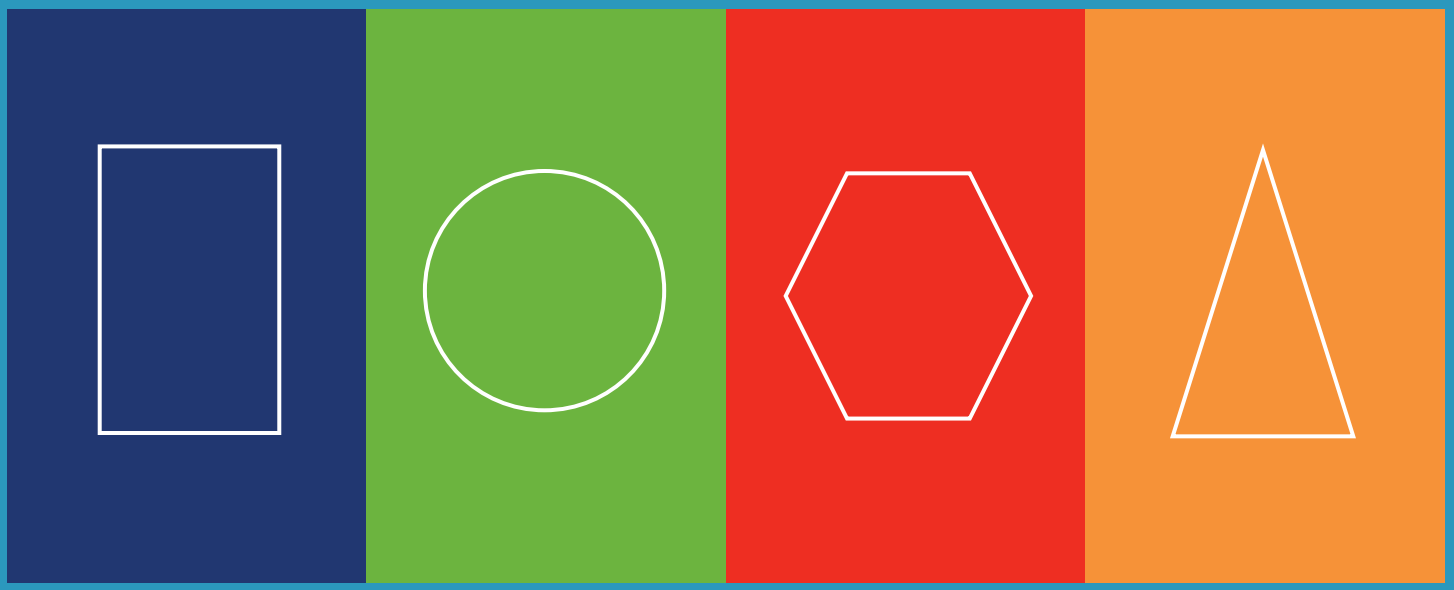

Monitoring Ireland's Skills Supply

Trends in Education and Training Outputs

November 2016

SOLAS
An tSeirbhís Oideachais Leanúnaigh agus Scileanna
Further Education and Training Authority

Expert Group on
Future Skills Needs

Monitoring Ireland's Skills Supply

A report by the Skills and Labour Market Research Unit (SLMRU) in SOLAS for the Expert Group on Future Skills Needs

2016

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Foreword

Monitoring Ireland's Skills Supply 2016 is the eleventh in a series of annual publications produced by the Skills and Labour Market Research Unit in SOLAS on behalf of the Expert Group on Future Skills Needs. The Report aims to monitor the potential supply of skills emerging from the education and training system; it also aims to provide a profile of the current skills of the population by education level.

Monitoring Ireland's Skills Supply outlines a number of features relating to the supply of skills available in Ireland's labour market. The Report shows that the education profile of the population has shifted towards higher levels of education attainment in recent years. The change is due to a number of factors, including migration, with the impact on the education profile varying according to education level. It is also important to note that the size of Ireland's young adult population has fallen considerably due to low birth rates and high outward migration; this in turn may affect the availability of young, skilled persons in the labour market.

In addition, there were also increases in the number of awards made in the further education and training (FET) and higher education sectors. While almost half of awards tend to be in social science, business and law (SSBL) or health and welfare, a growing number are now being made in the more technical areas of science, computing and engineering.

As Ireland's economy returns to growth, monitoring the skills supply in terms of the education profile of the population, as well as outputs from the education and training system, becomes increasingly important. As such, this Report serves as a companion publication to the *National Skills Bulletin* and combined they can be used as a key resource in anticipating Ireland's future skills needs.

Una Halligan,

Chairperson, Expert Group on Future Skills Needs

Key points

Skills supply: profile of the population

- While there has been an increase in the younger age population since 2010, there was a significant drop in the number of 20-29 year olds – due both to a drop in birth rates but also a rise in outward migration
- Noticeable change in migration patterns observed in 2016, with net inward migration for both third level graduates and the 25-44 age cohort for the first time since 2009
- Increase in employment across all education levels but most pronounced for those with post-secondary education
- EU comparison: Ireland has a higher share of young persons and a lower share of older persons in the population than the EU average; both employment and unemployment rates are lower in Ireland than the EU average

Skills supply: education and training outputs

- There were over 216,000 awards spanning levels 1-10 on the NFQ in 2015
- Further education and training (FET): there were
  - 32,300 QQI awards (NFQ 1-6) in 2015, a 2% rise on 2010
  - increases across most fields of learning, except engineering & construction, science & computing and social science, business and law (SSBL)
- Higher education: there were
  - approximately 66,500 awards in 2014, an increase of 14% on 2010
  - increases across all fields of learning, except engineering and construction
- First Destination Survey (FDS): when compared with the previous year, the share of third level graduates in employment nine months after graduation was higher across almost all disciplines and levels
- For 25-29 year-olds in the population, the higher the level of education attainment, the greater the share employed and the smaller the share unemployed

Science & computing

- There has been a strong increase in the number of higher education science and computing graduates when compared to 2010; in relative terms, growth was strongest for computing
- With inflows into the higher education system continuing to increase, graduate output growth looks set to continue in the short to medium term
- Ireland's share of third level graduates was higher than the EU average in this discipline
- FDS: 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

- The sharp decline in the number of FET awards is almost entirely due to the impact of the recession on the construction sector
- Intake into apprenticeship programmes has begun to recover, with over 3,000 new registrations in 2015
- The downturn in the construction sector has also affected output from higher education in this discipline, with the number of HE awards at levels 7 and 8 particularly negatively impacted
- Inflows into the higher education system at level 8 have been increasing in recent years, which should result in a reversal of recent declines at this level; until recently, all increases were driven by engineering courses, although construction is showing signs of recovery lately
- Ireland's share of third level graduates in this discipline was lower than the EU average; at 10%, Ireland's share is less than half that of Austria, Finland and Germany, each at 20% or higher
- FDS: the share of third level engineering etc. graduates who were in employment nine months after graduation was higher than the average; when compared to the previous survey, there was a significant fall in the share of level 8 graduates employed overseas

Social science, business and law (SSBL)

- This discipline accounts for the largest number of awards across all disciplines: it makes up almost a fifth of total FET awards and almost a third of total higher education awards
- A number of apprenticeship programmes in the financial sector have been proposed, with the insurance practitioner apprenticeship having commenced in September 2016
- 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
- Ireland's share of third level graduates in this discipline was lower than the EU average
- FDS: the outcomes for third level SSBL graduates nine months after graduation was on a par with the average for all graduates

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
- Level 5 awards account for the highest share of awards in this discipline, in areas such as healthcare support and childcare
- Inflows into and outputs from the higher education system have remained relatively static in recent years; any increases tended to occur for welfare related courses
- Ireland's share of third level graduates in this discipline is higher than the EU average
- FDS: health and welfare graduates were more likely to be in employment nine months after graduation than the overall average; while a large share was employed overseas, it is significantly smaller than the previous year

Services

- Following a sharp decline in 2014, the number of services awards made in the FET sector recovered in 2015
- This discipline accounted for a relatively small share of total higher education awards (5%); almost two thirds were at levels 6 and 7; as inflows have remained stable in recent years, significant increases in the number of awards attained are not expected
- Ireland's share of third level graduates in this discipline is higher than the EU average
- FDS: outcomes for university graduates in this field nine months after graduation were broadly in line with the average outcomes

