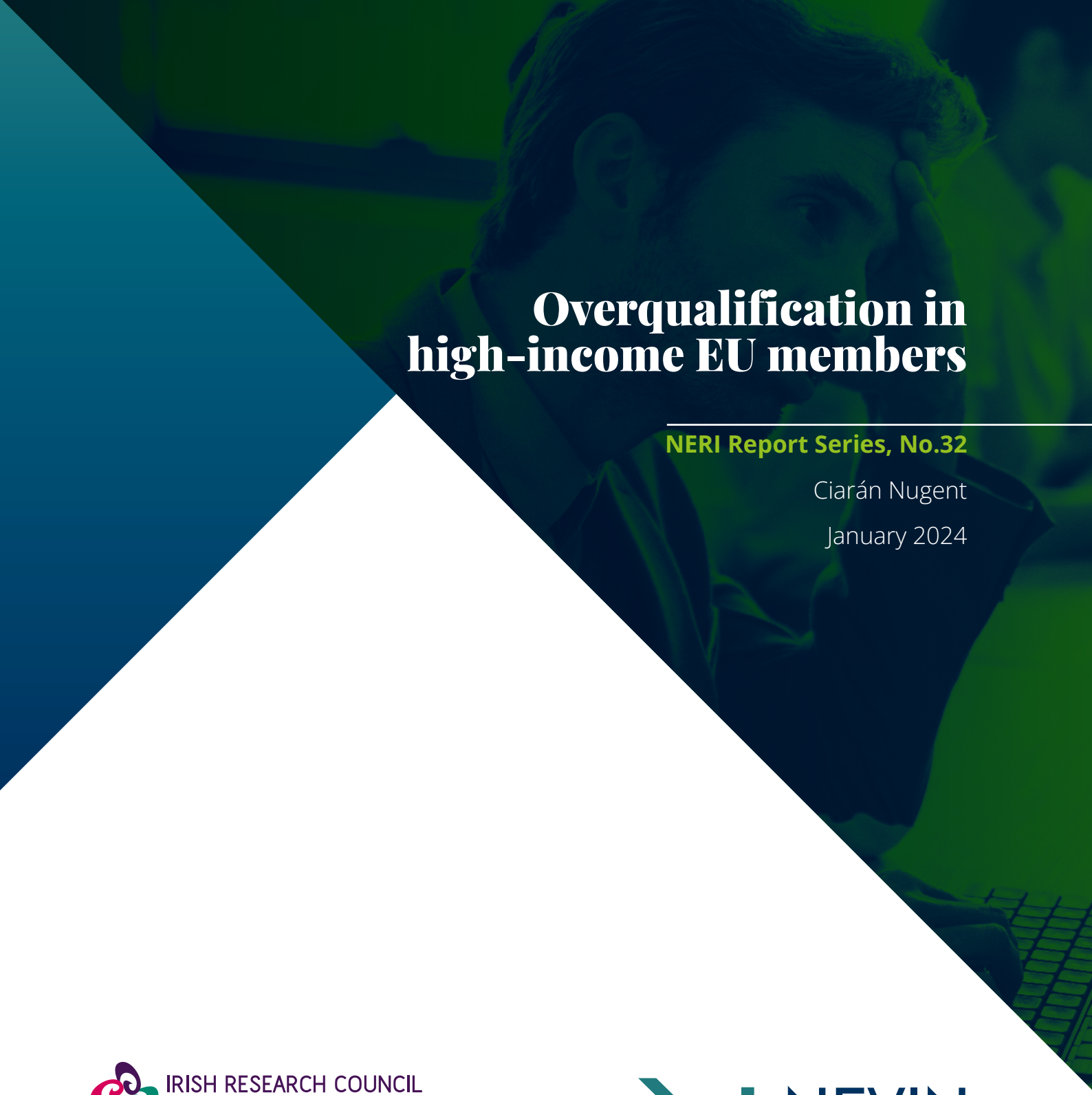

Overqualification in high-income EU members

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Ciarán Nugent

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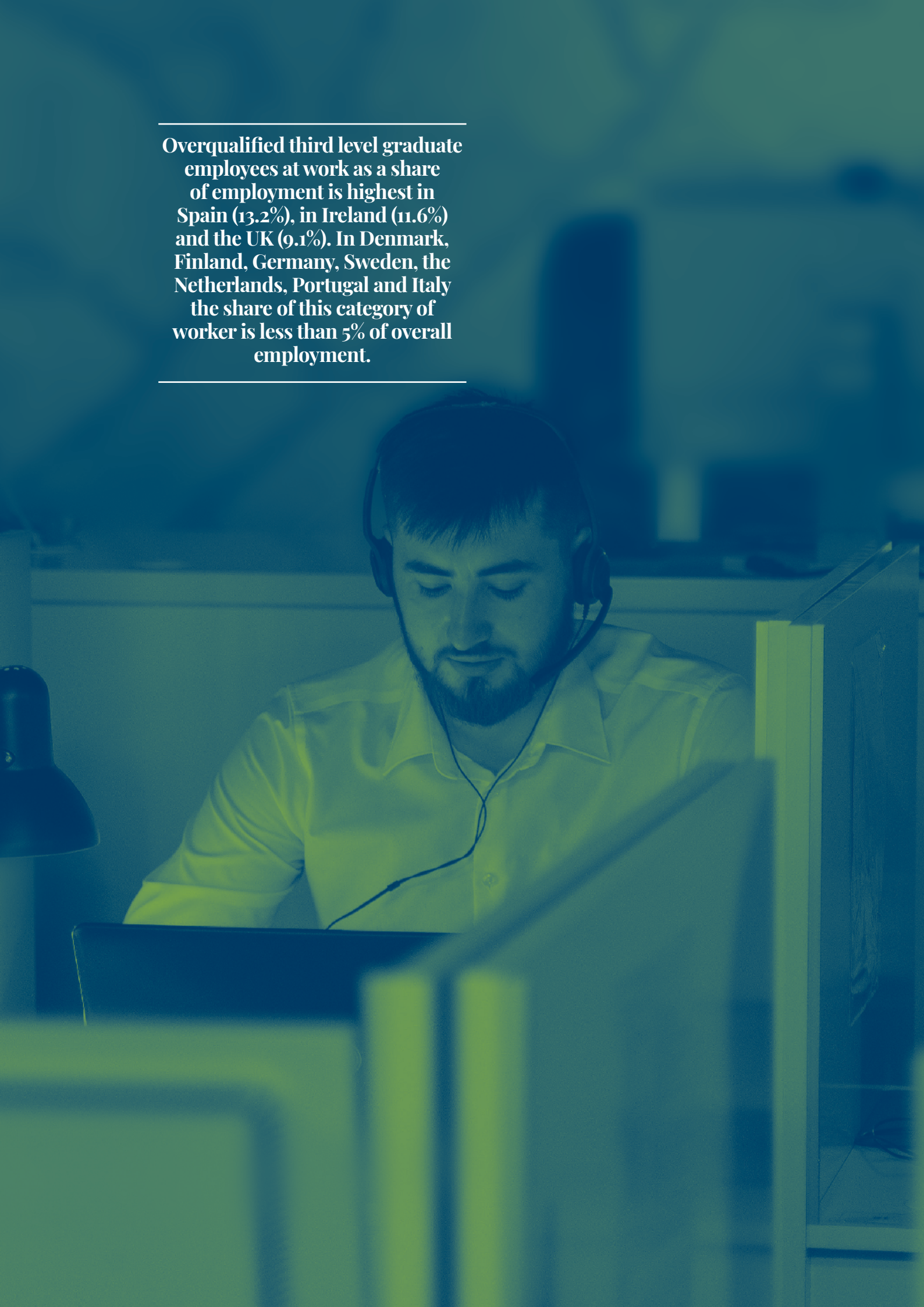


Overqualified third level graduate employees at work as a share of employment is highest in Spain (13.2%), in Ireland (11.6%) and the UK (9.1%). In Denmark, Finland, Germany, Sweden, the Netherlands, Portugal and Italy the share of this category of worker is less than 5% of overall employment.

Executive Summary

While third level graduates are most likely to be employed in occupations that do not require such high levels of education in Spain (37.5%), Ireland (30.1%) and Austria (28.9%), they are least likely to be in these positions in Denmark (13.8%), Portugal (14.9%) and Sweden (15.4%). The cross-country unweighted average of overqualification for third level graduates in our sample is approximately 21.7%. Except for in Sweden, female tertiary graduates in employment are more likely to be overqualified than males. Ireland and Spain have the highest rates of overqualification for women. Other than in Belgium and Finland, younger workers (under 35) with third level qualifications are more likely to be overqualified in the 13-country sample. Ireland (35.0%) and Spain (39.3%) also have the highest shares of overqualified workers in the younger cohort of graduates.

The share of overqualified graduates in the wider labour market is on average (unweighted) 8.6% across the sample while overqualified employees who are 'in work' (excluding self-employed, students, 'home duties' etc.) make up 6.4% of employment. Overqualified third level graduate employees at work as a share of employment is highest in Spain (13.2%), in Ireland (11.6%) and the UK (9.1%). In Denmark, Finland, Germany, Sweden, the Netherlands, Portugal and Italy the share of this category of worker is less than 5% of overall employment.

