

Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employers' Skills Survey: *Building a mechanism for tracking skills supply and demand in Cyprus*

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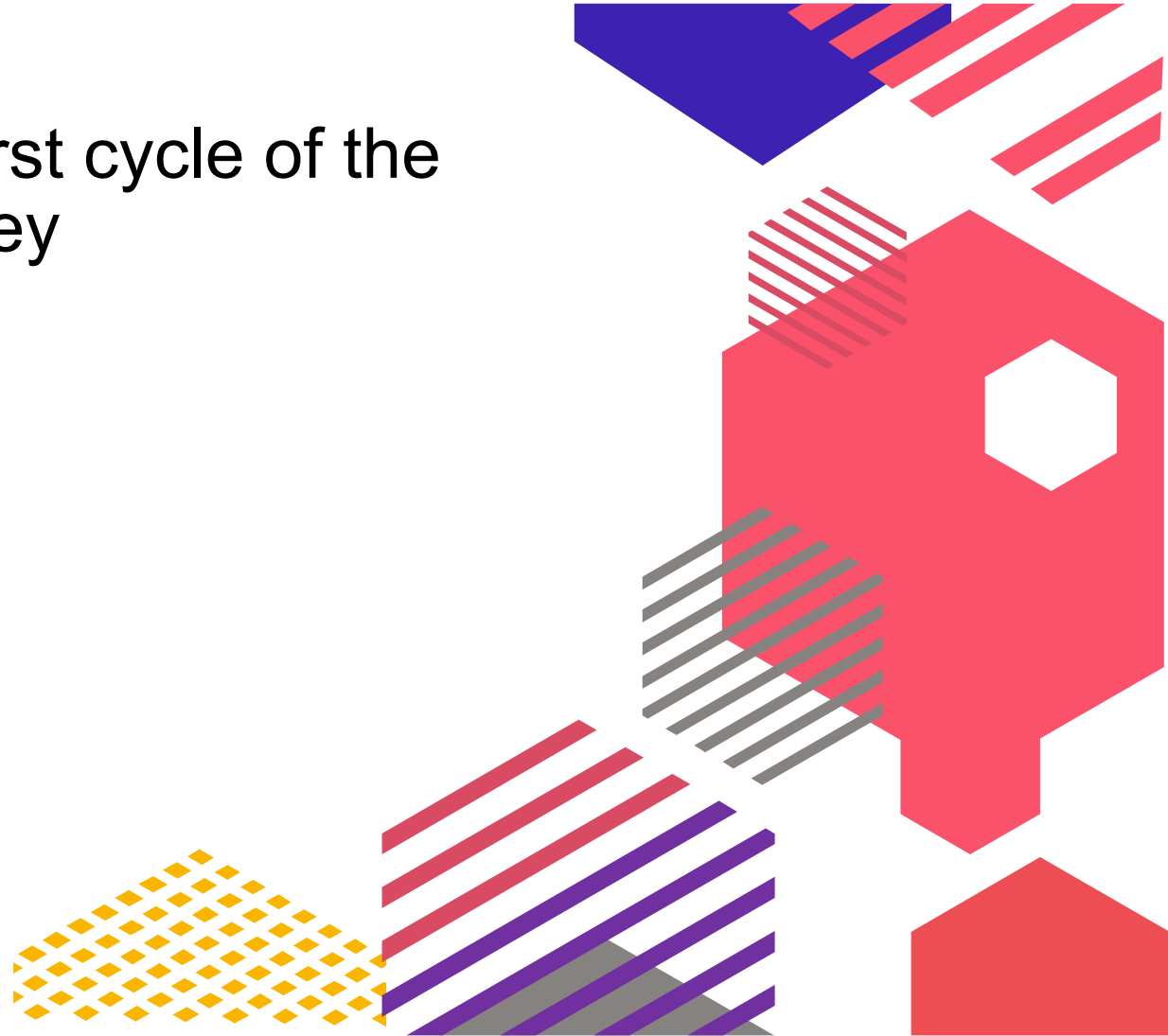
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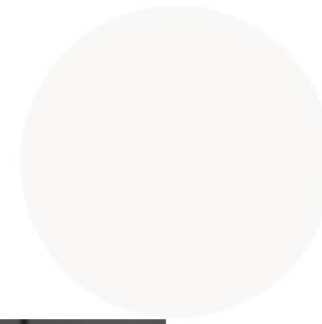
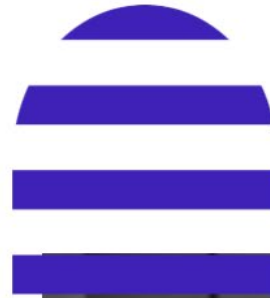
Presentation Outline

- **Part A:** Project Overview
- **Part B:** Main Findings from the first cycle of the National Graduate Tracking Survey
- **Part C:** Future Directions



Tracking skills supply and demand in Cyprus

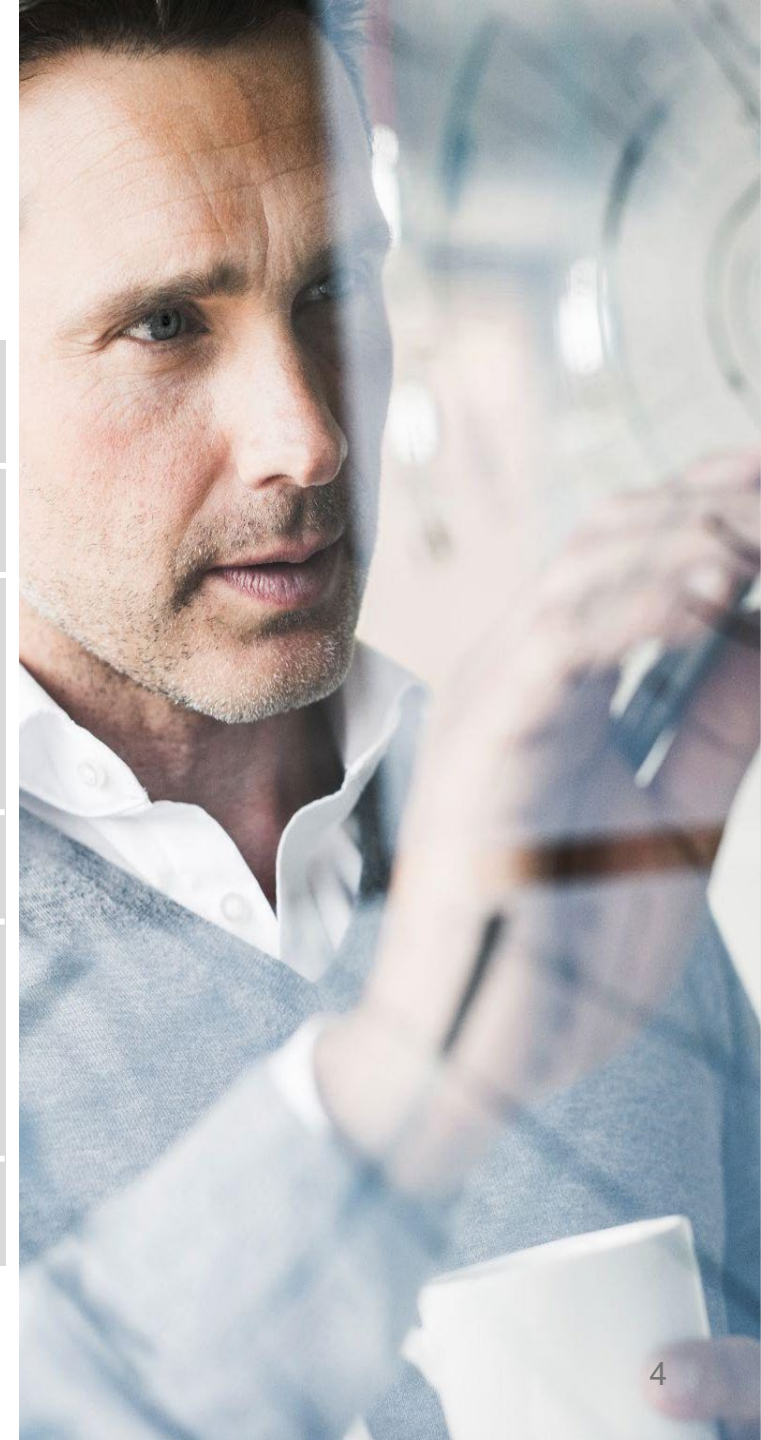
Tracking skills supply and demand to improve the connection between Higher Education and the labour market in Cyprus.



Part A: Project Overview

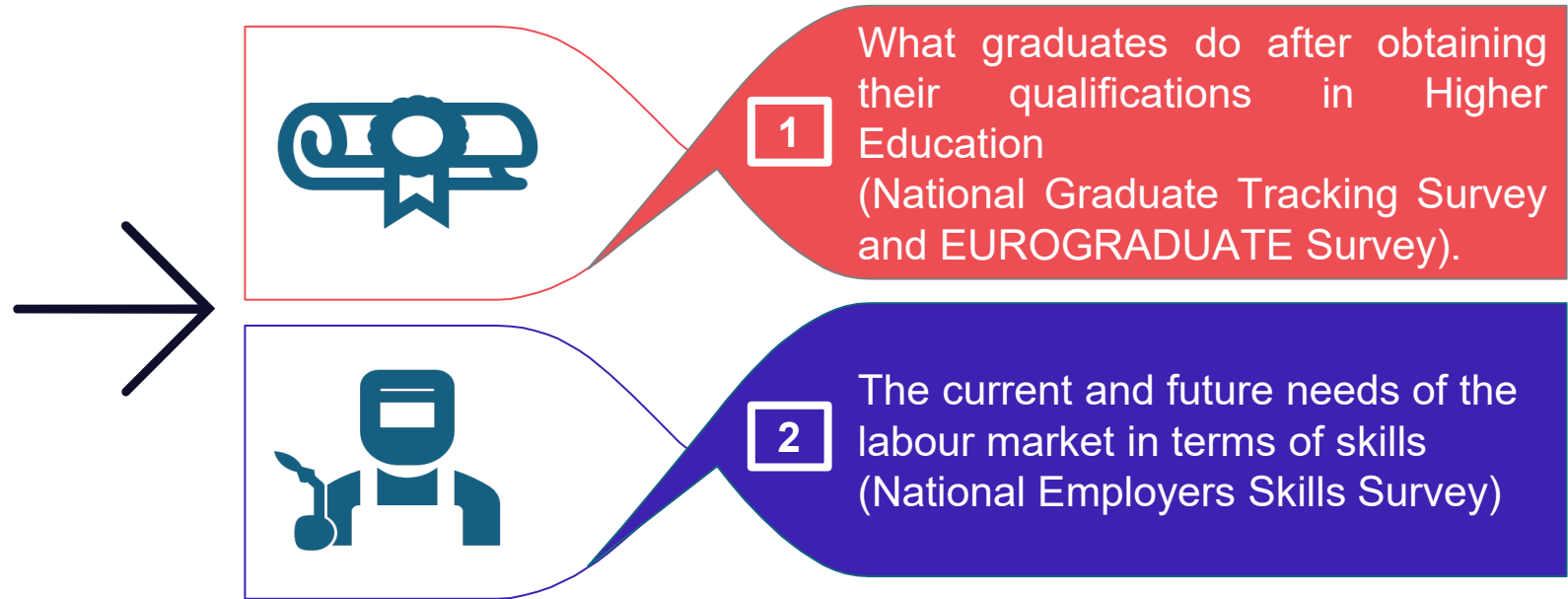
Project's Identity

Project Title	Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employers' Skills Survey
Project Context	The Project is part of a larger project entitled “Addressing Skills Mismatch between Education and the Labour Market” (Component 5)
Funding Source	Funded by the Recovery and Resilience Facility
Project Proposal	A project proposed by the Department of Higher Education
Contractor	PwC Cyprus
Key Milestone	Report of main findings of Graduate Tracking of Cyprus Higher Education survey is finalised and public by Q3 2023 (Achieved)
Project Website	https://skilltracking.highereducation.ac.cy/
Project Timeline	November 2022 - November 2027 (<i>plus 36 months of monitoring support</i>)



