Monitoring Ireland’s Skills Supply
2017
Monitoring Ireland’s Skills Supply

A report by the Skills and Labour Market Research Unit (SLMRU) in SOLAS on behalf of the National Skills Council

2017

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Key points

Skills supply: profile of the population

- While there has been an increase in the younger age population (aged 5-19 years) since 2012, there has been a significant drop in the number of 20-29 year olds - due to both a drop in birth rates but also a rise in outward migration
- Noticeable change in migration patterns observed since 2015, with net inward migration particularly strong for both third level graduates and the 25-44 age cohort
- Increase in employment across all education levels but most pronounced for those with post-secondary education
- There were 60,000 females with third level qualifications who were on home duties in quarter 1 2017; this compares to fewer than 3,000 males
- EU comparison: Ireland has a higher share of young persons (aged 0-19 years) and a lower share of older persons (aged 50-64 years) in the population than the EU average

Skills supply: education and training outputs

- There were almost 221,500 awards spanning levels 1-10 on the NFQ in 2016
- Further education and training (FET): there were 33,100 QQI awards (NFQ 1-6) in 2016, a 22% decline on 2012
- Higher education: there were approximately 69,600 awards in 2016, an increase of 15% on 2012; increases were across all fields of learning, except engineering and construction
- First Destination Survey: the share of graduates in employment nine months after graduation has been increasing steadily since 2013 and, when compared to the previous year, was higher across most disciplines and levels
- For 25-29 year-olds, the higher the level of education attainment, the greater the share employed and the smaller the share unemployed; the share with third level qualifications continues to grow

Science & computing

- There has been an increase (40%) in the number of third level science and computing graduates when compared to 2012; when computing alone is considered, growth was even stronger (at 50%)
- When compared to the EU average (11%), Ireland has a greater share of graduates in science & computing (15%)
- Growth in inflows (CAO acceptances and postgraduate enrolments) between 2012 and 2016 was due mostly to growth in computing, with science remaining static
- Since inflows into the higher education system have continued to increase (particularly at level 8), graduate output growth looks set to continue in the short to medium term
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First Destination Survey: computing graduates had a far higher share in employment nine months after graduation than the overall; a higher than average share of science graduates went on to further education and training.

Engineering, manufacturing and construction
- Intake into craft (pre-2016) apprenticeship programmes has begun to recover, with over 3,700 new registrations in 2016.
- The downturn in the construction sector has affected output from higher education in this discipline; although there are signs that the decline has halted at levels NFQ 6 and 7, awards at level 8 have continued to fall (down by almost a half when compared to 2012).
- The overall number of CAO acceptances increased by 5% between 2012 and 2016; while total engineering acceptances remained static, construction acceptances grew by 25%; this may be expected to be reflected in increased output in the medium-term.
- Ireland’s share of third level graduates in this discipline was lower than the EU average.
- First Destination Survey: the share of third level engineering etc. graduates who were in employment nine months after graduation was higher than the average; the share of graduates employed overseas has fallen when compared to recent surveys.

Social science, business and law (SSBL)
- SSBL had the largest number of awards across all disciplines, making up a quarter of all FET and higher education awards in 2016.
- There are four new post 2016 apprenticeship programmes in the financial sector (levels 6-8).
- Inflows into the higher education system are mostly at levels 8-10; increases in enrolments at these levels in recent years should result in sustained growth in the number of graduates in the coming years.
- First Destination Survey: business and law graduates were more likely to be in employment nine months after graduation when compared with the overall average, while social science, journalism and law graduates were more likely to be in further education and training than the overall average.

Health and welfare
- Health and welfare awards account for the second highest number of awards (after SSBL) made across the FET and third level sectors.
- The increased number of CAO acceptances at level 8 (+6% compared to 2012) and the recent growth in enrolments on masters programmes is likely to be reflected in increased graduate output at levels 8 and 9 in the short-medium term.
- Ireland’s share of third level graduates in this discipline is higher than the EU average.
First Destination Survey: health and welfare graduates were more likely to be in employment nine months after graduation than the overall average with the share in employment in Ireland growing each year since 2013 across all levels.

Services
- This discipline accounted for a relatively small share of total higher education awards (7%), the majority at levels 6 and 7
- The number of CAO acceptances (levels 6-8) fell by 26% between 2012 and 2016 with declines across all NFQ levels
- First Destination Survey: outcomes for university graduates in this field nine months after graduation were broadly in line with the average outcomes, although the share seeking employment was higher than the average across all education levels

Arts and humanities
- 14% of all education/training awards in 2016 were made in the field of arts and humanities
- Ireland’s share of graduates in arts/humanities is the second highest in the EU, after the UK
- First Destination Survey: arts and humanities graduates tend to have a lower share in employment nine months after graduation than those from other disciplines, with over two-fifths of level 8 graduates engaged in further studies

Education
- The vast majority of awards are made at third level, mostly at level 8 and above
- There were almost 1,000 awards made by QQI to learners at non-HEA aided higher education institutions
- The decline in the number of honours degree and postgraduate qualifications is mostly related to the change in the duration of teacher training programmes
- First Destination Survey: the share of education graduates in employment in Ireland nine months after graduation was highest across all disciplines; the share of graduates employed overseas has been falling in recent years

Agriculture and vet
- The number of FET awards grew strongly (by 15%) between 2012 and 2016, mostly as a result of additional awards in agriculture at level 5
- The total number of awards made in higher education also grew strongly, although the numbers involved are small
1. Introduction

*Monitoring Ireland’s Skills Supply 2016* is the twelfth in a series of annual publications produced by the Skills and Labour Market Research Unit in SOLAS, and the first produced on behalf of the National Skills Council. The aim of this publication is to provide a skills profile of the population in terms of field of education and level. Such a skills profile shows the existing and potential pool of skills available to work in different sectors of the economy. The data covers the current skills of the population and outputs and outcomes from the education and training system. The analysis provided here can be used to inform decision making for those involved in government policy, education and training providers, employers, and employer support agencies, such as Enterprise Ireland and IDA.

1.1 Education and training awards, levels and field classifications

In this report, education data is classified according to the National Framework of Qualifications (NFQ), International Standard Classification of Education (ISCED) attainment levels and ISCED field of learning, depending on the source of the data.

The NFQ is a system of ten levels used to describe the Irish qualifications system. Each level is based on nationally agreed standards of knowledge, skill and competence and reflects what an individual is expected to know, understand and be able to do following successful completion of a process of learning. Almost all awards made through the state funded sector, and many in the private sector, have been placed on, or are aligned with, the NFQ.

The NFQ is not a classification of education and training programmes. Rather, it describes the awards (and associated learning outcomes) achieved on completion of certain programmes. ISCED attainment levels, on the other hand, are specifically designed to classify education and training programmes, taking into consideration various features including programme content, duration, and objectives (e.g. preparation for access to third level or for work in an occupation or a range of occupations etc.).

Data provided by the CSO and Eurostat is reported according to ISCED levels, detailing the highest level of education attained by individuals; in contrast, data from education and training providers is by NFQ level. Table 1.1 lists the main programme types in the Irish education and training system and their corresponding ISCED education attainment levels. The table also details the awards typically made to learners on successful completion of these programmes as well as the NFQ level at which these awards are usually made. It should be noted however that there is considerable overlap between the various categories (e.g. awards at Level 6 on the NFQ span both the further and higher education and training system; the Leaving Certificate award is placed across levels 4 and 5 on the NFQ). In addition, for presentation purposes, all postgraduate awards (e.g. higher diploma, masters, etc.) have been categorised with awards at levels 9/10.
Table 1.1 ISCED levels of education, main programmes in Irish education/training, typical awards and NFQ levels

<table>
<thead>
<tr>
<th>ISCED 2011 Level</th>
<th>Corresponds to:</th>
<th>Typical award</th>
<th>Award NFQ Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Pre-primary education</td>
<td>Early Start and other pre-primary</td>
<td>QQI Certificate</td>
<td>Level 1/2</td>
</tr>
<tr>
<td>1 Primary education</td>
<td>Primary education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Lower secondary</td>
<td>2nd level education – Junior Cycle</td>
<td>Junior Certificate</td>
<td>Level 3</td>
</tr>
<tr>
<td>3 Upper secondary</td>
<td>2nd level education – Senior Cycle</td>
<td>Leaving Certificate</td>
<td>Level 4</td>
</tr>
<tr>
<td>4 Post-secondary non-tertiary</td>
<td>Apprenticeship, PLC courses, other FET</td>
<td>QQI Level 5 Certificate</td>
<td>Level 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>QQI Advanced Certificate</td>
<td></td>
</tr>
<tr>
<td>5 Short-cycle tertiary education</td>
<td>Third level – higher certificate/university diploma/new post 2016 apprenticeship</td>
<td>Higher Certificate</td>
<td>Level 6</td>
</tr>
<tr>
<td>6 Bachelor’s degree or equivalent</td>
<td>Third level – ordinary &amp; honours bachelor degree/higher diploma/new post-2016 apprenticeship</td>
<td>Ordinary Degree</td>
<td>Level 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Honours Bachelor Degree</td>
<td>Level 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Higher Diploma</td>
<td>Level 8</td>
</tr>
<tr>
<td>7 Master’s degree or equivalent</td>
<td>Third level – master’s degree and postgraduate certs/diplomas new post - 2016 apprenticeship</td>
<td>Postgraduate Diploma</td>
<td>Level 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Master’s degree</td>
<td></td>
</tr>
<tr>
<td>8 Doctor or equivalent</td>
<td>PhD</td>
<td>PhD</td>
<td>Level 10</td>
</tr>
</tbody>
</table>

Source: Adapted from ISCED 2011 (UNESCO Institute of Statistics)

Fields of education, as reported by the Higher Education Authority, QQI and Eurostat are classified according to ISCED fields of education and training. The ISCED field of education categorises all education data into one of 11 broad fields (including general learning). For data from Eurostat, the field of education is available only for those individuals with post-secondary non-tertiary education attainment and above; however, all data from QQI and the HEA is categorised by ISCED field.

The most recent data reported by the HEA and QQI is based on the recently revised ISCED 2013; however, to allow for comparisons with previous years, the ISCED 1997 field of education classification have been used. Data was mapped by the SLMRU to ISCED 1997 (which uses nine rather than 11 fields of learning).

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1 Some FET programmes (e.g. some specific skills training) also lead to awards at level 3 or 4 on the NFQ.
1.2 Data

The data in this report is from the following sources:

- The Central Statistics Office (CSO): demographic data and the education attainment of those in the workforce and the population
- The State Examinations Commission (SEC): Leaving Certificate examination candidate numbers
- The Department of Education and Skills (DES): PLC course enrolment data
- The Central Applications Office (CAO): higher education course choice acceptances
- Quality and Qualifications Ireland (QQI): further education and training (QQI-FE) award data; QQI-higher education award data for those qualifying from non-HEA aided providers
- The Higher Education Authority (HEA): higher education enrolments and graduations; first destination survey data; non-progression rates among full-time new entrants in higher education
- The Higher Education Statistics Association (HESA): Irish-domiciled higher education graduates in the UK
- Eurostat: EU demographic data, employment and unemployment rates, and higher education graduates
- SOLAS: apprenticeships data

This report focuses on the most recent data available, and where possible, compares it with the situation observed five years earlier. Quarter 1 2017 CSO Quarterly National Household Survey (QNHS) data was used, with quarter 1 2012 as a comparison point. CAO acceptance data and QQI-FE awards data were available for 2016; at the time of writing, the latest available year for higher education data was 2016 (awards data) and 2015/2016 for enrolment data.

Note: for ease of reading, the post-secondary non-tertiary education category (e.g. PLC course or craft (pre 2016) apprenticeship level education and training) will be referred to as post-secondary level. A small number of the new post 2016 apprenticeships also fall into the post-secondary non-tertiary level; however, since many of these new apprenticeships lead to third level (rather than FET) awards, they are excluded from the post-secondary level education category.
2. Skills supply: profile of the population

Key points

- While there has been an increase in the younger age population (aged 5-19 years) since 2012, there has been a significant drop in the number of 20-29 year olds - due to both a drop in birth rates but also a rise in outward migration
- Noticeable change in migration patterns observed since 2015, with net inward migration particularly strong for both third level graduates and the 25-44 age cohort
- Increase in employment across all education levels but most pronounced for those with post-secondary education
- There were 60,000 females with third level qualifications who were on home duties in quarter 4 2017; this compares to fewer than 3,000 males
- EU comparison: Ireland has a higher share of young persons (aged 0-19 years) and a lower share of older persons (aged 50-64 years) in the population than the EU average

The aim of this chapter is to provide an overview of the education profile of Ireland’s population. The age and education levels of the population are detailed along with how these variables impact labour market activity.

2.1 Profile of the population

How has the population profile changed since 2012?

The population in Ireland of those aged between 0 and 64 years stood at 4.07 million, a rise of over 32,000 since the first quarter of 2012. Figure 2.1 shows that between quarter 1 2012 and quarter 1 2017, there were considerable differences across age cohorts, as follows:

- an additional 55,000 young persons (aged 0-14 years), which will have a direct impact on education provision in the coming years
- a drop of over 120,000 (or 20%) in the number of 20-29 year olds in the population
- an ageing of the older population cohorts i.e. particularly from 40 years onwards (+115,000 persons).

![Figure 2.1 Population change by age group (0-64) between quarter 1 2012 and quarter 1 2017](source: SLMRU (SOLAS) analysis of CSO data)
Trends in migration: who is most affected in terms of age and education level?

- The significant fall in the number of 20-29 year olds observed in the population between 2012 and 2017 is partly due to a fall in the number of births in the 1990s, although outward migration is shown in Figure 2.2 to have negatively affected those aged 15-24 and 25-44 far more than any other age group prior to 2014.

- Since 2015, net migration has been positive for those aged 25-44, reaching 13,500 in 2016; the rise in net inward migration for 15-24 year olds has been less pronounced, with gains of 2,400 in 2017.