At least 5 out of 6 overqualified tertiary graduates in each country in the sample are in 'middle skilled' occupations (ISCO 4-8). On average just 8.7% are in *Elementary occupations* with Denmark at the high end (16.6%) and Portugal at the low end (4.5%). On average in 13 countries, just over a third of overqualified workers are in *Clerical Support* roles (34.9%) and in *Service and Sales* occupations (35.2%). In Germany and Austria, the combined share of overqualified workers in these two groups are relatively low (56.5% and 62.4%) while they're relatively high in Italy and Portugal (82.1% and 82.7%). Relatively few overqualified third level graduates work in *Skilled Agricultural* positions (the highest in Finland at 7% and the lowest at 1.5% in Portugal). Overqualified third level graduates are represented more in *Craft and related Trades occupations* in Austria and Germany (21.8% and 18.2%) in line with their specific wider occupational breakdown and less in Portugal, Denmark and Italy (6.1%, 5.8% and 3.6%).

The sectors in which overqualified third level graduates work align in large part with the relative size of the sectors by employment in each country**.** *Wholesale/Retail*, being in the top 3 of 15 sectors in every country is in the top 3 sectors by number of overqualified third level graduates. *Industry* and *Education* are also towards the top in almost every country in their relative shares of overqualified graduates. At least 38% of all overqualified workers in each country are located in these three sectors.

Gendered differences associated with wider sectoral employment also persist with higher shares of overqualified graduate males in *Industry* and *Construction* in every country and higher shares of females in *Human Health* and in *Education* in every country.

Higher shares of overqualified tertiary graduates in the younger cohort work in *Wholesale/retail* and *Accommodation and Food* in every country than in the wider adult sample, often with large gaps.

Some areas of economic activity in the public sector stand out as having fewer overqualified workers relative to their size. Though *Education* has among the highest absolute number of overqualified workers in every country the share of overqualified workers in *Education* is smaller in every country than the sectors share of employment. Other than in the UK and Denmark, overqualified workers are also underrepresented in *Public administration* relative to the size of the sector.

In areas mostly associated with the private sector some general trends can be observed across countries in the data. The incidence of overqualified workers in *Information and Communication* is lower than its size in overall employment in every country, as are overqualified graduates in *Construction* and *Agriculture* (though the evidence in *Agriculture* is relatively limited). Overqualified workers are overrepresented in *Accommodation and Food* and in *Transport and Storage* (dominated by men) in all 13 countries as are *Wholesale/Retail* workers with the exception of Denmark.

Similar to the sectoral breakdown, the share of overqualified workers by their field of education in higher education roughly aligns with the relative shares of third level qualifications in the adult population. Other than in Austria and the UK, *Business, administration and law* graduates make up the highest share of overqualified graduates in the workforce in every country out of 10 fields. At the low end, *Natural sciences, mathematics and statistics* as well as *Information and Communications* (together loosely known as STEM) are in the bottom half of fields by share of overqualified workers and represent fewer overqualified workers than the sectors do in overall employment in every country. Similarly, the share of overqualified workers with qualifications in *Education* and in *Health and Welfare* is less than the share of graduates in those fields among the graduate population in every country.

Introduction

Skills mismatch is a broad concept and takes several forms. They include vertical mismatch (or overqualification), skill gaps, skill shortages, field of study (horizontal) mismatch and skill obsolescence. Some relate to mismatches experienced by employees, while others relate to employers and firm-level difficulties in accessing appropriate skilled labour. Mismatch on an individual level relates to the degree to which workers have skill or education levels that are above, below or unrelated to the requirements of their current employment. On the firm side, mismatch generally refers to the supply of suitably skilled job applicants as they relate to demand for skills.

Overeducation/ vertical mismatch, which this research will focus on, can be costly for individuals, potentially undermines productivity and growth at a firm level and by extension at the macro level. Overqualification can negatively affect workers through lower job satisfaction and is associated with lower returns to education in the form of earnings. Lower job satisfaction in turn affects firms through staff turnover and productivity. There is also some evidence to suggest that overeducation is associated with lower productivity as it may represent a shortage of skills supply available for employers. At a macroeconomic level, national welfare, potential growth and productivity are all undermined without full utilization of skills available within the economy. From a spending perspective, revenue is potentially wasted on non-productive education with policy implications for utilising and targeting the existing skills of the labour force more efficiently.

With a huge shift in the share of school leavers deciding on tertiary education over recent decades, this report considers the supply of tertiary graduates in relation to the demand for skills in the labour market using the job evaluation approach.

For the purpose of this report, an individual is overqualified (vertical mismatch) if they have a tertiary education (International Standard Classification of Education or ISCED 5+) but work in an occupation that does not require that level of training (International Standard Classification of Occupations or ISCO 4-9)[1]. For example, an MA graduate in any field working in a supermarket in a clerical or sales role is overqualified for their position. An individual can also be overqualified with various post-secondary and specialist training though this group are not included in this report. Individuals workers can also be in occupations where they are horizontally mismatched (the level of training may coincide with entry requirements, but the field of study does not), though this is not

1 International Standard Classification of Education-11
0. Early childhood education
1. Primary education
2. Lower secondary education
3. Upper secondary education
4. Post-secondary non-tertiary education
5. Short-cycle tertiary education
6. Bachelor's or equivalent level
7. Master's or equivalent level
8. Doctoral or equivalent level

under investigation in this report. As such, the estimates provided can be considered the lower bound of rates of the broader concept of worker mismatch across the 13 sample countries.

ISCO-08 major groups	Skill level
Managers	3+4
Professionals	4 (ISCED level 5a or higher)
Technician and Associate Professional	3 (ISCED level 5b)
Clerical support workers	2 (ISCED level 2, 3, 4)
Service and sales workers	
Skilled agricultural, forestry, & fishery workers	
Craft and related trades workers	
Plant and machine operators, and assemblers	
Elementary occupations	1 (ISCED level 1)

Using Labour Force Survey (LFS) data, this report first estimates the share of tertiary graduates in the population, the workforce, by gender and for the youngest cohort in 13 high-income EU countries as well as the share of occupations with third level entry requirements (ISCO 1-3). The analysis includes estimates of overqualification rates among working graduates, with further detail by age group and by gender. The analysis is also applied to a slightly smaller, more policy relevant group of workers, namely 'employees' who report as 'at work'. Employees are considered separately as signalling training requirements in an interview to a would-be employer is less relevant to the self-employed and looking at those whose main economic status is 'at work' is important as it excludes students who may work part time and may have a lower tier tertiary qualification but continue towards an MA or PhD as well as other categories not fully engaged with the labour market but who may nevertheless be in employment such as those on 'domestic duties'.

The report also describes the location and distribution of overqualified graduates by economic sector (NACE) and broad occupational group (ISCO) as well as by the field of Education (ISCED-F) in which they have qualifications.

Tertiary graduates in Employment

Tables 1,2 and 3 summarise the headline indicators; the share of third level graduates in the population, among workers and the share of 'high-end' jobs in overall employment, with a gender breakdown and analysis of younger adults (20-34) and workers.

At 45.2%, Ireland has the highest share of graduates (20-64 yrs), with Finland, the UK and Sweden also near the top of our sample (42.4%, 41.6% and 41.5%). The share of tertiary graduates is higher for females in every country other than in Germany and Austria and are ranked by country broadly in line with the broader sample. Relatively large gaps in third level attainment between females and males are evident in Belgium, Finland and Sweden.

Ireland also has the highest share of the younger group with third level education (46.2%) and half of the younger cohort of females are in this group (50.0%). France has the second highest share for the young group (43.2%), followed by the UK (42.8%) and Spain (41.3%). In every country, the gap between young women and young men in third level education is widening relative to the broader sample.

Looking at employees 'in work' (excluding students and others), the share with tertiary education is higher in all cases relative to the share of tertiary graduates except for young men in Austria, Italy and Portugal (Table 2). In Ireland, over half (53.5%) of this group have tertiary qualifications with shares in Finland (49.9%), Sweden (46.3%) and the UK (46.0%) also relatively high. Italy (22.5%), Portugal (29.9%), Germany (29.9%) and Austria (35.0%) are relatively low. Ireland also has the highest share of tertiary graduates in the employees 20-34 at work group (55.6%) and the highest for females in that group (61.5%). Except for Finland which drops down the ranking, the relative shares of tertiary graduates in the employees at work group are ranked similarly among the younger cohort. Considering the younger cohort, the increasing prevalence of highly educated group in employees at work is particularly evident in France and the Netherlands (43.0% v 49.6% and 44.2% v 48.3%).

High-end employment

This section presents the evidence of growth in high-end employment as defined as having tertiary education entry requirements. This includes 3 International standard classifications of occupation (ISCO) categories; *Managers, Professionals* and *Associate Professionals and Technicians*. The share of high-end employment is 46% on average in the sample, highest in Sweden (56.0%), the Netherlands (53.3%), Denmark (51.7%) and the UK (51.6%) and lowest in Spain (33.6%), Italy (36.7%) and Portugal (37.5%). The share of female employment in high end occupations is higher in every country, bar the UK. The share of young men in high end employment is lower than the male country average in every case, though for young women relative to older women there is growing high end employment in most cases (Austria, Belgium, France, Germany, Portugal, Spain, the Netherlands).

