

Transnational report on NEETs, skills gap and employment policies in peripheral European countries

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March 2023

Executive summary

The prevalence of not in employment, education, or training (NEET) status is a major concern for a number of European countries, despite continued policy efforts to secure school-to-work transitions and social inclusion. Understanding some of the mechanisms that drive the high NEET rates is, hence, paramount for addressing well-founded policies to foster NEET transitions to the labour market. Using microdata from the EU Labour Force Survey and the unique ESCO database on European Skills, Competences, Qualifications and Occupations, this paper sheds light on the occupational and skill profile of young NEETs with prior work experience in Greece, Ireland, Italy and Spain. In particular, it identifies the occupations that NEETs were employed in before transitioning to the NEET status, and categorises those occupations as emerging or non-emerging based on the observed dynamics in the four countries over the past two decades. Hence, the methodological background of the paper establishes a side contribution to earlier literature by identifying occupations on the rise and those whose weight over total employment has declined. Similarly, the report identifies the most demanded skills of labour markets in each of the countries to then understand whether NEETs made use of those in their last occupation. As in the occupational analysis, the skill analysis has a twofold contribution. First, it enables to identify the most demanded skills in labour markets overall and, secondly, identify potential misalignments of NEETs regarding the acquisition of those skills.

The results show that NEETs with work experience account for two thirds of total NEETs in Spain and around 40% in Greece, Italy and Ireland. In particular, prior to transitioning to the NEET status, a large share of NEETs was employed in an occupation that has lost weight over total employment (with the exception of Ireland). In other words, NEETs were particularly concentrated in occupations that may be in decline as a result of several risks (process automation, economic downturns, changes in production models) that may affect a broad number of occupations in the midst of the digital revolution. In broad terms, around 40% of experienced NEETs were previously employed as sales workers or personal service workers, a share that exceeds that of the employed young population. While this occupation has gained weight over total employment in the past two decades, the overrepresentation of NEETs in this occupation might signal certain imbalances. Focusing on the occupations that might help explain the gap in terms of the stronger prevalence of non-emerging occupations for NEETs yields the following results. In particular, elementary occupations, which require lower educational backgrounds, are found to have notable importance in the employment history of NEETs, especially in Spain, where more than 30% of people had an occupation of this type in their last job. For Greece, elementary occupations have a similar weight as clerical support workers and technician associate professionals. A disaggregated analysis of the occupations that compose those elementary occupations shows that non-emerging occupations such as agricultural, forestry and fishery labourers or labourers in mining, construction, manufacturing and transport are prominent occupations where NEETs were last employed, particularly in Italy and Spain, a feature that matches with the temporary and seasonal nature of their labour markets. In Ireland, a large share of NEETs (8.5%) was previously employed as food preparation assistants, an occupation that is characterised for below-average wages and above-average job instability.

The report also questions whether NEETs are less aligned with a number of skills demanded in labour markets. Using the ESCO database, developed by the European Commission, the results outline a systematic skills gap for NEETs. In particular, a large share of NEETs lacks skills in high demand in the Spanish, Italian, Greek and Irish labour markets. Soft skills and other skills related to digital data

analysis and management are especially scarce amongst NEETs. Second, the skills gap that arises when comparing the proportion of NEETs that count on such skills when compared to the employed population is particularly large in Ireland, while it is important to note that the country has the lowest NEET rates of the four analysed. Amongst common soft skills that NEETs lack, the following stand out: leading and motivating, setting goals, or developing solutions to problems.

Lastly, after providing a detailed overview of existing policy responses, the study offers an overview of EU-level and national programs to aid NEETs, with policy recommendations based on its findings and previous relevant research. Tailored policies should be developed for each country to address specific issues, such as reducing temporary contracts in Italy and Spain, addressing reliance on tourism-related jobs in Greece, and tackling atypical work and declining job quality for young people in Ireland. As a further recommendation, it is suggested that policies should consider regional differences in each country to avoid exacerbating the brain drain phenomena. In this sense, further analysis using detailed databases with regionally representative data could lead to more precise recommendations for correcting the skill mismatch in the European labour market.

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1. Introduction

Education and training are regarded as the key safeguard against social exclusion and better labour market prospects in the school-to-work transition (Pemberton, 2008). Despite the institutional framework to secure this transition, the prevalence of not in employment, education, or training (NEET) status is still a major concern for a number of European countries. School absenteeism and labour precariousness are some of the factors that contribute to this problem, particularly prominent in peripheral countries. This phenomenon is of concern despite the ever-increasing qualification levels, leaving young people who still leave school with low or no qualifications particularly exposed (Lőrinc et al., 2020). In particular, the growing labour polarisation and the subsequent decline in certain blue-collar jobs further accentuates this problem (Huchida & Norasakkunkit, 2015).

The NEET status, if persistent, can bring adverse social and economic consequences which have long been documented. From an individual perspective, periods of being NEET can have long-lasting consequences on individuals' future labour trajectories, including earnings, as well as on their well-being and mental health. From a societal stance, the lifetime cost of being NEET can reach several billions (Lőrinc et al., 2020) in the form of tax losses and benefit payments, together with foregone productivity to the economy (Coles et al., 2010).

In view of this concern, public policy in the European Union has attempted to reduce NEET numbers over the past few decades through a number of interventions. Most of these have been focused on education and training, given that academic underachievement appears as the main risk factor for the NEET status. While active labour market policies have been found to reduce NEET rates across European states (Eurofound, 2012), their scope varies substantially across contexts (Bacher et al., 2017) and little is still known about the profile of this population subgroup, whose profile has changed following the Great Recession (Kelly & McGuinness, 2015).

The present report attempts to contribute to the profiling of young NEETs in terms of their labour market features. Although most of the literature focuses on school-to-work transitions, few of the studies to date analyse the situation of NEETs with prior labour experience, which applies to a non-negligible proportion of total NEETs (for instance, two in every three NEETs in Spain have prior work experience). We focus on four peripheral EU countries, namely Greece, Italy, Ireland and Spain. With the exception of Ireland, the three remainder countries have substantially high NEET rates given their adverse labour market structure and high rates of school absenteeism. Moreover, the inclusion of these southern European countries is of particular interest in light of the brain drain problem suffered by some countries. Although the brain drain phenomenon in the EU has traditionally affected countries in the East, the 2015 Annual Report on Labour Mobility also detected an important migratory movement from the South to the North, which is mainly explained by the migratory outflows from two of the countries included in the analysis: Italy and Spain (Hasselbach, 2017).

Using microdata from the European Union Labour Force Survey (LFS), we identify the socio-demographic context of young NEETs in peripheral EU countries and determine the specific features of those with earlier work experience. Those features namely comprise the analysis of the types of occupations undertaken, by differentiating whether those occupations have gained relative importance over total employment in the past two decades (emerging occupations), or whether this has been kept constant (neutral) or declined (declining occupations). By comparing the share of NEETs concentrated in declining occupations –which might be exposed due to either automation or other processes affecting the production model– with the rest of the population, the results can inform policymakers of the labour market features of this subgroup and further learn about retraining pathways to reinsert young NEETs into the labour market. The paper further explores whether NEETs’ skills associated with their prior occupation are aligned with the needs of the labour market. This aspect of the analysis is extremely relevant, given that having a workforce aligned with the demands of the labour market has a number of benefits such as boosting innovation, increasing productivity and fostering economic growth. To this end, as the European Commission pointed out in its Proposal for declaring the year 2023 as the European Year of Skills, the reskilling and upskilling of NEETs plays a crucial role in order to address the current skills mismatch and labour shortages affecting the EU labour market (European Commission, 2022).

Our results show that, except in the case of Spain, the majority of NEETs have no previous work experience, which indicates a problem of access to the labour market. The remainder of the results, focused exclusively on the NEET population with previous experience, allow us to draw three main conclusions. Firstly, the NEETs group is characterised by a greater male presence, a medium-low educational level and by coming from certain sectors of activity in which job insecurity is usually present. Secondly, NEETs were previously employed in elementary occupations and services and sales workers to a larger extent than the employed population. A number of elementary occupations have seen large declines in the share of total employment that they represent compared to two decades ago, signalling that some of these occupations, particularly those related with routine manual tasks, are at risk of automation. Thirdly, and related to the previous point, these differences in occupations between NEETs and the employed youth help to explain the potential existence of skills gap for NEETs, which the report shows to be particularly strong in the case of Ireland. Among the skills where the gap with the young employed population is greatest, those related to information and data management stand out.

The remainder of the report is organised as follows. Section 2 outlines the methodology underpinning the classification of emerging or declining occupations, as well as the mechanism to sort the most valued skills in each country’s labour markets. Section 3 presents the results: it first provides an overview on the socio-demographic features of NEETs, and then examines the types of occupations undertaken by these in their last job. Section 4 examines the skills and tasks associated to such occupations and analyses whether the skills acquired by NEETs in their last job are aligned with labour market demand. Section 5 provides a review of policy responses and adds a number of

policy recommendations specifically addressed to the NEETs and based on findings from sections 3 and 4. Finally, section 6 summarises the main results and concludes.

2. Methodology

The aim of this section is to outline the methodology underpinning the definition of occupations (Section 2.1) and skills (Section 2.2) with favourable or adverse labour market prospects.¹ This will serve as the basis to later analyse, in Section 3, whether NEETs with prior labour experience were employed in declining occupations to a larger extent than the general population and, in parallel, whether the tasks and skills they developed were potentially less aligned with labour market needs.

2.1. Occupations

The scope and nature of occupations varies across time and geographies as labour market needs change. As a result of various factors (e.g., process automation, economic downturns, changes in production models), a number of occupations are absorbing a lower share of employment than they did in the past. This relates to the concept of labour polarisation, a phenomenon that explains the growing demand for occupations at the lower and upper tails of the income distribution, to the detriment of occupations of a medium level. For instance, occupations which are easily replaceable by robots as a result of the automation of processes might see declines in their employment share, potentially requiring employees to transition to other occupations. In understanding the labour market factors that differentiate NEETs from the rest of the population, it is hence important to explore whether their prior work experience took place in occupations with worse prospects than the general population. The key question lies on how to define good or bad employment prospects of occupations.

In this report, we classify occupations in three broad groups: emerging, neutral or declining. This definition is based on past trends, rather than future projections, as there is no official EU projection on the future employment prospects of occupations with sufficient level of detail. Given this lack of data and the non-triviality of forecasting the evolution of occupations as a result of socio-economic uncertainty, we analyse compositional changes in the employment share of occupations as a proxy of future prospects of each occupation.

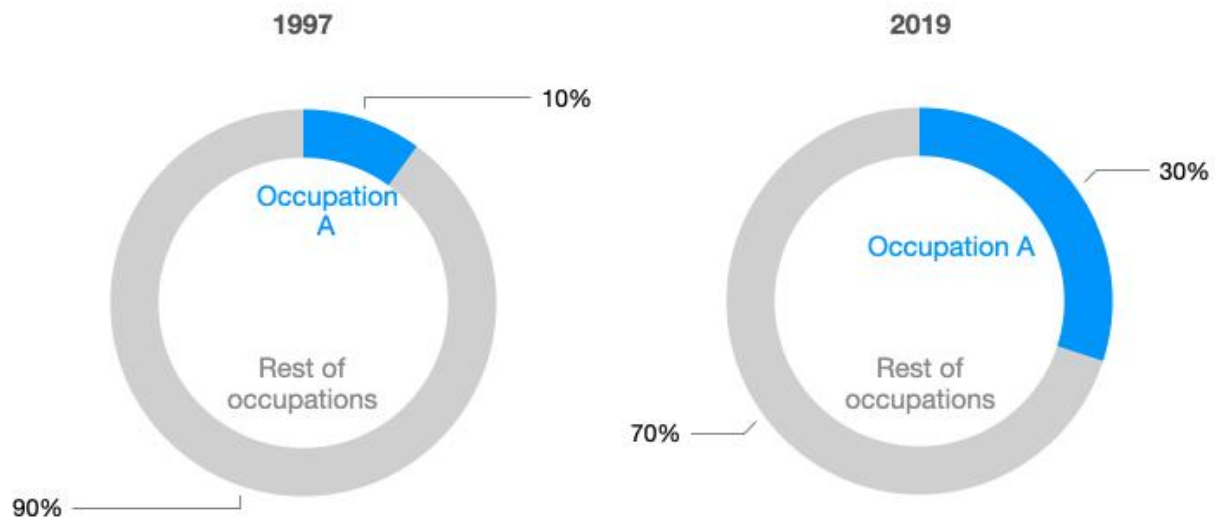
The classification of emerging, neutral or declining occupations is based on two years (1997 and 2019) following the same approach that de la Rica et al. (2022) propose in their analysis of employment, occupations and skills for the Spanish labour market. For a given occupation, we first calculate its weight over total employment in 1997 and compare it against the situation in 2019.² We then categorise the occupation as emerging when its growth is greater than 30%; neutral when it lies between 30% and -30%; and declining when it is smaller than -30%. Because this classification is done separately for each country, the same occupation may emerge in one country but not in

¹ See ILO (https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_172572.pdf) for a detailed description of each of the occupations.