- Figure 2.3 shows that net inward migration of third level graduates has occurred since 2012; while an estimated 25,000 third level graduates emigrated in the year to April 2017, there was an inflow of almost 50,000 third level graduates over the same time period; net migration remained negative for those with higher secondary education or less over the period examined.

Figure 2.2 Net migration estimates by age group (0-64), 2011-2017

Figure 2.3 Net migration estimates by level of education, 2011-2017

Source: CSO Population and Migration Estimates April 2017

* Data for 2017 is preliminary; Migration data was revised based on the Census 2016 figures
2.2 Education level

This section details the education profile of the population by age and labour market status. A detailed breakdown of the population with post-secondary or third level education is also provided, along with corresponding employment rates and how this has changed over time.

What is the education profile of the population and how does this vary by age?

In quarter 1 2017, the majority of those aged 0-19 years had yet to complete their formal education; for this reason, those aged 0-19 years are excluded from further analysis. Figure 2.4 shows that in quarter 1 2017,

- of those aged 20-24, over half had attained at most upper secondary education; this is related to the fact that many in this age group are still in the education system, including at third level
- over a half of those in the age groups between 25 and 39 years held a third level qualification; for each five-year age groups from 40 years onwards, the share of third level graduates declined, falling to 26% for the 60-64 age cohort
- in terms of post-secondary education, little variation was observed in the share, with an average of 13% in each age cohort from 20 years onwards.

![Figure 2.4 Population by age group (0-64) and level of education, quarter 1 2017](source)

Source: SLMRU (SOLAS) analysis of CSO data

How the drop in population affected 20-29 year olds in terms of education: between quarter 1 2012 and quarter 1 2017, the drop in the number of persons aged 20-29 years in the population occurred across all levels of education but was particularly noticeable for those with upper secondary education or less (-65,000) and third level qualifications (-30,000) (Figure 2.5).

There is a continuing shift in the education profile towards higher educational attainment for those aged 30 years and over: while the overall number of 30-39 year olds declined by over 32,000 between quarter 1 2012 and quarter 1 2017, the number of persons in this age cohort with third level qualifications increased marginally.
What impact does a person’s level of education have on employment activity and has this changed over time?

Population change:
- The numbers in the population (aged 20-64) with post-secondary/third level education grew between quarter 1 2012 and quarter 1 2017, most significantly for those with third level qualifications at NFQ 6/7 (e.g. higher certificate/diploma/ordinary degree) and NFQ 9/10 (e.g. masters, PhDs) levels, each of which grew by over 50,000.
- In contrast, the number of persons with NFQ 8 qualifications fell over the period by 38,000; this was due to a combination of factors including demographics, migration and a higher share of persons continuing on to post-graduate studies.

Employment change:
- For both time periods, the higher the level of education the higher the share in employment.
- The share in employment grew over the period examined for all levels of education but was most pronounced for those with post-secondary education, rising by almost eleven percentage points to 74.1% in quarter 1 2017.
Table 2.1 All post-secondary/third level graduates (aged 20-64) by detailed education level (NFQ) and % in employment, quarter 1 2012 and quarter 1 2017

<table>
<thead>
<tr>
<th>NFQ level</th>
<th>Q1 2012</th>
<th>Q1 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% in employment</td>
</tr>
<tr>
<td>Post-sec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFQ 5/6(FE T)</td>
<td>357,000</td>
<td>63.2%</td>
</tr>
<tr>
<td>Third level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFQ 6(HE)/7</td>
<td>376,400</td>
<td>73.7%</td>
</tr>
<tr>
<td>NFQ 8</td>
<td>466,600</td>
<td>80.7%</td>
</tr>
<tr>
<td>NFQ 9/10</td>
<td>190,000</td>
<td>82.9%</td>
</tr>
<tr>
<td>Total</td>
<td>1,389,900</td>
<td>74.6%</td>
</tr>
</tbody>
</table>

Source: SLMRU (SOLAS) analysis of CSO data

Does a person’s employment status vary depending on gender and is this different across levels of education?

The breakdown by gender for quarter 1 2017 (Figure 2.6) shows a significant difference in the employment status of males and females.

- **Employed:** for all education levels, males had a higher share of persons in employment, with the largest gap between those with upper secondary education or less (a 20 percentage point gap) and the smallest gap for those with third level qualifications (at eight percentage points).

- **Unemployed:** females with upper secondary education or less or third level education were less likely to be categorised as unemployed; the shares were equal for those with post-secondary education.

- **Not active:** females were far more likely to be classified as not active in the labour market, particularly in the case of those with upper secondary education or less; at 60%, not active females across all education levels were most likely to be engaged in home duties (compared to 3% for males), whereas males were more likely to be classified as students or unable to work due to sickness/disability.

- **Between quarter 1 2012 and quarter 1 2017,** the share in employment increased across all levels of education and gender, but was most pronounced for males at post-secondary level.

There were 60,000 females with third level qualifications who were on home duties in quarter 1 2017; this compares to fewer than 3,000 males.
How does the education profile differ depending on the occupation/sector a person is employed in?

**Occupations:** Figure 2.7 shows that of those in employment in quarter 1 2017,
- at 95%, those who worked in professional occupations had the highest share of persons with third level qualifications, followed by associate professionals (70%) and managers (58%); of those in elementary occupations, 20% held third level qualifications
- skilled trades and caring occupations had the largest share of persons whose highest level of education was post-secondary
- between a fifth of those who were employed in skilled trades, operatives and elementary occupations held lower secondary education or less.

**Sectors:** Figure 2.8 shows that in quarter 1 2017,
- over 75% of persons employed in the education, professional activities, ICT and financial services sectors held third level qualifications
- the construction sector had the greatest share of persons whose highest level of education was post-secondary, at 29%
- those employed in transportation and storage and agriculture had the highest share of persons who had attained upper secondary education or less.
Figure 2.7 Employment by highest level of education & occupation, (20-64 yr olds), quarter 1 2017

Post-secondary
- Managers
- Professionals
- Assoc. prof.
- Admin
- Skilled trades
- Personal services
- Sales
- Operatives
- Elementary

Third level
- Managers
- Professionals
- Assoc. prof.
- Admin
- Skilled trades
- Personal services
- Sales
- Operatives
- Elementary

Source: SLMRU (SOLAS) analysis of CSO data
Note: the not stated category is excluded from these graphs

Figure 2.8 Employment by highest level of education & sector, (20-64 year olds), quarter 1 2017

Post-secondary
- Agriculture, forestry & fishing
- Industry
- Construction
- Wholesale & retail trade
- Transportation & storage
- Accommodation and food services
- Financial, insurance & real estate
- Professional, scientific & technical
- Administrative & support service
- Public administration & defence
- Education
- Human health & social work
- Other NACE activities

Third level
- Agriculture, forestry & fishing
- Industry
- Construction
- Wholesale & retail trade
- Transportation & storage
- Accommodation and food services
- Information & communication
- Financial, insurance & real estate
- Professional, scientific & technical
- Administrative & support service
- Public administration & defence
- Education
- Human health & social work
- Other NACE activities

Source: SLMRU (SOLAS) analysis of CSO data
Note: the not stated category is excluded from these graphs
2.3 EU comparison

This section examines how Ireland compares to the EU 28 average in terms of the age of the population, the education breakdown and how this impacts employment and unemployment rates.

How does Ireland’s age profile compare to the EU?

Figure 2.9 shows that in 2016, for the population aged 0-64 years,

- Ireland’s share was larger than the EU average for the very young (i.e. less than 20 years), but smaller than the EU average for older cohorts (45 years and over).
- At 5.9% and 7.3% respectively, the share of people in Ireland aged 20-24 and 25-29 years was also smaller than the EU average (7.1% and 7.8%).
- Ireland also has a small share persons in the 45-64-year cohort (34% for the EU average compared to 27.5% for Ireland).

Education profile: Ireland had the highest share of third level graduates in EU

Figure 2.10 compares the distribution of adults (aged 18-64 years) for Ireland and the EU 28 average by the highest level of education attained. In 2016,

- At 40%, Ireland had the highest share of third level graduates amongst the EU 28 countries and was well in excess of the EU 28 average (28.5%).
- Since 2011, while the share of third level graduates increased across both the EU 28 and Ireland, the gain was greater for Ireland, at five percentage points.
- Ireland saw a greater fall (almost six percentage points) in the share of persons with lower secondary education or less since 2011 compared to the EU 28 average (which fell by four percentage points).
Ireland has a lower employment rate across all education levels compared to EU 28 average

Figure 2.11 shows the employment rates for the adult population by highest level of education over the period 2011 to 2016

- In 2016, at all levels of education, Ireland’s employment rate was lower than the EU 28 average
- The employment rate across each education level has been increasing both for Ireland and for the EU 28 on average

Unemployment rates in Ireland are lower than the EU 28 average in most cases

- In 2016, the unemployment rate in Ireland for those with lower secondary or less education attainment and those with third level qualifications were lower than that of the EU 28
- Until 2015 Ireland’s unemployment rates were higher than the EU 28 average, regardless of education attainment level; while there have been improvements for lower secondary or less and third level categories in Ireland, the unemployment rate for those with upper secondary/FET education in Ireland remains higher than the EU average; however the gap between Ireland and the EU 28 average has narrowed with just a one percentage point gap in 2016, compared to almost three percentage points in 2015.
Figure 2.11 Employment and unemployment rates (%) for adults (20-64 years) by highest education level attained, EU 28 average and Ireland, 2011-2016

<table>
<thead>
<tr>
<th>EU 28 average: Employment rates (%)</th>
<th>Ireland: Employment rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower secondary or less (NFQ 1-3)</td>
<td>82.1</td>
</tr>
<tr>
<td>Upper/post-secondary (NFQ 4-6)</td>
<td>64.8</td>
</tr>
<tr>
<td>Third level (NFQ 6-10)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Eurostat

<table>
<thead>
<tr>
<th>EU 28 average: Unemployment rates (%)</th>
<th>Ireland: Unemployment rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower secondary or less (NFQ 1-3)</td>
<td>16.0</td>
</tr>
<tr>
<td>Upper/post-secondary (NFQ 4-6)</td>
<td>8.6</td>
</tr>
<tr>
<td>Third level (NFQ 6-10)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Eurostat
3. Skills supply: education and training outputs

Key points

- There were almost 221,500 awards spanning levels 1-10 on the NFQ in 2016 (Table 3.1)
- Second level: there were over 60,200 Junior Certificate sits and 58,500 Leaving Certificate sits in 2016
- Further education and training (FET): there were 33,100 QQI awards (NFQ 1-6) in 2016, a 22% decline on 2012 (when QQI FET awards were at their peak levels); compared to 2015, there were 3% more FET awards
- Higher education: there were approximately 69,600 awards in 2016, an increase of 15% on 2012; increases were across all fields of learning, except engineering and construction
- First Destination Survey (FDS): the share of graduates in employment nine months after graduation has been increasing steadily since 2013 and, when compared to the previous year, was higher across most disciplines and levels
- For 25-29 year-olds, the higher the level of education attainment, the greater the share employed and the smaller the share unemployed; the share with third level qualifications continues to grow.

Table 3.1 Summary of further and higher education and training awards by provider, 2016

<table>
<thead>
<tr>
<th>Field</th>
<th>NFQ 1/2</th>
<th>NFQ 3</th>
<th>NFQ 4</th>
<th>NFQ 5</th>
<th>NFQ 6</th>
<th>NFQ 7</th>
<th>NFQ 8</th>
<th>NFQ 9/10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEC (Junior Cert)</td>
<td>-</td>
<td>60,247</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>60,247</td>
</tr>
<tr>
<td>SEC (Leaving Cert)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>58,466</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>58,466</td>
</tr>
<tr>
<td>QQI-FE (Major awards)</td>
<td>1,337</td>
<td>1,604</td>
<td>1,986</td>
<td>22,181</td>
<td>6,036</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>33,144</td>
</tr>
<tr>
<td>Institutes of technology</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4,916</td>
<td>7,710</td>
<td>11,389</td>
<td>2,928</td>
<td>26,943</td>
</tr>
<tr>
<td>Universities/colleges</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,791</td>
<td>1,842</td>
<td>20,121</td>
<td>17,936</td>
<td>42,690</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,337</td>
<td>61,851</td>
<td>82,633</td>
<td>13,743</td>
<td>9,552</td>
<td>31,510</td>
<td>20,864</td>
<td>102,777</td>
<td></td>
</tr>
</tbody>
</table>

Source: State Examinations Commission (SEC); Quality & Qualifications Ireland (QQI); Higher Education Authority (HEA)

Table 3.2 Summary of further and higher education and training awards by field, 2016

