this point, the ETF acknowledges that the concepts of gender and sex are different, and that a variety of genders exists beyond the binary of male and female classification (see Chapter 2 Key concepts).

This Chapter 1 introduces the literature review. Chapter 2 - with the aim of clarifying concepts - gives an overview of key gender equality notions with some examples from skills development and the world of work. Chapter 3 provides a description of the global and European Union policy framework for gender equality and Sustainable Development Goals (SDGs) related to skills development. The aim of Chapter 4 is to raise reader awareness of gender in/equalities in skills development with a focus on TVET, and to explore ideas and avenues for action. Annex 1 lists the gender specific Sustainable Development Goals (SDGs) and indicators, including those outside the scope of human capital development. Annex 2 offers additional indicators for SDGs 4, 5 and 8 to support practitioners in connecting and assessing development efforts on gender equality in relation to these SDGs. Annex 3 includes the EU External Action Gender Action Plan objectives and indicators for the relevant theme. Data are provided by world geographical regions and for the OECD, EU or ETF partner countries, according to their availability.

1.2 Skills development concepts used

Human capital development (HCD) can be defined as a process of investing in the stock of knowledge, skills and other personal characteristics embodied in people that help them to be productive, facilitate the creation of personal, social and economic well-being. Pursuing formal education (early childhood, formal school system, adult training programmes), but also informal and on-the-job learning and work experience, all represent investments in human capital.

Skills development is a rich concept with thin borderlines. At European level, the European Pillar of Social Rights (EC, 2017) emphasises the lifelong learning aspect of skills development. The core principle stresses the need for continuous learning and skills development throughout a person's life to enable full participation in society and the labour market. A key headline target for 2030 is for at least 60% of all adults to participate in training every year. The Union of Skills (EC, 2025) highlights that learning does not just happen in formal settings. It acknowledges that non-formal and informal experiences - such as youth work, cultural activities, sports, and volunteering - play a vital role in helping individuals build knowledge, skills, attitudes, and behaviours. These diverse opportunities support people in their personal growth and active citizenship, reflecting a wider definition of skills development. Cedefop defines - for the purposes of the European Skills Index - skills development as *the training and education activities of a country and the immediate outputs of that system in terms of the skills developed and attained*. Sub-pillars are included to distinguish compulsory education, and other education and training (lifelong learning) activities. The Index distinguishes and measures with different indicators *basic education* and *training and other education* (participation and achievement in lifelong learning activities: participation in recent training; participation in VET; and achievement of high digital skills) (Cedefop, 2025a).

The International Labour Organization (ILO) understands skills development in broad terms to mean basic education, initial training and lifelong learning (ILO, 2022a). In more detail, it refers to *the full range of formal and non-formal vocational, technical and skills-based education and training for employment and/or self-employment, including: pre-employment and livelihood skills training; vocational education and training and apprenticeships; education and training for employed workers, including workplace training; and employment-oriented and job-related short courses* (ILO, 2020a). The ILO definition underlines the formal and non-formal nature of skills development and the objective of better employability.

Box 1: Classifying skills

Classifying skills is inherently complex due to their close association with a person's unique characteristics and life experiences. The presence of varied terminology for skill categories underscores this complexity and occasional ambiguity. Nonetheless, the education literature commonly distinguishes three principal skill categories: cognitive or intellectual skills (the capacity for effective intellectual task performance), socio-emotional or non-cognitive skills (the ability to excel in social interactions), and physical or motor skills (proficiency in executing physical tasks).

Cognitive (or intellectual) skills are mental abilities that we use to think, learn, process, and apply information. These include literacy and numeracy, self-reflection, logical reasoning, abstract thinking, critical and analytical thinking, problem-solving or the ability to make logical and reasoned decisions. According to the ILO, foundational literacies include not only literacy and numeracy but also financial literacy, scientific literacy, health literacy, cultural literacy, civic literacy. The ILO also differentiates between cognitive and metacognitive skills, with the latter referring to the cognitive abilities of being aware of one's own thought processes (e.g. self-reflection, learning-to-learn). Digital skills are often included in cognitive skills as they are considered 'foundational' in further learning and processing information.

Non-cognitive skills or *socio-emotional skills* cover a range of abilities such as motivation, integrity, perseverance, collaboration, teamwork, emotional maturity, empathy, self-control, interpersonal/ social skills, resilience that are essential for people to function in various contexts. These skills help individuals to manage their thoughts, feelings and behaviour, and work and live well with other people.

Physical or manual skills are the ability to perform tasks and activities which require manual dexterity, agility or bodily strength. These skills involve using the body, especially the hands, with efficiency and precision to complete a task, and can be classified into fine motor skills (like typing or sewing) and gross motor skills (like lifting or walking). Although these skills could be required more often in lower-skilled occupations – such as in services (waiters, cooks, cleaners), manufacturing and logistics (production line workers, warehouse staff, drivers, machine operators), and in construction and trades (bricklayers, plumbers, electricians) – some high-skilled occupations also used manual skills, e.g. surgeons and nurses in healthcare, or painters, sculptors, and musicians in creative arts.

(ETF-IAG, forthcoming)

Technical vocational education and training (TVET) is defined by the UNESCO 2015 Recommendation on Technical and Vocational Education and Training as:

'*..comprising education, training and skills development relating to a wide range of occupational fields, production, services and livelihoods. TVET, as part of lifelong learning, can take place at secondary, post-secondary and tertiary levels and includes work-based learning and continuing training and professional development which may lead to qualifications. TVET also includes a wide range of skills development opportunities attuned to national and local contexts. Learning to learn, the development of literacy and numeracy skills, transversal skills and citizenship skills are integral components of TVET.'* (UNESCO, 2015)

According to Cedefop, Vocational Education and Training (VET) is defined as *learning which aims to acquire knowledge, know-how, information, values, skills and competences, either job-specific or transversal, required in specific occupations or more broadly on the labour market*.-It covers initial vocational education and training (IVET), continuing vocational education and training (CVET) at secondary, post-secondary and higher levels, both formal and non-formal and in private and public sectors and plays an increasing role in retraining and upskilling adults (Cedefop, 2025b).

1.3 Literature review methodology

In this literature review, skills development is referred to as a continuous process that begins in childhood and extends throughout adulthood, occurring in formal educational settings like schools and universities, as well as non-formal and informal environments, including home, community, and the workplace and which can positively contribute to the employability of persons in diverse ways TVET is understood as education that is mainly designed to lead participants to acquire the practical skills, know-how and understanding necessary for employment in a particular occupation or trade, or class of occupations or trades. While women's economic empowerment and employment require more than education and training policies alone—including gender-responsive social, employment, and economic policies, as well as anti-discrimination legislation—the review limits its scope to skills development.

Within the framework of skills development, the review focuses on TVET, while topics of basic education, tertiary education, non-formal learning and informal learning, are given less space. The focus is justified by the widespread presence of formal TVET in skills development systems and lifelong learning, its contribution to human capital development, and the necessity to establish clear boundaries for the note to ensure its usefulness. Transversal issues of science, technology, engineering and mathematics (STEM), green and digital transitions are also discussed.

The literature review was carried out using these questions:

- Why is skills development important for gender equality?
- What are the current global and EU objectives on enhancing gender equality in skills development?
- What aspects of education and training and TVET in particular provide challenges and opportunities for gender equality?
- How can development interventions contribute to gender equality in skills development and labour market outcomes?

Initial keywords identified relevant sources, while additional materials were found through bibliography snowballing. Open-source articles and reports were prioritised. Most sources date from 2010 or later, with only two non-English items. Preferred sources include scientific literature and publications from specialised international organisations or EU institutions, featuring theoretical research, econometric analysis, empirical studies, and guidance notes.

This review addresses a limited set of topics. The review does not include areas such as intersectionality[1], migration, qualifications, skill portability, and female entrepreneurship nor does it dive in depth into vertical gender-based segregation, due to space constraints.

[1] Gender inequality in education is exacerbated by intersectionality – when combined with other vulnerabilities such as poverty, disability, ethnicity, race, displacement, language, religion or belief, and family background.

2. KEY NOTIONS OF GENDER EQUALITY

This Chapter examines the relevant key concepts of gender equality and some sector-specific notions. The UNESCO (2021) *Operational Tools to Advance Gender Equality in and Through Education* is widely used in this Chapter along with other sources. Some empirical data are included.

2.1 Sex or gender?

Gender describes the roles, behaviours, attributes, and expectations that societies assign to men and women at specific times. These social constructs shape relationships, opportunities, and values associated with being male or female, and can also influence interactions within gender groups. Learned through socialisation, these norms are context-dependent and may change over time. Gender forms part of a broader socio-cultural framework, alongside factors such as class, race, ethnicity, sexual orientation, and age (UN Women, 2020).

Many languages lack gender distinctions, and in some languages, 'gender' and 'sex' are expressed with the same word. Using the English term 'gender' may cause confusion in these contexts (UNESCO, 2021a).

Sex refers to the biological differences between men, women and intersex people (UNESCO, 2021a).

Box 2: Note on statistics by sex/gender

International organisations report on data by sex: men and women. This approach does not reflect the sex spectrum and gender identities outside the male-female binary. Nevertheless, in the absence of effective and widespread systems to collect information on under-researched and often stigmatized aspects of people's lives, the data on population around the world in great majority is collected in the female-male binary, i.e. assuming that everybody is cisgender (people who exclusively identify with the sex and gender they were assigned at birth). Few national statistical agencies and research institutions begin to collect information beyond the traditional male/female binary and all the internationally comparable education and labour market-related data, whether administrative data or gathered through Labour Force Surveys is by male-female sex. Expressions such as 'gender statistics' and 'gender data' are common, but the reality is that international data are currently only available by sex.

Stanford sociologist urges rethinking of sex and gender in surveys

https://news.stanford.edu/stories/2015/08/gender-sex-surveys-081915 (Dong, 2015)

Gender identity is an individual's innate internal experience of gender, which may or may not correspond to their physiology, designated sex at birth or the social expectations of their sex (UNESCO, 2021a). It covers both personal bodily identity, which may include voluntary medical or surgical modifications, and other forms of gender expression such as clothing, speech, and behaviour (UN Women, 2020).

Gender expression is how individuals present their gender externally and how society, culture, community and family perceive, interact and attempt to shape an individual's gender. For instance, school uniforms may reinforce traditional gender norms by emphasising normative and binary gender expressions.

Gender roles define the individual responsibilities, as well as expectations about aspects of their identity, differing across and within societies and evolving over time. Individuals may experience stress as a result of the social expectations to conform to their gender roles (UNESCO, 2021a). Gender roles affect education and career choices by shaping beliefs about suitable paths for men and women. Some job ads specify gender, which limits equal opportunities. Gender-neutral professional titles, such as 'police officer' or 'server', are preferable to gendered ones (policeman, waitress).

Gender norms are society's expectations on how men and women should act, shaped by culture and community. People adopt these socially constructed rules early in life, leading to lasting gender stereotypes that influence both how they see others and themselves (UNESCO, 2021a).

Gender stereotypes are simplistic generalisations about the gender attributes, differences and roles of women and men. Men are often stereotyped as competitive, independent, and focused on personal gain, while women are seen as cooperative, nurturing, and group-oriented. Stereotypes arise from and perpetuate societal biases. They often justify gender discrimination and are reinforced by theories, laws, and institutional practices. Messages reinforcing gender stereotypes and the idea that women are inferior come in a variety of 'packages' – from songs and advertising to traditional proverbs (EIGE, 2025; UNESCO 2021a; UN Women, 2020). Sex stereotyping can limit the development of the natural talents and abilities of boys and girls, women and men, their educational and professional experiences. A classic example is the persistent belief that girls are innately better at languages while boys are supposedly better at STEM[2].

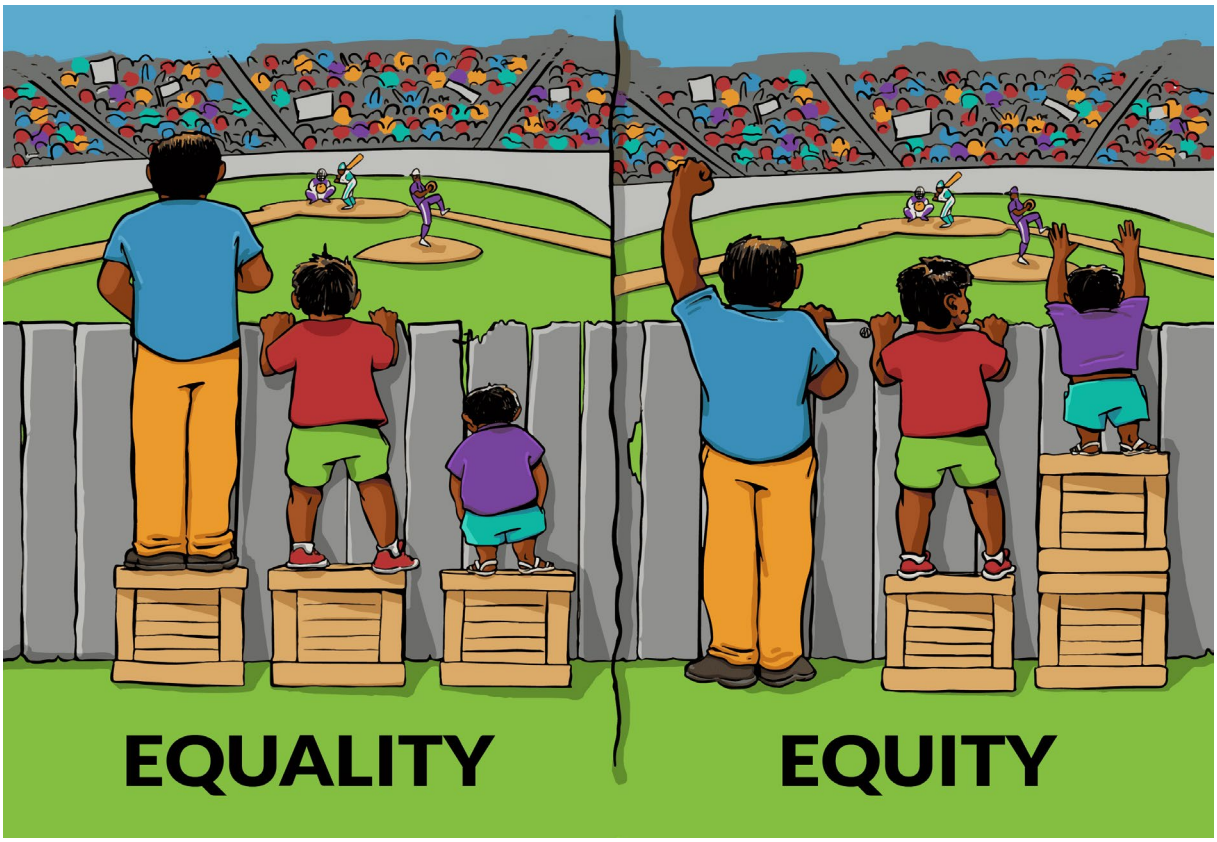
Masculinities and femininities refer to how men, boys, women, and girls identify and express themselves and are shaped by social factors and varies by region, religion, class, time period, and culture. Within any given society, certain actions or behaviours may be labelled as masculine or feminine, regardless of who actually performs them. Masculinities encompass distinct roles, such as acting as a provider or protector, carry expectations including displaying aggression or suppressing emotions, and involve power dynamics that may result in the marginalization of women, girls, or men who do not conform to prevailing gender norms (UNESCO, 2022b). Masculinities are shaped by relationships, and boys and men often receive power solely based on their gender (UNESCO, 2021a). Masculinities and femininities also affect educational and professional/occupational choices, tending to discourage individuals from entering 'gender-inauthentic' occupations. Boys may adopt a concept of masculinity that includes a disregard for authority, academic work and formal achievement, contributing to the low performance and drop-out rate of boys across many countries (Encinas-Martín and Cherian, 2023; UNESCO 2022b).

2.2 On the way to equality or equity?

Gender equality refers to the equal rights, responsibilities and opportunities of women and men and girls and boys and absence of discrimination on the basis of person's sex. Equality does not mean that women and men will become the same but that women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men (UNESCO, 2021a; EIGE, 2025).

Gender equity refers to fairness and justice in the distribution of benefits and responsibilities between women and men. Because women have often historically been placed at a disadvantage, being fair can involve taking temporary measures to level the playing field for all genders. Equity, therefore, is a *means used to achieve equality* (UNESCO, 2021a). It recognizes that women and men have different needs and power, and that these differences should be identified and addressed in a manner that rectifies imbalances between the sexes.

[2] The research and debate on the neurodiversity of men and women continues: while there are some reliable differences, such as size and white/grey matter ratios, when adjusted for body size, the overlap between male and female brains is significant, and sex accounts for only a small percentage of the variance. More significant variations are found across age groups and between different male populations than between average male and female brains.



Source: Interaction Institute for Social Change | Artist: Angus Maguire

Box 3: Equality versus equity

Gender equality and equity are not concepts to be used interchangeably. Most international organizations refer to gender equality and consider gender equity as one of the strategies to reach gender equality.

Gender equality assumes a level playing field and calls for treating everyone the same, regardless of their gender identity. The United Nations defines gender equality as a human rights principle that ensures individuals can fully realize their potential without being hindered by gender-based discrimination (UN Women, 2020). Gender equity, on the other hand, recognizes that systemic barriers—historical, social, cultural, and institutional—prevent marginalized genders from accessing the same opportunities. Therefore, equity involves fairness in treatment by providing specific resources or support – affirmative action or positive discrimination - tailored to people's different needs and when there is no level playing field. As feminist theory reminds us, treating people equally does not always treat them fairly. If we want justice, we need to start where people are—not just where we hope they'll end up. Equity is about achieving justice in outcomes, not just in procedures.

While equality offers a compelling vision of fairness, equity provides a practical tool to get there. In education, an equitable approach is essential for dismantling systemic barriers and creating meaningful change.

However, the preferred terminology within the United Nations, EU and beyond is gender equality. Gender equity denotes an element of interpretation of social justice, usually based on tradition, custom, religion or culture, which is most often to the detriment to women and may be used by conservative forces to validate and promote traditional roles of women and men as just and fair (UN women, 2020). The risk is that 'equity' can sometimes justify treating women differently based on traditional roles rather than ensuring the same rights and opportunities. Conservative actors may use equity to promote ideas of complementarity between women and men, advocating for 'separate but equal' roles and supporting arguments for biologically determined responsibilities in society. Furthermore, it is sometimes used to de-politicize gender discussions, shifting focus away from the legally binding framework of women's human rights and towards softer, negotiable or culturally subjective 'fairness'. This risks ignoring structural

inequality, perpetuating traditional gender roles, and allowing conservative, anti-rights actors to weaken gender equality goals (EIGE, 2025; SIDA 2016).

At the 1995 Beijing conference, it was decided that the term 'equality' would be adopted, a decision that was subsequently endorsed by CEDAW (UN Women, 2020)

Gender parity is a numerical concept for the equal representation and participation of men and women in a given area. It is a step towards gender equality, but not sufficient in itself (UNESCO, 2021a). Gender parity in education measures the numerical balance between females and males in enrolment, participation, achievement, and teacher roles. It is a commonly used metric for tracking gender equality, including in SDG4 targets, but does not capture the full complexity of gender inequality. While ensuring access, attendance, and completion for all children is essential—this measure does not account for lived experiences of discrimination or violence, nor for inequalities embedded in curricula, teaching materials, pedagogical methods, or educational practices, nor does it adequately address the underlying conditions or the intersecting forms of disadvantage (Peppen Vaughan, 2016).

Gender bias is having a preference or ideas that one gender is superior to other gender identities. It is also based on a concept of power in which certain groups of people have the right to dominate or control other people and things. For example, recruiters may unconsciously prefer male candidates for technical or leadership roles, while viewing female candidates as better suited for support roles.

Everybody has gender bias. Take Harvard Implicit Association Test on Gender and Career or Gender and Science ☺ Take a Test (harvard.edu)

https://implicit.harvard.edu/implicit/takeatouchtestv2.html

Gender awareness refers to understanding the socially determined differences between women and men, the ability to view society from the perspective of gender roles and understand how this has affected women's needs in comparison to the needs of men (EIGE, 2025; INEE, 2024).Gender-aware teachers may for example use neutral phrases such as 'everyone' or 'students' instead of 'boys and girls'.

Gender-discrimination is defined by CEDAW (1979) Article 1 as: 'Any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on the basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field.'. Gender-discriminatory actions, programmes, or policies reinforce negative norms and disadvantage women and girls. Examples include curricula promoting traditional roles, limiting aspirations, restricting access to subjects or activities, or teachers unconsciously favouring one gender.

Gender-blindness describes failing to see that gender roles and responsibilities are shaped by specific social, cultural, economic, and political contexts. Gender-blind projects or policies ignore these differences and often perpetuate harm against women and girls or reinforce existing gender inequalities (UNESCO, 2022; UN Women, 2020). As an example, a TVET institution purchases safety gear (e.g. overalls, gloves, safety boots) for all students in a course like welding or construction using standard male sizing, without considering the physiological differences of female students.

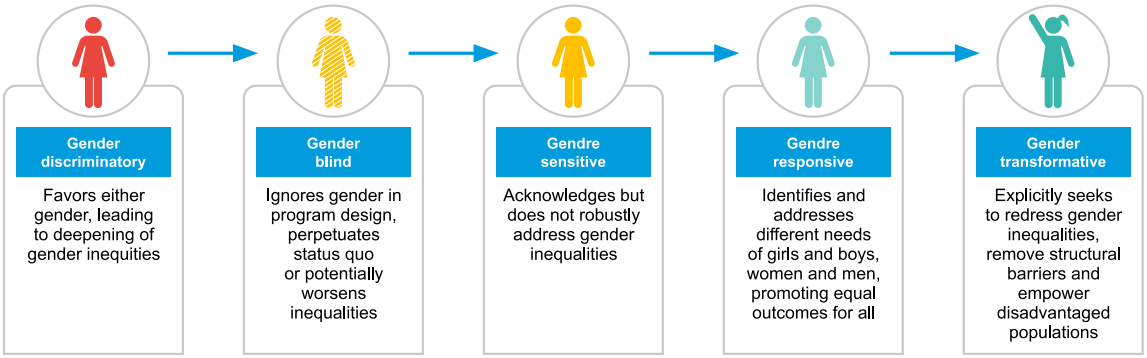
Gender-neutral means having no differential positive or negative impact for gender relations or equality between women and men, i.e. existing gender inequalities are not reinforced. Gender is not considered relevant to development outcome (EIGE, 2025; UN Women, 2025). For example, offering career counselling and guidance that actively encourages students to explore all available TVET programmes, regardless of traditional gender associations.