² The analysis is carried out specifically by comparing the second quarter of each year, as it is less affected by seasonality of employment (see De la Rica et al. (2020)).

another. This approach is based on the methodology proposed by de la Rica et al. (2022) in a report that examines the evolution of employment in Spain, focusing on the most in-demand occupations in the labour market. Figure 1 shows an example of an emerging occupation whose weight over total employment increased from 10% to 30% in the past two decades. An important consideration is that a declining occupation does not necessarily imply that it employs fewer workers, but rather that the share over total employment is lower in 2019 compared to 1997.

Figure 1. Example of an emerging occupation as defined in this report



Source: Own elaboration based on de la Rica et al. (2022).

Applying this methodology to the four countries under analysis, Table 1 shows the weight of each occupation over total employment in 2019. In particular, it presents the distribution of workers in Spain, Greece, Ireland, and Italy based on their ISCO-08 code at the two-digit level. Notably, the distribution of occupations in each country reveals some differences in the employment structure across countries.

Firstly, in Spain, personal service workers—who provide personal services related to travel, housekeeping, catering and hospitality, hairdressing and beauty, among others—comprised the largest occupation group in 2019, representing 8.1% of employment. The second largest group involved sales workers—who sell and demonstrate goods in wholesale or retail shops, at stalls and markets, door-to-door, via telephone or customer contact centres—an occupation that absorbed 7.8% of total employment. Those two occupations belong to the broader group of service and sales workers, and they mostly relate to occupations of a lower educational requirement compared to other occupations, such as those involving professionals. Within the latter, teaching professionals stood out, accounting for 5.7% of employment in 2019. According to the International Labour Organisation (ILO), teaching professionals “teach the theory and practice of one or more disciplines at different educational levels, conduct research and improve or develop concepts, theories and operational methods pertaining to their particular discipline, and prepare scholarly papers and

books". Nevertheless, as noted, a significant proportion of workers in Spain are still employed in low-skilled jobs.

Similarly, in Greece, sales workers absorbed the largest part of employment, a share that was even higher than that of Spain, amounting to 12.2%. The second largest occupation involved market-oriented skilled agricultural workers (who plan, organise and perform farming operations to grow and harvest field or tree and shrub crops; and to produce a variety of animals and animal products for sale or delivery on a regular basis to wholesale buyers, marketing organisations or at markets), with an employment share of 10.2%. Teaching professionals also accounted for the largest share of employment within the broader group of professionals, representing 6.8% of employment.

In Ireland, sales workers were, again, the largest occupation group, with 7.5% of employment, followed by personal care workers (who provide care, supervision and assistance for children, patients and elderly, convalescent or disabled persons in institutional and residential settings) at 5.3%. Teaching professionals were also the largest professional group, representing 5.1% of employment.

In Italy, the largest occupation group was made up of business and administration associate professionals (which comprises finance professionals, administration professionals and sales, marketing and public relation professionals), representing 7.9% of employment. The second largest group was composed of sales workers at 7.6%, a share almost identical to that recorded for Ireland. Teaching professionals were also the largest professional group, accounting for 5.8% of employment.

Table 1. Share of employment by occupation and country (2019, Q2)

	Spain	Greece	Ireland	Italy
Chief executives, senior officials and legislators	0.2%	0.1%	0.2%	0.4%
Administrative and commercial managers	1.0%	0.5%	1.4%	0.1%
Production and specialised services managers	1.3%	0.8%	3.1%	1.2%
Hospitality, retail and other services managers	1.5%	1.5%	3.7%	1.9%
Science and engineering professionals	2.9%	2.9%	3.9%	2.2%
Health professionals	3.7%	3.0%	4.7%	1.8%
Teaching professionals	5.7%	6.8%	5.1%	5.8%
Business and administration professionals	2.2%	2.8%	5.8%	2.4%
Information and communications technology professionals	0.9%	0.7%	2.6%	0.8%
Legal, social and cultural professionals	3.0%	3.2%	2.1%	2.4%
Science and engineering associate professionals	2.1%	1.3%	1.6%	3.8%
Health associate professionals	1.2%	1.8%	0.9%	3.6%
Business and administration associate professionals	4.8%	3.5%	5.2%	7.9%

Legal, social, cultural and related associate professionals	1.5%	0.8%	2.7%	1.0%
Information and communications technicians	1.5%	0.6%	0.9%	1.4%
General and keyboard clerks	2.6%	6.3%	1.7%	5.7%
Customer services clerks	4.8%	2.8%	2.5%	2.3%
Numerical and material recording clerks	2.5%	1.8%	2.2%	3.1%
Other clerical support workers	0.4%	0.6%	2.6%	0.9%
Personal service workers	8.1%	7.9%	5.4%	5.5%
Sales workers	7.8%	12.2%	7.5%	7.6%
Personal care workers	3.5%	0.8%	5.3%	3.2%
Protective services workers	2.2%	2.5%	1.4%	1.4%
Market-oriented skilled agricultural workers	2.1%	10.2%	3.5%	2.2%
Market-oriented skilled forestry, fishery and hunting workers	0.2%	0.3%	0.1%	0.1%
Subsistence farmers, fishers, hunters and gatherers	4.4%	2.6%	3.3%	3.8%
Building and related trades workers, excluding electricians	2.9%	2.2%	2.3%	4.2%
Metal, machinery and related trades workers	0.4%	0.4%	0.2%	0.8%
Handicraft and printing workers	1.7%	1.8%	1.4%	1.5%
Electrical and electronic trades workers	1.7%	2.2%	1.7%	2.5%
Food processing, wood working, garment and other craft and related trades workers	2.1%	1.5%	1.2%	2.8%
Stationary plant and machine operators	0.7%	0.1%	1.3%	0.9%
Assemblers	4.9%	5.0%	3.6%	3.2%
Drivers and mobile plant operators	5.9%	2.9%	2.1%	4.6%
Cleaners and helpers	1.8%	0.9%	0.7%	1.6%
Agricultural, forestry and fishery labourers	3.4%	1.7%	2.9%	1.9%
Labourers in mining, construction, manufacturing and transport	0.8%	0.7%	1.8%	0.4%
Food preparation assistants	0.1%	0.0%	0.0%	0.4%
Street and related sales and service workers	0.7%	0.9%	1.2%	1.9%

Source: Own elaboration using the EU Labour Force Survey. Armed Forces Occupations results not displayed.

After identifying the current share of each occupation in total employment, Table 2 shows the dynamics of employment in those occupations over the past two decades. In particular, the table reflects the percentage change in this share between 1997 and 2019, based on microdata retrieved from the EU Labour Force Survey. The colours in red, yellow and green depict declining, neutral and emerging occupations, respectively, following the definition previously established in this section. As in Table 1, occupations are presented according to the ISCO-08 classification at the two-digit level.

Emerging occupations in most countries

A number of occupations have followed an emerging pattern in all four countries, with changes in employment share above 30% in the past two decades. **Information and Communications Technology (ICT) professionals** appear as a significantly growing occupation in all countries, in line with the sharp increase in the demand for these professionals observed as a result of the digital revolution (OECD, 2022). ICT professionals in Greece and Italy experienced remarkable growth, with percentage changes of 580.9% and 1432.2%, respectively. It is worth noting that this occupation still absorbs less than 1% of total employment in Greece, Italy and Spain, while it represents 2.6% of employment in Ireland. In a similar fashion, the importance of **Information and Communications technicians** over total employment grew significantly in all four countries, amounting to 1100% in Ireland, and Spain 200%. This occupation absorbs 0.9% of employment in Ireland and 1.5% in Spain.

Business and administration professionals also experienced unanimous growth in all four countries. This is particularly the case for Greece and Spain (with growth amounting to 255% and 130%, respectively), followed by Italy (99%) and Ireland (83%), a trend that evidences that this occupation is emerging based on the observed dynamics. Another similarity across certain countries is the growth of some professions in specific sectors. For instance, **health professionals** experienced positive growth in all countries but Italy, where it decreased slightly. The most significant growth took place in Spain (87%), followed by Greece (50%). Additionally, **teaching professionals** also grew in Spain, Greece in Ireland, although at lower rates, and remained relatively constant in Italy. Ireland had the lowest growth rate at 5.7%, while Greece had the highest growth rate at 27.2%. As the growth rates did not surpass 30% and were not below -30%, this is deemed as a neutral occupation in all four countries. **Science and engineering associate professionals** recorded a significant growth (over 75%) in Spain, Italy and Greece, whereas its weight over total employment remained relatively constant in Ireland (hence being regarded as a neutral occupation).

Personal care workers have also gained importance in total employment, especially in Spain and Italy, as this share has grown by 110% and 270%, respectively, in 2019 relative to 1997. This occupation accounts for more than 3% of employment in both countries. Numerical and material recording clerks have also grown in all four countries, although it is considered as a neutral occupation in the Italian case, as growth is below 30%. This occupation comprises tasks such as to obtain, compile and compute accounting, bookkeeping, statistical, financial and other numerical data, and take charge of cash transactions incidental to business matters. Similarly, **cleaners and helpers** have also seen an increase in the share of employment that they represent in 2019 relative to 1997, a pattern that emerges in the four countries.

Hospitality, retail and other services managers also appear to be on the rise, recording a very large increase in the share over total employment in Ireland and Italy (240% and 515%, respectively), to a larger extent than in Spain (35%), whereas this appears as a neutral occupation for Greece. Those workers' tasks include to plan, organise and direct the operations of establishments which provide accommodation, hospitality, retail and other services. Those workers account for 1.5% of total employment in Spain and Greece, respectively; 1.9% in Italy; and 3.7% in Ireland (Table 1).

Non-emerging occupations in most countries

Some other occupations exhibit a declining pattern based on the trends observed over the past two decades. For instance, the weight of **market-oriented skilled agricultural workers** over total employment declined in 2019 relative to 1997 in the four countries, ranging from -32% in Italy to -64% in Spain. As noted above (Table 1), this is still a highly relevant occupation in Greece (absorbing around 10% of total employment), more so than in the remainder of countries (with a share of around 2-3.5%). Some other occupations also exhibit a uniform pattern across countries, such as **administrative and commercial managers**, whose decline ranges from -36% in Ireland to -81% in Greece. However, as noted above, this occupation employs a relatively low number of employees (the largest being Ireland, with just 1.4%).

Building and related trades workers (excluding electricians) have also seen reductions in their share over total employment in all four countries, although this is a neutral occupation in Ireland as its growth is just -4%. Drivers and mobile plant operators remain as a neutral (non-emerging) occupation in the four countries, an occupation that is particularly important in Spain (accounting for 5.9% of total employment) and Italy (4.6%). These results are fully consistent with the literature on the future of work, which states that manual routine tasks are mostly at risk of automation (de la Rica et al., 2022).

In conclusion, Table 2 provides a detailed comparison of the change in the share of employment between 1997 and 2019 for four countries across a number of occupation categories. The table shows similarities in the decline and growth of certain professions across countries and differences in the severity of these changes in specific occupations and countries. Understanding these changes can help policymakers and businesses make informed decisions regarding workforce planning and economic development.