<table>
<thead>
<tr>
<th>Field</th>
<th>NFQ 1/2</th>
<th>NFQ 3</th>
<th>NFQ 4</th>
<th>NFQ 5</th>
<th>NFQ 6</th>
<th>NFQ 6 &amp; FET</th>
<th>NFQ 6 &amp; HE</th>
<th>NFQ 7</th>
<th>NFQ 8</th>
<th>NFQ 9/10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>1,337</td>
<td>815</td>
<td>193</td>
<td>-</td>
<td>-</td>
<td>428</td>
<td>18</td>
<td>1</td>
<td>51</td>
<td>2,843</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>19</td>
<td>289</td>
<td>216</td>
<td>1,897</td>
<td>2,900</td>
<td>5,322</td>
<td></td>
</tr>
<tr>
<td>Arts/humanities</td>
<td>-</td>
<td>594</td>
<td>767</td>
<td>2,066</td>
<td>554</td>
<td>814</td>
<td>942</td>
<td>6,310</td>
<td>1,958</td>
<td>14,005</td>
<td>25,617</td>
</tr>
<tr>
<td>SSBL</td>
<td>-</td>
<td>194</td>
<td>544</td>
<td>4,153</td>
<td>584</td>
<td>2,297</td>
<td>2,070</td>
<td>7,989</td>
<td>7,786</td>
<td>25,617</td>
<td></td>
</tr>
<tr>
<td>Science &amp; computing</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>806</td>
<td>286</td>
<td>693</td>
<td>1,515</td>
<td>5,022</td>
<td>2,685</td>
<td>11,007</td>
<td></td>
</tr>
<tr>
<td>Engineering &amp; const.</td>
<td>-</td>
<td>1</td>
<td>12</td>
<td>429</td>
<td>1,232</td>
<td>1021</td>
<td>1,845</td>
<td>2,758</td>
<td>1,240</td>
<td>8,538</td>
<td></td>
</tr>
<tr>
<td>Agri &amp; veterinary</td>
<td>-</td>
<td>-</td>
<td>232</td>
<td>2,724</td>
<td>547</td>
<td>57</td>
<td>386</td>
<td>561</td>
<td>127</td>
<td>4,634</td>
<td></td>
</tr>
<tr>
<td>Health &amp; welfare</td>
<td>-</td>
<td>-</td>
<td>35</td>
<td>9,353</td>
<td>2,294</td>
<td>1,290</td>
<td>1,326</td>
<td>5,968</td>
<td>3,782</td>
<td>24,048</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>-</td>
<td>-</td>
<td>203</td>
<td>2,649</td>
<td>520</td>
<td>818</td>
<td>1,234</td>
<td>1,004</td>
<td>335</td>
<td>6,763</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,337</td>
<td>1,604</td>
<td>1,986</td>
<td>22,181</td>
<td>6,036</td>
<td>7,707</td>
<td>9,552</td>
<td>31,510</td>
<td>20,864</td>
<td>102,777</td>
<td></td>
</tr>
</tbody>
</table>

Source: QQI (QQI-FET major awards); HEA
3.1 Leaving Certificate (LC) candidates

- The Department of Education and Skills (DES) estimates that of all those who entered first year at second level in 2009, 90.2% sat the Leaving Certificate examination in either 2014 or 2015.
- There were approximately 58,500 Leaving Certificate candidates in 2016, which is 1% more than in 2015 and 8% more than in 2007 (Figure 3.1).
- In 2016, 70% of all candidates took the Leaving Certificate Established (LCE), 25% the Leaving Certificate Vocational Programme (LCVP) and the remaining 5%, the Leaving Certificate Applied programme (LCA). This distribution is broadly in line with previous years.

Figure 3.1 Leaving Certificate candidates (000s) by programme type, 2004-2016

Source: State Examinations Commission

3.1.1 Mathematics

Of the 55,700 candidates who took the LCVP or LCE programmes in 2016, 97% sat the examination in mathematics; this take-up rate is broadly in line with previous years. Figure 3.2 shows that

- there were more than 54,200 sits in Leaving Certificate mathematics in 2016, the highest numbers over the ten-year period 2007-2016, growth which is mostly attributable to a rise in the number of Leaving Certificate candidates overall
- the higher level participation rate in mathematics increased from 16% to 28% over the period 2010-2016; combined with an increase in the total Leaving Certificate candidate numbers, this has resulted in over 6,800 additional students taking mathematics at higher level when compared to 2010
- provisional data for 2017 shows further increases in both the higher level participation rate (to 30%) and the numbers taking higher level maths (almost 16,400 learners took higher level).
- despite the increase in participation, the share of Leaving Certificate students at higher level in mathematics is by far the lowest of all Leaving Certificate subjects (for most subjects at least one half of all students take the higher level paper).
3.2 Further education and training (FET) awards

Within the FET system, there is a diverse range of courses and programmes, offered through various providers, mostly Education and Training Boards (ETBs). Learners who successfully complete FET programmes may be awarded one or more certificates from a range of awarding bodies, such as Quality and Qualifications Ireland (QQI), City and Guilds or other professional awards (e.g. Cisco). In this report, analysis of FET awards is confined to awards made by QQI.

Data from QQI shows that in general each learner received only one major award; in contrast learners may receive more than one minor award; they may also receive more than one award type. Therefore, in this report, in order to avoid double-counting, FET awards data is confined to major awards only.

There were over 33,100 QQI awards made to learners in the FET sector in 2016, 3% more (or over 800 additional awards) than in 2015; compared to 2012 however, the number of awards fell by more than a fifth. Most of this decline occurred between 2013 and 2014, and was the result of a combination of factors including the introduction of the Common Awards System and an increase in the number of awards made by other awarding bodies.

**Field:** the distribution of awards by field shifted slightly between 2012 and 2016; the share of awards in health/welfare fell from 40% to 35%, amounting to 5,400 fewer awards; the share of awards in engineering, manufacturing and construction also declined, going from 10% to 5% of the total (2,400 fewer awards). In contrast, there were gains in the share of arts/humanities (up from 8% to 12%), agriculture/vet and services (up from 7% to 11%), and services (up from 7% to 10%).

When compared to 2015, the distribution of awards by field in 2016 was broadly similar.

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**Figure 3.2 Total candidate numbers and higher level participation (%) in mathematics, 2007-2016**

Source: State Examinations Commission
Level: In any given year, the highest number of awards was made at level 5. However, when compared to 2014, there has been a continued shift towards higher attainment levels: the share of awards made at levels 1-3 declined from 15% in 2014 to 9% in 2016; at the same time, the share of awards at levels 5 and 6 increased to 85% (up from 78% in 2014). Figure 3.3 summarises FET major awards by level and field over the period 2012-2016.

- **Levels 1-4**
  - There were approximately 5,000 major awards in 2016, approximately 600 fewer than in 2015; almost 75% of these awards were for general learning or employability skills.

- **Level 5**
  - Following declines in 2013 and 2014, the number of awards at this level increased by almost a fifth between 2014 and 2015 and by a further 7% in 2016; the total number in 2016 (22,200), however, remains well below the numbers observed in 2012 (26,700)
  - As in preceding years, the highest number of awards at this level was for health and welfare (e.g. healthcare support, childcare, nursing studies), followed by social science, business & law (e.g. business studies/business admin).

- **Level 6**
  - At over 6,000 in 2016, the number of level 6 awards was just under half that in 2012.
  - In 2016, the highest number of awards at this level was in health/welfare, followed by engineering etc.; changes in the distribution of level 6 awards by field are related to broader labour market conditions and education policies: the impact of the collapse of the construction sector and the introduction of the ECCE free pre-school year, for example, meant that the share of engineering and construction awards fell from 30% to 20% between 2012 and 2016 while the share of awards in health and welfare (which includes childcare) at this level remained at 38%.

Figure 3.3 QQI (FET) major awards by field of learning, 2012-2016

![Figure 3.3 QQI (FET) major awards by field of learning, 2012-2016](source: QQI (FET))
3.3 Higher education awards

There were 69,600 higher education awards (NFQ 6-10) made to learners at institutes of technology (IoTs) and universities (including colleges) in 2016. Over the period 2012-2016, the number of awards grew by almost 9,000, or 15%. Increases occurred across most fields of learning, but were strongest, in absolute terms, for science and computing (almost 2,800 additional awards), health/welfare (an extra 2,500 awards), and social science, business and law (approximately an extra 2,100 awards). Engineering and construction was the only field where the number of awards declined (over 400 fewer awards).

- **Level 6**: 11% of all higher education awards in 2016 were made at this level, up from an 8%-9% share in the preceding years. Awards were concentrated in social science, business and law, health and welfare, and engineering etc., which combined made up 60% of all level 6 awards in higher education.

- **Level 7**: awards at this level made up 14% of all higher education awards in 2016, down slightly from 15%-16% in preceding years. Awards were made across a range of disciplines, with the highest numbers in social science, business and law (over 2,000), engineering, etc. (more than 1,800) and science and computing (1,500).

- **Level 8**: 45% of all higher education awards were made at this level in 2016; although the number of awards increased between 2012 and 2016 (peaking at 31,510 in 2016), level 8 awards as a proportion of all higher education awards have declined (down from 48% in 2012); almost two thirds of awards were made in one of three fields: social science, business & law, health/welfare or arts/humanities.

- **Level 9/10**: in 2016, 27% of awards (or 19,300) were at level 9 with a further 3% (or almost 1,600) at level 10. The number of awards at each of these levels increased when compared to 2012 (by 24% at level 9 and by 2% at level10).
  - Level 9 awards were concentrated in the fields of social science business and law (39%), health/welfare (18%) and education (15%), broadly in keeping with the distribution in earlier years (2015, however, is an exception as education awards declined due to the introduction of an additional year for teacher training).
  - the highest number of level 10 awards was for science and computing, which at 444 awards made up over a quarter of all PhDs awarded in 2016; however, this is a decline from a 32% share in 2015 and a 37% share in 2013.

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In this report, higher diplomas have been included with other postgraduate awards at levels 9/10.
Beyond universities, colleges and IoTs, other higher education providers (e.g. private, independent colleges, detailed in Appendix A) run programmes, including some SpringBoard programmes, leading to QQI higher education awards spanning levels 6-9 on the NFQ (Table 3.3). In 2016,

- there were over 5,400 major awards in the higher education outside the HEA-aided sector; this number is 12% greater than in 2015 (amounting to 550 additional awards),
- social science, business and law (SSBL) had the highest number of awards at 2,080; this was followed by awards in education (992) and science and computing (785)
- with the exception of the engineering, etc, services and health and welfare fields, the highest number of awards for each field was at level 8.

Table 3.3 QQI higher education awards made to learners outside the HEA-aided sector, 2016

<table>
<thead>
<tr>
<th>Field</th>
<th>NFQ 6</th>
<th>NFQ 7</th>
<th>NFQ 8</th>
<th>NFQ 9</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>4</td>
<td>34</td>
<td>551</td>
<td>403</td>
<td>992</td>
</tr>
<tr>
<td>Arts/humanities</td>
<td>4</td>
<td>75</td>
<td>145</td>
<td>8</td>
<td>232</td>
</tr>
<tr>
<td>SSBL</td>
<td>115</td>
<td>239</td>
<td>1,243</td>
<td>483</td>
<td>2,080</td>
</tr>
<tr>
<td>Science &amp; computing</td>
<td>73</td>
<td>47</td>
<td>484</td>
<td>181</td>
<td>785</td>
</tr>
<tr>
<td>Engineering, manufacturing &amp; const.</td>
<td>54</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and welfare</td>
<td>3</td>
<td>173</td>
<td>95</td>
<td>165</td>
<td>436</td>
</tr>
<tr>
<td>Services</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>Unclassified</td>
<td>18</td>
<td>34</td>
<td>611</td>
<td>155</td>
<td>818</td>
</tr>
<tr>
<td>Total</td>
<td>217</td>
<td>671</td>
<td>3,114</td>
<td>1395</td>
<td>5,427</td>
</tr>
</tbody>
</table>

Source: QQI
3.4 Future outlook
The future supply of skills to the labour market stemming from the education/training system will depend, in part, on inflows to FET and higher education programmes in earlier years. Inflows into FET and higher education in turn depend on various factors including the size of the relevant school leaving cohort, transfer rates to FET and higher education as well as opportunities for older learners to return to education. The focus of this section therefore is (a) the typical paths taken by school leavers on completing education and (b) the current trends in enrolments and applications relevant to the selected FET and higher education courses.

Paths taken by school leavers
On completion of the Leaving Certificate, learners have a number of options, including repeating the Leaving Certificate, progressing to other education options (e.g. FET or third level), entering the labour market, etc. Figure 3.5 shows the estimated share of learners who progress to each of these destinations.3

Three quarters of school leavers tend to remain in education and training: 52% progress to higher education either in Ireland or abroad (mostly UK) and 23% progress to further education and training (mostly to PLC courses). Just 14% opt to enter the labour market. (The 5% 'other' category includes emigration, seasonal work abroad and all other categories.)

Figure 3.5 Paths taking by school completers on leaving second level schools in Ireland

Sources: SLMRU analysis of DES data

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3 These shares are based on the “School Completers - What Next?” report (DES 2016), which looked at the destination of school completers (i.e. learners enrolled in 2010/11 but not in 2011/12 in post-primary schools). It should be borne in mind that these shares may have altered in the intervening years (e.g. a recovering economy and more job opportunities may lead to increased labour market participation).
FET inflows

Inflows to Post Leaving Certificate (PLC) courses

Figure 3.6 shows the number of learners enrolled in year one of PLC courses by field.

- In 2015, of the almost 30,000 year one enrolments, services (e.g. sports, beauty therapy etc.) accounted for 21% and health and welfare accounted for 20%.
- The number of year one enrolments fell annually between 2010 and 2015, amounting to 3,700 fewer learners; much of the decline (approximately 2,500 fewer learners each) was in arts/humanities and SSBL.
- The decline in the health and welfare category relates to the discontinuation of community health services in childcare courses; however, at the same time, there was a corresponding rise in the number of childhood care/education courses (categorised in the education field).

Inflows to apprenticeship (craft - pre-2016)

In Ireland, apprenticeship training is currently concentrated in the broad field of engineering, manufacturing and construction. Figure 3.7 shows the number of new registrations for craft apprenticeships. The number of new apprentices declined significantly with the onset of the economic crisis in 2007 (falling to 1,200 in 2010); since then, numbers have begun to increase (Figure 3.7), although at 3,700 in 2016, they remain well below the peak of 8,300 observed in 2006.

Following a review in 2013 (DES), it was decided to expand the apprenticeship system. An Apprenticeship Council was established in 2014, supported by SOLAS and the HEA, and a national Call for Proposals issued in January 2015. Following receipt of 86 proposals from industry-led groups, in July 2015 the Minister for Education and Skills announced development of an initial 25 of these proposals, and by quarter 4 2016, the first intake for these new apprenticeships had begun. At
the time of writing, there were nine new non-craft apprenticeships⁴, with a further 16 in development (See Appendix B for the most recent list).

The 2017 Call for Apprenticeship Proposals, which opened on 4th May and closed on 1st September, resulted in a range of proposals in different areas. These are currently being assessed and recommendations will be made to the Minister for Education and Skills for consideration and approval by November 2017.