Arts and humanities

- Arts and humanities accounts for one of the highest numbers of FET and higher education awards each year; however, in 2014, for the first time, the number of third level science/computing graduates outnumbered arts/humanities graduates
- The declines observed in higher education since 2012 are likely to be halted in the medium term, as CAO acceptances at level 8 have increased in recent years
- Ireland's share of graduates in arts/humanities is higher than the EU average
- FDS: arts and humanities graduates tend to have a lower share in employment nine months after graduation than those from other disciplines

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
- Ireland's share of third level graduates in this discipline was one of the smallest in the EU
- FDS: the share of education graduates in employment in Ireland nine months after graduation was one of highest across all disciplines (after computing); there were fewer graduates employed overseas when compared to the previous survey

Agriculture and vet

- 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
- While the numbers involved were small compared to other disciplines, there was a substantial increase in the number of FET awards between 2010 and 2015, mostly as a result of additional awards at level 5
- The number of awards made in higher education also grew strongly, albeit from a low base; the growth was strongest at levels 7 and 8
- FDS: agriculture/vet graduates had a higher share in employment nine months after graduation than the overall

Introduction

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.).

Education attainment levels, as reported by the CSO, Eurostat and the OECD, are classified according to ISCED levels. Currently, two versions of the ISCED levels classification are in use (ISCED 1997 and ISCED 2011): all data pertaining to 2014 is classified according to ISCED 2011. In the main, the two versions are broadly comparable, with differences relevant to Ireland emerging only at detailed levels of tertiary education.

In Ireland, data provided by the CSO 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 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 at levels 9/10.

Table 1.1 ISCED levels of education, main programmes in Irish education/training, typical awards and NFQ levels

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

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 classification describes ten broad fields as detailed in Table 1.2, which also provides examples of awards made in Ireland that typically fall into each category.

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

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 (as well as HEA data) 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.

Table 1.2 ISCED fields of education

ISCED 1997 Level (for education attainment)	Includes the following award titles
0 General programmes	QQI Certificate in General learning (NFQ 1-5) Postgraduate Diploma in Life Course Studies (NFQ 9)
1 Education	QQI Certificate in Inclusive Education and Training (NFQ 6) Bachelor (hons) of Education (NFQ 8)
2 Arts/humanities *including* *Music* *Foreign languages* *History*	QQI Certificate in Art (NFQ 5) BA (hons) in European Studies (NFQ 8)
3 Social science, business & law (SSBL) *including* *Psychology* *Journalism* *Wholesale and retail sales*	QQI Certificate in Office Administration (NFQ 5) BBS in Marketing (NFQ 7)
4 Science & computing *including* *Earth science* *Mathematics* *Computer science*	QQI Certificate in Information Technology (NFQ 5) BSc in biotechnology (NFQ 7)
5 Engineering, manufacturing & construction, *including* *Mechanics & metal work* *Food processing* *Architecture and town planning*	QQI Certificate in Craft- Electrical (NFQ 6) Higher Certificate in Engineering in Civil Engineering (NFQ 6)
6 Agriculture & veterinary *Crop & livestock production* *Fisheries*	QQI Certificate in Horticulture (NFQ 4-6) Higher Certificate in Science in Agriculture (NFQ 6)
7 Health and welfare *including* *Medicine* *Pharmacy* *Social work and counselling*	QQI Certificate in Early Childhood Care & Education (NFQ 5-6) BSc (hons) in General Nursing (NFQ 8)
8 Services *including* *Hotel, restaurant and catering* *Transport services* *Security services*	QQI Certificate in Hairdressing (NFQ 5) BA in Culinary Arts (NFQ 7)
9 Unknown or unspecified	-

Source: *Adapted from* ISCED 1997 (UNESCO Institute of Statistics)

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; further education and training data.

This report focuses on the most recent data available, and where possible, compares it with the situation observed five years earlier. Quarter 4 2015 CSO Quarterly National Household Survey (QNHS) data was used, with quarter 4 2010 as a comparison point. CAO acceptance data and QQI-FE awards data were available for 2015; the latest available year for higher education data was 2014 (2015 for QQI-HE data).

Note: for ease of reading, the post-secondary non-tertiary education category (e.g. PLC course or apprenticeship level education and training) will be referred to as post-secondary level.

2. Skills supply: profile of the population

Key points

- While there has been an **increase in the younger age** population since 2010, there was a significant **drop in the number of 20-29 year olds –** due both to a drop in birth rates but also a rise in outward migration
- Noticeable change in **migration** patterns observed in 2016, with net inward migration for both third level graduates and the 25-44 age cohort for the first time since 2009
- Increase in employment across all education levels but most pronounced for those with post-secondary education
- EU comparison: Ireland has a higher share of young persons and a lower share of older persons in the population than the EU average; both employment and unemployment rates were lower in Ireland than the EU average.

The aim of this chapter is to provide an examination 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.

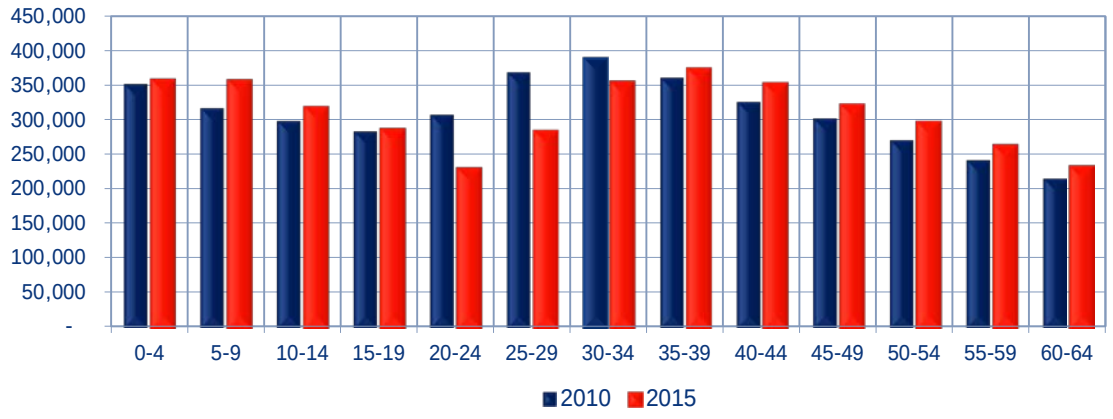
2.1 Profile of the population

How has the population profile changed since 2010?

Figure 2.1 shows that between quarter 4 2010 and quarter 4 2015, there was

- an additional 65,000 young persons (aged 0-14 years), which will have a direct impact on education provision in the coming years
- a drop of almost 165,000 (or 24%) 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 (+110,000 persons).

Figure 2.1 Population by age group (0-64), quarter 4 2010 and quarter 4 2015



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 2010 and 2015 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.
- Provisional data for 2016 suggest a reversal for those aged 25-44, with net inward migration of 8,200; while showing signs of easing, migration remains negative for those aged 15-24.
- Figure 2.3 indicates that in 2016 net inward migration of third level graduates occurred for the first time since 2009; migration for those with higher secondary education or less remained negative, with migration for those with post leaving cert education almost neutral in 2016.