Table 2. Percentage change in share of employment by occupation and country between 1997 and 2019

	Spain	Greece	Ireland	Italy
Chief executives, senior officials and legislators	-60.7%	62.1%	-81.5%	-63.6%
Administrative and commercial managers	-53.9%	-81.1%	-35.9%	-63.3%
Production and specialised services managers	-64.4%	-80.5%	5.6%	35.1%
Hospitality, retail and other services managers	35.3%	-4.4%	240.8%	515.7%
Science and engineering professionals	87.6%	74.5%	-2.7%	83.2%
Health professionals	86.9%	50.3%	1.5%	-2.4%
Teaching professionals	18.9%	27.2%	5.7%	-0.6%
Business and administration professionals	130.8%	256.7%	83.2%	98.9%
Information and communications technology professionals	150.1%	580.9%	-	1432.2%
Legal, social and cultural professionals	39.6%	43.6%	33.9%	53.7%
Science and engineering associate professionals	-48.7%	-56.9%	-59.2%	-37.2%
Health associate professionals	17.3%	72.7%	501.4%	62.6%
Business and administration associate professionals	-42.3%	-29.5%	6.1%	-32.7%
Legal, social, cultural and related associate professionals	2.4%	-8.3%	148.6%	-32.9%
Information and communications technicians	200.4%	52.9%	1102.8%	35.5%
General and keyboard clerks	28.4%	257.6%	-33.0%	139.6%
Customer services clerks	128.6%	-6.2%	-38.8%	23.9%
Numerical and material recording clerks	131.9%	109.3%	2907.0%	-1.4%
Other clerical support workers	-69.1%	-71.9%	-22.9%	27.7%
Personal service workers	85.1%	121.3%	-22.1%	23.4%
Sales workers	36.9%	99.5%	-6.5%	-14.7%
Personal care workers	109.7%	29.7%	-	270.6%
Protective services workers	17.4%	72.0%	-19.8%	-28.6%
Market-oriented skilled agricultural workers	-64.3%	-41.7%	-54.0%	-31.9%
Market-oriented skilled forestry, fishery and hunting workers	-47.1%	-35.2%	-39.9%	-47.9%
Building and related trades workers, excluding electricians	-38.7%	-53.6%	-4.0%	-30.7%
Metal, machinery and related trades workers	-20.6%	-15.5%	59.4%	-11.5%
Handicraft and printing workers	-66.3%	-72.2%	-80.0%	-55.4%
Electrical and electronic trades workers	11.4%	-11.2%	-59.9%	-23.9%
Food processing, wood working, garment and other craft and related trades workers	-47.0%	-38.7%	-49.9%	-47.7%
Stationary plant and machine operators	-5.4%	4.1%	12.3%	29.9%
Assemblers	87.1%	-22.2%	-20.7%	38.5%
Drivers and mobile plant operators	-6.5%	3.0%	1.9%	-11.5%
Cleaners and helpers	36.3%	47.2%	51.9%	57.7%
Agricultural, forestry and fishery labourers	-26.4%	-75.9%	-84.2%	-21.7%
Labourers in mining, construction, manufacturing and transport	-19.3%	12.4%	-35.0%	-1.1%
Food preparation assistants	-56.6%	-38.3%	105.5%	-63.0%
Street and related sales and service workers	-71.1%	-67.6%	-	192.1%
Refuse workers and other elementary workers	-44.0%	-8.0%	-	43.1%

Source: Own elaboration using the EU Labour Force Survey.

Note: Blank information is due to lack of information regarding employment in the occupation in 1997. Armed Forces Occupations results not displayed.

2.2. Skills valued in the labour market

After identifying the occupational trends over the past two decades, which allows for the identification of emerging and non-emerging occupations, this subsection provides similar information applied to skills and tasks valued in labour markets. Following a similar rationale as for occupations, we focus on past (and current) trends, rather than future projections, to rank skills and tasks. In this case, however, we sort skills or tasks from most to least valued scores and we do not create categorical groups as in the case of occupations.

In order to rank skills from most to least valued, we consider three dimensions: (1) the share of employers who presently (in 2019) make use of the skill / task; (2) the change in the share of employers who make use of the skill relative to the corresponding share in the past; (3) the transversal nature of the skills / tasks (i.e., whether these are essential across a large number of occupations). To calculate the value of these skills in the labour market, we use the ESCO classification, developed by the European Commission, which relates occupations with skills.³ Illustration 1 provides an example of the relational matrix: for each occupation, ESCO provides information on whether a skill is essential or not in order to undertake that specific job. For instance, for journalists and university professors, artistic and creative writing skills are required, whereas this is not the case for waiters, whom require from other skills and tasks such as serving food and drinks. In total, we consider 290 skills.

Illustration 1. Skills and occupations relational matrix

Skill ↓ Occupation →	Journalist	Waiter	University professor
Artistic and creative writing	●		●
Serving food and drinks		●	
Advising on products and services		●	
Managing and analysing digital data	●		●
Creating visual displays and decorations	●	●	
Teaching academic or vocational subjects			●

Source: ESCO (European Commission); de la Rica et al. (2022).

³ Because it does not rely on self-perceptions, this approach implies that the evaluation of skills is purely objective (following the criteria from the correspondence matrix), and thus we avoid potential overestimation/underestimation of individuals' skills.

Based on this information, we can identify the Value Index (VI) of a given skill or task (s) for each country (c) as follows:

$$VI_{s,c} = \sqrt{scope_{s,c} * (1 + growth) * transv_s}$$

Where *scope* refers to the share of workers that make use of the skill, *growth* accounts for the percentage growth in the number of employers who use the skill. The scope is then normalised min-max and then multiplied by (1+growth) and *transv*, which refers to the (normalised) percentage of occupations where the skill under study is essential. It is worth noting that, in this case, *transv* is not country-specific, as the ESCO matrix is generic for EU countries. The VI of each skill is determined by the square root of the product of these factors. After calculating the VI for each of the 290 skills considered, the values are compared and ranked from higher to lower. It is important to note that the values do not have a specific interpretation but are rather used for comparison purposes. Further methodological remarks can be found in De la Rica et al. (2022).

Once all the skills have been ranked according to their VI, the analysis focuses on the 29 (10% of the total skills set) most relevant skills in each country. These top 29 most valued skills in the labour market, which are presented in Table A1 in the Appendix, provide a glimpse into the skills that are most valued. In general terms, the results show that the most valued set of skills is composed of a mix of soft and technical skills⁴, which vary in importance from country to country.

For Spain, the most valued skills are primarily concerned with compliance and safety. Compliance with legal and organisational guidelines is the top skill in the country, indicating that a large proportion of Spanish employers place importance on employees following the organisation's rules and regulations. Complying with health and safety procedures is also listed as a top skill, which highlights the importance of workplace safety. Another skill that is highly valued in Spain is the ability to analyse and evaluate information and data, indicating that Spanish employers value employees who can make informed decisions based on data. This is in line with the growing demand for data analysts in the midst of the digital revolution. Lastly, maintaining operational records, presenting general information, planning and scheduling events and activities, and coordinating activities with others are also important skills for Spain. These abilities indicate that Spanish employers place a high value on employees who are organised, detail-oriented, and able to collaborate effectively.

The skills listed for Greece also reveal that compliance and safety are of relevance to the labour market. The top two skills for Greece include following legal and organisational guidelines, as well as following health and safety procedures. Employers in Greece value employees who can analyse

⁴ For a detailed description, as well as the differences between soft (non-technical) and hard (technical) skills, see European Network of the Heads of Public Employment Services (2011).

and evaluate data as well as coordinate activities with others, advise and consult, and develop professional relationships or networks.

In Ireland, the top skills are composed of a mix of soft and technical skills. Complying with health and safety procedures tops the list, followed by coordinating activities with others. Other valued skills include presenting general information, developing professional relationships or networks, and following instructions and procedures. The Irish labour market values employees who can communicate effectively, build strong relationships, and follow standard operating procedures.

In line with the other countries, compliance with legal and organisational guidelines, as well as health and safety procedures, are the top two skills in Italy. Employees who can analyse and evaluate data, as well as maintain operational records, coordinate activities with others, and direct operational activities, are valued by Italian employers. Employers in Italy place a high value on employees who are organised, can collaborate effectively with others, and can manage projects effectively.

Overall, the skills listed in the table indicate that compliance, safety, and the ability to work with other team members are highly valued by employers in these four countries. Analysing and evaluating information and data is also highly valued in every country, indicating that employers value employees who can make data-driven decisions. However, there are some differences in the skills that employers value in each country, implying that job seekers may need to tailor their skills and expertise to the specific needs of the local job market.

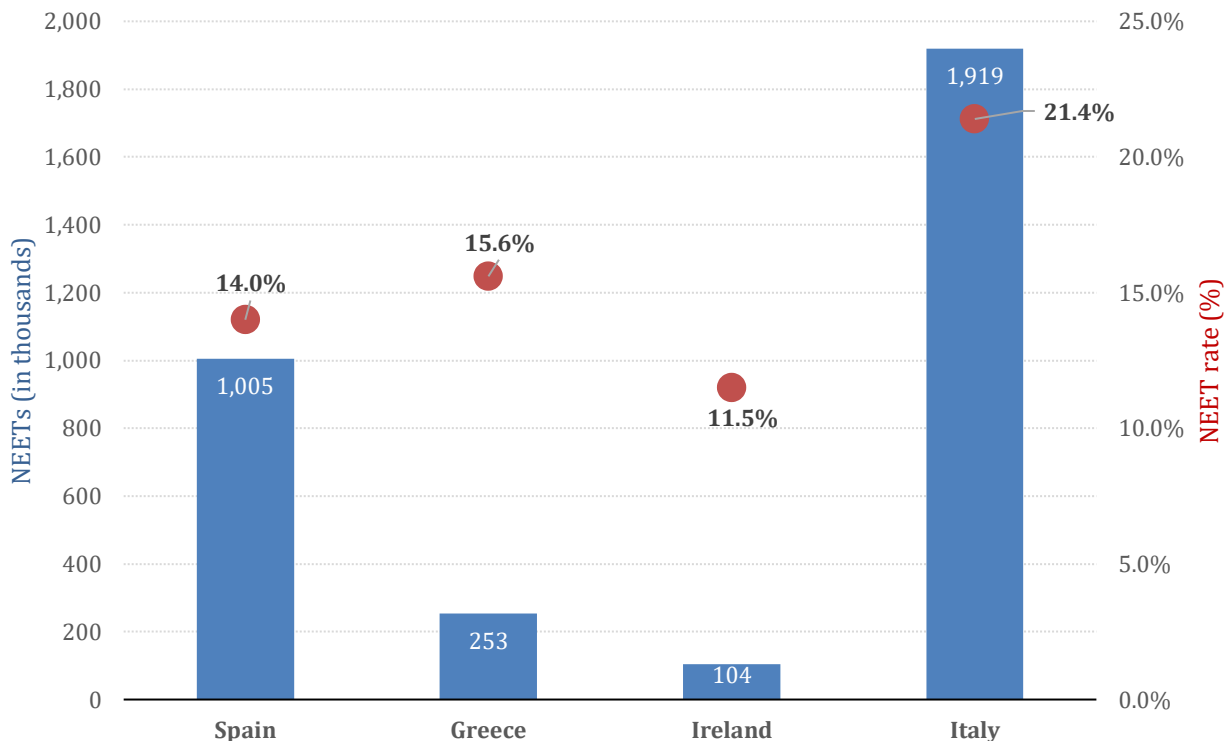
3. NEETs and occupations

After outlining the methodological framework, this section provides an overview of the sociodemographic profile of NEETs in the four countries and assesses relevant information on their last occupation prior to transitioning to the NEET status.

3.1 Profiling NEETs

Although the recent past of the four economies under study has been comparable as a result of the adverse consequences of the Great Recession on their labour markets, the recovery has been divergent, particularly for Ireland. Focusing on present times, for instance, yields that the incidence of the NEETs problem is actually very diverse in these countries. Ireland had the lowest rate of NEETs in the second quarter of 2019 (11.5%), even lower than the EU average (12.1%). The NEET rates for Spain (14.0%) and Greece (15.1%) were higher than the EU average but significantly lower than those for Italy, which recorded a NEET rate of 21.4%. Aside from the similarities and differences that emerge throughout the analysis presented below, keeping these data in mind helps to contextualise the reality and scope of the NEETs issue in each country, which is important given that public policy proposals are prominent in this report.

Figure 2. NEETs and NEET rate by country (2019, Q2)



Source: Own elaboration using the EU Labour Force Survey.

Note: The absolute number of NEETs in each country is expressed in thousands.

The past work experience of NEETs is a highly relevant factor given the nature of the analysis in this report. The data included in the EU Labour Force Survey (LFS) provides information on NEETs' *last* occupation, which is the focus of our analysis. However, not all NEETs have previous experience, a matter that is analysed in Table 3.