Higher education inflows

CAO acceptances for undergraduate courses
There were over 47,600 CAO acceptances across levels 6-8 in 2016, a decline of 1% since 2015, but a 3% increase on 2012. CAO acceptance data (Figure 3.8) for those entering third level education between 2012 and 2016 shows that

- at levels 6 and 7, the number of acceptances have been declining annually over the period examined, with declines primarily in engineering, manufacturing and construction, services, and SSBL
- the number of acceptances on level 8 courses has been increasing steadily in recent years, partially offsetting declines at levels 6/7; the growth related mostly to increases in acceptances for courses in SSBL.

Postgraduate enrolments
There were approximately 36,600 postgraduate enrolments, spanning NFQ levels 9 and 10, in 2015. When compared with 2011, overall enrolments increased by 8%; this was due to an increase in the number of enrolments on masters programmes (Figure 3.9). In terms of disciplines, in 2015

- postgraduate cert/diploma enrolments were primarily in SSBL, health and education
- masters programmes, at over 21,000, accounted for the majority of all postgraduate enrolments and were primarily in SSBL but also featured strongly in education, health/welfare, and science/computing
- science/computing had the highest number of PhD enrolments, at approximately 2,200.

⁴ List of apprenticeships (current and in development); downloaded October 16th 2017
How many first year students (full-time) progressed to year two of their course at third level?

Research carried out by the HEA (2017)\(^5\) shows that 15\% of full-time undergraduate new entrants in 2013/14 did not progress to their second year of study in 2014/15. This is an improvement on the preceding year, when the rate was 16\%. Non-progression rates tend to vary by NFQ level and field of study.

- **Level**: those enrolled on level 8 programmes had the lowest non-progression rate, at 11\% (compared to 30\% at level 6 (IoTs)); the rate was even lower for those enrolled on level 8 programmes at universities (10\%) and colleges (4\%).

- **Field** (Figure 3.10): the highest non-progression rates were observed for those enrolled on construction related courses (28\%), followed by services, engineering, and computer science (each at 22\%); at 4\% and 9\% respectively, learners enrolled on education or healthcare courses had non-progression rates that were well below the average.

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3.5 First destination of graduates

This section focuses on the economic status of those who have recently attained post-secondary or higher education qualifications. The data sources are the HEA’s First Destination Survey (FDS) and the CSO’s Quarterly National Household Survey (QNHS). The FDS shows the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation in order to provide an overview of the destination of those recently completing third level programmes. Data from the CSO’s QNHS examines qualification holders (both post-secondary and third level) aged 25-29 years as these are considered to be the closest proxy to recent graduates.

HEA’s First Destination Survey (FDS)

Figure 3.11 from the HEA’s FDS report shows that

- when compared with previous surveys, the share of graduates (all levels) in employment in Ireland nine months after graduation has been increasing steadily since 2013, with a concomitant fall in the share engaged in further studies or training.
- the share of level 9/10 graduates in employment (in Ireland and overseas) was higher than that of level 8 graduates at 77% and 58% respectively; this pattern holds across all fields, with the widest gaps for those with qualifications in services and SSBL.
- level 8 graduates were far more likely to be in further studies/training than level 9/10 graduates, particularly in the case of graduates from SSBL, arts/humanities, and services.

Source: HEA

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the shares seeking employment were higher for level 9/10 graduates when compared to level 8 graduates; this was the case across all fields, excluding computer science.

Figure 3.11 First destination of level 8, level 9 masters degree and level 10 PhD graduates, 2015

Source: HEA

Recent qualification holders in the labour force (QNHS data)
This section utilises the CSO’s Quarterly National Household Survey (QNHS) to profile the employment status of those who hold post-secondary and third level qualifications in Ireland. For the purposes of this analysis we examine only those aged 25-29 years, as this is the age cohort in which young people are most likely to have completed their full-time education. The focus is on their labour market outcomes by education level.

Employment status by education level
Over the period quarter 1 2012-quarter 1 2017, the overall number of 25-29 year olds in the population fell by over 70,000; there were declines in numbers across all education levels but particularly so for those with upper secondary education, declining by 33,500 (Table 3.4). Although there was a decline in the number of persons aged 25-29 years with third level qualifications, the share with third level in this cohort grew from 45% in 2012 to 51% in 2017. In terms of changes in the labour market status over this period,

- in employment: the share in employment increased across all education levels excluding the not stated category; those with third level qualifications had the highest share in employment in quarter 1 2017, at 84%
- **unemployed**: there was a noticeable drop in the share of persons unemployed across all education levels but was most significant for those with upper secondary education or less, with a decline of twelve percentage points.
- **not active**: the share of persons classified as not active increased across all education levels, excluding those with post-secondary education; in both time periods over a half of not active third level graduates in this age cohort were students, compared to a third of those with post-secondary or upper secondary education.

Table 3.4 Population aged 25-29 by highest level of education attainment and economic status (ILO), quarter 1 2012 and quarter 1 2017

<table>
<thead>
<tr>
<th></th>
<th>Q1 2012</th>
<th></th>
<th></th>
<th>Q1 2017</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>In Employment</td>
<td>Unemployed</td>
<td>Not Active</td>
<td>Total</td>
<td>In Employment</td>
</tr>
<tr>
<td>Third level (NFQ 6-10)</td>
<td>157,400</td>
<td>80%</td>
<td>9%</td>
<td>11%</td>
<td>139,600</td>
<td>84%</td>
</tr>
<tr>
<td>Post-secondary (NFQ 5-6)</td>
<td>52,600</td>
<td>63%</td>
<td>20%</td>
<td>17%</td>
<td>33,300</td>
<td>77%</td>
</tr>
<tr>
<td>Upper secondary or less (NFQ 1-5)</td>
<td>123,500</td>
<td>52%</td>
<td>22%</td>
<td>27%</td>
<td>90,000</td>
<td>60%</td>
</tr>
<tr>
<td>Not stated</td>
<td>13,300</td>
<td>72%</td>
<td>11%</td>
<td>17%</td>
<td>12,500</td>
<td>70%</td>
</tr>
<tr>
<td>Total</td>
<td>346,800</td>
<td>67%</td>
<td>15%</td>
<td>18%</td>
<td>275,400</td>
<td>75%</td>
</tr>
</tbody>
</table>

Source: SLMRU (SOLAS) analysis of CSO data (QNHS)

Regardless of the time period, for 25-29 year-olds, the higher the education level, the greater the share employed and the lower the share unemployed.

The share of 25-29 year-olds with third level qualifications continues to grow.
4. Science and computing

Key points

- There has been an increase (40%) in the number of third level science and computing graduates when compared to 2012; when computing alone is considered, growth was even stronger (at 50%)
- When compared to the EU average (11%), Ireland has a greater share of graduates in science & computing (15%)
- Growth in inflows (CAO acceptances and postgraduate enrolments) between 2012 and 2016 was due mostly to growth in computing, with science remaining static
- Since inflows into the higher education system have continued to increase (particularly at level 8), graduate output growth looks set to continue in the short to medium term
- First Destination Survey: computing graduates had a far higher share in employment nine months after graduation than the overall; a higher than average share of science graduates went on to further education and training

4.1 How many awards in science and computing?

- In 2016, there were almost 11,800 science/computing awards (including QQI-HE) (Table 4.1).

FET (NFQ 1-6)

- In 2016, there were approximately 1,100 QQI awards made to FET learners.
- The declines and subsequent increases between 2014 and 2016 at levels 5 and 6 were due to changes in the numbers of awards in computing made by QQI to FET learners (Figure 4.1).
- The increased number of computing awards in 2016 masks a slight shift towards more specific skills sets within the FET sector: in 2016, more than half of the 800 FET awards were for software development or computer network courses; this compares to 2013, where the majority of awards were for general information technology awards.7

Higher education (NFQ 6-10)

- There were over 9,900 science/computing awards in the HEA-aided sector in 2016, a 40% rise when compared to 2012. When QQI-HE awards are included, the total number of science/computing awards at third level in 2016 was 10,700.
- Science and maths
  - There were 5,700 awards in 2016 (plus 200 QQI-HE awards); the vast majority were at level 8 or above; there were over 370 PhDs, the highest number across all fields.

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7 It should also be borne in mind that that many FET courses lead to certification by other awarding bodies (e.g. City & Guilds, ICS Skills, Microsoft), which are not reflected in the data here. Outside of the QQI (FET) awards, approximately 5,000 (non-QQI) certs were issued to learners on selected SOLAS-funded ICT courses; of these almost 2,800 were for awards made by ICS Skills (ECDL), 600 awards made by City & Guilds, 700 by Microsoft, 150 by Oracle, almost 400 by CompTIA, etc.
The biology/environmental sciences category accounted for the highest share (60%) of science and maths awards.

When compared to 2012, the number of awards in science & maths rose by one third.

Computing

- There were approximately 4,200 awards in 2016; of these, approximately three quarters were at level 8 or above.
- There were also almost 600 QQI-HE awards in computing, made mostly to learners at private, independent institutions.
- When compared to 2012, the number of graduates (excluding QQI HE) grew by just under 50% (with approximately 1,400 additional graduates).

**Figure 4.1 Science and computing awards 2012-2016**

Source: QQI (FET major awards) & HEA

**Table 4.1 Science and computing awards by NFQ level and detailed field, 2016**

<table>
<thead>
<tr>
<th>Field</th>
<th>NFQ 5</th>
<th>NFQ 6</th>
<th>NFQ 7</th>
<th>NFQ 8</th>
<th>NFQ 9</th>
<th>NFQ 10</th>
<th>Total NFQ 1-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined science and/or computing</td>
<td>-</td>
<td>-</td>
<td>23</td>
<td>61</td>
<td>14</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Biology etc., inc.</td>
<td>281</td>
<td>300</td>
<td>489</td>
<td>1,865</td>
<td>471</td>
<td>185</td>
<td>3,591</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>-</td>
<td>4</td>
<td>78</td>
<td>367</td>
<td>25</td>
<td>13</td>
<td>507</td>
</tr>
<tr>
<td>Environmental sciences</td>
<td>-</td>
<td>21</td>
<td>60</td>
<td>270</td>
<td>129</td>
<td>2</td>
<td>482</td>
</tr>
<tr>
<td>Physical science, inc.</td>
<td>-</td>
<td>74</td>
<td>208</td>
<td>1,062</td>
<td>182</td>
<td>156</td>
<td>1,682</td>
</tr>
<tr>
<td>Chemistry</td>
<td>-</td>
<td>-</td>
<td>65</td>
<td>121</td>
<td>419</td>
<td>45</td>
<td>723</td>
</tr>
<tr>
<td>Maths &amp; statistics</td>
<td>-</td>
<td>8</td>
<td>325</td>
<td>223</td>
<td>18</td>
<td>607</td>
<td></td>
</tr>
<tr>
<td>ICT , of which</td>
<td>525</td>
<td>286</td>
<td>263</td>
<td>810</td>
<td>1,709</td>
<td>1,365</td>
<td>71</td>
</tr>
<tr>
<td>Computing, n.e.c.*</td>
<td>4</td>
<td>127</td>
<td>324</td>
<td>838</td>
<td>676</td>
<td>38</td>
<td>2,097</td>
</tr>
<tr>
<td>Computer use</td>
<td>11</td>
<td>64</td>
<td>189</td>
<td>201</td>
<td>78</td>
<td>0</td>
<td>543</td>
</tr>
<tr>
<td>Database and networks</td>
<td>217</td>
<td>197</td>
<td>31</td>
<td>81</td>
<td>98</td>
<td>76</td>
<td>700</td>
</tr>
<tr>
<td>Software development</td>
<td>293</td>
<td>89</td>
<td>41</td>
<td>216</td>
<td>572</td>
<td>535</td>
<td>1,279</td>
</tr>
<tr>
<td>QQI (HE) Science &amp; computing</td>
<td>-</td>
<td>-</td>
<td>73</td>
<td>47</td>
<td>484</td>
<td>181</td>
<td>-</td>
</tr>
<tr>
<td>Computing</td>
<td>-</td>
<td>-</td>
<td>58</td>
<td>40</td>
<td>381</td>
<td>99</td>
<td>-</td>
</tr>
<tr>
<td>Total science &amp; computing</td>
<td>806</td>
<td>286</td>
<td>767</td>
<td>1,576</td>
<td>5,671</td>
<td>2,510</td>
<td>444</td>
</tr>
</tbody>
</table>

Source: QQI (FET and HE major awards) & HEA

*n.e.c. = not elsewhere classified
Awards for Irish domiciled graduates from UK higher education institutions

- In 2016, 17% of all Irish domiciled graduates (665 persons) from UK higher education institutions had attained science/computing qualifications.
- The numbers graduating from this discipline have declined by 20% when compared to 2012, amounting to 150 fewer learners; the fall was primarily related to science (Figure 4.2).
- Science graduates accounted for almost 90% of all awards in this discipline.

Figure 4.2 Irish domiciled graduates from UK HEIs in science/computing, 2012-2016

Source: HESA

4.2 EU comparison

Figure 4.3 shows the share of third level graduates across selected EU countries who were graduates in science/computing. With 15% of graduates in science/computing, Ireland has the third highest share among selected EU countries, well above the EU 28 average of 11%; Ireland had the third highest share of graduates in computing and the fourth highest in science.

Figure 4.3 Science/computing graduates as a % of all third level* graduates by EU country, 2015

Source: Eurostat

*Refers to all third level categories (equivalent in Ireland to levels 6-10)
4.3 First destination of graduates

This section focuses on the economic status of those who have recently attained higher education qualifications. The HEA’s First Destination Survey (FDS) details the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation. Figure 4.4, based on the HEA’s report *What Do Graduates Do? The Class of 2015*, shows the first destination of science/math and computing graduates by level.

Science/maths

- Those who had recently graduated from both level 8 and level 9/10 courses in science and mathematics were more likely to continue on to further studies than the overall share and were less likely to be in employment.

Computing

- Those studying computing at both levels had a far higher share in employment in Ireland than the overall and were less likely to continue on to further study following graduation.
- The share of level 8 graduates in employment in Ireland grew by four percentage points since 2014, with the share employed overseas falling by three percentage points; there was a three percentage point increase in the share of level 9/10 graduates in employment (in Ireland and overseas combined) over the same period.