Gender-sensitive as a term has different definitions. UN Women (2025) and EIGE (2025) refer to programmes and policies that take into account the gender dimension and the particularities pertaining to the lives of women and men, and redress existing gender inequalities by promoting an equal distribution of resources and addressing gender norms and roles. UNESCO (2021a) refers to efforts to show awareness and acknowledge the existing different needs of and inequalities between women and men but does not *necessarily* address them and does not have a specific objective to change the situation. The European Commission and EU policy documents tend to us the first definition.

Gender-responsive efforts 1) identify and acknowledge the existing differences and inequalities between men and women, AND 2) articulate policies and initiatives which address the different needs, aspirations, capacities and contributions of women and men, girls and boys (UNESCO, 2021a), i.e. they focus on equal outcomes and redressing the imbalance. According to UN Women (2025), gender-responsive programmes place gender at the core of development efforts, with the transformation of gender norms, roles, and access to resources constituting critical elements of project outcomes. This may include, for example, actively countering biases about 'men's jobs' and 'women's jobs' in the classroom or running campaigns to attract women to STEM and non-traditional trades.

Gender-transformative approaches seek to address the underlying causes of gender inequality by actively challenging harmful gender roles, stereotypes, attitudes, norms, and practices. These efforts focus on altering power relations and encouraging critical reflection on existing gender norms, thereby addressing the *root causes* of inequality rather than merely its symptoms. Such strategies include the implementation of policies and initiatives that not only recognise the distinct needs, aspirations, capacities, and contributions of girls, boys, women, and men, but also challenge existing discriminatory policies and practices to foster substantive change (UNESCO, 2018b). A gender transformative action in TVET could for example include providing women with training in non-traditional areas such as mechanised agriculture and construction—while simultaneously engaging men, husbands, and community leaders in conversations about women's rights and empowerment to break down myths and stereotypes, updating training materials and curricula to include gender-sensitive content that directly addresses workplace and community rights for both men and women, establishing gender-responsive support systems such as mentorship programmes, career guidance, and safe living arrangements helping women navigate and overcome social and structural obstacles and empowering women to make decisions about their increased income and investments, thereby boosting their agency and independence within families and communities.

Figure 1: Gender Integration Continuum



Source: UNICEF Gender Policy and Action Plan 2022-2025

Intersectionality refers to the way in which different forms of discrimination and disadvantage combine and overlap. Characteristics such as gender, age, disability, ethnicity, geography and socio-economic status can intersect with each other, causing multiple levels of disadvantage and marginalization (UNESCO, 2021a). One such example is a black unemployed woman with low level of education coming from a poor socio-economic background.

Gender mainstreaming is defined by the 1997 conclusion of the UN Economic and Social Committee as: '*The process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral part of the design, implementation, monitoring and evaluation of policies and programmes in political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is achieving gender equality*.' According to the European Commission (2020a) gender mainstreaming ensures that policies and interventions maximise the potential of all – women and men, girls and boys, in all their diversity. The aim is to redistribute power, influence and resources in a fair and gender-equal way, tackling inequality, promoting fairness, and creating opportunity.

Gender analysis critically examines how gender roles, needs, rights, and opportunities affect men, women, girls, and boys in specific contexts. It studies their relationships, resource access and control, and constraints. A gender analysis should be integrated into all sector assessments or situational analyses to ensure that gender-based injustices and inequalities are not exacerbated by interventions, and that where possible, greater equality and justice in gender relations are promoted (EIGE, 2025).

Gender audit is a participatory process used to assess how effectively an organization mainstreams gender. A gender audit is essentially a 'social audit' and belongs to the category of 'quality audits', which distinguishes it from traditional 'financial audits'. It reviews internal practices, highlights gaps and challenges, sets a baseline, and offers recommendations for improvement. Gender audits also record effective approaches for promoting gender equality (UN Women 2020; EIGE, 2025).

Gender budgeting is the application of gender mainstreaming in the budgetary process (how public resources are collected and spent). It means a gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process and restructuring revenues and expenditures in order to promote gender equality (EIGE, 2025). Gender-responsive budgeting refers to an analysis of the actual 'impact' of expenditure and revenue on girls and women compared to on boys and men. It neither requires separate budgets for women, nor aims to solely increase spending on women-specific issues. Instead, it helps programme planners to decide how strategies need to be adjusted, and where resources need to be reallocated, to address gender inequalities (UNESCO, 2021a).

> Equality cannot exist without resources. When budgets ignore gender, inequality becomes systemic, not accidental (Dermendjieva and Terpesheva, 2025).

2.3 Sector-specific notions

Gender-transformative education seeks to utilize all parts of an education system to transform stereotypes, attitudes, norms and practices by challenging power relations, rethinking gender norms and binaries, and raising critical consciousness on the root causes of inequality and systems of oppression (Plan International et al., 2021). A gender-transformative approach to education encompasses policy, programming and interventions to create opportunities to actively challenge gender norms and wider inequalities for example through curricular and teaching reforms (UNESCO, 2022b).

Gender-based employment segregation refers to unequal distribution of female and male workers across and within job types (Carranza, E. et al, 2018). There are different types of gender-based employment segregation that are discussed below.

Horizontal gender-based segregation refers to concentration of women and men in different sectors, industries, occupations, types of products, and business sizes (Carranza, E. et al.). It is understood as under- or overrepresentation of women or men in occupations or sectors, not ordered by any criterion (EIGE, 2025) and usually leads to lower social recognition of female-dominated sectors or occupations and contributes to gender pay gap. Typical examples are male-dominated

sectors such as construction, mining, engineering and IT, and female-dominated sectors such as healthcare, social assistance, education and clerical work. There is no official threshold for under- or over-representation. Male/female under-representation in a sector is usually understood as less than 25-30% of employees being men/women. The OECD (2025a) refers to gender balanced occupation with representation being 40-60%, extreme segregation less than 20% or more than 80%.

Occupational gender-based segregation refers to actual dominance of one sex in a particular occupation or the higher share of one sex relative to the expected share (EIGE, 2025). Gender-based occupational segregation is based upon traditional beliefs or gender stereotypes of appropriate functions for men and women. These beliefs are based on the core reproductive roles of women and men. Women in many settings are traditionally associated with the private domestic domain of the family and community, and men with the public domain as primary 'breadwinners'. Work in female-dominated occupations (cleaner, salesperson, waitress, secretary, receptionist, etc.) is related to similar activities women perform at home as part of their traditional 'reproductive' or caring role. Typically, for example, more women work as nurses than as doctors; and as early childhood and primary school teachers rather than teaching at the secondary or tertiary levels or as education supervisors and managers.

Vertical gender-based segregation refers to the concentration of women and men at different levels of organisational hierarchies, with different grades, levels of responsibility or potential for promotion. Also known as the 'glass ceiling' it describes a 'vertical' inequality in career advancement opportunities rather than just differences in job roles. Typically, men dominate top, high-status, and well-paid positions while women are concentrated in lower-ranked, less stable, or lower-paid roles. Vertical gender-based segregation indicates the under- (or over-) representation of women and men workers in occupations at the top of an ordering based on 'desirable' attributes (income, prestige, job stability, etc.), independent of the sector of activity (EIGE, 2025).

Gender equality paradox refers to occupational gender segregation being more pronounced in developed countries that are generally considered to be more egalitarian. For example, countries with higher levels of female labour force participation and overall positive gender equality indexes tend to have higher over-representation of women working in the education, health and welfare (EWS) sectors. In education, this correlation is particularly strong for STEM, e.g. the correlation of overall gender equality and the ratio of women studying ICT in higher education is significantly negative. For further information, see Geary and Stoet (2018) and Breda and Napp (2020) and Sub-Chapter 4.5.1.

2.4 Gender markers and indexes

The **OECD Development Assistance Committee (DAC) gender equality policy marker** is a qualitative statistical tool to record development activities that target gender equality as a policy objective. The gender equality policy marker is used by DAC members as part of the annual reporting of their development activities to the DAC, to indicate for each aid activity whether it targets gender equality as a policy objective. In addition, some philanthropic organisations, private sector organisations, non-DAC donors and other actors have started monitoring their development activities using the gender equality policy marker.

The DAC gender equality policy marker is based on a three-point scoring system, to qualitatively track the financial flows that target gender equality. This allows the OECD to identify gaps between DAC donors' policy commitments and financial commitments. The marker aims to strengthen the transparency and accountability in development financing for gender equality and women's rights (OECD, 2025b).

- Principal (marked 2) means that gender equality is the main objective of the project/programme and is fundamental in its design and expected results. The project/programme would not have been undertaken without this objective.

- Significant (marked 1) means that gender equality is an important and deliberate objective, but not the principal reason for undertaking the project/programme, often explained as gender equality being 'mainstreamed' in the project/programme.
- Not targeted (marked 0) means that the project/programme has been screened against the gender marker but has not been found to target gender equality.

The European Commission uses the DAC marker. As discussed in Chapter 2, the target of GAP III and NDICI-Global Europe is to have 85% of new actions with significant gender equality objective (marked 1) and among those 85%, 5% with gender equality as the principal objective (marked 2).

The UN Gender Equality Marker (GEM) is a tool to track financial allocations and expenditures according to their contribution to gender equality and/or women's rights. The GEM was made a mandatory standard for UN entities in 2012. GEM is based on a four-point scale:

- GEM 0: means that the activity does not contribute to gender equality. Activities under GEM 0 must include a justification as to why this is the case and should be limited to activities involving scientific measurements or with no impact on human activity.
- GEM 1: means that the activity is gender sensitive. It acknowledges the inequalities between individuals and therefore includes gender analysis but does not try to address them. Again, this should be reserved for activities with no effect on human activity.
- GEM 2: means that the activity is gender responsive. The implementation strategy should include evidence-based gender analysis which identifies and acknowledges existing gender differences and inequalities. Activities at this level should include specific policies and actions that address inequalities.
- GEM 3: means that the activity is gender transformative. It is intended to address the underlying causes of gender inequalities and should result in the formulation of policies and initiatives which not only address the different needs, aspirations, capacities and contributions of individuals in the subject area of the activity, but also challenge existing and discriminatory policies and practices and influence radical change in social, economic and political contexts–supporting or influencing such policies and practices.

There are several international UN and other indexes measuring gender equality. They are composite indexes with to some extent different focuses but mainly cover the sectors of health, education, income and power. A closer look reveals to what extent they capture human capital development.

The Gender Development Index (GDI) measures gender equality in terms of human development and it is part of the Human Development Report published by the UNDP. It is an inequality adjusted version of the human development indicator (HDI). The GDI measures the disparities between men and women and the consequent loss of human development in three basic dimensions: health (life expectancy at birth), *education* (expected and mean years of schooling) and standard of living (GNI per capita). A low HDI value indicates high inequality. The HDI and GDI are highly correlated (0.87), indicating that unequal distribution of human development is strongly associated with gender inequality.

The UNDP Gender Inequality Index (GII) also measures the loss in human development and potential achievement in a country due to gender disparities focusing on reproductive health (maternal mortality, adolescent birth rate), empowerment (at least *secondary education*, parliamentary seats) and female and male *labour market participation rate*. A low GII value indicates low inequality between women and men, and vice-versa. For example: a GII score of 0.45 means that 45% of human development potential is lost due to gender inequality.

The World Economic Forum (WEF) Global Gender Gap Index examines the gap between men and women across four subindexes: *economic participation and opportunity, educational attainment*, *health and survival*, and *political empowerment*. It goes a step further compared to the UNDP Index in looking at human capital related indicators and includes among the first two subindexes: labour-force participation rate, wage equality for similar work, estimated earned income, professional and technical

workers, literacy rate and enrolment in primary, secondary and tertiary education. It focuses on gender gaps rather than overall societal progress, so even countries with low development can rank high if their gender gaps are small.

The OECD Social Institutions and Gender Index (SIGI) measures discrimination against women in social institutions across 179 countries. By taking into account laws, social norms and practices that restrict women's and girls' rights and access to empowerment opportunities and resources, the SIGI aim is to capture the underlying drivers of gender inequality. In addition to legal framework, it also looks at *perceptions about men's and women's work and the division of unpaid work* through surveys.

The Gender Equality Index of the European Institute for Gender Equality (EIGE) covers the EU Member states and a number of countries in the Western Balkans. It has six sub-indexes: *work, money, knowledge, time*, power and health. In addition to participation, it also includes a few indicators on segregation in education and employment, and adult education.

3. GLOBAL AND EU DEVELOPMENT COOPERATION POLICY FRAMEWORK FOR GENDER EQUALITY

This Chapter provides the reader with the context and the global and EU policy framework for promoting gender equality in development cooperation in general and in education, training and employment in particular.

3.1 Context

There is a dual rationale for promoting gender equality. Firstly, equality between women and men—encompassing equal rights, opportunities, and responsibilities—is a fundamental matter of human rights and social justice. Gender equality implies that the interests, needs and priorities of all genders are taken into consideration. Equality does not imply sameness but that the rights of women and men will not depend on the gender they were born with. Secondly, achieving greater equality is essential for sustainable economic progress and people-centred development process.

Women and girls represent half of the world's population and therefore also half of its potential. Disadvantages in education and training tend to translate into lack of access to skills and agency, as well as limited opportunities in the labour market. However, women's and girls' empowerment is essential to expand economic growth and promote development. The full participation of women in the labour force would add percentage points (pp) to most national growth rates— double digits in many cases. Several estimates have been calculated (see Box 4).

Box 4: Estimated GDP losses due to gender gap in employment

A study by McKinsey Global Institute (MGI) in 2015 projected that achieving equality in economic opportunities for women and men could have augmented the world GDP by USD 28 trillion by 2025—about the equivalent of the size of the Chinese and United States economies combined. MGI included three types of gender gaps: (i) employment rates; (ii) hours worked per employed person, and (iii) sectoral mix of employment by gender (MGI, 2015). In the same year, the OECD estimated that if the gender gap in labour-force participation would have been halved by 2025, the average projected baseline GDP growth across OECD countries could have increased by almost 2.5 pp (Encinas-Martin and Cherian, 2023). In 2024 the OECD re-estimated that addressing simultaneously labour force participation and working hours gaps has the potential to increase GDP per capita by 8.8% by 2060 in OECD member countries (OECD, 2024).

Brookings' foresight Report on Africa estimates that had African countries with lower relative female-to-male participation rates in 2018 had the same rates as advanced countries, the continent would have gained an additional 44 million women actively participating in its labour markets, resulting in a gain in GDP ranging from 1% in Senegal to 50% in Niger (Woldemichael, 2020). The International Monetary Fund (IMF), exploring the dynamics of the cross-country distribution of the gender gap in labour force participation, estimates that closing the gender gap in labour force participation could, on average, raise GDP even by 23% in lower-income countries (Badel and Goyal, 2023).

The Gender Employment Gap Index (GEGI), introduced by World Bank in 2022, measures the size of long-run GDP per capita gains from closing gender employment gaps. The basic variant of the GEGI is the gap between male and female employment as a share of total employment. Overall, the largest GEGIs are in the Middle East and North Africa and South Asia, with GEGIs of around 40%-50%. The lowest GEGIs are in Europe and Central Asia with GEGIs of around 10%. On average across countries, the GEGIs indicates that the long-run GDP per capita would be around 19% higher if female employment was exogenously increased to be the same as men's (other things being equal), though for few individual countries with the largest gaps, GDP could be even up to 85% higher (Pennings, 2022).

The World Economic Forum (WEF) has projected that, at the current pace of progress, achieving global economic gender parity in participation and opportunity will require 132 years (WEF, 2022). According to International Monetary Fund (IMF) calculations, closing gender gaps in labour force participation may take even longer—ranging from 197 to 445 years (Badel and Goyal, 2023). Consequently, the associated potential GDP gains remain out of reach.

Three of the sustainable development goals (SDG 4, 5, 8) include several relevant targets and indicators for gender and education, training and employment (see Table 1). Notwithstanding some progress over the last decades, as the UNESCO Global Education Monitoring Report 2024/5 (UNESCO, 2024a) notes, the world is not on track to achieve gender equality by 2030 in terms of many human capital development related SDG indicators:

- **Primary education (SDG 4.1.4):** globally, 251 million children and youth remain out of school (29 million boys and 122 million girls), a reduction of just 1% since 2015.
- **Secondary education (SDG 4.1.2):** the secondary completion rate has increased from 53% in 2015 to 59% in 2023. Gender gaps in secondary completion rates have been eliminated globally, but remain wide in sub-Saharan Africa, where the pace of progress over the past decade has been half of that in Central and Southern Asia, the only other region where girls are behind boys.
- **Tertiary education (SDG 4.3.2):** between 2010-2022, across all regions, gender gaps in enrolment remained stable. In most regions, except for sub-Saharan Africa, the gap is in favour of women. In Europe and Northern America, Latin America and the Caribbean, and Oceania, the gross enrolment ratio for women is at least 20pp higher than that for men.
- **TVET (SDG 4.3.3):** women tend to be under-represented in TVET. Estimates of global female participation in TVET vary - in itself an indicator of the lack of gender-disaggregated data and attention paid to the issue - however, they show clearly larger gender gaps than in general secondary education: globally 43% of upper secondary enrolment in TVET is female, compared to 49% in general upper secondary education (UIS estimate for 2017); only 31 out of 133 countries have achieved gender parity in TVET (ILO, 2020b). In the Global Education Monitoring Report 2024 (UNESCO, 2024a) data for vocational education and training by gender was available for only 31 countries around the world.
- **Adult education (SDG 4.3.1):** globally, 3% of adults, both men and women, participate in formal and non-formal education and training. This parity hides contextual gender disparities: in high-income countries, 7 men participate for every 100 women, whereas in low-income countries, only 50 women participate for every 100 men among 25-to-54-year-olds (UNESCO, 2024a).

Regarding the labour market related SDGs, gender equality is also far from reach:

- **Labour force participation (SDG 8.5):** in 2023, women's global labour force participation rate aged 15+ stood at 48.7%, significantly lower than the rate of 73.0% for men—a gap of more than 24 p.p. (ILO, 2024a). Globally, labour force participation of prime-aged women (25–54) edged up from 62.8% (men 92.7%) in 2015 to 64.5% (men 92.3%) in 2024, after remaining stagnant for more than two decades. Despite comprising 40.3% of the total labour force in 2024, women are projected to account for just 29.4% of labour force increases from 2024–2026 (UN Women and DESA, 2025).
- **Employment (SDG 8.5)**: in 2024, 46.4% of working-age women were employed, compared to 69.5% of men. Over the last 30 years, the gender employment gap has narrowed by only 4 pp, with high-income and lower-middle-income countries exhibiting the largest reduction. If this slow pace of progress persists, it will take nearly two centuries to achieve gender parity in employment globally (UN Women and DESA, 2025).

- **Pay gap (SDG 8.5.1):** according to the ILO, the global labour income gap is about 50%, while the relative labour income gap (assuming women were employed at the same rate as men) varies between 43% in low-income countries to 73% in high income countries (ILO, 2023).
- **NEETs (SDG 8.6.1)** (15–24-year-olds who are not in employment, education or training): One in five young people, or 20.4%, globally were NEET in 2023. Two in three of these NEETs were females (ILO, 2024b).

Due to the slowness of progress in many of the above indicators, some governments and donors have opted for affirmative actions (creating more opportunities) or positive discrimination (the practice or policy of favouring individuals belonging to groups regarded as disadvantaged or subject to discrimination) to speed up or initiate improvement.

RELEVANT SDG Targets and Indicators for Gender and Education, Training & Employment (as revised by 2025 comprehensive review)		
Goal 4: *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*	**TARGET 4.1**: By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	**INDICATOR 4.1.1**: Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex **INDICATOR 4.1.2**: Completion rate (primary education, lower secondary education, upper secondary education)
	TARGET 4.3: By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	**INDICATOR 4.3.1**: Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex **INDICATOR 4.3.2**: Gross enrolment ration in tertiary education by sex **INDICATOR 4.3.3**: Participation rate in technical-vocational programmes (15-24 years old) by sex
	TARGET 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	**INDICATOR 4.4.1**: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill development
	TARGET 4.5: By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable including persons with disabilities, indigenous peoples and children in vulnerable situations.	**INDICATOR 4.5.1**: Parity indices (f/m, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
	TARGET 4.6: By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	**INDICATOR 4.6.1**: Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex **INDICATOR 4.6.2**: Youth/adult literacy rate
	TARGET 4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	**INDICATOR 4.7.1**: Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education and (d) student assessment
	TARGET 4a: Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all **TARGET 4b**: By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education,	**INDICATOR 4.a.1**: Proportion of schools offering basic services, by type of service **INDICATOR 4.b.1**: Volume of official development assistance flows for scholarships **INDICATOR 4.c.1**: Proportion of teachers with the minimum required qualifications, by education level

	including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries **TARGET 4.c**: By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States	
***Goal 5**: Achieve gender equality and empower all women and girls*	**TARGET 5.4**: Recognize and value unpaid care and domestic work through provision of public services, infrastructure and social protection policies and promotion of shared responsibility within the household	**INDICATOR 5.4.1**: Proportion of time spent on unpaid domestic and care work, by sex, age and location
	TARGET 5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	**INDICATOR 5.5.2**: Proportion of women in managerial positions
	TARGET 5.B: Enhance the use of **enabling technology**, in particular information and communications technology, to promote the empowerment of women	**INDICATOR 5.B.1**: Proportion of individuals who own a mobile telephone, by sex
***Goal 8**: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*	**TARGET 8.3**: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage formalization and growth of MSMEs	**INDICATOR 8.3.1**: Informal employment in total employment, by sector and sex
	TARGET 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	**INDICATOR 8.5.1**: Average hourly earnings of employees, by sex, age, occupation and disabilities **INDICATOR 8.5.2**: Unemployment rate, by sex, age and persons with disabilities
	TARGET 8.6: By 2030, substantially reduce the proportion of youth not in employment, education or training	**INDICATOR 8.6.1**: Proportion of youth (aged 15–24 years) by sex not in education, employment or training

3.2 Global gender equality policy framework

The gender equality objectives of the international community are enshrined in Sustainable Development Goals. Goal 5 focuses on Gender Equality, but over half of the 17 SDGs—10 in total—include gender-specific indicators, amounting to 38 overall (see Annex 1). In particular, of the twelve SDG 4 indicators on Quality Education eight are gender specific (see Table 1). Moreover, several international conventions and declarations have committed the signatory countries to equal rights regarding education, training and employment.