Project's Aim

Provision of accurate, up-to-date, systematic, high-quality, longitudinal and accessible national data about:



Two National Surveys

National Graduate Tracking Survey

- **Respondents:** Two cohorts of graduates (T+1 and T+5)
- **Frequency:** Annually
- **Sampling:** Census
- **Data Collection Method:** Online questionnaire
- **Thematic areas:**
 - Education Experience in Higher Education (C)
 - Employment (C)
 - Relevance of education and training to employment (C)
 - Mobile Graduates (C)
 - Personal and Social Background (C)
 - Career Counselling during Upper Secondary Education (A)
 - Career Counselling during Higher Education (A)
 - Reskilling and Upskilling opportunities during employment (A)

National Employers' Skills Survey

- **Respondents:** Employers from the Private, Public and Semi-Governmental Sectors
- **Frequency:** Every two years
- **Sampling:** Random sample for Private Sector and Census for Public and Semi-Governmental Sectors
- **Data Collection Method:** Online questionnaire
- **Thematic areas:**
 - Profile of Enterprise/Organisation
 - Employment in workplace (size, NACE sector, occupations)
 - Changes in employment
 - Recruitments - Appointments/ Hard-to-fill vacancies
 - Recruits of recent graduates from Cyprus Higher Education Institutions
 - Internal Skill Gaps (and over-skilling)
 - Skill shortages
 - Skill obsolete



EUROGRADUATE: A European Graduate Tracking Survey

Policy & Funding

- **Context:** 2017 Council Recommendation invited the Member States to improve the quality, availability and comparability of tracking data about Higher Education graduates
- **Purpose:** The collection of comparable data on the experiences of European graduates during their studies in Higher Education and the impact of these experiences on their professional lives and their lives as European citizens.
- **Funding:** by the Erasmus+ program of the European Union (Cyprus participation was funded by RRF).



Data collection phases

First Phase

1

Pilot study: 2018 with 8 countries

Second Phase

2

EUROGRADUATE 2022: 17 countries EU/EEA (50%), first comparative report will be published in Summer 2024

Third Phase

3

EUROGRADUATE 2026: 80% of EU/EEA countries and by 2030 (100%)

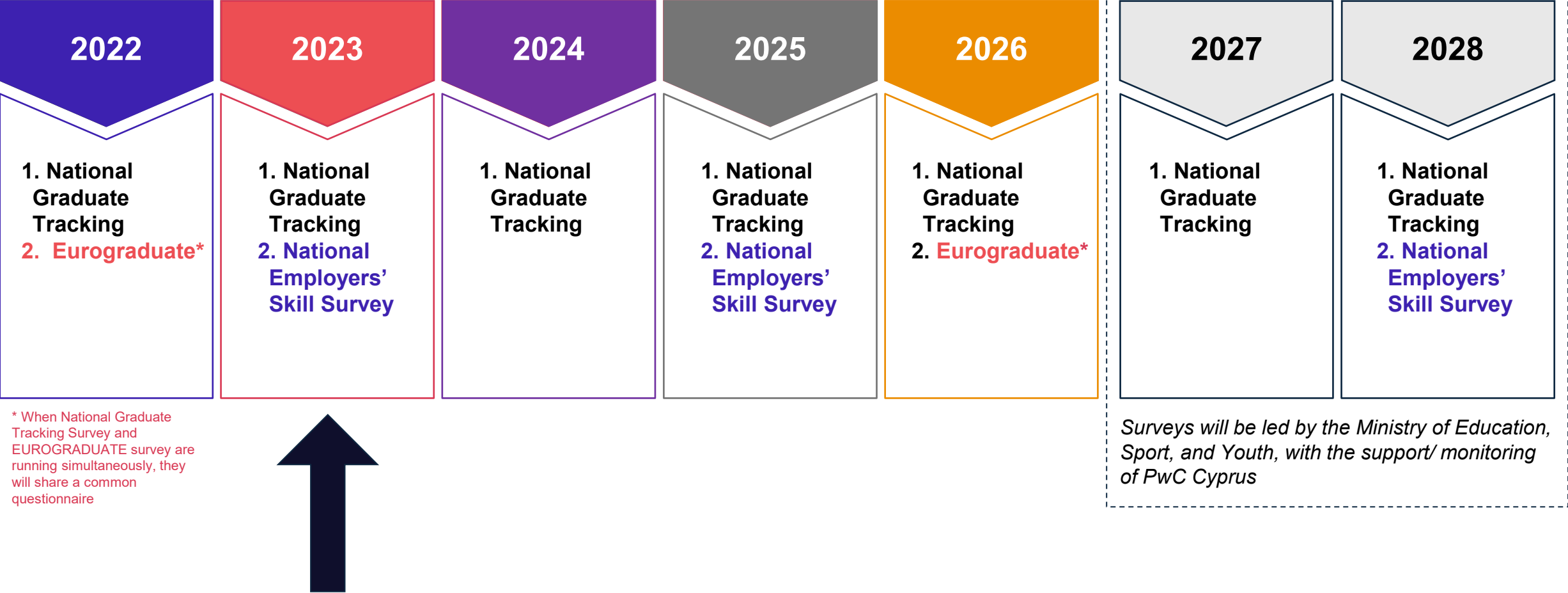


Medium-term goal

- Building a comprehensive graduate tracking mechanism on a European level
- Improve the collection and linking of survey and administrative data (e.g., a shorter survey questionnaire).

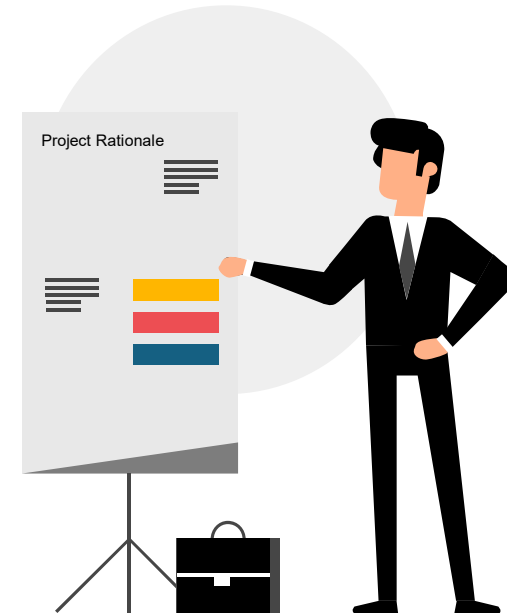


Data Collection Cycles



Project Rationale

01	Existence of skills mismatches	<p>Cyprus is the third country after Spain and Greece with the highest overqualification rate for the employed population aged 20-64 at nearly 31.8% (Cedefop 2015).</p> <p>Employability among young graduates has risen in 2019, but health and science, technology, engineering and mathematics (STEM) graduates remain scarce (Education & Training Monitor, 2020).</p>
02	Need for better connection between the education and training system and the labour market	<p>In 2020, Cyprus received a country-specific recommendation to improve labour-market relevance of education and training (Council of the European Union, 2020).</p>
03	Absence of a national graduate tracking system (2017 Council Recommendation on tracking graduates)	<p>The discrepancy between labour market needs and young people's study choices could be reduced by comprehensive graduate tracking. However, at present, this is lacking at both system and provider-level for Tertiary Education which produces the most graduates in Cyprus. (Council of the European Union, 2020).</p>
04	Lack of skills intelligence data for decision and policy making	<p>Collecting information on skills utilisation in the labour market and placement rates for policy-making and career counselling needs to be further expanded and systematized in Cyprus (Council of the European Union, 2020).</p> <p>Monitoring of the higher education system is weak. Systematic data gathering, analysis and use of data to inform policy is underdeveloped.</p>



“

Tackling skills mismatches through better labour-market information should be a priority for policy-makers.

Cedefop, 2015

Definition of Skills Mismatch

The discrepancy between what the education system delivers and what the labour market needs (Quintini, 2011)

Imbalances between skills offered and skills needed in the world of work (UNESCO).



Skills Mismatches: An Umbrella Term



Vertical mismatch: The level of education is less or more than the required level of current job



Horizontal mismatch: The level of education or skills matches job requirements, but the field of education is inappropriate for the current job.



Skills gap: The level of skills of the person employed is less than that required to perform the job adequately



Over/under qualification: To hold a higher/lower qualification than the current job requires.



Skill shortage: Demand for a particular type of skill exceeds the supply of available people with that skill.



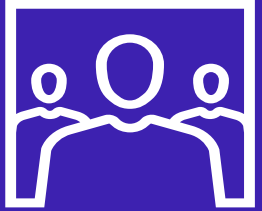
Overskilling/Underskilling: To be unable to fully use one's skills and abilities in the current job/ To lack the skills and abilities necessary to perform the current job to acceptable standards.



Double mismatch: When someone is employed in a job below/above their qualifications and in a different field of study.



Impact of Skills Mismatches



A. For individuals

- Limitations on **employability** prospects
- Decrease of **job satisfaction**
- Negative effects on **salaries**
- Increased job **stress**
- Negative effect on **health** and general wellbeing



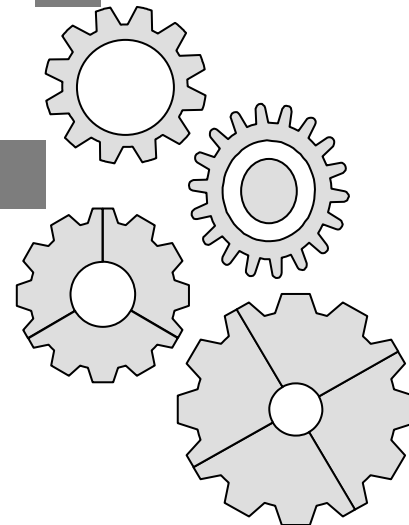
B. For employers

- Low productivity
- Increased job turnover



C. For economies

- Increased rates of **unemployment**
- Reduced **productivity**
- Reduced **GDP** growth
- Reduced competitiveness
- Limited capacity to **innovate** and adopt **innovation**



Addressing Skills Mismatches: A coordinated approach

Collaboration between Education and Industry

- Alignment of the curriculum of existing Higher Education programs of study to correspond to the labor market demands.
- Collaboration between employers and Higher Educational Institutions to ensure that educational programs are relevant and practical.
- Offer of short and flexible programs of study (micro-credentials) by HEIs in order to address skills gaps and upskilling needs (in collaboration with employers).
- Internship programs and industry-sponsored projects for bridging the gap between theory and practice.