Figure 2.2 Net migration estimates by age group (0-64), 2010-2016

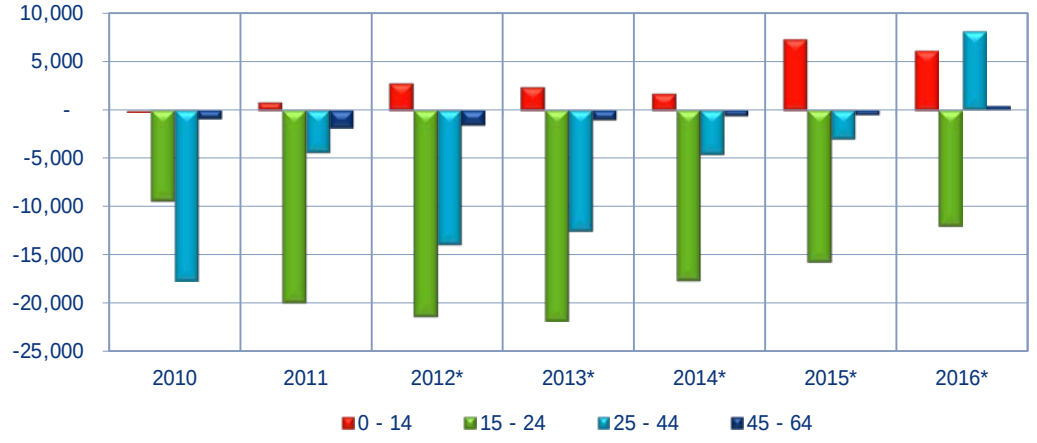
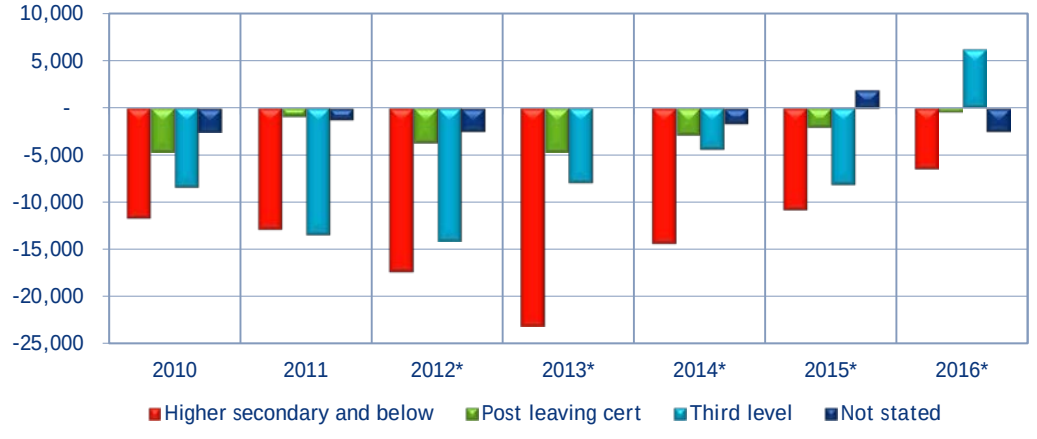


Figure 2.3 Net migration estimates by level of education, 2010-2016



Source: CSO Population and Migration Estimates April 2016

* Data for 2012, 2013, 2014, 2015 and 2016 is preliminary

2.2 Education level

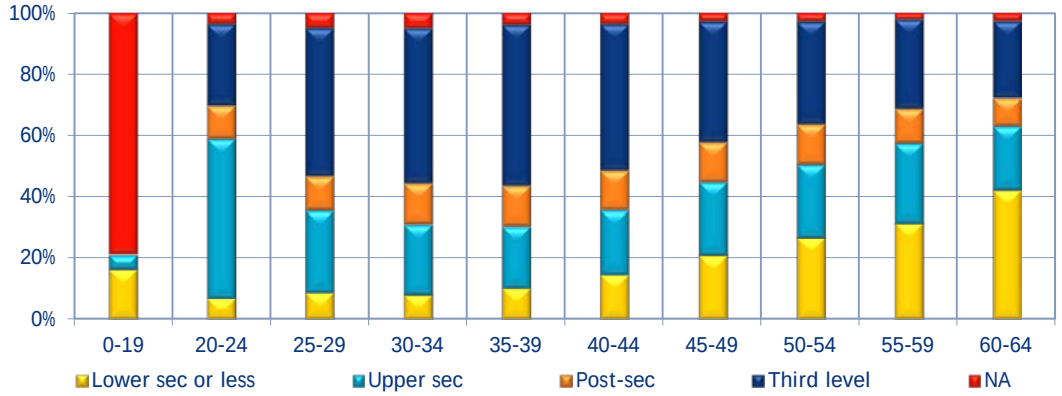
This section details the education profile of the population by age and labour market status. A detailed breakdown of the population with post-secondary or third level education is also provided, along with corresponding employment rates and how this has changed over time.

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

In quarter 4 2015, the majority of those aged 0-19 years had upper secondary education or less, suggesting that many in these age groups have not yet completed full-time education. For this reason, those aged 0-19 years are excluded from further analysis. Figure 2.4 shows that in quarter 4 2015,

- 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
- the education profile for each of the age groups between 25 and 39 years follows a similar pattern, each with the highest shares of third level graduates (at approximately 50% each)
- older cohorts are less likely to be third level graduates: for each five-year age groups from 35 years onwards, the share of third level graduates declines, falling to 25% for the 60-64 age cohort
- in terms of post-secondary education, little variation was observed in the share, with an average of 12% in each age cohort from 20 years onwards.

Figure 2.4 Population by age group (0-64) and level of education, quarter 4 2015

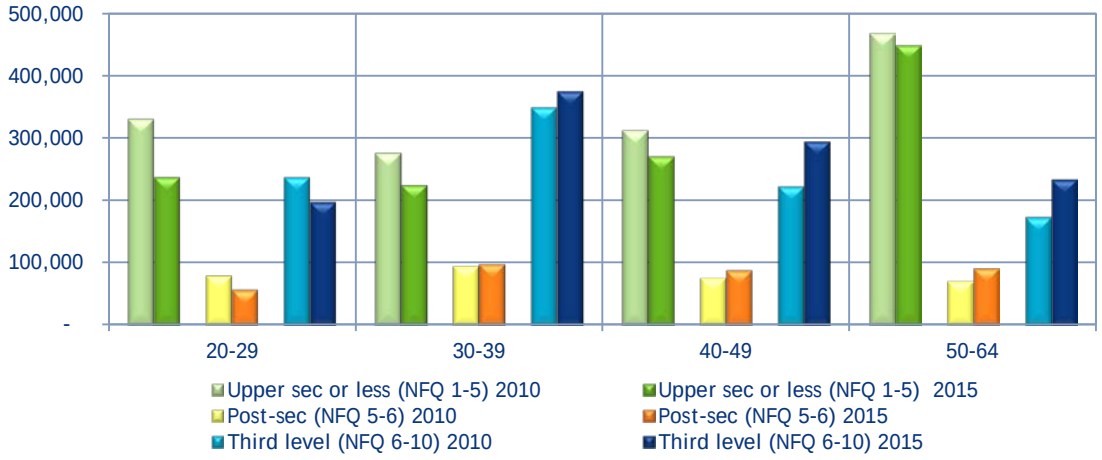


Source: SLMRU (SOLAS) analysis of CSO data

How the drop in population affected 20-29 year olds in terms of education: between quarter 4 2010 and quarter 4 2015, 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 (-93,000) and third level qualifications (-39,000).

There is a continuing shift in the education profile towards higher educational attainment for those aged 30 years and over: when compared to quarter 4 2010, the number of third level graduates aged 30-64 was higher in quarter 4 2015 in each age group; there were corresponding declines in the numbers with upper secondary education or less (Figure 2.5).

Figure 2.5 Highest level of education attained by age group (20-64 years); quarter 4 2010 & quarter 4 2015



Source: SLMRU (SOLAS) analysis of CSO data

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 4 2010 and quarter 4 2015, 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 55,000.
- There was a more modest increase of persons with NFQ 8 qualifications: while the number of persons aged 30-64 years in this category grew by over 36,000, the number of 20-29 year olds with NFQ 8 qualifications fell by 28,000.

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 over eight percentage points to 71% in quarter 4 2015.