Figure 4.4 First destination of NFQ level 8-10 higher education science/computing graduates, 2015

Source: HEA

*Level 9/10 includes masters and PhDs only*
4.4 Future output of science and computing graduates

PLC Enrolments
Figure 4.5 shows the total number of first year enrolments in science and computing.

- In 2015/16, there were over 1,100 learners enrolled on year one of PLC courses in science/computing; of these, less than one half were for IT related courses (e.g. information technology, computer and network maintenance etc.); the science category included laboratory techniques or general science courses.
- There was a sharp decline (c.1,000 fewer learners) compared to the preceding year, which is a result of a fall in the numbers taking ICT courses (the numbers taking science related course rose slightly by 4%).

Figure 4.5 First year PLC enrolments for science/computing etc. related courses, 2010/11-2015/16

Source: DES

Apprenticeship
Following a review in 2013 (DES), it was decided to expand the apprenticeship system. An Apprenticeship Council was established in 2014, supported by SOLAS and the HEA, and a national Call for Proposals issued in January 2015. Following receipt of 86 proposals from industry-led groups, in July 2015 the Minister for Education and Skills announced development of an initial 25 of these proposals. Included in this first phase are three ICT-related apprenticeships, which are currently in development:

- ICT network engineering (NFQ 6), ICT software developer (NFQ 6) and telecom field technician (NFQ 6).

CAO Acceptances
There were over 8,900 CAO acceptances for science/computing in 2016 (Figure 4.6).

- Levels 6 and 7: the number of acceptances at these levels accounted for almost a quarter of all acceptances in this discipline in 2016 with a 16% decline in overall numbers since 2012.
- Level 8: acceptances at this level accounted for 76% of all acceptances on science/computing courses; the number of acceptances on science courses has remained static over the last three

---

8 List of apprenticeships (current and in development); last downloaded October 16th, 2017
years, while the number of computing acceptances grew by 17% since 2012; acceptances were primarily in general science and computing science.

**Postgraduate enrolments**

Figure 4.7 shows that there were approximately 6,000 postgraduate enrolments in science and computing annually between 2011 and 2015, with numbers peaking in 2012 at over 6,200.

- Between 2011 and 2015, enrolments increased for master programmes, although declines occurred in 2014 and 2015; the number of PhD programme enrolments has been unchanged in the most recent three years.
- At 58%, the majority of enrolments on science courses were for PhD programmes whereas computing enrolments were primarily for masters programmes (at 64%).

![Figure 4.6 CAO acceptances for science, mathematics and computing courses, 2012-2016](image)

![Figure 4.7 Postgraduate enrolments in science and computing, 2011-2015](image)

Source: CAO, HEA
5. Engineering, manufacturing and construction

Key points

- Intake into craft pre-2016 apprenticeship programmes has begun to recover, with over 3,700 new registrations in 2016
- The downturn in the construction sector has affected output from higher education in this discipline; although there are signs that the decline has halted at levels NFQ 6 and 7, awards at level 8 have continued to fall (down by almost a half when compared to 2012)
- The overall number of CAO acceptances increased by 5% between 2012 and 2016; while total engineering acceptances remained static, construction acceptances grew by 25%; this may be expected to be reflected in increased output in the medium-term
- Ireland’s share of third level graduates in this discipline was lower than the EU average
- First Destination Survey: the share of third level engineering etc. graduates who were in employment nine months after graduation was higher than the average; the share of graduates employed overseas has fallen when compared to recent surveys

5.1 How many awards in engineering, manufacturing and construction?

In 2016, there were approximately 8,600 FET and third level graduates in engineering related fields (Table 5.1).

FET (NFQ 1-6)

- At almost 1,700, in 2016, FET awards decreased by approximately 60% when compared to 2012. This fall reflects the decline in construction activity during the recession and an associated reduction in the intake of apprentices; since apprenticeship training in most craft trades typically requires four years, recovery in apprenticeship numbers is yet to be reflected in awards data.
- Engineering etc. is the only field where level 6 awards outnumber level 5 awards; most level 6 awards are craft awards (i.e. made to qualified apprentices).

Higher education (NFQ 6-10)

- There were almost 6,900 awards in higher education in 2016; of these, approximately a quarter were in construction; in addition, there were over 50 awards made in the non-HEA aided sector.
- Awards at level 6 and levels 9/10 have increased since 2012 but levels 7 and 8 have continued to decline; the declines are due mostly to a fall in construction related courses (especially civil engineering)
- Engineering & manufacturing: in 2016, over 4,200 awards were made in engineering, with a further 937 in manufacturing; engineering awards were mainly at levels 7 and 8 and in areas such as electronic, mechanical and electrical engineering and energy systems; since 2012, the number of engineering/manufacturing awards made has increased by almost a quarter, resulting in almost 1,000 additional graduates.
- Construction: in 2016, there were almost 1,700 awards, a decline of almost a half when compared to 2012; the fall was most pronounced in absolute terms at level 8, particularly for awards in building/civil engineering (which fell from 800 to less than 500), and in architecture/town planning (down from 500 to less than 250).

Figure 5.1 Engineering, manufacturing and construction awards by level, 2012-2016

| Source: QAI (FET major awards) & HEA |

Table 5.1 Eng., manuf. & const. awards by NFQ level & detailed field, 2016

<table>
<thead>
<tr>
<th>Engineering, inc.</th>
<th>NFQ 1-4</th>
<th>FET</th>
<th>NFQ 5</th>
<th>NFQ 6</th>
<th>Higher Education</th>
<th>NFQ 7</th>
<th>NFQ 8</th>
<th>NFQ 9</th>
<th>NFQ 10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering, n.e.c.</td>
<td>13</td>
<td>271</td>
<td>566</td>
<td></td>
<td>179</td>
<td>105</td>
<td>411</td>
<td>195</td>
<td>131</td>
<td>1,121</td>
</tr>
<tr>
<td>Chemical &amp; process</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td>40</td>
<td>94</td>
<td>150</td>
<td>11</td>
<td>365</td>
</tr>
<tr>
<td>Envir. protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>40</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>Electricity &amp; energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td>181</td>
<td>254</td>
<td>60</td>
<td>0</td>
<td>530</td>
</tr>
<tr>
<td>Electronics etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>103</td>
<td>511</td>
<td>493</td>
<td>93</td>
<td>26</td>
<td>1,226</td>
</tr>
<tr>
<td>Mechanics &amp; metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>89</td>
<td>291</td>
<td>317</td>
<td>57</td>
<td>1</td>
<td>735</td>
</tr>
<tr>
<td>Motor vehicles etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>94</td>
<td>165</td>
<td>67</td>
<td>11</td>
<td>0</td>
<td>337</td>
</tr>
<tr>
<td>Manufacturing, inc.</td>
<td>0</td>
<td>14</td>
<td>6</td>
<td></td>
<td>297</td>
<td>180</td>
<td>345</td>
<td>112</td>
<td>3</td>
<td>957</td>
</tr>
<tr>
<td>Manuf, n.e.c.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>214</td>
<td>64</td>
<td>124</td>
<td>53</td>
<td>0</td>
<td>455</td>
</tr>
<tr>
<td>Food processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>64</td>
<td>81</td>
<td>150</td>
<td>43</td>
<td>1</td>
<td>339</td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19</td>
<td>35</td>
<td>71</td>
<td>15</td>
<td>2</td>
<td>142</td>
</tr>
<tr>
<td>Construction, inc.</td>
<td>0</td>
<td>101</td>
<td>283</td>
<td></td>
<td>183</td>
<td>332</td>
<td>777</td>
<td>351</td>
<td>22</td>
<td>2,049</td>
</tr>
<tr>
<td>Const, n.e.c.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>9</td>
<td>85</td>
<td>61</td>
<td>3</td>
<td>166</td>
</tr>
<tr>
<td>Architecture etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>14</td>
<td>236</td>
<td>170</td>
<td>1</td>
<td>424</td>
</tr>
<tr>
<td>Building &amp; civil eng.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>172</td>
<td>309</td>
<td>456</td>
<td>120</td>
<td>18</td>
<td>1,075</td>
</tr>
<tr>
<td>QAI - HE (manuf.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Total | 13 | 429 | 1,232 | 1,021 | 1,899 | 2,758 | 1,046 | 194 | 8,592 |

Source: HEA; QAI
Awards for Irish domiciled graduates from UK higher education institutions

- In 2016, 7% of all Irish domiciled students graduating from UK higher education had studied subjects in engineering or construction (down from 13% in 2012); this amounted to 260 graduates, of which 185 were in engineering and 75 were in construction.
- There has been a considerable decline in the number of Irish learners graduating in the UK from this discipline: overall the number of engineering graduates fell by 64% (335 fewer learners) and the number of construction graduates fell by 76% (235 fewer learners).

Figure 5.2 Irish domiciled graduates from UK higher education institutions in engineering and construction, 2012-2016

Source: HESA

5.2 EU comparison

Figure 5.3 provides a breakdown of the share of third level engineering etc. graduates in 2015 across the EU 28 countries. At 10%, Ireland has a lower share of engineering, manufacturing and construction graduates when compared to the EU 28 average (15%). Its share is also far below that of Germany and Portugal, where at least a fifth of graduates are in this field.

Figure 5.3 Engineering, manufacturing & construction graduates as a % of all third level* graduates by EU country, 2015

Source: Eurostat
* Refers to all third level categories (equivalent in Ireland to levels 6-10)
5.3 First destination of graduates

This section focuses on the economic status of those who have recently attained higher education qualifications. The HEA’s First Destination Survey (FDS) details the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation. Figure 5.4 shows that, based on the HEA’s report *What Do Graduates Do? The Class of 2015*,

- engineering etc. graduates had a higher share of persons employed than the overall graduate pool nine months after graduation at both levels
- level 9/10 graduates were more likely to be employed in Ireland rather than overseas nine months after graduation when compared to 2014, with employment in Ireland growing by seven percentage points and employment overseas falling by five percentage points
- the share of level 8 graduates in employment remained broadly unchanged since 2014.

Figure 5.4 First destination of NFQ level 8-10 higher education engineering etc. graduates, 2015

Source: HEA

*Level 9/10 includes masters and PhDs only

5.4 Future output of engineering, manufacturing and construction graduates

PLC Enrolments

Figure 5.5 shows the number of year one enrolments for PLC engineering etc. courses.

- There were over 900 learners enrolled on year one of a PLC course in engineering etc. in 2015/16. This is broadly in line with preceding years.
Figure 5.5 First year PLC enrolments for engineering etc. related courses, 2011/12-2015/16

Source: DES

Apprenticeship

Figure 5.6 details the number of new registrations for craft (pre-2016) apprenticeships in engineering etc. areas over the period 2006-2015. Although they remain much lower than the peak in 2006, the number of new registrations for these apprenticeships has been growing annually since the lowest levels in 2010.

- **Engineering & manufacturing:** in 2016, more than three quarters of all new registrations were for apprenticeships in these trades; the highest number of new registrations were for electrical (over 1,300, up from 355 in 2011); motor mechanic (over 400) and metal fabricator (over 180) trades.

- **Construction:** new registrations declined sharply as a result of the recession; since 2012, however, the number of new registrations for these trades has increased annually, although the total for 2016 (at just over 900) remains well below the 4,380 registrations observed in 2006; the trades with the highest number of registrations in 2016 were carpenter/joiner (almost 400 registrations) and plumber (345 registrations).
Following a review in 2013 (DES), it was decided to expand the apprenticeship system. An Apprenticeship Council was established in 2014, supported by SOLAS and the HEA, and a national Call for Proposals issued in January 2015. Following receipt of 86 proposals from industry-led groups, in July 2015 the Minister for Education and Skills announced development of an initial 25 of these proposals. Of the 25 new proposed apprenticeships, a number are directly relevant to engineering and manufacturing sectors; there are four new post 2016 apprenticeships which are currently running (detailed in Table 5.2).

A further four apprenticeships are currently in development, including, OEM engineer (NFQ 6), wind turbine maintenance (NFQ 6), manufacturing ICT engineer (NFQ 7), and engineering services management (NFQ 7).

Table 5.2 New apprenticeships in engineering & manufacturing related areas

<table>
<thead>
<tr>
<th>Apprenticeship title</th>
<th>NFQ</th>
<th>No. annual registrations</th>
<th>Duration (years)</th>
<th>Proposer / provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial electrical engineer</td>
<td>7</td>
<td>16</td>
<td>2</td>
<td>Limerick Institute of Technology</td>
</tr>
<tr>
<td>Manufacturing engineer</td>
<td>7</td>
<td>40</td>
<td>4</td>
<td>Irish Medical Devices Association, IBEC</td>
</tr>
<tr>
<td>Manufacturing technician</td>
<td>6</td>
<td>64</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Polymer processing technologist</td>
<td>6</td>
<td>40</td>
<td>3</td>
<td>Plastics Ireland, IBEC</td>
</tr>
</tbody>
</table>

Source: SOLAS

CAO Acceptances
There were over 5,400 CAO acceptances in engineering, manufacturing and construction in 2016 (Figure 5.7). The overall numbers increased by 5% between 2012 and 2016; while total engineering acceptances remained static, construction acceptances grew by 25% indicating a returned confidence in the recovery in the construction sector.

Levels 6/7
- Acceptances at these levels accounted for approximately 40% of all acceptances on engineering and construction courses; declines occurred in recent years for both engineering and construction acceptances, although this was most pronounced for engineering with a fall of over 28%, or 580, since 2012.
- In engineering, mechanical engineering courses accounted for the highest share of acceptances; construction acceptances were primarily in civil engineering.

Level 8
- There were gains in acceptances for both engineering and construction courses since 2012 (at approximately 450 additional acceptances each).
- For engineering, acceptances were primarily for broad engineering courses; construction acceptances were in the areas of architectural technology, quantity surveying and construction management.

