

Labour market outcomes of third level graduates in high-income EU members. Is Father's education important?

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Executive Summary

With the expansion of third level education and its growing importance for individuals in the labour market, for firms and for macroeconomic development this report presents evidence of labour market outcomes of third level graduates with details by gender and time since graduation. The report concludes with a special focus on the outcomes of graduates by social origin as proxied by father's education in 13 high-income EU countries.

Every country in the sample increased the number and share of tertiary graduates in employment over the past two to three decades. In all 13 countries, the pace of growth was faster for women. In the majority of countries, the majority of this growth has happened since the great financial crisis (UK, Sweden, Portugal, Austria, the Netherlands, France and Germany).

The share of tertiary graduates in overall employment within the 20-64 year bracket has since the 1990's more than doubled in seven of the countries (Ireland, Spain, Italy, Austria, Portugal, Finland and the UK). Italy has the lowest share of third level graduates in employment in 2019 by some margin at 23.4%. This was followed by Portugal (29.1%) and Germany (30.8%). Ireland has the highest share of third level graduates in overall employment (49.9%), followed by Finland (47.0%), Belgium (46.9%), the UK (46.8%) and Sweden (44.6%).

For each country and for every year under consideration there is a strong association between the likeliness of being employed and education level i.e. the group with the least amount of years of education/training are least likely to be in employment and the group with higher education are most likely to be in employment.

Third level graduates are least likely to be in employment in Italy (78.9%), Spain (80.3%), France (83.3%) and Belgium (83.8%). In Denmark, Italy and Portugal the employment rates of third level graduates are actually lower than in the 1990s, while Ireland has caught up from a low base to around mid-table (78.7% to 85.3%). By 2019, Ireland and Spain the employment rate of third level graduates had yet to recover fully from the effects of the financial crisis of 2008.

Despite gender disparities in attainment and employment share, the employment rate for male graduates is higher than that of women in every country. Sweden and Portugal have the most equal employment rate outcomes with gaps below 2 pp (89.6% and 88.2% vs 86.6% and 84.8%). In Ireland, despite the share of females in the high education group in female employment having increased by most since 1992 (69.9% to 81.5%), the Irish labour market has the largest employment gap between genders in the tertiary educated group in 2019 (89.8% vs 81.5% or 8.4pp).

At the same time, in almost every country employment rates in the bracket of the lowest formal education levels (albeit as a group, it is falling as a share of the population across the board) have been trending downwards or are at the very least lower than their peak since 1997. In Ireland for instance, the employment rate in 2007 for under 40's in the lowest bracket of formal education was 47.0%, has subsequently fallen to just 21.3% by 2019, the lowest in the sample.

In 2019, on average (unweighted) across 12 countries (excluding the UK) 68.9% of third level graduates (25-59) are in matched 'high-end' employment (ISCO1-3), 19.7% are in employment but overqualified and 11% are inactive. The 2005 and 2011 unweighted averages are remarkably similar (68.3% and 69.0%) though they obscure significant heterogeneity in country level trends across the sample.

Sweden is the top performer with 79.1% of third level graduates in Managerial/ Professional/Technician roles, followed by Portugal at 78.8%, Germany at 73.2% and the Netherlands at 73.0%. Graduates in Spain are least likely to be in high-end employment at 51.8%, followed by Ireland at 54.5%.

Germany is an outlier in the gender gap for high-end employment for graduates at 12.2 pp (79.0% vs 66.8%) with the Netherlands in second place (9 pp) and France and Austria in joint third (8.8 pp). The share of both Irish male and female graduates in employment but overqualified increased by most in the sample between 2005 and 2019 (10.8 and 9.9 pp respectively).

With the exceptions of Finland and Sweden in 2019, third level graduates whose fathers also had third level qualifications are more likely to be in high-end employment than those whose fathers were in the middle bracket of formal education. With the exception of the Netherlands, the relationship also holds when comparing graduates whose fathers were in the middle bracket of formal education versus those whose fathers were in the lowest bracket.

In every country between 2005 and 2011, with the exception of Ireland, the high-end employment gap between graduates with fathers in the highest and lowest brackets of formal education background widened. Between 2011 and 2019, there was no exception to this trend such that every country between 2005 and 2019 has seen an increased gap of securing high-end employment between graduate children from backgrounds in high versus low education brackets. In 2019, the unweighted average share in the sample of graduates (excluding the UK) in high end jobs from highly educated backgrounds was 75.6%, 70.7% for those from backgrounds in the middle bracket of formal education and 63.5% for those from backgrounds in the lower bracket. In 2005, the same figures were 68.8%, 69.2% and 65.2%

For the groups whose fathers had third level qualifications, graduates in Portugal were most likely to be in high-end employment commensurate with their education level (84.1%), followed by Sweden (82.4%), France (81.8%) and the Netherlands (80.6%) and least likely in Spain (62.7%), Ireland (66.0%) and Austria (70.7%).

The high-end employment gap between graduates from high versus low formal educational backgrounds is widest in 2019 in Germany (77.4% vs 56.8% or 20.7 pp), Ireland (66.0% vs 47.4% or 18.6 pp), Austria (70.7% vs 54.4% or 16.3 pp) and France (81.8% vs 66.3% or 15.4 pp). In 2019, Irish graduates whose fathers were in the low formal education bracket were least likely to be in high-end employment in the sample (47.4%). Third level graduates in Ireland with father's in the lowest education bracket saw the share in high-end employment fall by most between 2005 and 2019 (15.2 pp).



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Introduction

The expansion of third level education is considered by some policymakers a goal in itself with inherent value that goes beyond narrow considerations related to work and material living standards. In the World Health organisation's Human Development Index for example, educational attainment is one of three indicators used to rank countries by their level of development.

From an economic perspective, workers with higher education levels have higher earnings potential and contribute to higher productivity in firms. On a macro level, more highly-educated workers are associated with higher value-added activities, productivity, competitiveness and they by extension drive economic development and contribute to higher aggregate living standards. Third level educational attainment is also considered an equaliser of opportunities between individuals of different social backgrounds and an important (if not the most important) vehicle for social mobility. That these are achievable goals is important for social cohesion in developed countries and increasingly unequal societies where narratives around the productive benefits of a meritocratic regime legitimise unequal outcomes.

In NERI Report 33, *The Expansion of Third level education and Intergenerational Transmission of Educational attainment in high-income EU countries* I presented evidence from the Labour Force Survey on this expansion in 13 countries over the past three decades. In the majority of countries, the absolute number of adults with third level qualifications has doubled alongside strong increases in the share of adults (and women in particular) with third level qualifications across the board. The report also includes evidence from the *Survey in Income and Living Conditions* (SILC) of a narrowing gap of third level educational attainment by social origin (as proxied by father's education) during this unprecedented expansion of third level education across the sample (with the exceptions of Austria and Germany).

In this related report I present evidence from the EU Labour Force Survey of the growing share of third level graduates in employment in the same sample of 13 high-income EU countries as well as evidence of changing relative rates of employment by educational attainment and the growing importance of third level on an individual level to secure employment. In broad terms the report also presents data on the growth in 'high-end' employment (commensurate with third level education entry requirements) in each country as well as as a share of overall employment.

Following on from the first NERI report in this series 'Overqualification in high-income EU members' (no.32) I create a three-category labour market outcome variable for third level graduates;

- 1) employed in a high-end occupation (ISCO categories 1-3, *Managers, Professionals and Associate Professional and Technicians*),
 - 2) employed but overqualified (ISCO 4-9) and
 - 3) inactive.
-

Using ad-hoc modules of the *Survey on Income and Living Conditions* on intergenerational transmission of disadvantage in 2005, 2011 and 2019 I present the evidence of changing outcomes of third level graduates on a national level and by gender.

Overqualification/vertical mismatch can be costly for individuals, can negatively affect workers through lower job satisfaction and is associated with lower returns to education in the form of earnings. On a macro level it also undermines potential growth with human capital underutilised and arguably from a policy perspective could indicate that government spending/investment may yield better returns elsewhere.

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)

This report measures overqualification using the job evaluation approach. 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. The broad categories in ISCO are defined and grouped by minimum educational entry requirements to secure a job in those occupations.

The report also presents labour market outcomes for graduate groups 5 or more years and 10 or more years since completion of their studies.

Finally, I present the evidence of the labour market outcomes of graduates by their social origin (as proxied by father's education).

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

Third level graduates and employment.

Evidence from the EU Labour Force Survey

Table 1 Tertiary graduates in employment, 20-64, '000, all

	1992	1997	2002	2007	2012	2019
Belgium	1,018.4	1,240.2	1,382.1	1,648.3	1,849.7	2,205.9
Denmark	478.4	646.7	755.9	787.1	854.2	1,057.8
Germany	7,358.2	8,409.7	8,289.7	9,420.2	11,119.3	12,325.3
Ireland	249.1	385.1	479.2	766.2	850.5	1,086.4
Spain	2,225.2	3,245.6	4,932.1	6,781.7	6,962.7	8,571.5
France	:	4,749.3	6,434.5	7,641.6	8,955.3	11,424.1
Italy	1,736.8	2,066.9	2,774.9	3,590.9	4,171.1	5,281.3
Netherlands	:	1,770.2	1,987.1	2,389.8	2,690.6	3,367.6
Austria	:	323.5	661.7	689.3	818.1	1,528.1
Portugal	509.7	526.6	505.8	709.2	912.9	1,341.1
Finland	:	487.8	798.2	893.7	968.2	1,132.5
Sweden	:	1,065.8	1,108.9	1,369.7	1,593.0	2,138.1
UK	5,017.8	6,564.7	7,591.4	9,406.1	11,389.7	14,227.6

Table 2 Tertiary graduates in employment, 20-64, '000, Male

	1992	1997	2002	2007	2012	2019
Belgium	545.2	636.5	696.6	806.3	878.9	1,015.0
Denmark	243.1	333.9	362.6	373.7	377.8	475.6
Germany	4,974.2	5,486.9	5,169.0	5,596.6	6,214.5	6,926.3
Ireland	142.7	204.7	236.6	371.1	399.9	517.8
Spain	1,314.8	1,827.0	2,665.9	3,493.5	3,449.0	4,122.5
France	:	2,414.5	3,164.6	3,659.5	4,266.7	5,271.9
Italy	1,051.6	1,174.5	1,487.7	1,748.5	1,939.4	2,353.2
Netherlands	:	1,036.9	1,138.9	1,299.2	1,413.8	1,688.5
Austria	:	192.0	362.0	409.4	454.6	790.5
Portugal	225.0	227.2	194.3	284.3	365.1	528.9
Finland	:	253.1	364.5	394.4	419.8	490.0
Sweden	:	500.0	483.8	596.7	686.0	918.5
UK	2,867.7	3,657.4	3,977.2	4,803.6	5,748.1	6,904.1

Table 3 Tertiary graduates in employment, 20-64, '000, Female

	1992	1997	2002	2007	2012	2019
Belgium	473.2	603.7	685.5	841.9	970.7	1,191.0
Denmark	235.3	312.8	393.3	413.4	476.4	582.1
Germany	2,384.0	2,922.8	3,120.7	3,823.6	4,904.7	5,399.0
Ireland	106.4	180.5	242.6	395.1	450.6	568.7
Spain	910.4	1,418.6	2,266.2	3,288.1	3,513.7	4,449.0
France	:	2,334.8	3,269.9	3,982.0	4,688.6	6,152.2
Italy	685.2	892.4	1,287.2	1,842.4	2,231.7	2,928.1
Netherlands	:	733.3	848.2	1,090.6	1,276.8	1,679.1
Austria	:	131.5	299.7	279.8	363.4	737.6
Portugal	284.7	299.4	311.5	424.9	547.8	812.3
Finland	:	234.7	433.7	499.3	548.4	642.5
Sweden	:	565.8	625.1	773.1	907.0	1,219.6
UK	2,150.1	2,907.3	3,614.2	4,602.5	5,641.6	7,323.5

Every country in the sample increased their number and share of tertiary graduates in employment over the past generation. In all 13 countries, the pace of growth was faster for women since the 1990s. There were over 4 times as many tertiary graduates in employment in Ireland in 2019 as there were in 1992, an additional 760,000 (460,000 of which were female). Spain similarly had almost 4 times as many graduates, increasing by 6.3 million from 2.2 to 8.5, with the addition of 3.6 million females. Other than in Germany and the Netherlands (when considered from 1997), every country in this sample of high-income EU countries has at a minimum doubled the number of third level graduates in employment. The UK increased by 9 million their number of third level educated workers to 14.2 million, giving them the highest number in the sample in 2019, this was followed by Germany (12.3 million) and France (11.4 million).