Table 1 Share of tertiary graduates, 2019

	(20-64)	Men	Women	20-34	Men	Women
Austria	33.3	33.4	33.3	37.8	33.9	41.9
Belgium	38.2	33.5	42.9	39.4	32.2	46.8
Denmark	36.8	31.8	41.9	34.2	28.4	40.3
Finland	42.4	34.9	50.1	31.2	24.9	38.0
France	37.4	34.4	40.2	43.2	38.8	47.4
Germany	27.9	30.1	25.7	25.9	24.6	27.2
Ireland	45.2	41.5	48.9	46.2	42.4	50.0
Italy	18.8	16.0	21.7	22.2	17.4	27.3
Portugal	25.9	21.0	30.4	32.3	25.1	39.5
Spain	37.6	34.8	40.4	41.3	36.1	46.6
Sweden	41.5	34.5	48.7	39.9	33.3	47.0
The Netherlands	39.4	38.8	40.1	40.4	36.5	44.4
UK	41.6	39.1	44.2	42.8	39.3	46.4

Table 2 Share of tertiary graduates, employees, at work, 2019

	(20-64)	Men	Women	(20-34)	Men	Women
Austria	35.0	33.8	36.4	37.9	32.5	44.6
Belgium	45.1	37.6	52.9	45.4	35.0	56.4
Denmark	42.7	36.3	49.7	41.9	33.1	52.6
Finland	49.9	41.4	58.5	38.9	30.5	49.5
France	43.0	38.6	47.3	49.6	42.8	56.8
Germany	29.7	31.2	28.1	29.2	27.1	31.6
Ireland	53.5	48.7	58.3	55.6	50.2	61.5
Italy	22.5	17.0	29.2	24.0	16.1	34.7
Portugal	29.9	23.2	36.2	34.3	24.9	44.0
Spain	45.1	40.1	50.6	48.4	40.7	56.8
Sweden	46.3	37.6	55.6	45.0	36.4	55.9
The Netherlands	44.2	42.2	46.3	48.3	42.9	53.9
UK*	46.0	42.9	49.0	47.9	43.5	52.6

Table 3 Share of high-end employment, 2019

	20-64	Men	Women	20-34	Men	Women
Austria	42.9	42.5	43.4	42.3	39.7	45.2
Belgium	47.2	44.4	50.3	46.4	40.2	53.2
Denmark	51.7	49.9	53.7	43.8	41.5	46.4
Finland	50.4	47.7	53.2	42.6	39.9	45.7
France	48.1	48.0	48.2	46.7	43.5	49.9
Germany	47.0	44.5	49.9	47.0	40.5	54.7
Ireland	45.7	43.7	47.9	41.2	39.9	42.7
Italy	36.7	35.2	38.6	30.9	29.0	33.4
Portugal	37.5	36.8	38.3	37.3	34.5	40.2
Spain	33.6	32.3	35.2	33.8	30.0	38.1
Sweden	56.0	52.1	60.3	48.7	43.9	54.1
The Netherlands	53.3	52.8	53.9	51.2	47.6	55.0
UK	51.6	51.7	51.4	47.7	46.9	48.5

Overqualification rates

Table 4 presents the LFS estimates of overqualification of employed graduates and Table 5 shows the same but controlled for employees (excluding self-employed) who are specifically 'at work' (not including students etc.). The final column in each table presents estimates of the share of overqualified third level graduates relative to the wider labour force in the country.

While third level graduates are most likely to be employed in occupations that do not require such high levels of education in Spain (37.5%), Ireland (30.1%) and Austria (28.9%), they are least likely to be in these positions in Denmark (13.8%), Portugal (14.9%) and Sweden (15.4%). The cross-country average of overqualified third level graduates in our sample is approximately 21.7%. Except for in Sweden, female tertiary graduates in employment are more likely to be overqualified. Ireland and Spain also have the highest rates of overqualification for women. Other than in Belgium and Finland, younger workers (under 35) with third level are more likely to be overqualified in the 13-country sample. Ireland (35.0%) and Spain (39.3%) also have the highest shares of overqualified workers in the younger cohort of graduates.

Overqualification rates specifically for employees (excluding the self-employed) who are 'at work' (excluding students etc.) are slightly lower on average in our sample (21.0%). Rankings are also almost identical with Spain (38.1%), Ireland (30.1%) and Austria (27.0%) at the top and Denmark (11.8%) at the bottom, with Portugal (14.9%) and Sweden (13.4%) swapping second and third place from the bottom. Graduates in employment in Spain and Ireland are also first and second most likely to be overqualified across the demographic groups considered here. Italy, the UK and Austria all have relatively high rates of graduates in occupations with lower skills requirements in the younger cohort (31.4%, 30.7% and 29.7%) while younger graduates in Denmark (12.1%), Finland (15.4%) and Sweden (15.0%) tend to perform best.

From a policy perspective, it's important to estimate the scale of this relative to the labour market or overall employment. The data suggest that overqualified third level graduates as a share of overall employment is clearly more of an issue in some countries. The share of overqualified graduates in the wider labour market is on average 8.6% across the 13 countries in this sample. On average across the sample 6.4% of workers are overqualified employees who are 'in work'. Concentrating on overqualified

While third level graduates are most likely to be employed in occupations that do not require such high levels of education in Spain (37.5%), Ireland (30.1%) and Austria (28.9%), they are least likely to be in these positions in Denmark (13.8%), Portugal (14.9%) and Sweden (15.4%).

third level graduate employees at work, LFS data suggest that this type of mismatch as a share of employment is highest in Spain (13.2%), in Ireland (11.6%) and the UK (9.1%). In Denmark, Finland, Germany, Sweden, the Netherlands, Portugal and Italy the share of this category of worker is less than 5% of overall employment.

Table 4 Overqualification rate of third level graduates (%)

	All	Male	Female	20-34	Male, 20-34	Female, 20-34	share of employment
Austria	28.9	28.7	29.1	31.9	31.5	32.2	10.6
Belgium	20.1	19.8	20.3	19.3	19.7	19.0	9.3
Denmark	13.8	13.3	14.2	16.9	15.4	18.0	5.2
Finland	18.7	15.5	21.1	17.8	13.8	20.7	8.6
France	21.4	20.3	22.3	26.0	26.9	25.4	9.4
Germany	18.4	17.7	19.4	19.0	18.7	19.4	5.7
Ireland	30.1	28.8	31.4	35.0	33.6	36.3	14.1
Italy	20.3	16.4	23.4	27.6	21.5	31.7	4.7
Portugal	14.9	11.6	17.1	22.1	16.6	25.4	4.2
Spain	37.5	36.9	38.1	39.3	40.2	38.6	16.3
Sweden	15.4	17.0	14.2	18.7	19.6	18.0	6.8
The Netherlands	17.1	16.4	17.9	20.3	20.9	19.9	6.8
UK	25.1	22.4	27.7	30.3	27.9	32.4	10.9

Table 5 Overqualification rate of third level graduate employees, at work (%)

	All	Male	Female	20-34	Male, 20-34	Female, 20-34	share of employment
Austria	27.0	26.3	27.6	29.7	29.9	29.6	7.3
Belgium	20.3	20.1	20.4	19.2	19.9	18.8	7.9
Denmark	11.8	11.8	11.8	12.1	12.0	12.2	3.5
Finland	16.4	12.3	19.3	15.4	11.9	18.0	3.3
France	20.4	17.8	22.4	25.0	24.4	25.5	6.9
Germany	17.2	16.4	18.2	16.6	16.4	16.8	4.2
Ireland	30.1	28.3	31.7	34.1	32.4	35.6	11.6
Italy	23.1	19.1	25.8	31.4	24.8	35.5	3.7
Portugal	14.9	11.4	17.1	22.5	16.6	25.8	3.0
Spain	38.1	37.8	38.4	40.0	41.9	38.6	13.2
Sweden	13.4	14.9	12.2	15.0	16.5	13.8	5.0
The Netherlands	15.2	14.5	15.8	16.0	16.5	15.6	4.3
UK*	25.1	22.1	27.8	30.7	28.2	32.9	9.1

* control variable 'mainstat' is not available. Therefore this estimate relates to wider employment rather than 'at work' (students, domestic duties, disabled etc who are in employment are included)

Overqualified employees, by broad occupational category (ISCO 4–9)

Table 6 Overqualification by occupation (overall), %, 2019[2]

	Clerical support workers	Service and sales workers	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Austria	29.8	26.7	6.9	22.9	5.6	8.1
Belgium	47.1	23.6	2.4*	12.8	5.4	8.7
Denmark	26.4	42.1	2.7	6.1	6.1	16.6
Finland	32.0	39.1	7.1	9.2	6.4	6.2
France	35.5	33.5	5.9	11.4	5.2	8.6
Germany	36.1	26.3	4.9	18.9	5.8	8.1
Ireland	29.5	37.6	3.5	12.3	7.6	9.5
Italy	51.6	30.5	2.4	4.8	2.9	7.8
Portugal	41.9	40.8	1.5	6.9	4.4	4.5
Spain	36.6	32.0	1.8	14.6	7.0	8.0
Sweden	22.5	44.7	3.9	11.6	8.8	8.5
Netherlands	35.8	38.5	3.2	9.0	5.3	8.2
UK	28.7	41.8	2.1	11.2	6.1	10.2

2 *in a cell with an estimate =sample size is small and should be interpreted with care. * in a cell alone=sample size too small to report

Table 7 Overqualification by occupation, employees, at work, %, 2019

	Clerical support workers	Service and sales workers	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Austria	35.9	25.1	1.4	21.8	6.5	9.3
Belgium	54.4	20.5	0.3	10.1	5.6	9.1
Denmark	25.5	42.8	1.9	5.8	7.2	16.9
Finland	39.3	39.5	*	6.9*	6.3*	6.1*
France	43.0	32.1	2.0*	8.5	5.3	9.3
Germany	41.9	23.5	2.0	18.2	6.4	8.0
Ireland	32.2	38.5	1.2	11.1	7.7	9.4
Italy	58.3	26.5	0.4	3.6	3.0	8.2
Portugal	46.1	38.4	0.5	6.1	4.2	4.8
Spain	40.4	30.0	0.5	13.0	7.4	8.8
Sweden	25.9	42.9	2.1	11.6	9.6	7.9
Netherlands	42.4	35.4	2.0*	7.4	5.9	6.8
UK*	31.1	43.8	1.0	8.9	5.2	10.1

Outside of the three occupational categories with third level entry requirements are 6 ISCO categories where overqualified workers are located (by the definition applied here). Five of the six categories are considered 'middle skilled' occupations. These include *Clerical support workers, Service and Sales workers, Skilled agricultural, forestry and fishery workers, Craft and related trades workers* and *Plant and machine operators and assemblers. Elementary occupations* are the sole occupational category with lower secondary education entry requirements. Table 6 shows the breakdown of the broad occupations in which overqualified third level graduates work. Table 7 shows the same breakdown but excludes the self-employed and all those whose main economic status is not 'at work' (students, adults on domestic duties, retirees etc.).