Lifelong Learning Initiatives- Encouraging continuous upskilling and reskilling

- Increased participation of adults in lifelong learning over their life course for reskilling and upskilling purposes

Targeted career guidance and counseling services

- Offer career counseling to students early in their educational journey, providing insights into various career paths and the skills required for success in those fields.
- Help individuals identify areas where their skills may be lacking or misaligned with the demands of the job market.
- Ensure career guidance services remain up-to-date by regularly integrating industry insights and labor market trends into such sessions.
- Connect individuals with training programs and upskilling opportunities that are relevant to current and emerging job market needs.

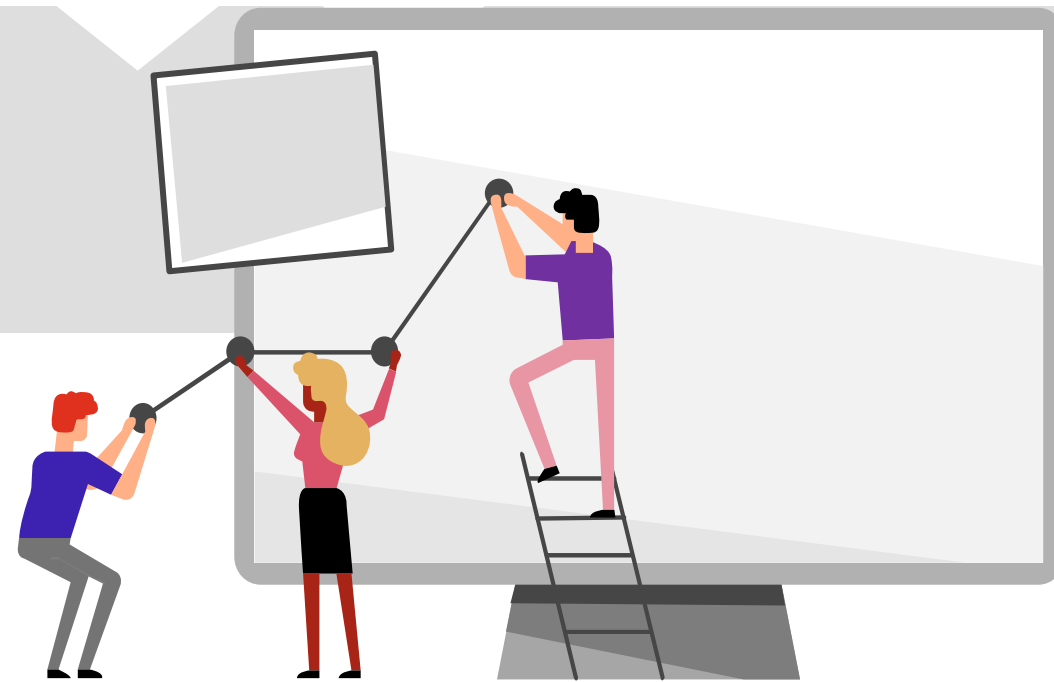
Measuring* Skill Mismatches in the context of the two National Surveys

National Graduate Tracking Survey

- Vertical mismatch
- Horizontal mismatch
- Double mismatch
- Overskilling/Underskilling
- Over-qualification/Under-qualification

National Employers' Skills Survey

- Skill shortages
- Skill gaps
- Overskilling
- Skills obsolete



*Subjective measures: based on self-reported data



Part B: Main National Findings on Graduates

First wave: National Graduate Tracking & EUROGRADUATE Surveys

Population and Sample

Graduates of academic years 2016/17 (T+5) and 2020/21 (T+1):

- From all Higher Education Institutions in Cyprus (both Private and Public Universities and Institutions of Tertiary Education).
- Who have earned Higher Certificates and Diplomas (NQF* 5), Bachelor's degrees (NQF 6), and Master's degrees (NQF 7).
- Of all nationalities, irrespective of their location prior to their education (e.g., school or first degree) and their current or permanent location after graduation.
- Of all enrolment statuses (e.g., full-time, part-time, distance learning).

Population Size

10 478 T+1 Graduates

13 617 T+5 Graduates

Sample Size: 1438

914 T+1 Graduates

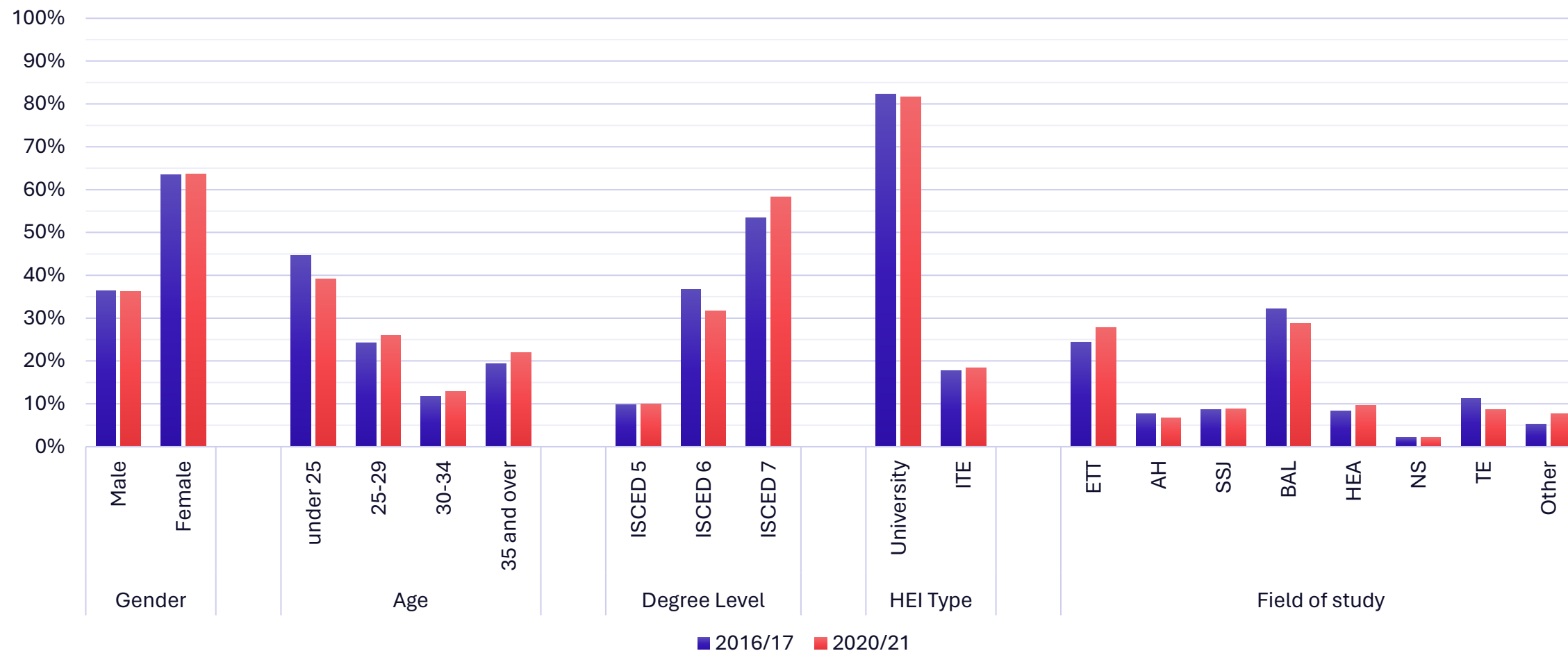
524 T+5 Graduates



*National Qualification Framework

Population and Sample Profile

■ 2016/17 ■ 2020/21

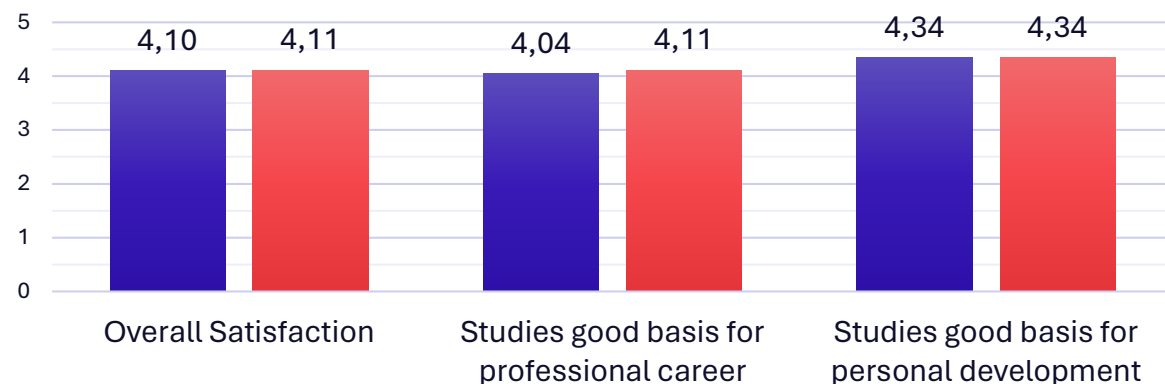


Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BAL-Business Administration Law, HEA-Health, NS-Natural Sciences (including Mathematics), TE-Technology and Engineering. Other includes Agriculture, Forestry, Fisheries, Veterinary and Services