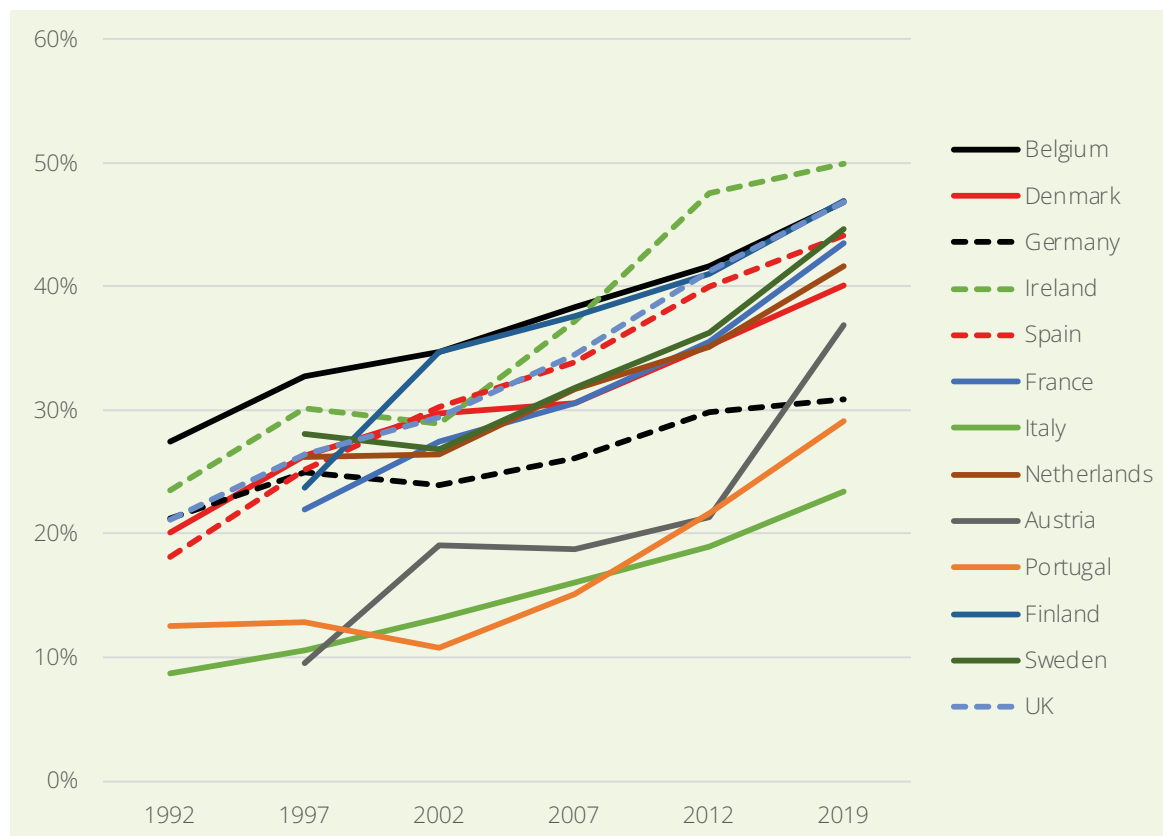
In a majority of countries, the bulk of this growth has happened since the great financial crisis (UK, Sweden, Portugal, Austria², the Netherlands, France and Germany). In the UK, the increase in female graduates in employment has been 600,000 ahead of the growth in male graduates in employment since 2007 (2.7 million vs 2.1 million). In Spain and Italy since 2007 approximately 64% of the increase in tertiary graduates in employment has been women, with corresponding figures of 63% in Belgium, 62% in Denmark and 61% in Portugal.

The share of tertiary graduates in employment within the 20-64 year bracket more than doubled in seven of the countries (Ireland, Spain, Italy, Austria, Portugal, Finland and the UK). Italy has the lowest share of third level graduates in employment in 2019

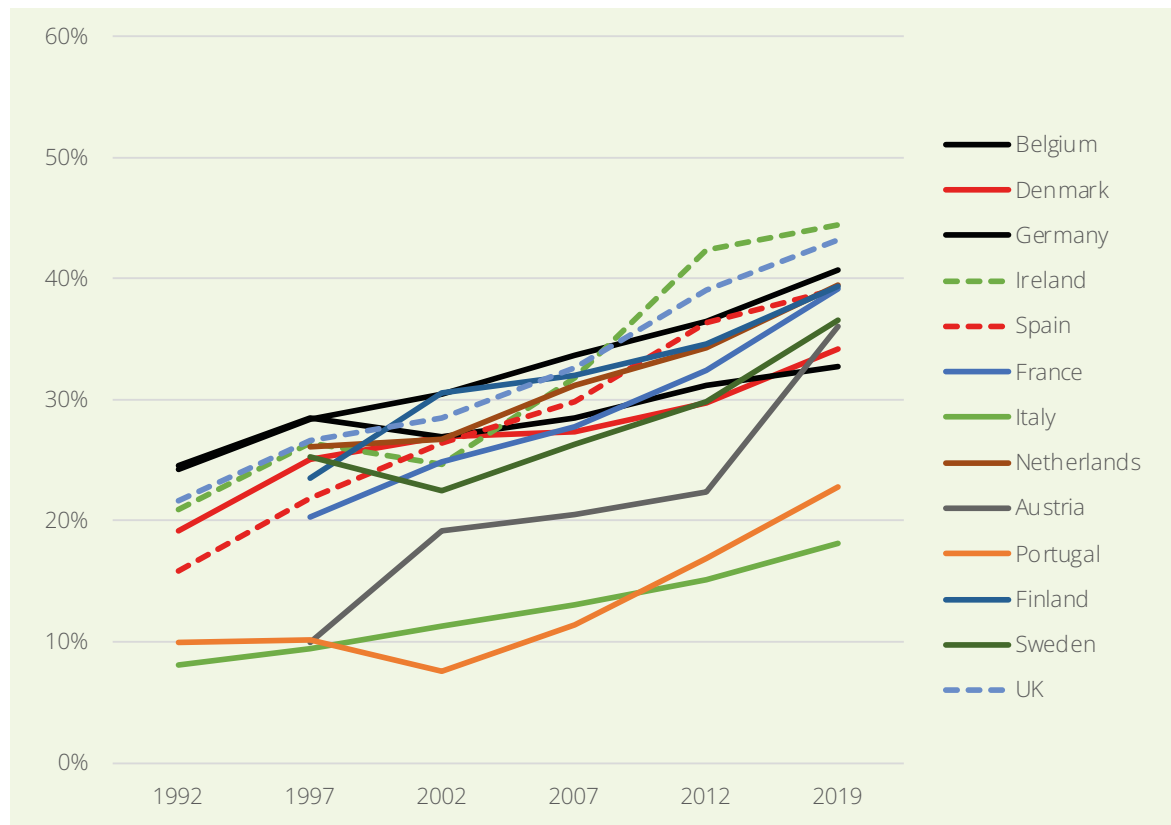
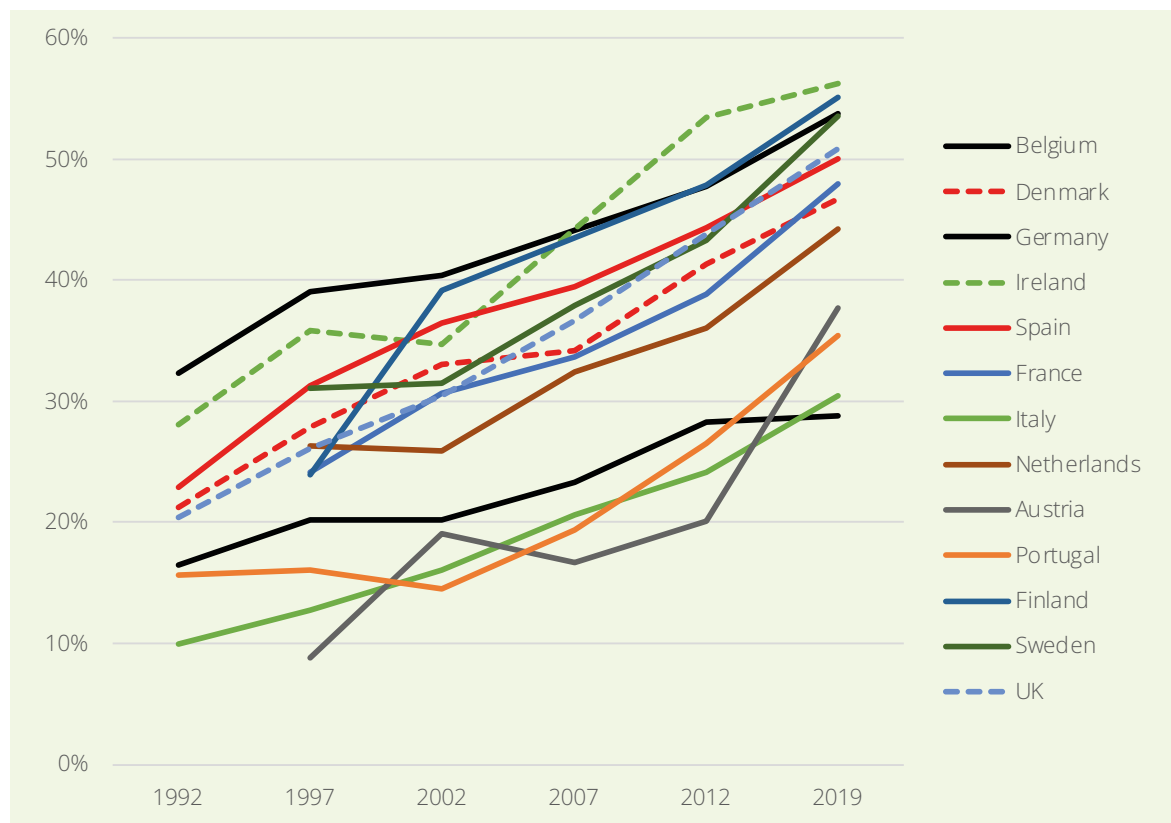
² A large jump in the number of third level graduates in Austria occurs in 2014 and is a result of a change in ISCO categories specific to Austria

by some margin at 23.4%. This was followed by Portugal (29.1%) and Germany (30.8%), where growth has been slowest over the period (9.6 pp). On the other hand, Ireland has the highest share of third level graduates in employment (49.9%), followed by Finland (47.0%), Belgium (46.9%), the UK (46.8%) and Sweden (44.6%).

Chart 1 Tertiary Educated in Employment (ISCED 5-8), 20-64, %



**Ireland has the
highest share of third
level graduates in
employment**

Chart 2 Tertiary Educated in Employment (ISCED 5-8), 20-64, M, %**Chart 3 Tertiary Educated in Employment (ISCED 5-8), 20-64, F, %**

The country with the highest share of tertiary graduates in male employment is again Ireland at 44.4%, a more than doubling of the share since 1992 (20.9%), followed by the UK (43.2%) and Belgium (40.7%). Italy also has the lowest share of male workers with tertiary education (18.2%), followed by Portugal (22.8%). Nevertheless, both Italy and Portugal have doubled the share of male workers in the highly educated category since the nineties. Male employment in Spain has steadily grown from having among the lowest shares in 1992 (15.9%) to being just 5 pp below the share in Ireland at 39.1%, a 23 pp increase.

German females in employment are the least likely in the sample to have third level education (28.2%), followed by Italy (30.4%). Of the thirteen countries considered, women with higher education made up over half of female employment in 2019 in six of them; Ireland (56.2%), Finland (55.1%), Belgium (53.8%), Sweden (53.6%), the UK (50.8%) and Spain (50.1%). Other than in the Netherlands, Belgium and Sweden the share of female workers with higher education has doubled in every country since the 1990s.

