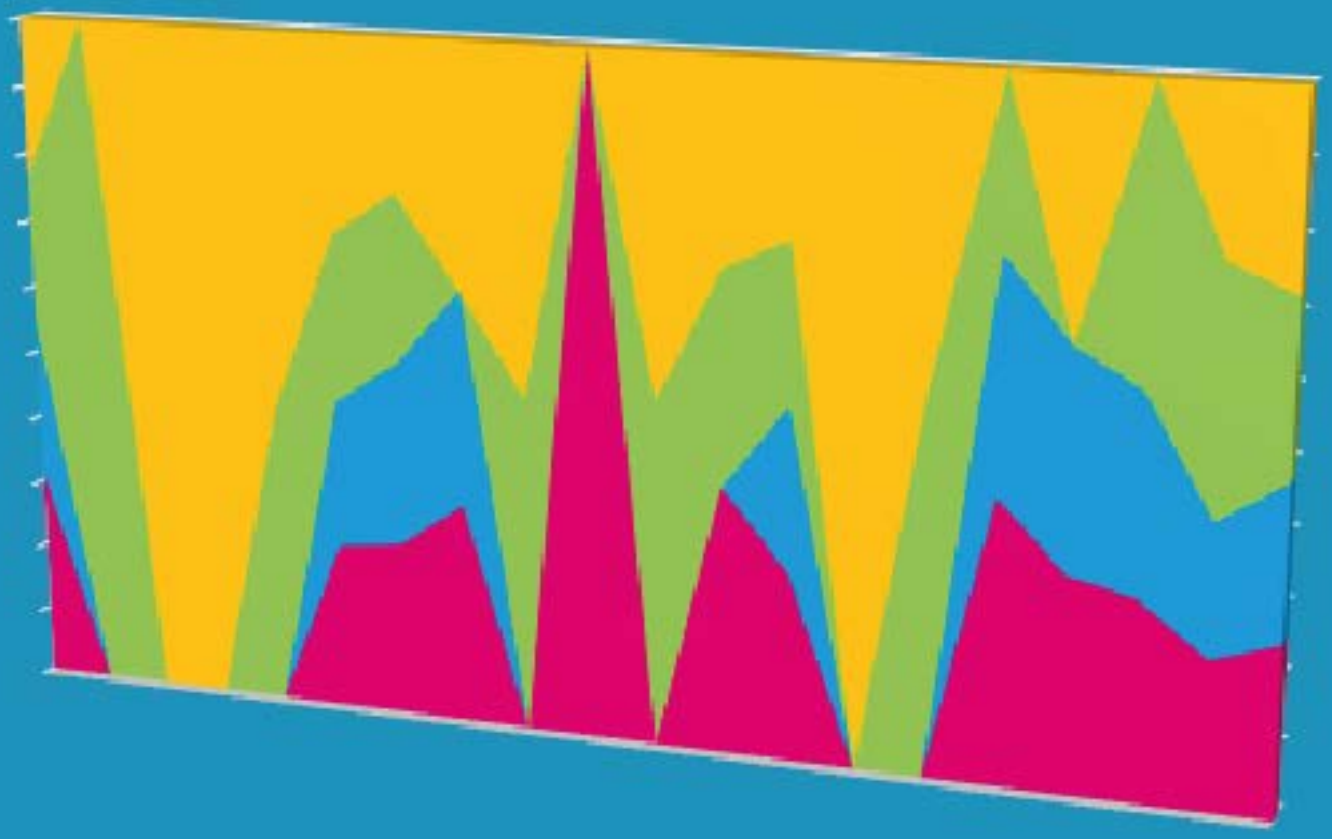
ETF Working together Learning for life

European Training Foundation

KEY INDICATORS ON EDUCATION, SKILLS AND EMPLOYMENT

2022



THE EU AGENCY SUPPORTING COUNTRIES TO DEVELOP THROUGH LEARNING

Disclaimer

Report prepared by Mircea Badescu, ETF

Data compilation: Mircea Badescu, Stylianos Karagiannis, Stefano Lasagni, ETF

Manuscript completed on 27 September 2022.

The contents of this report are the sole responsibility of the ETF and do not necessarily reflect the views of the EU institutions.

© European Training Foundation, 2022

Reproduction is authorised provided the source is acknowledged.

PREFACE

The Key Indicators on Education, Skills and Employment (KIESE) are a collection of statistics that form part of a broader set of information proposed by the ETF to enable a review of developments in the field of education, skills and employment in the partner countries[1]. They also allow the ETF partner countries to reference themselves against the European Union.

KIESE diligently record developments according to a fixed set of indicators. As such, they do not assess the national systems or policies in-depth. Furthermore, statistics have their limitations in that they can oversimplify complex issues, and to be construed properly they must be contextualised. KIESE use standard statistical frameworks to categorise and report cross-nationally comparable statistics and this remains one of its most important features.

Comprehensive analysis requires more detailed data and other information, to which KIESE are an important but not an exhaustive contribution. Nowadays, the ETF is in the lead or is otherwise involved in various monitoring processes upon request by its partner countries and the European Commission. Examples include the monitoring of policy and system performance within the Torino Process, the monitoring of the Council Recommendation on vocational education and training (VET) and the Osnabrück Declaration, the provision of support and advice to countries of the Western Balkan region for introducing and monitoring the Youth Guarantee[2], and others.

Monitoring will require an increasing cooperation at the European level. By joining forces with partners (Cedefop, ILO, OECD), the ETF has consolidated its role in monitoring, sharing data / findings and conducting stand-alone surveys (ex. the European Skills and Jobs Survey, jointly with Cedefop).

This short statistical publication presents the main findings and results from the 2022 data collection. In addition, it also discusses the results from some new ETF work-strands on youth transition and skills mismatch. A statistical snapshot allowing the seven candidate countries to reference themselves against the European Union is also included. Finally, an overview of data availability in our partner countries complete this report.

This report is divided into four parts:

1. The definitions and rationale of indicators.
2. Key highlights and main findings in 2022.
3. An overview of data availability and quality.
4. Data used in this publication.

[1] The ETF uses other evidence, such as in-depth studies in the thematic areas and national sources of evidence, to compile its intelligence on each country and thematic domain. KIESE includes only quantitative key indicators.
[2] The Youth Guarantee is a key flagship launched by the European Commission for the Western Balkan region in response to the COVID-19 crisis and the twin digital and green transitions. It aims at securing a good quality offer of employment, traineeship, apprenticeship, or continued education to all young people aged 15 to 29 who are not in employment, education or training (NEETs).

CONTENTS

PREFACE	3
CONTENTS	5
1. DEFINITIONS AND RATIONALE OF INDICATORS	6
2. KEY HIGHLIGHTS AND MAIN FINDINGS IN 2022	8
3. DATA AVAILABILITY AND QUALITY: AN OVERVIEW	15
4. DATA USED IN THIS PUBLICATION (AS OF 1 SEPTEMBER 2022)	17
ANNEX: CLASSIFICATION OF EDUCATIONAL PROGRAMMES	30

1. Definitions and rationale of indicators

Early leaving from education and training is defined as the percentage of the population aged 18--24 with (at most) lower secondary education who were not in further education or training during the 4 weeks preceding the survey (usually the Labour Force Survey [LFS]). Lower secondary education refers to ISCED 2011 levels 0-2 (see annex). The indicator measures the youth population most at risk of being marginalised from education and training.

Lifelong learning refers to persons stating that they received education or training in the 4 weeks/12 months preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding those who did not answer the question on participation in education and training. The information collected relates to all education or training, whether or not it is relevant to the respondent's current or possible future job. The indicator measures lifelong learning as well as the supply of additional skills in the country.