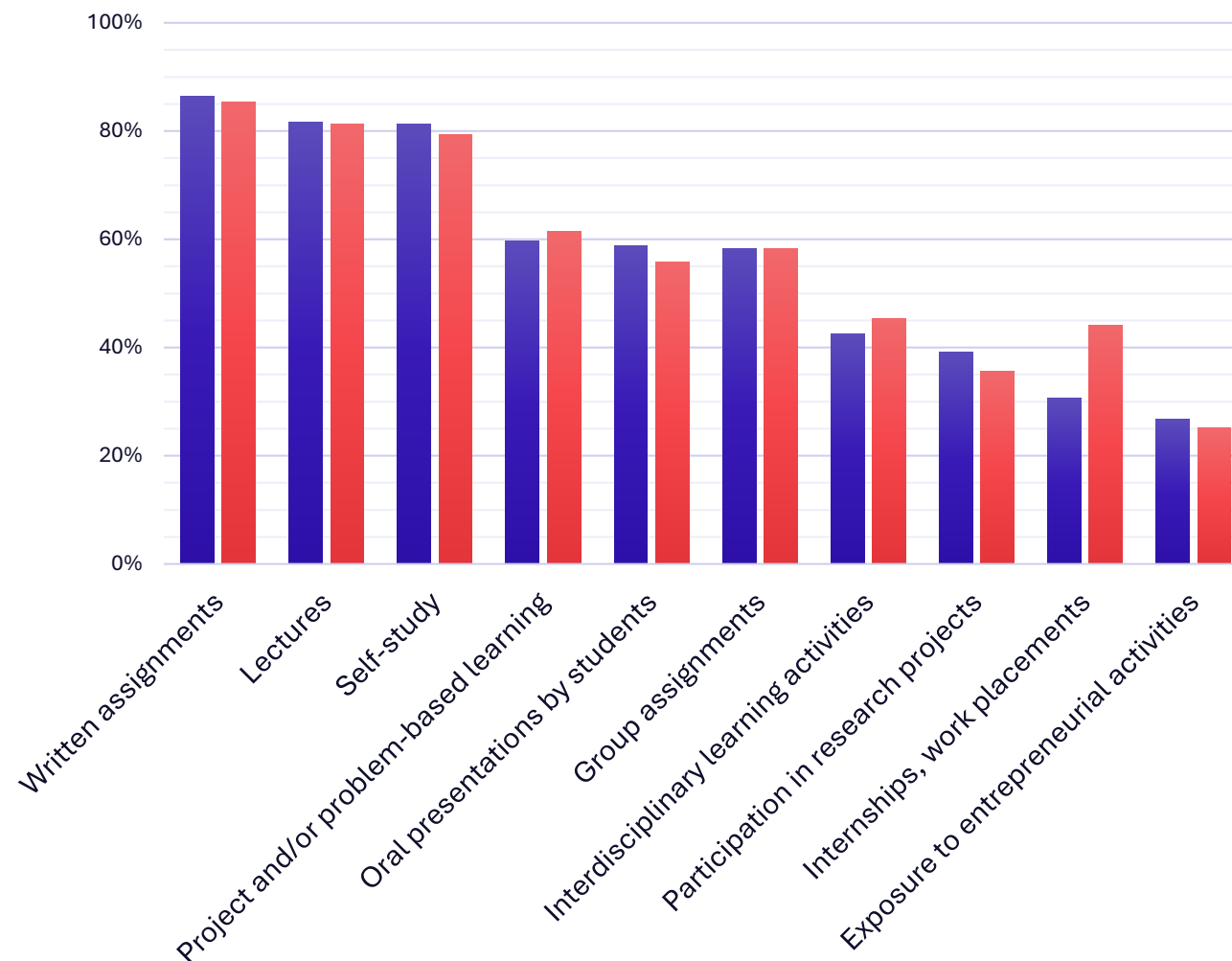
Experiences from Higher Education

■ 2016/17 ■ 2020/21

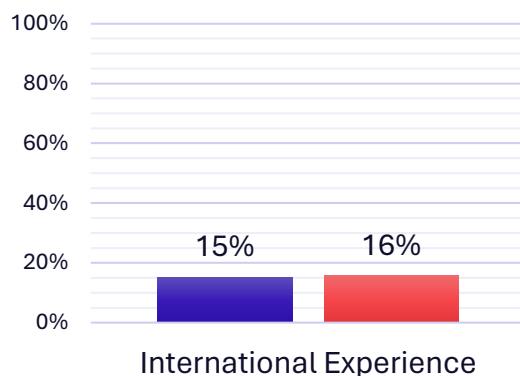
Average Satisfaction with studies (1=low, 5=high)



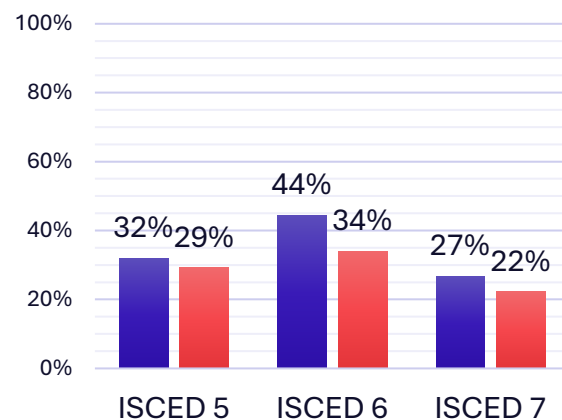
High frequency of use of modes of teaching and learning in the context of programs of study



International experiences during Higher Education studies



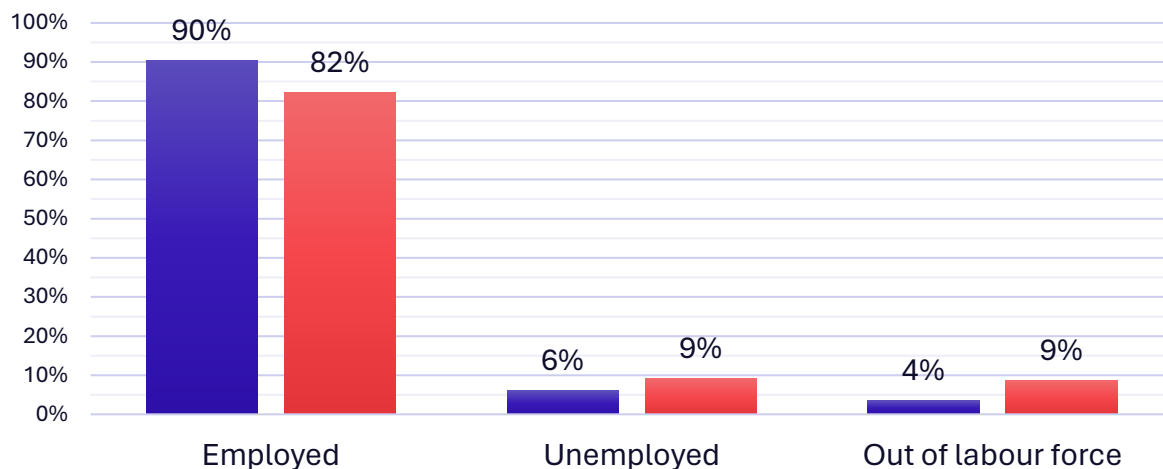
Pursuing further studies after graduation