Postgraduate enrolments
Postgraduate enrolments in this discipline have fluctuated over the period 2011 to 2015, primarily related to enrolments on masters programmes (Figure 5.8).
- The number of enrolments peaked in 2012, due to a spike in the number of masters enrolments; overall enrolments have been declining since.
- In 2015, masters programmes accounted for 58% of all enrolments, compared to a share of 52% in 2011.
- The number of enrolments on engineering programmes is broadly in line with that of 2011, with some increases in construction-related enrolments.
Figure 5.7 CAO acceptances for engineering, manufacturing & construction courses, 2012-2016

Figure 5.8 Postgraduate enrolments in engineering, manufacturing & construction, 2011-2015

Source: CAO, HEA
6. Social science, business and law (SSBL)

Key points

- SSBL had the largest number of awards across all disciplines, making up over a quarter of all FET and higher education awards in 2016.
- There are four new apprenticeship programmes in the financial sector (levels 6-8).
- Inflows into the higher education system are mostly at levels 8-10; increases in enrolments at these levels in recent years should result in sustained growth in the number of graduates in the coming years.
- First Destination Survey: business and law graduates were more likely to be in employment nine months after graduation when compared with the overall average, while social science, journalism and law graduates were more likely to be in further education and training than the overall average.

6.1 How many awards SSBL?

- There were almost 30,000 FET, third level and professional awards in SSBL in 2016 (Table 6.1).

FET 2015 (NFQ 1-6)

- There were approximately 5,500 QQI FET awards in 2016, of which 76% were at level 5.
- While the number of awards has fluctuated in recent years, SSBL remains one of the largest fields of learning in terms of awards made each year (after health and welfare); in 2016, SSBL awards accounted for 17% of all FET awards made by QQI.
- SSBL awards are typically for programmes in office administration, business studies, etc.

Higher education (NFQ 6-10)

- There were over 20,100 awards in SSBL in 2016, 12% more than in 2012; there were a further 2,080 QQI awards in non-HEA aided sector institutions.
- The largest share of awards was at level 8 and above, typically in areas such as general business studies (including commerce), management, and accounting.
- Despite the overall growth in the number of awards between 2012 and 2016, there were declines at levels 7 (-11%, or 250 fewer awards) and 8 (-7%, or 575 fewer awards); the declines at level 7 were due to relatively small declines across several sub-disciplines (e.g. marketing, psychology, accountancy); the declines at level 8 were mostly associated with courses in sociology and cultural studies.

Professional qualifications

- There were approximately 2,200 professional awards in accounting and taxation; this is an increase on both 2012 (when there were approximately 1,600 qualifiers) and 2015 (1,900 qualifiers).
Figure 6.1 SSBL awards by level, 2012-2016

Source: QQI (FET major awards) & HEA

Table 6.1 SSBL awards by NFQ level & detailed field, 2016

<table>
<thead>
<tr>
<th></th>
<th>FET</th>
<th>Higher education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NFQ 1-4</td>
<td>NFQ 5</td>
</tr>
<tr>
<td>Social science &amp; info, inc.</td>
<td>1,115</td>
<td>83</td>
</tr>
<tr>
<td>Economics</td>
<td>9</td>
<td>170</td>
</tr>
<tr>
<td>Business &amp; admin, inc.</td>
<td>738</td>
<td>3,038</td>
</tr>
<tr>
<td>Business &amp; admin</td>
<td>639</td>
<td>554</td>
</tr>
<tr>
<td>Marketing/advertising</td>
<td>289</td>
<td>194</td>
</tr>
<tr>
<td>Finance &amp; insurance</td>
<td>140</td>
<td>520</td>
</tr>
<tr>
<td>Accounting &amp; tax</td>
<td>79</td>
<td>241</td>
</tr>
<tr>
<td>Management &amp; admin</td>
<td>674</td>
<td>729</td>
</tr>
<tr>
<td>Secretarial &amp; work skills</td>
<td>594</td>
<td>1,860</td>
</tr>
<tr>
<td>Law</td>
<td>65</td>
<td>42</td>
</tr>
<tr>
<td>Professional quals. (2016)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QQI-HE (2015), inc.</td>
<td>115</td>
<td>239</td>
</tr>
<tr>
<td>Social science &amp; info</td>
<td>41</td>
<td>125</td>
</tr>
<tr>
<td>Business &amp; admin</td>
<td>115</td>
<td>198</td>
</tr>
<tr>
<td>Total</td>
<td>738</td>
<td>4,153</td>
</tr>
</tbody>
</table>

Source: HEA; QQI; IAASA; Irish Tax Institute
Awards for Irish domiciled graduates from UK higher education institutions

- Social science, business and law is the second most popular subject (behind health, vet etc.) for Irish-domiciled graduates in UK higher education, with 20% of graduates (or 800 learners) in this field.
- The number of Irish domiciled graduates from UK higher education institutions in SSBL peaked at 1,750 in 2013, but fell by 54% (950 fewer graduates) by 2016.

Figure 6.2 Irish domiciled graduates from UK higher education institutions in SSBL, 2012-2016

Source: HESA

6.2 EU comparison

In 2015, approximately one third of Ireland’s third level graduates had studied programmes in social science, business and law (Figure 6.3); this is slightly below the EU 28 average of 34%; however, countries such as Spain and Finland have smaller shares of SSBL graduates (approximately a quarter).

Figure 6.3 SSBL third* level graduates as a share of total graduates in selected EU countries, 2015

Source: Eurostat

* Refers to all third level categories (equivalent in Ireland to levels 6-10)
6.3 First destination of graduates

This section focuses on the economic status of those who have recently attained higher education qualifications. The HEA’s First Destination Survey (FDS) details the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation. Figure 6.4 shows that, based on the HEA’s report What Do Graduates Do? The Class of 2015,

- social science, journalism and information: graduates from this discipline were less likely to be in employment than the overall at both levels but was particularly pronounced for level 8 graduates, where 38% were in further studies or training
- business, administration and law: the destination of level 8 graduates was broadly in line with the overall average; at 22%, level 9/10 graduates had a higher share than the overall (16%) employed overseas.

Figure 6.4 First destination of NFQ level 8 and level 9/10 SSBL graduates, 2015

Source: HEA

*Level 9/10 includes masters and PhDs only
6.4 Future output of SSBL graduates

PLC Enrolments

- There were approximately 4,800 enrolments on year one of SSBL PLC courses in 2015/16.
- When compared to 2011/2012, the number of learners enrolled on year one declined by a quarter (approximately 2,700 fewer learners) (Figure 6.5); the declines related mostly to a fall in enrolments in business & administration, cultural & heritage and office administration courses.

![Figure 6.5 First year PLC enrolments in SSBL, 2011/12-2015/16](image)

Source: DES

Apprenticeship

Following a review in 2013 (DES), it was decided to expand the apprenticeship system. An Apprenticeship Council was established in 2014, supported by SOLAS and the HEA, and a national Call for Proposals issued in January 2015. Following receipt of 86 proposals from industry-led groups, in July 2015 the Minister for Education and Skills announced development of an initial 25 of these proposals. Included in this first phase was a number of finance-related apprenticeships; of these, four are now running (outlined in Table 6.2), and two are in development: an international financial services advanced specialist apprenticeship (NFQ 9) and a retail practice apprenticeship (NFQ 5).

Table 6.2 New apprenticeships in business related areas

<table>
<thead>
<tr>
<th>Apprenticeship title</th>
<th>NFQ</th>
<th>No. annual registrations</th>
<th>Duration (years)</th>
<th>Proposer / provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFS associate</td>
<td>6</td>
<td>120</td>
<td>2</td>
<td>Financial Services Ireland</td>
</tr>
<tr>
<td>IFS specialist</td>
<td>8</td>
<td>60</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Insurance practitioner</td>
<td>8</td>
<td>67</td>
<td>3</td>
<td>The Insurance Institute</td>
</tr>
<tr>
<td>Accounting technician</td>
<td>6</td>
<td>80</td>
<td>2</td>
<td>Accounting Technicians Ireland</td>
</tr>
</tbody>
</table>

Source: SOLAS

10 List of apprenticeships (current and in development); last downloaded October 16th 2017
CAO Acceptances
There were over 11,400 CAO acceptances in SSBL in 2016 (Figure 6.6). Acceptances grew by 15% between 2012 and 2016, driven by growth in level 8 acceptances (+26%) and despite a fall in the number of acceptances at level 6 (-25%) and level 7 (-6%).

- At levels 6 and 7, the declines related primarily to a fall in acceptances on business studies courses.
- At level 8, the number of acceptances have been increasing steadily each year since 2012 (+1,800 acceptances), primarily due to increases in acceptances on business (many with languages), accountancy and law courses.

Postgraduate enrolments in SSBL by programme type
In 2015, there were over 11,300 postgraduate enrolments in SSBL postgraduate courses; the number of postgraduate enrolments in SSBL increased by 20% since 2011, with increases across all programme types.

- Masters programmes accounted for approximately two thirds of all enrolments over the period examined (Figure 6.7).
- In 2015, social sciences accounted for 29% of all enrolments for this discipline with psychology accounting for the largest share; enrolments on business-related courses were primarily in management and administration.

Source: CAO, HEA
7. Health and welfare

Key points

- Health and welfare awards account for the second highest number of awards (after SSBL) made across the FET and third level sectors.
- The increased number of CAO acceptances at level 8 (+6% compared to 2012) and the recent growth in enrolments on masters programmes is likely to be reflected in increased graduate output at levels 8 and 9 in the short-medium term.
- Ireland’s share of third level graduates in this discipline is higher than the EU average.
- First Destination Survey: health and welfare graduates were more likely to be in employment nine months after graduation than the overall average, with the share in employment in Ireland growing each year since 2013 across all levels.

7.1 How many awards health and welfare?

- In 2016, there were over 24,000 FET and third level awards in health/welfare, with a further 436 made to learners outside the HEA-aided sector (Table 7.1).

FET (NFQ 1-6)

- There were almost 11,700 major awards (QQI) in 2016, 80% of which were at NFQ 5.
- Following sharp declines in 2013 and 2014 (of almost a quarter and a third respectively), numbers grew in both 2015 and 2016, although the gains were not sufficient to offset the earlier declines.
- Early childhood care and education, healthcare support, nursing studies and health service skills accounted for most awards, which combined made up 87% of all FET awards in this field.

Higher education (NFQ 6-10)

- There were almost 12,400 awards in 2016 and an additional 436 awards made by QQI to learners in the non-HEA-aided sector.
- Two thirds of awards were in health related areas, particularly at level 8 (for nursing and medicine programmes); nursing awards at postgraduate level tended to be for specialist training (e.g. nurse prescribing, cardiac care, geriatric care, palliative care, etc.).
- Between 2015 and 2016, there was a large increase (c700 additional awards) at postgraduate level; most of this increase was for taught masters in health related fields (e.g. nursing, therapy, pharmacy etc). There were also 50 additional PhD awards, mostly in medicine.
- QQI higher education awards were mostly in welfare related areas such as counselling, psychotherapy, and social care.
Figure 7.1 Health and welfare awards by level, 2012-2016

Source: QQI (FET major awards) & HEA

<table>
<thead>
<tr>
<th>NFQ 1-4</th>
<th>NFQ 5</th>
<th>NFQ 6</th>
<th>NFQ 6 (FET)</th>
<th>Level 7</th>
<th>Level 8</th>
<th>Level 9/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health &amp; welfare n.e.c.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Health, including</td>
<td>4,423</td>
<td>527</td>
<td>349</td>
<td>4,157</td>
<td>2,903</td>
<td>340</td>
</tr>
<tr>
<td>Medicine</td>
<td>-</td>
<td>0</td>
<td>43</td>
<td>1290</td>
<td>340</td>
<td>211</td>
</tr>
<tr>
<td>Nursing &amp; caring</td>
<td>4,423</td>
<td>60</td>
<td>53</td>
<td>1,568</td>
<td>1404</td>
<td>20</td>
</tr>
<tr>
<td>Dental studies</td>
<td>-</td>
<td>43</td>
<td>85</td>
<td>80</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>82</td>
<td>10</td>
<td>195</td>
<td>254</td>
<td>14</td>
<td>555</td>
</tr>
<tr>
<td>Welfare, including</td>
<td>35</td>
<td>4,920</td>
<td>2,294</td>
<td>763</td>
<td>977</td>
<td>1,773</td>
</tr>
<tr>
<td>Childcare youth services</td>
<td>35</td>
<td>2,598</td>
<td>2,129</td>
<td>371</td>
<td>471</td>
<td>783</td>
</tr>
<tr>
<td>Social work &amp; counselling</td>
<td>2,332</td>
<td>165</td>
<td>262</td>
<td>323</td>
<td>863</td>
<td>336</td>
</tr>
<tr>
<td>QQI-HE (2016)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>173</td>
<td>95</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>9,353</td>
<td>2,294</td>
<td>1,293</td>
<td>1,499</td>
<td>6,063</td>
</tr>
</tbody>
</table>

Source: QQI (major awards) & HEA

Table 7.1 Health and welfare awards by NFQ level & detailed field, 2016
Awards for Irish domiciled graduates from UK higher education institutions

- Over a third of all Irish domiciled graduates from UK higher education institutions attained awards in this category (includes medicine, subjects allied to medicine, veterinary science and agriculture) in 2016.
- The number of awards for Irish graduates peaked in 2013 at 1,620, but fell in subsequent years to 1,315 by 2016.
- Nonetheless, the decline over the period 2012-2016 in this field was far smaller, in relative terms, than that observed for any other field, suggesting that demand for health & welfare courses remains strong.

Figure 7.2 Irish domiciled graduates from UK higher education institutions in health, agriculture & vet, 2012-2016

Source: HESA

7.2 EU comparison

On average, 14% of all third level graduates in the EU in 2015 had studied health/welfare programmes (Figure 7.3); Ireland’s share was higher at 17%, although countries such as Denmark, Sweden, and Belgium have even higher shares at over 20%.