At least 5 out of 6 overqualified tertiary graduates in each country in the sample are in 'middle skilled' positions. On average just 8.7% are in *Elementary* occupations with Denmark at the high end (16.6%) and Portugal at the low end (4.5%). On average in 13 countries, just over a third of overqualified workers are in *Clerical Support* roles (34.9%) and just over a third are also working in *Service and Sales occupations* (35.2%). In Germany and Austria, the combined share of overqualified workers in these two groups are relatively low (56.5% and 62.4%) and they're relatively high in Italy and Portugal (82.1% and 82.7%). Relatively few overqualified third level graduates work in *Skilled Agricultural* positions (the highest in Finland at 7% and the lowest at 1.5% in Portugal). Overqualified third level graduates are represented more in *Craft and related Trades* occupations in Austria and Germany (21.8% and 18.2%) which is more in line with their broader occupational breakdown and less in Portugal, Denmark and Italy (6.1%, 5.8%

and 3.6%). In no country however, is the share in these occupations higher than in either *Clerical* or *Service and Sale* roles. Finally, overqualified tertiary educated workers in *Plant and Machine operator and assembler occupations* make up 5.9% of overqualified workers on average, with relatively high shares in Sweden and Ireland (8.8% and 7.6%) and low shares in Italy and Portugal (2.9% and 4.4%).

Controlling for overqualified workers whose main economic status is 'at work', the share in the *Clerical Support* occupations was larger in every country compared to the wider sample, with an average of 39.7%. In Belgium, over half of all overqualified workers in the 'at work' group were in this category (54.4%). The share of overqualified *Service and Sales workers* on average in the sample is slightly smaller relative to the wider sample of workers (from 35.2% on average to 33.8%). The prevalence of overqualified graduates in the 'at work' group in *Skilled Agricultural* positions is just 1.1% of the total on average and highest in Sweden at 2.1%. The remaining three categories of occupation are broadly similar in share when compared to the wider group of overqualified third level graduates.

As is the case in the wider labour market, there are clear differences in the occupational breakdown of overqualified tertiary graduates in labour markets in the sample by gender. While overqualified workers in *Clerical Support* and *Service and Sales* occupations still make up over half of all overqualified male workers on average, over 80% of female overqualified tertiary grads work in these occupations and even 85% in the 'at work' group.

Unsurprisingly, *Skilled Agricultural workers, Craft and Related Trades* and *Plant and Machine operators and assembler* occupations make up higher shares of male overqualified graduates in every country. On average, over in 1 in 5 (20.5%) overqualified male third level graduates in the 'at work' group are in *Craft and Related Trades*, with a further 11.2% in *Plant and machine operators and assemblers* occupations. In Austria, overqualified males are second least likely to be in either *Clerical support roles* (15.7%) or *Service and Sales* positions (19.4%) and stand out in the share in *Craft and Related Trades* occupations (39.8%), with Germany also significantly above average (30.0%). It is again notable that Austria and Germany are outliers the highest female shares of overqualified tertiary graduates in *Craft and Related Trades* (5.1% and 6.0% in the 'at work' group), though apart from those two examples, overqualified women barely register in the three male dominated occupational groups (*Craft and Related Trades, Plant and machine operators* and *Skilled Agricultural workers*). Whereas on average approximately 1 in 10 overqualified males with Higher education are in *Plant and machine operators and assemblers* occupations, around 1 in 40 females are in these occupations. The share is relatively high in Finland and Sweden and less so in the 'at work' group for males (16.5% and 16.1%) and less so in Italy, Portugal and the Netherlands (6.5%, 9.1% and 9.2%).

Almost half of overqualified third level female graduates 'in work' are on average in *Clerical support roles* (48.0%), with high relative shares in Belgium (63.1% and Italy 60.8%). Denmark, Sweden and the UK have relatively low shares (34%, 33% and 35.6%). The share of those in the 'in work' group in this occupational category is higher in every country than in the wider sample.

Slightly less of a share (on average across the sample) of overqualified women 'at work' are in *Elementary* professions than men (9.4% compared to 10.2%), with Denmark showing the highest shares both across genders and in the wider group of overqualified workers. Almost 1 in 5 of male overqualified workers with higher education in the 'at work' category are in *Elementary* occupations in Denmark (19.9%) and 14.5% of females, both around twice the average of the country sample means.

Table 8 Overqualification by occupation (Male), %, 2019

	Clerical support workers	Service and sales workers	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Austria	15.7	19.4	9.0	39.8	9.2	6.9
Belgium	34.6	18.4	3.8*	25.5	10.8	6.9
Denmark	16.6	37.6	4.0	12.2	11.0	18.6
Finland	18.6	27.8	11.1*	20.6	14.6	*
France	20.2	30.8	9.6	21.9	9.0	8.4
Germany	24.7	21.7	7.6	30.0	9.2	6.7
Ireland	17.9	29.4	6.4	22.9	12.7	10.7
Italy	44.2	27.0	4.4	10.3	5.9	8.2
Portugal	29.1	37.0	4.1	16.8	10.2	2.8
Spain	21.8	26.6	2.8	28.9	12.9	7.0
Sweden	15.4	34.6	6.2	19.9	15.0	9.0
Netherlands	31.5	32.9	4.8	15.4	8.6	6.9
UK	22.0	30.2	3.6	22.5	11.1	10.7

Table 9 Overqualification by occupation, employees, at work, Male, %, 2019

	Clerical support workers	Service and sales workers	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Austria	20.2	19.3	2.0	38.7	11.5	8.4
Belgium	42.4	16.6	***	21.0	12.0	7.4*
Denmark	14.6	38.6	2.3	11.6	13.0	19.9
Finland	24.7	32.2	*	16.2*	16.5*	*
France	27.3	30.4	*	19.1	10.1	9.4
Germany	29.3	20.4	3.0	29.7	10.5	7.0
Ireland	20.3	32.1	2.3	21.6	12.9	10.9
Italy	53.2	21.5	1.0	8.7	6.5	9.1
Portugal	33.7	36.5	*	16.7	9.1	*
Spain	25.1	25.8	*	26.7	13.8	7.7
Sweden	17.9	33.7	3.1	20.6	16.1	8.5
Netherlands	38.1	31.5	*	13.3	9.2	5.2*
UK*	24.7	33.9	1.9	18.6	9.7	11.3

Table 10 Overqualification by occupation (Female), %, 2019

	Clerical support workers	Service and sales workers	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Austria	44.7	34.4	4.7	5.1	1.8	9.3
Belgium	57.2	27.6	1.3*	2.6*	1.2*	10.2
Denmark	33.9	45.4	1.8	1.6	2.3	15.0
Finland	39.3	45.3	4.9*	*	*	5.6
France	47.1	35.5	3.1	3.3*	2.2*	8.7
Germany	49.3	31.6	1.7*	6.0	1.7	9.7
Ireland	39.2	44.5	1.1	3.4	3.4	8.5
Italy	55.8	32.4	1.3	1.7	1.2	7.6
Portugal	47.5	42.5	0.3	2.6	2.0	5.2
Spain	49.9	36.8	*	1.8	1.7	8.9
Sweden	29.0	53.7	1.8	4.2	3.2	8.1
Netherlands	39.8	43.6	*	3.1*	2.3*	9.5
UK	33.7	50.5	1.0	2.7	2.3	9.8

Table 11 Overqualification by occupation, employees, at work, %, Female, 2019

	Clerical support workers	Service and sales workers	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Austria	51.7	30.9	0.9	4.8	1.6	10.2
Belgium	63.1	23.3	***	***	***	10.3
Denmark	34.0	46.1	1.5	1.2	2.7	14.5
Finland	45.8	42.9	*	*	*	*
France	52.8	33.1	*	*	*	9.2
Germany	55.6	26.9	*	5.6	1.9	9.1
Ireland	41.2	43.3	0.4	3.0	3.6	8.3
Italy	60.8	29.0	0.1	1.1	1.2	7.8
Portugal	51.0	39.1	*	*	2.2	*
Spain	53.3	33.6	*	1.4*	1.9	9.7
Sweden	33.0	51.1	1.3	3.6	3.7	7.3
Netherlands	46.3	39.0	*	*	*	8.2
UK*	35.6	50.6	0.3	2.1	2.1	9.3

Overqualified employees, location by sector

Tables 12-24 show the breakdown (where possible) of overqualified workers by sector of economic activity with details of the breakdown by male, female and younger overqualified workers. Due to a relatively large number of economic sectors (15) the analysis is at times constrained due to sampling issues in countries with relatively low populations (survey sample sizes) and/or relatively smaller incidence of overqualified workers (such as Finland, Belgium and Portugal).