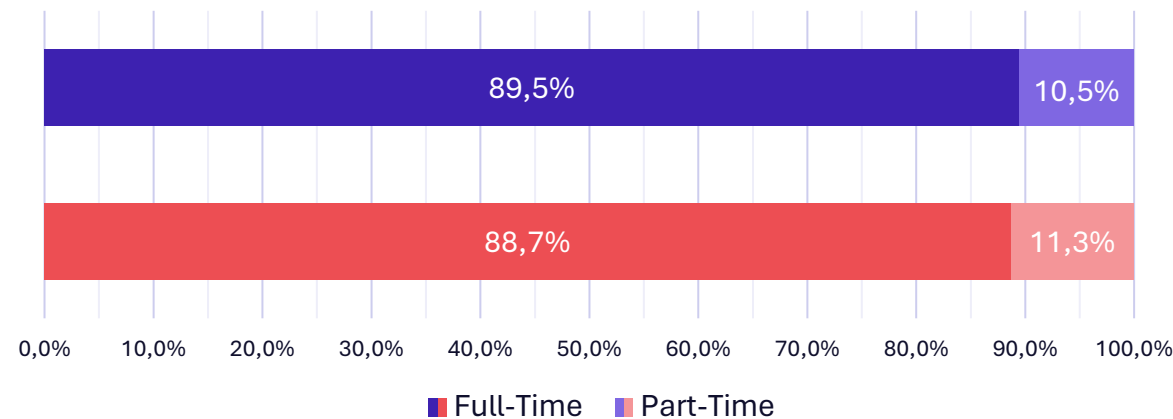
Participation in the Labour Force

■ 2016/17 ■ 2020/21

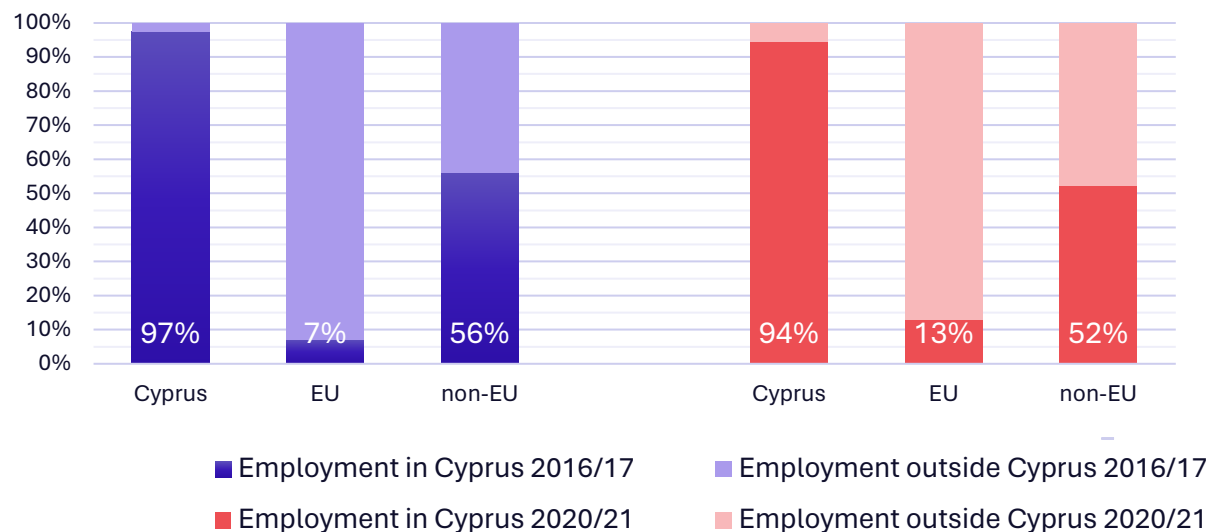
Employment Status



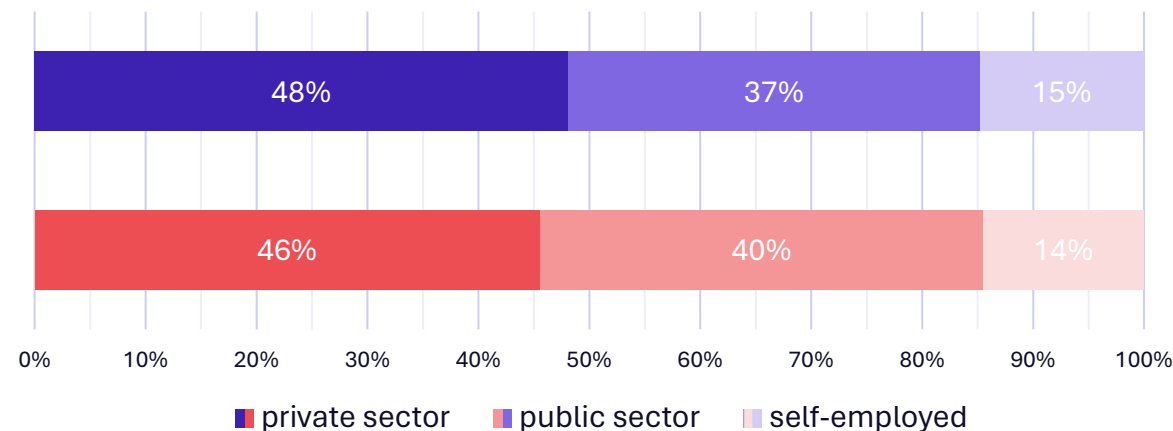
Type of Employment



Place of Employment



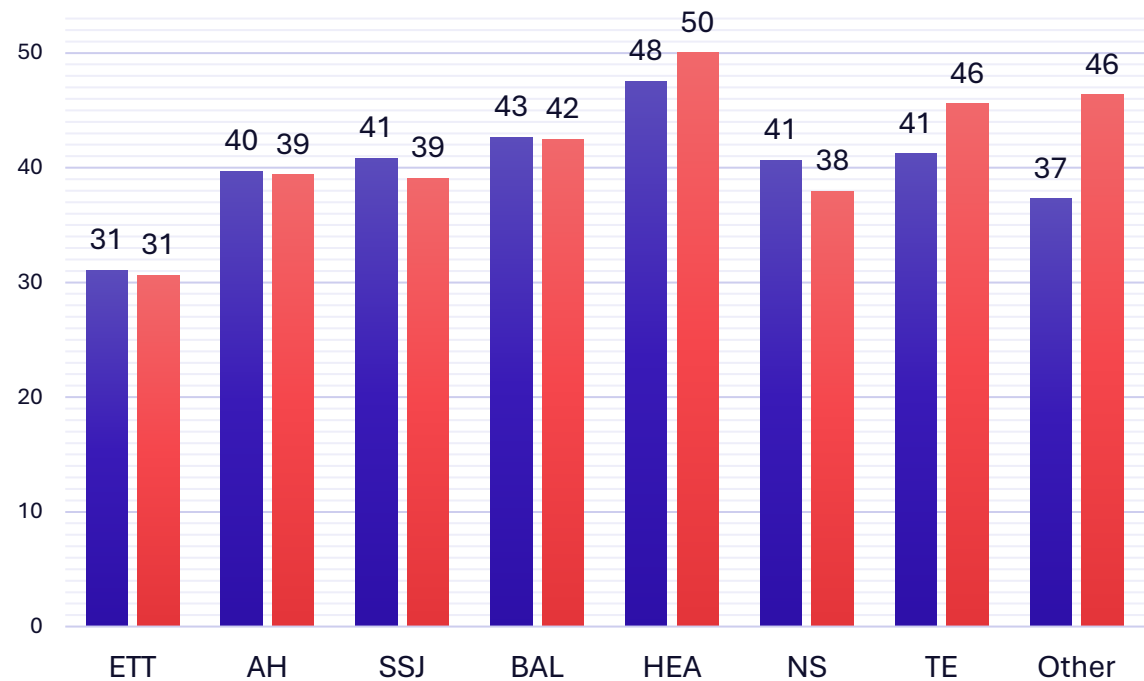
Sector of Employment



Quality Aspects of Employment

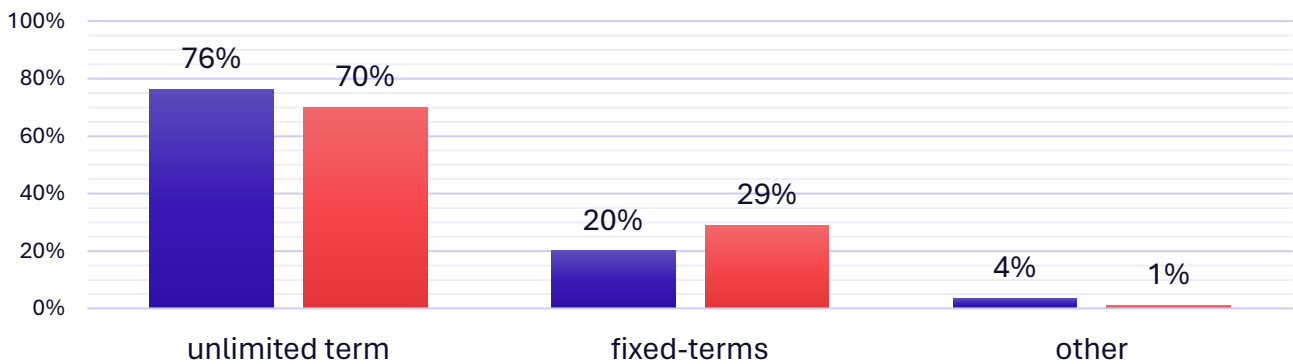
2016/17 2020/21

Actual Working hours per Week

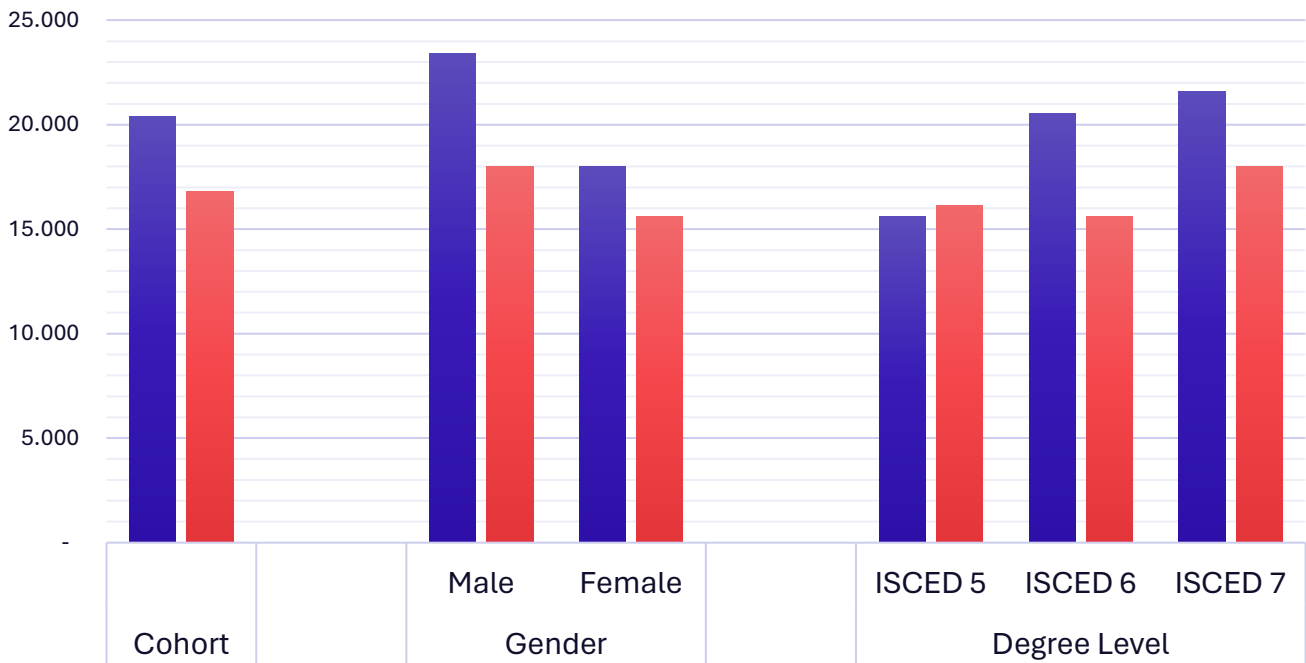


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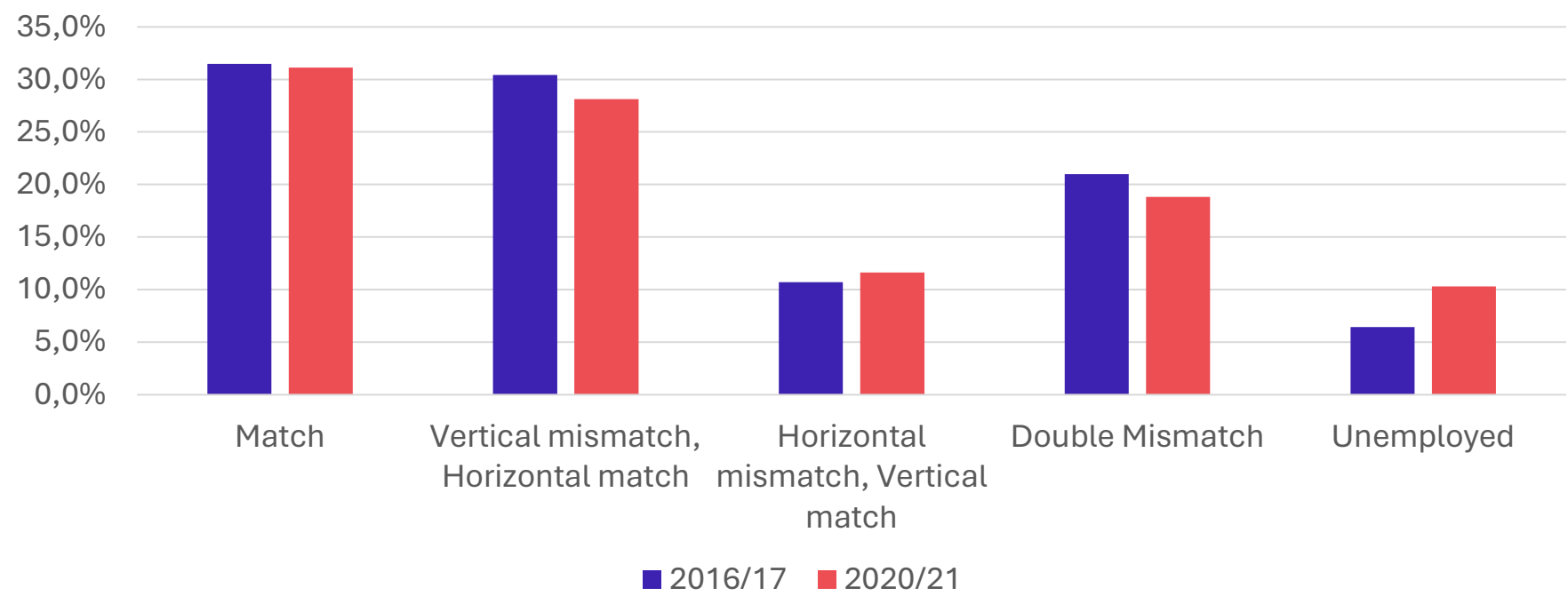
Job security



Median Annual Earnings



Skills Mismatches for Graduates within the Labour Force by Cohort

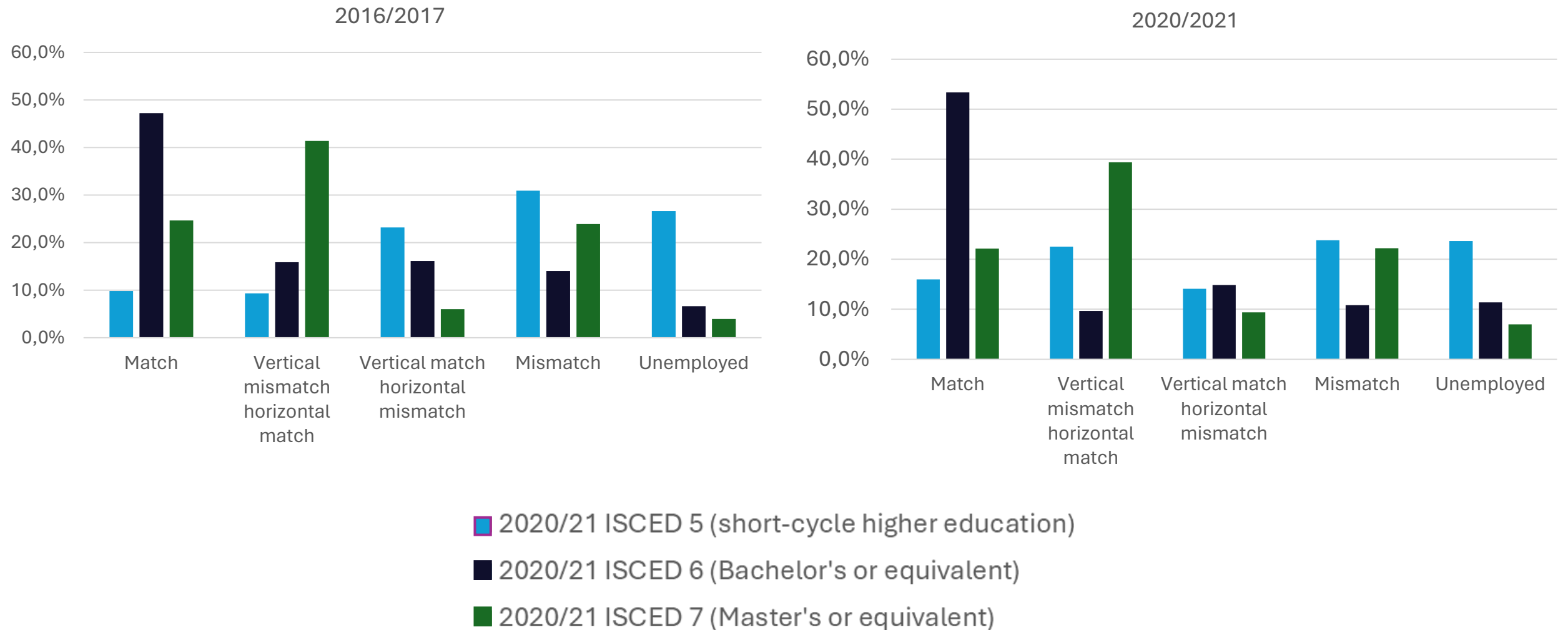


Vertical mismatch:
The level of education or qualification is less or more than the current job requires