Table 2.1 All post-secondary/third level graduates (aged 20-64) by detailed education level (NFQ) and % in employment, quarter 4 2010 and quarter 4 2015

		Q4 2010		Q4 2015	
	NFQ level	**Total**	**% in employment**	**Total**	**% in employment**
Post-sec	NFQ 5/6(FE)	318,400	62.6%	330,300	71.0%
Third level	NFQ 6(HE)/7	399,000	75.4%	456,700	78.8%
	NFQ 8	422,800	80.6%	431,100	82.7%
	NFQ 9/10	161,900	85.0%	217,000	87.7%
	Total	1,302,100	75.2%	1,435,100	79.5%

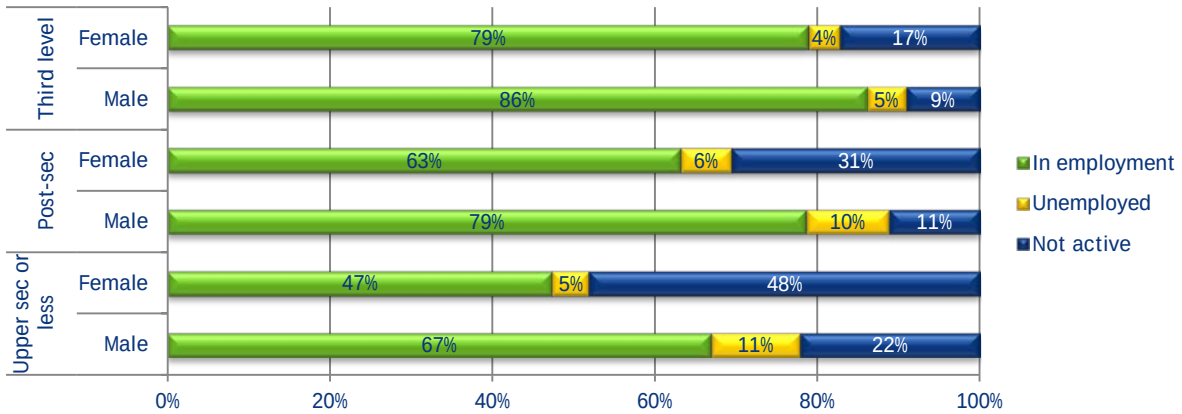
Source: SLMRU (SOLAS) analysis of CSO data

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

The breakdown by gender for quarter 4 2015 (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 seven percentage points).
- **Unemployed:** females were less likely to be categorised as unemployed across all education levels.
- **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 4 2010 and quarter 4 2015, the share in employment increased across all levels of education and gender, but was most pronounced for males at post-secondary level.

Figure 2.6 Highest level of education by employment status and gender, 20-64 year olds, q4 2015



Source: SLMRU (SOLAS) analysis of CSO data

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 4 2015,

- 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%)
- skilled trades and caring occupations had the largest share of persons whose highest level of education was post-secondary
- operatives and elementary workers had the highest share of persons with an education level lower than post-secondary.

Sectors: Figure 2.8 shows that in quarter 4 2015,

- at over 75% each, those working in the education, professional activities, ICT and financial services sectors were the most likely to hold third level qualifications; this was followed by the health and public admin sectors where at least 50% held a third level qualification
- the construction sector had the greatest share of persons whose highest level of education was post-secondary, at 28%
- 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 4 2015

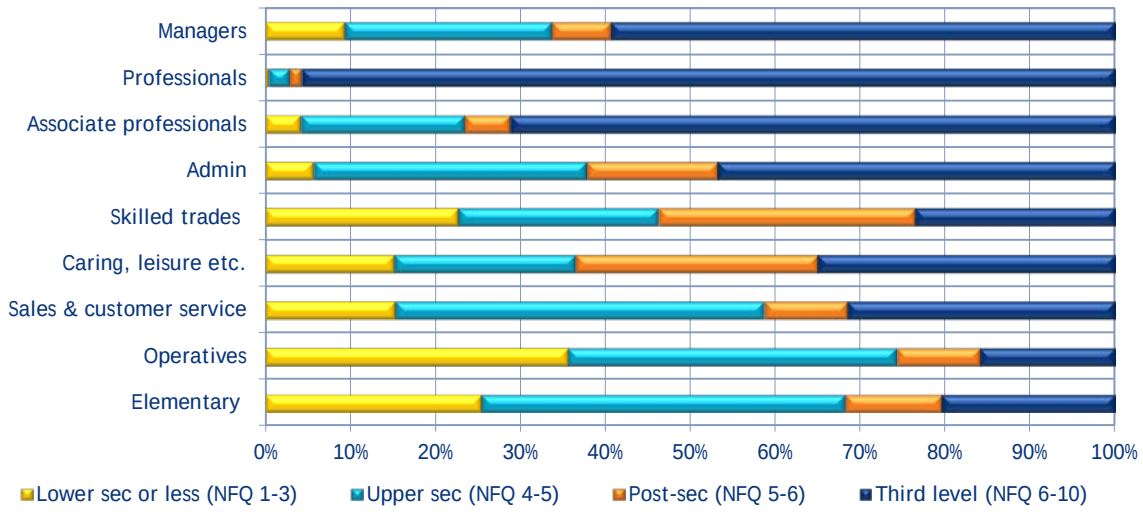
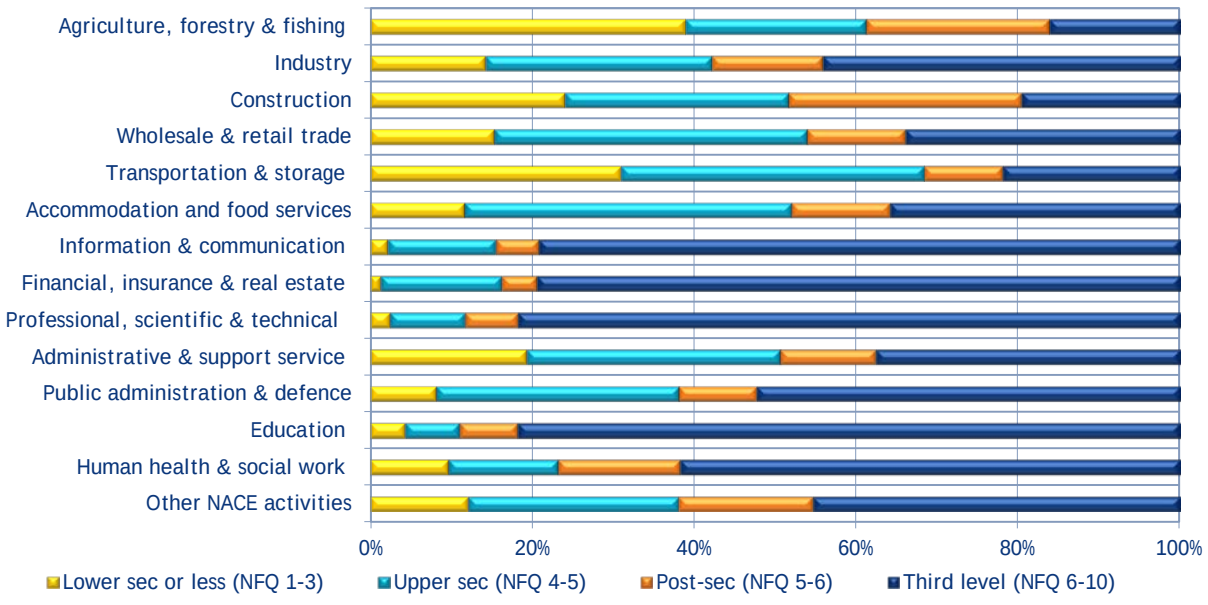


Figure 2.8 Employment by highest level of education & sector, (20-64 year olds), quarter 4 2015



Source: SLMRU (SOLAS) analysis of CSO data

Note: the *not stated* category is excluded from these graphs

2.3 EU comparison

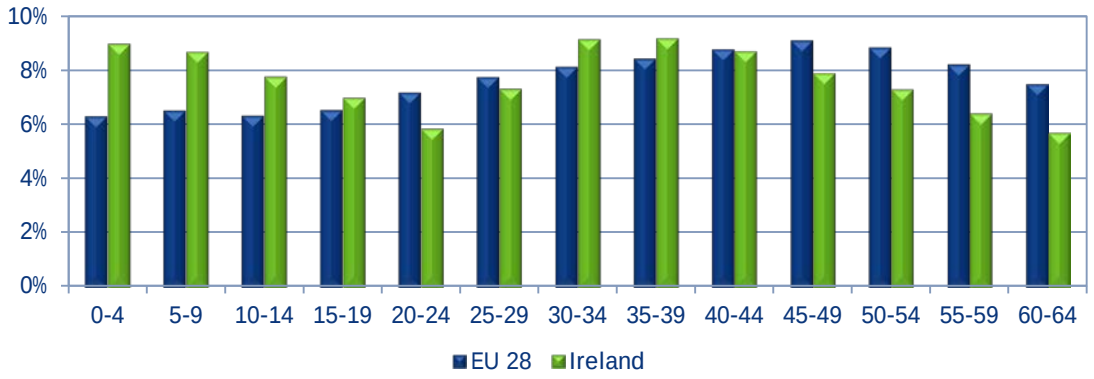
This section examines how Ireland compares to the EU 28 average in terms of the age of the population, the education breakdown and how this impacts employment and unemployment rates.