Figure 7.3 Health/welfare third* level graduates as a share of total graduates in selected EU countries, 2015

Source: Eurostat
* Refers to all third level categories (equivalent in Ireland to levels 6-10)
7.3 First destination of graduates

This section focuses on the economic status of those who have recently attained higher education qualifications. The HEA’s First Destination Survey (FDS) details the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation. Figure 7.4 shows that, based on the HEA’s report What Do Graduates Do? The Class of 2015,

- at level 8, health and welfare graduates had a much higher share in employment in Ireland and overseas nine months after graduation than the total cohort; as such, they were less likely to be engaged in further studies or seeking employment; the share in employment in Ireland grew from 58% to 67% between 2014 and 2015
- at level 9/10, health and welfare graduates were more likely to be employed in Ireland than the overall total; the share in employment grew by six percentage points since 2014, to 72%.

Figure 7.4 First destination of NFQ level 8 and level 9/10 health and welfare graduates, 2015

Source: HEA  
*Level 9/10 includes Masters and PhDs only

7.4 Future output of health and welfare graduates

PLC Enrolments

- There were approximately 5,900 learners enrolled on year one of health/welfare related PLC courses in 2015/16; of these, the largest numbers were for nursing studies (1,800 enrolments), followed by community and health services, applied social studies, and healthcare support (with at least 1,000 enrolments each).
The decline observed between 2011/12 and 2012/13 relates to the discontinuation of community and health services - childcare courses; however, at the same time, courses in early childhood care and education were introduced, which, due to their ‘education’ content were classified, not with health and welfare, but in education; as a result the apparent decline here was offset against a concomitant rise in education awards.

The growth in PLC enrolments in the year to 2015/16 (+366, or almost 7%) was due to increases (of over 100) in the number of learners on nursing studies and health service skills, as well as smaller increases in other courses such as applied social studies and community care.

Figure 7.5 First year PLC enrolments in health/welfare, 2011/12-2015/16

Source: DES

CAO Acceptances (Figure 7.6)
There were over 6,100 CAO acceptances for health and welfare courses in 2016 (Figure 7.6). The overall number of CAO acceptances (levels 6-8) has remained relatively unchanged since 2012; while declines occurred at levels 6 and 7, acceptances at level 8 increased by 6% over the period.

- At level 6 the majority of acceptances were for dental nursing and pharmacy technician courses; at level 7, most acceptances were in social work.
- Level 8 acceptances accounted for over 80% of all acceptances in this field in 2016; nursing accounted for almost a third of all acceptances, with medicine and social care accounting for a further 30% combined; the largest gains in acceptances since 2012 occurred for sports therapy related courses.
Postgraduate enrolments

In 2015, there were over 6,500 postgraduate enrolments in this field, with masters programmes accounting for a half of all enrolments.

- The number of enrolments on health and welfare courses grew by 15% between 2011 and 2015, related to an increase in enrolments on masters programmes, primarily in nursing, pharmacy and therapy.

- In 2015, nursing and medicine accounted for 57% of all enrolments; nursing accounted for 69% of all postgraduate cert/diploma enrolments in this discipline, while medicine accounted for 61% of enrolments on PhD programmes.

Source: CAO, HEA
8. Services

Key points

- Following a sharp decline in 2014, the number of services awards made in the FET sector recovered in 2015, although as of 2016 numbers have yet to recover to the peak levels (in 2013)
- This discipline accounted for a relatively small share of total higher education awards (7%); almost two thirds are at levels 6 and 7
- The number of CAO acceptances (levels 6-8) fell by 26% between 2012 and 2016 with declines across all NFQ levels
- At 5%, Ireland’s share of third level graduates in this discipline is higher than the EU average (4%)
- First Destination Survey: outcomes for university graduates in this field nine months after graduation were broadly in line with the average outcomes, although the share seeking employment was higher than the average across all education levels

8.1 How many awards services?

- In 2016, there were almost 6,800 FET and third level awards (Table 8.1), which were spread almost evenly between the FET and third level sectors.

FET (NFQ 1-6)

- In 2016, there were 3,372 FET major awards, 9% more than in 2012, but 3% less than in 2015.
- The vast majority (almost 80%) were at NFQ 5, with the highest numbers being in personal services (e.g. sports, hair/beauty services).
- The sharp decline and subsequent growth in the number of FET awards between 2013 and 2015 were due to fluctuations in the number of awards made for sports, recreation and leisure.
- Hotel/catering: there were 322 professional cookery awards (of which 174 were at level 5 and 148 at level 6); this compares to 157 awards in 2012 and 313 in 2015.
- Logistics/distribution: there were 81 awards at level 5, almost on a par with the 88 awards in 2015.

Higher education (NFQ 6-10)

- There were approximately 3,400 awards in 2016; an additional 30 awards were made by QQI in the non-HEA-aided sector; unlike most other disciplines, higher education awards in services were concentrated at levels 6 and 7 (rather than at level 8).
- Culinary arts awards amounted to over 440 awards, spanning levels 6-8 on the NFQ (more than a half were at level 6); while this is a decline on the 495 observed in 2015, numbers on these courses were well above those in earlier years (e.g. 250 in 2012 and 330 in 2013).
- Transport services: with almost three quarters of the total in this sub-discipline, transport management (including supply chain) had the highest number of awards; most of the remainder were in nautical science.
Figure 8.1 Services awards by level, 2012-2016

![Services awards by level, 2012-2016](image)

Source: QQI (FET major awards) & HEA

Table 8.1 Services awards by NFQ level & detailed field, 2016

<table>
<thead>
<tr>
<th></th>
<th>FET</th>
<th></th>
<th>Higher Ed</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NFQ 1-4</td>
<td>NFQ 5</td>
<td>NFQ 6</td>
<td>NFQ 6</td>
<td></td>
</tr>
<tr>
<td>Personal services, of which</td>
<td>203</td>
<td>2,440</td>
<td>494</td>
<td>517</td>
<td>5,679</td>
</tr>
<tr>
<td>Hotel, rest. &amp; catering</td>
<td>104</td>
<td>265</td>
<td>148</td>
<td>381</td>
<td>1,575</td>
</tr>
<tr>
<td>Travel, tourism &amp; leisure</td>
<td>336</td>
<td>68</td>
<td></td>
<td>56</td>
<td>907</td>
</tr>
<tr>
<td>Sports</td>
<td>99</td>
<td>991</td>
<td>202</td>
<td>80</td>
<td>2,272</td>
</tr>
<tr>
<td>Hair &amp; beauty services</td>
<td>848</td>
<td>76</td>
<td></td>
<td></td>
<td>924</td>
</tr>
<tr>
<td>Transport services</td>
<td>-</td>
<td>85</td>
<td>10</td>
<td>6</td>
<td>248</td>
</tr>
<tr>
<td>Security services</td>
<td>-</td>
<td>116</td>
<td>16</td>
<td>123</td>
<td>462</td>
</tr>
<tr>
<td>Occupational health &amp; safety</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>172</td>
<td>366</td>
</tr>
<tr>
<td>QQI-HE (2016)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>36</td>
</tr>
<tr>
<td>Total Services</td>
<td>203</td>
<td>2,649</td>
<td>520</td>
<td>818</td>
<td>6,793</td>
</tr>
</tbody>
</table>

Source: QQI & HEA

Awards for Irish domiciled graduates from UK higher education institutions

The available data does not allow for the identification of fields comparable to the services field of learning; this data is included in the broader SSBL, health and science categories.

8.2 EU comparison

Approximately 5% of Ireland’s third level graduates had studied programmes in the services field (e.g. hotel/catering, sports) (Figure 8.2), which is slightly above the EU average of 4%; this compares to shares over 7% for countries such as Austria, Poland and Slovenia.
8.3 First destination of graduates

This section focuses on the economic status of those who have recently attained post-secondary or higher education qualifications. The HEA’s First Destination Survey shows the destination of university graduates with honours bachelor degrees or masters/PhD awards. Figure 8.3 shows that, based on the HEA’s report *What Do Graduates Do? The Class of 2015*,

- the destination of level 8 services graduates was broadly in line with that for all graduates in 2015; at 7%, the share seeking employment was higher than the total for all graduates (of 4%)
- at 22%, services graduates at level 9/10 had a higher share of persons employed overseas compared to the overall average and a higher share seeking employment (at 13%).

Source: HEA
*Level 9/10 includes masters and PhDs only*
8.4 Future output of services graduates

PLC Enrolments

- As shown in Figure 8.4, there were over 6,100 learners enrolled in year one of PLC services courses in 2015/16; of these, a third were for sports courses and a quarter were in hair/beauty.

- Following growth each year between 2011/12 and 2014/15, there was a 2% decline in 2015/16. With the exception of hotel and catering, the decline relates to a fall in each of the sub-disciplines (illustrated in Figure 8.4); the most significant declines, in absolute terms were for sports related courses (270 fewer learners) and travel/tourism (80 fewer learners); in contrast, the number of learners on hotel/catering courses rose, mainly for professional cookery courses, which increased from 230 to 291 year-on-year.

Figure 8.4 First year PLC enrolments in services, 2011/12-2015/16

Source: DES

Apprenticeship

Following a review in 2013 (DES), it was decided to expand the apprenticeship system. An Apprenticeship Council was established in 2014, supported by SOLAS and the HEA, and a national Call for Proposals issued in January 2015. Following receipt of 86 proposals from industry-led groups, in July 2015 the Minister for Education and Skills announced development of an initial 25 of these proposals. Included in this first phase were seven services-related proposals. Of these, one is currently running (commis chef), with the remaining six currently in development (outlined in Table 8.2).

Table 8.2 New apprenticeships and apprenticeships in development in services related areas

<table>
<thead>
<tr>
<th>Apprenticeship</th>
<th>NFQ</th>
<th>No. annual registrations</th>
<th>Development status</th>
<th>Proposer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commis chef</td>
<td>6</td>
<td>60</td>
<td>Running</td>
<td>Irish Hotels Federation</td>
</tr>
<tr>
<td>Butcher</td>
<td>6</td>
<td>60</td>
<td>In development</td>
<td>Association of Craft Butchers of Ireland</td>
</tr>
<tr>
<td>Bakery</td>
<td>6</td>
<td>30</td>
<td></td>
<td>Scottish Bakers</td>
</tr>
<tr>
<td>Chef de partie</td>
<td>8</td>
<td>16</td>
<td></td>
<td>Irish Hotels Federation</td>
</tr>
<tr>
<td>Sous chef</td>
<td>8</td>
<td>18</td>
<td></td>
<td>Restaurant Association of Ireland</td>
</tr>
<tr>
<td>Executive chef</td>
<td>9</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HGV driving</td>
<td>5</td>
<td>70</td>
<td></td>
<td>Irish Road Haulage Association</td>
</tr>
</tbody>
</table>

Source: SOLAS

*List of apprenticeships (current and in development); last downloaded October 16th 2017*  
CAO acceptances

There were 2,300 CAO acceptances for services courses in 2016 (Figure 8.5). The number of CAO acceptances (levels 6-8) fell by 26% between 2012 and 2016 with declines across all NFQ levels.

- Level 6: courses in culinary arts accounted for the largest share of acceptances at this level; a fall in the numbers accepting places on these courses along with hospitality studies accounted for some of the decline experienced since 2014.
- Level 7: sports and leisure related courses accounted for over two fifths of all acceptances at this level in 2016; tourism and hospitality also featured strongly.
- Level 8: the number of acceptances at this level has remained relatively static in recent years, with courses primarily in sports, culinary arts and hospitality management.

Postgraduate enrolments

- The number of postgraduate enrolments in this discipline is small, accounting for 2% of all enrolments at this level.
- Enrolments are primarily in the areas of occupational health and safety, sports and hospitality.
- Enrolments grew since 2011 for postgraduate certs/diplomas and masters courses although the numbers involved are small.

Source: CAO, HEA
9. Arts and humanities

Key points

- 14% of all education/training awards in 2016 were made in the field of arts and humanities
- Ireland’s share of graduates in arts/humanities is the second highest in the EU, after the UK
- First Destination Survey: arts and humanities graduates tend to have a lower share in employment nine months after graduation than those from other disciplines, with over two-fifths of level 8 graduates engaged in further studies

9.1 How many awards arts and humanities?

- In 2016, there were over 14,000 FET and third level awards, a further 237 were made by QQI to learners in the non-HEA aided sector (Table 9.1); the number of awards grew by 5% compared to 2015, and by 7% compared to 2012.

FET (NFQ 1-6)

- There were almost 4,000 awards in 2016, of which a third were at levels 1-4.
- General learning awards accounted for over 1,000 awards; almost a further 900 FET awards were for art, craft and design subjects.
- The decline at level 5 between 2013 and 2014 was mostly due to a fall in the number of media/multimedia production awards.

Higher education (NFQ 6-10)

- There were over 10,000 awards in 2016, with a further 232 made in the non-HEA aided sector.
- A fifth of all third level awards were made at postgraduate level, with more than a further 60% at level 8.
- The number of awards at this level declined annually between 2012 and 2015, but recovered in 2016; numbers are now higher than at any other time over this period. The increases were mostly at levels 6 and 8.