Low achievers in reading are 15-year-olds who are failing Level 2 of the OECD Programme for International Student Assessment (PISA) scale for reading. The indicator measures the youth population most at risk due to a lack of foundation/basic skills.

Skills mismatches can be used to describe vertical mismatches (usually measured in terms of over--education, under-education, over-skilling and under-skilling), horizontal mismatches (usually a comparison of fields of study and work), skills gaps (the extent to which workers lack the skills necessary to perform their current job), skills shortages (usually measured in terms of unfilled and hard-to-fill vacancies) and skills obsolescence (skills can become obsolete due to ageing, technological or economic changes, which render certain skills unnecessary, or through the under-utilisation of skills). Only vertical and horizontal mismatches are discussed in this report.

The employment rate is calculated by dividing the number of employed persons by the population of the same age group. Employed persons (based on the ILO definition) are all persons who worked at least 1 hour for pay or profit during the reference period or were temporarily absent from such work. The indicator can be used to evaluate the ability of the economy to create jobs. It can be used in combination with the unemployment rate to provide a general evaluation of the labour market situation.

The employment rate of recent graduates is estimated for persons aged 20-34 who fulfil the following conditions: (1) being employed, according to the ILO definition; (2) having attained at least upper secondary education (International Standard Classification of Education (ISCED) levels 3-8) as the highest level of education; (3) not having received any education or training in the 4 weeks preceding the survey; and (4) having successfully attained their highest level of education 1, 2 or 3 years before the survey. The indicator measures the employability and the transition from school to work of recent graduates.

The unemployment rate is the percentage of unemployed people in an age group compared to the total labour force (both employed and unemployed) in the same age group. The unemployed persons (ILO definition) comprise those who were without work during the reference week; are currently available for work (were available for paid employment or self-employment before the end of the 2 weeks following the reference week); are actively seeking work, i.e. had taken specific steps in the 4-week period ending with the reference week to seek paid employment or self-employment; or had found a job to start later (within a maximum period of 3 months). The indicator measures the overall probability of being unemployed and the associated under-utilisation of skills. It is probably the best-known indicator for measuring the labour market and certainly one of the most widely quoted by media.

Years of schooling. The number of expected years of schooling is calculated as the sum of age-specific enrolment rates between the ages of 4 and 17. Age-specific enrolment rates are

approximated using school enrolment rates at different levels: pre-primary enrolment rates approximate the age-specific enrolment rates for 4 and 5-year-olds; the primary rate approximates for 6 to 11-year-olds; the lower-secondary rate approximates for 12 to 14-year-olds; and the upper-secondary rate approximates for 15 to 17-year-olds. The most recent estimates are used. Learning-adjusted years of schooling are calculated by multiplying the estimates of expected years of schooling by the ratio of the most recent harmonised test score to 625, where 625 corresponds to advanced attainment in the TIMSS (Trends in International Mathematics and Science Study) test.

The number of young people not in employment, education or training (NEETs) provides information on young people aged 15-24/15-29 who meet the following two conditions: first, they are not employed (i.e. unemployed or inactive according to the ILO definition); and, second, they have not received any education or training in the 4 weeks preceding the survey. Data is expressed as a percentage of the total population of the same age group and gender, excluding the respondents who did not answer the question on participation in education and training. The indicator measures the youth population most at risk of being marginalised from the labour market and under-utilising their skills.

Work-based learning/work-experience at a workplace refers to persons who stated that they received education or training at a workplace in the 4 weeks preceding the survey (LFS). This refers to work experience in a (non-)market unit (e.g. company, government institution, non-profit or non-government organisation [NGO]) that was part of the curriculum or formal educational programme leading to the highest level of education successfully completed. The work-based learning can take many forms, such as dual system with employment contract, apprenticeships, traineeships, etc.

2. Key highlights and main findings in 2022

Education, training and skills: how are the candidate countries currently performing?

- There were notable improvements in early school leaving rates where three countries (Montenegro, North Macedonia and Serbia) display rates far below the EU average and even some Member States. Albania and Türkiye remain the exceptions to this (see the table below).

Table 1: EU monitoring indicators (2021/most recent year available)

		EU	AL	MD	ME	MK	RS	TR	UA
Education	Low-achieving 15-year-olds in reading	22.5	52.2	43.0	44.4	55.1	37.7	26.1	25.9
	Low-achieving eighth-graders in digital skills	m	m	m	m	m	m	m	m
	Participation in early childhood education and care (% aged 3 to starting age for primary education)	92.8	m	m	m	42.3	67.3	43.2	m
	Early leavers from education and training	9.7	16.3	16.9	3.6	5.7	6.3b	26.7	m
	Tertiary level attainment (% aged 25-34)	41.2b	27.3d	30.1d	40.4	37.7	33.9b	36.2	m
	Exposure of VET graduates to work-based learning*	60.7	m	m	m	m	17.1	m	m
Skills	Participation of adults in learning – past 12 months**	45.1	9.2	m	m	12.7	19.8	20.9	m
	Participation of low-qualified adults in learning – past 12 months	4.3	0.1	m	2.7	0.2	0.5bu	2.7	m
	Share of unemployed adults with recent learning experience – past 12 months	12.7	1.7	m	m	2.3	4.4	9.4	m
	Share of adults having at least basic digital skills	56.0	21.0	m	m	32.0	46.0	36.0	m
VET	Employment rate of recent VET graduates	76.4b	64.5	m	51.0	57.1	59.0b	47.9	m
	Mobility of VET graduates (Erasmus+)	m	m	m	m	m	m	m	m

Sources: ETF KIESE, Eurostat, OECD
AL: Albania; MD: Moldova; ME: Montenegro; MK: North Macedonia; RS: Serbia; TR: Türkiye; UA: Ukraine
Note: b = break in series; d: different age; m = missing; u = unreliable
(*) common for Education and VET
(**) common for Skills and Education

Tertiary attainment, especially for women, is another area where changes were visible and sustained. In four countries (Montenegro, North Macedonia, Serbia and Türkiye), some 35-40% of their 25 to 34-year-old population have now completed tertiary-type studies (the EU average is 41%). Albania and Moldova are also catching up fast, albeit starting from a lower level3.

- In addition, at least half of recent graduates from VET programmes are employed, and there have been improvements over recent years (see data). This is positive, especially in countries with a higher proportion of students enrolled in vocational programmes at upper-secondary level.
- Conversely, the under achievements in foundation skills and especially adult training remain the domains that display very limited changes in recent years. The OECD average saw improvements in student performance, most notably in Albania and Moldova. Yet, only North Macedonia and Türkiye have witnessed sizeable decreases in the share of underachievers in 2018 compared to 2015[4]. Likewise, only one in five adults in Serbia and Türkiye and one in ten in Albania and North Macedonia is undertaking training.

The general trend is towards an increase in the educational attainment level of the population.

Upper secondary attainment[5] has become the 'entry ticket' to the knowledge society and, in the vast majority of ETF partner countries, most people in the workforce have attained this educational level (this typically also includes the vocational programmes). A number of partner countries with a low proportion of tertiary graduates have seen a sizeable and rapid increase in the size of this group in the past decade. In Montenegro, North Macedonia, Serbia and Türkiye, at least one in three people aged 25-34 completed tertiary education[6].

However, schooling and learning do not always go hand in hand.