Some sectors are less likely to feature overqualified workers than others. The sectors in which overqualified third level graduates work align in large part with the relative size of the sectors by employment in each country. *Wholesale/Retail*, being in the top 3 of 15 sectors in every country similarly is in the top 3 sectors by number of overqualified third level graduates. *Industry* and *Education* are also towards the top in almost every country in their relative shares of overqualified third level graduates. At least 38% of all overqualified workers in each country in the sample are located in these three sectors.

Gendered differences associated with wider sectoral employment also persist with higher shares of overqualified graduate males in *Industry* and *Construction* in every country and higher shares of females in *Human Health* and in *Education* in every country.

Higher shares of overqualified tertiary graduates in the younger cohort work in *Wholesale/retail* and *Accommodation and Food* in every country than in the wider adult sample, often with large gaps. In Ireland for instance, though there are slightly more overqualified in *Accommodation and Food* than the sectoral share of employment (8.8% of all overqualified vs 8.2% of employment), 14.3% of all young overqualified workers are in the sector. I***ndustry*** is also among the top 4 sectors in most countries in which young overqualified graduates work.

Comparing relative share of overqualification to the share of a sector in overall employment (final column in tables 12-24), certain sectors tend to have more or less overqualified third level graduates (first column, tables 12-24), though there is considerable heterogeneity in how sectors are ranked by country in this regard.

Some areas of economic activity in the public sector stand out as having fewer overqualified workers relative to their size. Though *Education* has among the highest absolute number of overqualified workers in every country the share of overqualified workers in *Education* is smaller in every country than the sectors share of employment. Other than in the UK and Denmark, overqualified workers are also underrepresented in *Public administration* relative to the size of the sector.

In areas mostly associated with the private sector some general trends can be observed across countries in the data. The incidence of overqualified workers in *Information and Communication* is lower than its size in overall employment in every country, as are overqualified graduates in *Construction* and *Agriculture* (though the evidence in *Agriculture* due to sample size is relatively limited).

Overqualified workers are overrepresented in *Accommodation and Food* and in *Transport and Storage* (dominated by men) in all 13 countries as are Wholesale/Retail workers with the exception of Denmark. Other than in Spain, *Human Health* workers (female dominated) make up a higher share of overqualified third level graduates than the sectoral share in the economy in every country. Notably, overqualified third level graduates are overrepresented in every country in the *Professional, scientific and technical activities sector*, which is associated with relatively high earnings on average. Other than in Denmark, Sweden and the UK, the *Financial and Insurance Activities* sector also employs a disproportionate share of overqualified workers relative to the sectoral share of employment; in Germany and Belgium this gap is widest of any sector in percentage point terms and in France, Ireland and Austria the sector has the second highest shares of overqualified workers relative to the size of the sector (in Belgium for instance, the sector makes up 3.6% of employment but 8.5% of all overqualified employees.

Table 12 Overqualification by sector, employees, Austria

2019	all	Male	Female	20-34		employment share
Agriculture, Forestry & Fishing	1.6	1.9	1.4	1.5		0.9
Industry	19.9	29.4	11.5	18.0		18.7
Construction	6.5	10.7	2.7	6.9		8.4
Wholesale, retail	16.1	14.8	17.3	17.6		14.9
Transportation & Storage	7.1	8.8	5.5	7.9		5.4
Accommodation & Food	9.8	7.7	11.6	13.1		6.0
Information and Communication	1.8	1.0	2.5	2.2		2.8
Financial and Insurance Activities	6.5	4.4	8.4	5.3		4.0
Real Estate Activities	5.3	3.7	6.7	5.0		5.3
Professional, scientific & technical	5.8	4.5	6.9	6.0		3.7
Administrative and support service	5.3	5.4	5.2	4.5		7.4
Public administration and defence	2.6	1.4	3.7	2.3		7.4
Education	6.7	2.5	10.4	5.1		11.1
Human Health and Social work	5.2	4.0	6.2	4.7		4.0

Table 13 Overqualification by sector, employees, Belgium

2019	all	Male	Female	20-34		employment share
Agriculture, Forestry & Fishing	***	***	***			0.3
Industry	15.2	22.2	10.1			15.0
Construction	3.5	*5.6**	***			6.1
Wholesale, retail	13.9	14.2	13.6			12.3
Transportation & Storage	7.7	11.6	*4.9**			6.4
Accommodation & Food	5.2	***	5.9			3.3
Information and Communication	***	***	***			3.0
Financial and Insurance Activities	8.5	9.9	7.5			3.6
Real Estate Activities	4.6	***	*4.9**			4.0
Professional, scientific & technical	8.2	*5.9**	9.9			6.5
Administrative and support service	11.9	11.1	12.5			9.2
Public administration and defence	4.6	***	6.5			10.8
Education	10.3	***	15.7			15.2
Human Health and Social work	4.4	***	*4.8**			4.2

Table 14 Overqualification by sector, employees, Denmark

2019	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	*1.9**	*	*	*	1.4
Industry	9.6	13.1	7.0	7.3	13.1
Construction	2.8	5.4	1.0	*	5.6
Wholesale, retail	13.6	13.7	13.6	17.6	15.2
Transportation & Storage	6.2	9.9	3.5	*5.5**	4.5
accommodation & Food	6.8	8.2	5.9	12.1	3.9
Information and Communication	1.9	1.9	*	*	3.9
Financial and Insurance Activities	3.2	3.1	3.3	*5.0**	4.3
Real Estate Activities	3.0	*	3.6	*4.1**	5.3
Professional, scientific & technical	6.7	7.4	6.1	*6.0**	4.1
Administrative and support service	8.5	11.1	6.7	6.9	5.6
Public administration and Defence	11.0	7.7	13.4	9.1	9.5
Education	18.6	9.8	25.0	12.0	19.0
Human Health and Social work	6.2	4.4	7.5	7.1	4.8

Table 15 Overqualification by sector, employees, Finland

2019	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	*				1.3
Industry	11.8				15.5
Construction	*				6.6
Wholesale, retail	17.7				11.4
Transportation & Storage	8.0				6.0
accommodation & Food	7.0				3.8
Information and Communication	*				5.0
Financial and Insurance Activities	6.1*				3.1
Real Estate Activities	*				6.3
Professional, scientific & technical	5.2*				4.4
Administrative and support service	6.0*				5.4
Public administration and Defence	6.7				8.2
Education	13.2				17.8
Human Health and Social work	6.6				5.3

Table 16 Overqualification by sector, employees, France

	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	*	*	*	*	1.2
Industry	9.2	12.0	7.5	8.3	14.7
Construction	3.6	*5.5**	*2.5**	4.1	5.9
Wholesale, retail	21.0	23.1	19.7	22.8	12.3
Transportation & Storage	7.5	11.5	5.0	8.2	5.7
accommodation & Food	6.5	8.1	5.5	10.9	3.7
Information and Communication	1.8	*	*	*	3.2
Financial and Insurance Activities	9.1	6.9	10.4	10.5	4.8
Real Estate Activities	5.7	*5.2*	6.0	6.1	5.3
Professional, scientific & technical	5.7	*5.9*	5.6	6.8	4.2
Administrative and support service	10.4	9.2	11.2	6.7	10.6
Public administration and Defence	4.1	*	5.5	*	8.5
Education	9.0	*	12.3	*5.4*	14.9
Human Health and Social work	5.2	*	6.5	*4.4*	5.1

Table 17 Overqualification by sector, employees, Germany

	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	1.5	1.9	1.2	2.2	0.7
Industry	22.8	30.2	15.0	21.5	21.8
Construction	5.2	7.7	2.6	4.5	6.2
Wholesale, retail	16.0	15.5	16.6	16.3	13.9
Transportation & Storage	6.4	8.7	4.0	5.7	5.3
accommodation & Food	5.6	4.9	6.3	9.2	3.6
Information and Communication	2.6	2.1	3.1	2.9	3.1
Financial and Insurance Activities	7.3	6.8	7.8	5.4	3.4
Real Estate Activities	5.0	3.1	6.9	6.1	4.9
Professional, scientific & technical	6.0	5.3	6.8	5.9	4.9
Administrative and support service	7.2	6.5	8.1	6.7	7.6
Public administration and Defence	3.6	1.9	5.5	4.9	7.0
Education	5.1	2.4	7.9	3.4	13.5
Human Health and Social work	5.7	3.2	8.3	5.4	4.1

Table 18 Overqualification by sector, employees, Ireland

	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	1.4	1.9	*1.0**	1.4	1.3
Industry	15.7	22.9	10.3	14.4	13.6
Construction	2.6	4.7	*1.1**	3.0	5.1
Wholesale, retail	14.1	13.2	14.8	17.3	13.6
Transportation & Storage	5.0	8.0	2.8	4.1	4.4
accommodation & Food	8.8	7.0	10.2	14.3	8.2
Information and Communication	3.5	3.9	3.1	4.1	5.6
Financial and Insurance Activities	7.1	6.0	7.9	7.5	5.3
Real Estate Activities	4.1	4.7	3.6	4.6	5.3
Professional, scientific & technical	6.5	7.6	5.6	6.5	4.8
Administrative and support service	7.5	9.4	6.0	3.8	5.7
Public administration and Defence	5.6	1.5	8.7	2.4	8.8
Education	13.3	6.5	18.4	11.7	13.9
Human Health and Social work activities	4.9	2.7	6.5	5.0	4.5