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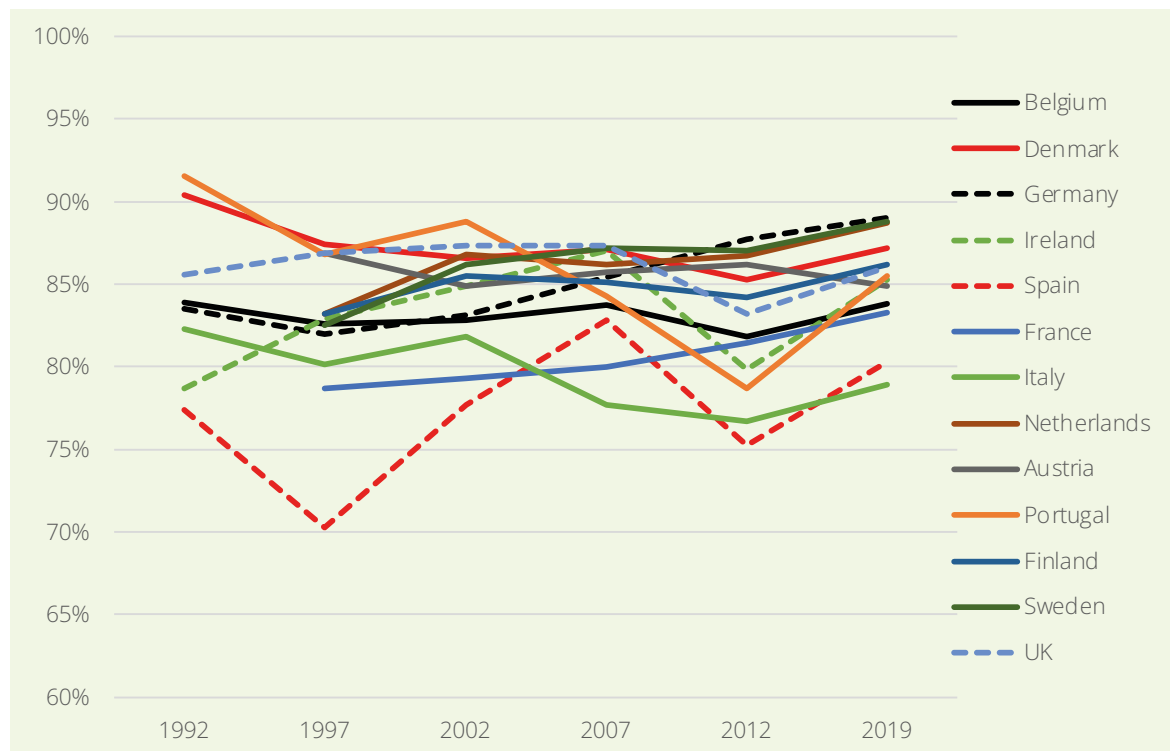


Employment rate of Tertiary Graduates

There is considerable variation in country experiences in the share of tertiary graduates in employment (20-64) or the employment rate of third level graduates over the past number of decades (Chart 10). This variation is due in part to the already high employment rates among this group at the beginning of the timeframe under consideration. Further improvement in employment rates may be difficult in many countries with employment rates as high as 90% in some as far back as 1992. Particularly in this group, it's likely minimum rates of inactivity reflect choices around work-life balance of relatively comfortable households as well as issues around disability/health in older groups. In addition, 'natural' factors in inactivity such as young graduates seeking appropriate employment over time also play a role.

For each country and for every year under consideration, there is a strong association between the likeliness of being employed and a person's education level. In other words, the group with the least amount of years of education/training are also least likely to be in employment and the groups with higher education are most likely to be in employment (Table 4). In 2019, the country variation in employment rates for third level graduates fall within a narrow band of just over 10 pp with Germany at the top at 89.0% and Italy at the bottom with a graduate employment rate of 78.9%.

Chart 4 Employment rate, Tertiary Graduates (ISCED 5-8), 20-64, %



The top performers in terms of the employment rate of those in the highest education bracket are Germany (89.0%), Sweden (88.8%), the Netherlands (88.7%) and Denmark (87.2%). Third level graduates are least likely to be in employment in Italy (78.9%), Spain (80.3%), France (83.3%) and Belgium (83.8%). In Denmark, Italy and Portugal the shares of third level graduates in employment are actually lower than in the 1990s, while Ireland has caught up from a low initial starting point to reach mid-table (78.7% to 85.3%). By 2019, in Ireland and Spain the employment rate of third level graduates had yet to recover fully from the effects of the financial crisis. German graduates made most relative gains in the same period.

Despite gender disparities in attainment and employment share, the employment rate for male graduates is higher than that of women in every country. Men in the group with highest educational attainment were most likely to be in employment in Germany (92.0%), Denmark (90.0%), the Netherlands (90.9%), Ireland (89.8%) and Sweden (89.6%) and least likely in Italy (83.3%) and Spain (83.9%).

Sweden and Portugal have the most equal outcomes with gaps of below 2 pp (89.6% and 88.2% vs 86.6% and 84.8%). In Ireland, and despite the share of females in the high education group in female employment having increased by the most since 1992 (69.9% to 81.5%), the Irish labour market still has the largest employment gap between genders in the tertiary educated group. In 2019 this gap was 8.4 pp (89.8% vs 81.5%). Women with higher education are least likely to be in employment in Italy (75.7%) and Spain (77.3%).

At the same time, in almost every country employment rates in the bracket of the lowest formal education levels (albeit as a group, it is falling as a share of the population across the board) have been trending downwards or are at the very least lower than their peak since 1997 (Table 4) reflecting the growing importance of third level education for individuals. In many countries, this trend accelerated after 2007 and can be seen most clearly when examining the figures for younger adults (Table 5). In Ireland for instance, the employment rate in 2007 for under 40's in the lowest bracket of formal education was 47.0%, has subsequently fallen to just 21.3% by 2019, the lowest in the sample. Similar trends are observed in France (37.0% to 23.4%), Spain (61.1% to 46.3%), Denmark (64.9% to 47.7%), Italy (45.0% to 30.2%) and Portugal (63.8 to 47.4%).

Despite gender disparities in attainment and employment share, the employment rate for male graduates is higher than that of women in every country

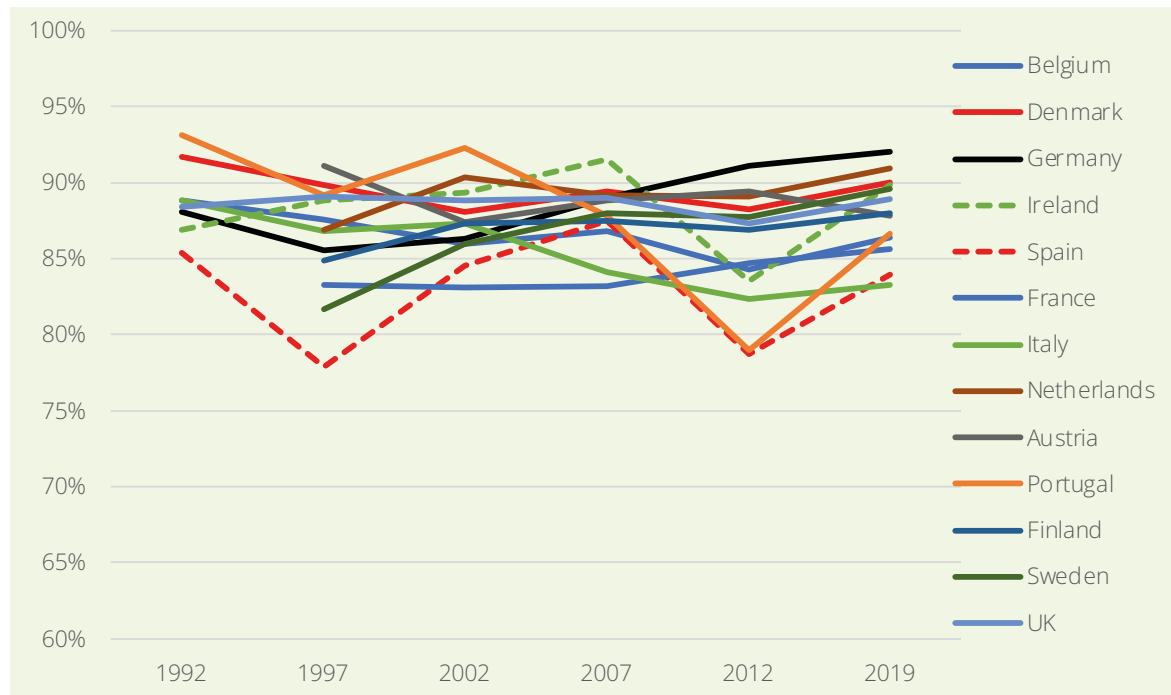
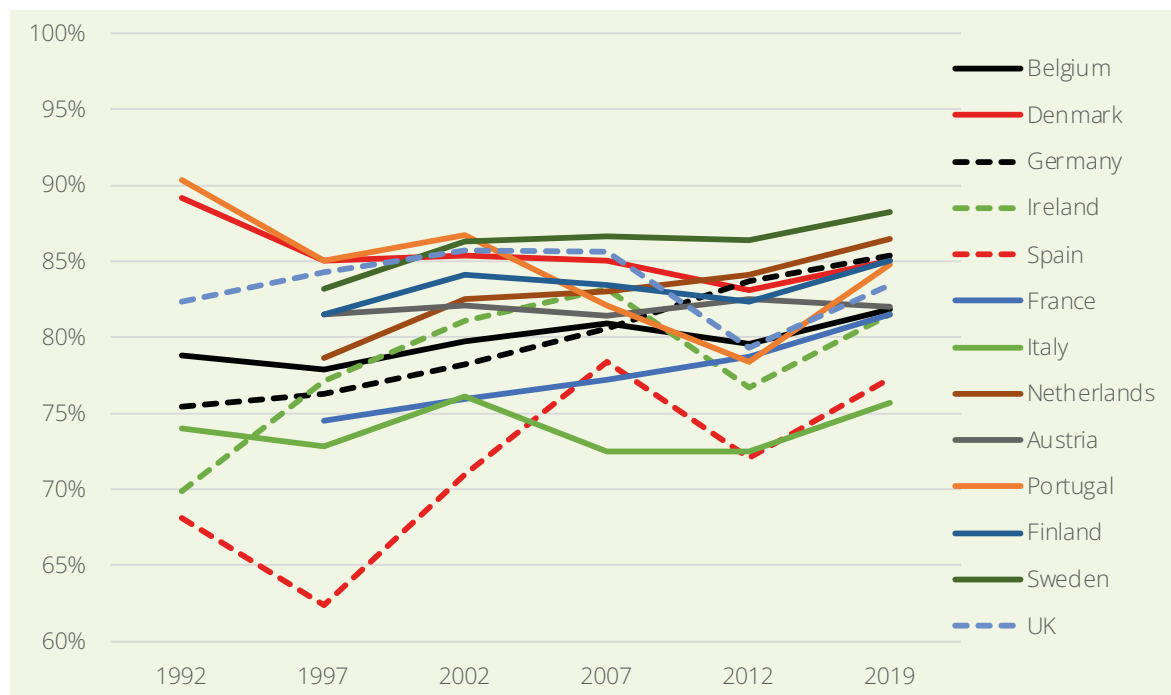
Chart 5 Employment rate, Tertiary Graduates (ISCED 5-8), 20-64, M, %**Chart 6 Employment rate, Tertiary Graduates (ISCED 5-8), 20-64, F, %**

Table 4 Employment rates by Educational attainment level, 20–64, %

GEO (Labels)	ISCED11 (Labels)	TIME				
		1997	2002	2007	2012	2019
Belgium	(levels 0-2)	45.8	48.1	49.5	47.1	46.3
	(levels 3 and 4)	66.8	68.5	69.3	68.5	69.8
	Tertiary education (levels 5-8)	82.6	82.8	83.7	81.8	83.8
Denmark	(levels 0-2)	62.4	61.7	67.7	58.6	59.5
	(levels 3 and 4)	77.9	80.3	81.6	76.0	80.1
	Tertiary education (levels 5-8)	87.4	86.6	87.1	85.3	87.2
Germany	(levels 0-2)	48.0	51.9	55.0	57.8	61.8
	(levels 3 and 4)	68.6	70.0	73.3	76.8	81.3
	Tertiary education (levels 5-8)	82.0	83.1	85.4	87.7	89.0
Ireland	(levels 0-2)	51.0	57.4	58.6	43.0	52.4
	(levels 3 and 4)	65.9	74.1	77.3	62.3	72.5
	Tertiary education (levels 5-8)	82.9	84.9	87.0	79.8	85.3
Spain	(levels 0-2)	49.4	57.0	61.3	48.3	57.8
	(levels 3 and 4)	52.7	62.5	71.3	60.1	65.0
	Tertiary education (levels 5-8)	70.3	77.7	82.8	75.2	80.3
France	(levels 0-2)	53.3	56.1	57.3	54.9	51.8
	(levels 3 and 4)	69.9	72.7	72.5	69.9	70.1
	Tertiary education (levels 5-8)	78.7	79.3	80.0	81.4	83.3
Italy	(levels 0-2)	47.4	50.5	52.5	50.0	52.1
	(levels 3 and 4)	62.9	65.9	69.3	65.5	66.3
	Tertiary education (levels 5-8)	80.1	81.8	77.7	76.7	78.9
Netherlands	(levels 0-2)	55.3	62.0	60.4	61.9	63.2
	(levels 3 and 4)	75.7	80.0	78.3	78.3	80.9
	Tertiary education (levels 5-8)	83.2	86.8	86.2	86.7	88.7
Austria	(levels 0-2)	54.7	53.6	56.5	54.7	55.7
	(levels 3 and 4)	73.9	73.2	74.7	76.2	77.4
	Tertiary education (levels 5-8)	86.9	84.9	85.7	86.2	84.9
Portugal	(levels 0-2)	68.0	73.5	71.3	62.2	69.8
	(levels 3 and 4)	62.0	68.5	68.5	67.0	77.6
	Tertiary education (levels 5-8)	86.8	88.8	84.3	78.7	85.5
Finland	(levels 0-2)	52.2	58.3	58.2	53.9	52.0
	(levels 3 and 4)	68.5	73.2	74.3	72.6	74.6
	Tertiary education (levels 5-8)	83.2	85.5	85.1	84.2	86.2
Sweden	(levels 0-2)	65.0	67.8	66.9	62.9	61.2
	(levels 3 and 4)	74.4	79.9	81.8	80.4	82.9
	Tertiary education (levels 5-8)	82.5	86.2	87.2	87.0	88.8
United Kingdom	(levels 0-2)	66.7	64.2	63.3	56.4	64.6
	(levels 3 and 4)	77.2	80.5	79.7	75.2	78.8
	Tertiary education (levels 5-8)	86.9	87.3	87.3	83.2	86.0