The results from Table 3 highlight significant differences among the four countries under study. On the one hand, in the case of Spain, **the majority of the NEET population (62.1%) has prior employment history, whereas in the other countries, the majority is made up of individuals with no prior employment history.** The Spanish labour market's high rate of temporary employment, which disproportionately affects the young population (see Dolado et al., 2000; de la Rica & Gorjón, 2022), may help to explain this singularity. However, the reality in the other three countries is far from homogeneous. Thus, while in the case of Greece the proportion of NEETs with and without work experience is fairly balanced (44.4% and 55.6%, respectively), the differences are much more pronounced in the case of Ireland (more than 20 points in favour of the group without experience) and Italy (almost 30 points).

Before moving forward with the profiling of the NEET population, it is necessary to draw attention to a significant data limitation. Despite the fact that the European Union LFS collects data on individuals' prior employment, we occasionally come across instances where individuals have held prior employment but no information is available regarding the occupation they performed at that time. The LFS methodological guide states that even though a person has prior employment history, this information may not be available because the individual was employed more than eight years before the time the survey was conducted.⁵ Therefore, the remainder of the profiling, as well as the part of the analysis in section 4, is limited to the group of NEETs who have previous work experience and who also have available information (occupation, among other variables of interest) about their last job (i.e., those individuals in the third row of Table 3).

⁵ It shall be noted the the EU LFS does not consider some kinds of occasional work, such as vacation work, as employment. Furthermore, there are some other issues, such as informal agreements (non-declared work), that may have an impact on the actual rate of NEETs with work experience. The complete EU LFS User Guide can be accessed [here](#).

Table 3. NEETS by country and previous working experience (2019, Q2)

	Spain (N=1,005)	Greece (N=253)	Ireland (N=104)	Italy (N=1,919)
Without previous experience ⁽¹⁾	37.8%	55.6%	60.5%	64.1%
With previous experience ⁽²⁾	62.1%	44.4%	39.6%	35.9%
- Available info about previous occupation ⁽³⁾	43.8%	20.2%	18.9%	18.1%
- Missing info about previous occupation ⁽⁴⁾	18.3%	24.2%	20.7%	17.8%

Source: Own elaboration using the EU Labour Force Survey.

Note: Absolute numbers for each country are expressed in thousands. The sum of shares in rows (3) and (4) is equal to the share in row (2). Percentages may not total 100 due to rounding.

Once we have identified our target group among all the NEETs, the next step in the analysis focuses on profiling these individuals with prior work experience. Understanding the sociodemographic characteristics of NEETs is crucial for developing effective policies and programs to support young people who are not engaged in education, employment, or training. While the sociodemographic characteristics of NEETs may vary widely depending on location and context, some common traits can be identified.

The profiling information in Table A2 in Appendix 2 shows that, **overall, there are more men than women in the NEET population with prior work experience**. This is true in the three Mediterranean countries studied (Spain, Greece, and Italy), where men account for 53% to 55% of the NEETs profiled. Ireland, on the other hand, has a nearly equal gender distribution, with 49.4% men and 50.6% women.

Regarding the age of the NEETs with prior labour experience, the results show significant differences between countries. For the profiling, two broad age groups were considered: one encompassing the youngest individuals (aged 15-24) and another grouping individuals who are relatively older (aged 25-29) in the NEET group. The distribution of NEETs according to this age classification is very similar in Spain and Italy, where the older group accounts for a slight majority (52.8% and 54.8%, respectively). In Ireland, 57.5% of NEETs are under 25, and in Greece, two out of every three NEETs are aged 25-29. In sum, **with the exception of Ireland, experienced NEETs in the three countries are mostly aged 25-29**.

When analysing the characteristics of the NEET population, one of the most important factors to consider is educational level. In general, people with a medium or low level of education make up the majority of NEETs in the countries studied. However, there are significant differences between the four case studies that should be highlighted. To begin with, Greece has the largest share of highly

educated people, though for every highly educated individual, there are two people with a medium or low level of education. The proportion of people with a medium or low level of education is slightly higher in Spain and Ireland, at 77.9% and 72.7%, respectively. Finally, with only 11% of the population being highly educated, Italy stands out as the country with the lowest proportion of highly educated people. Finally, the enormous difference in the weight of the population with a low level of education between Spain (50.2%) and the rest of the countries must be highlighted. One possible explanation could be Spain's historically high rate of early school dropout, which is much higher than in most European countries (Brown et al., 2021). In Italy, the weight of the group with an educational level is also notable (29.5%), albeit significantly lower than in Spain.

In terms of the sector of activity of the last job, some similarities arise across all of the countries studied. First, the *Accommodation and food service activities* sector employed the greatest number of NEETs: between one-fifth and one-quarter in Spain, Ireland, and Italy, and nearly one-third in Greece. In these terms, another relevant sector is the *Wholesale and retail trade; repair of motor vehicles and motorcycles* sector, which accounts for approximately 20% of experienced NEETs in Spain, Greece, and Ireland, and slightly more than 16% in Italy. On the other hand, and to a lesser extent, the manufacturing sector plays an important role in NEET most recent employment, with a percentage ranging from 10% to 11% across all the four countries. In total, the sum of these three sectors accounts for more than half of all previous employment of NEETs, reaching 63% in the case of Greece. Despite this common ground, some industries are important in some countries but not in others. This is the case *Agriculture, forestry and fishing* in Spain (11.5%) and Italy (7%), *Administrative and support service activities* in Ireland (7.7%), and *Construction* in Ireland (6.8%) and Italy (6%). This sectoral analysis is critical in order to develop public policies because it allows to understand whether the situation of NEETs with previous experience is due to seasonality and job insecurity in specific sectors or to other more specific reasons, such as a greater presence in occupations that have been declining in recent years.

3.2 Occupations where NEETs were employed in their last employment spell

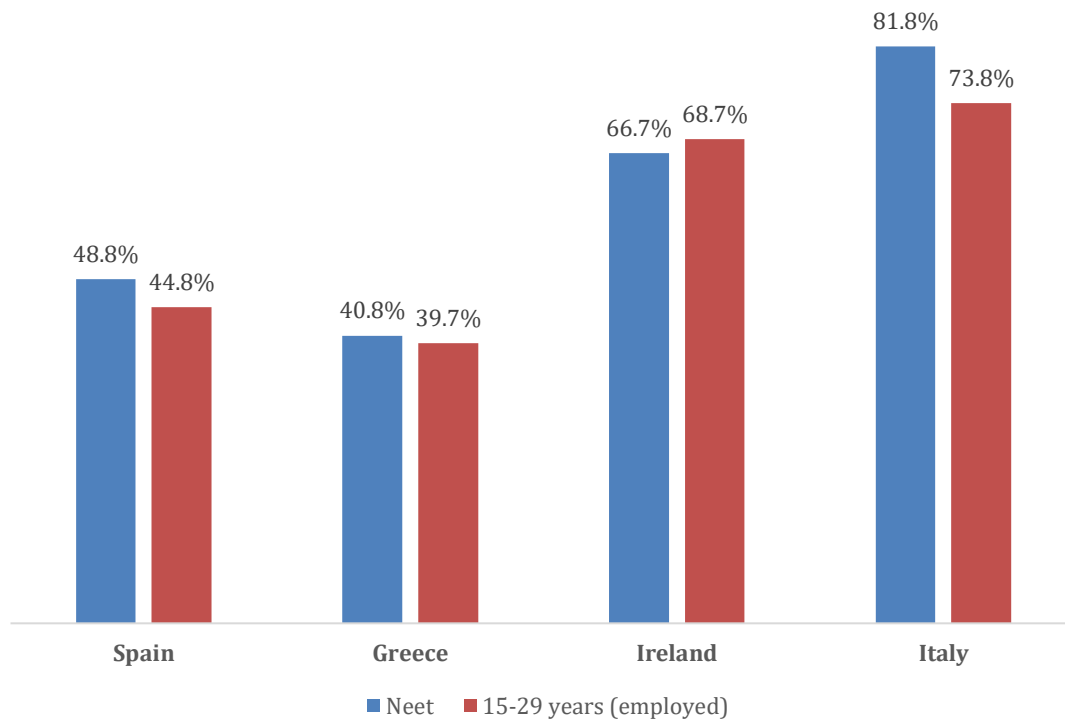
Having analysed the socio-demographic characteristics of the NEET population with previous work experience in each country, this section focuses on the occupations where NEETs were employed in their last employment spell. Specifically, the analysis aims to show the extent to which NEETs who have previously worked come from booming or declining occupations. This approach, combined with the results of Section 4, will allow us to determine the extent to which NEETs may be unemployed due to a mismatch in labour market demand, and thus whether it is necessary to consider re-skilling or up-skilling policies tailored to this group. Given the nature of the analysis, the results in this section refer to the sub-sample of NEETs with previous experience and who have information on the occupation held in their previous job (see previous section for an explanation of the limitations found in the LFS in this respect).

As shown in Table 2 in Section 2.2, employment dynamics point to a number of occupations with better prospects (which have been denoted as emerging), as well as others that have lost ground in terms of overall employment. Although it is by definition not possible to draw a direct connection between the emerging occupations and the NEET population, we may examine the extent to which those individuals in this situation (and with previous work experience) come from a job linked to an emerging or declining occupation.

In this regard, Figure 3 displays, for each country, the proportion of the NEET population whose most recent employment is not considered an emerging occupation (i.e., a neutral or declining occupation). In order to have a benchmark to compare the results with, we recalculated this measure for the employed population of the same age group for each country (15-29).⁶ The first message derived from this figure is that **NEETs in Italy, Spain and Greece come from non-emerging (neutral or declining) occupations to a larger extent than the employed population**, although the differences in the magnitudes vary across countries. In particular, the difference in the prevalence of non-emerging employment is most pronounced in Italy, where 81.8% of NEETs were last employed in a non-emerging occupation, compared with 73.8% of the young employed population (a difference of eight percentage points). In Spain, 48.8% of the NEET population was last employed in a non-emerging occupation, as opposed to 44.8% of the young employed population in the country. In Greece, the difference between both groups is smaller (40.8% for NEETs versus 39.7% for the young employed population). All things considered, Italy has the highest proportion of young people working in non-emerging occupations (or coming from them, in the case of NEETs). **These results contrast with the case of Ireland, the only country where a slightly larger proportion of the employed youth comes from a non-emerging occupation, compared with the share of NEETs.**

⁶ In Spain, the minimum working age is 16.

Figure 3. % of NEETs coming from a non-emerging occupation (previous job) and % of 15-29 population being in a non-emerging occupation



Source: Own elaboration using the EU Labour Force Survey.

After the previous analysis, a key question that emerges is what specific occupations explain the observed divergence between the last occupations that NEETs were employed in relative to the employed population (of ages 15-29), a consideration that was not covered in the previous figure. To this end, Table 4 shows the distribution of the occupations of NEETs in their last job, following the one-digit ISCO classification. The information included in this table is particularly relevant for understanding the socio-occupational context of NEETs. On the one hand, the information provided in Table 4 shows that **a large proportion of NEETs were previously employed as Services and Sales Workers in the four countries**, with a particularly remarkable weight in Ireland (41.5%) and Italy (44.1%). **Elementary Occupations also have a notable importance in the employment history of NEETs, especially in Spain**, where more than 30% of people had an occupation of this type in their last job. **These two categories account for the bulk of NEETs, with the exception of Greece, where Elementary Occupations have a similar weight to Clerical Support Workers and Technician Associate Professionals.**

Table 4 also compares these figures with those of the employed 15–29-year-olds to understand whether the dynamics observed for NEETs diverge from the overall employed population of the same age. If this were not the case and the shares were similar, the results would suggest that the occupational features of NEETs are not different from the employed population. However, the results pinpoint important divergences. In particular, **NEETs come to a greater extent from elementary occupations than the employed young population** in all four countries analysed. In

broad terms, the employed youth population is more concentrated than the NEETs in the Professional and Technicians and Associate Professionals occupations, which require education levels that are often higher than the average level attained by NEETs. This difference is particularly striking in Spain (18.2% vs. 5.4%) and Ireland (19.2% vs. 2.7%) in the case of Professional occupations, and in Italy (17.4% vs. 5.2%) in the case of Technicians and Associate Professionals. **In the case of Greece, the NEETs follow a distribution much more similar to that of the young employed population than in the other countries.** This similarities between both groups may be explained by some vulnerabilities of the Greek economy that may affect a larger part of the working population than the NEETs group. As a final remark, it should be noted that for both NEETs and the young employed population as a whole, the category of Services and Sales Workers is the one with the highest weight in the employment of each group. However, with the exception of Greece, the proportion of people employed in this type of occupation is significantly lower in the case of the bulk of the young population.