UNESCO Convention Against Discrimination in Education (1960) is the first international instrument which covers the right to education extensively. The multilateral treaty expresses the fundamental principles of non-discrimination and equality of educational opportunities enshrined in UNESCO's Constitution. The Convention ensures the free choice of religious education and private school, and the right for national minority groups to use or teach their own languages. The Convention prohibits any reservation.

The Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) (1979), adopted by the UN General Assembly, is often described as the international bill of rights for women. It defines what constitutes discrimination against women and sets up an agenda for national action to end such discrimination. The Convention's Articles 10 and 11 call for equality in education, training, and employment opportunities. By accepting the Convention, States commit themselves to undertake a series of measures to end discrimination against women in all forms (including incorporating the principle of equality of men and women in their legal system, abolishing all discriminatory laws and adopting appropriate ones prohibiting discrimination against women, establishing tribunals and other public institutions to ensure the effective protection of women against discrimination; and eliminating all acts of discrimination against women by persons, organizations or enterprises). Countries that have ratified or acceded to the Convention are legally bound to put its provisions into practice (over 90% of the members of the UN are party to the Convention) and report on the progress every four years (UNESCO, 2022a).

The Committee on the Elimination of Discrimination against Women, an expert body established in 1982, is composed of 23 experts on women's issues from around the world to watch over the progress for women made in those countries that are the States parties to the 1979 CEDAW. In 2008, the responsibility for servicing the Committee was transferred from UN Women to the Office of the High Commissioner for Human Rights in Geneva.

The United Nations has organised four world conferences on women. These took place in Mexico City in 1975, Copenhagen in 1980, Nairobi in 1985 and Beijing in 1995. The ***Beijing Declaration and Platform for Action*** *(1995)* stressed the need for women's equal access to education training and employment, as encapsulated in its Strategic Objectives B (Education and Training of Women) and F (Women and Economy).

While not focused on education, training or employment, in the European context, the European Council Convention on preventing and combating violence against women and domestic violence (2014), also known as '***the Istanbul Convention'***, is an important reference. It requires parties to develop laws, policies and support services to end violence against women and domestic violence and serves as the most far-reaching instrument to date to protect women's rights by addressing gender-based violence as a human rights violation. The European Union formally ratified the treaty in 2023.

International Labour Organization (ILO) Conventions[3] set standards to improve conditions of life and work worldwide. A number of them are of special concern to women workers. ILO standards cover equality of remuneration, non-discrimination in employment and occupation, maternity protection, workers with family responsibilities, special measures relating to night work, underground work and

[3] Each ILO Convention is a legal instrument for regulating aspects of labour administration, social welfare or human rights. Their ratification involves a dual obligation for a Member State: it is both a formal binding commitment to apply the provisions of the Convention, and an indication of willingness to accept a measure of international supervision.

part-time work, and other health-related issues. The four main ILO Conventions that prohibit discrimination on the basis of sex and promote equality are: the Equal Remuneration Convention, 1951 (No 100), the Discrimination (Employment and Occupation) Convention, 1958 (No 111), the Workers with Family Responsibilities Convention, 1981 (No 156) and the Maternity Protection Convention, 2000 (No 183).

Box 5: Brief history of gender equality in development cooperation

Before the 1970s development was assumed to benefit everybody equally. In the 1970s the **Women in Development (WID)** paradigm recognised that women were excluded from the development and needed to be integrated by projects and policies. 'Women's projects' appeared on the agenda of donors. In the late 1970s and beginning 1980s **Women and Development (WAD)** adopted a much more critical approach pointing out that women were not only excluded but also exploited by the capitalist system and that women contributed to development for example through unpaid work but that was not recognised nor valued. WAD was a shift from adding women into existing system to changing structural inequalities. **Gender and Development (GAD)** framework that emerged in the 1980s did not focus only on women but gender relations. It emphasised empowerment, participation, voice and gender mainstreaming as a means to integrate gender perspectives into all policies and programmes. Gender mainstreaming would widen the scope from add-on, small-scale projects for women, to the integration of a gender equality perspective into all policies. The participation and commitment of men became fundamental to changing the position of women. GAD is considered transformative as far as the ultimate aim of gender mainstreaming is to change discriminatory gender norms, structures and practices in society.

In 1995, the **Beijing conference** was a turning point for gender in development, influencing donor policies and aid strategies worldwide. It called for **gender mainstreaming** at all levels of development cooperation. In 2000, gender was enshrined in the Millenium Development Goals (MDGs) in all the sectors and mainstreaming became the dominant approach. The Sustainable Development Goals recognise gender as a **cross-cutting issue** across all 17 goals as mentioned above, promoting ***inclusive development*** and recognising intersectionality of inequalities.

The UN, the EU and other international actors have moved over the last years from a two-pronged approach of gender-sensitive and gender responsive mainstreaming combined with gender-specific projects, to a more **gender-transformative approach** that should address the root causes of gender equality, including in education and training and skills development systems. However, to date gender transformative education has remained largely at rhetorical level (UN Transforming Education Summit, 2022).

Box 6: Gender sensitive, responsive and transformative

Gender-sensitive approach acknowledges inequalities between girls and boys and between women and men but does not address them. ***Gender-responsive approach*** goes a step further, in identifying and acknowledging existing gender differences and inequalities, and including specific policies and actions to address inequalities and reduce harmful gender norms and practices. Both approaches offer essential tools in education but work within the existing system; they treat the symptoms.

Gender-transformative approach seeks to address the underlying causes of gender inequalities and includes policies and initiatives which not only address the different needs, aspirations, capacities and contributions of girls and boys, and women and men, but also challenge existing and discriminatory policies and practices–creating radical change (UNESCO, 2021a). In education it leverages all parts of an education system – from policies to pedagogies to community engagement – to transform stereotypes, attitudes, norms and practices by challenging power relations, rethinking gender norms and binaries, and developing critical consciousness on the root causes of inequality and systems of oppression. While educational settings are essential factors, addressing the social structures that cause discrimination and inequality means going beyond the classroom, into communities in which learners live (Plan International et al., 2021).

3.3 EU gender equality policy framework

Equality between women and men is one of the European Union's (EU) founding values. It goes back to 1957 when the principle of equal pay for work of equal value became a right and part of the **Treaty of Rome** in Article 119 (Article 157 of the Treaty on the Functioning of the EU).

During the negotiations on the Treaty of Rome, the primary concern was to maintain national authority over social policy. As a result, the European Economic Community's involvement in social matters had to be justified on economic grounds. The main objective was to harmonise national social systems to prevent competitive imbalances among the founding Member States as trade barriers were gradually removed. In this context, Article 119—which established the principle of equal pay for male and female workers—was not originally intended as a declaration of gender equality or social justice. Instead, it was designed to prevent 'social dumping' in industries that relied heavily on female labour, such as the textile sector, by ensuring that wage disparities did not distort competition between countries (Jacquot, 2020).

A large body of legislative texts in the 1970s and 1980s was dedicated to equality between women and men (directives concerning access to employment, equal pay, maternity protection, parental leave, social security and occupational social security, the burden of proof in discrimination cases and self-employment) based on the Article 119. In the **Treaty of Amsterdam** in 1997, the 'equality between men and women' was added into the list of goals for the Community (in Article 2 of the Treaty of Rome) and thus moved the focus from equal pay to become a central objective of EU political commitment. Equal treatment between men and women became a fundamental right enshrined in EU law.

While it is for each Member State to decide how the EU legislation is implemented, accession to the EU means that each country must enact EU gender equality policy. In particular the recast **EU Directive 2006/54/EC** is a key regulation on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation. It requires the prohibition of direct and indirect sex discrimination, harassment and sexual harassment in pay, (access to) employment and in occupational social security schemes. The Amsterdam Treaty also introduced the principle of gender mainstreaming, requiring the integration of a gender perspective into all EU policies and activities to eliminate inequalities (Boot and Bennet, 2002; Jacquot, 2020).

The European Commission's operational unit in charge of gender equality has traditionally been allocated to the Directorate-General responsible for employment and social affairs. A **European Institute for Gender Equality (EIGE)**, based in Vilnius, was also created in 2007, and began its activities in 2010 with the aim of producing independent research and sharing best practice to promote gender equality and eliminate discrimination based on gender.

With the renewal of the EU institutions following the European elections in 2019, the issue of gender equality made it back on to the political agenda with strong support from the first-ever female Commission President, Ursula von der Leyen, and with the creation of a dedicated **Commissioner for Equality**. The latest of the series of **gender equality strategies** 'A Union of Equality: Gender Equality Strategy 2020-2025', was adopted as part of delivering on EU headline ambitions set out in the publications 'A stronger Europe in the world' and 'A new push for European democracy'. According to the European Commission, gender equality is a 'key principle of the European Pillar of Social Rights. It is a reflection of who we are. It is also an essential condition for an innovative, competitive and thriving European economy' (EC, 2020a). While adopting the dual approach of combining gender mainstreaming with specific targeted actions, it is the first time that an EU Strategy aims to integrate an intersectional perspective in its implementation.

3.4 Gender equality in EU development cooperation

Early efforts to integrate gender equality in EU development policy arose in the context of the UN Decade for Women 1975–1985 and the Third World Conference on Women in Nairobi in 1985.

Following these events, the European Commission established its 'Women in Development' (WID) policy, including its first WID desks, communique´s and references to women in the Third and Fourth Lomé Conventions (1984 and 1989). This WID perspective addressed the exclusion of women from the development process by creating specific projects for women (Debusscher, 2013).

The 1995 UN Beijing Conference influenced the agenda of the international development policy players, including the EU, and GAD and mainstreaming became the buzzwords. In 1995, the EU Council of Ministers first declared the **integration of a gender perspective in development co-operation** as a crucial principle for underpinning the policy. This was followed by other high-level policy documents on integrating gender equality in development, including a 1998 'Regulation on integrating gender issues in development co-operation'. In 2001, the Commission published its 'Programme of Action for the Mainstreaming of Gender Equality in Community Development Cooperation' which stipulates a twin-track strategy to achieve gender equality: gender mainstreaming and specific actions targeting women. The 2007 'Communication on Gender Equality and Women Empowerment in Development Cooperation' marked a significant shift towards integrating gender as a cross-cutting issue in all external action (Debusscher, 2013).

A series of **Gender Action Plans** in external development policies have been adopted since. In 2010, the EU adopted its first 'Action Plan on Gender Equality and Women Empowerment in Development (2010-2015)'. It aimed to ensure a stronger leading role of the EU in promoting gender equality and women's empowerment in development, as well as ensuring adequate human and financial resources. The Gender Action Plan II (2016-2020), 'Gender Equality and Women's Empowerment: Transforming the Lives of Girls and Women through EU External Relations' adopted a human rights-based approach and committed the EU to further building on the work to make gender equality a tangible reality for women and girls around the world

The **third EU Action Plan on Gender Equality and Women's Empowerment in External Action 2021–2025 (GAP III)** includes three principles that aim to guide the EU's approach: a human rights-based approach, a gender-transformative approach and an approach that addresses intersectionality (EC, 2020b)[4]. The gender-transformative approach and intersectionality are new paradigms of EU gender policy in external action. GAP III reaffirms the commitment introduced in GAP II - that 85% of new EU external actions would have gender equality as a significant or principal objective - and the commitment was locked into the regulation for Neighbourhood Development and International Cooperation Instrument - Global Europe (NDICI-GE). This Instrument actually took a step further and committed to 85% of new external actions, at least 5% of new EU external actions, having gender equality as their primary objective. To reinforce this, the 2021-2027 programming guidelines required all EU delegations to design at least one action dedicated to promoting gender equality in each country (Sergejeff, 2023). Another innovation of GAP III was the Country Level Implementation Plans (CLIPs), developed by EU Delegations to outline how the EU intends to go about its gender equality commitments at the country level.

The Gender Action Plan III (2021-2025) follows a 'three-pronged approach' to promoting gender equality: mainstreaming, dedicated actions and political dialogue. In education, this translates to examining all education policy, planning and reform through a gender-sensitive lens to ensure gender equality and inclusion (the default minimum for GAP III). However, gender equality in education should also focus on targeted interventions with explicit outcomes for girls' or boys' equality and empowerment to strengthen the impact (EC, 2020b). GAP III underscores that empowering women and girls as economic actors is core to the achievement of inclusive and sustainable development and includes an extensive agenda on women's economic empowerment.-GAP III was **extended until 2027** in 2023, mid-way through its implementation.

[4] The GAP III defines transformative approach as 'examining, questioning, and changing rigid gender norms and imbalances of power which disadvantage women and girls and generate discriminations at all ages, starting from early childhood, in societies'. It states that addressing intersectionality means the EU should focus on the most disadvantaged women, paying attention to other factors that might further disadvantage women, including racial/ethnic and religious background, age, disability and sexuality.

Box 7: Progress and impact of GAP III

The Joint Mid-Term Report to the Council and European Parliament (EC, 2023a) shows that the proportion of external actions with gender equality as a principal or significant objective rose from 64.71% in 2019 to 72% in 2022. The mid-term evaluation of GAP II (EC, 2023b) highlights that GAP III has further elevated the strategic importance of GEWE in EU external action. It also notes that while financial resources have grown in line with the commitments, human resources for effective management have not kept pace. The effectiveness of CLIPs relies heavily on the quality and ownership of the underlying gender analysis (Gender Country Profile) and the drafting process for CLIPs has not always ensured their critical role in linking GAP III's vision with country-specific contexts, priorities, and actions.

Extensive analysis by the European Centre for Development Policy Management (ECDPM) (Teevan, 2024; Gianesello et al, 2024; Sabourin and Jones, 2023; Sergejeff and Di Ciommo, 2023) question the internal structure, accountability and capacity within the EU and particularly within EU Delegations for integrating the *gender-transformative* approach and intersectionality into programming and political dialogue with partner countries. Action Documents (AD) often identify the barriers but not the root causes for GEWE. The ECDPM authors recommend the Delegations to build a deep understanding of these concepts, not only among gender focal points but also across broader cooperation and political staff and the European headquarters to create incentives to ensure staff feel responsible for implementing these principles.

All EU programmes must do gender *mainstreaming*, which includes conducting systematic gender analyses and developing gender-sensitive action plans according to the guidance (EC, 2020c). Although gender analysis is mandatory, there is a risk that the ambition for gender mainstreaming may be diluted as actions move from design to implementation. Indeed, Sergejeff and Di Ciommo (2023) point out that often mainstreaming is reduced to collecting sex-disaggregated data or identifying women as a target group. While these are important steps, true mainstreaming must go further to address the societal, political, and cultural norms that hinder women's economic empowerment (WEE).

In summary, while GAP III has led to greater financial commitments and elevated gender equality within EU external actions, challenges in implementation remain—particularly in securing sufficient human resources and consistent understanding of gender-transformative approaches. Overcoming these barriers is crucial to fully realise the strategy's objectives and achieve meaningful gender equality through EU development cooperation. Interestingly, Sergejeff and Di Ciommo (2023) observed that while explicit references to women's WEE are uncommon, almost all Multiannual Indicative Programmes (MIPs) and CLIPs they reviewed include mentions of women and girls in relation to education, TVET, entrepreneurship, or decent work initiatives. This suggests that the sector highlighted in this Working Paper is especially likely to address gender equality through EU development cooperation efforts.

The targets in NDICI-GE on gender equality also apply to the **European Fund for Sustainable Development (EFSD+)**. The Mid-Term Report on GAP III (EC, 2023a) highlights that the EU integrates a gender perspective into investments made through EFSD+. Specifically, the Commission collaborates with international and development finance institutions to amplify the effectiveness of innovative financing in advancing gender equality and empowering women economically. In 2022, 70% of EFSD+ guarantees and blended finance initiatives were reported to have gender equality as either a significant or primary objective. Gender equality and women's and girls' empowerment is also a focus of the Global Gateway strategy, which underlines the need for projects and investments in its main areas (digital, climate and energy, transport, health, education and research) to be inclusive, particularly in terms of gender equality.

Questions have been raised (Gianesello, 2025; Craviotto, 2025) about the future of gender equality in EU external policies. In July 2025, the European Commission introduced its proposal for the 2028–2034 Multiannual Financial Framework (MFF), which features a new Global Europe instrument designed to guide the EU's external actions. The proposal for the 2028–2034 budget removes explicit gender and climate targets, opting instead to mainstream them. In the absence of specific targets, there is a risk that gender equality goals may become less prominent within wider programmes, potentially leading to decreased funding and accountability. Gianesello (2025) points out that the deprioritisation of gender equality in the EU's external actions and funding instruments mirrors the rise of populist and anti-feminist rhetoric in some Member States and abroad. Traditional priorities such as

gender equality, women's rights, LGBTIQ+ inclusion, and democracy risk losing ground. The dedicated thematic instrument, Global Europe Democracy and Human Rights Programme, that once backed democracy, human rights, and civil society under NDICI has disappeared as well (Craviotto, 2025).

4. GENDER IN/EQUALITIES IN SKILLS DEVELOPMENT THROUGH TVET

This objective of this Chapter is to explore key challenges and opportunities that education and training and in particular TVET present for promoting gender equality in the workforce and beyond.

4.1 Why does it matter?

Emphasising well-supported and well-researched arguments of the benefits of gender equality is crucial for the wellbeing of whole societies and discussions should not be reduced to differences in societal values, especially in light of recent anti-gender rhetoric and policies.

The assumption behind the promotion of female participation in education and training is that skills development leads to improved quality of life by helping individuals to become economically productive, thus reducing poverty and marginalisation in society. As discussed in Chapter 1, achieving equality between women and men is fundamental for sustainable development. Gender equality yields demonstrable benefits for population health, social wellbeing, and broader global matters including environmental sustainability and peace. The links between girls' and women's education and women's economic empowerment and economic development are well documented (Campbell, 2023; Kwauk and Steer, 2023; Malala Fund, 2021; ILO, 2018a; OECD, 2024; UN Women, 2022, UNESCO, 2022a; UNICEF, 2022). Declining fertility rates and ageing populations and shrinking workforces in a significant number of countries, undermine economic growth and living standards. If inclusive and sustainable growth can be achieved only by empowering women and enhancing their choices and access to resources, then inclusive and sustainable growth necessitates better integration of women in the economy and the labour force. The better integration is not only about numbers but also about the quality and decent work, in other words, there is a need for women to integrate labour force as skilled and competitive individuals, with equal pay for equal work, free from harassment and violence, and with proper social protection.

Among different education and training options, TVET is considered to equip graduates with job-specific skills, improving employability and supporting a smoother transition from school to work. Effective TVET systems have a strong connection to the world of work, involving social partners in the design and delivery of TVET to ensure that students are equipped with relevant skills and employers find the skills they need. Many international agencies such as UNESCO, ILO, EU and the World Bank are advocating TVET as a lifelong learning instrument not only to strengthen the school-to-work transition but also to offer second chances to anyone at any time outside of formal education. This greater emphasis may be why TVET gained significant recognition in SDG 4 ('Quality Education'), especially in Targets 4.3 and 4.4, areas that were previously missed by the MDGs (Millenium Development Goals)[5].

As such, TVET presents an opportunity for promoting gender equality in the labour market. Yet, there is less research and analysis on gender in TVET compared to the attention given to gender in general education. Although gender inequalities in TVET are recognised, a comprehensive and holistic discussion on the potential that TVET has to promote gender equality and the SDGs more broadly is lacking (Bray-Collins et al., 2022).

It is important to be aware of the risk that TVET – as any form of education – may both reflect the gender dynamics of broader society and work to reinforce and perpetuate them. Systems of gender inequality in society give rise to the inequalities that exist between men and women in the TVET sector and gender inequalities within TVET institutions in turn reinforce gender inequalities in labour markets.

[5] Target 4.3: By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university. Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

Consequently, instead of serving as a driver for gender equality and women's economic empowerment, TVET may inadvertently reproduce gender inequalities found in the labour market, the economy and society at large.

> In other words, while TVET has the capacity to contribute to the advancement of the sustainable development goals, in the absence of gender-transformative reforms rooted in an understanding of how 'gender regimes' operate and persist, TVET institutions may tend to be sites of reproduction of patriarchal dynamics as opposed to catalysts for their transformation (Bray- Collins et al, 2022).

The literature review indicates that the gender equality challenges in TVET and lifelong learning opportunities are quite similar across countries, obviously varying in degrees depending on the cultural and socio-economic context of the country. The barriers to girls' and women's participation in TVET are usually caused by three major factors: educational factors (mostly related to access for both girls and boys), social norms (motivation and support to take up and complete TVET), and the labour market (transition to work). Where gender differences in education and training pathways are observed, we should be asking why they are there and how they can be overcome.

The following sub-chapters highlight key considerations for addressing gender equality in skills development with a focus on TVET in international development cooperation, while recognising that different contexts may require additional attention. Each section includes also a few suggestions on how to tackle the issues, based on desk research and some international cooperation projects and programmes. Empirical data are included where available.