Source: Ifsa_ergaen

Table 5 Employment rates by Educational attainment level, 15-39, %

GEO	ISCED11 (Labels)	TIME				
		1997	2002	2007	2012	2019
Belgium	(levels 0-2)	38.5	38.1	31.7	29.3	26.4
	(levels 3 and 4)	63.6	64.1	63.9	60.8	64.0
	Tertiary education (levels 5-8)	86.9	87.9	87.6	83.0	82.9
Denmark	(levels 0-2)	66.2	60.1	64.9	47.7	47.7
	(levels 3 and 4)	82.1	81.9	84.4	75.3	76.9
	Tertiary education (levels 5-8)	88.1	87.6	89.8	86.2	85.9
Germany	(levels 0-2)	41.0	41.9	39.9	49.0	41.2
	(levels 3 and 4)	74.5	75.8	75.2	76.7	79.7
	Tertiary education (levels 5-8)	85.4	88.8	88.4	88.7	88.3
Ireland	(levels 0-2)	38.7	42.9	47.0	23.4	21.3
	(levels 3 and 4)	63.5	71.2	78.6	57.2	67.8
	Tertiary education (levels 5-8)	84.1	85.8	88.6	81.5	87.1
Spain	(levels 0-2)	45.3	56.7	61.1	40.7	46.3
	(levels 3 and 4)	40.1	54.4	65.7	49.6	50.9
	Tertiary education (levels 5-8)	64.6	75.1	82.6	72.6	77.7
France	(levels 0-2)	39.8	37.7	37.0	31.3	24.3
	(levels 3 and 4)	64.1	68.4	66.9	62.3	60.4
	Tertiary education (levels 5-8)	77.0	78.5	79.6	80.5	82.7
Italy	(levels 0-2)	44.1	47.3	45.0	35.7	30.2
	(levels 3 and 4)	57.4	61.0	64.2	57.2	54.5
	Tertiary education (levels 5-8)	75.3	79.0	72.4	69.7	68.9
Netherlands	(levels 0-2)	60.2	68.7	61.8	57.8	60.1
	(levels 3 and 4)	81.4	85.0	82.1	78.7	79.8
	Tertiary education (levels 5-8)	86.8	92.7	91.2	89.1	89.2
Austria	(levels 0-2)	50.6	48.8	49.2	45.4	43.6
	(levels 3 and 4)	80.2	80.4	79.6	80.2	79.2
	Tertiary education (levels 5-8)	88.9	90.1	88.5	87.7	83.8
Portugal	(levels 0-2)	60.8	67.6	63.8	50.7	47.4
	(levels 3 and 4)	52.0	61.0	60.5	57.7	66.3
	Tertiary education (levels 5-8)	88.9	88.9	83.5	75.5	82.0
Finland	(levels 0-2)	29.6	39.0	36.7	30.6	30.5
	(levels 3 and 4)	66.6	72.8	74.0	72.0	73.8
	Tertiary education (levels 5-8)	85.3	87.8	87.2	84.5	86.0
Sweden	(levels 0-2)	34.3	45.9	34.0	31.1	34.8
	(levels 3 and 4)	70.5	78.9	80.0	75.2	78.5
	Tertiary education (levels 5-8)	75.8	83.3	86.0	84.8	86.0
UK	(levels 0-2)	58.9	59.9	54.7	46.5	54.0
	(levels 3 and 4)	76.4	77.0	73.1	66.7	71.9
	Tertiary education (levels 5-8)	88.4	88.6	88.4	84.7	88.3

Source: Ifsa_ergaehn

Labour Market Outcomes of third level graduates

Table 6 Labour Market outcomes of third level graduates (25–59)

		2005	2011	2019
Austria	Matched	58.0	67.3	65.4
	Overqualified	30.9	21.9	22.2
	Inactive	11.1	10.8	12.4
Belgium	Matched	59.9	64.0	70.3
	Overqualified	26.2	19.1	20.0
	Inactive	13.9	16.9	9.7
Denmark	Matched	77.3	76.9	72.1
	Overqualified	11.9	13.6	15.7
	Inactive	10.8	9.5	12.3
Finland	Matched	72.9	69.3	71.8
	Overqualified	16.1	18.5	16.7
	Inactive	11.0	12.2	11.5
France	Matched	70.7	69.4	71.0
	Overqualified	16.6	16.8	19.0
	Inactive	12.7	13.8	10.0
Germany	Matched	63.0	74.7	73.2
	Overqualified	17.5	16.5	17.6
	Inactive	19.4	8.7	9.2
Ireland	Matched	67.0	52.4	54.5
	Overqualified	22.2	26.6	32.4
	Inactive	10.8	21.0	13.1
Italy	Matched	71.0	69.6	66.2
	Overqualified	14.6	17.4	19.7
	Inactive	14.4	13.0	14.1
Portugal	Matched	82.5	80.9	78.8
	Overqualified	10.8	11.0	12.7
	Inactive	6.7*	8.1	8.6
Spain	Matched	53.1	52.7	51.8
	Overqualified	32.2	27.9	33.6
	Inactive	14.7	19.4	14.6
Sweden	Matched	77.6	75.9	79.1
	Overqualified	10.5	14.1	13.4
	Inactive	11.9	10.1	7.5
The Netherlands	Matched	74.6	77.2	73.0
	Overqualified	11.2	11.9	14.0
	Inactive	14.2	10.9	13.0
UK	Matched	60.7	66.5	
	Overqualified	26.0	21.8	
	Inactive	13.3	11.8	

Source: EU Survey on Incomes and Living Conditions

*low sample size, 20-49 observations

Tables 6 shows evidence from the EU *Survey on Income and Living Conditions* on outcomes of third level graduates using a simple three category variable constructed for this report:

- 1) in matched employment (a job in ISCO categories 1-3, all of which have third level entry requirements)
- 2) overqualified according to the job evaluation method (work in ISCO 4-9) and
- 3) economically inactive.

Breakdowns are also presented by gender (Tables 7 and 8). For consistency, the age brackets have been narrowed to 25-59 for consistency for the following sections, as background or social origin details in the *EU-SILC* ad-hoc modules are only asked of survey respondents in this group. Students and retirees are excluded. Estimates include employees and the self-employed.

In 2019, on average (unweighted) across 12 of the countries (i.e. excluding the UK) 68.9% of third level graduates (25-59) are in matched 'high-end' employment (ISCO1-3), 19.7% are in employment but overqualified and 11% are inactive. The 2005 and 2011 unweighted averages are remarkably similar (68.3% and 69.0%) though they obscure significant heterogeneity in country level trends across the sample.

Sweden is the top performer with 79.1% of third level graduates in Managerial/ Professional/Technician roles, followed by Portugal at 78.8%, Germany at 73.2% and the Netherlands at 73.0%. Graduates in Spain are least likely to be in high-end employment at 51.8%, followed by Ireland at 54.5%. Graduates in Austria are third least likely, though the share (65.4%) is almost 11pp ahead of Ireland's.

While graduates in Belgium, Germany and Austria saw the likeliness of securing high-end employment increase strongly between 2005 and 2019 by 10.4pp, 10.2pp and 7.5pp, Ireland is an outlier in terms of the scale of the decline over 14 years of the share graduates employed in high-end professions (down from 67.0% to 54.5% or 12.5 pp). The decline was second highest in Denmark at 5.2 pp. High-end employment outcomes for graduates in Ireland between 2011 and 2019 (a period of near record employment growth from the bottom of the great recession) were just 2 pp higher as a share from 52.4% to 54.5%. In the same period, the share employed but overqualified increased from 26.6% to 32.4%.

The unweighted average of male graduates in high-end employment across our sample (excluding the UK) in 2019 is 71.8%. Portuguese, German and Dutch male graduates are most likely to have secured high-end jobs (80.8%, 79.0% and 77.6%), while Irish males are least likely (55.6%), followed closely by Spanish males (55.9%).

Swedish women with third level qualifications are most likely to be in high-end jobs (81.0%), followed by Portuguese (77.6%) with highly educated Spanish women faring worst (48.5%) followed by Irish women (53.5%). The unweighted average of the share of female graduates in high-end employment in the sample is 66.4%.

Germany is an outlier in the gender gap for high-end employment for graduates at 12.2 pp (79.0% vs 66.8%) with the Netherlands in second place (9.0 pp) and France and Austria in joint third (8.8 pp). Sweden is the only country where the gender gap is reversed and female graduates are 4.3 pp more likely to be employed in a high-end job (81.0%). The estimates for Denmark show zero gender outcome gap for high-end employment (though women are more likely to be inactive, men more likely to be in employment but overqualified) and the gap in Ireland is third narrowest in 2019 (55.6% vs 53.5% or 2.1pp), having halved since 2005 (4.4 pp).

The share of both Irish male and female graduates in employment and overqualified increased by the most in the sample between 2005 and 2019 (10.8 and 9.9 pp respectively). The likelihood of Italian male graduates being overqualified increased by 6.9 pp in the same period, the second largest increase, while Danish female graduates were 5.4 pp more likely to be in overqualified employment in 2019, also the second largest increase.

The share of both Irish male and female graduates in employment and overqualified increased by the most in the sample between 2005 and 2019



Table 7 Labour Market outcomes of third level graduates (25–59, Male)

		2005	2011	2019
Austria	Matched	62.1	67.1	69.9
	Overqualified	33.0	28.9	24.0
	Inactive	4.9	4.0*	6.2
Belgium	Matched	65.1	65.8	73.6
	Overqualified	23.4	18.0	18.1
	Inactive	11.4	16.3	8.3
Denmark	Matched	76.7	79.7	72.1
	Overqualified	14.8	11.7	16.5
	Inactive	8.5	8.7	11.4
Finland	Matched	80.2	76.7	76.4
	Overqualified	11.1	15.5	14.0
	Inactive	8.7	7.8	9.6
France	Matched	75.9	72.0	75.8
	Overqualified	14.1	15.5	17.6
	Inactive	10.1	12.4	6.6
Germany	Matched	68.7	77.5	79.0
	Overqualified	20.4	18.5	16.7
	Inactive	10.8	4.1	4.4
Ireland	Matched	69.3	50.8	55.6
	Overqualified	24.3	30.6	35.1
	Inactive	6.4	18.7	9.3
Italy	Matched	76.2	76.2	68.3
	Overqualified	14.9	16.3	21.8
	Inactive	9.0	7.5	9.9
Portugal	Matched	82.5	79.1	80.8
	Overqualified	9.4*	12.2*	11.7
	Inactive	8.1*	8.7*	7.5
Spain	Matched	57.0	57.1	55.9
	Overqualified	34.1	27.5	33.5
	Inactive	8.9	15.4	10.6
Sweden	Matched	78.7	75.6	76.8
	Overqualified	10.5	14.5	14.4
	Inactive	10.9	9.9	8.8
The Netherlands	Matched	81.6	80.7	77.6
	Overqualified	10.7	11.8	11.6
	Inactive	7.7	7.5	10.8
UK	Matched	68.9	71.3	
	Overqualified	22.7	20.6	
	Inactive	8.4	8.1	