Table 4. NEETs with previous work experience and employed youth (% of experienced NEETs and persons employed, respectively), by country and occupation at the one-digit level (2019, Q2)

	Spain		Greece		Ireland		Italy	
	NEETs (N=440)	Employed youth (N=2722)	NEETs (N=51)	Employed youth (N=512)	NEETs (N=19)	Employed youth (N=478)	NEETs (N=347)	Employed youth (N=2893)
- Managers	0.9%	0.9%	0.0%	0.9%	0.0%	2.0%	0.1%	1.1%
- Professionals	5.4%	18.2%	9.4%	13.9%	2.7%	19.2%	5.0%	8.5%
- Technicians and Associate Professionals	5.6%	11.7%	11.5%	9.0%	5.2%	9.1%	5.2%	17.4%
- Clerical Support Workers	6.4%	9.2%	12.5%	11.7%	8.6%	9.4%	8.3%	12.1%
- Services and Sales Workers	35.1%	29.2%	37.7%	37.2%	41.5%	33.1%	44.1%	29.0%
- Skilled Agricultural, Forestry and Fishery Workers	1.0%	1.1%	1.3%	5.4%	3.2%	1.6%	1.6%	1.7%
- Craft and Related Trades Workers	8.2%	9.1%	9.4%	8.5%	7.2%	8.6%	9.0%	13.5%
- Plant and Machine Operators and Assemblers	5.6%	6.6%	4.4%	6.3%	5.0%	4.1%	5.9%	6.4%
- Elementary Occupations	31.8%	13.2%	13.9%	6.1%	26.6%	12.5%	20.5%	9.7%

Source: Own elaboration using the EU Labour Force Survey.

Note: Absolute numbers for each country are expressed in thousands. Armed Forces Occupations results not displayed.

Table 5 has a threefold purpose: (1) to see whether, despite the similarities between countries in the one-digit classification, there are notable differences between countries within each major occupation group (two-digit level), (2) to examine in detail the potential over/underrepresentation of NEETs when compared with the employed young population, and (3) to disaggregate the information presented in Figure 3 in order to explore in detail what specific occupations drive the overrepresentation of NEETs in non-emerging occupations relative to the employed youth (except for Ireland). The Services and Sales Workers category, which has the largest weight in all four countries, is a good example of why it is necessary to complement the analysis in this way.

The first message derived from the analysis is that **personal service workers and sales workers are the most prominent occupations that NEETs were previously employed in**, and this share is, in the four countries, larger for NEETs than for the employed young population. This implies that **NEETs are overrepresented** in this occupation groups. Focusing on the four countries in particular, the results show that **in Spain, Greece and Italy, NEETs were particularly concentrated in the occupation of personal service workers (18.4%, 22.8% and 23.8%, respectively), followed by sales workers (12.9%, 14.1% and 13.8%, respectively). In Ireland, similar results are found, while the order of these top two occupation varies: sales workers is the occupation with the greatest weight for NEETs (19.2%), ahead of personal service workers (13.8%).** As shown earlier in Table 2, though, **these two occupations are either emerging (Spain and Greece)—or neutral (Ireland and Italy)—when looking at their weight over total employment over the past two decades.** Hence, the overrepresentation of NEETs in non-emerging occupations observed for Spain and Greece earlier in Figure 3 is not to be attributed to these two occupations.⁷

Elementary occupations, as previously shown, constitute the other large pocket of last employment of NEETs. The results in Table 5 show that the fact that, except for Ireland, **NEETs come from non-emerging occupations to a larger extent than the employed population is largely due to their high representation in elementary occupations, a feature largely related to their educational level.** In particular, the results shows that **a significant number of NEETs come from the non-emerging occupations of agricultural, forestry and fishery labourers (11.5% in Spain or 4.9% in Italy) or labourers in mining, construction, manufacturing and transport (10.7% in Spain or 6% in Italy).** Those two occupations have seen declines in their share over total employment in the last two decades, although this decline is not lower than -30%, making them neutral occupations for the country (in Spain, for instance, the reduction in the weight over employment is -26.4% in the case of Agricultural, forestry and fishery labourers and -19.3% for labourers in mining, construction, manufacturing and transport). In the four countries, **NEETs also come—to a larger extent than the employed population—from the elementary occupation of food preparation assistants** (particularly in Ireland with 8.5%). With the exception of Ireland, this occupation is considered to be in decline for the other three countries.

In a similar fashion, some occupations related to plant and machine operators and assemblers are worth highlighting. As noted above, a number of those occupations that involve manual routine tasks are largely at risk of automation, a feature that is partly reflected in the declining trend over total employment observed in the past two decades (Table 2). For instance, **building and related trades workers (excluding electricians) constitute a declining occupation in Spain, Greece and Italy, an occupation of relevance to NEETs,** more so than the employed young population.⁸ This result also helps to understand the trend identified in Figure 3 above, also for the case of Ireland, where the inverse trend was proven.

⁷ For Italy, this occupation does contribute to explaining the gap, as it is found to be a non-emerging occupation in the country.

⁸ It should be noted that some of the decline in these occupations could be explained by other factors. One example is the construction industry, which was particularly hard hit by the 2008 economic downturn.

Table 5 also shows the occupations where NEETs were not particularly concentrated prior to falling to the NEET status, and allows to compare this weight with that of the employed young population. In the case of Spain and Greece, for example, 8% and 5% (in each country, respectively) of youth employment is in the sum of the categories Science and engineering professionals and Health professionals (both emerging). However, just around 1% of NEETs were previously employed in those occupations in both countries. Again, **these results are in line with earlier findings that the minority of NEETs come from higher education**. In the case of Ireland, the business and administration professionals (neutral occupation) account for almost 5% of youth employment, while there were no NEETs coming from a job in this category. In Italy, some of the emerging occupations more likely to explain the differences observed in Figure 3 are health associate professionals (4.4% of youth employment vs. 0.4% of NEETs) and general and keyboard clerks (5.1% vs. 3.2%).

Table 5. NEETs with previous work experience and employed youth (% of experienced NEETs and persons employed, respectively), by country and occupation at the two-digit level (2019, Q2)

	Spain		Greece		Ireland		Italy	
	NEETs (N=440)	Employed youth (N=2722)	NEETs (N=51)	Employed youth (N=512)	NEETs (N=19)	Employed youth (N=478)	NEETs (N=347)	Employed youth (N=2893)
Chief executives, senior officials and legislators	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Administrative and commercial managers	0.3%	0.2%	0.0%	0.1%	0.0%	0.3%	0.0%	0.0%
Production and specialised services managers	0.2%	0.2%	0.0%	0.1%	0.0%	0.5%	0.0%	0.2%
Hospitality, retail and other services managers	0.4%	0.5%	0.0%	0.6%	0.0%	1.2%	0.1%	0.8%
Science and engineering professionals	0.6%	3.7%	0.3%	2.0%	0.7%	3.5%	0.4%	2.3%
Health professionals	0.7%	4.3%	0.8%	3.1%	0.7%	3.1%	0.5%	0.8%
Teaching professionals	1.5%	4.8%	2.3%	2.9%	0.0%	4.6%	2.9%	2.4%
Business and administration professionals	1.1%	2.2%	1.7%	2.3%	0.6%	4.8%	0.1%	0.8%
Information and communications technology professionals	0.4%	0.7%	1.9%	0.9%	0.8%	1.8%	0.1%	1.0%
Legal, social and cultural professionals	1.2%	2.5%	2.3%	2.7%	0.0%	1.5%	1.1%	1.3%
Science and engineering associate professionals	0.1%	2.0%	0.6%	1.6%	0.9%	1.3%	1.1%	4.1%
Health associate professionals	1.3%	1.6%	2.1%	2.3%	0.0%	0.6%	0.4%	4.4%
Business and administration associate professionals	1.3%	3.1%	1.7%	3.0%	0.0%	3.0%	2.0%	5.4%
Legal, social, cultural and related associate professionals	1.9%	2.9%	5.8%	1.5%	3.5%	2.8%	1.5%	1.7%
Information and communications technicians	1.1%	2.2%	1.3%	0.5%	0.8%	1.4%	0.2%	1.9%

	Spain		Greece		Ireland		Italy	
	NEETs (N=440)	Employed youth (N=2722)	NEETs (N=51)	Employed youth (N=512)	NEETs (N=19)	Employed youth (N=478)	NEETs (N=347)	Employed youth (N=2893)
General and keyboard clerks	0.5%	2.0%	4.8%	5.1%	1.2%	1.0%	3.2%	5.1%
Customer services clerks	4.7%	4.7%	5.9%	3.6%	3.6%	4.2%	2.5%	2.6%
Numerical and material recording clerks	0.7%	2.2%	1.3%	2.5%	0.7%	2.3%	1.7%	3.5%
Other clerical support workers	0.5%	0.2%	0.5%	0.5%	3.1%	1.9%	0.9%	0.9%
Personal service workers	18.4%	13.9%	22.8%	19.2%	13.8%	12.2%	23.8%	13.5%
Sales workers	12.9%	10.3%	14.1%	15.4%	19.2%	15.1%	13.8%	11.9%
Personal care workers	2.4%	3.7%	0.0%	0.8%	7.7%	4.8%	4.2%	2.7%
Protective services workers	1.5%	1.4%	0.8%	1.9%	0.9%	1.0%	2.3%	0.8%
Market-oriented skilled agricultural workers	0.8%	1.1%	0.9%	5.3%	2.1%	1.6%	1.4%	1.6%
Market-oriented skilled forestry, fishery and hunting workers	0.2%	0.1%	0.4%	0.1%	1.0%	0.1%	0.2%	0.0%
Building and related trades workers, excluding electricians	2.9%	2.4%	2.1%	1.5%	1.9%	2.2%	2.9%	2.8%
Metal, machinery and related trades workers	1.6%	3.4%	1.5%	2.4%	1.3%	2.8%	1.8%	5.6%
Handicraft and printing workers	0.2%	0.3%	0.0%	0.5%	0.0%	0.1%	1.4%	0.7%
Electrical and electronic trades workers	0.9%	1.4%	3.2%	1.9%	0.0%	1.8%	1.2%	1.8%
Food processing, wood working, garment and other craft and related trades workers	2.6%	1.6%	2.6%	2.2%	4.0%	1.7%	1.6%	2.7%
Stationary plant and machine operators	2.2%	2.0%	2.0%	2.1%	2.7%	1.3%	3.7%	3.6%
Assemblers	1.0%	0.8%	0.3%	0.3%	1.0%	1.4%	0.8%	1.5%
Drivers and mobile plant operators	2.4%	3.8%	2.1%	3.9%	1.3%	1.4%	1.4%	1.4%
Cleaners and helpers	5.6%	3.1%	4.2%	1.5%	4.8%	1.9%	3.2%	1.8%
Agricultural, forestry and fishery labourers	11.5%	2.5%	3.2%	0.7%	1.6%	1.4%	4.9%	1.7%
Labourers in mining, construction, manufacturing and transport	10.7%	5.5%	5.3%	2.1%	7.5%	3.9%	6.0%	3.1%
Food preparation assistants	2.4%	1.4%	0.7%	0.9%	8.5%	3.8%	1.8%	0.9%
Street and related sales and service workers	0.0%	0.1%	0.3%	0.1%	0.0%	0.1%	0.2%	0.2%
Refuse workers and other elementary workers	1.6%	0.6%	0.2%	0.8%	4.2%	1.4%	4.4%	2.1%

Source: Own elaboration using the EU Labour Force Survey.

Note: Absolute numbers for each country are expressed in thousands. Armed Forces Occupations results not displayed.

4. Skills of NEETs

Following the analysis of NEETs' occupations in their last employment, this section focuses on the extent to which NEETs in each country develop skills that are aligned with the skills most valued in the corresponding labour market. Specifically, we examine how many NEETs used each of the 29 most valued skills in their last employment, which were calculated using the methodology described in section 2.2. As in the previous section, a comparison with the group of young people (15-29 years old) who were in employment in the second quarter of 2019 has been added to the analysis. This enables to benchmark the comparisons relative to the employed population.