In the ETF partner countries, a child born today can expect to spend between 10 and 14 years at school by the time they turn 18. The lowest number of expected years of schooling is estimated for Lebanon, Morocco, Tunisia and Uzbekistan (approximately 10 years), whereas a child born in Belarus, Israel or Kazakhstan is expected to spend around 14 years in school. However, the time spent in school may not translate evenly into learning, depending on many factors. One way to measure this gap is to use standardised tests (such as OECD PISA) and to convert schooling into learning-adjusted years of school. When adjusted for learning outcomes, schooling can drop drastically in some countries, by as much as 4 years (representing the typical duration of an educational level). The gap between schooling and learning can be as high as 4 years in around one third of the ETF partner countries (see data). This gap can be considered a loss in the human capital, as students go to school without learning. Recent findings by the World Bank show that many partner countries typify this situation. They show, among other things, an increased enrolment in education in our partner countries but a stagnation in learning, as well as positive and negative gender gaps whereby girls outperform boys with respect to learning, but underperform on years of schooling[7].

[3] ETF (2020), Key Indicators on Education, Skills and Employment
[4] Ibid.
[5] Educational attainment is frequently used as a proxy for human capital as it provides a measure of the stock of skills that are potentially available to employers.
[6] ETF (2020), Key Indicators on Education, Skills and Employment
[7] The World Bank (2019), Measuring Human Capital

One of the main challenges remains tackling underachievement in key competences.

The OECD Programme for International Student Assessment (PISA) results show that there has been no real overall improvement in the learning outcomes of students since 2015 in the OECD countries[8]. The latest OECD PISA results from 2018 also show high levels of underachievement (i.e., students failing Level 2 of the PISA scale in reading) for approximately half of the partner countries[9]. This EU monitoring indicator (see the table above) provides a measure of the youth population most at risk through a lack of foundation skills.

Data shows that around three quarters of students aged 15 in countries such as Kosovo[10] or Morocco, two-thirds of students aged 15 in Kazakhstan and Lebanon and around half of the students aged 15 in Albania, Bosnia and Herzegovina and North Macedonia fall under this category. The EU average is one in four students and the OECD average is one in three students (see data). The OECD average saw improvements in student performance, most notably in Albania and Moldova. However, only North Macedonia and Türkiye have witnessed sizeable decreases in the share of underachievers compared with the previous rounds of the survey (2015).

Many children with an immigrant background face major challenges at school and PISA also makes it possible to analyse national performance by immigrant background. The 2018 results show a considerable cross-national variation in performance between immigrant students and students without an immigrant background, and the differences remain even after accounting for students' socioeconomic status. However, they also show that, in most countries, excellence in education is apparent among some of the most disadvantaged students and schools: on average across OECD countries, one in ten disadvantaged students was able to score among the top quarter of students for reading performance in their country, indicating that disadvantage is not destiny[11].

VET programmes can be successful in preventing early leaving from education and training.

The proportion of early leavers remains high in some countries, affecting one in three young people in Palestine[12], one in four in Türkiye and around one in five in Albania and Moldova; the EU average is around 10% (see data). However, the rate of leaving education early is decreasing in all countries, according to the data available. In particular, Albania, Moldova and Türkiye have witnessed notably lower numbers of young people aged 18-24 leaving the education system prematurely in recent years[13]. By keeping young people in education, VET can mitigate the risk of early leaving, although the relationship is not always a straightforward one[14].

[8] OECD (2020), PISA 2018 insights and interpretations
[9] The ETF participating countries in PISA are: Albania, Algeria, Armenia, Azerbaijan, Belarus, Georgia, Israel, Jordan, Kazakhstan, Kyrgyzstan, Kosovo, Lebanon, Moldova, Montenegro, Morocco, North Macedonia, Serbia, Tunisia, Türkiye and Ukraine.
[10] This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.
[11] OECD (2020), PISA 2018 insights and interpretations
[12] This designation shall not be construed as recognition of a State of Palestine and is without prejudice to the individual positions of Member States on this issue.
[13] ETF (2020), Key Indicators on Education, Skills and Employment
[14] Cedefop (2011) Vocational education and training - key to the future

Work-based learning is an important feature of many high-quality VET.

An important feature of many high-quality VET programmes is a systematic integration of work-based learning (WBL) components that provide a variety of benefits for learners and future employers. The WBL can take a variety of forms (e.g., traineeships, apprenticeships, dual-system programmes, etc.). Notably, apprenticeships and other forms of WBL considerably facilitate the transition of young adults into the labour market[15]. Two-thirds of VET graduates[16] in Europe were engaged in WBL in 2021 but this figure masks significant disparities among countries: less than 10% in Romania yet nearly all VET graduates in Austria, Netherlands, Finland, Spain and Switzerland[17]. The figure was some 17% in Serbia.

Prior data for EU countries shows that, on average, one in four VET graduates exposed to WBL was enrolled in an apprenticeship-type programme and one in three in other types of WBL[18]. The various forms of WBL are challenging areas, particularly against the backdrop of pandemic-related health restrictions and the somewhat weak capacity of companies to engage in cooperation with schools and host young learners and workers. Widening the availability of on-the-job training and work experience is critical for the swift and sustainable integration of young graduates into employment[19].

Where are the youth aged 15-29 today?

Whereas most young people traditionally used to start work only after completing their studies (and so rarely combining school and work), this pattern is no longer applicable to most European countries. The transition of youth into the labour market has become more prolonged and somewhat also rather unstable and unpredictable in recent years – nowadays, young people usually change jobs more frequently (either by choice or necessity) and so no longer have a clear labour market status for longer periods[20]. Combining work and study is now no longer the exception, but the rule. From this perspective, a few countries with data available[21] display rather different patterns. Whereas some 40% of young people aged 15-29 are still in school, which is also the EU average, less than one in twenty also work. The EU value for this is 15% (see data). This difference contributes to a higher rate of young people not in employment, education or training in these countries[22].

The situation of young people remains problematic in most partner countries

Two in five young people aged 15-29 in Palestine and Kosovo, one in three in Armenia, Egypt, Georgia, Jordan, Moldova and Tunisia, and one in four in most other partner countries with data available, are NEETs (see data). Young girls are typically over-represented in this group, reaching one-third in Armenia, Kosovo, Palestine, Tunisia and Türkiye. Few partner countries have managed to keep *NEET* rates under control in recent years, but the recent pandemic crisis seems to have contributed to a recent deterioration in the youth situation. This issue has already been documented for the OECD countries[23].

[15] Council Recommendation on VET (2020)
[16] Upper-secondary/post-secondary graduates (ISCED 3-4), aged 20-34, with at least 1 month of work experience.
[17] In some countries, the results are unreliable and are therefore not included here.
[18] European Commission Staff Working Document (2020)
[19] ETF (2021), *Youth disengagement and skills mismatch in the Western Balkans*
[20] Eurostat (2021), *Statistics on young people neither in employment nor in education or training*
[21] Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Türkiye.
[22] ETF (2021), *Youth disengagement and skills mismatch in the Western Balkans*
[23] OECD (2021), Employment Outlook

Data show an increase of *NEETs* in nearly all countries in 2020, ranging from 1% in a number of European countries to some 4% in Montenegro[24]. Not only did the *NEET* rates rise, but other metrics (typically used to frame the transition of young people) have also got worse. Youth unemployment remained very high, affecting around 50% of the active youth[25] in Kosovo, some 40% in Palestine and around one in three in Bosnia and Herzegovina, Georgia, Montenegro, North Macedonia and Tunisia; the EU average is 17% (see data).

Who are the NEETs in our partner countries? Who is at risk?

A closer look at NEETs by gender and labour status[26] shows a higher rate of inactivity among young women, coupled with a higher likelihood of unemployment for young men in some countries. In other words, while young men are more likely to enter the labour market, switching between various stages, young women more frequently choose to remain inactive. On average, approximately 5% of *NEETs* are without a job and not looking for a new one; more young women are not typically looking for jobs compared to young men. In countries with data available (Montenegro, North Macedonia and Serbia), this proportion goes from 11% (North Macedonia) to 5% (Montenegro) for women whereas this is only some 3% for men (this is also the EU average). This could be linked to several factors, such as sociocultural norms, less favourable working environments or family duties[27].