Source: EU Survey on Incomes and Living Conditions

*low sample size, 20–49 observations

Table 8 Labour Market outcomes of third level graduates (25–59, Female)

		2005	2011	2019
Austria	Matched	52.8	67.5	61.1
	Overqualified	28.3	13.5	20.5
	Inactive	19.0	19.0	18.5
Belgium	Matched	55.1	62.5	67.5
	Overqualified	28.7	20.1	21.6
	Inactive	16.2	17.4	10.9
Denmark	Matched	77.8	74.7	72.1
	Overqualified	9.6	15.1	15.0
	Inactive	12.6	10.2	12.9
Finland	Matched	67.4	64.1	68.6
	Overqualified	19.9	20.6	18.6
	Inactive	12.7	15.3	12.8
France	Matched	66.4	67.2	67.1
	Overqualified	18.8	17.9	20.1
	Inactive	14.8	14.9	12.8
Germany	Matched	56.6	71.4	66.8
	Overqualified	14.3	14.1	18.6
	Inactive	29.2	14.5	14.6
Ireland	Matched	64.9	53.9	53.5
	Overqualified	20.3	22.9	30.2
	Inactive	14.8	23.2	16.3
Italy	Matched	66.1	64.4	64.6
	Overqualified	14.4	18.3	18.2
	Inactive	19.6	17.3	17.2
Portugal	Matched	82.6	82.1	77.6
	Overqualified	11.7*	10.3	13.2
	Inactive	5.7*	7.7*	9.2
Spain	Matched	49.4	48.9	48.5
	Overqualified	30.4	28.3	33.7
	Inactive	20.2	22.8	17.8
Sweden	Matched	76.9	76.0	81.0
	Overqualified	10.5	13.8	12.6
	Inactive	12.6	10.2	6.4
The Netherlands	Matched	66.2	73.5	68.6
	Overqualified	11.8	12.0	16.3
	Inactive	22.0	14.5	15.1
UK	Matched	53.8	62.1	
	Overqualified	28.8	22.8	
	Inactive	17.4	15.1	

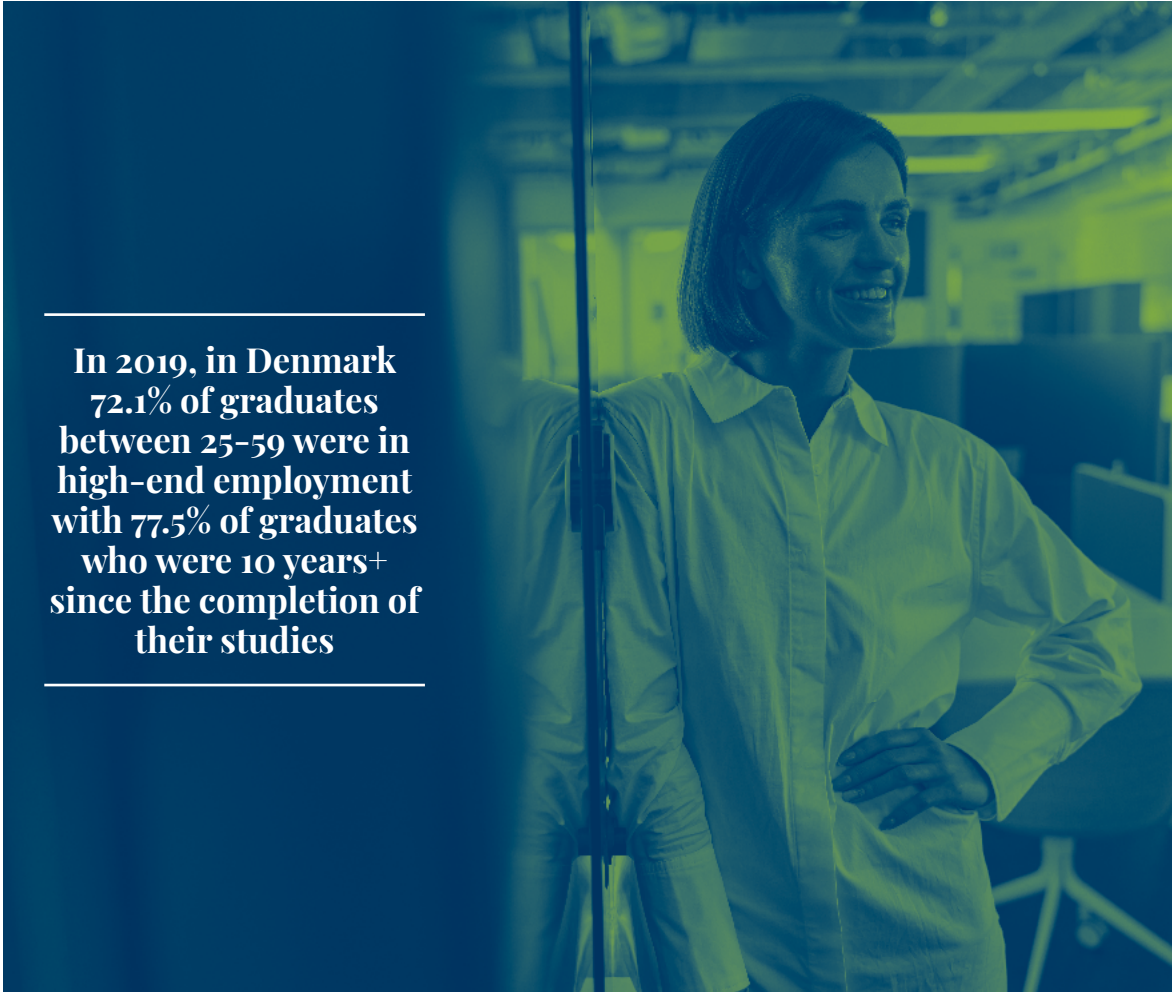
Source: EU Survey on incomes and living conditions

*low sample size, 20-49 observations

Whether overqualification is a transitory phenomenon or a 'stepping stone' from work experience to matched, high-end employment is an important consideration with specific policy implications. Longitudinal analysis is not possible with the data available. However, Tables 9 and 10 show overqualification rates across the 13 country sample and three years, controlled for by graduates more than 5 years since they achieved their qualification and more than 10 years.

Remarkably, there is very little difference across 13 countries and 3 years both for the '5 years plus since graduation' and '10 years plus since graduation' groups with the wider group with the exception of Denmark and to a smaller degree, Italy. In most countries across the time frame there is less than a 2 pp difference between the wider group and the more experienced groups and on occasion, the more experienced groups are actually less likely to be in high-end employment.

In 2019, in Denmark 72.1% of graduates between 25-59 were in high-end employment with 77.5% of graduates who were 10 years+ since the completion of their studies. The second largest increase in 2019 on this measure is in Italy (66.2% to 69.3%), though partial evidence of the 'stepping stone theory' is more clear in the data for outcomes in the country in 2005 (71.0% vs 78.7%).



**In 2019, in Denmark
72.1% of graduates
between 25-59 were in
high-end employment
with 77.5% of graduates
who were 10 years+
since the completion of
their studies**

Table 9 Outcomes of third level graduates (25–59), 5+ yrs since graduation

		2005	2011	2019
Austria	Matched	57.6	67.1	63.4
	Overqualified	30.9	22.0	23.8
	Inactive	11.6	10.9	12.8
Belgium	Matched	60.8	63.5	69.8
	Overqualified	25.5	19.6	20.8
	Inactive	13.7	16.9	9.4
Denmark	Matched	77.6	78.7	76.9
	Overqualified	12.4	13.7	14.4
	Inactive	10.0	7.6	8.7
Finland	Matched	72.0	69.3	71.1
	Overqualified	16.5	18.5	17.4
	Inactive	11.4	12.2	11.5
France	Matched	71.7	70.5	71.4
	Overqualified	16.2	16.5	19.5
	Inactive	12.1	13.0	9.1
Germany	Matched	62.6	74.1	71.9
	Overqualified	17.4	17.1	18.4
	Inactive	20.0	8.8	9.7
Ireland	Matched	67.3	51.4	53.7
	Overqualified	21.0	27.9	33.3
	Inactive	11.7	20.7	13.0
Italy	Matched	76.6	72.7	67.6
	Overqualified	13.2	16.8	19.1
	Inactive	10.2	10.6	13.3
Portugal	Matched	84.9	85.6	80.6
	Overqualified	9.2*	8.5	11.6
	Inactive	6.0*	5.9*	7.8
Spain	Matched	54.2	52.8	51.2
	Overqualified	31.7	28.5	35.0
	Inactive	14.1	18.7	13.8
Sweden	Matched	78.7	74.5	78.1
	Overqualified	10.0	14.2	14.1
	Inactive	11.2	11.3	7.9
The Netherlands	Matched	74.4	77.4	72.2
	Overqualified	10.6	11.5	14.2
	Inactive	15.0	11.1	13.6
UK	Matched	63.1	67.6	
	Overqualified	22.7	20.8	
	Inactive	14.2	11.6	

Source: EU Survey on incomes and living conditions

*low sample size, 20-49 observations

Table 10 Outcomes of third level graduates (25–59), 10+ yrs since graduation

		2005	2011	2019
Austria	Matched	59.8	67.4	62.9
	Overqualified	30.0	23.1	24.8
	Inactive	10.3	9.5	12.3
Belgium	Matched	60.5	63.2	68.7
	Overqualified	24.7	20.0	20.8
	Inactive	14.8	16.8	10.5
Denmark	Matched	77.3	77.7	77.5
	Overqualified	12.6	14.0	14.4
	Inactive	10.2	8.4	8.1
Finland	Matched	73.3	69.1	70.9
	Overqualified	16.6	20.4	18.5
	Inactive	10.2	10.6	10.6
France	Matched	73.7	71.1	72.1
	Overqualified	14.1	15.9	19.3
	Inactive	12.1	13.0	8.6
Germany	Matched	63.1	74.1	72.6
	Overqualified	17.2	17.7	18.4
	Inactive	19.7	8.2	9.1
Ireland	Matched	67.6	51.5	52.6
	Overqualified	19.4	26.7	35.3
	Inactive	13.0	21.8	12.1
Italy	Matched	78.7	73.8	69.3
	Overqualified	12.8	16.4	18.5
	Inactive	8.5	9.8	12.2
Portugal	Matched	83.1	86.0	81.3
	Overqualified	9.6*	7.8*	11.4
	Inactive	7.3*	6.2*	7.3
Spain	Matched	54.3	52.7	50.5
	Overqualified	30.7	29.0	35.6
	Inactive	15.0	18.3	14.0
Sweden	Matched	77.6	72.0	76.4
	Overqualified	10.5	15.0	15.3
	Inactive	12.0	13.1	8.3
The Netherlands	Matched	73.9	76.8	71.1
	Overqualified	9.8	11.6	14.8
	Inactive	16.3	11.6	14.1
UK	Matched	66.0	69.5	
	Overqualified	19.7	19.3	
	Inactive	14.3	11.2	

Source: EU Survey on incomes and living conditions

*low sample size, 20-49 observations

Labour Market Outcomes of third level graduates by social origin

Chart 7 -19 present the same outcome variables for graduates (2005, 2011 and 2019) with a breakdown by social origin (in this case, proxied by father's education). The data suggest that social origin is an important explanatory factor in the labour market outcomes of third level graduates.³

With the exceptions of Finland and Sweden in 2019, third level graduates whose fathers also had third level qualifications are more likely to be in high-end employment than those whose fathers were in the middle bracket of formal education. With the exception of the Netherlands, the relationship also holds between graduates whose fathers were in the middle bracket of formal education versus those whose fathers were in the lowest bracket. In every country those from highly educated backgrounds have better labour market outcomes (higher shares in high end employment) than those whose fathers were in the lowest bracket of formal education. In most cases and across the three EU SILC surveys in 2005, 2011 and 2019 this relationship applies as a trend (i.e. that outcomes of graduates from high educational backgrounds are more likely to be in high-end employment than those from backgrounds in the middle category with similar relationship between graduates of middle and low formal education backgrounds, with some exceptions (especially in the first year of the analysis, 2005).

In every country, with the exception of Ireland, the high-end employment gap (in percentage points) between graduates with fathers in the highest and lowest brackets of formal education background widened between 2005 and 2011. The widening trend occurred for each country between 2011 and 2019 with the result that every country between 2005 and 2019 has seen an increased gap of securing high-end employment between graduate children from backgrounds in high versus low education brackets. In 2019, the unweighted average share in the sample of graduates (excluding the UK) in high end jobs from highly educated backgrounds was 75.6%, 70.7% for those from backgrounds in the middle bracket of formal education and 63.5% for those from backgrounds in the lower bracket. In 2005, the same figures were 68.8%, 69.2% and 65.2% and in 2011, 73.3%, 70.6% and 65.6%. Between 2005 and 2019 (excluding the UK), the outcome gap has widened by 8.3 pp on average between graduates from backgrounds in the top education bracket versus the lowest formal education bracket to 12.1 pp (excluding the UK).