By way of clarification prior to the discussion of the results, and as explained by de la Rica et al. (2022), it is sometimes the case that most NEETs and young employed people do have the some of the most highly valued skills, partly due to the very definition established for the selection of these competences. This is the case, for example, for tasks related to compliance with legal and organisational guidelines, or compliance with health and safety procedures.⁹

Aside from the differences and similarities in the skills that comprise the rankings in each country, the results (see Tables A3 to A6 in the Appendix III) do point to the existence of a **systematic skill gap between the NEET population and the rest of the young people who have a job**, which is particularly noticeable in Ireland. In addition, it is possible to identify some specific skills in which NEETs have values that are significantly far from those of the young employed population as a whole, which are discussed below in detail.

In Spain, as a general rule, the data show that the percentage of NEETs who have performed tasks related to the top-29 country skills is lower than that of the reference population. **This gap between the two groups is particularly striking in skills related to goal setting** (61% of NEETs vs. 70% of young employed people) **or developing solutions to problems** (49% vs. 60%). The gap is also observed in some tasks that require handling data or information, such as managing and analysing digital data (41% of NEETs vs. 55% of young employees) or gathering information from physical or electronic sources (45% vs. 50%). Finally, although a larger proportion of NEETs in Spain undertook tasks related to teamwork compared to the employed youth (72% vs. 65%), they are notably behind in skills such as leading and motivating (58% vs. 68%) or coordinating activities with others (57% vs. 71%).

In the case of Greece, the first aspect to note is that, unlike Spain, there is a significant gap (between 8 p.p. and 12 p.p.) in the three most valued skills. Moreover, this gap extends with relative intensity to practically all of the 29 skills with the highest VI. **Particularly striking is the gap in the skills of**

⁹ These tasks have a broadly transversal character, which, although the indicator tries to dampen through the normalisation of the components, many of them are inevitably placed at the top.

managing and analysing digital data (37% of NEETs vs. 58% of young employees) **as well as in developing solutions** (37% vs. 54%).

Ireland is undoubtedly the country with the widest skills gap between NEETs and employed youth, both in terms of the extent of the skills gap and the intensity of the gap. This gap exists even in the most transversal skills, which show a difference of around 40 p.p. in favour of young people in employment. As far as the rest of the skills are concerned, this gap remains. For instance, **58% of the employed population made use of the skill related to management and analysis of digital data, a number that fell by half when focusing on NEETs (26%)**.

Finally, the picture in **Italy** is more similar to that of Spain and Greece, both because of the high proportion of NEETs who do have the most transversal skills, and because of the smaller gap in the rest of the skills in the top 29. To highlight some examples where **there is room for improvement for NEETs**, the results in Table A6 show that **in the skills of managing and analysing data** (41% vs. 55%), **making decisions** (35% vs. 48%) **and providing information to the public and clients** (46% and 61%).

In conclusion, **NEETs appear to be, overall, less aligned with the labour market demand for skills**. This is true particularly for certain soft skills and others related to management of digital data. In this sense, **there is room for proposing reskilling policies focused, for example, on data and information management, which are widely demanded in the context of the digital revolution**. On the other hand, the skills gap of NEETs in Ireland seems to be more pronounced and extended, although it is important to note that the NEET rate is much lower in Ireland than in Mediterranean countries. In this regard, a possible explanation may lie in the higher concentration of NEETs in Ireland in some occupations that do not require the most valued skills, such as food preparation assistants (8.5% of NEETs vs. 3.8% of the young employed population), refuse workers and other elementary workers (4.2% vs. 1.4%) or cleaners and helpers (4.8% vs. 1.9%). These findings might suggest that, despite Ireland's low NEET rate, this group is not well aligned with the labour market, which might be problematic for their eventual re-entry.

5. Policies addressed to NEETs

After providing a thorough analysis on the NEET socio-occupational and skills context, this section seeks to provide an overview on the key policies implemented at the EU level, as well as the national initiatives addressed at the reinsertion of NEETs into the labour market. The section also provides a number of policy implications derived from the main findings of the report, which are supported by relevant literature on the effectiveness of policies addressed to NEETs.

5.1. Overview of policy responses

The EU policy agenda places special emphasis to lowering youth employment, particularly after the severe consequences that the 2008 financial crisis triggered in terms of disengagement of the labour market amongst the youth. In light of the high incidence of NEETs, particularly in peripheral European countries, national governments, mostly in cooperation with EU institutions, have sought ways of combatting this reality with the aim of fostering youth engagement in labour markets.

At the EU level, the initiative ‘Youth on the move’ of 2010 was the first to specifically refer to NEETs, a concept that is now at the heart of the agenda. Following this, the Youth Guarantee was agreed to be implemented in 2013 by all Member States. Since its conception, the Youth Guarantee has contributed to reducing the number of NEETs (Eurofound, 2022). As a result of the positive effects of the Youth Guarantee, the European Commission launched ‘Investing in Europe’s Youth’ in 2016, an initiative that increased financial availability for the Youth Employment Initiative until 2020 with the aim of further increasing outreach to the youth. In order to provide a framework to cooperate with Member States on their youth policies between 2019 and 2027, a new EU Youth Strategy was implemented in 2018. The advent of the COVID-19 and its direct impact on unemployment led to the creation of the Youth Employment Support package in 2020. Lastly, the European Pillar of Social Rights Action Plan (2021) introduced innovative and determined targets for the youth, including an objective to reduce the rate of NEETs from 12.6% in 2019 to 9% by 2030.

At a high level, it could be argued that there has been a shift since the implementation of the Youth Guarantee in 2013 until 2018 regarding the focus of the policy. In fact, it can be inferred that the Youth Guarantee moved away from a focus on a ‘Good Quality Offer’ of employment or training to a more personalised assessment and longer-term planning for young people (Kelly et al., 2022)¹⁰. The original Youth Guarantee already included recommendations regarding personalised guidance, however, greater focus was placed after 2018 and in the Reinforced Youth Guarantee (2020). This direction also takes into consideration the criticisms of the European Court of Auditors (2017) when it comes to the outreach shortcomings of the Youth Guarantee and the suggestions included in an ILO review that recommended tailored outreach mechanisms (Escudero & Murelo, 2017). This has

¹⁰ ‘Baseline Study on Impact of Youth Employment Policies’ hereafter referred to as the ‘Baseline Study’ (Output 3 of the Cowork4Youth project).

given rise to more specific guidelines for the next implementation of national Youth Guarantees, including mapping of target groups and skills gaps, enhanced communication and outreach activities and personalised preparation and counselling prior to job or education offers (Baseline study).

A key challenge in effectively implementing policies addressed to the NEET population relates with the heterogeneous nature of this population subgroup as well as the country-specific labour market characteristics. Regarding the first element, earlier research has noted that the short- and long-term unemployed population make up the largest share of total NEETs (29.8% and 22% respectively in 2019, according to Eurofound, 2022), followed by those with family responsibilities, re-entrants, persons with illnesses or disabilities or discouraged persons. The second element also introduces complexities when designing policies addressed to the youth. As outlined throughout this report, the conjuncture of each country's labour market has led to diverging NEET rates, and policy responses have therefore been diverse, even across regions. The Baseline study further explores a selection of relevant initiatives undertaken by national and regional governments (in Greece, Italy, Ireland and Spain), with a particular focus on the tourism and decarbonisation regions, given their relevance in these economies.

While countries shared similarities in their policy responses, especially under the implementation of the Youth Guarantee, certain domestic policy response were more apparent in some countries and regions over others. The Greek experience is marked by a strong early focus on minimum wage reductions in 2010, 2011 and 2012 which allowed for the provision of cheaper youth labour to the tourism and accommodation sector. While this helped the tourism sector in the recovery period, it raises several questions about the ongoing suitability of this employment for young people in Greece and concerns over low wage growth. Unlike other countries, there was little evidence of person-centred planning, and the Youth Guarantee is described as having limited outreach. Italy saw later adjustments to the labour market in 2014/2015 with a reform of the apprenticeship system and labour market liberalisation under the principle of flexicurity (Pinelli et al., 2017). These were described to be a positive development for apprenticeship and temporary contracts but did not have a sizeable impact on the overall youth labour market. Spanish policy responses were distinguished by a strong focus on workplace experience as an aim of the National System of Youth Guarantee (NSYG) as well as various regional programs such as 'Lehen Aukera', 'Incentíivate', and 'Bono Empleo Joven'. Some of these initiatives have been analysed and find increased probabilities of remaining in employment and low 'dead weight' effects after participation (Lizarraga et al., 2022). In more recent years, this focus on experience has moved towards a more personalised system of guidance and counselling under the 'Shock Plan for Youth Employment (2019-2021)' supported by relevant research findings (Orfao and Malo, 2021). Finally, Ireland's response leveraged the social welfare system in an effort to remove barriers to work and increase incentives through a principle of mutual obligation between unemployed youths and the labour market activation system as well as sanctions for non-compliance. Job creation efforts also sought to link those who lost jobs during the recession to newly created jobs through the 'Pathway to Work' strategies. While overall employment figures would suggest that these have been at least somewhat successful, the effectiveness of initiatives is largely unknown due to a lack of evaluation. There are also concerns

over 'job quality' arising from these schemes as an increase in part-time and temporary work is apparent since the recession (Kelly and Barrett, 2017).

The policy response of each of the four countries under consideration must be understood as one marked by significant similarities under the European Youth Guarantee but also significant heterogeneity as each country implemented national level responses to the economic recession of 2008. The original Youth Guarantee focused on a good quality offer of employment or education which has later transformed into personalised planning, guidance and skills mapping under the Reinforced Youth Guarantee (2020). This European-wide policy response has taken various forms but has broadly been implemented across all countries. However, what differs is the other responses to youth unemployment, as outlined above.

5.2. Policy implications

This subsection provides some policy implications and compiles evidence on good practices regarding policies that favour the reinsertion of NEETs into the labour market. In first place, this paper has provided important information on occupational trends between 1997 and 2019 in the four countries under study which has relevance for wider policy implications. There is a general trend towards more professionalised service industries over the time period and declines in many occupations related to trades, agriculture and manual labour. This suggests that a greater investment in education and training will be required if NEETs are to find employment in a growing occupational field. In all countries, the largest four occupations comprise approximately 25% of the overall share of employment but the trend in Greece is particularly concentrated, where four occupations comprise 37.1% of the employment share. This is a concern were those occupations to experience any adverse shock and efforts should be made to diversify the employment share.

Focusing on NEETs, the policy implications arising from this study are complex. With the exception of Spain, we find that a majority of NEETs have no work experience. In addition, a higher proportion of NEETs in Spain come from lower educated backgrounds compared to other countries. Among those with experience, we find that they come in a slightly higher proportion from a non-emerging occupation compared to their employed counterparts, with the exception of Ireland. The results also point to the existence of a skills gap between NEETs and the employed youth, as NEETs appear as less aligned with some demanded skills such as digital data management and analysis.

It is important to contextualise the results of this study against the wider trends in youth employment in each national context, as analysed below.

Greece

The major policy implication from the Baseline Study for Greece was the continued reliance on young people in the tourism sector together with a failure to enhance wage growth and job quality for people employed in this field. The results of this analysis largely compound these findings as

Greece as the highest concentration of employment in the four largest occupations. Additionally, 32.7% of Greek NEETs who have experience, have that experience in the food & accommodation sector which is the highest of all countries under consideration. Secondly, skills gaps between NEETs and other employed youths were significantly larger on average compared to Spain and Italy. Greece has not shown as much success with implementation of policy that prioritises personal planning or training, and the results are apparent here. **Future policy initiatives would benefit from a focus on education and skills, particularly amongst the NEET population whose skillset currently matches the tourism industry.** Greek NEETs would benefit from a wide range of skills related training as they lag behind in all most valued skills but particular emphasis should be directed to **analysis of digital data, presentation of information or developing objectives and strategies**, for example.