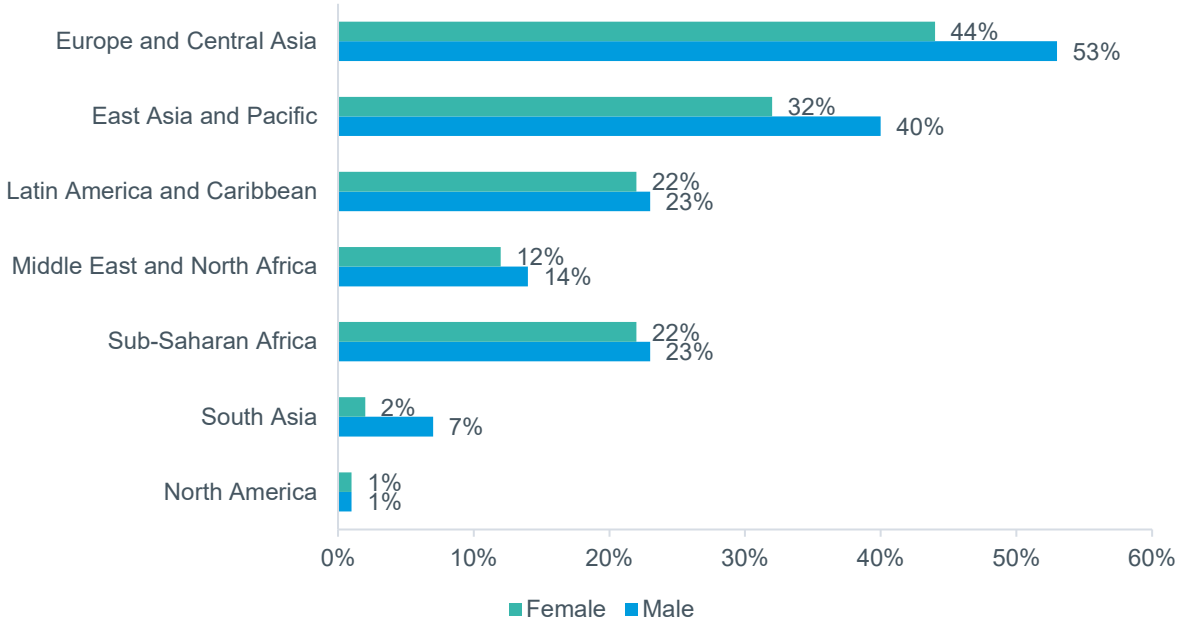
4.2 Access and participation

At global level, the UNESCO Institute for Statistics (UIS) collects several education statistics with a female focus[6], but comparable global statistics on skills development are lacking due to the heterogeneity in systems across countries. This includes statistics for formal TVET, non-formal education and training, and apprenticeship in the informal economy. There are no recent global data available on the gender gap in TVET, a sign of the lack of attention to the issue in itself.

Women are under-represented in TVET. In nearly all countries for which data are available, a higher share of male than female students at secondary level are enrolled in vocational education. Some estimates exist on the gender gap. The UIS estimated that, globally, 43% of students enrolled in secondary vocational education were females in 2017. The World Bank Gender Portal data for 146 countries[7] (World Bank, 2025) provides regional gender gaps in upper secondary vocational education as in Figure 2. The largest gender gaps in access and participation in TVET relate to South Asia (5 pp), East Asia and Pacific (8 pp) and Europe & Central Asia (9 pp) in 2018.

[6] See https://databrowser.uis.unesco.org/
[7] Data available for 2016, 2017, 2018 or 2019.

Figure 2: Share of students in upper secondary education enrolled in vocational programmes in 2018 by sex (%)

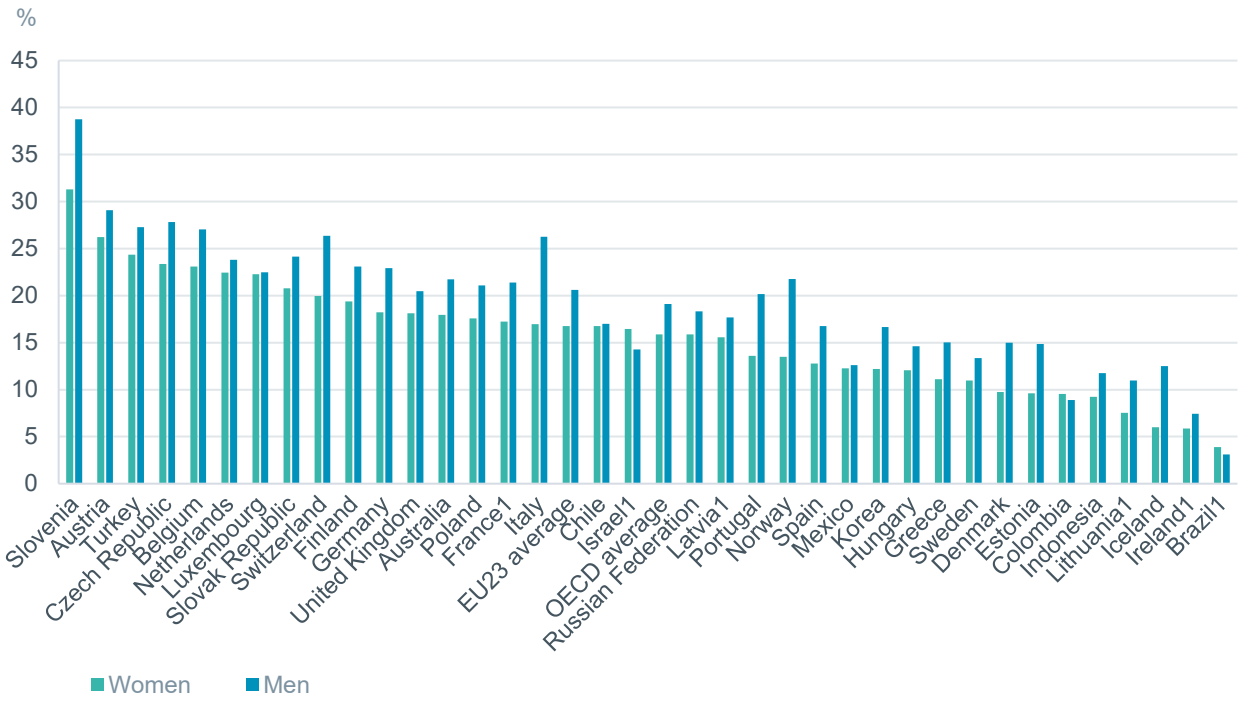


Source: World Bank, 2025

According to the OECD (2019), the average gender gap in VET participation among 15-24-year-olds was about 3 pp in OECD and 5 pp in EU countries in 2017. In 2023, on average across OECD countries, 44% of upper secondary students were enrolled in vocational programmes and 45% of students were female (OECD, 2025c). Additionally, among young adults 25-34, on average, 44% of younger men had upper secondary or post-secondary non-tertiary attainment in 2024, compared to 34% of women.[8] Women tend to select more often than men an academic path, i.e. general education followed by higher education.

[8] This is a reversal of the pattern for tertiary attainment. Women make up at least half of all 25-34 year-olds with a bachelor's, master's, doctoral or equivalent attainment in every OECD country except Japan (OECD, 2023c); while the average difference between the share of 25–34-year-old women and men with tertiary attainment is 13 pp in favour of women (OECD, 2025a).

Figure 3: Participation of 15–24-year-olds in vocational education and training in 2017 by sex (%)-SDG Indicator 4.3.3



Source: OECD, 20019a

UNESCO estimates in its Global Education Monitoring Report 2024/5, that globally only 3% of youth (15-24-year-olds) were enrolled in TVET (SDG indicator 4.3.3) in 2023, regardless of whether they are at secondary, post-secondary, non-tertiary or tertiary levels. The TVET share of secondary enrolment was estimated at 11% the same year (UNESCO, 2024a).

4.2.1 Gender stereotypes and norms

Limited occupational choice, in line with gender norms, may undermine female participation in TVET. The negative perception of TVET as a second-best choice compared to general education influences the overall attractiveness of TVET for both males and females. Gender stereotypes and norms that view TVET as a male field further discourage female participation. In addition, while traditional TVET occupations tend to be highly male- (electrician, carpenter, plumber, etc.) or female-dominated (hairdresser, aestheticians, secretarial studies, catering, nurse, etc.), there are more traditional male than female occupations available in the TVET offer.

Occupational expectations play an important role. Peer and family pressure, prejudice, and limited support heavily shape students' career choices, with parents greatly influencing occupational paths and reinforcing gender stereotypes. Prescriptive gender stereotypes can cause women to doubt their technical skills and confidence in certain fields. For instance, women often report feeling less capable, such as lacking physical strength, when working in labs or workshops (ADB, 2020). Increased awareness can offset these effects. According to a World Bank study (Buehren and Salisbury, 2017), young women are more likely to enrol in male-dominated technical courses if they know someone working in that field, personal connections offer insights into job prospects and duties.

Occupational aspirations are formed at an early age and often align with prevailing patterns of occupational gender segregation. According to data from Programme of international Student Assessment (PISA) 2022 (OECD), within the OECD countries and by the age of 15, girls predominantly seek careers in female-dominated sectors such as personal care, health, and education, while they remain underrepresented in those aspiring to enter male-dominated fields such as ICT and skilled trades. There is a notable correlation between current occupational segregation in the labour market and adolescent career expectations, highlighting the persistence of gendered career pathways (OECD, 2025a). OECD research (2020) further indicates that gender stereotypes are most

evident among boys: at the early age of five, 25% of the top 30 occupations most frequently chosen by girls are in fields traditionally dominated by women and over 50% of the top 30 occupations selected by boys are in areas typically dominated by men.

Low demand by employers for female workers and discrimination in TVET jobs may discourage following the TVET track. Recruitment bias occurs when employers view a job as appropriate exclusively for men. If women perceive that there is little actual demand for their labour even after training, this of course serves as an additional discouragement to their embarking upon TVET (Buehren and Salisbury, 2017). Demand for females in TVET occupations may be inadequate for a variety of reasons: women are more likely to be perceived as less efficient, too costly and inappropriate for work in certain technical or skills areas. In some countries, certain TVET jobs legally prohibit women from entry. According to World Bank (2018), in 104 economies women are barred from working at night or in certain jobs in many areas, including manufacturing, construction, energy, agriculture, water and transportation.

4.2.2 Mobility and safety

SDG target 4a calls for building and upgrading education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all. The availability and cost of **transport** can impede both males and females attending schools, in particular in lower-income countries, however, safety concerns are often greater for women during long commutes. It can be especially discouraging for women in rural areas to travel long distances if the only available training programmes are located in cities. **Physical facilities** such as lack of water and separate toilets can keep girls from school, with recurring absences leading to dropping out. Reintegration of returning dropouts may exclude girls who are pregnant or have family responsibilities. Training schedules, duration, location, and the cost of training can limit women's access to TVET. These challenges impact not only young women, but also adult women who are re-entering education after periods spent on child-rearing or family care responsibilities. Consequently, many women face increased difficulties in pursuing lifelong learning and continuous skill development (EC, 2020b).

Safety risks may exist during long commutes and in unsupervised school yards, classrooms and toilets. It has been argued that the lower level of prestige and the association of underachievement with TVET in many countries also makes women more vulnerable to **gender-based violence** (GBV) in TVET. Females attending TVET colleges compared to general education have been reported to have a 30% higher prevalence of gender-based violence (GBV) in sub-Saharan Africa (Bray-Collins, E. et al., 2022). In Malawi, a UNESCO STEP study found that in technical and vocational colleges, a shocking 66% of female respondents and 11% of male respondents reported having been forced to have sex (UNESCO, 2017). Conversely, research indicates that young women and girls who experience gender-based violence demonstrate lower educational attainment and higher dropout rates than those who do not encounter such violence. Instances of gender-based violence involving teachers, male students, support staff, and transport providers have been linked to underachievement, diminished academic performance, and increased attrition among female students in TVET institutions.

4.2.3 Teaching staff and leadership

Ensuring women have equal opportunities in both teaching and school leadership roles is just as vital as providing girls with access to education and training in the pursuit of gender equality.

The presence of female teachers declines with the level of education although women make up most of the global teaching workforce. As of 2023, women accounted for 93% of teachers in pre-primary, 68% in primary, 59% in lower secondary, 52% in upper secondary education and 44% in tertiary education (UN Women, 2025). Global figures in TVET teachers by gender are not available, however, it is widely acknowledged that in a large majority of countries the proportion of female teachers in TVET is smaller than in general education, while the majority of school principals are male. The exceptions are countries where teaching is perceived almost exclusively as a female domain.

Teachers are role models. The predominance of women in pre-primary and primary education has been linked to biased perceptions about gender roles in caregiving and nurturing (Startz, 2019 cited in UNESCO, 2025). A lack of female teachers can result in the creation of further internal obstacles for women's access and participation and can affect the decision by girls to seek admission to vocational training programmes, and in particular to male-dominated courses (Andiema et al., 2021). The OECD 2018 Teaching and Learning International Survey results showed that 31% of lower secondary school male teachers teach STEM subjects compared to 25% of female teachers. The lack of female supervisors for female students in job placements can also present a barrier.

While increasing the proportion of women TVET teachers could lower the barrier of entering TVET for girls, it is to be noted however that, due to the gendered nature of teachers' work, an increase of women teachers in some countries has provided an excuse to decrease salaries of teachers thus widening gaps in pay equity (UNESCO, 2021b). At the same time, similarly educated men enjoy substantially higher returns in other occupations (Carroll et al., 2021, quoted in UNESCO, 2025)

Women's representation in school leadership roles continues to be limited although their proportion in the teaching workforce has grown considerably over the past twenty years. While many women teach, far fewer lead schools. The share of female principals in primary and secondary education is on average at least 20 pp lower than the average share of female teachers (UNESCO, 2024a). While data on principals in TVET are not available, they can be deduced from the lower number of female teachers in TVET. Few women in decision-making positions as supervisors or managers in vocational training institutes or training centres may render TVET schools less attractive for potential female TVET teachers as well as female students.

Inclusiveness and gender balance among employees bring several benefits to the private and public sectors[9] and promoting female leadership in schools could bring multiple advantages. Evidence from low- and middle-income countries (UNICEF, 2022) shows a positive association between women school leaders and student performance. The association is true for both girls' and boys' performance, but the effects of female leadership appear to be stronger for girls, helping to reduce existing gender disparities. A 2019 Programme for the Analysis of Education Systems (PASEC) survey found that primary schools led by women in Benin, Madagascar, Senegal, and Togo had better reading and math outcomes—equivalent to an extra year of schooling—compared to those led by men. Yet, globally, only 11% of countries address gender diversity when recruiting principals). A lack of gender diversity in hiring committees and of standardised recruitment procedures can affect equitable leadership opportunities (UNESCO, 2024b; UNESCO, 2025).

4.2.4 Career guidance and counselling

Gender-transformative career guidance can contribute to increasing TVET's appeal to women. Improved career information and career guidance and counselling can help learners recognise TVET's value, overcome stereotypes preventing girls to progress in the same fields as boys (and vice versa) and understand career paths and job opportunities. On average in OECD countries, girls receive less career guidance linked to the labour market than boys and are less likely to attend work-site visits, job fairs, internships, or job shadowing (OECD, 2023b).

As discussed above, research shows that gender roles are constructed early - the concept of gender takes root in **children** between the age of three and seven and widens over the education trajectory (VVOB, 2025). Educational choices and career expectations of pupils are strongly influenced by gender stereotypes, hence the importance of actions to combat gender stereotyping already in early childhood education.

At later stages of education for **adolescents and youth**, supporting lifelong career guidance and counselling focused on promoting career choices free of gender bias and stereotypes can be an

[9] Various studies have shown that combined and diverse teams in organisations in which women and men bring different skills, attitudes and perspectives to the workplace are beneficial for innovation and the development of organisations, e.g. a study by McKinsey & Company (2018) found that companies in the top quartile for gender diversity on their executive teams were 21% more likely to experience above-average profitability while companies with low numbers of women and other under-represented groups were 29% more likely to underperform on profitability.

effective tool for promoting gender equality. The gender biases can be deeply embedded by those providing career guidance, hence the importance of relevant anti-bias and gender sensitivity training for career counsellors and teachers. Gender equality can also be introduced across all subject areas to break down stereotypes about gender roles and career choices. Gender-specific career events can help boys and girls to get to know sectors and occupations where they are under-represented. Employer involvement and workplace exposure can help young people assess if they can pursue careers outside traditional gender roles. Promoting STEM to girls and encouraging men in female-majority sectors broadens opportunities for all. Guidance should support self-exploration and critical thinking about career paths (OECD, 2023b; OECD, 2025d).

Career guidance is also crucial for **adults** during transitions such as unemployment, career changes, or returning to work. Strengthening public employment services and career counselling centres, with centralised support for personalised and gender-responsive advice, skills assessment, and training options, can help adults, men and women, secure better jobs (OECD, 2025d).

Helping students pursue personal and career goals, independently of their gender, is crucial for developing a more inclusive labour market. Schulstok and Wikstrand (2020) argue that the paradox of career guidance for better gender equality lies in the fact that on the one hand, effective career education develops skills that enable young people and adults to proactively manage their own lives and careers, free from gender stereotypes, while on the other hand, career guidance emphasises individual's free choice. Promoting non-traditional careers for youth may conflict with free will and lead counsellors to ignore structural barriers and the need for a gender-transformative approach. However, the paradox is debatable since true freedom of choice requires freedom from stereotypes. The school career guidance and counselling cannot change labour market realities where the responsibility for hiring lies with employers, but it can play an important part in encouraging young women and girls to break through barriers and fulfil their potential in traditionally male-dominated fields.

What can be done?

To enhance access and increase the participation of women in education it is essential for governments, TVET institutions, employers, and donors to acknowledge the gender-specific barriers faced by both women and men. While many obstacles stem from gender-based stereotypes, practical constraints—such as timing, duration, location, and cost—also significantly hinder programme access. Therefore, targeted interventions including affirmative action or positive discrimination may be necessary to address the gap.

Gender stereotypes and norms

- Engage relevant gender stakeholders, including change agents and sources of resistance such as religious, media, and civil society leaders at both local and national levels, as well as women and men in legislative and governmental roles, who influence families, communities, and educational systems.
- Mobilise and support non-governmental organisations and media in raising community awareness about the value of TVET and promoting messages that counteract gender stereotypes.
- Collaborate with employers and male family members (fathers, brothers, husbands) to encourage positive attitudes toward girls' participation in TVET.
- Inspire girls to participate in TVET programmes by highlighting female role models and offering mentorship opportunities.
- Conduct career talks and motivational presentations in primary and secondary schools to emphasise the benefits of technical careers for female students.
- Implement temporary quotas and/or scholarships aimed at increasing the enrolment of female vocational students.
- Establish indicators and set quantifiable targets regarding parity in training programme participation, equal involvement in the design and delivery of skills programmes, and balanced representation in the leadership and management of skills development institutions.

Mobility and safety

- Equip training institutions with facilities tailored to the needs of female learners, such as separate toilets and adequate access to water.
- Provide safe, affordable, and female-friendly transportation options to schools or training centres in remote areas.
- Ensure the availability of secure accommodation for both women and men from underserved regions.
- Offer incentives to attract male and female teachers and trainers to work in remote locations.
- Organise mobile training units and community-based programmes that address local labour market requirements and reach rural women.
- Promote a learning environment free from gender-based violence through targeted awareness initiatives and robust complaint and disciplinary procedures.

Teaching staff and management

- Offer flexible scheduling and suitable childcare facilities to accommodate teachers with family responsibilities.
- Arrange safe transport and housing options for teachers based in remote areas.
- Develop professional development plans for all teaching staff, with particular emphasis on supporting women in male-dominated trades and men teaching in traditionally female fields.
- Establish alternative entry routes by recruiting experienced female professionals from industry and providing them with pedagogical training.
- Foster a workplace free from gender-based violence for educators.
- Ensure transparent, participatory, and non-discriminatory recruitment and selection processes for teachers and trainers.
- Guarantee equitable assessment and evaluation practices.

Career guidance and counselling

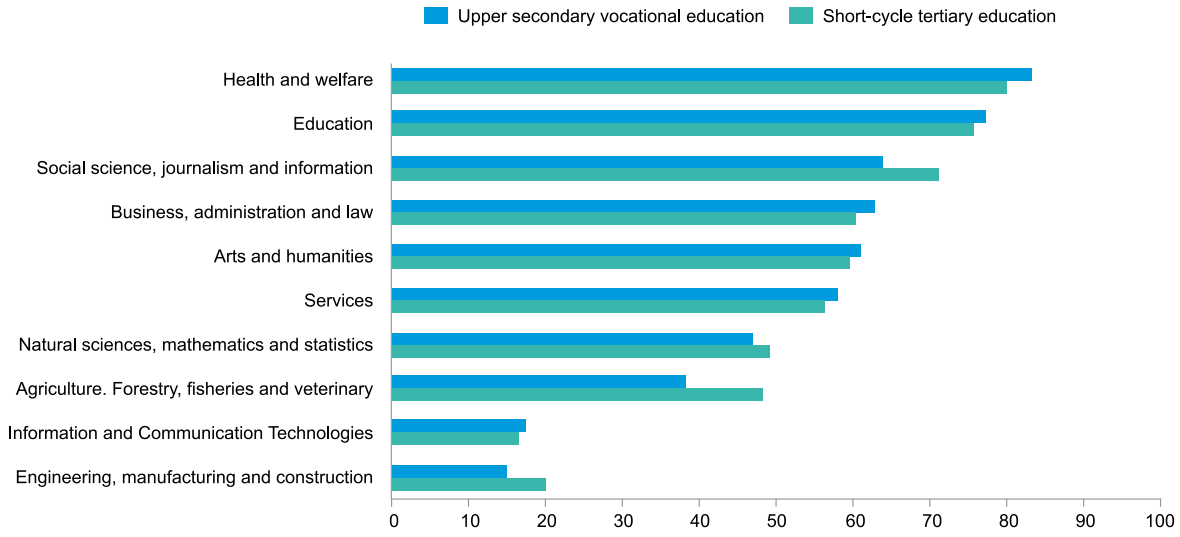
- Introduce labour market information and exposure early in basic and secondary education to broaden students' understanding of alternative pathways, for example, by embedding occupational orientation and career guidance into school curricula.
- Raise awareness among parents to help them provide unbiased support for their children's career aspirations. Involve families and communities in awareness campaigns and open days at training centres to share information on potential careers.
- Provide comprehensive professional training in gender-transformative career guidance for teachers and counsellors.
- Deliver gender-transformative school counselling and career orientation to dispel misconceptions about craft and technology sectors.
- Promote hands-on experiences and internships that demonstrate the value of technical skills for female students.
- Organise short vacation courses, work experiences, and pre-apprenticeship opportunities where girls can explore trades in supportive settings.
- Include employers from various sectors in career guidance activities.
- Facilitate interactions between girls, women, and practitioners—especially female professionals—through dedicated career events.