Note: QQI categorises general learning awards in across two fields: general learning awards at levels 1 and 2 are categorised in the ‘generic programmes’ field and those at levels 3 and above are in the ‘arts and humanities’ field. Therefore this section includes only general learning awards at levels 3 and above.
Figure 9.1 Arts and humanities awards by level, 2012-2016

Source: QQI (FET major awards) & HEA

Table 9.1 Arts and humanities awards by NFQ level & detailed field, 2016

<table>
<thead>
<tr>
<th>Field</th>
<th>NFQ 1-4</th>
<th>NFQ 5</th>
<th>NFQ 6</th>
<th>NFQ 6 (HE)</th>
<th>NFQ 7</th>
<th>NFQ 8</th>
<th>NFQ 9</th>
<th>NFQ 10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts, inc.</td>
<td>-</td>
<td>2,066</td>
<td>554</td>
<td>238</td>
<td>616</td>
<td>4,085</td>
<td>685</td>
<td>65</td>
<td>8,309</td>
</tr>
<tr>
<td>Audio-visual/media</td>
<td>-</td>
<td>780</td>
<td>263</td>
<td>96</td>
<td>331</td>
<td>653</td>
<td>165</td>
<td>4</td>
<td>2,292</td>
</tr>
<tr>
<td>Fine arts</td>
<td>-</td>
<td>634</td>
<td>142</td>
<td>8</td>
<td>103</td>
<td>480</td>
<td>98</td>
<td>5</td>
<td>1,470</td>
</tr>
<tr>
<td>Humanities, inc.</td>
<td></td>
<td></td>
<td></td>
<td>1,361</td>
<td></td>
<td>576</td>
<td>326</td>
<td>2,225</td>
<td>1,065</td>
</tr>
<tr>
<td>Literature &amp; linguistics</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>147</td>
<td>345</td>
<td>219</td>
<td>29</td>
</tr>
<tr>
<td>Language acquisition</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>27</td>
<td>96</td>
<td>340</td>
<td>151</td>
<td>15</td>
<td>527</td>
</tr>
<tr>
<td>History/archaeology</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>27</td>
<td>74</td>
<td>275</td>
<td>302</td>
<td>53</td>
<td>728</td>
</tr>
<tr>
<td>QQI-HE (2016)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>75</td>
<td>145</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>1,361</td>
<td>2,066</td>
<td>554</td>
<td>814</td>
<td>946</td>
<td>6,385</td>
<td>1,895</td>
<td>216</td>
<td>14,237</td>
</tr>
</tbody>
</table>

Source: QQI & HEA
Awards for Irish domiciled graduates from UK higher education institutions

- In 2016, arts & humanities accounted for 450 (or 11%) of the Irish-domiciled graduates from UK higher education.
- The number of graduates in this discipline fell by 40% between 2012 and 2016, amounting to 305 fewer learners.

Figure 9.2 Irish domiciled graduates from UK higher education institutions in arts & humanities, 2012-2016

Source: HESA

9.2 EU comparison

At 13%, Ireland ranked second in the EU in terms of the share of its graduates who had studied arts/humanities subjects in 2015. This compares to the EU 28 average of 11% (Figure 9.3).

Figure 9.3 Arts & humanities third* level graduates as a share of total graduates in selected EU countries, 2015

Source: Eurostat

* Refers to all third level categories (equivalent in Ireland to levels 6-10)
9.3 First destination of graduates

This section focuses on the economic status of those who have recently attained higher education qualifications. The HEA’s First Destination Survey (FDS) details the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation. Figure 9.4 shows that, based on the HEA’s report *What Do Graduates Do? The Class of 2015*,

- level 8 arts/humanities graduates had the lowest share employed in Ireland (37%) compared to all other disciplines and a correspondingly high share of persons in further studies (44%); the share in employment grew by four percentage points since 2014
- arts/humanities graduates at level 9/10 were far less likely than the total graduate pool at this level to be in employment in Ireland (51% compared to 64%) with higher shares in further studies and seeking employment.

![Figure 9.4 First destination of NFQ level 8-10 higher education arts/humanities graduates, 2015](image)

Source: HEA

*Level 9/10 includes masters and PhDs only*
9.4 Future output of arts/humanities graduates

PLC Enrolments

- In 2015/16, there were approximately 5,000 learners enrolled in year one of arts/humanities PLC courses; of these, four fifths were either for art and related courses (e.g. art, furniture design & making, etc.) or for media related courses (e.g. creative media, TV and film production).
- As detailed in Figure 9.5, the number of learners enrolled in arts/humanities PLC courses has declined annually since 2011/12, reflecting a move towards more vocationally oriented courses such as childcare/education, services etc. as well as the overall decrease in PLC enrolments.

![Figure 9.5 First year PLC enrolments in arts/humanities, 2011/12-2015/16](image)

Source: DES

CAO Acceptances

There were almost 9,600 CAO acceptances for arts/humanities courses in 2016 (Figure 9.6). The number of CAO acceptances (levels 6-8) in 2016 was broadly in line with that of 2012; acceptances on level 8 courses accounted for 94% of the total for this discipline.

- Level 6/7 acceptances accounted for a small share of overall acceptances; courses at these levels were primarily in audio-visual techniques.
- At level 8, the number of acceptances fell slightly between 2015 and 2016; acceptances were primarily for general arts programmes.

Postgraduate enrolments

The number of arts/humanities enrolments declined by 20% between 2011 and 2015, with almost 900 fewer enrolments in 2015 compared to five years previously (Figure 9.7). In 2015, masters programmes accounted for almost two thirds of all enrolments in areas including music, history/archaeology, languages/linguistics, and creative digital media.
Figure 9.6 CAO acceptances in arts/humanities, 2012-2016

Figure 9.7 Postgraduate enrolments in arts/humanities by programme type, 2011-2015

Source: CAO, HEA
10. Education

Key points

- The vast majority of awards are made at third level, mostly at level 8 and above
- There were almost 1,000 awards made by QQI to learners at non-HEA aided higher education institutions
- The decline in the number of honours degree and postgraduate qualifications is mostly related to the change in the duration of teacher training programmes
- First Destination Survey: the share of education graduates in employment in Ireland nine months after graduation was highest across all disciplines; the share of graduates employed overseas has been falling in recent years.

10.1 How many awards education?

- There were 5,300 awards in education in 2015 (Figure 10.1).
- There are relatively few FET awards in this field as early childhood and education awards data is categorised in health and welfare.
- The vast majority of awards were in higher education, mostly at level 8 and above; there was a sharp decline in higher education awards in 2015 related to the fact that undergraduate programmes for primary teaching were extended from three years to four years, with the result that there was a reduced number of qualifiers in 2015.
- Not included in the graph are an additional 992 awards made by QQI to learners in the non-HEA aided sector, almost entirely at postgraduate level.

Figure 10.1 Education awards by level, 2012-2016

Source: QQI (FET major awards) & HEA
Awards for Irish domiciled graduates from UK higher education institutions

- The number of Irish domiciled graduates from UK higher education institutions who received awards in education has fallen steadily since 2012, going from 850 to 425 in 2016.
- The share of education awards as a proportion of all awards to Irish persons in the UK also fell slightly from 13% in 2012 to 11% in 2016.

Figure 10.2 Irish domiciled graduates from UK higher education institutions in education, 2012-2015

Source: HESA

10.2 EU comparison

Approximately 8% of Ireland’s third level graduates had studied programmes in education (Figure 10.3), which is below the average across the EU 28 countries (9%) and well below that of countries such as Spain, Hungary and Luxemburg (each with a 16% share).

Figure 10.3 Third* level graduates in education as a share of total graduates in selected EU countries, 2015

Source: Eurostat

* Refers to all third level categories (equivalent in Ireland to levels 6-10)
10.3 First destination of graduates

This section focuses on the economic status of those who have recently attained higher education qualifications. The HEA’s First Destination Survey (FDS) details the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation. Figure 10.4 shows that, based on the HEA’s report *What Do Graduates Do? The Class of 2015*,

- level 8 education graduates had a higher share of persons employed both in Ireland and overseas when compared to the overall (84% compared to 63% overall); the share employed overseas fell from 25% in 2013 to 12% in 2015
- level 9/10 education graduates were far more likely to be in employment in Ireland nine months after graduation than was the case two years previously, with a rise of twenty four percentage points since 2013 to 78%.

![Diagram showing first destination of graduates](image)

Source: HEA

* Level 9/10 includes masters and PhDs only

10.4 Future output of education graduates

PLC Enrolments

- In 2015/2016, there were approximately 2,400 learners enrolled on year one of education related PLC courses; the vast majority of these enrolments were for courses in early childhood care and education (Note: awards data for most of these courses is classified in health/welfare).
- The number of year one enrolments appeared to grow significantly in 2012, going from fewer than 25 in the preceding years to in excess of 2,500 in each of the years between 2012 and 2014; this increase is related to the introduction in 2012 of an early childhood care and education course which occurred at the same time as the cessation of the community and health services - childcare course. More recently, there was a small decline (c 100 fewer learners) in the numbers enrolled in 2015/2016 compared to the preceding year.
CAO Acceptances

In 2016, there were 2,800 CAO acceptances for education courses (Figure 10.5), with level 8 acceptances accounting for 91% of the total. The number of acceptances has remained unchanged since 2012.

Postgraduate enrolments

- New legislation was brought into effect from September 2014 requiring all postgraduate programmes for initial teacher education to be of two years’ duration; this resulted in professional diploma courses in education being changed to professional masters; consequently, from 2013 the number of enrolments on postgraduate cert/diploma programmes fell, while there was a corresponding increase in the number of enrolments on masters programmes (Figure 10.6).
- The overall number of enrolments grew by 900, or 20%, between 2011 and 2015, with most of the gains occurring between 2014 and 2015.

Source: CAO, HEA
11. Agriculture and vet

Key points

- With the exception of general learning programmes, agriculture and vet is the smallest discipline in terms of the number of FET and higher education awards made each year.
- The number of FET awards grew strongly (by 15%) between 2012 and 2016, mostly as a result of additional awards in agriculture at level 5.
- The total number of awards made in higher education also grew strongly, albeit from a low base; the growth was confined to levels 7 and 8.

11.1 How many awards?

- Over 4,500 awards were made in 2016, almost four fifths of which were made in the FET sector.

FET (NFQ 1-6)

- There were 3,500 FET awards in 2016, an increase of more than a third on the preceding year (mostly in agriculture).
- FET awards were made mostly at level 5; agriculture awards were the most numerous (almost 2,300), followed by horticulture (500 awards).
- Between 2012 and 2016, there was a substantial increase in the number of FET awards, due largely to increases observed for agriculture awards at level 5, particularly between 2015 and 2016.

Higher Education (NFQ 6-10)

- At third level, the highest number of awards was for crop and livestock production (e.g. agriculture, animal science), followed by veterinary related studies.
- The number of awards grew by a fifth (175 additional awards) between 2012 and 2016, although the growth was confined to level 7 and 8 as there were declines at other levels.
11.2 EU comparison

EU data for this field is unavailable.

11.3 First destination of graduates

This section focuses on the economic status of those who have recently attained higher education qualifications. The HEA’s First Destination Survey (FDS) details the destination of university graduates with honours bachelor degrees or masters/PhD awards nine months after graduation.

Based on the HEA’s report *What Do Graduates Do? The Class of 2015*, approximately 75% of level 8 and level 9/10 agriculture graduates were in employment nine months after graduation. Approximately 400-500 persons graduate from university courses (levels 8-10) in this discipline each year; as the baseline numbers are small any detailed analysis of the destination of these graduates should be treated with caution.

11.4 Future output of agriculture/vet graduates

PLC enrolments

- There were 1,250 year one enrolments on agriculture/vet PLC courses in 2015/16
- Although numbers have declined each year since 2013/14 by between 3% and 4%, they remain higher than five years previously.
- Enrolments were mostly for animal care and horticulture courses.
CAO Acceptances

CAO acceptances (levels 6-8) for courses in agriculture/vet accounted for 2% of all acceptances in 2016, with less than 1,000 acceptances; while the number of acceptances on level 7 courses have declined, acceptances on level 8 courses have been increasing steadily over the period examined (Figure 11.4).

- At levels 6 and 7, most courses were in the areas of agricultural science, veterinary nursing and horticulture.
- At level 8, acceptances were primarily in the areas of agricultural science and veterinary medicine.

Postgraduate enrolments

- At less than 1% in 2015, the number of postgraduate enrolments in agriculture/vet represents a small share of overall enrolments at this level.
- The number enrolled on masters programmes declined by 66 since 2013 (Figure 11.5).
- Enrolments related primarily to courses in agriculture & food science and veterinary medicine.
Figure 11.4 CAO acceptances in agriculture/vet, 2012-2016

Figure 11.5 Postgraduate enrolments in agriculture/vet, by programme type, 2011-2015

Source: CAO, HEA
Appendix A

Non-HEA aided higher education providers (e.g. private colleges)*
* providing programmes leading to awards made by QQI

Griffith College
Dublin Business School
Hibernia College
IBAT College Dublin
Carlow College
Children’s Therapy Centre Ltd
Clanwilliam Institute
College of Computer Training
Development Studies Centre, Kimmage
Grafton College of Management Sciences
IBAT College Dublin
ICD Business School
IICP Education and Training
Independent Colleges
Institute of Physical Therapy and Applied Science
International School of Business
Irish Business and Employers’ Confederation (IBEC)
Irish College of Humanities and Applied Sciences
Irish Payroll Association
Irish Institute of Purchasing and Materials Management
Leinster Academy, Leinster Rugby IRFU
Newpark Music Centre
National College of Ireland
Portobello Institute
Public Affairs Ireland
Setanta College
SQT Training
St Nicholas Montessori College Ireland
The American College, Dublin
The Open Training College

Professional Bodies

Association of Chartered Certified Accountants
Association of International Accountants
Chartered Institute of Management Accountants
Chartered Institute of Public Finance and Accountancy
Institute of Chartered Accountants in England & Wales
Institute of Chartered Accountants in Ireland
Institute of Chartered Accountants of Scotland
Institute of Certified Public Accountants in Ireland
Institute of Incorporated Public Accountants
Irish Tax Institute
APPENDIX B New (Post 2016) Apprenticeships

New current apprenticeships and apprenticeships in development

**Current (non-craft) apprenticeships**
- Industrial electrical engineering
- Manufacturing engineering
- Manufacturing technology
- Polymer processing technology
- Accounting technician
- Insurance practice
- International financial services associate
- International financial services specialist
- Commis chef

**Apprenticeships in development**
- Baker
- Butcher
- HGV Driver
- ICT associate professional network engineer
- ICT professional software developer
- International financial services advanced specialist
- OEM engineer
- Telecommunications field technician
- Chef de partie
- Engineering services management
- Executive chef
- Manufacturing ICT engineer
- Property services professional
- Retail practice
- Sous chef
- Wind turbine maintenance

*Source: SOLAS*