There may be various reasons and explanations for young people disengaging from the labour market. ETF evidence shows that a high rate of NEETs is often related to lower educational attainment, gender, and lower employability as a result of skills gaps and socioeconomic background[28]. Our data shows that NEETs are at higher risk of being socially and economically excluded and so are much more likely to become vulnerable in the long term. However, as discussed above, the NEETs category contains a variety of sub-groups, some of which are vulnerable and some of which are not.

However, there are also other at-risk categories, in addition to NEETs, such as recent graduates. Young people face more challenges than adults in entering the labour market owing to their lack of work experience and the mismatch between the skills they have to offer and those required by their employer. During their transition from school to the labour market, young people often gain practical experience by accepting jobs requiring a lower level of skills and sometimes many young people remain trapped in low-skilled jobs. Together with low labour mobility, this leads to a higher level of observed over-qualification. Recent ETF data shows that young tertiary graduates had a higher rate of being overskilled in all countries, holding jobs requiring levels lower than their formal qualifications. This type of mismatch could be as high as 60% (Tunisia) and affects half of all employed young people in Kyrgyzstan, Serbia and Türkiye[29].

[24] ETF (2021), Youth disengagement and skills mismatch in the Western Balkans
[25] The youth unemployment rate is the percentage of unemployed people in an age group compared to the total labour force (both employed and unemployed) in the same age group. However, it should be remembered that many young people are outside the labour market since they are studying on a full-time basis and are thus not available for work. At least two-thirds of young people in the partner countries are not yet active in the labour market and remain inactive for various reasons, the main reason being that they are still in school.
[26] This categorisation of *NEETs* by labour status (i.e., unemployed/inactive) is instrumental for monitoring the *Youth Guarantee* (see below). The monitoring is based on three types of indicators: a *main indicator* (share of young people not employed and not in education or training – NEET); *four indicators* complementing the main indicator by giving more detailed information about the labour market situation of young people; and *eight indicators* which are intended to measure the longer-term consequences of implementing the YG on educational attainment and labour market attachment (see more).
[27] ETF (2021), Youth disengagement and skills mismatch in the Western Balkans
[28] ETF (2015), Young people not in employment, education or training: an overview in the ETF partner countries
[29] ETF (2022), Skills mismatch measurement in ETF partner countries

VET programmes can be effective in ensuring better integration into the labour market.

In all countries with data available, the employment rates tend to be higher among recent graduates from vocational training than among those who pursued an upper-secondary general programme as their highest level of educational attainment[30]. More than half of recent graduates[31] from VET programmes (ISCED levels 3-4 combined) were employed, and there has been good progress over recent years (see data). This is positive, especially in countries where large numbers of upper-secondary students are following vocational programmes. It shows that VET can be successful in equipping young people and adults with the skills required in the labour market, thus ensuring a smooth transition and better integration into the world of work.

Labour market outcomes of the overall population typically differ by educational attainment levels and employment rates also tend to be higher among adults who graduated from vocational training programmes compared to those of the overall population in nearly all countries with data available[32]. Interestingly, these patterns have remained over recent years despite the struggles observed in the economy, which suggests improved job prospects for VET graduates[33].

What role for skills mismatches?

Skills mismatches are a complex phenomenon expressed in different types and aspects of labour market imbalances. No single indicator is able to grasp its multiple facets. Instead, a combination of indicators and analyses of results obtained using different methods is required to measure and understand the magnitude of the different forms of skills mismatches and how they relate to one another. However, the data sources needed to measure the different types of mismatch are not always readily available and only a few international studies have included ETF partner countries. To bridge this knowledge gap, a new ETF work strand aims to assess the suitability of selected skills mismatch indicators for practical implementation in the partner countries[34].

Recent data for a majority of partner countries[35] shows that at least one in four tertiary graduates held a job that required lower levels of formal qualifications in a vast majority of countries, and that the rate was as high as one in three graduates in Türkiye and Ukraine, and almost 50% of tertiary graduates in Tunisia. ETF evidence also shows that the mismatch rate for upper/post-secondary graduates is lower than that of tertiary graduates[36].

Young tertiary graduates had a higher rate of being over-skilled in all countries with data available: some 60% were mismatched in Tunisia (i.e., held jobs requiring lower levels of formal qualifications) and this figure was around 50% in Kyrgyzstan, Serbia and Türkiye, 40% in Albania, Egypt, Georgia, Kosovo and Ukraine, and 33% in Moldova, North Macedonia and Palestine. Similarly, at least one in four workers was over-educated[37] in most countries with data available, with one-third of workers being over-educated in Tunisia and Türkiye. The rate of overeducation is typically higher for young

[30] ETF (2020), Key Indicators on Education, Skills and Employment
[31] Aged 20-34, no longer in education or training, 1-3 years after graduation.
[32] The first estimates are available for: Albania, Armenia, Belarus, Bosnia and Herzegovina, Egypt, Georgia, Jordan, Kosovo, Kyrgyzstan, Moldova, Montenegro, North Macedonia, Serbia, Türkiye and Ukraine.
[33] ETF (2021), Key Indicators on Education, Skills and Employment
[34] In 2017, the ETF launched a project on skills mismatch measurement in its partner countries. Its dual objectives are to identify available data sources and to test a series of indicators capable of capturing various angles and implications of skills mismatches.
[35] The first estimates are available for: Albania, Armenia, Belarus, Bosnia and Herzegovina, Egypt, Georgia, Jordan, Kosovo, Kyrgyzstan, Moldova, Montenegro, North Macedonia, Serbia, Türkiye and Ukraine.
[36] ETF (2022), Skills mismatch measurement in ETF partner countries (summary)
[37] Over-educated workers are those usually holding jobs for which the modal value of job/occupation distribution in their country is typically below their (ISCED) level of education.

people in the vast majority of countries, peaking at around 40% of young people aged 15-24 in Tunisia and Türkiye, and affecting one in three young people in Armenia and Kosovo (see data).

The relatively high level of over-education, particularly among tertiary-educated workers, is not entirely surprising given that such workers are typically more exposed to (vertical) mismatches. However, the relatively high rate of over-qualified tertiary graduates in most partner countries included in this analysis indicates that graduation does not necessarily always lead to a matched integration in the labour market and could signal a loss of human capital[38]. There could be many reasons for this, and further evidence is surely required in order to identify the determinants and most effective solutions to prevent or counteract such imbalances – the education systems are only partly responsible[39].

Learning beyond school: learning for life?

Participation in training is around 1% in most countries with data available[40], except Kosovo or Türkiye (around 5%) and Israel (around 9%); the EU average is 11%. There was minimal progress in the past decade (see data). In the countries with data available[41], the majority of adult training is non-formal (i.e., outside formal educational institutions). The latest data available shows that one in five adults aged 25-64 in Serbia and Türkiye participated in non-formal education and training, a rate that was half that of the EU average but higher than in the other partner countries with a participation rate of around less than 10%. The figures showed one in five working-age adults in Türkiye and Serbia and around 13% in North Macedonia, while Albania and Bosnia and Herzegovina reported single-digit shares (see data). Job-related training[42] remained rather limited, ranging between 5% (Bosnia and Herzegovina) and around 14% (Serbia and Türkiye); the EU average is 36%. Between 4% (Bosnia and Herzegovina) and 12% (Serbia and Türkiye) of non-formal training is paid (at least partially) by the employer and/or carried out during paid working hours (the EU average is 32%).