How does Ireland's **age profile** compare to the EU?

Figure 2.9 shows that in 2015, 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 (40 years and over)
- at 5.9%, the share of people in Ireland aged 20-24 was smaller than the EU average (7.2%); up until 2011, Ireland had a higher share in this age cohort, but has since reversed, with the gap between Ireland and the EU 28 in this age cohort increasing year on year.

Figure 2.9 Population distribution (%) by age (0-64 years), EU 28 and Ireland (2015)



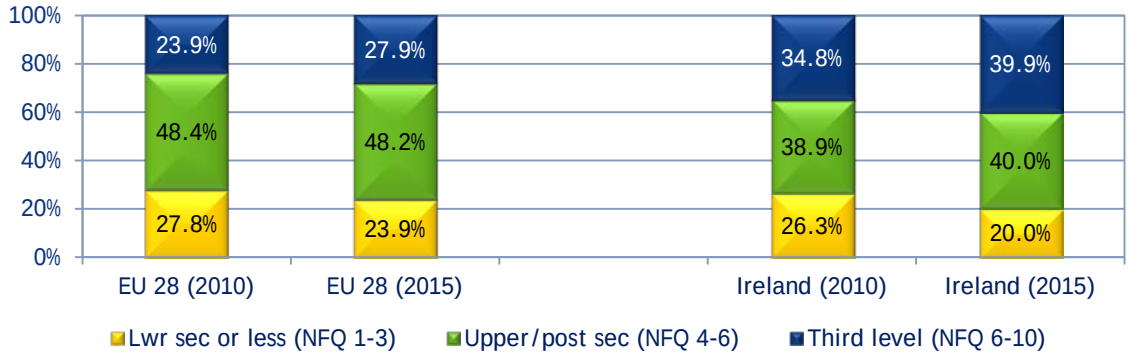
Source: Eurostat

Education profile: Ireland has 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 2015,

- at 39.9%, Ireland had the highest share of third level graduates within the EU 28 countries and well exceeded the EU 28 average of 27.9%
- since 2010, while the share of third level graduates increased across both the EU 28 and Ireland, the gain was greater for Ireland, at 6.5 percentage points compared to 4.8 percentage points
- Ireland saw a greater fall in the share of persons with lower secondary education or less since 2010 compared to the EU 28 average, whereas the share of those who held upper/post-secondary education rose slightly.

Figure 2.10 Adult population (18-64 years) by highest level of education attained (%), 2010 & 2015



Source: Eurostat

Ireland has a lower **employment rate** across all education levels compared to EU 28 average

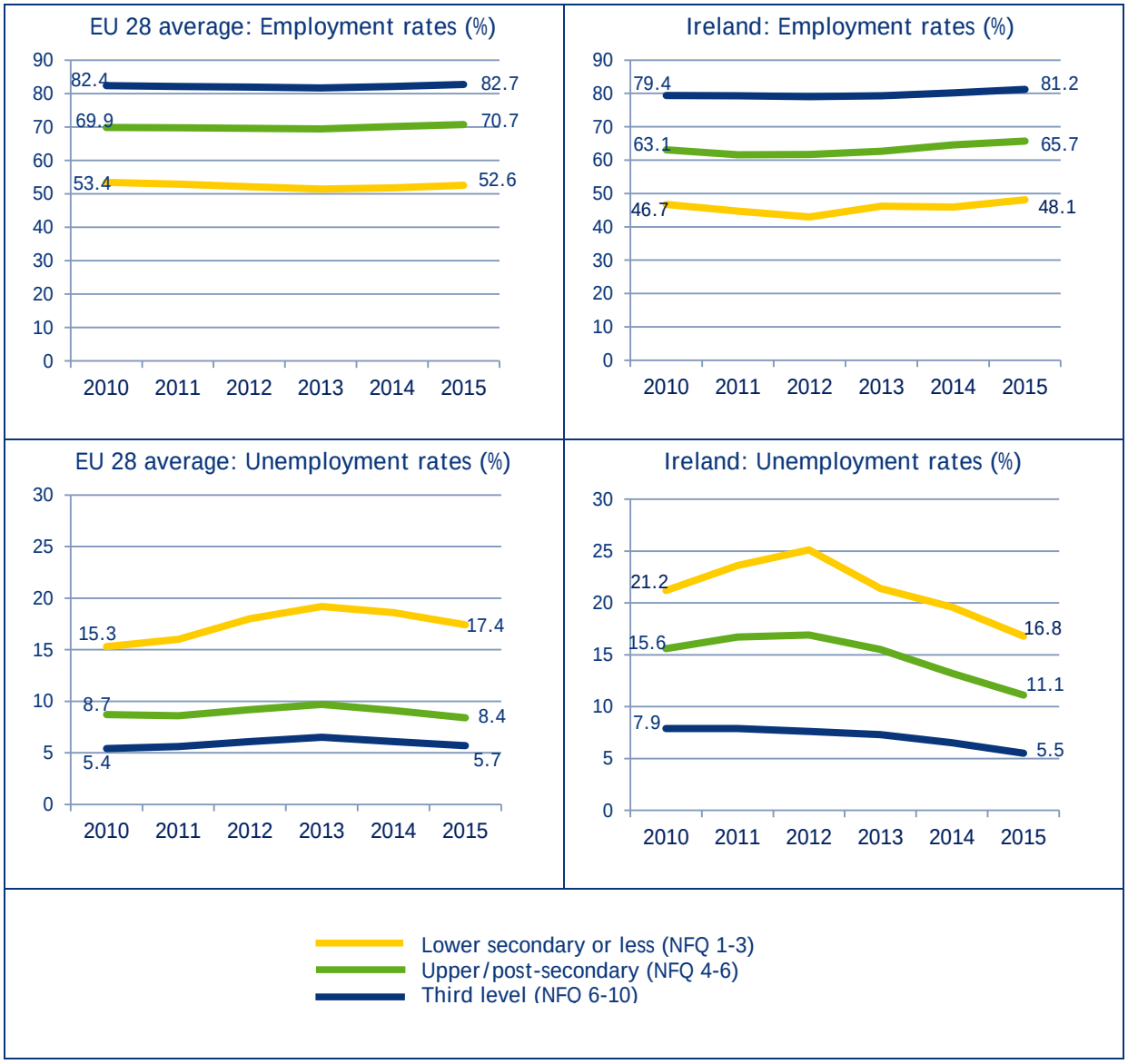
Figure 2.11 shows the employment rates for the adult population by highest level of education over the period 2010 to 2015.

- In 2015, at all levels of education, Ireland's employment rate was lower than the EU 28 average, as it was in 2010.
- In Ireland, the employment rate across each education level has been increasing annually since 2012, with the gap between the EU 28 average and Ireland closing over the period across all education levels.

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

- While the unemployment rates were higher in Ireland across all education levels in 2010, in 2015 only those with upper/post-secondary education had higher unemployment rates than the EU 28 average.
- For those with upper secondary/post-secondary educational attainment, Ireland had the seventh highest unemployment rate across EU 28 countries in 2015, with only Greece, Spain, Croatia, Cyprus, Portugal and Lithuania having higher rates.
- For those with third level qualifications, the unemployment rate in Ireland fell from 7.9% to 5.5% (a fall of 2.4 percentage points) over the period examined, whereas the EU 28 unemployment rate for this group actually increased marginally (by 0.3 percentage points).