Italy

The major policy implication from the Baseline Study for Italy was the ongoing prevalence of temporary contracts, weak overall macroeconomic growth figures and high rates of the long-term unemployed. Italy also has higher proportions of young people employed in, and studying manufacturing, and weaker employment indicators for females. This analysis raises a number of complex issues for the future direction of youth employment policy in Italy. Italian NEETs with prior experience have the lowest skills gap compared to employed youth counterparts apart from a few specific areas. However, Italy also has the highest proportion of NEETs who have no labour market experience at 64.1%, significantly higher than Spain's 37.8%. Those with high education levels only comprise 10% of the experienced NEET population which is significantly lower than any other country. This might suggest that **highly-educated Italian NEETs do not find suitable experience to match their education level or are not captured in this statistic—perhaps due to migration or brain drain which has particularly affected some regions in Italy** (European Commission, 2020a). Former personal service workers and sales workers account for 37.6% of the experienced NEET cohort in Italy but unlike other countries, these occupations are not-emerging in Italy in what is a re-skilling challenge. The clearest policy implication in Italy is the importance of experience for its NEET population overall, and furthermore, the importance of attaining experience in a growing occupation for those NEETs who have some previous experience. Despite the higher prevalence of manufacturing in Italy, it also shows neutral or negative trends across most trades' occupations since 1997. Italy also has the largest gap between NEETs whose previous experience came from a non-emerging population and the overall percentage of young people in non-emerging occupations. Future policy needs to account for this by focusing on reskilling NEETs whose experience is from non-emerging occupations and through targeted training that prioritises specific skills gaps in data analysis and provision of information to the public of clients. **The similarity between Spain and Italy in the preponderance of temporary contracts but the marked dissimilarity in the labour market experience of its youth could indicate a policy learning.** Programs that prioritise experience are more readily apparent in Spain (see Baseline Study) and have been shown to have some success (De la Rica et al., 2022).

Spain

Like Italy, Spain also has an ongoing challenge with temporary contracts which was a major policy implication of the Baseline Study. Unlike Italy, Spain is in a very different situation regarding experience of its youth and NEET populations. This analysis has shown it is the only country where more NEETs have previous experience than those who do not. As previously mentioned, this could be due to structural features of the Spanish labour market which has high proportions of temporary contracts and adjustments based on firing and re-hiring and/or it could also be due to the success of a number of policy schemes aimed at providing first-time experience to young Spanish people. This is particularly important for policy if the latter is the case as Spain exhibits a unique pattern and their experience orientated policy initiatives could be a framework for implementation in other countries. However, further research is required to differentiate whether the high proportion of experienced NEETs is a result of policy initiatives, temporary contracts, or another mechanism. Similarly to Italy, skills gaps between NEETs and their employed counterparts are noticeable for the specific skills of digital data analysis and information provision found in all countries. While the findings of this analysis for Spain are generally more positive than for other countries, it does prompt a policy challenge as skills gaps of NEETs are relatively minor but it is still significant – What future initiatives might help? One possible answer is the unique composition of experienced Spanish NEETs which is 50% comprised of those with low levels of education. For reference, this is less than 10% in Greece and Ireland and only 29.5% in Italy. This complements **the high school-leaving rate in Spain which is the highest in the EU** despite falls in recent years and has been outlined as a concern in the Commission's assessment of the Youth Guarantee (European Commission, 2020b). **Future policy must tackle this gap in education levels for NEETs as it is clear that experience is not a substitute for education for obtaining secure employment in the Spanish labour market. Irish initiatives such as Youthreach or the School Completion Program (SCP) might be useful policy directions for tackling high rates of early school leaving in Spain and ensuring that fewer young people are funnelled into this experienced but unemployed category.** It should be noted that Spain and Ireland have had the strongest recovery and it would be expected that policy initiatives shift back towards the school-to-work transition rather than dealing solely with the dislocation that the recession caused for young people.

Ireland

Ireland has had the strongest recovery of all four countries but the main policy implication arising from the Baseline Study was the rise in atypical work and declines in job quality for young people. It is difficult to accurately infer from this analysis in the Irish context due to the constraints of data availability and sample sizes which is reflective both of the smaller national population and the stronger economic recovery and subsequently smaller NEET population. However, similar trends are seen in Ireland to that of the other countries with a concentration of NEETs who have experience in low skilled sectors such as food and accommodation or retail trade. Ireland also has the highest concentrations of occupations in the higher professional or managerial sphere and a lack of growth or declines in occupations such as sales, personal service, and labourers where NEETs previously found experience. This may indicate a growing divergence between the requirements of emerging occupations and the neutral or non-emerging occupations where NEETs may reasonably have found

employment in the past. A shift towards a higher proportion employed in professional roles, a relatively smaller manufacturing sector, especially compared to Italy, and a lack of growth in lower skilled occupations together suggest greater barriers for unskilled or lower educated NEETs in obtaining higher quality employment. **Policy may need to pivot towards more intense supports to NEETs, who relative to other countries, may experience higher educational or skills barriers to entering an occupation not in decline in Ireland.** This is particularly important if young NEETs are to find good quality employment over their life course in Ireland and not be required to retrain or upskill later in life when it is much more difficult and costly to do so.

European Union

At a European level, this analysis shows that the occupational, skills and experience profile of NEETs in the four countries has many similarities but some important nuanced differences. At a high level, it finds that NEETs were particularly concentrated in non-emerging occupations prior to transitioning to their current labour status. Relatedly, the skills and tasks required appear to be less aligned with labour market needs to varying degrees but consistently across all countries. European policy that applies to all countries would benefit from **targeted initiatives that increase the skills of NEETs in areas where they are particularly lagging behind their employed counterparts.** 'Managing and analysing digital data' and 'providing information to the public and clients' are the two major examples and would benefit from specific interventions. Generalised interventions aimed at raising the skills of NEETs who already have experience are less helpful in this regard, especially in Spain and Italy where skills gaps between these cohorts are relatively minor. The Value Index developed in this analysis also provides another route for specific skills policy if it can identify valued skills that the currently employed young population do not have, effectively identifying labour shortages, and direct NEETs into these training schemes. An important research note for policy in all countries is situated in developing a better understanding of the role of experience in the Spanish labour market where a significantly higher number of NEETs have experience. It is possible that the numerous policy initiatives aimed at providing experience to young people in Spain have been relatively successful and their aggregate effect should be studied for possible translocation to other national contexts. It is also important to consider that the growth of occupations where NEETs may have had previous experience and plausibly may find employment again could have a differential impact on job quality. The longer-term shift seen in this analysis is away from employment in trades, agriculture or labourers towards more professional roles and service sector employment in sales and personal service workers. **Both sales and personal service workers account for a large share of experienced NEETs but these sectors may not have employment terms that are as attractive in terms of pay, contract type or opportunities for progression compared to trades or manual labour which they have largely replaced for those with lower levels of education.** This is an important issue that policymakers must consider if NEETs are to not just obtain employment in an emerging occupation but also have an incentive to work there. Earlier studies (e.g., Baseline study, Gorjón et al., forthcoming) have highlighted the need for policy to place a greater focus on aspects of labour quality, as today's young adults are facing a shortage of stable, full-time and fair-wage contracts. Importantly, the economic structure of the countries analysed here, with the exception of Ireland, facilitates the wide usage of temporary contracts, which partly explain the high incidence of NEETs

who regularly transit from employment to unemployment spells (Eurofound, 2022). In fact, as shown in Gorjón et al. (forthcoming), labour market interruptions have long-lasting effects on workers' labour trajectories. In this sense, reducing the share of temporary contracts could be a key measure to avoid consolidating low-quality employment, which largely affects NEETs (and the overall youth).

Importance of evaluating policy responses

Despite the overall convergence of national policy responses to youth unemployment as a result of the European Youth Guarantee, **most of the policy initiatives have not been quantitatively evaluated, casting uncertainty over their effectiveness** (see Baseline study). This is, however, paramount, as the effectiveness of the impact of the multiple policy initiatives undertaken should be evaluated in order to detect whether these policies serve their purpose. Those evaluations allow to quantify the impact of a certain policy (e.g., a training programme to foster reinsertion of NEETs on the labour market) on a certain outcome (e.g., the probability of insertion in the labour market). The rationale of impact evaluations requires to predict what the outcome would have been should the person not have participated in the programme. The literature often finds the existence of so-called 'dead weight' of certain policies. This implies that the hiring of the person would have happened even if the programme had not existed, which would suggest that those public resources would not be serving their intended purpose. In sum, evaluations of impact would enable policy makers to identify the policies that prove effective and those that were not effective and could, hence, be either modified or discarded. For example, the exact relationship between the higher rates of experience for NEETs in Spain is an important deviation from the norm where a better causal understanding is required.

Re- or up-skilling and brain drain

As a final consideration, it is important to stress that the implementation of the policies proposed in this section must be framed within a framework of territorial integration and cohesion, which is a fundamental pillar of EU policy. This implies that, beyond the fact that the proposals have been made at a national level (mainly due to issues of representativeness of the LFS), it is important to extend this analysis through, for example, administrative data, in order to identify the occupational and skills mismatch challenges specific to each region. The main reason to focus on this aspect is to ensure that not only NEETs, but all young people can be educated and trained according to the needs and labour demands of their region of origin. Otherwise, there is a risk that re-skilling and up-skilling policies could have unintended effects, such as accelerating the process of brain draining that is already affecting some of Europe's most disadvantaged regions in terms of unemployment, economic growth or even demographic decline. In addition, the **brain drain phenomenon has other undesirable effects, such as the overqualification of many people in destination countries, which cancels out potential positive effects in terms of upgrading human capital in a hypothetical return to the country of origin** (Hazans, 2012) or even produces down-skilling effects that make it difficult for these individuals to find high-skill jobs when they return to their country (Kaczmarczyk, 2015). Therefore, and while it is true that there are some skills that are highly valued for their transversal nature, **the implementation of policies that focus on the occupations and skills most**

in demand in each region would have a twofold positive effect. On the one hand, it would **allow those people who do not wish to leave their region of origin to acquire training in line with the needs of the labour market.** On the other hand, it would also provide an **incentive for young talent from other areas to move to those regions that best suit their training or skills,** partly reversing the brain drain process in those regions most affected.

6. Conclusions

This report focuses on the labour market characteristics of young NEETs in peripheral EU countries (Greece, Italy, Ireland, and Spain), particularly those with prior work experience. The study employs microdata from the European Union Labour Force Survey to identify the socio-demographic context of young NEETs and analyse the occupations they have pursued, distinguishing between emerging, neutral, and declining occupations. Policymakers can gain insights into the labour market characteristics of this subgroup and identify retraining pathways to reinsert young NEETs into the labour market by comparing the share of NEETs in declining occupations with the rest of the population. The study also looks at whether the skills of NEETs match the needs of the labour market. Overall, the report is useful for policymakers attempting to address these countries' high NEET rates.

Our descriptive analysis shows that Ireland has the lowest rate of NEETs, while Spain and Greece have higher rates than the EU average but lower rates than Italy. In addition to these differences in the rate of NEETs, there are notable variations in the sociodemographic characteristics of the NEET population between the various nations. Compared to other countries, Spain has a higher percentage of NEETs with prior employment experience than any other nation. In contrast to Ireland, which has a nearly equal gender distribution, men are more common among NEETs in Spain, Greece, and Italy. In all nations, the majority of NEETs have a medium or low level of education, which is a key factor in understanding the differences in emerging occupations and skills compared to the young population as a whole.

The relationship between NEETs and emerging and declining occupations in their respective countries is one of the most important aspects of this report. Our findings show that there are significant differences between countries. In Ireland, and particularly in Italy, there appears to be a strong correlation between non-emerging occupations and NEETs, whereas in Spain and Greece, less than half of the NEET population comes from a declining or neutral occupation (48.8% and 40.8%, respectively). We also find that NEETs are more likely to work in elementary occupations in all four countries, whereas the employed youth population is more concentrated in professional and technician associate occupations. This is a crucial distinction between the youth employed population, which is more evenly distributed across other occupational categories, and the NEET population (i.e., Professionals and Technicians and associate professionals). For a better understanding of the differences between the NEETs and the rest of the youth population with respect to emerging employment, the analysis is extended to the distributions of both groups across occupations at the two-digit level, which allows to draw the following additional conclusions. On the one hand, the results show that personal service workers and sales workers are the occupations in which the highest proportion of NEETs were employed and that they are over-represented in relation to the young employed population. However, at least in the cases of Spain and Greece, where these occupations are emerging, it does not explain the higher presence of NEETs in non-emerging occupations. On the other hand, the NEET population is also over-represented in

elementary occupations, which is closely related to the educational level of this group. In particular, we find that the NEETs come to a greater extent from occupations such as agricultural, forestry and fishery labourers or labourers in mining, construction, manufacturing and transport, which have seen a decline over total employment over the last two decades. Therefore, we can conclude that the higher presence of NEETs in these types of occupations largely explains the difference in the percentage of people coming from non-emerging occupations, which is higher in the case of NEETs.