What factors affect training engagement?

Age, education and labour status are all determinants of active lifelong learning. Younger, employed and better-educated adults enjoy more training opportunities whereas low-skilled adults are less likely to receive training (see data). But what can prevent typical adults from undergoing training? The main obstacles to adult training are not related to cost, family responsibilities, age or time constraints. Nearly two-thirds of Europeans stated that they do not require further training; this also holds true for three in four adults in Bosnia and Herzegovina and North Macedonia and around one in two adults in Serbia, Türkiye and Albania (see data). Only one in ten Europeans do not undertake adult training due to their work schedule or family responsibilities, but these two obstacles are highly negligible compared to the main one. The cost of training can be an obstacle for one in five adults in Albania and Serbia, whereas family responsibilities are deemed an obstacle for one in four adults in Türkiye. Nevertheless, all other obstacles combined cannot compare to the sizeable impact of the main one when it comes to adult training engagement.

[38] ETF (2022), Skills mismatch measurement in ETF partner countries
[39] ETF (2021), M. Badescu and C. Mereuta, *Skills mismatch: Measurement and policy implications in selected* countries, in Changing skills for a changing world: Understanding skills demand in EU neighbouring countries.
[40] Information on adult training remains very limited and is available for only one-third of the partner countries.
[41] Albania, Bosnia and Herzegovina, North Macedonia, Serbia and Türkiye.
[42] An activity that is carried out in order to obtain knowledge and/or learn new skills needed for a current/future job, to increase earnings, to improve job and/or career opportunities in a current field or another, and to generally improve career opportunities.

3. Data availability and quality: an overview

Data availability varies greatly among partner countries and remains the most significant challenge[43]. Although the coverage of labour market statistics is satisfactory, the availability of other indicators, in particular for adult training, remains limited. Only very few countries provide information on educational outcomes such as graduate employability and early leavers. Therefore, the key findings are limited to just a few countries where data is available, and this affects the overall analysis. Efforts should be continued to ensure an improved level of coverage and quality of data.

South-Eastern Europe and Türkiye (SEET)

Data availability in the SEET region is generally quite high. The level of coverage of labour market indicators is very good, and all countries have data from recent labour force/adult training surveys, which ensures a good level of comparability within the region. Most of these countries have already included many variables in their surveys that make it possible to calculate indicators across multiple dimensions (see footnote). As some SEET countries cooperate closely with Eurostat, most indicators for education and employment are also published on the Eurostat website for some countries (Montenegro, North Macedonia, Serbia and Türkiye).

Southern and Eastern Mediterranean (SEMED)

Data availability and quality are fairly high in Israel, Palestine and Tunisia, whereas availability needs to improve further in all other SEMED countries. Although the availability of educational data is lower than in other regions, some progress can be noted in recent years. However, most countries do not provide information on early leavers from education or on adult participation in lifelong learning. One major problem with data is the use of different national classifications instead of ISCED levels for educational levels[44]. This naturally affects the comparability of indicators. Labour market data is generally readily available in the region as most countries conduct regular labour force surveys. Nevertheless, comparisons are sometimes impeded by the use of different age ranges. All countries cooperate with Eurostat, which means that some data (especially concerning the labour market) is also published on the Eurostat website. However, not all indicators are always updated on a regular basis.

Eastern Europe

Data coverage in the Eastern European countries is fairly good, especially concerning labour market indicators. However, the coverage of education varies widely, depending on indicator and country. Labour market data is usually available, as most countries conduct labour force surveys. However, information on early leavers from education and on adult participation in lifelong learning has a poor level of coverage. The main problems encountered are the reference age used in the labour force surveys and the use of national educational classifications instead of ISCED levels. These cannot necessarily be matched, which complicates data comparisons between different countries.

[43] This assessment is based on a list of the most widely used indicators available in surveys (e.g., labour force, adult training, etc.). It is linked to the inclusion of certain variables in these surveys (e.g., highest educational level attained, programme orientation, participation in training, occupation, etc.), which makes it possible to design more advanced measures, beyond the typical splits (e.g., age, sex or labour status).
[44] In the framework of measuring skills mismatches, the ETF has helped most partner countries to map the educational programmes in their national LFS and to apply this further in reports.

Central Asia

Data coverage in Central Asia is generally of a lower quality than in other regions. While most key statistics are readily available in Kazakhstan and Kyrgyzstan, very few indicators are available for Tajikistan, Turkmenistan and Uzbekistan. Labour market data is usually available, as most of the countries conduct labour force surveys. However, education-related data are not always readily available. Most countries do not provide information on early leavers from education or adult participation in training. One significant issue is that Central Asian countries use their own educational classifications instead of ISCED levels, which complicates comparisons.

4. Data used in this publication (as of 1 September 2022)[45]

1. EU monitoring indicators for education, skills and VET
2. How much schooling can a child expect to attain by the age of 18 in 2020?
3. Underachievers in reading, mathematics and science at the age of 15
4. Early leavers from education
5. Where are the youth aged 15-29 today?
6. Young people aged 15-29 not in employment/education/training by labour status
7. Employment rate of recent graduates
8. Labour market situation for young people
9. Labour market situation of the population aged 15+
10. Incidence and main types of skills mismatches in partner countries
11. Participation in adult training in the past 4 weeks
12. Participation in adult training in the past 12 months
13. The ten main obstacles to participation in adult training

[45] Information for the Republic of Moldova is presented without data on districts on the Left Bank of the Dniester river and the municipality of Bender. Information for Ukraine is presented without data for the Autonomous Republic of Crimea, Sevastopol and part of the conflict zone (from 2014 onwards).

Table 2: How much schooling can a child expect to attain by the age of 18 in 2020?

		Schooling years	Learning-adjusted years
Albania	AL	12.9	8.9
Algeria	DZ	11.8	7.0
Armenia	AM	11.3	8.0
Azerbaijan	AZ	12.4	8.3
Belarus	BY	13.8	10.8
Bosnia and Herzegovina	BA	11.7	7.8
Egypt	EG	11.5	6.5
Georgia	GE	12.9	8.3
Israel	IL	13.8	10.6
Jordan	JO	11.1	7.7
Kazakhstan	KZ	13.7	9.1
Kosovo	XK	13.2	7.9
Kyrgyzstan	KG	12.9	8.7
Lebanon	LB	10.2	6.3
Rep. of Moldova	MD	11.8	8.3
Montenegro	ME	12.6	8.9
Morocco	MA	10.3	6.1
North Macedonia	MK	11.2	7.3
Palestine	PS	12.2	8.0
Serbia	RS	13.3	9.8
Tajikistan	TJ	10.9	6.8
Tunisia	TN	10.6	6.5
Türkiye	TR	12.1	9.2
Ukraine	UA	12.9	9.9
Uzbekistan	UZ	9.1	m

Source: World Bank (World Development Indicators database)
Note: m = missing

Table 3: Underachievers in reading, mathematics and science (% – students aged 15)

2018		Reading	Mathematics	Science
Albania	AL	52	42	47
Azerbaijan*	AZ	60	51	58
Belarus	BY	23	29	24
Bosnia and Herzegovina	BA	54	58	57
Georgia	GE	64	61	64
Israel	IL	31	34	33
Jordan	JO	41	59	40
Kazakhstan	KZ	64	49	60
Kosovo	XK	79	77	77
Lebanon	LB	68	60	62
Rep. of Moldova	MD	43	50	43
Montenegro	ME	44	46	48
Morocco	MA	73	76	70
North Macedonia	MK	55	61	50
Serbia	RS	38	40	38
Türkiye	TR	26	37	25
Ukraine	UA	26	36	22
OECD average	OECD	33	24	22
European Union average	EU	23	23	22

Source: OECD PISA database
*AZ: results only available for Baku.