³ EU SILC data provides detail on broad education level. Third level graduates (ISCED 5-8) are grouped together from short cycle tertiary qualifications (5) to doctorates (8). It is more than likely that even among this group that social origin is important in the difference between a degree and an MA, which in turn are likely to be associated with different probabilities of attaining high-end employment.

Other details like the field of research or spending on additional educational resources such as private lessons etc. that may be explanatory factors in different outcomes are not available through SILC.

For the groups whose fathers had third level qualifications, graduates in Portugal were most likely to be in high-end employment commensurate with their education level (84.1%), followed by Sweden (82.4%), France (81.8%) and the Netherlands (80.6%) and least likely in Spain (62.7%), Ireland (66.0%) and Austria (70.7%). The latest data for the UK (2011) suggests a relatively low share that year (4th lowest) at 70.7%.

The high-end employment gap between graduates from high versus low formal educational backgrounds is widest in 2019 in Germany (77.4% vs 56.8% or 20.7 pp), Ireland (66.0% vs 47.4% or 18.6 pp), Austria (70.7% vs 54.4% or 16.3 pp) and France (81.8% vs 66.3% or 15.4 pp). In 2019, Irish graduates whose fathers were in the low formal education bracket were least likely to be in high-end employment in the sample (47.4%) and those from backgrounds in the middle education bracket (58.6%) and high education brackets (66.0%), were second least likely in their groups (behind Spain).

Third level graduates in Ireland with father's in the lowest education bracket saw the share in high-end employment fall by the most between 2005 and 2019 (15.2 pp), with Finland next at 8.5 pp and an average decline of 2.9 pp (excluding the UK). In some countries the share of this group in high-end employment grew over the period, with Belgium the outlier at the opposite end at 9.0 pp. Graduates in this group are most likely to be in high-end employment in Portugal (78.6%), Sweden (75.9%) and the Netherlands (71.6%) and least likely in Ireland (47.4%), Spain (47.9%), Austria (54.4%) and Germany (56.8%).

For graduates with father's in the middle bracket of formal education there were large differences in the share in high-end employment in 2019 relative to 2005 across the sample. In Ireland and the Netherlands in 2019, this group were 9.4 pp and 8.9pp less likely (from 68.0% to 58.6% and from 78.0% and 69.1%) to be employed as a *Manager/ Professional/Associate Professional or Technician* respectively. In Germany and Belgium, the experience of this group was the opposite, with positive growth in the share of graduates of this group in high-end jobs of 12.2 and 12.1 pp respectively (65.0% to 77.3% and 59.8 to 71.9%)

The narrowest high-end employment outcome gaps for graduates by background (father in high vs father in low brackets of formal education) are in Portugal (5.5 pp), Sweden (6.5 pp) and Denmark (7.1 pp).

Chart 7 Labour Market Outcomes of Third Level graduates by Social Origin, Austria

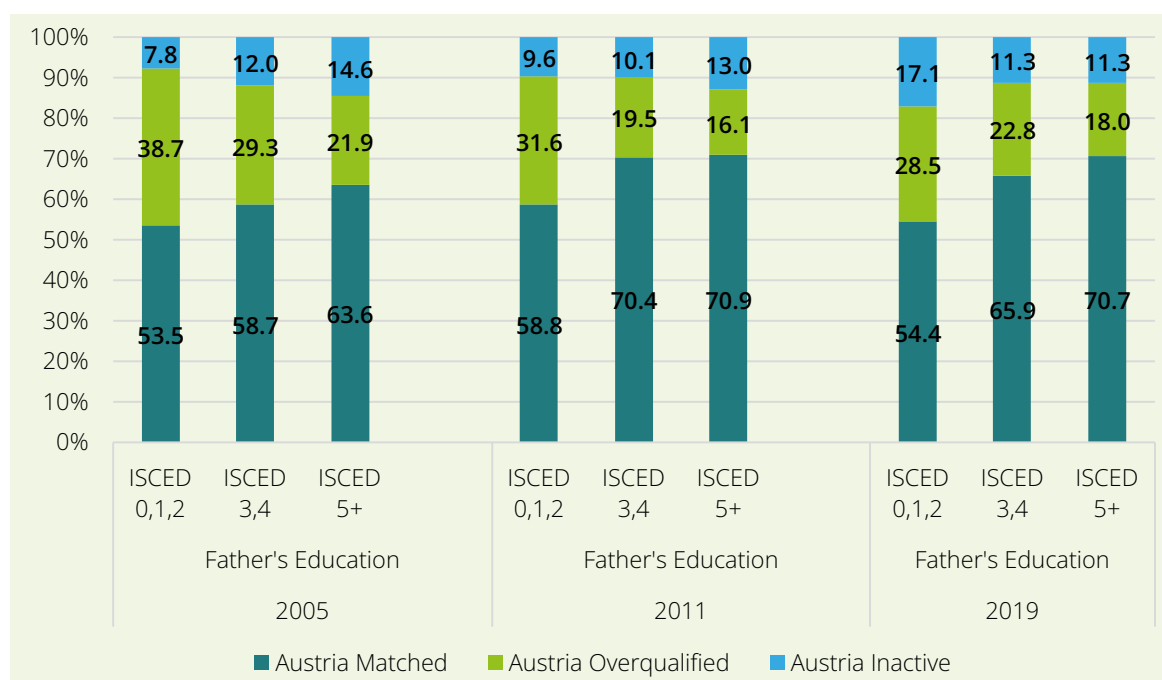


Chart 8 Labour Market Outcomes of Third Level graduates by Social Origin, Belgium

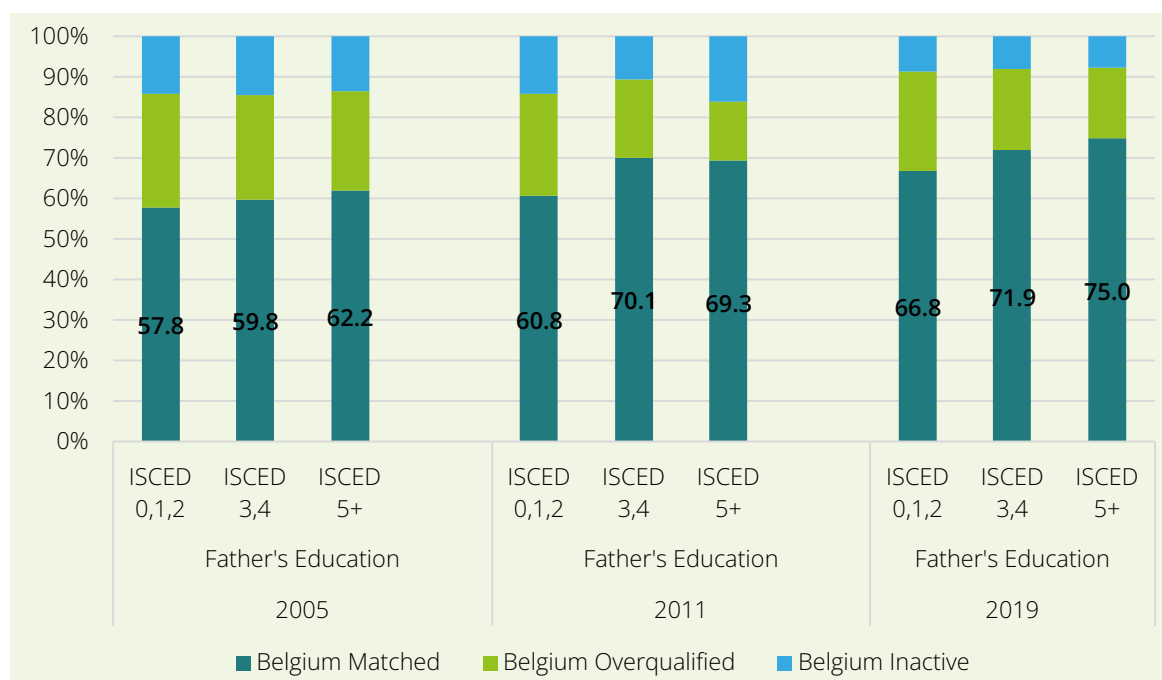


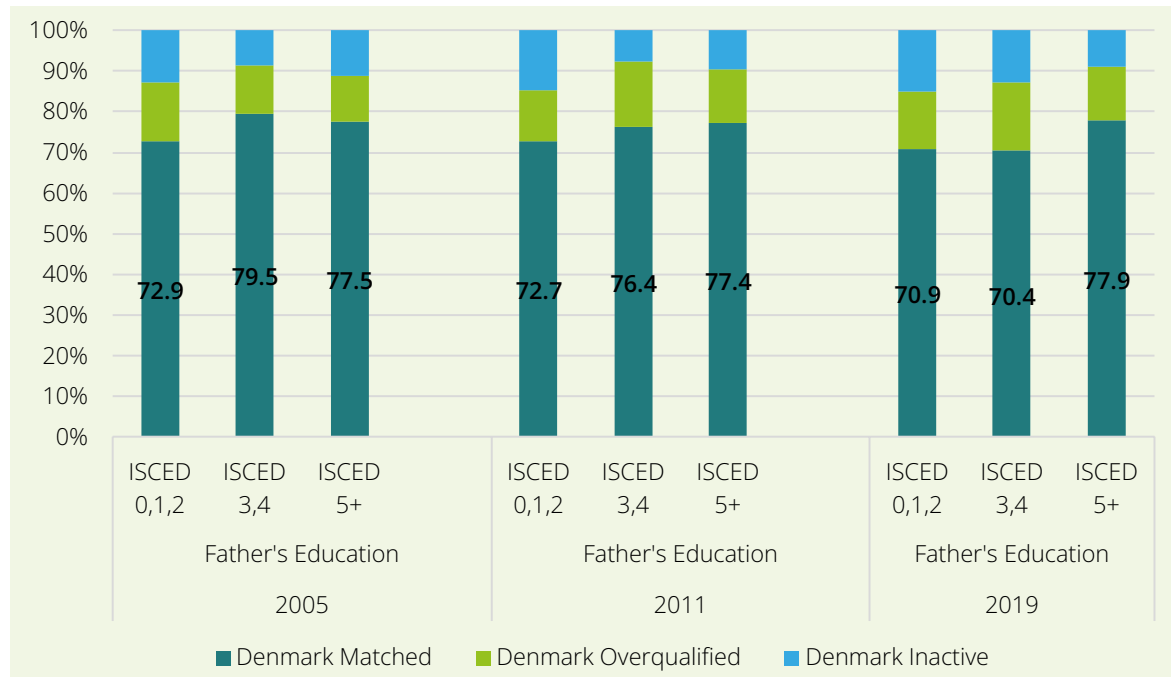
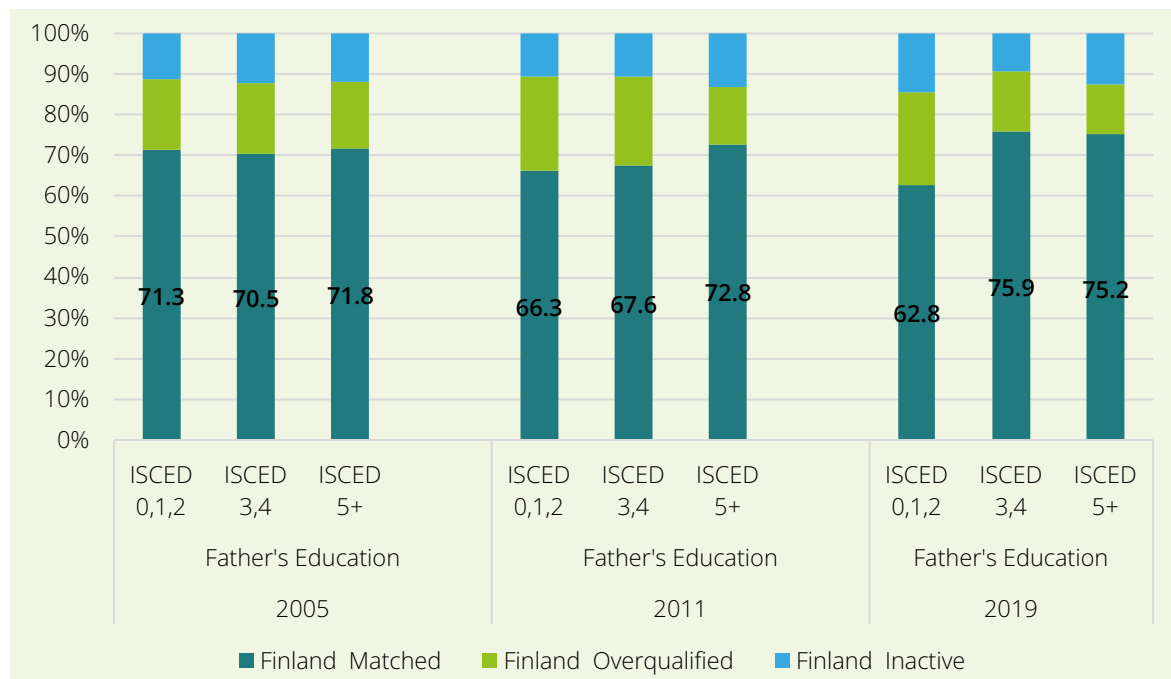
Chart 9 Labour Market Outcomes of Third Level graduates by Social Origin, Denmark**Chart 10 Labour Market Outcomes of Third Level graduates by Social Origin, Finland**