Table 19 Overqualification by sector, employees, Italy

	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	1.1	2.3	*	*	2.7
Industry	14.2	19.3	11.7	16.2	23.4
Construction	1.6	2.3	1.3	1.1	4.6
Wholesale, retail	14.8	12.1	16.1	21.3	11.6
Transportation & Storage	6.4	9.7	4.7	5.8	5.6
accommodation & Food	7.6	8.6	7.1	12.2	5.9
Information and Communication	1.9	2.2	1.7	2.0	2.7
Financial and Insurance Activities	6.0	6.8	5.5	5.9	3.3
Real Estate Activities	5.9	3.6	7.0	7.5	3.5
Professional, scientific & technical	7.0	5.7	7.7	7.4	4.9
Administrative and support service	10.1	12.8	8.7	2.9	6.9
Public administration and Defence	3.6	2.5	4.1	2.3	8.3
Education	7.9	5.0	9.4	7.0	8.9
Human Health and Social work activities	12.0	6.9	14.6	7.4	7.6

Table 20 Overqualification by sector, employees, Portugal

2019	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	*	*	*	*	1.9
Industry	13.5	20.0	10.9	15.1	20.5
Construction	*2.1**	*	*	*	5.6
Wholesale, retail	22.5	19.5	23.7	27.2	13.6
Transportation & Storage	7.9	9.1	7.4	7.8	4.9
accommodation & Food	11.1	10.9	11.2	15.5	6.1
Information and Communication	3.5	*	*3.3**	*	2.9
Financial and Insurance Activities	3.7	*	*3.5**	*	3.1
Real Estate Activities	*2.2**	*	*2.6**	*	3.6
Professional, scientific & technical	7.4	6.6	7.7	*5.2**	3.9
Administrative and support service	5.7	9.7	4.1	*	7.5
Public administration and Defence	5.7	*	7.1	*5.5**	9.8
Education	7.6	*	8.9	6.2	11.0
Human Health and Social work	6.4	*	7.2	*5.1**	5.7

Table 21 Overqualification by sector, employees, Spain

2019	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	1.2	*	*	*	3.0
Industry	17.3	25.9	10.0	17.1	15.0
Construction	4.3	6.8	2.2	*2.4**	5.8
Wholesale, retail	18.1	16.4	19.5	24.6	13.9
Transportation & Storage	6.7	9.9	4.0	5.9	5.1
accommodation & Food	9.1	8.6	9.5	13.9	8.5
Information and Communication	1.6	*	*1.6**	*	3.2
Financial and Insurance Activities	4.3	2.9	5.6	4.6	2.9
Real Estate Activities	4.1	*	6.2	4.0	3.8
Professional, scientific & technical	6.7	5.9	7.3	6.5	5.8
Administrative and support service	10.2	11.5	9.0	3.0	8.0
Public administration and Defence	3.2	2.1	4.1	3.5	7.8
Education	6.7	2.2	10.5	4.5	9.6
Human Health and Social work activities	6.8	3.1	9.8	7.1	7.6

Table 22 Overqualification by sector, employees, Sweden

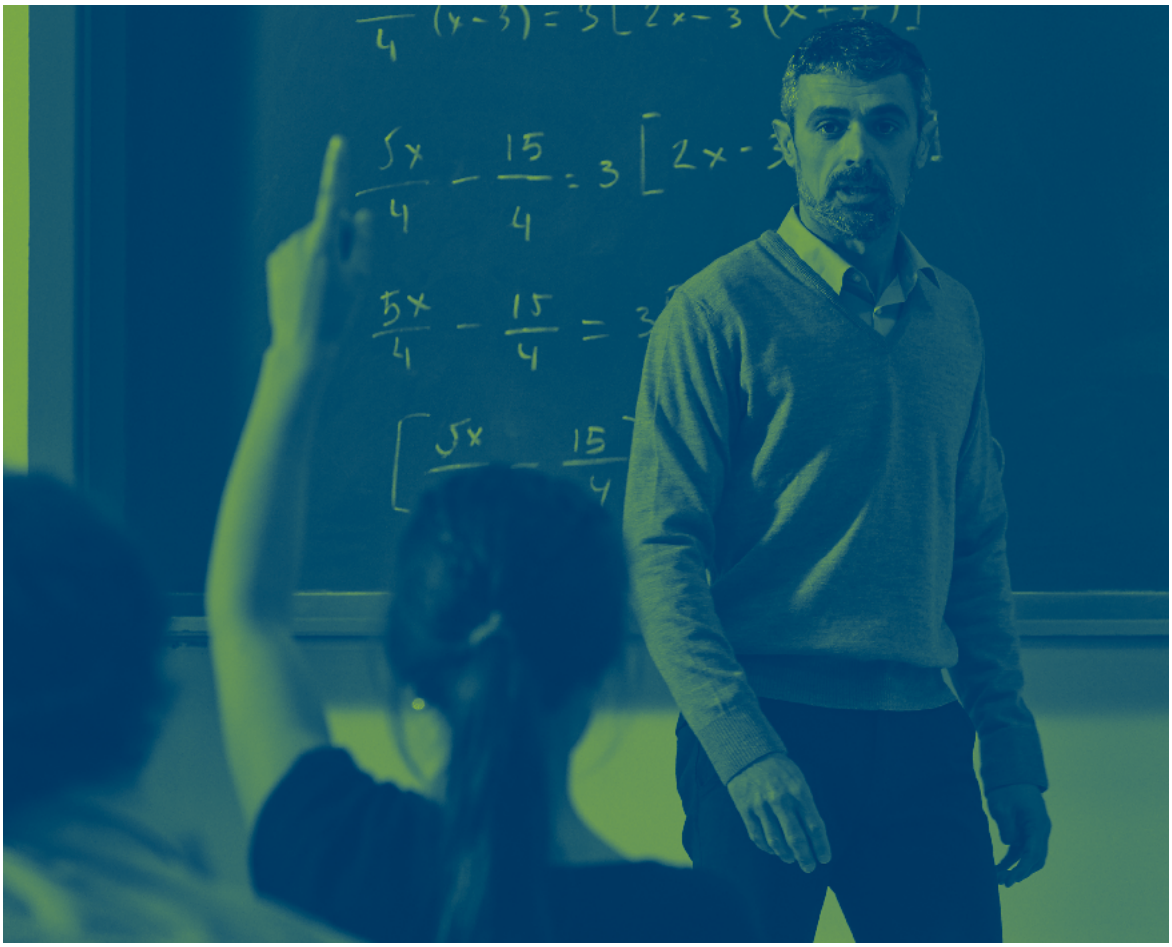
2019	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	*1.2**	*1.8**	*	1.9	0.7
Industry	8.7	12.7	5.4	8.2	12.0
Construction	4.6	7.8	*2.0**	4.3	6.3
Wholesale, retail	14.5	14.6	14.5	19.7	11.2
Transportation & Storage	9.0	14.2	4.8	7.8	4.9
accommodation & Food	7.0	6.7	7.1	7.1	3.0
Information and Communication	1.0	0.7	1.3	1.4	4.8
Financial and Insurance Activities	2.3	*2.2**	2.4	*2.3**	3.6
Real Estate Activities	4.2	3.8	4.6	4.6	7.8
Professional, scientific & technical	5.3	6.1	4.7	5.5	4.5
Administrative and support service	9.6	10.8	8.7	7.7	8.0
Public administration and Defence	8.3	3.4	12.3	7.2	12.6
Education	18.7	11.4	24.6	16.4	16.2
Human Health and Social work	5.5	3.9	6.9	6.1	4.6

Table 23 Overqualification by sector, employees, Netherlands

2019	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	*	*	*	*	1.1
Industry	12.8	17.8	8.4	11.4	12.2
Construction	3.1	5.3	1.1	*	4.0
Wholesale, retail	19.0	19.5	18.6	23.3	16.3
Transportation & Storage	8.5	10.5	6.8	7.6	5.1
accommodation & Food	6.5	5.5	7.3	11.4	4.9
Information and Communication	*	*	1.4	*	3.7
Financial and Insurance Activities	4.6	5.3	4.0	*	3.8
Real Estate Activities	5.4	4.5	6.2	5.9	5.9
Professional, scientific & technical	9.6	10.5	8.8	10.7	6.1
Administrative and support service	6.2	7.4	5.2	*	7.5
Public administration and Defence	4.7	*3.5**	5.7	*	7.8
Education	12.8	*4.0**	20.5	9.9	18.4
Human Health and Social work activities	4.0	*	4.7	*	3.3

Table 24 Overqualification by sector, employees, UK

2019	all	Male	Female	20-34	employment share
Agriculture, Forestry & Fishing	*	*	*	*	0.6
Industry	9.7	15.0	6.0	9.2	11.8
Construction	2.9	4.8	*1.6**	2.3*	5.3
Wholesale, retail	14.6	15.4	14.1	17.7	13.4
Transportation & Storage	5.7	8.9	3.4	5.3	4.8
accommodation & Food	7.6	7.9	7.4	11.6	5.9
Information and Communication	2.2	3.4	*	*2.4**	4.2
Financial and Insurance Activities	4.4	4.2	4.6	4.8	5.3
Real Estate Activities	4.8	4.4	5.1	6.0	6.7
Professional, scientific & technical	5.0	5.9	4.4	5.4	4.1
Administrative and support service	9.6	10.7	8.8	9.0	7.3
Public administration and Defence	12.5	5.1	17.7	7.7	11.1
Education	14.7	7.6	19.5	11.4	14.9
Human Health and Social work	5.8	5.7	5.9	6.9	4.8



Overqualified employees, by Field of Education

Similar to the sectoral breakdown, the share of overqualified workers by their field of education in higher education roughly aligns with the relative shares of third level qualifications in the adult population in absolute terms (Tables 25-38). At the same time, the data suggests some fields are overrepresented among overqualified graduates relative to the population with qualifications in that field and some underrepresented.