Table 4: Early leavers from education aged 18-24 by sex (%)

		2015	2019	2020	2021
Albania	AL	**21.3**	**16.3**	**m**	**m**
Men		22.9	17.5	m	m
Women		19.6	15.1	m	m
Bosnia and Herzegovina	BA	**5.2**	**3.8 u**	**4.7**	**4.7**
Men		4.8	4.0 u	4.8 u	4.9 u
Women		5.6	3.5 u	4.6 u	4.4 u
Georgia	GE	**5.8**	**9.3**	**8.2**	**m**
Men		6.8	9.6	8.8	m
Women		4.7	8.9	7.4	m
Israel	IL	**7.6**	**6.1**	**5.6**	**5.1**
Men		10.2	8.4	7.2	6.8
Women		4.8	3.7	4.0	3.4
Kosovo	XK	**14.5**	**8.2**	**7.8**	**m**
Men		11.8	8.0	7.3	m
Women		17.5	8.4	8.4	m
Rep. of Moldova*	MD	**21.3 b**	**19.0 b**	**16.9**	**m**
Men		25.6 b	22.6 b	20.6	m
Women		16.7 b	15.3 b	13.1	m
Montenegro	ME	**5.7**	**5.0**	**3.6**	**6.7**
Men		4.9	5.2	m	m
Women		6.6	4.9	m	8.7
North Macedonia	MK	**11.4**	**7.1**	**5.7**	**m**
Men		10.0	5.9	5.7	m
Women		12.9	8.4	5.8	m
Palestine	PS	**31.4**	**30.3**	**30.3**	**m**
Men		39.6	40.2	39.4	m
Women		20.8	17.8	18.4	m
Serbia	RS	**7.5**	**6.6**	**5.6**	**6.3 b**
Men		7.7	6.5	5.4	7.4 b
Women		7.2	6.7	5.8	5.2 b
Türkiye	TR	**36.4**	**28.7**	**26.7**	**m**
Men		35.0	28.9	27.5	m
Women		37.6	28.6	25.8	m

		2015	2019	2020	2021
European Union	EU	**11.0**	**10.2**	**9.9**	**9.7 b**
Men		12.5	11.9	11.8	11.4 b
Women		9.4	8.4	8.0	7.9 b

Sources: ETF KIESE, Eurostat
Note: b = break in series; m = missing; u = unreliable
*MD: Estimated using the usual resident population.

Table 5: Where are the youth aged 15-29 today? (2021/most recent year available)

	BA	IL	ME	MK	RS	TR	EU
In formal education	**42.9**	**33.6**	**42.2**	**40.3**	**41.2**	**30.1**	**39.5**
Men	39.0	35.5	38.9	37.1	36.2	28.3	38.0
Women	47.0	31.5	45.7	43.5	46.4	32.0	41.1
In formal education and work	**1.0**	**9.9**	**2.6**	**3.3**	**6.6**	**9.3**	**15.2**
Men	1.2	8.7	2.6	3.6	7.0	12.4	14.7
Women	0.9	11.1	2.6	3.0	6.2	6.1	15.7
Only at work	**31.0**	**38.2**	**28.7**	**30.2**	**33.4**	**28.6**	**32.1**
Men	38.3	38.4	32.2	35.6	39.5	38.0	35.4
Women	23.3	38.0	24.8	24.4	27.0	19.1	28.7
Not in employment/education/training	**25.1**	**18.4**	**26.6**	**26.2**	**18.8**	**32.0**	**13.1**
Men	21.6	17.4	26.2	23.6	17.3	21.3	11.8
Women	28.8	19.4	26.9	29.0	20.4	42.8	14.5

Sources: ETF KIESE, Eurostat
Note: Totals do not add up to 100 due to those with an unknown status.
BA: Bosnia and Herzegovina; IL: Israel; ME: Montenegro; MK: North Macedonia; RS: Serbia; TR: Türkiye

Table 6: Young people aged 15-29 not in employment/education/training by labour status* (%)

		All NEETs		Inactive NEETs		Unemployed NEETs	
		Total	*Women*	*Total*	*Women*	*Total*	*Women*
Albania	AL	**27.9**	30.0	**18.1**	21.9	**9.8**	8.1
Armenia (c)	AM	**35.9**	42.0	**25.2**	32.5	**10.6**	9.4
Belarus (c)	BY	**8.9**	8.5	**5.4**	5.8	**3.5**	2.7
Bosnia and Herzegovina	BA	**25.1 b**	28.8 b	**11.7 b**	16.2 b	**13.4 b**	12.7 b
Egypt (c)	EG	**32.9**	47.3	**23.6**	39.1	**9.3**	8.2
Georgia (c)	GE	**31.0**	37.2	**20.6**	29.4	**10.4**	7.8
Israel	IL	**18.4**	19.4	**15.6**	16.6	**2.8**	2.8
Jordan (c)	JO	**36.5**	52.1	**27.3**	47.1	**9.2**	5.0
Kosovo	XK	**40.4**	43.0	**29.6**	34.9	**10.8**	8.1
Kyrgyzstan (c)	KG	**24.9**	38.5	**20.2**	34.1	**4.7**	4.3
Rep. of Moldova* (c)	MD	**35.7**	39.1	**33.0**	36.2	**2.8**	2.9
Montenegro	ME	**26.6**	26.9	**12.9**	14.2	**13.7**	12.7
North Macedonia	MK	**26.2**	29.0	**12.9**	17.0	**13.4**	12.1
Palestine (c)	PS	**40.5**	53.3	**23.2**	39.9	**17.3**	13.4
Serbia	RS	**18.8 b**	20.4 b	**10.1 b**	13.1 b	**8.6 b**	7.3 b
Tunisia (c)	TN	**34.9**	39.9	**18.8**	26.7	**15.2**	12.3
Türkiye	TR	**32.0**	42.8	**24.1**	36.6	**7.9**	6.2
Ukraine (c)	UA	**20.2**	27.5	**14.1**	22.5	**6.1**	5.0
European Union	EU	**13.1 b**	14.5 b	**8.2 b**	10.2 b	**4.9 b**	4.3 b

Sources: ETF KIESE, Eurostat; *2021/most recent year available
Note: b = break in series; c = ETF calculations based on LFS microdata; m = missing
*MD: Estimated using the usual resident population

Table 7: Employment rate of recent graduates*

		2015	2019	2020	2021
Albania	AL	**45.7**	**58.6**	**m**	**m**
ISCED level 3-4 vocational programmes		50.3	64.5	m	m
Bosnia and Herzegovina	BA	**35.9**	**52.4**	**50.5 b**	**56.2 b**
ISCED level 3-4 vocational programmes		26.1 u	54.5	42.9 b	43.5 b
Israel	IL	**m**	**m**	**m**	**82.5**
ISCED level 3-4 vocational programmes		m	m	m	62.4
Montenegro	ME	**61.3**	**65.4**	**54.1**	**60.7**
ISCED level 3-4 vocational programmes		48.9	58.5	51.0	m
North Macedonia	MK	**48.0**	**57.2**	**54.5**	**m**
ISCED level 3-4 vocational programmes		45.4	57.1	m	m
Serbia	RS	**50.6**	**66.5**	**62.3**	**65.1 b**
ISCED level 3-4 vocational programmes		44.4	60.9	54.0	59.0 b
Türkiye	TR	**61.9**	**57.8**	**53.0**	**m**
ISCED level 3-4 vocational programmes		59.3	50.6	47.9	m
European Union	EU	**75.5**	**80.9**	**78.7**	**79.6 b**
ISCED levels 3-4 vocational programmes		72.3	79.1	76.1	76.4 b