Chart 11 Labour Market Outcomes of Third Level graduates by Social Origin, France

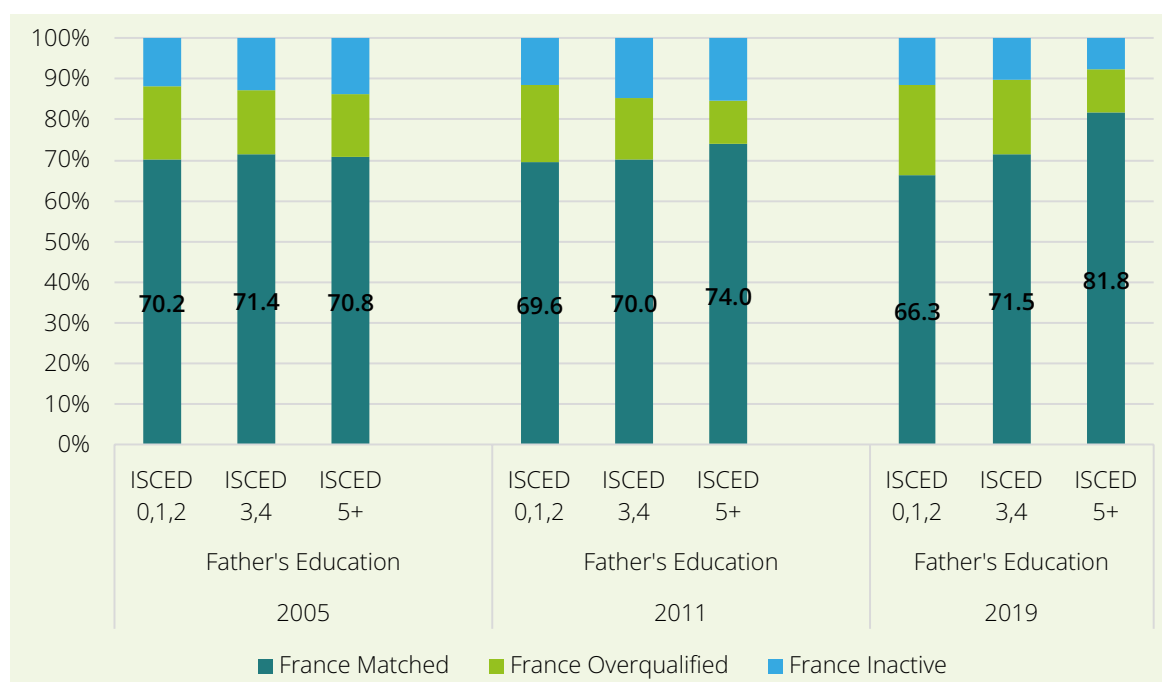


Chart 12 Labour Market Outcomes of Third Level graduates by Social Origin, Germany

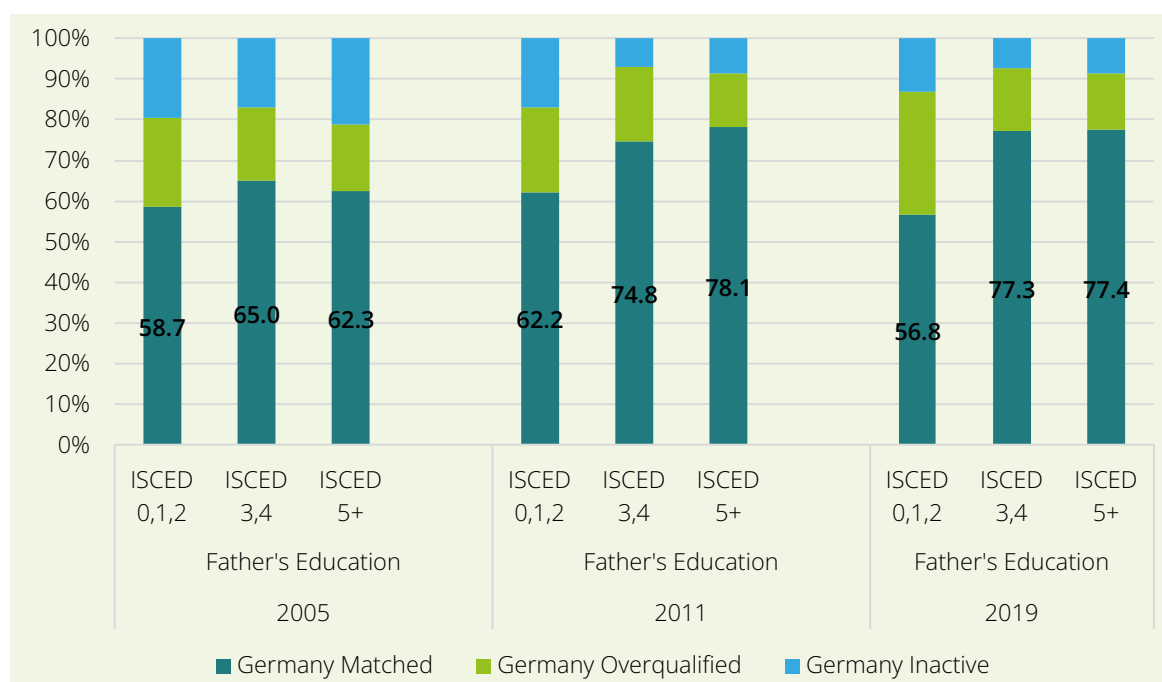


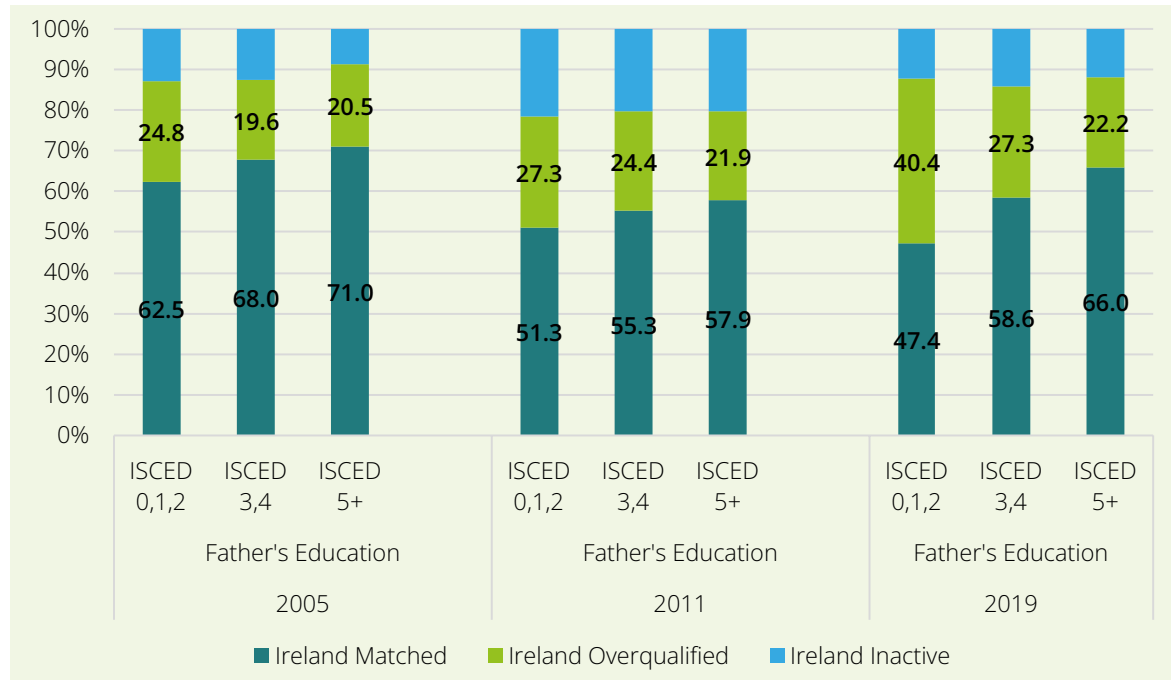
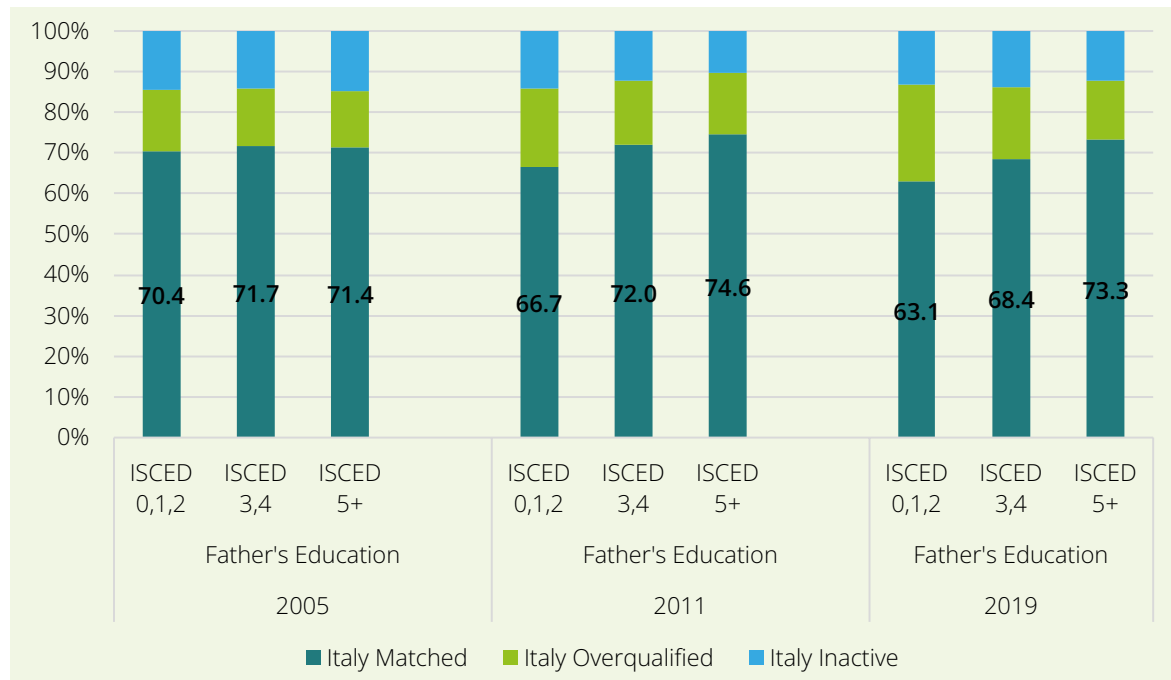
Chart 13 Labour Market Outcomes of Third Level graduates by Social Origin, Ireland**Chart 14 Labour Market Outcomes of Third Level graduates by Social Origin, Italy**