Other than in Austria and the UK, *Business, administration and law* graduates make up the highest share of overqualified graduates in the workforce in every country out of 10 fields. On average, 22.4% of all adult third level graduates in the sample have qualifications in this field but they make up 29% of overqualified workers on average. Except for in the UK, *Business, administration and law* graduates make up a higher share of overqualified graduates than of third level graduates generally, and this gap is highest in most cases relative to the other nine fields of study. In France for instance, although 31% of all graduates from 20-64 have qualification in this field, they make up 46% of all overqualified graduates. In Finland, it's 17% compared to 28.3% of all overqualified third level graduates. Other than in Denmark, Finland and Portugal, this is the biggest group of graduates by broad field in every country and it also ranks in the top 3 in each of these countries. The lowest share of these graduates among overqualified workers is in the UK (14.6%), Sweden (21.0%) and Portugal (22.6%). Almost half of all overqualified third level graduates in France have qualifications in these fields (46.4%) with more than thirty percent in Germany (32.6%), Spain (32.2%) and the Netherlands (34.1%).

At the low end, *Natural sciences, mathematics and statistics* as well as *Information and Communications* (together loosely known as STEM) are in the bottom half of fields by share of overqualified workers and represent fewer overqualified workers than the sectors do in overall employment in every country. Similarly, the share of overqualified workers with qualifications in *Education* and in *Health and Welfare* is less than the share of graduates in those fields among the graduate population in every country. Ranked relative to their shares in employment, graduates in these two fields are 1st and 2nd least likely to be overqualified in almost every country. *Agriculture* is also ranked toward the bottom in the share of overqualified workers by field of qualification in every country.

There is little observable cross-country patterns to the other fields. *Engineering, manufacturing and construction* graduates are first and second largest groups of overqualified workers by field in Austria and Germany for instance and in both countries make up a higher share of overqualified than graduates generally, where the opposite is the case in Portugal, Italy and Sweden.

Other than in Italy, *social sciences, journalism and information* graduates are relatively well-matched in employment. In Italy, 17.9% of all overqualified graduates have qualifications in these fields compared to 13.0% of the graduate population. Other than that, the difference either way (on occasion these graduates are overrepresented in

overqualified graduate population, on other occasions underrepresented) is no more than 2 percentage points. Other than in Italy and Sweden, the same is true for *Arts and Humanities* graduates.

Table 25 Field of study of third level graduates (20-64), Austria

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	11.0	3.9	17.5	11.4	3.1	18.3	6.0
Arts and humanities	8.3	5.5	10.9	7.8	5.1	10.1	6.2
Social sciences, journalism and information	6.7	4.8	8.3	5.5	4.1	6.7	4.4
Business, administration and law	24.3	21.8	26.6	23.8	20.8	26.3	28.0
Natural sciences, mathematics and statistics	4.4	4.9	3.8	4.1	4.8	3.5	3.1
Information and Communication Technologies	3.9	6.0	1.9	3.8	6.0	1.9	1.2
Engineering, manufacturing and construction	23.9	41.4	7.7	24.6	43.8	8.6	28.6
Agriculture, forestry, fisheries and veterinary	2.2	2.9	1.6	2.3	3.2	1.5	4.8
Health and Welfare	8.2	5.2	10.9	7.4	4.8	9.6	3.0
Services	7.3	3.6	10.8	9.3	4.2	13.6	14.8

Table 27 Field of study of third level graduates (20-64), Belgium

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	11.0	5.6	14.9	10.9	4.7	15.1	6.4
Arts and humanities	10.3	9.9	10.6	10.5	10.2	10.8	11.8
Social sciences, journalism and information	13.8	12.4	14.9	13.5	11.7	14.8	14.4
Business, administration and law	21.9	22.6	21.3	21.5	22.2	21.1	28.6
Natural sciences, mathematics and statistics	4.5	6.6	2.9	4.3	6.7	2.7	***
Information and Communication Technologies	3.8	7.5	1.0	3.7	7.9	0.8	***
Engineering, manufacturing and construction	11.6	21.7	4.4	12.1	23.0	4.5	13.0
Agriculture, forestry, fisheries and veterinary	1.6	1.7	1.6	1.8	1.8	1.8	***
Health and Welfare	17.9	8.3	24.8	18.4	8.5	25.2	10.9
Services	2.4	2.6	2.4	2.3	2.4	2.1	4.7

Table 28 Field of study of third level graduates (20-64), Denmark

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	9.5	6.3	11.9	6.3	4.6	7.6	6.1
Arts and humanities	10.9	8.8	12.5	11.2	8.1	13.6	11.6
Social sciences, journalism and information	9.1	8.7	9.4	9.6	9.0	10.1	6.8
Business, administration and law	19.9	24.8	16.2	21.6	27.0	17.6	27.8
Natural sciences, mathematics and statistics	3.8	4.8	3.1	4.8	5.8	4.0	3.8
Information and Communication Technologies	2.9	5.4	1.1	3.5	6.1	1.7	0.8
Engineering, manufacturing and construction	11.8	19.2	6.4	12.7	20.0	7.2	9.5
Agriculture, forestry, fisheries and veterinary	0.7	*0.7*	*0.6*	*0.6*	*	*	1.9
Health and Welfare	24.5	11.6	34.1	23.3	10.2	33.1	16.9
Services	2.8	4.9	1.3	2.5	4.3	1.2	5.2

Table 29 Field of study of third level graduates (20-64), Finland

	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	7.0	*3.2*	9.7	6.4			2.4
Arts and humanities	12.2	7.6	15.5	11.1			13.6
Social sciences, journalism and information	7.0	5.7	7.8	6.1			*
Business, administration and law	17.0	15.6	17.9	19.2			28.3
Natural sciences, mathematics and statistics	4.6	5.2	4.1	5.1			*
Information and Communication Technologies	7.1	14.5	*	5.6			*
Engineering, manufacturing and construction	18.2	34.2	6.9	19.6			12.6
Agriculture, forestry, fisheries and veterinary	2.0	*	*	*			*
Health and Welfare	20.2	7.5	29.1	20.5			*
Services	4.8	4.2	5.3	4.5			17.7

Table 30 Field of study of third level graduates (20-64), France

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	2.7	1.7	3.5	2.4	*	3.2	*
Arts and humanities	8.6	6.4	10.4	8.8	6.5	10.6	9.2
Social sciences, journalism and information	9.8	7.1	11.9	9.4	6.8	11.4	9.5
Business, administration and law	31.9	28.2	34.9	33.0	29.1	36.0	46.4
Natural sciences, mathematics and statistics	5.0	5.6	4.6	5.0	5.4	4.7	*
Information and Communication Technologies	5.5	9.6	2.3	5.7	10.0	2.3	*
Engineering, manufacturing and construction	14.0	23.6	6.3	14.8	24.9	6.9	13.1
Agriculture, forestry, fisheries and veterinary	1.7	2.3	1.1	1.7	2.5	*1.1*	4.3
Health and Welfare	14.4	7.9	19.7	12.8	6.6	17.7	*2.8*
Services	5.6	6.3	5.0	5.8	5.7	5.8	9.4

Table 31 Field of study of third level graduates (20-64), Germany

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	12.3	5.2	20.1	12.6	4.8	20.3	4.6
Arts and humanities	8.0	5.9	10.2	7.4	5.3	9.5	9.2
Social sciences, journalism and information	7.4	5.3	9.6	8.0	5.9	10.1	8.3
Business, administration and law	25.2	23.6	27.0	25.0	22.8	27.2	32.6
Natural sciences, mathematics and statistics	5.7	5.9	5.4	6.0	6.3	5.7	3.8
Information and Communication Technologies	5.7	9.0	2.1	5.8	9.4	2.2	2.7
Engineering, manufacturing and construction	21.1	33.8	7.1	20.9	34.5	7.7	22.6
Agriculture, forestry, fisheries and veterinary	1.6	1.8	1.3	1.7	2.1	1.4	4.6
Health and Welfare	9.5	6.0	13.2	8.8	5.5	12.0	2.7
Services	3.4	3.3	3.6	3.6	3.3	3.8	8.7

Table 32 Field of study of third level graduates (20-64), Ireland

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	10.0	5.4	13.9	10.2	5.7	14.0	6.7
Arts and humanities	9.4	8.1	10.5	9.5	8.3	10.6	10.7
Social sciences, journalism and information	3.9	2.8	4.8	3.6	2.8	4.2	4.1
Business, administration and law	27.6	28.4	27.0	25.7	26.0	25.4	30.7
Natural sciences, mathematics and statistics	6.5	6.9	6.2	7.6	7.3	7.8	4.7
Information and Communication Technologies	8.1	13.7	3.6	8.8	14.7	3.9	5.9
Engineering, manufacturing and construction	8.6	15.6	2.8	8.7	15.5	3.1	9.0
Agriculture, forestry, fisheries and veterinary	1.9	2.5	1.4	2.4	3.5	1.4	4.2
Health and Welfare	17.5	10.3	23.3	16.0	9.4	21.6	13.3
Services	4.1	3.4	4.6	4.5	3.3	5.4	7.6

Table 33 Field of study of third level graduates (20-64), Italy

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	5.0	1.2	7.6	4.2	0.7	6.5	2.8
Arts and humanities	17.2	11.9	20.9	18.0	12.3	21.8	22.4
Social sciences, journalism and information	13.0	10.0	15.2	11.8	8.3	14.2	17.9
Business, administration and law	22.1	24.8	20.2	21.4	23.4	20.0	30.4
Natural sciences, mathematics and statistics	6.9	7.1	6.7	7.5	7.9	7.2	5.1
Information and Communication Technologies	1.7	3.0	0.8	1.8	3.3	0.8	1.3
Engineering, manufacturing and construction	14.9	25.1	7.8	15.7	26.6	8.5	8.5
Agriculture, forestry, fisheries and veterinary	2.0	2.3	1.8	1.9	2.1	1.8	2.6
Health and Welfare	14.6	11.4	16.9	14.8	11.3	17.1	5.7
Services	2.6	3.4	2.1	2.9	4.1	2.1	3.3