Figure 2.11 Employment and unemployment rates (%) for adults (20-64 years) by highest education level attained, EU 28 average and Ireland, 2010-2015



Source: Eurostat

3. Skills supply: education and training outputs

Key points

- There were over 216,000 awards spanning levels 1-10 on the NFQ in 2015 (Table 3.1)
- Second level: there were almost 60,000 Junior Certificate sits and 58,000 Leaving Certificate sits in 2015
- Further education and training (FET): there were 32,300 QQI awards (NFQ 1-6) in 2015, a 2% rise on 2010; increases occurred across most fields of learning, except engineering & construction, science & computing and social science, business and law (SSBL)
- Higher education: there were approximately 66,500 awards in 2014, an increase of 14% on 2010; increases were cross all fields of learning, except engineering and construction
- First Destination Survey (FDS): when compared with the previous year, the share in employment nine months after graduation was higher across almost all 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

Table 3.1 Summary of further and higher education and training awards by provider, 2015[2]

	NFQ 1/2	NFQ 3	NFQ 4	NFQ 5	NFQ 6	NFQ 7	NFQ 8	NFQ 9/10	Total
SEC (Junior Cert)	-	59,600	-	-	-	-	-	-	59,600
SEC (Leaving Cert)	-	-	58,000		-	-	-	-	58,000
QQI-FE (Major awards)	1,350	1,980	2,240	20,780	5,980	-	-	-	32,320
Institutes of technology	-	-	-	-	3,460	8,080	11,080	2,750	25,370
Universities/colleges	-	-	-	-	2,680	2,060	19,380	17,040	41,160
Total	1,350	61,520	81,020		12,120	10,140	30,460	19,790	216,450

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, 2015[2]

Field	NFQ 1/2	NFQ 3	NFQ 4	NFQ 5	NFQ 6 FET	NFQ 6 HE	NFQ 7	NFQ 8	NFQ 9/10	Total
General	1,350	1,040	240	-	0	140	-	-	60	2,820
Education	-	-	-	-	30	150	30	1,910	3,160	5,270
Arts/humanities	-	620	890	2,170	480	410	1,150	5,590	1,880	13,200
SSBL	-	310	670	4,410	640	2,060	2,540	8,650	7,050	26,340
Science & computing	-	-	-	250	0	510	1,520	4,420	3,120	9,820
Engineering & const	-	10	10	390	1,250	770	2,010	2,980	1,130	8,530
Agri & veterinary	-	-	190	1,840	560	60	380	500	110	3,640
Health & welfare	-	-	30	8,900	2,560	1300	1,290	5,460	3,070	22,590
Services	-	-	210	2,810	470	740	1,220	960	220	6,640
Total	1,350	1,980	2,240	20,780	5,980	6,140	10,140	30,460	19,790	98,850

Source: QQI (QQI-FET major awards); HEA

[2] Higher education awards refer to 2014

3.2 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 58,000 Leaving Certificate candidates in 2015, which is 2% more than in 2014.
- In 2015, over two thirds of all candidates took the Leaving Certificate Established (LCE), 26% the Leaving Certificate Vocational Programme (LCVP) and the remaining 5%, the Leaving Certificate Applied programme (LCA); this distribution is broadly similar to that of preceding years.
- As shown in Figure 3.1, over the period 2004-2015, the number of Leaving Certificate candidates reached their lowest levels in 2006 and 2007 (approximately 54,000 candidates each year); while numbers have since recovered, they remain slightly below the 58,800 candidates observed in 2004.

Figure 3.1 Leaving Certificate candidates (000s) by programme type, 2004-2015

Source: State Examinations Commission

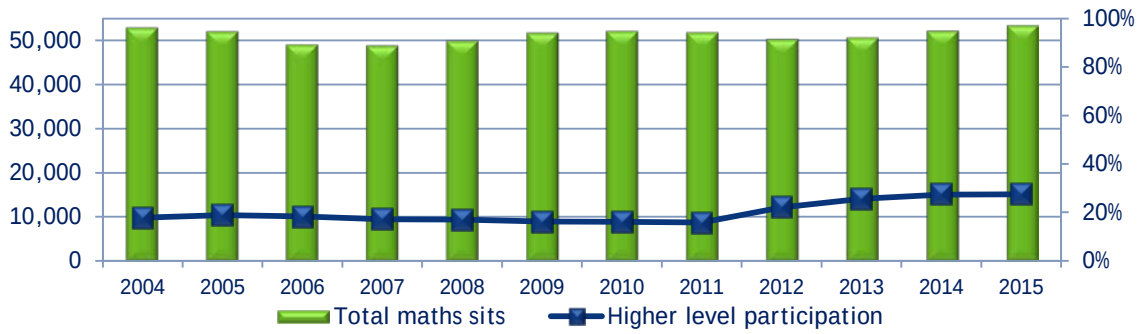
3.2.1 Mathematics

The vast majority of candidates take mathematics in the Leaving Certificate (either the LCVP or the LCE), with take-up rates of at least 97% in any given year. Figure 3.2 shows that in 2015

- there were over 53,500 sits in Leaving Certificate mathematics; of these, almost 14,700 (400 more than in 2014) sat the higher level paper
- the higher level participation rate in mathematics increased from 16% to 27% when compared to 2010, although it remained unchanged between 2014 and 2015; combined with an increase in the total Leaving Certificate candidate numbers, this resulted in over 6,300 additional students taking mathematics at higher level when compared to 2010
- 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.

In 2015, almost 98% of all those who sat higher level mathematics obtained at least a grade D.

Figure 3.2 Total candidate numbers and higher level participation (%) in mathematics, 2004-2015



Source: State Examinations Commission

3.3 Further education and training awards

Within the further education and training 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 and other professional awards (e.g. Microsoft, Cisco).

Data from Quality and Qualifications Ireland (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, further education and training awards data is confined to major awards only. Summary data on other award types (as well as a gender breakdown) is provided by field of learning in Appendix A.

There were over 32,300 QQI awards made to learners in the FET sector in 2015, 13% more (or over 3,000 additional awards) than in 2014 and 2% more than in 2010. Despite this increase, the number is well below the peak observed in 2012 where the total number of major awards was almost 42,600; declines in 2013 and 2014 were 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.

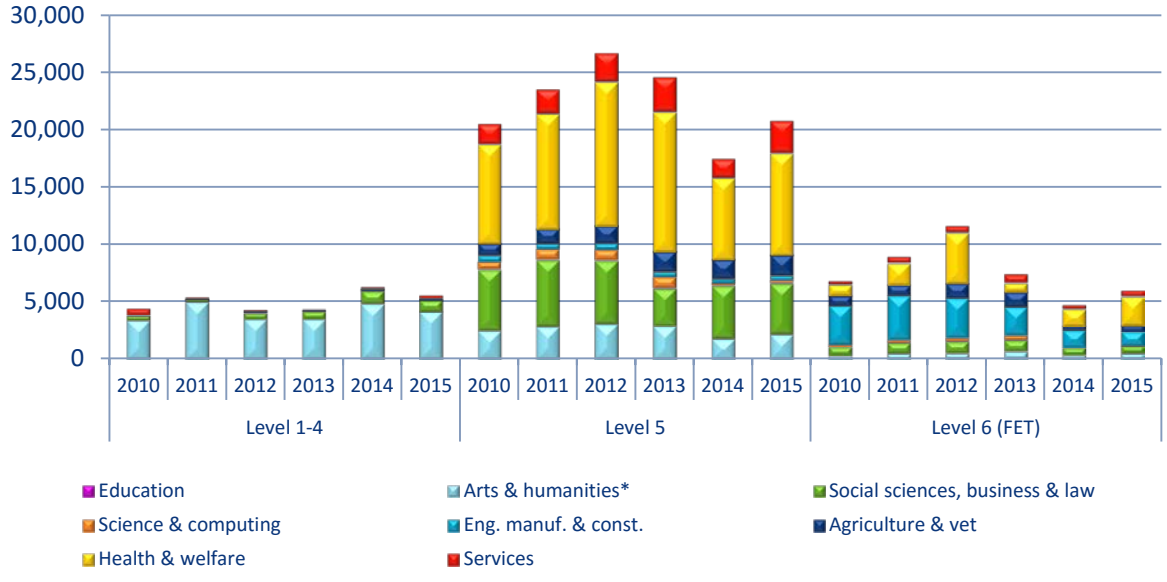
Field: between 2010 and 2015, the distribution of awards by field shifted slightly; the share of awards in health/welfare grew from 30% to 35% and the share in services grew from 8% to 11%; at the same time, the share of awards in engineering & construction declined from 12% to 5%. The declines in engineering are in part related to a reduced intake of apprentices during the recession; while the share of science/computing awards also declined, this does not accurately reflect the total activity in science/computing in the FET sector as many IT courses lead to non-QQI awards.