4.3 Gender equality in TVET

4.3.1 Subject and occupational choices

Gender-based patterns of enrolment are evident across both TVET programmes and tertiary education. As discussed above, within TVET programmes, girls are more likely to be enrolled in health and social care fields, while boys are more likely to be enrolled in programmes related to energy, industry, and construction. In the context of tertiary education, a similar picture emerges, with women more likely to enrol in Education-Health-Welfare and men more likely to enrol in ICT and engineering and manufacturing (OECD, 2025a). As an example, among OECD countries on average girls are overrepresented among graduates from TVET programmes in health (83%) and education (78%) fields, while they are strongly underrepresented in engineering and ICT programmes (18%) (OECD, 2023b).

Figure 4: Share of female graduates in fields of study in OECD countries (%)



Source: OECD, 2023c (latest available year)

The persisting stereotyping in TVET is also a continuation of the subject of streaming boys and girls that they have been subjected to earlier in school (Buehren and Salisbury, 2017). As a result, females pursue fields of TVET that fit their social and reproductive roles while keeping them in economically disadvantaged positions in the labour market. A UNEVOC study (2020) in ten countries around the world found that not only are females under-represented in STEM-related TVET programmes, but there is also gender-based segregation within the different TVET STEM subjects (UNESCO-UNEVOC, 2020). See further on STEM below in 4.6 on Transversal issues.

4.3.2 Work-based learning and apprenticeships

TVET emphasises practical and work-based learning, allowing students to gain labour market experience through internships and industry placements during their studies.

Globally women are less likely to take part in work-based learning and apprenticeships. In many countries apprenticeships continue to be predominantly provided in in male-dominated fields and occupations, and women and girls may not be able to undertake apprenticeships because they are not available in jobs which they prefer or simply because they would not have access to adequate amenities at certain workplaces. Lack of work experience while studying is associated with lower employment rates later in life (ILO, 2020a; ILO, 2020c; OECD, 2023c).

The level of gender-friendliness of the companies offering internships and placements plays an important role in the well-being and acceptance of female TVET students (UNESCO-UNEVOC, 2020). Families may also be reluctant to send their daughters to apprenticeship or on-the-job training due to the risk of harassment and gender-based violence in closed, uncontrolled environments with mostly male tutors or instructors (Hoffman et al., 2022). It has also been observed that where on-the-job training or internships are available, paid placements are less likely to be offered to female-dominated service sector areas, as compared to their male counterparts in other sectors (ADB, 2020).

In many low-income countries with a large informal economy, apprenticeships in the informal economy represent the traditional training system outnumbering by far the provision of formal TVET (Hoffman et al. 2022). An ILO study (2022b) highlights that women are under-represented in these apprenticeships, and girls typically train for lower-status and productivity 'feminine occupations' such as garment fabrication or food processing. The study also found a gender gap in earnings / compensation for men and women informal apprentices within the same trade. The study highlights that apprenticeship programmes should consider not only economic and labour market needs but also inclusion. If they do not, apprenticeships may simply reinforce existing social patterns regarding job access and fail to challenge gender-based divisions of labour.

On a positive side, the ETF Living and Working Survey 2024 (forthcoming, a) in nine EU Neighbourhood countries[10] indicates that women participated at equal level to traineeships and apprenticeships, that there were hardly any gender gaps in their compensation, and women were offered a job at a (slightly) higher level (62%) than men (58%). Younger cohorts had participated more often than older cohorts, indicating that workplace-based learning arrangements have increased over time.

4.3.3 Teachers, curriculum and learning materials

Teachers exert considerable influence on young individuals who are in the process of developing their identities and understanding their potential roles within society. Students arrive in the classroom having already internalized values and gender constructs from their families and the broader community, and educators may inadvertently reinforce these constructs (FAVE, 2018).

TVET focuses on teachers' technical skills and industry experience, but equipping educators to challenge gender stereotypes in the classroom is essential for advancing gender equality. Teachers, like all human beings, are susceptible to gender bias based on their socialisation, education, and experiences, and to dis/encourage female and male learners differently. Their language — both verbal and nonverbal — can reflect unconscious assumptions about gender roles. Teaching approaches may lack sensitivity to gender, such as in how boys and girls are encouraged to participate, cooperate, and tasks assigned to them (EC, 2020c). Nonverbal cues like eye-rolling, raised eyebrows, or smirking can signal teacher indifference or judgment toward a girl's response. Teachers might also assume students lack interest in activities stereotypically linked to one gender (FAVE, 2018). In addition to gender biases, teachers and trainers may simply not be aware of the objectives of gender equality in education or have the specific knowledge and skills on educational principles and practices that promote gender equality.

Gender responsive pedagogy (GRP) is necessary to break stereotypes and enhance gender equality. GRP refers to teaching and learning processes which pay attention to the specific learning needs of girls and boys. It goes hand in hand with teaching and learning practices that focus on students' critical engagement with ideas and concepts instead of transmission of knowledge. When gender becomes a pivotal lens within pedagogy, it supports more inclusive and interactive teaching and learning practices that balance both women's and men's participation. GRP calls for a gender approach in the processes of lesson planning (activities, feedback), methods and techniques, language, classroom set-up and interaction and performance evaluation (FAVE, 2018). Gender-*transformative* pedagogies go a step further by promoting teaching practices that challenge

[10]Algeria, Armenia, Azerbaijan, Egypt, Georgia, Jordan, Lebanon, Moldova, Morocco, Tunisia, Ukraine.

stereotypes, attitudes, norms, power relations, gender norms and binaries, and that raise critical consciousness on the root causes of inequality and systems of oppression. Introducing a professional approach to gender equality issue with relevant set of skills, and no longer simply as a file of ethical and social relevance, specifically in the education-training-labour transition, can make a difference.

Curriculum objectives are key to inform the development of teaching and learning materials that promote gender equality and challenge gender stereotypes at all levels of education**.** If national curricula are developed based on traditional gender stereotypes in the division of roles, this may encourage existing gender inequalities in society. The lack of gender-sensitive managers, curriculum developers and trainers in TVET may result in a situation whereby curricula reflect the traditional gender stereotypes prevalent in the wider culture as to what skills and occupations are appropriate for women and men. The selection of course content (e.g. male stereotypical skills) and eligibility requirements can all result in unintended discrimination against women (Bray-Collins et al., 2022; UNESCO, 2018a).

Teaching and learning materials are fundamental to the pedagogical process; they can serve to promote an inclusive society or can reproduce and reinforce systems of discrimination and inequality. They contribute to the construction of beliefs and values in students about gender norms, vocational choices and future opportunities. Textbooks, especially older ones, often portray women as passive and associated with domestic and caregiver roles, and as those who worry about their appearance while men are depicted as leaders in influential positions. Additionally, the masculine pronoun 'he' may be used to refer to people in general, regardless of gender (Brussino, McBrien, 2022; EC, 2023a; EC, 2020b; FAVE, 2018).

4.3.4 Lifelong learning

Skills acquisition does not and should not cease after completing secondary or tertiary education. It continues through various channels, such as on-the-job training and short course programmes.

Adult learning refers to all formal and informal learning activities undertaken by adults after leaving initial education and training, for general interest or professional development. SDG Global indicator 4.3.1 focuses on the participation rate of youth and adults in formal and non-formal (not informal) education and training in the previous 12 months. Globally, there was gender parity in participation rates with males at 3.1% and females at 3% in 2023 (UNESCO, 2024b).

Regional differences are important. According to the 5th Global Report on Adult Learning and Education (ALE), the participation rate in ALE was the highest in sub-Saharan Africa where 59% of countries reported a participation rate exceeding 20%. This was the case for 16% of countries in Latin America and the Caribbean and 25% in Europe and North America. The high participation rate reported by sub-Saharan African countries is surprising but may be explained in part by a strong demand for adult literacy and second-chance education (UNESCO, 2022c).

On average, across the OECD, there is little difference in the extent to which women (50%) and men (47%) are engaging in adult education and training, yet, women are less likely to participate in adult education and training among the low-qualified (individuals who did not obtain an upper-secondary qualification) (OECD, 2023c). ETF survey in 2024 (forthcoming, a) in 11 countries neighbouring the EU showed that the lack of access to education and training keeps on being alarming for adults. Among the respondents, 35% answered that they do not have sufficient access to education and training. Women were slightly more satisfied (67%) about the access to education and training than men (63%).

However, gender differences still emerge in the **specific barriers** cited for access to adult learning. Across the 38 OECD countries, women are notably more likely to cite family obligations and responsibilities as a barrier to education and training. The OECD Survey of Adult Skills reports that family obligations prevent 27% of women with children from participating, compared to 4% of men with children (OECD, 2023c; OECD, 2025a).

In the global context, while there are more men than women working in the informal economy, in lower and middle-income countries, more women are informally employed; and overall, they are far more

employed as contributing family workers. This constrains women's access to education and training. As self-employed and workers in the informal economy, women often face obstacles such as substantial opportunity costs and stringent formal entry requirements that limit their ability to benefit from learning opportunities (ILO, 2020a).

Informal on-the-job learning has been found to contribute to gender skills gap. Gender gaps in literacy and numeracy (see 4.6 Transversal Issues) evolve over time reflecting differences in use of such skills at work and at home and later investment in training and continuing education. Gender gaps in numeracy grow larger and increasingly favour boys and men as individuals age. By contrast, gender gaps in literacy – which favour girls and women – peak during adolescence and then become smaller as individuals age. Recent results combining the 2022 PISA (measuring skills of 15-year-olds) and the 2023 Survey of Adult Skills uphold these findings, with smaller gender gaps in literacy and larger gender gaps in numeracy among older age groups (OECD, 2025a). Indeed, segregation by field of study, industry and occupation means that women and men do not have the same opportunities to learn, practice and maintain their level of proficiency in different types of skills and abilities (Encinas-Martín and Cherian, 2023; OECD, 2025a). Men are more likely to specialise in fields of study and occupations that use math and numeracy more intensively, which may contribute to growing gaps as people age. By contrast, literacy is a skill used across all fields of study and occupations and is key to success in education and in the labour market which may contribute to shrinking gaps across the life course (OECD, 2025a).

Upskilling is about learning new skills to keep up with changes and boost performance within an existing career path. **Reskilling**, on the other hand, is a specific type of adult learning for acquiring a completely new set of skills to transition into a different job or career path. Both are important **active labour market measures** and part of lifelong learning and, if implemented in a gender transformative way, may pave way for more gender equality in the labour market. First, upskilling and reskilling through flexible and shorter skills development activities can support women to re-enter the workforce after having children (or caring for older family members). The upskilling and reskilling obviously needs to improve employability of women; however, it can also address gender inequalities by offering women reskilling into non-traditional female jobs. Second, upskilling and reskilling are also an opportunity to guarantee that women have equal access to job opportunities emerging from the digital and green transitions (see 4.1. Transversal issues). While research often tackles gender disparities and workforce gaps in STEM roles within green and digital industries among recent school graduates, there is significant potential for women to upskill or reskill for careers in ICT or green sectors. The formulation of TVET and skills development policy, career guidance and active labour market programmes (ALMPs) should adopt a gender-transformative approach so that the green and digital transitions do not accentuate current gender employment stereotypes and inequalities (Kyeung Chun, 2024; WEF, 2025).

What can be done?

Any reform of the education and training system presents a significant opportunity to address existing stereotypes established at the family and school levels. This can be achieved by actively encouraging participation of both men and women in non-traditional fields and ensuring that emerging employment opportunities resulting from broader economic changes are equally accessible to all genders.

Educational/Occupational Segregation

- Conduct national advocacy campaigns to raise awareness of TVET opportunities and challenge prevailing gender stereotypes.
- Implement incentives for training programmes that successfully promote and place women and men into roles traditionally dominated by the opposite gender.
- Provide scholarships specifically for females, establish temporary female quotas for selected male-dominated training programmes, or introduce similar scholarships for males entering female-dominated specialisations.
- Honour outstanding professionals who have succeeded in non-traditional occupational roles for their gender through awards and recognition.

- Develop cooperative strategies with employers to enhance the employment prospects of female students pursuing careers in non-traditionally female fields.
- Offer necessary financial and technical support to institutions and programmes to assist girls in completing their education in non-traditional female sectors.

Work-based learning

- Deliver gender awareness training to educators, trainers, and managers within training institutions, equipping them to encourage employers to provide equitable on-the-job training opportunities, including apprenticeships, attachments, or internships.
- Encourage employers offering apprenticeships to select candidates from underrepresented genders.
- Expand apprenticeship offerings within sectors traditionally dominated by women
- Strengthen collaboration with the private sector through formal agreements, incorporating quotas to ensure job placements for female graduates.
- Offer financial incentives either to apprentices from underrepresented genders or to employers who support their inclusion.
- Support female entrepreneurs in accepting apprentices into their businesses.

Teachers, curriculum, and learning materials

- Ensure TVET teacher education incorporates pre- and in-service training on gender-transformative pedagogy.
- Include gender dimensions in the standards for teacher qualifications.
- Include gender equality competencies as part of teacher accreditation requirements.
- Integrate responsibilities related to promoting gender equality into teacher job descriptions and performance assessments.
- Provide continuous professional development for school leaders, instructors, and teachers to strengthen their understanding of gender issues.
- Provide specialised training on gender equality for TVET instructors in male-dominated fields.
- Ensure gender perspectives and gender equality objectives in the national curricula.
- Assess TVET curricula, instructional and learning materials, and teachers' guides through a gender lens to improve the integration of gender issues and to ensure content does not perpetuate stereotypes.
- Engage a diverse group of stakeholders, including both male and female experts, to incorporate varied perspectives into this work.
- Ensure local content—featuring individuals, narratives, and examples—accurately represents both men/boys and women/girls.
- Monitor and evaluate TVET institutions and programmes to ensure delivery is competency-based, responsive to the needs of girls, and focused on addressing persistent gender inequalities.

Lifelong learning

- Offer flexible training schedules in both formal and non-formal contexts to accommodate household, childcare, and seasonal work responsibilities.
- Reduce course durations and expand online learning options to increase accessibility.
- Develop policies aimed at promoting equal sharing of domestic responsibilities.
- Enhance public employment services and career counselling centres to provide gender-transformative guidance, skills assessment, and training advice for adults.
- Promote reskilling opportunities for women, particularly in digital and green economy sectors.
- Increase outreach and engagement efforts to encourage participation among women, especially those from lower educational and income backgrounds.

4.4 Gender equality in employment

Gender equality through education highlights the crucial role played by education in addressing the wider issue of gender equality. First, education can promote new attitudes and patterns of belief, transforming the way people think about traditional gender roles and helping to build lasting change (UNESCO, 2021a). Second, education can provide the relevant skills and empower and equip men and women to participate in the labour market ensuring the labour market return to skills.

Data indicates that **educational achievements do not translate into equal labour market outcomes for women and men**. Despite an overall improved access to education and vocational training, as well as higher-level skills, girls and women still face various forms of disadvantages in their transition to the world of work. The ILO School-to-Work Transition Survey 2020 reports that for persons aged 25–29, a man is 1.9 times more likely to complete their labour market transition than a woman. When obtaining a job, women and girls are still less likely to work full time and are more likely than men to be in low-paid occupations (ILO, 2020c).

Gender inequality has proven to be a stubborn and damaging reality of the global labour market. Explanations vary from social norms, gendered stereotypes, (unconscious) biases in recruitment, sexist work cultures, difficulties for women in striking a work-life balance, the unequal distribution of domestic and care work, to unsafe transport and workplaces etc. (ILO, 2023). The TVET sector as a bridge to the labour market has strategic importance in addressing gender inequalities existing on the labour markets.

4.4.1 Untapped human potential

No matter how we look at the labour statistics, women – who make up half of the world population – represent an untapped human potential. According to the ILO (2024), among people aged 15+, in 2023, women's global **labour force participation rate** stood at 48.7%, significantly lower than the rate of 73.0% for men—a gender gap of more than 24 pp. For the prime age group 25-54, the female labour force participation rate was 64.5% and the male rate was 92%, resulting in a gap of 27.5pp. The OECD (2025d) reports that, after accounting for socio-demographic factors, men are on average 8 p.p. more likely to be employed than women across OECD countries. The IMF (Badel and Goyal,2023) estimated that as the gender labour force participation gap was 26.6% in 1991 and 19.5% in 2021 implying a reduction rate of 1.03% per year, if the gap continued to decrease at the observed rate it would take about 445 years to achieve gender equality in labour force participation.

The global unemployment rates were estimated at 5.0% for men and 5.3% for women in 2023 (ILO, 2024). Focusing on the unemployment rate by itself will understate the challenges that women face in finding a job. Indeed, in 2022, the ILO started monitoring a new indicator, the *jobs gap,* that captures all persons who would like to work but do not have a job, including those who are not either available or seeking for a job (ILO, 2023a).

Box 8: Limitations of unemployment rate

While the unemployment rate is a valuable measure of labour market conditions, it has notable limitations as an indicator. The definition of unemployment requires individuals not only to be without work and interested in employment, but also to have recently engaged in job search activities and to be available to start work on short notice, typically within one week. These requirements are less frequently met by women than men, primarily due to their greater share of unpaid care responsibilities, which restricts time for job searching and makes immediate availability more difficult. Additionally, the opportunity costs associated with alternative care arrangements and discouragement from limited suitable employment options are often higher for women than for men (ILO, 2023a; ILO 2023b; OECD, 2025a).

Relaxing the restrictions on search and availability inherent in unemployment statistics results in much higher estimates of labour underutilization and greater gender imbalances in access to employment (ILO, 2023a). Globally, the **jobs gap** rate was 12.3% in 2022, well above the global unemployment rate of 5.8%. While men and women experienced a similar unemployment rate, the jobs gap rate for women was 15.0% compared with 10.5% for men. In other words, an additional 153 million women are identified as having an unmet need for employment, compared with 115 million men (ILO, 2023c). As national income decreases, the jobs gap increases, as does the gap between women and men. The smallest jobs gaps are found in high-income countries, with men registering a rate of 7.4% and women 9.6%. In upper middle-income countries, the rate is 10% for men and 13% for women; in lower-middle income countries 11.0% for men and 17.0% for women; in lower-income countries 16.6% for men and 25% of women. The estimates point to severe difficulties faced by women in finding a job, particularly in the least developed countries (ILO, 2023b). The estimates for 2024 point to an overall increase and a steady gender gap of 4.5 pp in the jobs gap, men 8.5% and women about 12.9% (ILO, 2025a).

NEET (not in employment, education, or training) refers to young people (typically 15-24 or 15-29) who are neither working nor studying or training, encompassing those who are unemployed (seeking work) or inactive (not seeking work/outside the labour force) but are not in education or training, serving as a key indicator for youth integration into the world of work. NEETs represent wasted human potential, leading to significant economic costs and burden for the society and risk of social exclusion and long-term inactivity. Globally in 2023, one in five young people (15-24), or 20.4%, were NEET and two in three of these NEETs were female (ILO, 2024b). The ILO global estimates for 2024 did not show any improvement: 28.2% for women and 13.1% for men. In the OECD countries, the rates have been stagnant: the average NEETs rate for 15–24-year-olds was 13% for males and 15% for females both in 2019 and 2024 (OECD, 20205c). The relevant policies to tackle the phenomenon of NEETs should be formulated with the awareness that being a woman is one of the highest risk factors (ETF, 2015).

In the EU, data on NEETs are available also by sub-age groups. In 2024, the NEETs rate for women aged 15-29 was 12.1% compared to men at 10.0%. For the youngest group of 15-19-year-olds, men had a slightly higher NEETs rate than women, in the next age group of 20–24-year-olds, there was hardly any gender gap, and among people aged 25–29 years the gap between the gender widened to 6.4 pp. in favour of men (Eurostat, 2025). This points out to higher rates of early school drop-out of boys, the more difficult transition of young women from school to work, and possibly inactivity related to childbearing.

The female and male NEETs have different profiles, men are more often unemployed and women inactive, i.e. women who are neither in employment nor in education and training seem to be outside of the labour force to a larger extent than men, while men are unemployed to a larger extent than women. Being unemployed suggests that the individual still has some kind of connection to the labour market while people outside the labour force do not have this connection, and having such pronounced gender differences may be a cause for concern (ILO, 2024b; ETF, 2021). An ETF study (2015) differentiated in more detail the NEETS in four case study countries in sub-groups of the unemployed, the discouraged, family carers and the inactive (other than family care) and found that most of the female NEETs who were inactive were not working or not actively seeking for a job because of their family responsibilities (82% of female NEETs in Egypt; 79% in Palestine; 67% in Georgia; and 28% in Albania).

It is estimated that 2 billion (61%) of the global employed population earn their living in the informal economy. Globally, the share of women in **informal employment** is lower than the share of men in informal employment but there are actually more countries (55.5%) where the share of women in informal employment exceeds the share of men in informal employment. Indeed, while informal employment is a greater source of employment for men than for women at the world level (63% vs 58%), in developing countries the percentage of female workers who are informally employed (92%) is higher than the percentage of male workers (87%). Women are more exposed to informal employment in more than 90% of sub-Saharan African countries, 89% of countries from Southern Asia and almost 75% of Latin American countries. A recent ETF study in the agricultural sector in Rwanda confirms the

higher exposure of women in subsistent and informal agricultural work (ETF, 2024d). A major difference between women and men in informal employment is the proportion of women contributing family workers, usually unpaid and in a vulnerable status. This proportion is globally more than three times higher among women (28.1%) in informal employment compared to men (8.7%). This status, particularly vulnerable, represents 28.1% of women in informal employment compared to 8.7% for men (ILO, 2018c).