Table 34 Field of study of third level graduates (20-64), Portugal

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	10.3	4.4	14.3	6.5	2.2	9.1	9.7
Arts and humanities	9.8	10.8	9.1	11.3	12.4	10.6	11.4
Social sciences, journalism and information	10.4	7.9	12.0	10.3	6.5	12.6	13.6
Business, administration and law	18.4	18.5	18.4	16.6	14.9	17.6	22.6
Natural sciences, mathematics and statistics	4.8	5.0	4.6	4.5	5.4	3.9	3.8
Information and Communication Technologies	2.0	3.7	0.8	1.7	3.5	*	*
Engineering, manufacturing and construction	17.6	31.2	8.6	19.2	35.3	9.0	11.0
Agriculture, forestry, fisheries and veterinary	1.8	1.7	1.9	1.9	1.6	2.2	*
Health and Welfare	19.0	8.9	25.8	22.1	10.3	29.6	12.9
Services	5.9	7.9	4.6	6.1	8.1	4.9	12.6

Table 35 Field of study of third level graduates (20-64), Spain

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	12.0	6.3	16.6	13.7	6.7	19.2	9.4
Arts and humanities	8.3	7.6	8.9	8.0	7.2	8.6	6.8
Social sciences, journalism and information	6.1	4.1	7.7	5.2	3.9	6.3	6.3
Business, administration and law	23.0	21.3	24.3	22.0	20.4	23.3	32.2
Natural sciences, mathematics and statistics	6.1	6.3	6.0	5.5	5.8	5.2	4.4
Information and Communication Technologies	8.4	14.1	3.8	8.5	14.3	4.0	4.1
Engineering, manufacturing and construction	12.2	21.3	4.8	12.1	21.7	4.6	14.3
Agriculture, forestry, fisheries and veterinary	1.4	1.5	1.4	1.5	*1.5*	*1.5*	*1.6*
Health and Welfare	15.3	9.2	20.2	15.6	9.4	20.5	6.7
Services	6.6	7.4	6.0	7.3	8.2	6.5	13.0

Table 36 Field of study of third level graduates (20-64), Sweden

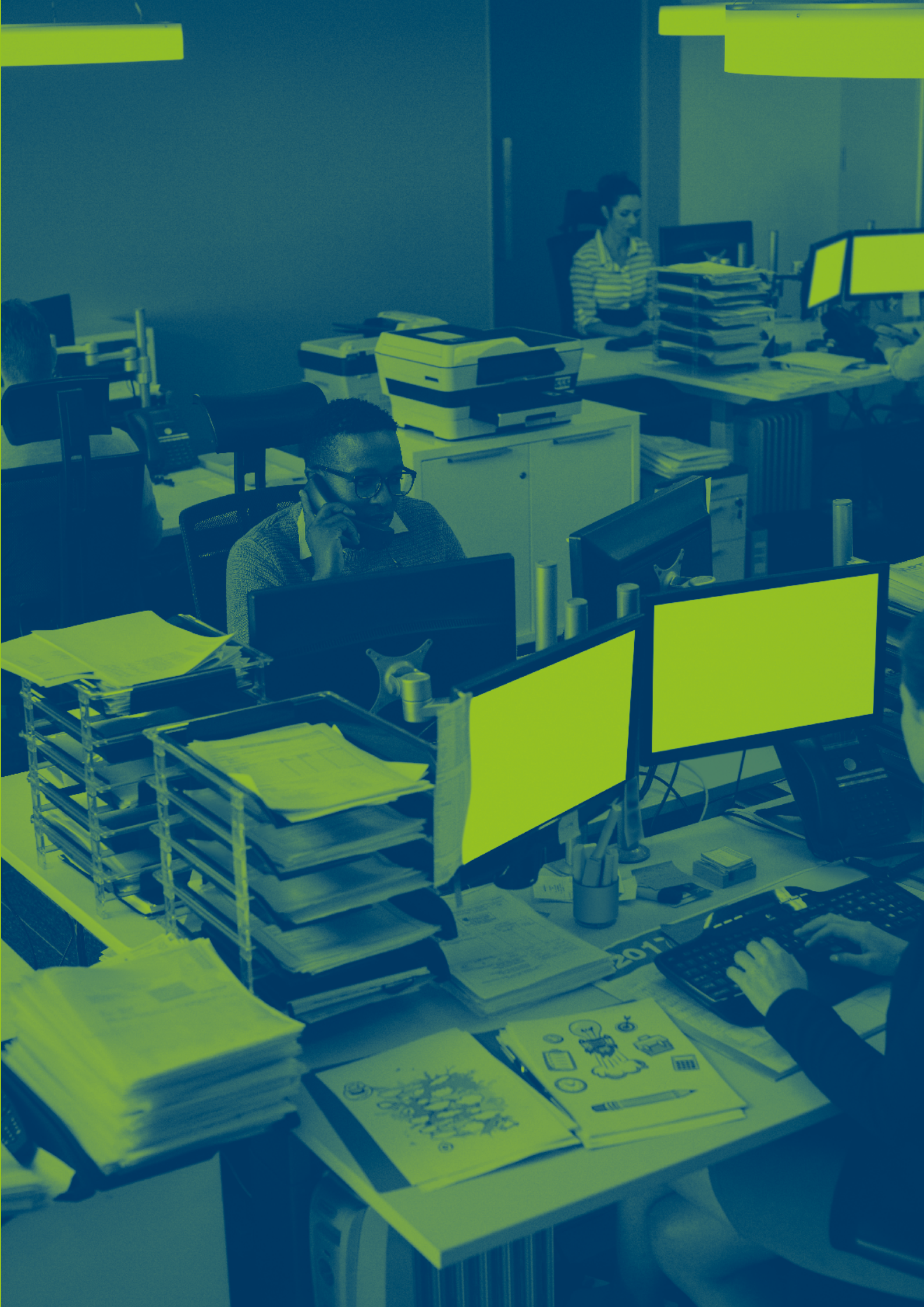
2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	13.7	7.8	17.8	9.8	6.3	12.4	9.2
Arts and humanities	6.4	6.0	6.7	6.5	5.9	6.9	10.2
Social sciences, journalism and information	12.4	8.8	14.8	13.1	8.5	16.6	12.1
Business, administration and law	15.8	16.0	15.7	15.8	15.5	16.0	21.0
Natural sciences, mathematics and statistics	5.0	5.5	4.6	5.1	5.7	4.7	3.5
Information and Communication Technologies	3.3	6.1	1.4	4.1	7.3	1.7	2.7
Engineering, manufacturing and construction	20.1	34.6	10.0	22.6	36.7	11.9	14.3
Agriculture, forestry, fisheries and veterinary	1.2	1.3	1.2	1.3	1.2	1.5	2.8
Health and Welfare	18.3	9.4	24.5	17.4	8.7	23.9	10.3
Services	3.0	3.4	2.7	3.2	3.0	3.4	11.0

Table 37 Field of study of third level graduates (20-64), Netherlands

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	9.9	4.5	14.6	9.1	3.4	13.9	7.6
Arts and humanities	7.4	7.9	7.1	7.3	7.9	6.8	7.3
Social sciences, journalism and information	11.1	8.1	13.7	12.0	9.1	14.4	11.5
Business, administration and law	28.9	34.3	24.3	27.1	32.4	22.6	34.1
Natural sciences, mathematics and statistics	4.1	4.9	3.5	4.7	5.7	3.9	3.8
Information and Communication Technologies	4.1	7.9	0.9	3.5	7.1	0.4	3.0
Engineering, manufacturing and construction	9.0	15.1	3.7	10.4	17.3	4.7	8.7
Agriculture, forestry, fisheries and veterinary	1.0	0.9	1.0	1.1	1.1	1.1	3.0
Health and Welfare	17.4	8.5	25.0	17.5	7.8	25.5	9.7
Services	5.3	6.4	4.3	5.9	6.9	5.0	9.7

Table 38 Field of study of third level graduates (20-64), UK

2019	all	Male	Female	20-34	Male (20-34)	Female (20-34)	Overqualified
Education	6.7	3.6	9.2	5.0	2.6	7.0	5.2
Arts and humanities	14.7	13.4	15.8	17.1	15.0	19.0	14.9
Social sciences, journalism and information	8.3	6.9	9.3	8.5	7.1	9.6	8.6
Business, administration and law	14.8	16.1	13.7	13.7	14.2	13.2	14.6
Natural sciences, mathematics and statistics	7.4	9.0	6.2	8.6	10.4	7.1	5.2
Information and Communication Technologies	3.4	6.0	1.3	3.4	6.1	1.0	1.6
Engineering, manufacturing and construction	8.0	15.6	2.2	8.8	16.4	2.2	7.9
Agriculture, forestry, fisheries and veterinary	1.2	0.9	1.3	1.3	1.0	1.5	2.0
Health and Welfare	12.5	6.1	17.4	9.6	4.7	13.9	8.8
Services	3.0	3.6	2.6	3.5	3.9	3.1	4.5



31/32 Parnell Square, Dublin 1, Ireland
Phone: +353 1 8897722

45-47 Donegall Street, Belfast BT1 2FG, Northern Ireland
Phone: +44 (0)28 9024 6214

info@NERInstitute.net

www.NERInstitute.net

@NERI_research