Horizontal mismatch:
The type/field of education is inappropriate for the current job

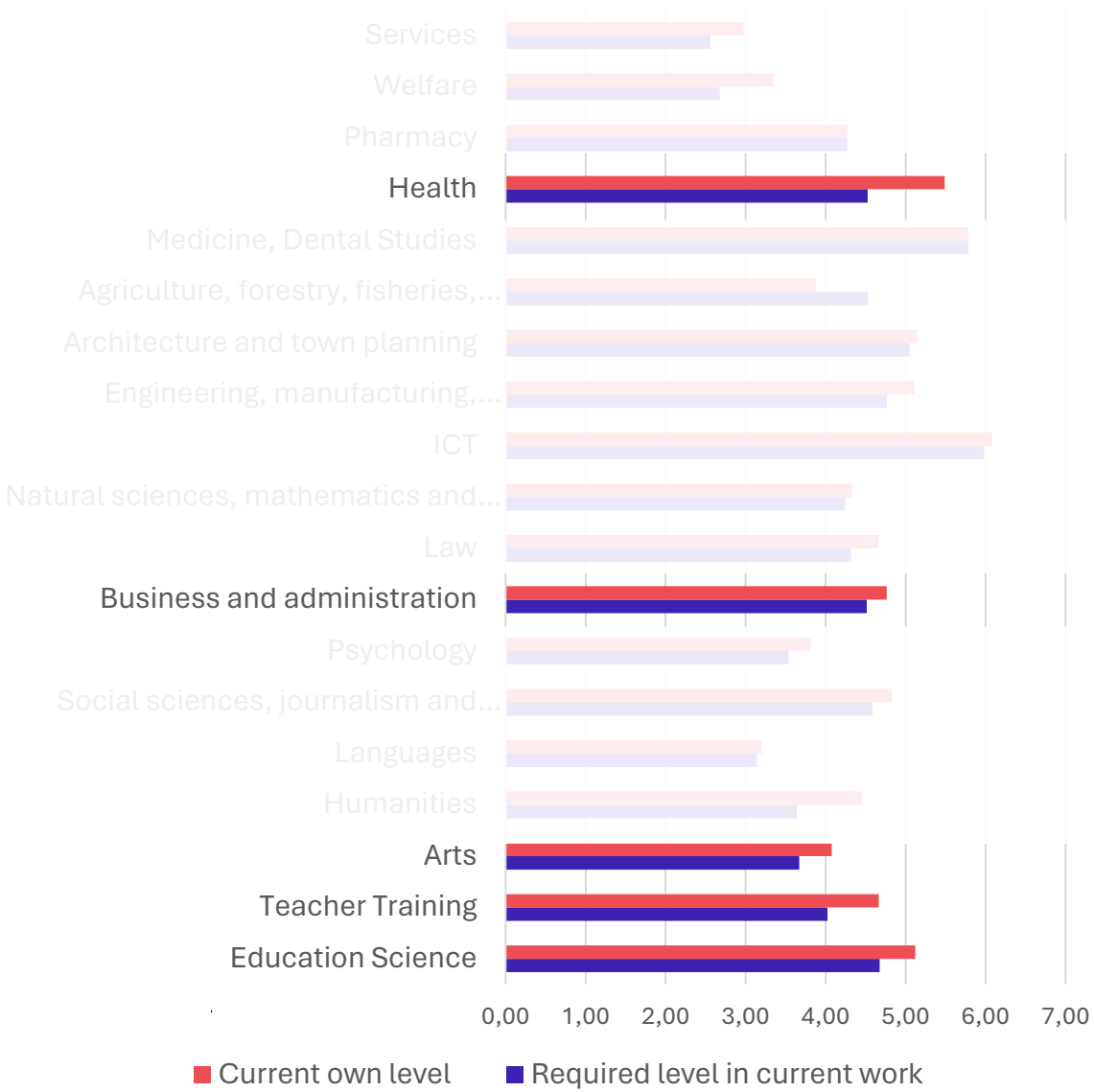
Double mismatch:
When someone is employed in a job below/above their qualifications and in a different field of study.

Skills Mismatches by Cohort and Level of Study

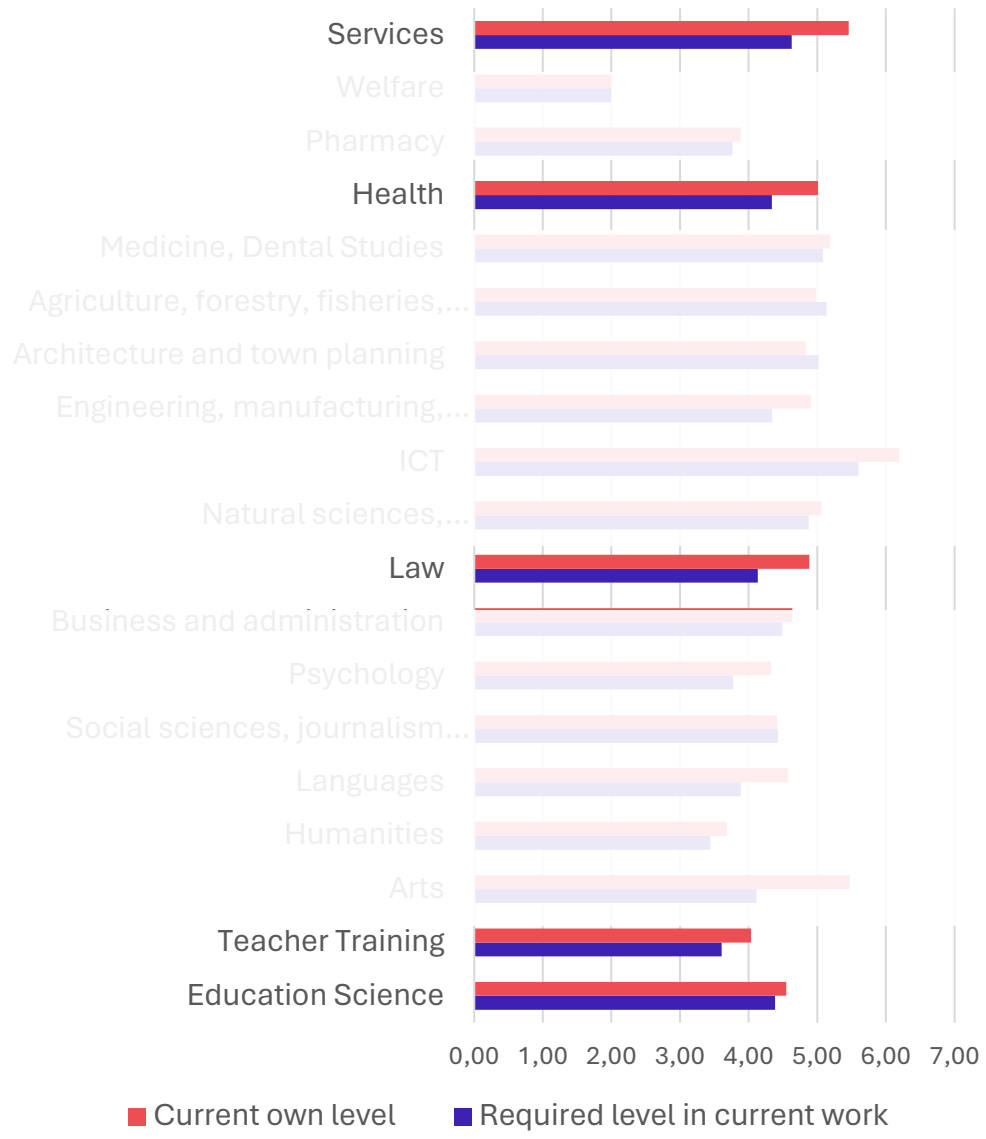


Digital Skills in the Workplace: Advanced use of ICT (1=low, 7= high)