Level: in any given year, the highest number of awards was made at level 5. However, when compared to 2014, there was a shift towards higher attainment levels: the share of awards made at

levels 1-3 declined from 15% in 2014 to 10% in 2015; at the same time, the share of awards at levels 5 and 6 increased to 83% (up from 78% the preceding year). The share of awards made at level 4 remained unchanged at 7%. The distribution of awards by level in 2015 and 2010 was broadly similar. Figure 3.3 summarises FET major awards by level and field over the period 2010-2015.

- **Levels 1-4**
  - There were approximately 5,600 major awards in 2015, slightly fewer than in 2014, but, nonetheless one of the highest numbers observed between 2010 and 2015; almost three quarters 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; the total number in 2015 (20,800), however, is one of the lowest observed over the period 2010-2015, with the exception of 2014.
  - As in preceding years, the highest number of awards at this level was for health and welfare (e.g. healthcare support, childcare, nursing studies); a further quarter were for social science, business and law (e.g. business studies/business admin).
- **Level 6**
  - Despite an increase between 2014 and 2015 (1,200 additional awards), the number of level 6 awards made in 2015 was approximately half that observed in 2012, when numbers peaked at 11,600.
  - In 2010, approximately one half of level 6 awards were in engineering and construction related areas, while 14% were in health and welfare; by 2015, however, due to a number of factors, such as the impact of the collapse of the construction sector and the introduction of the ECCE free pre-school year, the share of engineering and construction awards had fallen to 21% while health and welfare (which includes childcare) increased to 43%.

Figure 3.3 QQI (FET) major awards by field of learning, 2010-2015



Source: QQI (FET)
*Includes general learning

3.4 Higher education and training awards

The number of higher education awards (NFQ 6-10) made to learners at institutes of technology (IoTs) and universities rose annually, going from over 58,200 in 2010 to approximately 66,500 in 2014 (excludes foundation programme graduates) (Figure 3.4). Increases occurred across most fields of learning, but were strongest, in absolute terms, for science and computing (an extra 3,000 awards), social science, business and law (approximately an extra 2,500 awards) and health/welfare (an extra 1,900 awards). Engineering and construction was the only field where the number of awards declined (almost 300 fewer awards).

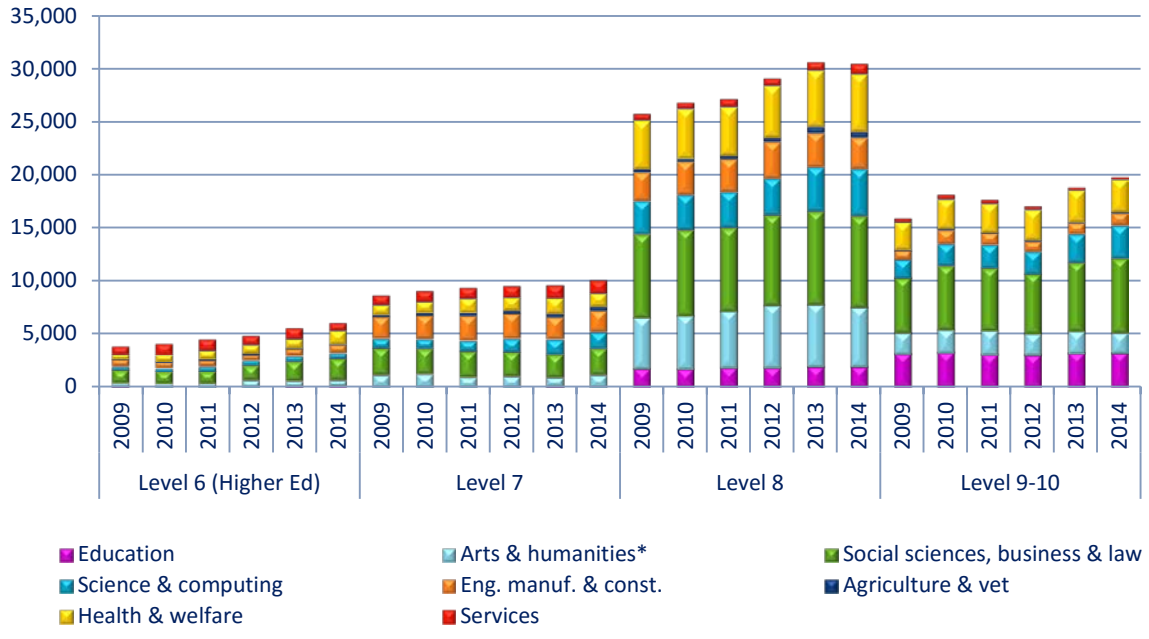
- **Level 6/7:** the number of level 6/7 awards has grown annually since 2010, reaching almost 16,300 in 2014 (3,000 more than in 2010); one third of the gains made were in social science, business and law (almost 1,000 additional awards); there was also strong growth in science & computing (over 800 additional awards) and health/welfare (almost 900 additional awards)

- **Level 8:** level 8 awards accounted for the highest number of awards at third level; following annual increases between 2010 and 2013, numbers stabilised in 2014 at approximately 30,500 (broadly in line with the 2013 total). In terms of disciplines,
  - social science, business and law accounted for 28%; arts and humanities for 18%; and health and welfare for 18%
  - compared to 2010, the largest absolute increases were for science and computing (+1,100) and health and welfare (almost 800 additional awards)

- **Level 9/10:** of the almost 19,800 postgraduate awards in 2014, over 18,000 were at level 9 and over 1,700 were at level 10. Following declines in 2011 and 2012, the number of awards increased in both subsequent years, reaching their highest point to date in 2014; increases observed between 2010 and 2014 were at both levels 9 (+1,100 awards) and level 10 (+500 awards)
  - in 2014, social science, business and law accounted for more than a third of all postgraduate awards; education and health/welfare awards combined made up a further third; this remains almost unchanged when compared to 2010 and 2013
  - the highest number of level 10 awards was for science and computing, which at 587 awards made up a third of all PhDs awarded in 2014; a further 228 (13%) were for engineering etc. and 309 (18%) were for health/welfare awards.

Additional information on the gender breakdown of graduates by field of learning is provided in Appendix A.

Figure 3.4 Higher education awards by field of learning, 2010-2014



Source: HEA

* humanities & arts includes general learning

In addition to the awards from universities and institutes of technology, other providers of higher education (e.g. private, independent colleges, as listed in Appendix B) run programmes leading to QQI higher education awards spanning levels 6-10 on the NFQ (Table 3.3). In 2015,

- there were almost 4,900 major awards in the higher education outside the HEA-aided sector, broadly in line with the numbers observed in 2014
- social science, business and law (SSBL) had the highest number of awards at 2,251; this was followed by awards in education (935) and science and computing (835)
- with the exception of the services and health and welfare fields, the highest number of awards was at level 8.

This distribution of awards is similar to that observed in previous years.

Table 3.3 QQI higher education awards made to learners outside the HEA-aided sector, 2015

	NFQ 6	NFQ 7	NFQ 8	NFQ 9	Total
Education	2	51	830	52	935
Arts/humanities	8	83	128	16	235
SSBL	89	248	1,408	506	2,251
Science & computing	125	48	459	203	835
Engineering, manufacturing & const.		21			21
Health and welfare	8	207	163	173	551
Services		21	15		36
Total	**232**	**679**	**3,003**	**950**	**4,864**

Source: QQI

3.4 Future outlook

This section outlines the current trends in education and training enrolments and applications relevant to the further and higher education/training sectors as an indicator of the potential future supply of skills.

Further education and training

Figure 3.5 provides an overview of selected further education and training in Ireland. The data is derived from a number of sources; however, it should be borne in mind that numbers based on the SOLAS FET Services Plan (2016) are projected estimates only; therefore all estimates in relation to total FET provision are approximate.

It is estimated that there were over 300,000 people in the FET sector in 2014/15[3]. Of these, 224,000 were on **further education (FE) courses** (blue coloured boxes in Figure 3.5), either full-time or part-time[4]; an additional 79,000 were in **training** (yellow/orange boxes) where courses can broadly be divided into training for learners under 25 years, training for the unemployed and other training.