Sources: ETF KIESE, Eurostat; see the classification of educational programmes/broad levels in the annex
(*) ISCED levels 3-8, no longer in education/training, 1-3 years after graduation
Note: b = break in series; m = missing; u = unreliable

Table 8: Labour market situation for young people aged 15-24* (%)

		Employed		Unemployed		Inactive	
		Total	Women	Total	Women	Total	Women
Albania	AL	**26.7**	22.2	**27.2**	26.3	**63.3c**	69.8c
Armenia (c)	AM	**24.2**	21.3	**31.8**	35.6	**62.7**	67.0
Belarus (c)	BY	**40.2**	41.3	**10.2**	7.3	**55.2**	55.4
Bosnia and Herzegovina	BA	**19.8b**	13.7b	**38.3b**	44.5b	**64.6c**	70.1c
Egypt (c)	EG	**18.4**	4.6	**29.6**	49.3	**71.0**	91.0
Georgia (c)	GE	**26.5**	19.7	**30.3**	32.9	**61.9**	70.7
Israel (d)	IL	**39.9**	40.8	**7.8 d**	8.0	**57.7**	56.8
Jordan (c)	JO	**18.0**	m	**33.4**	m	**72.9**	m
Kosovo	XK	**11.4**	6.4	**49.1**	57.2	**74.0c**	82.2c
Kyrgyzstan (c)	KG	**32.2**	m	**12.8**	m	**63.1**	m
Rep. of Moldova** (c)	MD	**19.0**	16.5	**10.4**	9.4	**78.7**	81.8
Montenegro	ME	**19.8**	15.0	**36.0**	39.7	**69.1**	75.2
North Macedonia	MK	**19.8**	14.3	**35.7**	38.6	**69.1**	76.7
Palestine (c)	PS	**18.1**	3.4	**44.5**	67.1	**67.3**	89.7
Serbia	RS	**24.5b**	17.9b	**26.4b**	29.5b	**66.7b**	74.6b
Tunisia (c)	TN	**19.4**	13.3	**36.3**	34.5	**64.8**	79.6
Türkiye	TR	**29.2**	19.2	**25.1**	29.9	**61.0**	72.6
Ukraine (c)	UA	**30.6**	26.8	**15.4**	15.3	**63.8**	68.3
European Union	EU	**32.7b**	30.3b	**16.6b**	16.7b	**60.7b**	63.6b

Sources: ETF KIESE, Eurostat; * 2021/most recent year available
Note: b = break in series; c = ETF calculations based on LFS microdata; d=different age group/definition; m = missing
**MD: Estimated using the usual resident population

Table 9: Labour market situation of the population aged 15+* (%)

		Employed		Unemployed		Inactive	
		Total	Women	Total	Women	Total	Women
Albania (c)	AL	**53.4**	46.9	**11.5**	11.4	**39.6**	47.0
Armenia (c)	AM	**48.2**	39.1	**18.0**	18.8	**41.3**	51.9
Belarus (c)	BY	**67.7**	64.2	**4.2**	3.2	**29.3**	33.7
Bosnia and Herzegovina (c)	BA	**39.6 b**	28.7b	**15.9 b**	22.0 b	**57.9 c**	67.1 c
Egypt (c)	EG	**38.9**	12.3	**11.8**	23.1	**55.0**	78.0
Georgia (c)	GE	**55.7**	49.0	**11.6**	10.1	**37.1**	45.5
Israel (d)	IL	**59.1**	55.8	**4.3**	4.1	**38.2**	41.8
Jordan (c)	JO	**35.8**	12.7	**12.5**	16.1	**59.1**	84.8
Kosovo (c)	XK	**26.3**	12.0	**25.5**	34.4	**64.7**	81.8
Kyrgyzstan (c)	KG	**57.0**	42.7	**5.5**	6.2	**39.8**	54.5
Rep. of Moldova** (c)	MD	**40.1**	36.5	**5.1**	4.4	**57.7**	61.8
Montenegro	ME	**43.8**	37.9	**17.9 d**	18.4 d	**46.7**	53.6
North Macedonia	MK	**45.7**	37.0	**16.4 d**	15.9 d	**45.4**	56.0
Palestine (c)	PS	**33.1**	10.6	**29.2**	49.0	**53.3**	79.2
Serbia	RS	**48.6 b**	41.3 b	**11.1 bd**	12.1 bd	**45.3 b**	53.0 b
Tunisia (c)	TN	**39.7**	20.6	**16.2**	23.8	**52.1**	72.9
Türkiye	TR	**42.8**	26.3	**13.2 d**	14.9 d	**50.7**	69.2
Ukraine (c)	UA	**58.2**	52.9	**8.2**	7.9	**43.7**	50.8
European Union	EU	**53.1 b**	47.5 b	**7.0 b**	7.4 b	**42.9 b**	48.8 b

Sources: ETF KIESE, Eurostat; *2021/most recent year available
Note: b = break in series; c = ETF calculations based on LFS microdata; d=different age group/definition; m = missing
**MD: Estimated using the usual resident population

Table 10: Incidence and main types of skills mismatches* in partner countries in 2019

		Over-skilled		Over-educated		Mismatched by field(s) of study	
		% aged 15+	*% aged 15-24*	*% aged 15+*	*% aged 15-24*	*% aged 15+*	*% aged 20-34*
Albania	**AL**	**19.4**	42.4	**18.9**	13.0	**43.0**	41.8
Armenia	**AM**	**21.9**	18.6	**30.6**	32.7	**m**	m
Belarus	**BY**	**16.7**	13.8	**21.6**	23.6	**52.6**	49.0
Bosnia and Herzegovina (c)	**BA**	**24.9**	28.3	**18.7**	13.1	**62.4**	62.8
Egypt	**EG**	**23.9**	42.9	**20.8**	6.3	**35.8**	40.3
Georgia	**GE**	**27.4**	40.2	**25.9**	10.5	**81.0**	81.2
Jordan	**JO**	**8.3**	10.2	**24.5**	16.6	**53.5**	50.4
Kosovo	**XK**	**27.4**	41.7	**27.8**	32.0	**m**	m
Kyrgyzstan	**KG**	**28.9**	48.4	**23.1**	21.7	**62.1**	70.1
Rep. of Moldova	**MD**	**24.1**	35.7	**21.9**	23.3	**57.0**	62.4
Montenegro	**ME**	**15.0**	26.1	**18.3**	18.5	**m**	m
North Macedonia	**MK**	**24.1**	35.7	**13.2**	6.7	**m**	m
Palestine	**PS**	**21.9**	35.7	**24.5**	21.9	**32.1**	34.0
Serbia	**RS**	**26.0**	48.8	**28.4**	17.2	**60.3**	61.3
Tunisia	**TN**	**49.7**	59.1	**32.1**	41.7	**74.2**	74.0
Türkiye	**TR**	**33.2**	51.6	**34.4**	37.6	**43.8**	45.2
Ukraine	**UA**	**31.4**	38.1	**21.5**	22.2	**53.3**	55.2

Source: ETF calculations based on LFS microdata
Note: m = missing
(*) The ETF skills mismatch measurement framework consists of ten indicators, namely: three core indicators that measure vertical and horizontal mismatches, three contextual indicators and four optional indicators. Only two indicators measuring vertical mismatch and one covering horizontal mismatch (i.e. fields of study) are included here. The over-skilled individuals are those holding jobs that require levels lower than their formal qualifications. As an example, for the 'over-skilled' value in Albania: about one in five (19.4%) tertiary graduates (ISCED levels 5-8) were employed in semi-skilled occupations (ISCO-08 groups 4-8), usually requiring lower levels of formal qualifications. The over-educated individuals are usually holding jobs for which the modal value in a job/occupation distribution identified in their country is typically below their (ISCED) level of education. Also known as the 'empirical method', ETF estimates are based on a modal educational level (i.e., the one identified most frequently) in a given occupational ISCO-08 group in each country, using the most detailed level of information available (i.e., ISCO-08 1/2/3 digit-level data). The ETF definition is fully harmonised with ILO recommendations. Horizontal mismatches occur when the qualification level is sufficient, but the type or field of qualification does not adequately match the field required by the job held.