4.4.2 Gender-based labour market segregation

Gender-based horizontal segregation ('glass wall') trends over time in most regions show a persistent over-representation of men in industry, with women increasingly likely to be working in the service sector – in particular education, healthcare and welfare (EHW) – rather than in the agriculture sector, as was the case in the past. The exception is Asia, where women have also moved into manufacturing (ILO, 2020a). **Gender-based vertical segregation** ('glass ceiling or sticky floor') results in both high-income and developing countries in concentration of women and men in different grades, levels of responsibility or potential for promotion, with men mor often holding the more senior, prestigious and better remunerated positions.

Gender-based occupational segregation is resilient to economic development and market forces and remains present in developed and developing countries alike and under all political systems, and in diverse religious, social and cultural settings. It is detrimental to women's status and income as the gender-based occupational segregation is usually reflected in a gender gap in pay and other benefits between men and women, with jobs where women are highly represented being less valued and less well-remunerated. Greater female labour force participation alone does not increase gender equality if employment segregation implies that women enter low return occupations, or they crowd into a limited number of occupations resulting in lower wages. As gender gaps in human capital are reduced or even reversed, women's concentration in low-productivity sectors and low-productivity industries within the sectors is an important form of labour misallocation (Alwago, 2023; Carranza, E. et al, 2018; Anker, 1997).

Targeting gender-based occupational segregation is key to improving labour market efficiency and gender equality. National policies that address segregation in the labour market most often try to attract more women to sectors with technical content, i.e. STEM and in particular ICT activities. They try less often to attract more men into the education and care sector, i.e. EHW - possibly because this would also require improving the working conditions and remuneration in that sector (EC, 2023c). At the same time, the social and health sectors are experiencing severe worker shortages, highlighting the need to improve the working conditions in these sectors to attract or retain both men and women.

Gender-based occupational segregation largely stems from the **gendered division of labour** prevalent in many societies. Typically, women's employment opportunities reflect commonly held stereotypes regarding their abilities, such as assumed aptitudes for caregiving or domestic skills. In the absence of sufficient support for care work from either the State or the market, women frequently concentrate in roles that offer greater flexibility to accommodate household responsibilities. Additionally, employers' gendered perceptions may contribute to discriminatory hiring practices.

The ETF Living and Working Survey 2024 (forthcoming) in nine EU Neighbourhood countries found that there was a notable gender gap in the attitude to women's ability to work in any sector: 72% of women and 49% of men agreed that women are able to do jobs with the same success as men in *any sector*. Surprisingly, primary educated were more positive about women's abilities to work in any sector (69%) than secondary (58%) or tertiary (61%) educated.

Labour market segregation results are also seen in the gendered impact of economic and other crisis. Women are over-represented in sectors that were hard hit by the COVID-19 lockdown policies (accommodation and food services, wholesale and retail sectors, domestic work, garment-making) and they witnessed a significant increase in their time spent on care duties during the pandemic. According to the ILO, 4.2% of women's employment was destroyed as a result of the pandemic compared to 3% of men's employment. Women's employment-to-population ratios declined

proportionally more than men's, particularly in middle-income countries, during the pandemic; the loss of employment mostly resulted in economic inactivity, for young women in particular (ILO, 2021).

Box 9: COVID-19 impact

Women's employment suffered a greater blow than men's during the initial phase of the pandemic—between February and May 2020, 11.5 million women lost their jobs, compared with 9 million men, a phenomenon sometimes described as the 'she-cession'. Although women's employment appeared to rebound at a similar rate to men's, particularly in upper-middle and high-income countries, the ILO notes that the overall greater employment losses for women in 2020 and their partial recovery in 2021 were largely driven by shifts in informal work. The steep reduction in women's working hours in 2020, followed by a swift resurgence in 2021, reflected the pandemic's more severe impact on informal employment and the fact that informal jobs bounced back more quickly than formal ones. Even in 2022, four out of every five jobs newly created for women were informal, compared to two out of three for men. For a decade and a half, the incidence of informal employment had decreased more for women than for men. The pandemic significantly disrupted this trend, especially in low- and lower- middle-income countries (ILO, 2022c, ILO,2023c). Additionally, young women experienced a double disadvantage. First, the youth unemployment rate jumped more sharply for women during the COVID-19 crisis and then, during the recovery period, the drop in the youth unemployment rate was smaller among women. In the decade before the Covid-19 pandemic (2009–19), young men worldwide had a slightly higher unemployment rate than young women, averaging a 0.7 p.p. difference. From the peak of the crisis and continuing through 2023, the unemployment rates for young men and women converged (resting at 12.9% for young women and 13% for young men in 2023 (ILO, 2024b).

Research on occupational segregation by sex usually distinguishes between labour supply and demand, asking why women *prefer* certain types of occupations and why employers generally *prefer* to hire women and men for particular occupations and women and men have different opportunities for promotion and career development. Anker (1997) challenges this: *even when an individual chooses to accept work in a particular occupation or an employer chooses to employ either men or mainly women, these decisions are influenced by learned cultural and social values that often discriminate against women (and sometimes men) and stereotype occupations as 'male ' or 'female'*, i.e. the preference is largely determined by learned gender-related factors. See Box 10 for theories of occupational segregation.

Box 10: Explaining occupational segregation

Anker (1997) categorises explanations of occupational segregation into three broad theoretical groups:

1. Neo-classical and human capital theory

According to this theory, rational workers seek out the best-paying jobs after taking into consideration their own personal endowments (e.g. education and experience), constraints (e.g. young children) and preferences (e.g. flexible working environment), and rational employers try to maximise profit by maximising productivity and minimising costs, paying workers their marginal product. The theory focuses on individual choices and market efficiency. Women are seen as having lower human capital due to less education and interrupted work experience (e.g. child-rearing). Employers may prefer men due to perceived higher productivity and lower indirect costs. The theory is criticised for being static (increased women's labour market commitment, increased incidence of female-headed households but occupational segregation continues, etc.) and ignoring structural and cultural factors. The theory stresses the need for policies addressing non-labour market factors such as education (in non-traditional occupations), family policies (childcare) and more equal sharing of care and household work. According to human capital theory, investments in women's education pay off only when women are able to convert their education into income and status at the labour market.

2. Institutional and labour market segmentation theories

These theories emphasise the role of institutions (e.g. unions, large firms) and segmented labour markets. It encompasses dual labour market theory: primary sector (better jobs) vs. secondary sector (low pay, poor conditions). Rational employers apply statistical discrimination: employers use group

averages to make hiring decisions, reinforcing segregation. These theories explain vertical segregation (men in higher-status roles) better than horizontal segregation. These theories are criticised for not explaining the occupational segregation, the same occupations are found in primary and secondary sectors.

3. Feminist/gender theories

These theories argue that segregation reflects patriarchal societal structures, women's subordinate position in society and the family. Gender stereotypes shape occupational roles, and cultural norms restrict women's access to certain jobs. These theories help explain why the most important occupations in which women are employed around the world reinforce typical 'female' stereotypes such as the caring, docile or home-based woman worker. Women acquire less experience than men, because women are overwhelmingly responsible for childcare at home. These theories help explain why women in certain countries are virtually excluded from occupations which involve public contact between men and women. They help explain how the restricted and inferior labour market opportunities for women associated with occupational segregation are perpetuated into the next generation, because such limited prospects cause many families — and many women — to underinvest in women's education, training and experience. They help explain why the part-time work and/or flexible hours associated with so many 'female' occupations are as much a reaction to the fact that these are 'female' occupations as they are to the need for 'flexibility' in these occupations. They help explain why, despite high unemployment rates, relatively few men in industrialised countries have so far been willing to enter typical 'female' occupations.

4.4.3 Pay gap

As discussed above, the gender-based labour market segregation is reflected in the gender pay gap. The occupational gender segregation being high in TVET, it is assumed that female and male learners from TVET end up in either very female or male-dominated sectors and occupations and hence with high gender wage gaps. The pay gap is due to lower wages in female-dominated sectors and occupations, but also due to the within-the-sector the gender pay gaps that tend to be smaller in male-dominated sectors than in female-dominated sectors (Eurofund, 2021; Bray-Collins, 2022).

Globally, for each dollar men receive in *labour income*[11], women receive only 51 cents – almost 50% less. In the developing world, the differences are exacerbated, with women earning only 29 and 33 cents on the dollar in lower middle-income and low-income countries respectively, compared to 58 and 56 cents in high income and upper-middle income countries (ILO, 2023b).

The *total gap in labour* shows the importance of gender equality in earnings, beyond the issue of unequal participation in employment, as it represents the *relative labour income* of women if women were employed at the same rate as men. In low-income countries, working women would earn 43 cents for each dollar earned by men, in lower- and upper-middle income countries 61 and 71 cents respectively, reaching 73 cents in high income countries (ILO, 2023b). The very large gaps that remain, even after this hypothetical massive shift in participation, underscore the importance of not only the overall participation of women in the labour market, but also the quality of women's employment and the expansion of their access to employment across occupations.

Although higher education lowers gender gaps in employment, the OECD (2025c) reports that the pay gap between men and women persists at all levels and widens slightly with more education. On average across OECD countries, tertiary-educated women working full time and for the full year earn 23% less than their male peers, while those with upper secondary or post-secondary non-tertiary attainment earn 20% less and those with below upper secondary attainment earn 21% less 12. On the other hand, for all education levels, the gender gap in earnings widens with age up until age 54. Among full-time full-year 25-34-year-old workers, young women earn between 17% and 18% less than their male peers, while 45–54-year-old women earn between 20% and 24% less. The OECD (2025d)

[11] Earnings from work whether employee, employer, self-employed. The shares of labour income by gender reflect the relative importance of earnings from work, considering differentials in employment, hours worked, occupational profiles and other factors.

[12] As women are more likely to work part time or only for part of the year than men, the gender differences in earnings are even wider among all workers than among full-time full-year workers.

reports women earn roughly 16% less per hour than men on average – a gap that persists even after controlling for educational attainment and skills proficiency.

4.4.4 'Motherhood penalty'

According to the ILO (2023b), in 2022, the gender gap in labour force participation for individuals aged 24 to 54 was overall 30 pp (with 61% of women and 91% of men), while among those aged 25 to 54 with at least one child under six, this gap increased to 43 pp (female participation dropped to 53%, while male participation rose to 96%). Mothers with young children are less likely to be active in the workforce than their peers ('motherhood penalty'), whereas fathers tend to have higher participation rates ('**paternity premium'**). In addition to societal expectations that position women as the primary caregivers, this is largely attributable to limited availability of affordable quality childcare and parental leave options, child tax credits that more often benefit single-income families and low uptake of paternity leave if available.

Although women's participation is reduced by the presence of young children across all income levels, there are large variations in the motherhood penalty across income groups. The highest motherhood penalty ratio of 20% is observed in upper-middle income countries. The penalty in high-income countries is 13%. The lowest ratios are observed in lower-middle income countries (4%) and low-income countries (5%). On the one hand, some of the low- and low-middle income countries with high female labour force participation, including many in Sub-Saharan Africa, may have lower motherhood penalties due to economic necessity, the complementarity of child-rearing with agricultural work, and the presence of extended family that can assist with child-rearing. On the other hand, in low- and lower-middle-income countries with low female labour force participation, as is common in South Asia, child-rearing has less potential to penalise women's participation. Women in upper-middle-income and high-income countries have higher average participation rates and may experience larger motherhood penalties due to the lack of complementarity between child-rearing and employment, combined with nuclear family structures. (ILO, 2023b). In 2023, 66% of prime-aged women outside the labour force (379 million globally) cited caregiving as the main reason for not participating (UN Women, 2025).

Gender gaps in labour market outcomes accumulate throughout the life course to result in lower **pension entitlements**, which puts older women at greater risk of poverty and social exclusion. The motherhood penalty does not affect only the labour force participation, but the career breaks can also lower earnings by slowing skill growth and career progression, resulting in an increasing gender pay gap with age. Furthermore, the OECD (2025a) highlights research indicating that the transition to grandmotherhood is frequently associated with a notable decrease in labour market participation[13]. In contrast, men's employment patterns appear largely unaffected by becoming grandfathers. Younger, healthier grandmothers often leave the workforce to care for grandchildren, despite being targeted by policies to extend working years. Pension levels for women in OECD countries are, on average, 24% below those of men (OECD, 2025a).

Maternity and parental leave entitlements are essential for workplace gender equality, allowing parents to share care, improving work–life balance, and supporting child development and having a positive effect on women's labour force participation and wages. While the ILO reports a slow but consistent trend toward reducing the **gender leave gap**[14], globally, there is a difference of five months (22.5 weeks) between the duration of paid parental leaves available to mothers (24.7 paid weeks) and that reserved for fathers (2.2 weeks). For employers, well-designed parental leave offers a strategic advantage by supporting workforce stability, attracting and retaining skilled talent, and enhancing employee engagement. Publicly funded parental leave minimises direct costs for businesses, especially micro-, small- and medium- sized enterprises, ensuring that inclusive work environments are sustainable for enterprises of all sizes. (ILO, 2025a).

[13] Particularly among grandmothers residing close to their grandchildren and in contexts where formal childcare options are limited.
[14] In countries where parental leave is available for both mothers and fathers.

4.4.5 Unpaid work

Society's definitions of 'work' and 'productivity' often overlook crucial forms of labour, like caregiving, child-rearing, caring for the sick, cleaning, cooking, and emotional support—tasks typically performed at home and frequently by women. Even when these roles become formal jobs, they tend to be lower paid and hold less prestige (UNESCO, 2021b), leading to undervalued jobs in the care economy, the so-called 'care deficit'.

There are several global estimates on the quantity of unpaid care work by women and men. According to UN Women (2025), women and girls devote 2.5 times as many hours per day to unpaid domestic and care work compared to men. In Northern Africa and Western Asia, women spend over four times as many hours as men. According to UNESCO (2025), unpaid care and domestic work takes nearly three times larger share of women's 24-hour day (17.8%) as of men's (6.5%). ETF-Eurofund survey (2022) in the EU-27 and EU neighbouring countries found that on average while male respondents had considerably longer working hours than their female counterparts, the picture is quite different when the work hours are summed up with unpaid household and care work. Men's work hours summed up to 74.1 in the EU-27 and to 78.6 in the EU neighbouring countries versus 91.7 and 112.6 for women respectively. The unequal burden of unpaid work that falls on women hence impacts not only their participation in the labour market but also their hours of work when they are employed. Globally in 2022, women in employment worked around seven paid hours per week less than men, with large variations by region (ILO, 2023c).

Teleworking may promote gender equality by helping both men and women balance work and personal life, potentially reducing gaps in unpaid care and housework. However, it can also reinforce traditional gender roles around unpaid care and household responsibilities if women primarily use flexible arrangements due to existing expectations, further cementing the idea that women should combine work and family duties. Indeed, the evidence from Covid-19 suggests that the effect of teleworking on gendered work-life balance inequalities reflected prevailing gender norms (OECD, 2025a; OECD, 2023c).

What can be done?

A gender-transformative employment system needs to be aware of the existing differences in women's and men's access to employment and be capable of improving the equity outcomes of education whilst meeting the skills demand. The TVET system has an important role to play not only in producing the skills required by the labour market but also in opening up old and new skills to both men and women.

Labour market participation and segregation

- Carry out tracer studies to assess how well female and male students secure jobs or self-employment, then use these findings to refine programmes and better support students.
- Promote equal access of females to TVET programmes in occupations with strong labour market demand.
- Encourage sector skills council and chambers and business association to incorporate explicit targets and approaches for skilling and employing women when ensuring availability of skilled workforce for the industry.
- Initiate and support mentorship programmes to support women entering men-dominated industries.
- Offer 'second chance' foundational skills courses to women whose formal education is insufficient.

Pay gap

- Address the issues of sectoral and occupational segregation (as described above).
- Strengthen and enforce anti-discrimination laws and regulations, focusing on pay equality.
- Set-up pay transparency tools such as such as gender-disaggregated pay reporting/disclosure requirements or gender pay audits.
- Promote as wage-setting systems that limit the extent that firms can compete on the basis of low wages.

Motherhood penalty and unpaid work

- Ensure affordable quality childcare possibilities from early childhood.
- Ensure publicly funded maternity and parental leave is available and affordable both for the employee and employers.
- Set-up measures to promote equal use of parental leave policies by fathers and mothers (for example through reserving leave time specifically for the father or non-primary caregiving parent).
- Ensure that tax/benefit systems give both partners in a couple equally strong incentives to work.
- Provide (free) training programmes and other active labour market measures aimed at promoting the return to work for women after childbirth, parental leave, or care for the elderly, or as a result of long-term unemployment due to unpaid family care responsibilities.
- Promote equal sharing of care and household work by public awareness campaigns, revision of learning materials' representation of women and men, teacher pedagogies etc.

4.5 Transversal issues

4.5.1 Science, technology, engineering and mathematics

Science, technology, engineering, and mathematics (STEM) fields are fundamental in preparing individuals with the technical knowledge and competencies required to drive innovation, improve productivity, and support global competitiveness. These disciplines also underpin advancements in critical sectors such as health and education. STEM careers are widely regarded as essential for future workforce development, with skills in these areas increasingly relevant to emerging opportunities within the digital and green economies. Despite their importance, women remain significantly underrepresented in both STEM education and professional roles (UNESCO, 2023).

Under-representation of women in STEM education is well-known, but estimates vary. UNESCO (2024b) estimates that in 2023 women were 35% of STEM graduates showing no progress over the last ten years. In 2018, in the EU, women constituted 28% of university graduates but only 13% of vocational education graduates in STEM (EIGE, 2018)[15]. The trend is confirmed by OECD estimates according to which on average across OECD countries women are 28 pp less likely than men to have completed bachelor's or more advanced programmes with a STEM orientation and 52 pp less likely to have completed vocational programmes with a STEM orientation (OECD, 2025d). Gender gaps in tertiary enrolment in STEM increase as country income rises (IBRD/WB, 2020).

There is no systemic gender skills gap in mathematics and science in secondary education. Therefore, it has been argued that the large gap by field of study in tertiary education is essentially a reflection of choice and preference rather than a failing in ability or qualification. The under-representation of females in STEM studies is not explained by cognitive capacity. Research in neuroscience shows that biological factors are no indication for performance in STEM nor in other fields of study. The fact that women now count for higher proportion of students in a limited number of STEM fields such as natural sciences, mathematics and statistics confirms that the ability to perform in STEM does not depend on the gender of the individual (ILO, 2020a). Also, while boys continue to have higher grades in mathematics in most EU and OECD countries according to PISA, these gender gaps tend to be smaller than for other characteristics such as socio-economic background (OECD, 2025a). Reasons for the under-representation of women in STEM have been found in self-confidence, self-efficacy and stereotypes.

[15] More recent estimates report women accounting for 1 in 3 STEM and 1 in 5 ICT graduates in the EU (EC).

Box 11: Confidence gap

The Trends in International Mathematics and Science Study (TIMSS) 2019 data showed that there is a high correlation between the confidence in mathematics and science and the desire to work in these fields, and that girls' self-assessment of their skills in mathematics and science demonstrates less self-confidence than boys[16]. Even when among the top-performers, fewer girls than boys pursue math or science careers compared to boys (UNESCO and IAE, 2022). Additionally, OECD's PISA data shows that girls experience significantly more than boys maths anxiety that undermines performance (UNESCO, 2024b).

In math and science girls often outperform boys at lower achievement levels, but boys surpass girls at higher percentiles. This could be related to stereotypes learned at a young age that connect high intelligence with men. By the time children are six, girls are less likely than boys to consider their own gender as 'really, really smart' (Bian, Leslie and Cimpian, 2017). Conversely, in reading, girls consistently outperform boys across all percentiles, though the gap narrows among top performers. On average among the OECD countries, in domains where boys on average outperform girls, such as mathematics, gender gaps are larger among top-scoring students. In contrast, in domains where girls outperform boys, such as reading, gender gaps are smaller among top-scoring students (OECD, 2025d).

The **stereotype of technology and engineering** as male domains often undermines girls' confidence, influences their self-perception, and discourages them from entering these areas. This can put major constraints on the individual lives of women and contribute to transmitting gender inequalities across generations (UNESCO-UNEVOC, 2020). Gender bias by parents, teachers and friends regarding interest in and aptitude for certain areas of work or fields of study reflect not only the gender norms and stereotypes around skills and abilities but also gendered expectations of educational and economic opportunities. Girls may put less personal effort into the study of mathematics, as current patterns of occupational segregation lead them to aspire to and expect to work in careers that do not require high levels of mathematics. Parents and teachers, observing the same patterns, may expect less of girls than of boys and encourage them less in the study of mathematics (OECD, 2025a).

Globally, **women represent less than on-third of the STEM workforce**: in 2022 women held less than 25% of science, engineering and ICT jobs (UNESCO, 2024b). This contributes to horizontal segregation and women's under-representation in sectors such as energy, transport, infrastructure. The gender gap in STEM career also contributes to larger gender pay gap. It also means economies miss out on valuable talent and face less efficient use of labour. Shortages in STEM workers are a threat to economies, compromising the potential to reap the benefits of advances in STEM (IBRD/WB, 2020). Within the STEM TVET occupations, women concentrate and are often over-represented in health sciences, such as laboratory technicians and assistants in health and medicine-related diagnostics.

On a positive side, according to the 2022 PISA, 44% of 15-year-old students planning science and engineering careers were girls, up from 35% in 2015. It is also higher than the current share of female science and engineering professionals, which is 32% (OECD, 2025a).

[16] The gender difference was smaller for science than for mathematics-related careers.