Cohort 2016/17

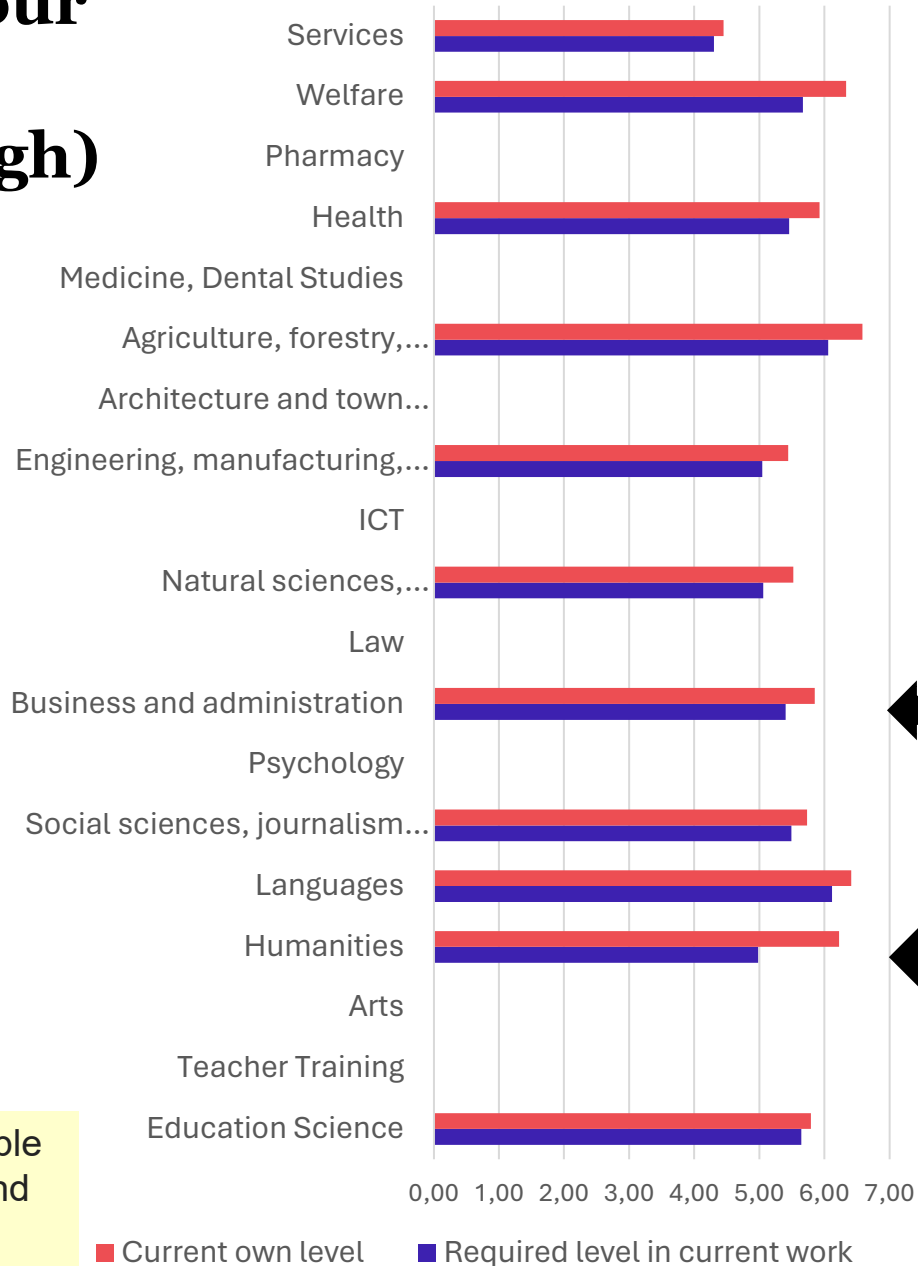


Cohort 2020/21

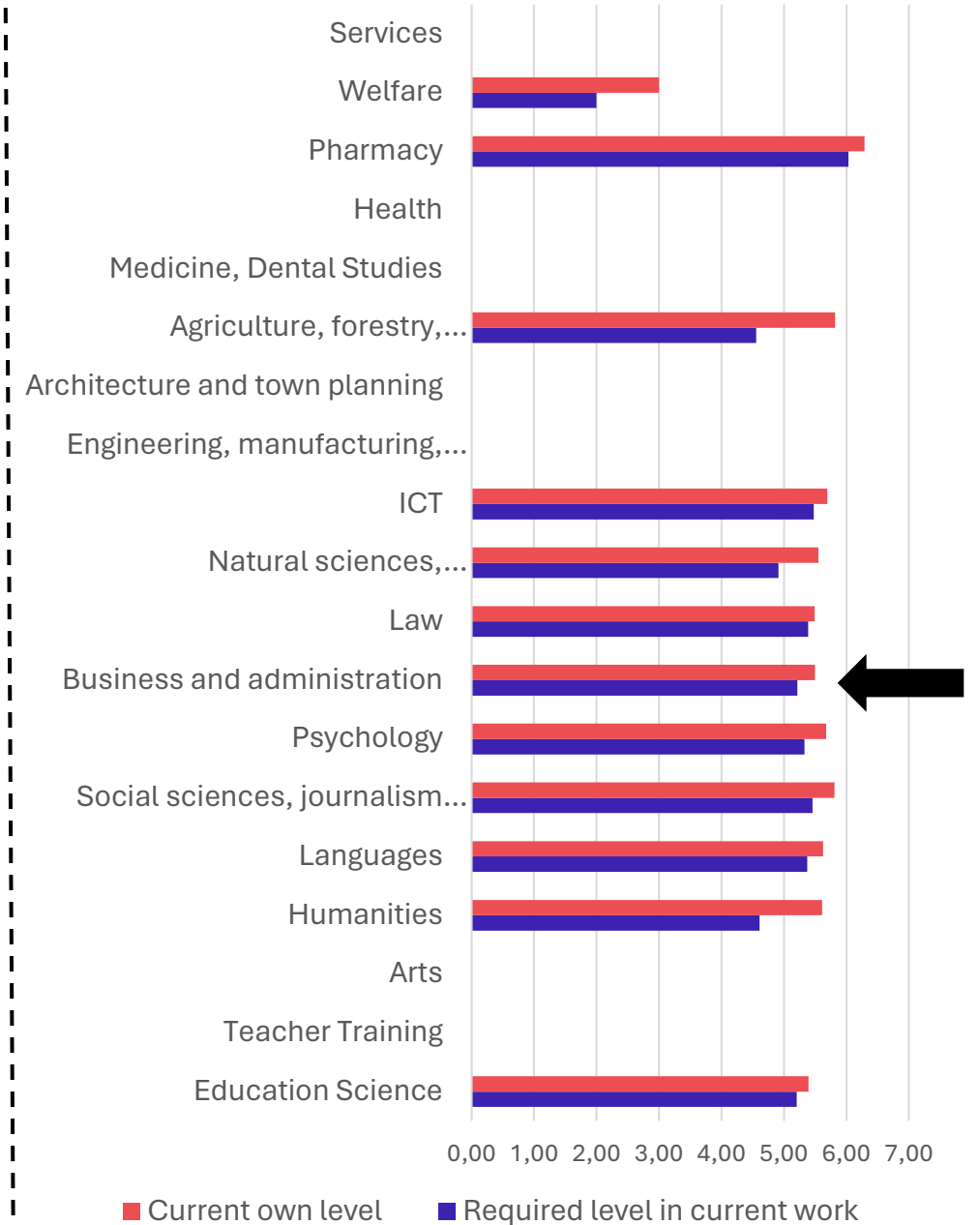


Hard skills: Mastery of your field (1=low, 7= high) Overskilling

Cohort 2016/17



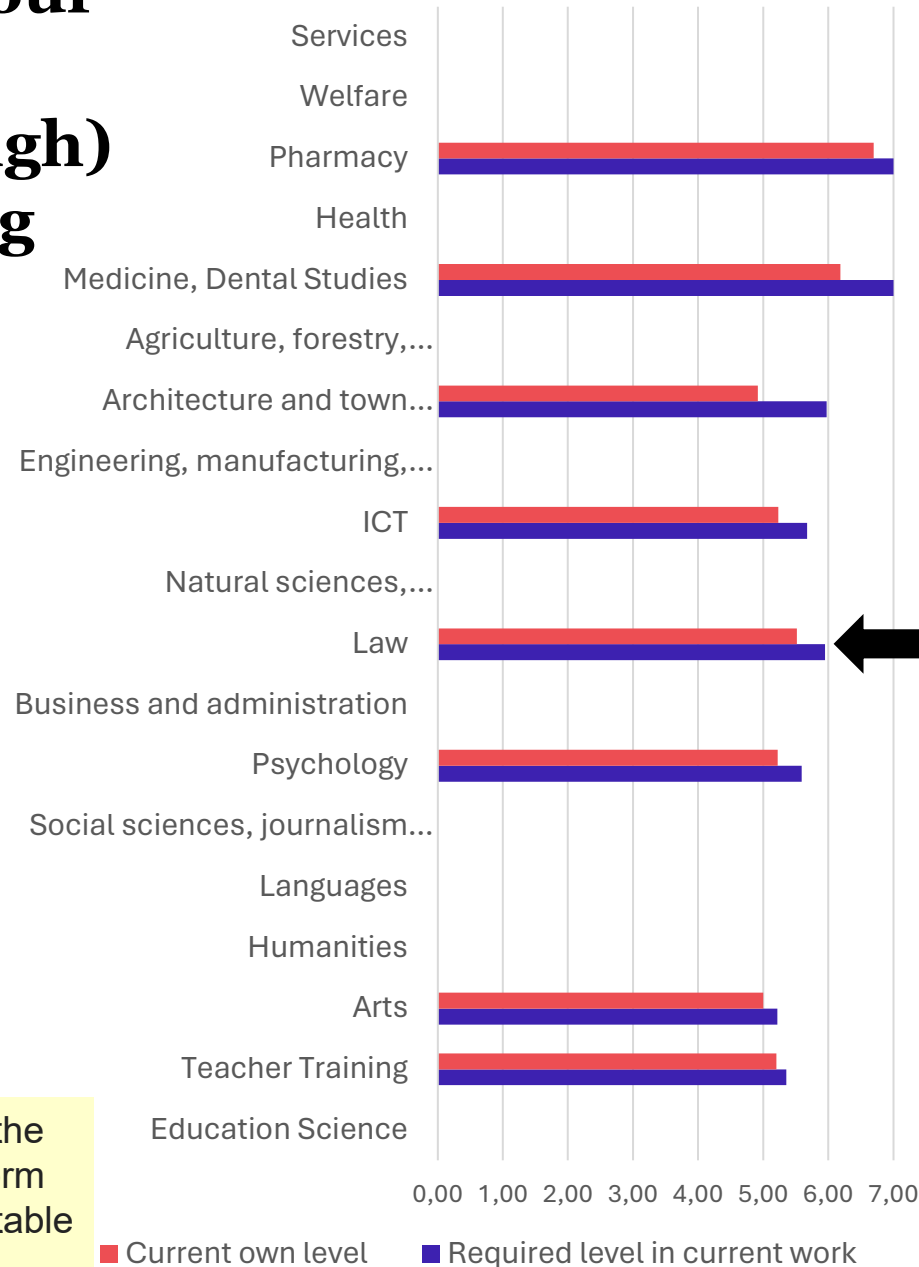
Cohort 2020/21



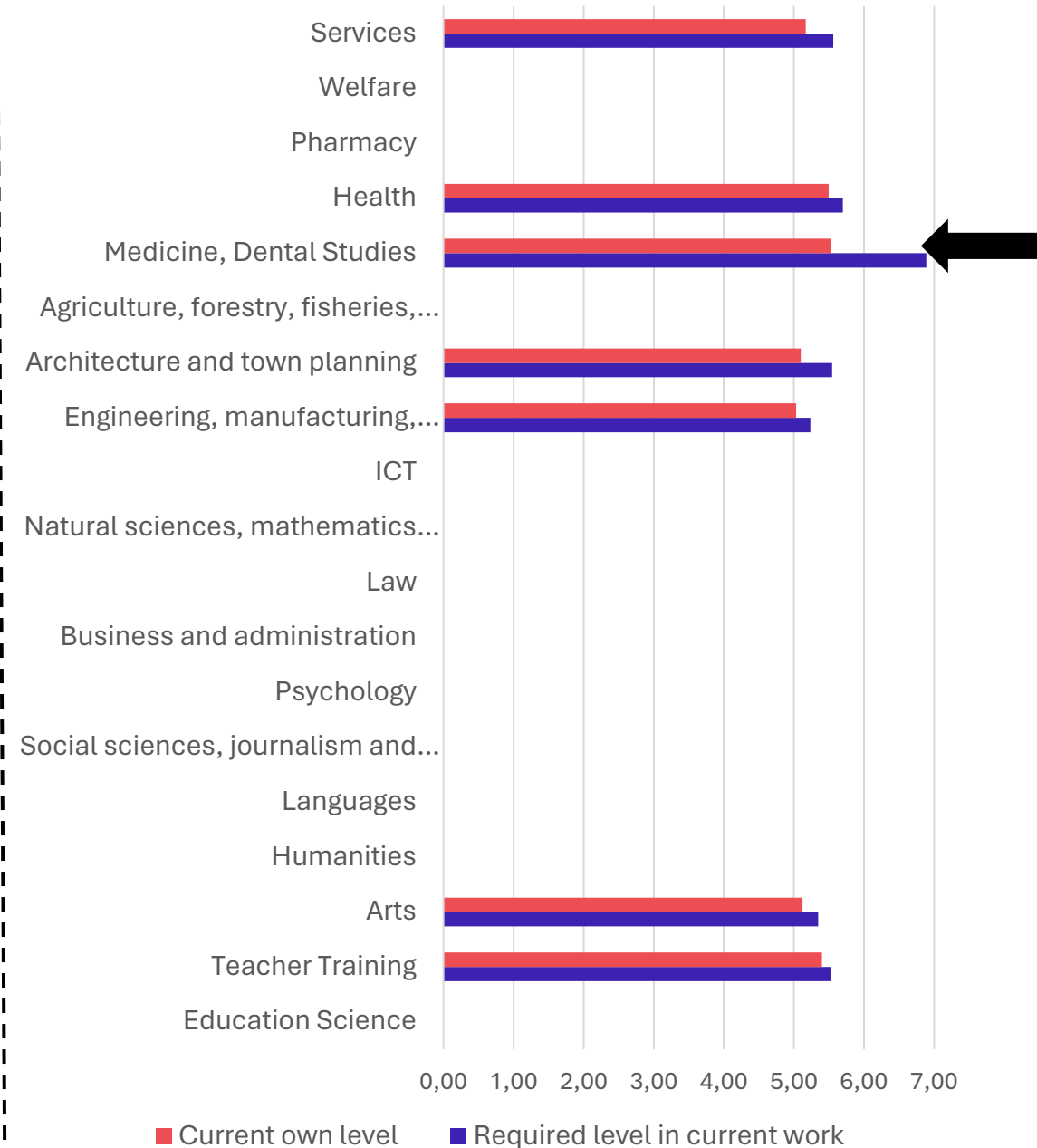
Overskilling: To be unable to fully use one's skills and abilities in the current job

Hard skills: Mastery of your field (1=low, 7= high) Underskilling

Cohort 2016/17



Cohort 2020/21

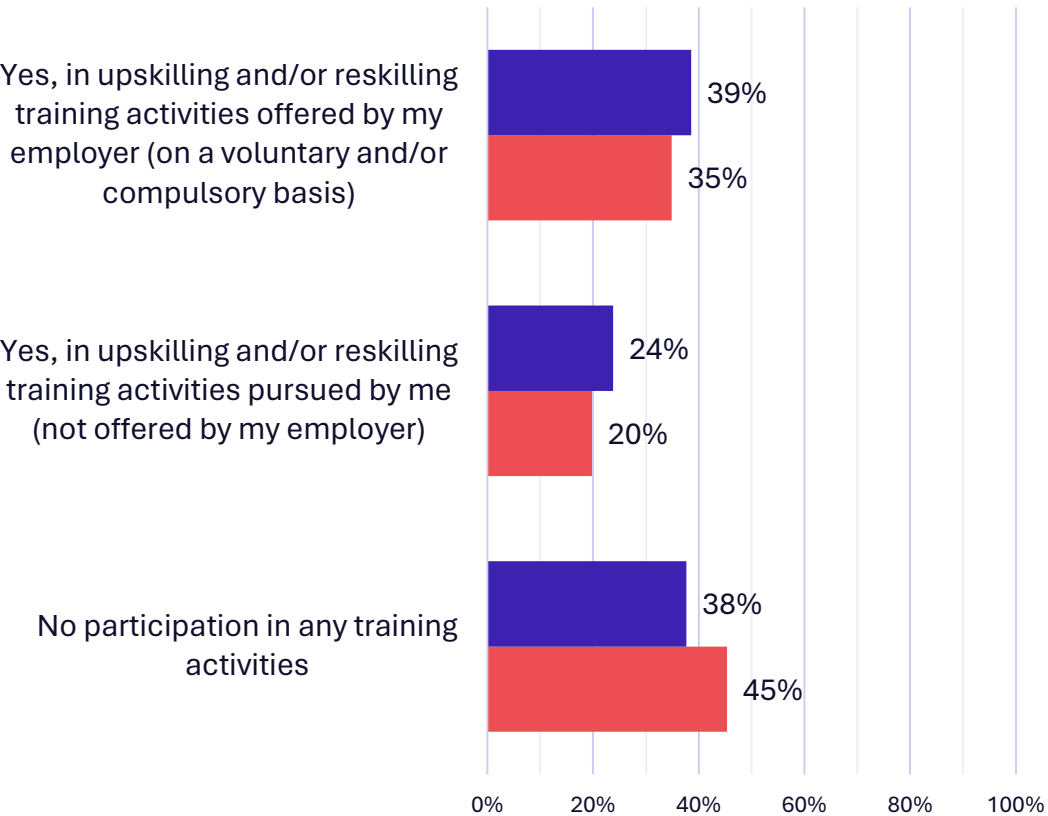


Underskilling: To lack the skills necessary to perform the current job to acceptable standards.

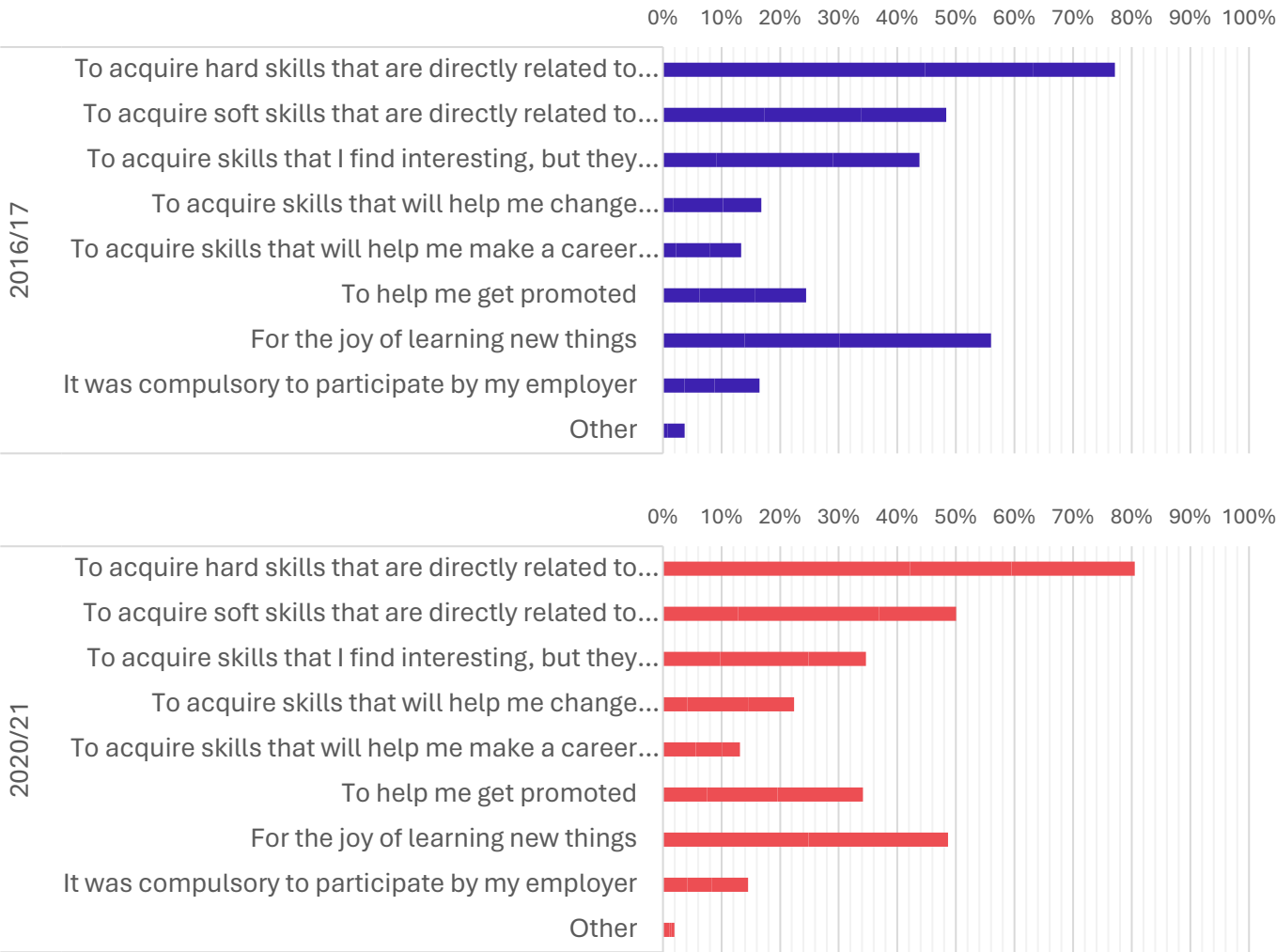
Upskilling and Reskilling Activities during Employment

2016/17 2020/21

Engaging in upskilling and reskilling activities



Motives for engaging in upskilling and reskilling activities



Implications of findings

Enhancing Experiences in Higher Education

- Align academic curricula with labour market demands
- Foster partnerships between educational institutions and employers
- Promote apprenticeships, internships, and work placements to provide practical experiences

Promoting Career Guidance and Counselling Services

- Increase participation in career counselling activities by ensuring that career guidance services are accessible to all, regardless of background or location.
- Raising awareness of the benefits of career guidance and counselling (provision of accurate information about career pathways, and occupations where there is high demand and help individuals align their skills and interests with available opportunities).
- Develop/Strengthen job matching services and platforms

Facilitating Continuous Learning

- Investing in continuous upskilling and reskilling of the workforce throughout individuals' careers
- Address barriers for participation to education and training for disadvantaged groups