Table 11: Participation in adult training in the past 4 weeks

		2015	2019	2020	2021
Albania	**AL**	**1.0**	**0.8**	**m**	**m**
Low skilled (ISCED 0-2)		0.2	0.1	m	m
Unemployed		1.6	1.7	m	m
Bosnia and Herzegovina	**BA**	**2.3**	**1.8**	**3.3 b**	**2.1 b**
Low skilled (ISCED 0-2)		0.4 u	0.1 u	1.0 b	0.4 b
Unemployed		2.4 u	2.7 u	2.8 b	1.5 b
Israel	**IL**	**10.0**	**9.2**	**8.6**	**8.3**
Low skilled (ISCED 0-2)		m	1.4	1.4	1.9
Unemployed		m	10.1	8.4	9.8
Kosovo	**XK**	**4.9**	**2.7**	**5.6**	**m**
Moldova	**MD**	**m**	**1.4 b**	**m**	**m**
Montenegro	**ME**	**m**	**2.5**	**2.7**	**m**
North Macedonia	**MK**	**2.6**	**2.8**	**2.6**	**m**
Low skilled (ISCED 0-2)		0.2	0.2	0.2	m
Unemployed		2.1	2.9	2.3	m
Serbia	**RS**	**4.8**	**4.3**	**3.7**	**4.8**
Low skilled (ISCED 0-2)		0.4	0.3	0.6	0.5 bu
Unemployed		4.6	3.6	3.2	4.4
Türkiye	**TR**	**5.5**	**5.7**	**5.8**	**m**
Low skilled (ISCED 0-2)		2.7	2.8	2.7	m
Unemployed		9.0	9.7	9.4	m
Ukraine	**UA**	**0.8**	**0.7**	**0.5**	**m**
European Union	**EU**	**10.1**	**10.8**	**9.2**	**10.8**
Low skilled (ISCED 0-2)		4.0	4.3	3.4	4.3
Unemployed		9.3	10.7	10.5	12.7

Sources: ETF KIESE, Eurostat; see the classification of educational programmes/broad levels in the annex
Note: b = break in series; m = missing; u = unreliable

Table 12: Participation in adult training in the past 12 months

2016	AL	BA	MK	RS	TR	EU28
Formal/non-formal learning	**9.2**	**8.7**	**12.7**	**19.8**	**20.9**	**45.1**
Male	8.8	8.9	13.5	18.0	24.8	44.9
Female	9.5	8.5	11.9	21.4	17.0	45.4
Young people (aged 25-34)	17.3	25.6	20.6	29.2	31.3	53.6
Seniors (aged 55-64)	3.5	2.7	5.4	7.4	6.5	32.9
Low	2.0	0.9	1.0	m	11.4	24.0
Medium	7.0	7.2	10.3	14.2	28.7	41.3
High	32.3	31.2	36.3	39.9	48.9	65.7
Employed	13.0	16.2	18.2	32.5	31.9	53.1
Unemployed	4.0	5.0	5.8	11.0	20.9	28.3
Inactive	6.1	3.7	5.5	9.8	9.3	22.7
Managers (ISCO 1-3)	29.5	27.9	35.7	52.9	49.8	67.8
Services (ISCO 4-5)	13.7	13.1	17.1	17.5	34.3	49.2
Elementary (ISCO 6-8)	2.4	9.8	5.7	17.2	19.9	36.3
Urban	13.4	12.9	12.7	27.3	m	48.9
Rural	6.8	5.6	m	12.7	m	39.3
Non-formal learning	**8.2**	**6.9**	**10.4**	**18.2**	**17.8**	**42.6**
Non-formal job-related	6.1	5.0	9.9	14.1	13.8	35.8
Job-related employer-paid	5.1	4.4	7.9	11.9	12.2	31.9
Informal learning	**67.8**	**74.7**	**67.3**	**90.5**	**32.4**	**60.5**

Source: Eurostat, Adult Education Survey (2016)
Note: m = missing

Table 13: The ten main obstacles to participation in adult training

2016	EU28	AL	BA	MK	RS	TR
1. No need for (further) education or training	**59.5**	43.4	74.6	73.5	53.0	46.9
2. Schedule	**8.9**	1.7	4.7	2.9	6.7	1.8
3. Family responsibilities	**7.6**	12.9	3.5	4.3	8.9	26.7
4. Cost	**6.0**	20.0	6.6	11.6	16.7	3.0
5. Lack of employer support or public service support	**3.5**	3.8	1.0	1.7	1.3	0.9
6. Health or age	**3.4**	5.3	3.4	1.3	3.2	7.4
7. Other personal reasons	**3.3**	3.9	4.7	2.9	0.7	1.0
8. No suitable education or training activity (offer)	**2.2**	2.5	m	0.2	7.5	1.9
9. Distance	**1.2**	2.9	0.9	0.7	1.8	3.4
10. Prerequisites	**0.9**	1.9	m	0.8	m	5.0

Source: Eurostat, Adult Education Survey (2016)
Note: m = missing

Annex: Classification of educational programmes

Educational attainment (broad levels)	ISCED-11 level	ISCED-97 level	Description
LOW	No schooling	No schooling	Less than 1 year of schooling.
	Early childhood education	Pre-primary education	Education delivered in crèches, nursery schools or infant classes.
	Primary education	Primary education or first stage of basic education	Programmes are designed to give students a sound basic education in reading, writing and arithmetic. Students are generally 5-7 years of age. Might also include adult literacy programmes.
	Lower-secondary education	Lower-secondary education or second stage of basic education	Continuation of basic education, but with the introduction of more specialised subjects. The end of this level often coincides with the end of compulsory education, where that exists. Also includes vocational programmes that provide training for specific occupations and apprenticeship programmes for skilled trades.
MEDIUM	Upper-secondary education	Upper-secondary education	Completion of basic education, often with classes specialising in one subject. Admission usually restricted to students who have completed 8-9 years of basic education or whose basic education and vocational experience indicate an ability to handle subject matter at the level indicated.
	Post-secondary non-tertiary education	Post-secondary non-tertiary education	Captures programmes that straddle the boundary between upper-secondary and post-secondary education. Programmes of between 6 months and 2 years typically serve to broaden the knowledge of participants who have successfully completed level 3 programmes.
HIGH	Short-cycle tertiary education	First stage of tertiary education (not leading directly to an advanced research qualification); subdivided into:	
	Bachelor's or equivalent level	**5A**	Programmes are largely theory based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes. Duration is generally 3-5 years.
		5B	Programmes are of a typically 'practical' orientation designed to prepare students for particular vocational fields (high-level technicians, teachers, nurses, etc.).
	Master's or equivalent level	Second stage of tertiary education (leading to an advanced research qualification)	Programmes are devoted to advanced study and original research, and typically require the submission of a thesis or dissertation.
	PHD or equivalent level		

www.etf.europa.eu

www.twitter.com/etfeuropa

www.youtube.com/user/etfeuropa

www.facebook.com/etfeuropa

www.instagram.com/etfeuropa

openspace.etf.europa.eu