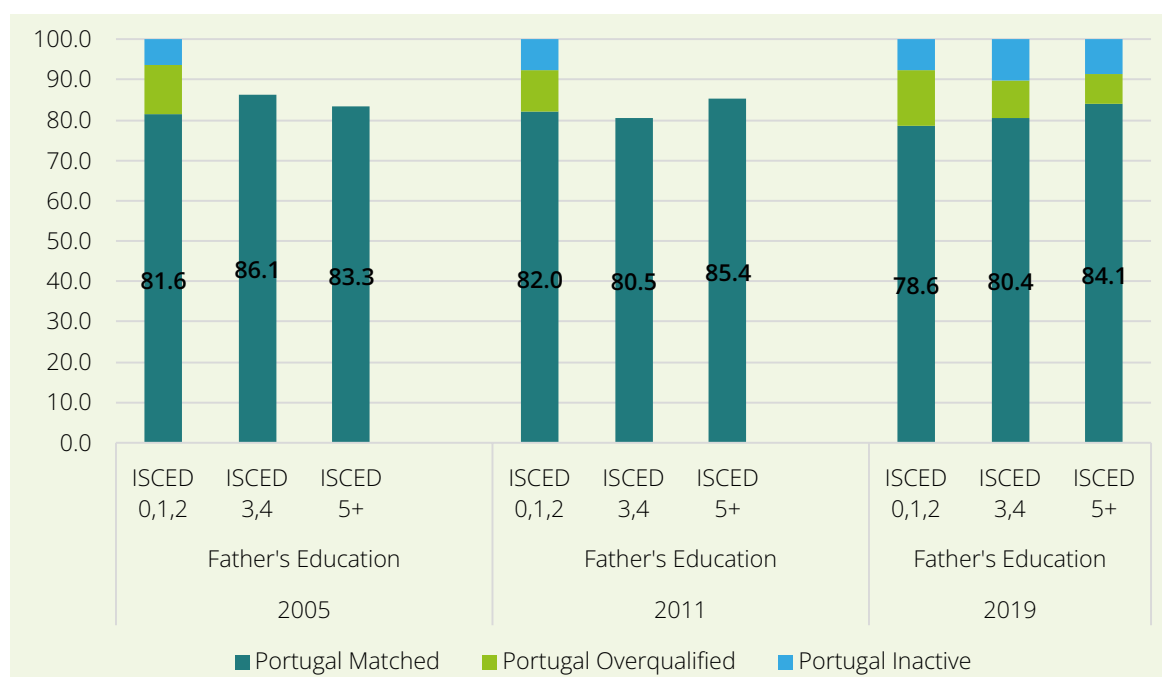
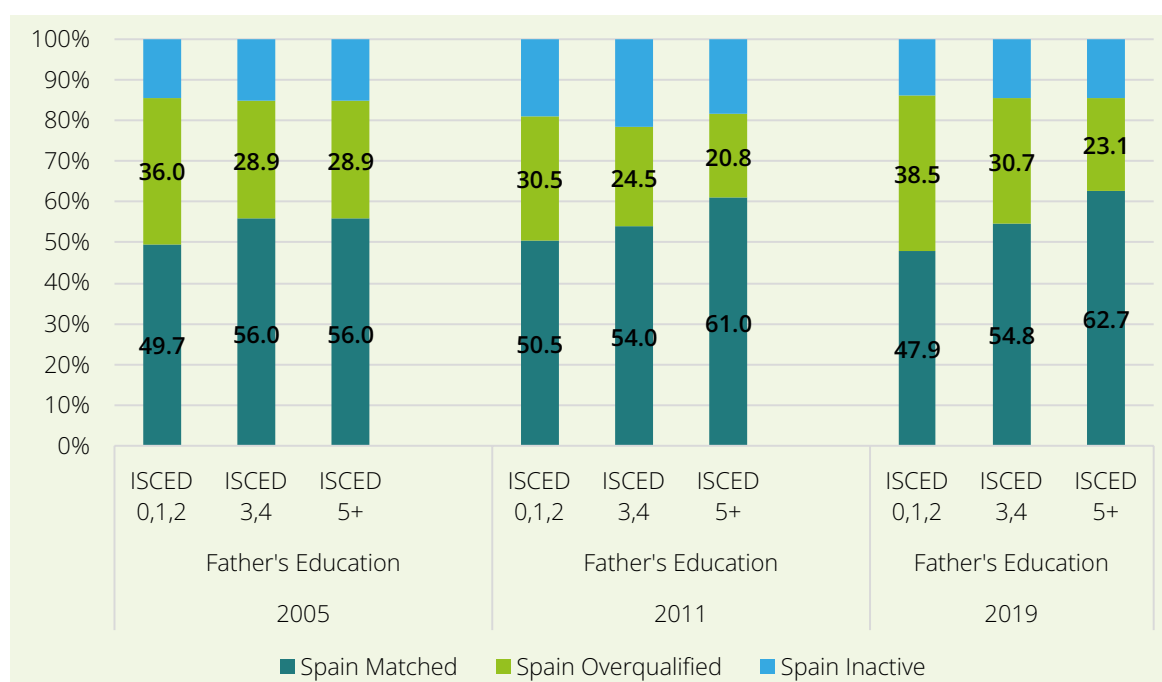
Chart 15 Labour Market Outcomes of Third Level graduates by Social Origin, Portugal**Chart 16 Labour Market Outcomes of Third Level graduates by Social Origin, Spain**

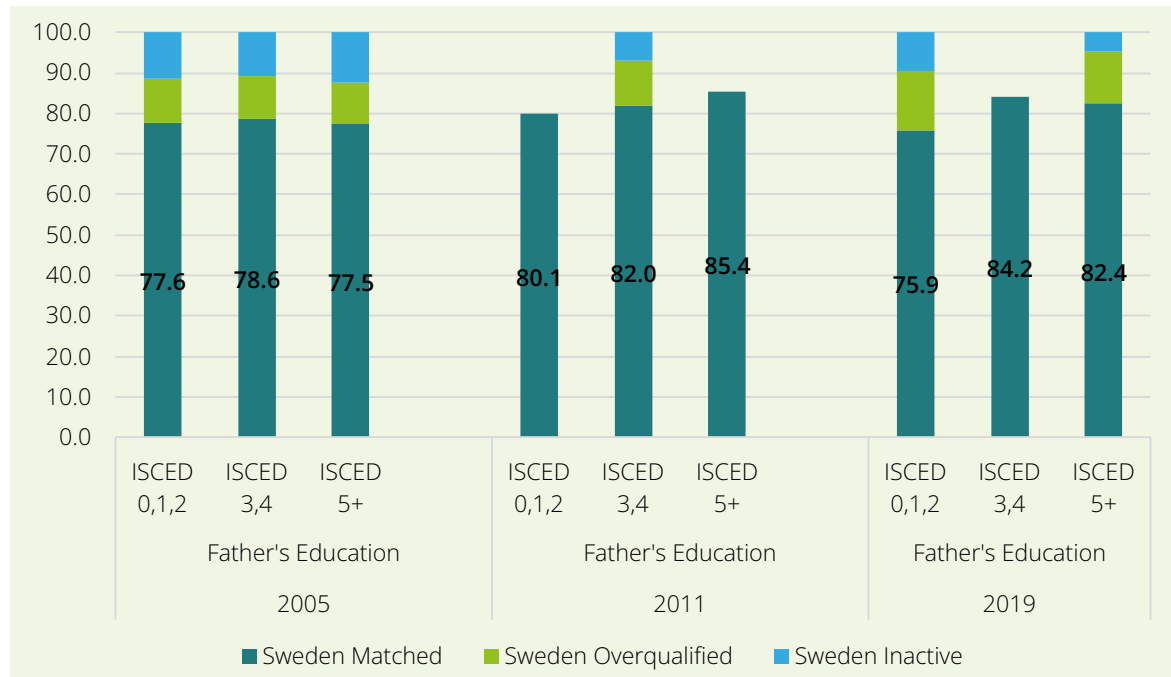
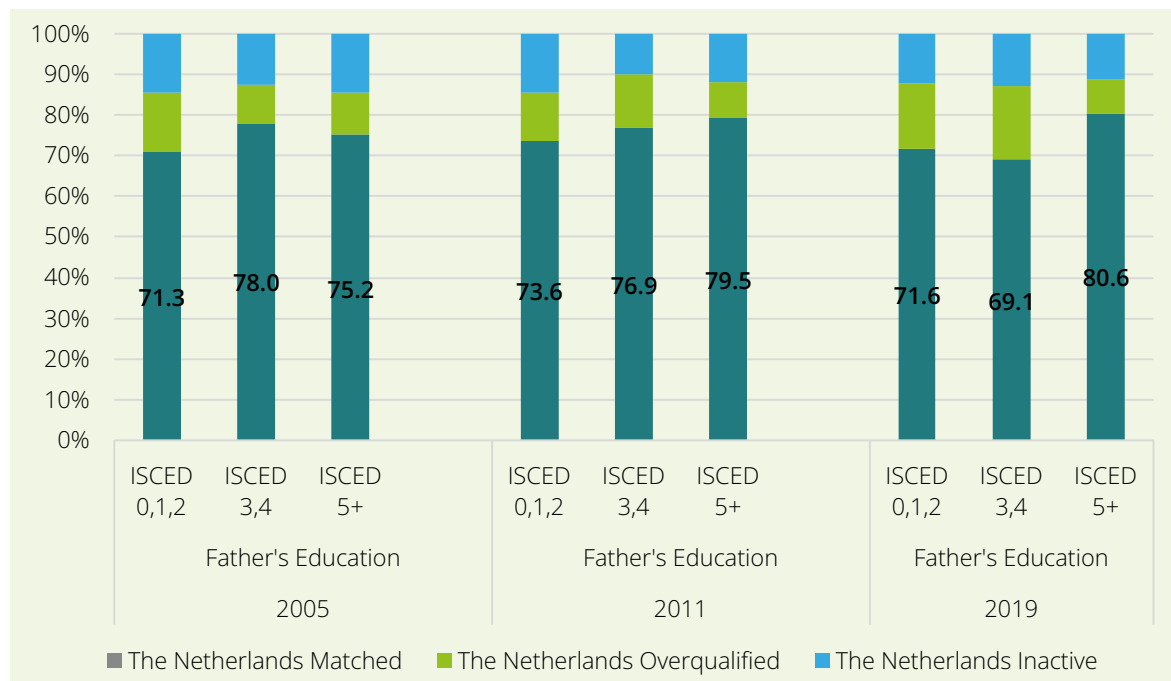
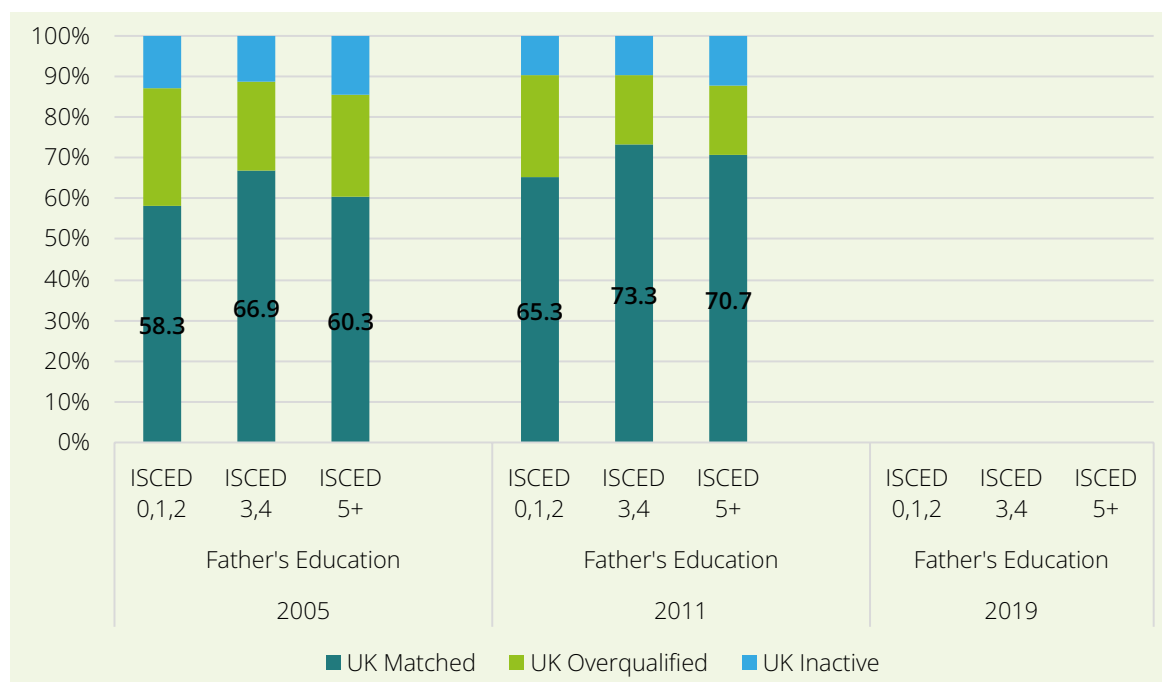
Chart 17 Labour Market Outcomes of Third Level graduates by Social Origin, Sweden**Chart 18 Labour Market Outcomes of Third Level graduates by Social Origin, Netherlands**

Chart 19 Labour Market Outcomes of Third Level graduates by Social Origin, UK





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