Box 12: Gender equality paradox

The so-called 'gender-equality paradox' refers to the fact that gender segregation across educational fields and occupations is more pronounced in more gender-egalitarian and more developed countries. This correlation seems to be particularly strong for STEM. Many of the countries displaying quasi-gender parity among graduates in ICTs and other STEM fields have majority-Muslim populations[17], with high levels of general gender inequality. According to UNESCO, 34%-57% of STEM graduates in Arab countries tend to be women – a far higher percentage figure than that seen in universities across the US or Europe. For example, in the UAE in 2017, 6% of women and 7% of men studied ICT, while 22% of women and 29% of men pursued other STEM fields like engineering, manufacturing, and construction (UNESCO, 2020c). Research shows that the gender equality paradox also holds for TVET: more gender-equal societies have fewer women taking STEM-related TVET degrees (UNESCO-UNEVOC, 2020).

In a 2018 analysis of PISA results, Geary and Stoet showed that 1) girls performed similarly to or better than boys in science in two thirds of countries, and that – in nearly all countries – more girls appeared capable of college-level STEM study than had enrolled, and that, paradoxically, 2) the gender gap in the relative academic strengths and pursuit of STEM degrees rose with increases in national gender equality[18]. For example, Finland excels in gender equality (WEF), its adolescent girls outperform boys in science and literacy, and it ranks among the first in PISA, yet, Finland has one of the world's largest gender gaps in STEM degrees, with only around 14% of women STEM graduates – compared to, for example, 36% in Turkey and 38% in Tunisia 2018 (Geary and Stoet, 2018).

Geary and Stoet explain the '*educational gender equality paradox*' by two factors: 1) *The rational choice* to pursue academic paths that are a personal strength: Most boys scored relatively higher in science than their all-subjects average, and most girls scored relatively higher in reading than their all-subjects average. Thus, even when girls outperformed boys in science, girls generally performed even better in reading, which means that their *individual strength* was reading – unlike boys – and the knowledge of what subjects they are best at was a basis for decisions about further educational and occupational choices. 2) *The utility belief:* Countries with the highest gender equality tend to be welfare states with a high level of social security; in contrast, the less gender-equal countries tend to have less secure and more difficult living conditions. This may in turn influence one's utility beliefs about the value of science and pursuit of STEM occupations, given that these occupations are relatively high-paying and thus provide the economic security and financial independence that is less certain in countries that have low overall levels of gender equality.

Geary and Stoet showed that this pattern extends throughout the world and claimed that the *deeply rooted or intrinsic gender differences in preferences* materialize more easily in countries where there are less economic constraints. The study induced a sparkle to the debate among social scientists. The analysis by Breda and Napp (2020), using a measure of the prevalence and extent of internalisation of the stereotype that '*maths is not for girls*' in 64 countries, confirmed that gender segregation across fields of study or occupations will not decrease by itself as societies become more developed and egalitarian. But they argue that this is not because gender differences are innate and become more evident in well-developed and liberal societies, but because they are the product of *new forms of social differentiation* between women and men that have replaced the male primacy ideology in developed countries.

While the debate goes on (further recent research on the issue exist by Falk and Hermle, Thelwall and Mas-Bleda, Vishkin, Richardson et al., Eagly and al, etc.), it seems clear that the value of the STEM income premium is lower for women in richer and more egalitarian countries due to the decreasing marginal utility of money while for women in poor, gender-unequal countries, the opposite holds. However, this holds also for men and there is no robust understanding yet on why the preferences of men and women in wealthy egalitarian countries diverge. Is it biology, inertia of norms, gender marketing or something else? (Osterloh et al., undated)

International tests and surveys in the OECD countries appear to confirm that, at an individual level, gender stereotypes and confidence in one's capacities and skills ('self-efficacy') play a major role in one's choice to purpose – or not –STEM studies and careers. Even top performing girls may choose not to study fields related to science and mathematics because they feel they are even better at reading. This comparative advantage for girls in reading may be contributing to gendered self-selection across fields of study. (Breda and Napp, 2020; Geary and Stoet, 2018; OECD, 2025a)

The gender equality paradox applies to some extent also to skills. PISA data shows that among 15-year-olds, more gender-equal countries have a smaller math gap favouring boys and a larger reading gap

[17] This however does not seem to translate into STEM occupations in the labour market in these countries.
[18] Geary and Stoet tested the result with SIGI, GII, WEF Index, WB Women in Business and Law, and their own index, basic gender equality index that measured educational opportunities, healthy life span and overall life satisfaction.

favouring girls than in less gender-equal countries. In adults, PIAC finds that in countries with higher gender equality, the numeracy gap favouring men is wider. This paradox applies only to numeracy, not literacy. The association between numeracy skills and societal-level gender equality holds true whether the equality level was measured by qualitative difference of occupational segregation (OECD Gender Occupational Integration Index (GOII))[19] or by quantitative difference of employment rate (UN Gender Inequality Index, see Chapter 3) (OECD 2025d).

The **under-representation of women in STEM** limits their job prospects and reduces the skills available to society already facing shortages in many of these fields. A 2020 UNEVOC study in ten countries around the world found that not only are females under-represented in STEM-related TVET programmes, but also the 'pipeline is leaking', i.e. females transit less than men to STEM related occupations (or leave them earlier) after the relevant STEM-TVET programme. The WEF (2025) also reports a 'drop off' of women during the first year in the workforce: women graduating in 2017 accounted for 35.5% of STEM graduates, but only 29.6% of STEM job entrants in 2018. Globally, women are less likely than men to enter and more likely to leave the STEM workforce (IBRD/WB, 2020).

4.5.2 Green transition

The green transition[20] and moving to a green economy require new skills. Workforces need to be proficient in green skills that meet the growing demands of industries aiming to reduce carbon emissions and improve energy efficiency, in line with the Paris Agreement and the SDGs. TVET, lying at the intersection between education and the labour market, plays a key role in equipping individuals with the skills necessary for the green transition. Through its close interaction with the world of work, TVET can quickly respond to changing skill needs and can foster green innovations.

Neither the global environmental degradation, nor the green economy transition process, are gender neutral. First, environmental degradation increases inequality. Women are globally more vulnerable to the effects of climate change, because they represent the majority of the world's poor and are proportionally more dependent on threatened natural resources for their livelihood. Gender differences in social and economic roles and responsibilities and women's wider presence in informal economy exacerbate the vulnerability of women, who have lower access than men to resources to adapt to climate change – including land, credit, agricultural inputs, decision-making bodies, technology, social insurance, and training.

[19] The GOII that the OECD monitors since 2023 measures how equally women are represented in men-majority occupations and how equally men are represented in women-majority occupations.
[20] The 'green transition' is a process towards a new development model that ensures environmentally sustainable and fairer societies and economies. It is a necessity to address the human-induced climate change emergency, environmental degradation (water, land, forests, atmosphere) as well as the loss of biodiversity.

Box 13: Climate change and girls' schooling

For households that are dependent on climate-sensitive sectors like agriculture, climate shocks quickly translate into household economic shocks. This has an impact on girls' schooling in low-income countries:

- In many climate vulnerable countries, the responsibility for securing natural resources for household domestic use falls on women and adolescent girls. Girls' education is often the first thing families sacrifice when faced with the impacts of the climate crisis. Girls are pulled out of school to help their families find food and water or take care of siblings.
- Child marriage (in exchange for bride price and/or to help ease the burden of scarce household resources) is used by families to cope with economic hardships caused by climate change. This puts millions of girls at risk of sexual and physical abuse, early pregnancy and maternal death.
- The impacts of climate change cause many people to migrate which puts girls' safety at risk. These risks are worst when girls are collecting natural resources and when staying in temporary shelters.
- When drought or flooding affects the availability of water at school, menstruating learners (and teachers) are likely to miss school as a result.
- During food shortages caused by climate change, girls are more likely to go hungry and will often eat least and last, leading to hunger and malnutrition.

The Malala Fund estimates that climate change is a contributing factor in preventing at least 12.5 million girls from completing their education each year.

Kwauk, C. and Steer, L. (2023), Malala Fund 2021, Plan International (2025)

Second, the green economy transition process will result in job creation, substitution, elimination, transformation and redefinition, bringing benefits for some workers to the detriment of others. Women are significantly underrepresented in sectors predicted to experience green growth. Employment gains associated with the 2°C scenario are likely to create jobs in currently male-dominated industries (renewables, manufacturing, and construction). Occupational and industrial segregation means that job losses linked to the green transition are expected to be more pronounced for men than for women, while women are less likely to benefit from growing job opportunities in expanding sectors (OECD, 2025a). The net gendered impact is unclear *ex ante* but there is a risk bringing down the share of women in total employment unless action is taken to reduce occupational segregation. Across the OECD countries and regions, 72% of green jobs are held by men (OECD, 2023a). Without a clear recognition of, and efforts to narrow, the gender gap in terms of sectoral / occupational segregation and access to training, there is a high risk that the transition to a green economy will only perpetuate (or even worsen) the existing situation.

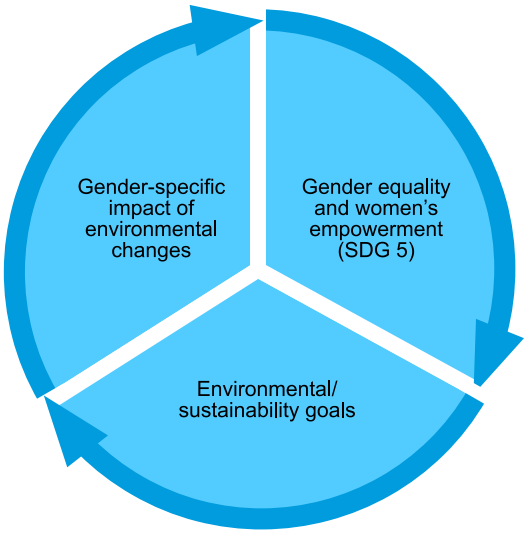
The green transition could be **an opportunity to tackle systemic gender discrimination.** The green transition has the potential to create new and better jobs, but only if it is accompanied by skills development processes and training. This justifies stepping up efforts to narrow the gender gap in entry, retention, and advancement rates in TVET programmes in STEM fields. Gender mainstreaming in skills development for greening should also enable women to move from low-skill and entry-level positions to high-skilled jobs and would enhance their livelihoods and independence. Gender-responsive green jobs refer to employment opportunities in the green economy that promote the equitable participation of people of all genders and account for gender differences in barriers to accessing, and the impacts of, green jobs.

Gender equality in skills, careers, and business can help **drive the green transition.** According to the European Investment Fund (EIF), women leaders are more likely to invest in renewable energy, leading to reduced greenhouse-gas emissions and improved environmental outcomes, and women-owned businesses are more likely to pursue greater energy efficiency and practices such as recycling. Banks run by women lend less to big polluters. In the workplace, women's leadership is associated with increased transparency regarding environmental footprints, and a higher percentage of women on a corporate board is known to correlate positively with the accurate disclosure of greenhouse gas emissions (EIF, 2023). In addition, companies with more women on their boards are more likely to be on track to meet global climate goals. A study by asset management firm Arabesque found the most

diverse 20% of the world's 1 000 biggest companies were more aligned with a goal of capping global warming at 1.5°C above the pre-industrial average by 2050 (Campbell, 2023).

The **gender-environment nexus** acknowledges the reciprocal relationship between gender equality and environmental sustainability. Insufficient progress toward environmental objectives can affect men and women differently, thereby impeding advances in gender equality. Conversely, promoting gender equality and empowering women can contribute to positive environmental outcomes and the achievement of sustainability goals (OECD 2023c).

Figure 5: Gender-environment nexus



Source: OECD 2023c

4.5.3 Digital transformation

The expression '*digital gender divide'* is used to refer to gender differences in resources and capabilities to access and effectively utilise ICTs. In developing and emerging economies, structural problems hinder women's use of the Internet and other digital devices: hurdles to access remain, many women have limited knowledge and understanding of technologies, and families are often reticent about women owning a mobile phone or surfing the web due to sexual harassment and safety-related concerns. In the most developed parts of the world, girls and women may face other types of constraints to their full digital empowerment, and a series of stereotypes continue to reinforce the perception – both of oneself and of others – that technology is not a field for girls or women.

The **digital gender divide persists** irrespective of a country's overall ICT access levels, economic performance, income level or geographic location. Women are under-represented in the digital revolution across high-, low- and middle-income countries. Globally, in 2024, 70% of men were using the Internet compared with 65% of women. Gaps are wider in least developed countries where barely 29% of women used the internet compared to 41% of men while in high-income countries internet use is nearly universal with 93% of women and 94% of men online (UNESCO, 2025). There is a gender gap in mobile phone ownership, with 81% of men and 75% of women owning a device in 2023 (UNESCO, 2024b).

As COVID-19 (and digitalisation) showed, in the countries and contexts where girls and young women could stand to benefit most from online learning, they are the least likely to have access to it (UNICEF IRC, 2022). Digital learning often benefits privileged learners and widens educational inequality, creating further disadvantages for girls and women. In many sub-Saharan African countries, fewer girls than boys possess ICT skills, and girls are less likely than boys to use computers and the Internet when those are available at home (UNICEF, 2020).

While inequalities still exist in terms of *access* to digital technology in developing and emerging economies, the digital gender divide is now more about **deficits in digital *learning and skills*.** Worldwide, women are less likely to know how to operate a smartphone, navigate the internet, use social media, and understand how to safeguard information in digital mediums – abilities that are relevant to people of all ages in everyday life. According to UNESCO (2024a), 84 women for every 100 men can work with spreadsheet formula while 83 women for every 100 men can verify the reliability of information online.

Box 14: The digital gender gap is not innate

The International Computer and Information Literacy Study (ICILS) found already in 2018 that despite demonstrating promising early performance, girls in the participating countries had lower levels of self-efficacy even when they outperformed or performed similarly to boys on measures of digital skills. The self-efficacy scores – that is, their perceived as opposed to their actual abilities – for advanced ICT tasks were significantly lower than boys' in all countries. The data suggest that confidence drops slowly at first and then precipitously, so that by the time female students complete higher education, only a tiny fraction graduate with an ICT degree. The tendency was confirmed by ICILS 2023 although on average Grade 8 girls outperformed boys in computer information and literacy (CIL) and boys outperformed girls in computational thinking (CT) (Fraillon, 2025). The PISA 2018 study also revealed a yawning gender gap when it came to career expectations: 0.5% of girls aspired towards ICT-related careers at age 15, versus nearly 8% of boys.

Globally in higher education, **less than one third of students enrolled in ICT studies are women**– a gender disparity without parallel in other disciplines. Furthermore, women's transition and retention rates in ICT studies are lower than men's.

The high level of gender segregation in ICT jobs surpasses the gender imbalance in many other STEM jobs. Explanations vary:

- Studies have revealed subtle cultural practices embedded within technology workplaces that do not lead to women-friendly workplace climates. The prevalence of 'masculine defaults' in these spaces results in micro-aggressions, subconscious biases, sexual harassment, and other forms of discrimination such as demeaning comments.
- Digital-intensive sectors display greater gender wage disparities than less digital-intensive sectors, even after considering a number of features of workers and their job places. Hence, the digital transformation may contribute to a widening gender wage gap.
- There is both vertical and occupational gender segregation in the technology sector. For example, McKinsey found women made up 37% of entry-level roles in technology, but only 25% reached senior management roles and 15% reached the executive level. In Google, 21% of technical roles are filled by women, but only 10% of their employees working on AI are female.

The **platform labour markets** are sometimes seen as a window of opportunity for women's employment as they can reduce entry barriers and increase labour market flexibility. Yet, platform workers may face income instability, compromised access to social protection, limited career development, and inadequate rights to collective bargaining if these jobs remain insufficiently regulated (OECD, 2023c). The growth of platform-based work may appear to be gender-neutral or indeed benefit women by providing increased flexibility for those with care responsibilities, providing possibilities to work flexibly from home or elsewhere. However, the promotion of platform employment for women for flexibility reasons reinforces the gender stereotype of women being responsible for care. Furthermore, platform labour markets largely mirror existing inequalities in traditional labour markets and seem to replicate, suffer from, or reinforce many of the pre-existing flaws. Research has revealed a persistent gender gap in both participation (1/3) and pay.

Box 15: Platform work

The European Training Foundation (ETF) found that in the Southern and Eastern Mediterranean countries, men constitute on average 80% of platform workers and that there is a noticeable gender gap in demands for hourly rates. In part, the pay gap is related to occupational differences between men and women: writing and translation work and clerical and data entry occupations, which are more popular among women, are the two lowest-paid occupations, while male-dominated software development and technology is the highest-paid. Similar studies in the Western Balkans, Eastern Europe and Central Asia indicate that women receive fewer job offers and lower pay for the same services than men, leading to some female platform workers adopting names and identities that do not reveal their gender in order to avoid discrimination (ETF, 2024b; ETF, 2024c; ETF, 2023; ETF, 2021)

The rapid expansion of generative **artificial intelligence** is reshaping labour markets, redefining job profiles, driving new demands for skills, and changing how and where people work. As pointed out by a recent literature review by the ETF (forthcoming, b), AI will not increase gender equality by itself unless this is deliberate; on the contrary, it may exacerbate the gender inequality in labour markets, contributing to further occupational segregation and a more extensive gender pay gap. Differences in access to AI are often connected to the fact that fewer women take part in science and ICT-focused higher education, along with general gaps in digital skills. Only a small proportion of women choose high-paying careers in ICT and AI, where they encounter major obstacles in employment, representation, pay, and career advancement. These difficulties frequently lead women to exit technology-related jobs early in their careers.

According to the WEF, **female representation in AI is progressing very slowly**. In collaboration with LinkedIn, the WEF estimated that approximately 30% of people working in AI were women in 2022 – 4 pp higher than in the corresponding figure for 2016 (WEF, 2023). According to other estimates, women represent just 22% of AI talent worldwide, and under 14% in AI-related senior executive roles (ETF, forthcoming, b). Additionally, women tend to have less favourable perceptions of artificial intelligence compared to men and represent a significantly smaller proportion of AI users. Multiple studies indicate that female employees are less likely than their male counterparts to adopt and utilise AI tools, such as ChatGPT, even within similar occupational roles (ETF, forthcoming, b). Furthermore, findings from the OECD AI survey reveal that workers using AI are more frequently younger men (41%) than women (29%) and possess university-level education (OECD, 2024b).

As a result, predominantly male developer teams create AI systems and applications, which may overlook the needs of diverse users and reinforce gender stereotypes, leading to the risk of **encoding gender biases in technology.**[21] The lack of diversity in the technology industry and the (resulting) emerging constructions of gender bias, particularly in algorithms and other systems produced within the field of AI, are deeply linked**.** When machines are trained on mega-data that reflects the inequalities present in society, miss or includes incomplete date on women, they tend to reinforce and even magnify the biases, presenting human prejudices as 'objective' facts. This creates a continuous feedback loop in the AI industry, embedding a gendered perspective into digital technologies.

[21] In addition to gender, the encoding of biases concerns also other under-represented groups such as people with disabilities, minorities, people of colour, etc.

Box 16: Bias in, bias out.

These biases manifest in various ways:

- Hiring tools and recruitment algorithms: Hiring tools claim to assess candidates objectively, without human bias. However, if the algorithm is built without considering sensitive characteristics or learns from data on previously biased hiring decisions, it will reproduce institutional and systemic bias while providing the appearance of objectivity. Algorithmic bias has been identified in a hiring algorithm developed by Amazon, discriminating against female applicants, and in gendered marketing algorithms that are more likely to show science career job advertisements to men than to women. The introduction of automated bias in STEM hiring is particularly concerning, as the fewer the number of women employed within the AI sector, the higher the potential for future AI systems to exhibit masculine defaults and gender bias. A large technology company that tried to automate its recruitment process using artificial intelligence found that, because the industry is dominated by men, and the majority of the résumés used to train the algorithm were associated with men, the system downgraded résumés associated with women or graduates of women's colleges (Meyer 2018, cited in IBRD/World Bank, 2020).
- Course recommendation algorithms often display gender bias, directing male students disproportionately towards STEM disciplines, while guiding female students towards the humanities and social sciences. This practice perpetuates entrenched social stereotypes and limits the academic and professional prospects of women and minority groups in lucrative and traditionally male-dominated sectors. (Arora & Huang, 2025, cited in ETF, forthcoming, b). As a result, these biases act as barriers to equal participation in STEM, reinforcing the underrepresentation of women and contributing to ongoing gender disparities in high-paying fields.
- Testing bias: 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, 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). Digital healthcare tools, build on male physical conditions and testing, consequently, can misdiagnose women.
- Financing assessment tools may discriminate women and undermine women's access to capital.
- Virtual Personal Assistants (VPAs) such as Alexa and Siri are frequently designed with female voices and personas, reflecting an underlying bias in artificial intelligence development. This tendency to 'gender' VPAs as female is often justified by developers on the grounds of enhancing user friendliness or likeability. However, such design choices perpetuate traditional stereotypes, reinforcing notions of women as compliant, servile, and suited to domestic roles. By embedding these characteristics into widely used technologies, the industry risks normalising outdated gender roles.

UN Women (2025) estimates that employed women are nearly twice as likely as men to be in jobs at high risk of automation (4.7% and 2.4% or 65 million compared to 51 million jobs, respectively). The gap is even more pronounced in high-income countries (9.6% and 3.5%), reflecting both gendered occupational structures and the concentration of roles exposed to generative AI. On the one hand, research findings, as highlighted in the forthcoming ETF literature review (forthcoming, b), demonstrate that on average, women are more likely than men to be engaged in routine or codifiable and clerical tasks, which are particularly susceptible to automation while women are underrepresented in occupations with the highest exposure to AI (e.g. science and engineering professionals). On the other hand, while the demand for AI skills will rise in the future, an increasing use of AI tools may increase the demand for human-only skills that are needed to complete activities for which AI systems are inadequate – for instance care-related roles, which women are more likely to choose as their career paths (OECD, 2023c).

What can be done?

Narrowing the gender gap in STEM, and in digital and green skills in particular, calls for actions addressing the **root causes of the divide**. Success in increasing the number of girls and women studying STEM will do little to bridge gaps if they come up against unchanged biases in the workplace.

Support programmes targeting women in underrepresented fields such as computing, physics, mathematics, and engineering tend to remain gender-accommodating. They reward those with the tenacity to make it through the system against the odds, rather than changing the system itself. Although this approach can make a difference to individual careers, it cannot reduce gender inequality or address the gender systems that contribute to inequality.