The report also identifies a skills gap between young people who are employed in the countries under study and the NEET population, with Ireland having the largest gap. The findings show that NEETs are less likely to have certain skills than employed youth, including goal-setting, problem-solving, managing and analysing digital data, and motivational and leadership abilities. This offers a chance to suggest reskilling policies that emphasise these competencies, which are crucial in the context of the digital revolution. In general, NEETs do not differ significantly from young people in Spain, Greece, and Italy in terms of some skills, but there is room for improvement. The greater concentration of NEETs in some occupations unrelated to those requiring the most in-demand skills may be the cause of Ireland's wider and more pronounced skills gap. This group is not well aligned with the labour market despite Ireland having a low NEET rate, which could pose a challenge for their eventual re-entry.

Finally, the study provides an overview of the major EU-level policies as well as the national programs aimed at helping NEETs get back into the workforce. In addition, some policy recommendations are presented based on its key findings and supported by pertinent research on the efficacy of NEET-specific policies. Given the study's transnational scope, it is crucial that in addition to making recommendations that can benefit all European nations, policies tailored to the specifics of each country under study are also put forth (e.g., reducing the prevalence of temporary contracts in Italy and Spain, facing the reliance of young people on employment in tourism-related activities in the case of Greece or the rise of the rise in atypical work and declines in job quality for young people in Ireland). Moreover, for an effective policy implementation that is also consistent with the principle of territorial cohesion, it is necessary to emphasise the significance of implementing the proposed measures with consideration for regional differences in each country. Thus, policies aimed at re-skilling or up-skilling the NEETs (and the young population in general) would avoid having unintended effects that may exacerbate the brain drain phenomenon that negatively impacts certain European regions. Therefore, it would be of particular relevance to expand the analysis carried out in this report by making use of databases that allow for a more detailed analysis and, consequently, to make more precise recommendations to correct the skill mismatch affecting the European labour market.

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Appendix I – Top 29 skills by country

Skills Ranking (top 29) by country (2019)

Spain	Greece	Ireland	Italy
complying with legal and organisational guidelines	analysing and evaluating information and data	complying with health and safety procedures	complying with legal and organisational guidelines
complying with health and safety procedures	complying with legal and organisational guidelines	complying with legal and organisational guidelines	complying with health and safety procedures
analysing and evaluating information and data	complying with health and safety procedures	coordinating activities with others	maintaining operational records
maintaining operational records	maintaining operational records	presenting general information	analysing and evaluating information and data
presenting general information	presenting general information	analysing and evaluating information and data	coordinating activities with others
planning and scheduling events and activities	developing professional relationships or networks	maintaining operational records	presenting general information
coordinating activities with others	coordinating activities with others	advising and consulting	planning and scheduling events and activities
advising and consulting	planning and scheduling events and activities	planning and scheduling events and activities	directing operational activities
directing operational activities	directing operational activities	developing professional relationships or networks	advising and consulting
developing professional relationships or networks	advising and consulting	directing operational activities	monitoring, inspecting and testing equipment, systems and products
developing objectives and strategies	following instructions and procedures	developing solutions	developing professional relationships or networks
monitoring, inspecting and testing equipment, systems and products	developing objectives and strategies	following instructions and procedures	developing objectives and strategies
following instructions and procedures	monitoring, inspecting and testing equipment, systems and products	leading and motivating	developing solutions
leading and motivating	leading and motivating	developing objectives and strategies	following instructions and procedures
developing solutions	developing solutions	providing information to the public and clients	leading and motivating

allocating and controlling physical resources	providing information to the public and clients	listening and asking questions	allocating and controlling physical resources
working in teams	allocating and controlling physical resources	managing and analysing digital data	providing information to the public and clients
providing information to the public and clients	monitoring operational activities	monitoring operational activities	monitoring operational activities
conducting investigations	conducting investigations	monitoring, inspecting and testing equipment, systems and products	managing and analysing digital data
listening and asking questions	managing and analysing digital data	allocating and controlling physical resources	making decisions
managing and analysing digital data	supervising a team or group	providing general assistance to people	supervising a team or group
monitoring operational activities	providing general assistance to people	gathering information from physical or electronic sources	conducting investigations
making decisions	listening and asking questions	working in teams	working in teams
monitoring developments in area of expertise	training on operational procedures	conducting investigations	providing general assistance to people
providing general assistance to people	analysing business operations	engaging with others to identify needs	sorting materials or products
gathering information from physical or electronic sources	monitoring developments in area of expertise	technical or academic writing	monitoring safety or security
engaging with others to identify needs	technical or academic writing	supervising a team or group	complying with environmental protection laws and standards
monitoring safety or security	making decisions	making decisions	listening and asking questions
training on operational procedures	gathering information from physical or electronic sources	management skills	gathering information from physical or electronic sources

Appendix II – NEETs sociodemographic profiling

Table A2. NEETs with previous working experience by country and characteristics (2019, Q2)

	Spain (N=440)	Greece (N=51)	Ireland (N=19)	Italy (N=347)
Sex				
- Male	53.1%	54.4%	49.4%	55.1%
- Female	46.9%	45.6%	50.6%	44.9%
Age group				
- 15-24 years	47.2%	32.0%	57.5%	45.2%
- 25-29 years	52.8%	68.0%	42.5%	54.8%
Education level				
- High	22.1%	33.8%	25.3%	10.7%
- Medium	27.7%	60.0%	65.6%	59.8%
- Low	50.2%	6.2%	7.1%	29.5%
Economic activity (previous employment)				
- Accommodation and food service activities	21.5%	32.7%	23.6%	26.6%
- Activities of extraterritorial organisations and bodies	0.1%	0.0%	0.0%	0.0%
- Activities of households as employers; undifferentiated goods - and services - producing activities of households for own use	2.5%	0.0%	1.1%	2.3%
- Administrative and support service activities	3.9%	3.6%	7.7%	6.1%
- Agriculture, forestry and fishing	11.5%	3.7%	1.3%	7.0%
- Arts, entertainment and recreation	4.4%	0.6%	3.6%	3.4%
- Construction	4.1%	4.2%	6.8%	6.0%
- Education	1.9%	4.7%	1.7%	2.9%
- Electricity, gas, steam and air conditioning supply	0.0%	1.2%	0.0%	0.2%
- Financial and insurance activities	0.7%	1.0%	1.4%	0.0%
- Human health and social work activities	4.7%	2.9%	6.4%	3.0%
- Information and communication	2.1%	2.5%	4.9%	1.1%
- Manufacturing	10.8%	10.4%	10.6%	11.7%
- Mining and quarrying	0.1%	0.5%	0.0%	0.0%
- Other services activities	2.0%	3.9%	3.6%	3.0%

	Spain (N=440)	Greece (N=51)	Ireland (N=19)	Italy (N=347)
- Professional, scientific and technical activities	2.0%	2.8%	2.4%	2.2%
- Public administration and defence; compulsory social security	3.9%	2.9%	0.0%	1.7%
- Real estate activities	0.2%	0.0%	0.0%	0.9%
- Transporting and storage	3.9%	1.6%	4.4%	4.6%
- Water supply; sewerage; waste management and remediation activities	0.4%	1.3%	0.0%	0.8%
- Wholesale and retail trade; repair of motor vehicles and motorcycles	19.3%	19.6%	19.3%	16.3%

Source: Own elaboration using the EU Labour Force Survey.

Note: Absolute numbers for each country are expressed in thousands.

Appendix III – Share of NEETs and youth population with the most valued skills

Table A3. Share of NEETs and youth population with the most valued skills (Spain)

top skills	%NEETs	%Youth
complying with legal and organisational guidelines	96%	93%
complying with health and safety procedures	96%	90%
analysing and evaluating information and data	84%	84%
maintaining operational records	71%	71%
presenting general information	66%	75%
planning and scheduling events and activities	80%	80%
coordinating activities with others	57%	71%
advising and consulting	61%	73%
directing operational activities	66%	71%
developing professional relationships or networks	63%	74%
developing objectives and strategies	61%	70%
monitoring, inspecting and testing equipment, systems and products	76%	69%
following instructions and procedures	71%	74%
leading and motivating	58%	68%
developing solutions	49%	60%
allocating and controlling physical resources	75%	66%
working in teams	72%	65%
providing information to the public and clients	46%	60%
conducting investigations	51%	58%
listening and asking questions	50%	61%
managing and analysing digital data	41%	55%
monitoring operational activities	53%	58%
making decisions	42%	49%
monitoring developments in area of expertise	52%	58%
providing general assistance to people	57%	62%
gathering information from physical or electronic sources	45%	50%
engaging with others to identify needs	51%	57%
monitoring safety or security	48%	44%
training on operational procedures	45%	52%

Table A4. Share of NEETs and youth population with the most valued skills (**Greece**)

top skills	%NEETs	%Youth
complying with legal and organisational guidelines	80%	88%
complying with health and safety procedures	78%	87%
analysing and evaluating information and data	78%	90%
maintaining operational records	57%	70%
presenting general information	65%	76%
planning and scheduling events and activities	69%	78%
coordinating activities with others	53%	67%
advising and consulting	61%	74%
directing operational activities	65%	77%
developing professional relationships or networks	63%	79%
developing objectives and strategies	57%	70%
monitoring, inspecting and testing equipment, systems and products	65%	71%
following instructions and procedures	69%	76%
leading and motivating	59%	70%
developing solutions	37%	54%
allocating and controlling physical resources	55%	70%
working in teams	49%	52%
providing information to the public and clients	43%	63%
conducting investigations	55%	60%
listening and asking questions	55%	60%
managing and analysing digital data	37%	58%
monitoring operational activities	49%	71%
making decisions	25%	43%
monitoring developments in area of expertise	57%	59%
providing general assistance to people	57%	67%
gathering information from physical or electronic sources	39%	45%
engaging with others to identify needs	55%	59%
monitoring safety or security	37%	35%
training on operational procedures	51%	58%

Table A5. Share of NEETs and youth population with the most valued skills (Ireland)

top skills	%NEETs	%Youth
complying with legal and organisational guidelines	47%	90%
complying with health and safety procedures	53%	88%
analysing and evaluating information and data	42%	82%
maintaining operational records	37%	73%
presenting general information	37%	76%
planning and scheduling events and activities	42%	78%
coordinating activities with others	37%	75%
advising and consulting	47%	76%
directing operational activities	37%	73%
developing professional relationships or networks	42%	77%
developing objectives and strategies	37%	69%
monitoring, inspecting and testing equipment, systems and products	37%	64%
following instructions and procedures	47%	74%
leading and motivating	37%	71%
developing solutions	37%	67%
allocating and controlling physical resources	47%	66%
working in teams	37%	55%
providing information to the public and clients	32%	63%
conducting investigations	32%	58%
listening and asking questions	37%	65%
managing and analysing digital data	26%	58%
monitoring operational activities	42%	64%
making decisions	0%	45%
monitoring developments in area of expertise	26%	55%
providing general assistance to people	47%	64%
gathering information from physical or electronic sources	26%	54%
engaging with others to identify needs	32%	59%
monitoring safety or security	21%	42%
training on operational procedures	26%	54%

Table A6. Share of NEETs and youth population with the most valued skills (**Italy**)

top skills	%NEETs	%Youth
complying with legal and organisational guidelines	94%	89%
complying with health and safety procedures	93%	86%
analysing and evaluating information and data	87%	87%
maintaining operational records	73%	79%
presenting general information	69%	73%
planning and scheduling events and activities	77%	78%
coordinating activities with others	61%	70%
advising and consulting	68%	67%
directing operational activities	69%	74%
developing professional relationships or networks	66%	71%
developing objectives and strategies	63%	64%
monitoring, inspecting and testing equipment, systems and products	74%	73%
following instructions and procedures	75%	74%
leading and motivating	64%	64%
developing solutions	50%	62%
allocating and controlling physical resources	77%	72%
working in teams	67%	56%
providing information to the public and clients	46%	61%
conducting investigations	53%	54%
listening and asking questions	52%	56%
managing and analysing digital data	41%	55%
monitoring operational activities	62%	64%
making decisions	35%	48%
monitoring developments in area of expertise	53%	55%
providing general assistance to people	62%	59%
gathering information from physical or electronic sources	39%	46%
engaging with others to identify needs	49%	52%
monitoring safety or security	44%	45%
training on operational procedures	47%	52%