- Promote micro-credentials (Micro-credentials certify the learning outcomes of short-term learning experiences)



Part C: Future Directions

Next steps



- Explore ways how to combine survey data with data from administrative sources (HEI registers, social security registry, tax register, business register, unemployment register).
- Make surveys more visible to the public and encourage the use of data by various stakeholders (policymakers, researchers, parents, students, counsellors) for making informed decisions.
- Establish a mechanism for sharing skills intelligence data with different stakeholders: Creating a centralized database where information on skills demand, supply, and gaps can be accessed by policymakers, educators, and employers.
- Conduct an exploratory study of whether and how relevant stakeholders have made use of data from both surveys (2025).
- Develop forecasting models for skills needs that will make use of data collected in the context of both surveys along with other data.

An important step forward: Combining survey data with data from administrative sources/registers for graduate tracking purposes

Benefits



Objective and comparable measurement of various indicators such as educational data, employment, mobility

Limit biases / Increase the reliability of findings

Reduce the length of surveys (collection of data only regarding views) as surveys and administrative data may contain complementary information

Cost-effective and efficient

Requirements



Co-operation between various Ministries

Requirement for a legal basis

Consideration of data protection regulations.

Medium-term goal of Eurograduate Survey: an EU graduate tracking system based on both survey and administrative data.

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Report of the preliminary results of the first cycle of the National Graduate Tracking Survey (CYGraduates):
<https://skilltracking.highereducation.ac.cy/el/reports/>