To overcome the gaps, it is necessary to work from the basis of inclusive, quality, and equal education that promotes paths free of bias, prejudice and gender stereotypes, as well as to increased awareness in society, families, and public and private institutions so that appropriate measures are launched to ensure that **technologies are tools for equality**. Ensuring a higher representation of girls in STEM education and careers requires a combination of approaches, including ensuring greater exposure to STEM subjects at school, helping students – particularly girls – overcome their anxiety about mathematics and their lack of confidence in their own science and mathematics abilities, and training teachers to recognise and address any biases they may hold about boys and girls.

Actions and suggestions from projects and studies to increase female STEM outreach and ensure gender-equal skills and employment twin transition:

- Support gender-transformative career guidance, coaching and mentorships through which girls can develop realistic but also attractive images of STEM, digital and green careers, to make well-informed choices, and to discuss and overcome hurdles and gender-specific challenges along their educational pathway.
- Ensure, through teacher education and policies on recruitment, a fair representation of both male and female teachers in all subjects, but also at all levels of education. Promote more female role models in TVET, such as female teachers in mathematics and science at the secondary school level.
- Promote teaching methods such as encouraging reflection, independent problem-solving, learning from mistakes, and applying concepts in new contexts that can help reduce gender gaps in mathematics performance, especially for girls.
- Provide more scholarships for girls and women engaging in STEM studies.
- Assess/review STEM curricula to include topics, concepts, and ideas from the humanities perspective, and incorporate co-curricular components (STEAM).
- Encourage successful practitioners to act I) as role models, showing it is possible to break through gender barriers; and ii) as mentors to provide insights into overcoming prejudice. Facilitate the role of professional networks of women in offering mentoring to younger colleagues.
- Support national partners in collecting and analysing sex-disaggregated data on the employment effects of the green and digital economy on women and men, and on participation in education and TVET in key sectors of the green and digital economy.
- Conduct green and digital (high-tech) sector market assessments to provide information on which skills are in high demand in the local labour market, the predicted needs and number of new entrants that a given sector can accommodate, and the current status of women's participation in these sectors.
- Conduct gender and environmental impact assessments as a tool for integrating the gender environment nexus across policies.

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ANNEX 1: SDG GENDER-SPECIFIC INDICATORS

Goal 1. End poverty in all its forms everywhere
Gender-specific indicators (5)
1.1.1 Proportion of the population living below the international poverty line by sex, age, employment status and geographic location (urban/rural)
1.2.1 Proportion of population living below the national poverty line, by sex and age
1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable
1.4.2 Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure
Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Gender-specific indicators (2)
2.2.3 Prevalence of anaemia in women aged 15 to 49 years, by pregnancy status (percentage)
2.3.2 Average income of small-scale food producers, by sex and indigenous status
Goal 3. Ensure healthy lives and promote well-being for all at all ages
Gender-specific indicators (6)
3.1.1 Maternal mortality ratio
3.1.2 Proportion of births attended by skilled health personnel
3.3.1 Number of new HIV infections per 1000 uninfected population, by sex, age and key populations
3.7.1 Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods
3.7.2 Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1000 women in that age group
3.8.1 Coverage of essential health services
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Gender-specific indicators (8)
4.1.1 Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency in (i) reading and (ii) mathematics, by sex
4.2.1 Proportion of children aged 24–59 months who are developmentally on track in health, learning and psychosocial well-being, by sex
4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex

4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous people and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
4.6.1 Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex
4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment
4.a.1 Proportion of schools offering basic services, by type of service
Goal 5. Achieve gender equality and empower all women and girls
Gender-specific indicators (14)
5.1.1 Whether or not legal framework are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex
5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychical violence by a current former intimate partner in the 12 months, by form of violence and by age
5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence
5.3.1 Proportion of women aged 20–24 years who were married or in a union before age 15 and before age 18
5.3.2 Proportion of girls and women aged 15–49 years who have undergone female genital mutilation/cutting, by age
5.4.1 Proportion of time spent an unpaid domestic and care work, by sex, age and location
5.5.1 Proportion of seats held by women in (a) national parliament and (b) local governments
5.5.2 Proportion of women in managerial positions
5.6.1 Proportion of women aged 15–49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care
5.6.2 Number of countries with laws and regulations that guarantee full and equal access to women and men aged 15 years and older to sexual and reproductive health care, information and education
5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or right-bearers of agricultural land, by type of tenure
5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
5.b.1 Proportion of individuals who own a mobile telephone, by sex
5.c.1 Proportion of countries with system to track and make public allocations for gender equality and women´s empowerment
Goal 6. Ensure availability and sustainable management of water and sanitation for all
No gender-specific indicators
Goal 7. Ensure access to affordable, reliable, sustainable and moder energy for all

No gender-specific indicators
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Gender-specific indicators (6)
8.3.1 Proportion of informal employment in total employment, by sector and sex
8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities
8.5.2 Unemployment rate, by sex, age and persons with disabilities
8.7.1 Proportion and number of children aged 15–17 years engaged in child labour, by sex and age
8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status
8.8.2 Level of national compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organisation (ILO) textual sources and national legislation, by sex and migrant status
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
No gender-specific indicators
Goal 10. Reduce inequality within and among countries
Gender-specific indicators (1)
10.2.1 Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
Gender-specific indicators (3)
11.2.1 Proportion of population that has access to public transport, by sex, age and persons with disabilities
11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities
11.7.2 Proportion of persons victim of physical or sexual harassment, by se, age, disability status and place of occurrence, in the pervious 12 months
Goal 12. Ensure sustainable consumption and production patterns
No gender-specific indicators
Goal 13. Take urgent action to combat climate change and its impacts
Gender-specific indicators (1)
13.3.1 Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
No gender-specific indicators

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
No gender-specific indicators

ANNEX 2. ADDITIONAL EXAMPLES OF INDICATORS TO REFLECT SDG TARGETS

THE MOST RELEVANT SDG Targets and Indicators for Gender and Education, Training & Employment							
Goals	**Target and Indicators (as revised by 2025 comprehensive review)**						
Goal 4: *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*	**TARGET 4.1:** By 2030, ensure that **all girls and boys complete** free, **equitable and quality primary and secondary education** leading to relevant and **effective learning outcomes** **INDICATOR 4.1.1:** Proportion of children and young people (*a*) in grades 2/3; (*b*) at the end of primary; and (*c*) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex **INDICATOR 4.1.2:** Completion rate (primary education,	**TARGET 4.3:** By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university **INDICATOR 4.3.1:** Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex **INDICATOR 4.3.2:** Gross enrolment ration in tertiary education by sex **INDICATOR 4.3.3:** Participation rate in technical-vocational programmes (15-24 years old) by sex	**TARGET 4.4:** By 2030, substantially increase the number of youth and adults who have relevant skills, **including technical and vocational skills, for employment, decent jobs and entrepreneurship** **INDICATOR 4.4.1:** Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill development	**TARGET 4.5:** By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable… **INDICATOR 4.5.1:** Parity indices (f/m, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated	**TARGET 4.6:** By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy **INDICATOR 4.6.1:** *Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex* **INDICATOR 4.6.2:** Youth/adult literacy rate	**TARGET 4.7:** By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, *gender equality*, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	**TARGET 4a:** Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all **INDICATOR 4.a.1** Proportion of schools offering basic services, by type of service **TARGET 4b:** By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in

	lower secondary education, upper secondary education)					**INDICATOR 4.7.1:** Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (*a*) national education policies; (*b*) curricula; (*c*) teacher education and (*d*) student assessment	developed countries and other developing countries **INDICATOR 4.b.1:** Volume of official development assistance flows for scholarships **TARGET 4.c:** By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States **INDICATOR 4.c.1:** Proportion of teachers with the minimum required qualifications, by education level
IMPACT INDICATORS (contribution level) TVET enrolment/completion rate by age and sex (and field of study) Transition rate to secondary (TVET) education by sex Transition rate to tertiary (TVET) education by sex Drop-out rate in TVET by sex Adult population participation in lifelong learning (LLL) by sex (including informal) Enrolment/completion in STEM-related TVET by sex Graduate employability (transition) by sex		**OUTCOME INDICATORS** Share of women enrolled in/graduated from TVET programmes in male-dominated fields or % point (increase) in female enrolment/completion in male-dominated TVET study fields Share of men enrolled in/graduated from TVET programmes in female-dominated fields or % point (increase) male enrolment/completion in female-dominated TVET study fields % female teachers in schools with a TVET focus TVET teachers' attrition and retention rate by sex Gender knowledge and dimensions included in the national teacher education and training curricula (y/n) Gender equality awareness and competences included in teacher accreditation requirements (y/n) EMIS include data in TVET (also) by sex (y/n) % TVET institutions with female-friendly and child-friendly facilities Flexible entry requirements for women and men (mix of formal qualifications and relevant experience, RPL)				**OUTPUT INDICATORS (project level)** Nb of TVET teachers and instructors by sex trained on gender transformative approach (pre-service or in-service) Nb of career guidance counsellors trained on gender-transformative approach Nb of TVET school staff by sex trained on gender transformative approach in education Nb of TVET courses/profiles newly introduced and considered to specifically address training of females in trade areas with potential for decent employment Nb of TVET institutions newly equipped with female-friendly facilities	

		Extent to which national curricula is unbiased, non-discriminatory and preventive of all forms of GBV % increase in the share of girls and women who report feeling safe at school and in the transport	Quota system established or financial incentives in place (fee reduction) for TVET streams where males or females are under-represented Presence of pre-training skills programmes or post-training follow-up or mentoring schemes and number of F/M beneficiaries Number of scholarships targeting female learners in male-dominated sectors and vice-versa Number of curricula, textbooks, learning materials, and teachers' guides revised to exclude gender stereotypes
Goal 5: *Achieve gender equality and empower all women and girls*	**TARGET 5.4:** Recognize and value unpaid care and domestic work through provision of public services, infrastructure and social protection policies and promotion of shared responsibility within the household **INDICATOR 5.4.1:** Proportion **of time spent on unpaid domestic and care work, by sex**, age and location	**TARGET 5.5:** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life **INDICATOR 5.5.2:** Proportion of women in managerial positions	**TARGET 5.B:** Enhance the use of **enabling technology**, in particular information and communications technology, to promote the empowerment of women **INDICATOR 5.B.1:** Proportion of individuals who own a mobile telephone, by sex

IMPACT INDICATORS (contribution level) Employment rate by sex and sector Share of women employed in ICT sector Gender pay gap		**OUTCOME INDICATORS** Nb of hours/week spent on unpaid household and care work by sex % of girls/women enrolled/graduates in STEM % og girls/women enrolled /graduates n ICT % boys and girls who believe girls can participate in TVET % girls and boys who believe girls should continue their education and career after getting married % women in management /leadership positions in schools Gender skills gap in digital competences Status of gender analysis of teaching and learning materials (e.g. promotion of gender equality and positive images of girls and boys and their abilities and aspirations) % TVET institutions providing private and safe sanitation and boarding facilities for girls and boys and safe housing for teachers in rural and remote areas Extent to which national curricula is unbiased, non-discriminatory and preventive of all forms of GBV		**OUTPUT INDICATORS (project level)** Nb of community and school awareness campaigns tackling gender stereotypes and harmful norms Number of curricula, textbooks, learning materials, and teachers' guides revised to exclude gender stereotypes Nb of teachers by sex trained on the use of ICT in their teaching practice Nb of scholarships for women and girls in STEM Nb of TVET schools newly equipped with gender-specific features (e.g. separate latrines for girls, access to water, security in dorms)
Goal 8: *Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*	**TARGET 8.3:** Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage formalization and growth of MSMEs **INDICATOR 8.3.1:** **Informal employment in total employment, by sector and sex**	**TARGET 8.5:** By 2030, achieve **full and productive employment and decent work for all women and men**, including for young people and persons with disabilities, and **equal pay** for work of equal value **INDICATOR 8.5.1:** Average hourly earnings of employees, by sex, age, occupation and disabilities	**TARGET 8.6:** By 2020, substantially reduce the proportion of youth not in employment, education or training **INDICATOR 8.6.1:** Proportion of youth (aged 15–24 years) by sex not in education, employment or training	**IMPACT INDICATORS (contribution level)** Activity rate by sex Employment rate by sex and sector Informal employment by sex Unemployment rate by sex and age (incl. youth unemployment) Gender pay gap Gender pay gap by sector Proportion of children aged 5-17 by sex engaged in child labour NEETs rate by sex Incidence of vulnerable employment by sex **OUTCOME INDICATORS** Equal pay legislation adopted Labour law on children protection adopted % of ALMP and career guidance beneficiaries by sex Publicly funded maternal and parental leave available and affordable

		INDICATOR 8.5.2: **Unemployment rate, by sex**, age and persons with disabilities		% of parents with access to affordable quality childcare Share of people employed in gender-balanced sectors Nb of hours/week spent on unpaid household and care work by sex **OUTPUT INDICATORS (project level)** Number of gender-transformative ALMPs designed and financed Number of PES staff trained on gender dimensions Number of new flexibles upskilling/reskilling trainings for women (in green and digital sectors)

ANNEX 3: RELEVANT GAP III OBJECTIVES, OUTCOMES AND INDICATORS

Thematic area - Promoting economic and social rights and empowering girls and women		
Overall thematic objective (Impact)	**Women, men, girls and boys, in all their diversity, fully enjoy and exercise their equal economic, labour and social rights**	
Thematic impact indicators	▪ Employment rate, disaggregated at least by sex ▪ Percentage distribution of employed population by sector, disaggregated at least by sex ▪ Proportion of informal employment in non-agriculture employment, disaggregated at least by sex ▪ Proportion of time spent on unpaid domestic and care work, by sex, age and location (note: separate domestic work and care work, if possible) (SDG 5.4.1) ▪ Average income of small-scale food producers, by sex and indigenous status. (SDG 2.3.2)	▪ Transition rate to higher education, disaggregated at least by sex Proportion of women in managerial positions (SDG 5.5.2) ▪ Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe water, sanitation and hygiene for all (WASH) services) (SDG 5.9.2) ▪ Health worker density and distribution (SDG 3.c.1) ▪ Maternal mortality ratio (SDG 3.1.1) ▪ Under-five mortality rate (SDG 3.2.1), disaggregated at least by sex ▪ Prevalence of undernourishment (SDG 2.1.1), disaggregated at least by sex
Specific thematic objectives (Outcomes)	1. Increased access for women, in all their diversity, to decent work, including women's transition to the formal economy and coverage by non-discriminatory and inclusive social protection systems 2. Improved policy, legal framework and access to care services enabling equal division of domestic and care work between women and men 3. Increased access for women in all their diversity to financial services and products, and productive resources 4. Women in all their diversity have improved access to entrepreneurship opportunities, including social entrepreneurship, alternative livelihoods and strengthened participation in the green and circular economy 5. Improved access for women in all their diversity to managerial and leadership roles in social and economic sectors and fora 6. Reduction in gender disparities in enrolment, progression and retention at all levels of education and lifelong learning for women, men, girls and boys 7. Improved regulatory framework for ensuring equal access to universal and public quality preventive, curative and rehabilitative physical and mental health care services for women, men, girls and boys, in all their diversity, including in crisis situations 8. Improved access to safe water and sanitation facilities, disaggregated at least by sex 9. Public health systems have sufficient and sustained financing to address the health needs of women and girls in all their diversity 10. Women, men, girls and boys, in all their diversity, have improved nutrition levels	

Specific thematic obj. 1 (Outcome)	**Increased access for women in all their diversity to decent work in non-traditional, in particular STEM, and female-dominated sectors, including women's transition to the formal economy and coverage by non-discriminatory and inclusive social protection systems**	
Key thematic outcome indicators	▪ Level of national compliance with labour rights based on ILO textual sources and national legislation, by sex and migrant status (SDG 8.8.2) ▪ Nb of measures in place in partner countries to protect the rights of women workers, including domestic workers, and their access to decent work and social security ▪ Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons,	persons with disabilities, pregnant women, new-borns, work-injury victims and the poor and the vulnerable (SDG 1.3.1) ▪ Extent to which the partner country's gender equality and decent work policy is implemented
Other thematic outcome indicators	▪ Extent to which the partner country's labour market policy is informed by sector-specific gender analysis; ▪ Extent to which the partner country's gender equality aspects of the labour market policy is monitored and evaluated; ▪ Nb of government programmes implemented to improve women's ability to benefit from employment and entrepreneurship opportunities, including social entrepreneurship, offered by the digital transformation; ▪ Nb of women and men who report gender-based discrimination at work in the last 12 months, at least disaggregated by sex	
Specific thematic obj. 2 (Outcome)	**Improved policy, legal framework and access to care services enabling equal division of domestic and care work between women and men**	
Key thematic outcome indicators	▪ Extent to which legislation is in place to foster paid maternity, paternity and parental leave ▪ Extent to which policies and measures are in place to regulate paid maternity, paternity and parental leave, including in the context of COVID-19 recovery plans	▪ Extent to which the provision of care services, infrastructure and social protection policies allow an equal division of domestic and care work between men and women ▪ Extent to which the shared responsibilities of domestic and care work within the household and the family are promoted
Specific thematic obj. 3 (Outcome)	**Increased access for women in all their diversity to financial services and products, and productive resources**	
Key thematic outcome indicators	▪ Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control (SDG 5.a.2) ▪ No of policy, regulatory or legal reforms adopted to support women's employment and entrepreneurship, such as in terms of ownership and land rights, inheritance, mobility, access to identification	▪ No of practices aimed at removing barriers preventing women from market access, investment and business development ▪ No of beneficiaries, disaggregated at least by sex, with access to financial services: a) firms, b) individuals

	▪ No of relevant actors (private sector companies, ministries, etc.) influenced to adopt processes to improve women's economic empowerment / to remove barriers to market access for women in a given sector	
Other thematic outcome indicators	▪ Extent to which measures are in place to facilitate women and men's ownership of an individual bank account, disaggregated at least by sex ▪ Extent to which migrant women are supported to contribute to the sustainable development of countries of origin through remittances, skills and knowledge	
Specific thematic obj. 4 (Outcome)	**Women in all their diversity have improved access to entrepreneurship opportunities, including social entrepreneurship, and alternative livelihoods and strengthened participation in the green and circular economy**	
Key thematic outcome indicators	▪ No of gender-responsive policies approved by partner government in the green economy sector	▪ No of gender-responsive policies approved by partner government in the circular economy sector
Other thematic outcome indicators	▪ No of women beneficiaries of business development services who registered their own business, including social enterprises • In general • In the green economy sector • In the circular economy sector ▪ No of gender responsive programmes by partner government that increase access for women and girls to safe, affordable, accessible and sustainable public transport in rural and urban areas	
Specific thematic obj. 5 (Outcome)	**Improved access for women in all their diversity to managerial and leadership roles in social and economic sectors and fora**	
Key thematic outcome indicators	▪ % of women nominated to senior level positions in public sector (e.g. ministries of finance, economic planning, business development) ▪ % of women nominated to senior level positions in private sector (e.g. investment boards / fund management teams, corporate boards, CEOs, business associations, chambers of commerce, cooperative	boards, professional bodies, etc.) ▪ Proportion of women in high level negotiation and mediation fora (peace, trade, investment, post-conflict and distribution)
Other thematic outcome indicators	▪ Extent to which gender norms regarding leadership are challenged to enhance women's access to leadership positions. ▪ Extent of participation by women and by women's rights organisations in social dialogue. ▪ Extent of leadership of women, girls and women's rights organisations in social dialogue. ▪ No of women with increased management and leadership skills through government initiatives (disaggregated by sector – public/private)	

Specific thematic obj. 6 (Outcome)	**Reduction in gender disparities in enrolment, progression and retention at all levels of education and lifelong learning for women, men, girls and boys**	
Key thematic outcome indicators	▪ Gender parity in school enrolment and primary and secondary completion rates (SDG 4.5.1) ▪ Proportion of children and young people (a) in Grades 2/3, (b) at the end of primary and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics (%), by sex (SDG 4.1.1.) ▪ Ratio of female to male who have benefitted from VET Training /Skills development and other active labour market programmes leading to jobs	▪ Proportion of youth and adults with ICT skills, by type of skill, by sex (SDG 4.4.1) ▪ % of representation of women and men in teaching profession and management ▪ Extent to which curricula and learning materials are free from discriminatory social norms and gender stereotypes
Other thematic outcome indicators	▪ Extent to which partner government policy on gender equality in education at all levels is resourced and implemented. ▪ Extent to which partner government policy on gender equality in education is monitored and evaluated. ▪ Extent to which partner government policy provides universal access to at least one year of early childhood education with priority for the most marginalised children. ▪ Extent to which government policy promotes teacher education and teaching practices that are gender-sensitive and inclusive. ▪ Extent to which government policy creates a supportive environment for pregnant girls to remain in, or to return to school. ▪ Extent to which government has implemented infrastructure policies that are supportive of girls' school attendance, such as safe schools close to where children live or affordable school transport. ▪ Extent to which government legislation and its implementation support and deliver accessible infrastructure and materials for girls and boys, children with special needs, e.g. children with disabilities. ▪ % of pupils whose learning has been assessed in a timely manner according to the national learning assessment framework. ▪ Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex (SDG 4.6.1). ▪ Completion rate (primary education, lower secondary education, upper secondary education), by sex (SDG 4.6.1 amended). ▪ No of teachers trained on inclusive gender-sensitive education of management staff working in the public education sector who are women (disaggregated by level – school, district or national level). ▪ Existence of child-friendly, accessible and accountable school mechanisms and systems to take action on reported cases of school related gender-based violence. ▪ % of students who have benefited from vocational education and training / skills development and other active labour market programmes leading to jobs; disaggregated at least by sex.	

	■ Extent to which appropriate policies and measures are implemented by government to improve the access of girls and women to inclusive and quality education, including STEM fields and quality digital education and training. ■ % of girls having access to and using distance digital learning tools during crises such as the one caused by COVID-19. ■ % of representation of women and men in research careers