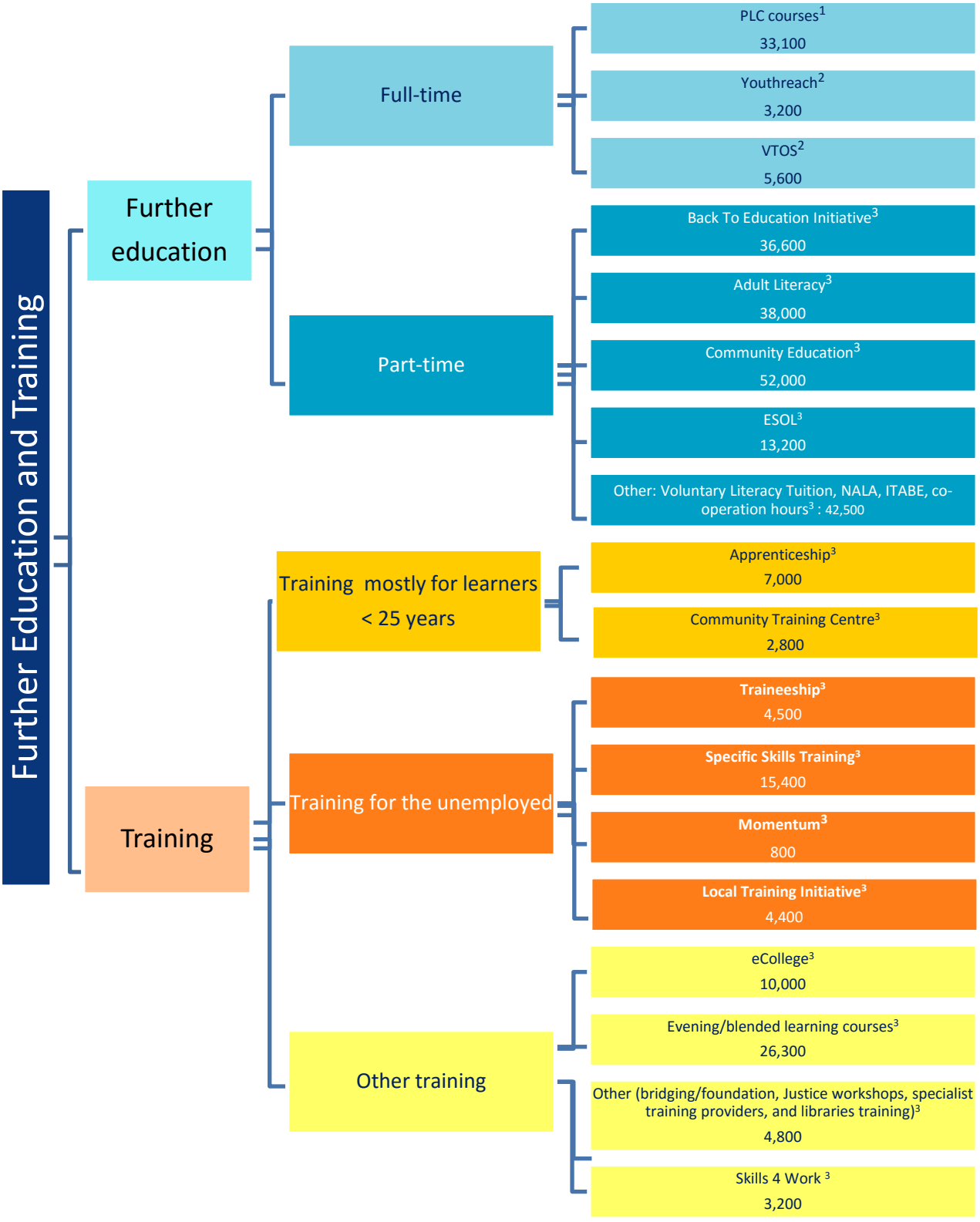
FET courses aimed at catering for the needs of younger age cohorts include Post Leaving Certificate, Youthreach, apprenticeship and Community Training Centre courses, where the larger share of learners tend to be under 25 years[5]. Data on PLC courses and apprenticeships is available in greater detail, and trend data for these learners is further analysed in Figures 3.6 and 3.7.

[3] The SOLAS FET Services Plan sets out the estimated number of learners for the year 2015. As 2015 spans two academic years (2014/2015 and 2015/2016), numbers for further education were sourced from SOLAS ETB statistical returns, with the exception of PLCs (from DES). Further education data refers to 2013/2014; further training, to 2014 and in some instances, projected estimates for 2015.

[4] Please note that many learners may be engaged in activities that do not lead directly to certification (e.g. adult literacy) and therefore these will not be reflected in the awards data elsewhere in this report.

[5] With the exception of Youthreach learners (where all learners are aged less than 25), some older learners also participate on these programmes.

Figure 3.5 Approximate numbers of learners in selected FET by programme type, various years



Sources: **1**-DES (2014/2015) – refers to number of learners; **2**-DES Statbank Ireland (2015) – refers to number of learners; **3**-FET Services Plan (2016)

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 2014, of the almost 30,000 year one enrolments, arts/humanities, social science, business & law (SSBL), and services (e.g. sports, beauty therapy etc.) each accounted for approximately 20%.
- The number of year one enrolments declined by 9% between 2010 and 2014 (-3,000 learners).
- Much of the decline (approximately 2,000 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).

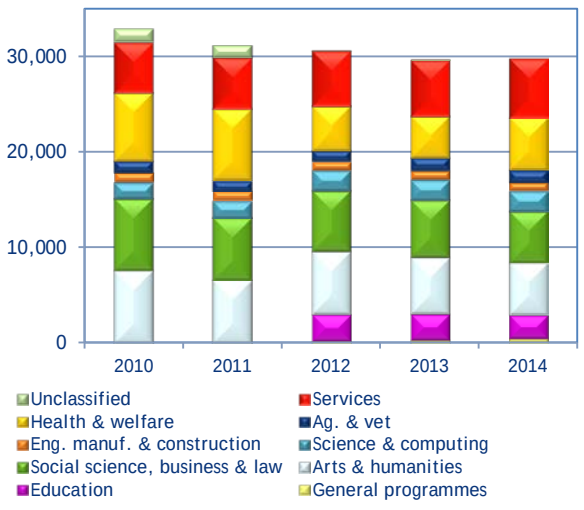
Inflows to apprenticeship

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 from a peak of 8,300 in 2006 to 1,200 in 2010); in recent years, numbers have recovered somewhat, although they remain well below the peak levels.
- A small number of apprenticeships are for crafts such as bookbinding and print media; apprentices in these areas amounted to fewer than ten in 2015.

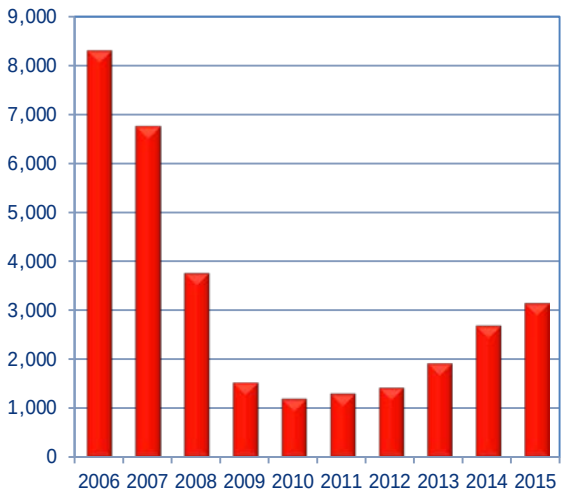
In addition, a number of new apprenticeships have been proposed in sectors other than construction and engineering and spanning both FET and higher education. The first intake in these new apprenticeships began in quarter 4 2016 (e.g. insurance practitioner).

Figure 3.6 First year PLC course enrolments (NFQ 5 & 6) by field of learning, 2010-2014



Source: DES

Figure 3.7 Craft Apprenticeship new registrations, 2006-2015



Source: SOLAS

Higher education inflows

CAO acceptances for undergraduate courses

CAO acceptance data (Figure 3.8) for those entering third level education between 2011 and 2015 shows that

- at levels 6 and 7, there have been annual declines in the number of acceptances since 2011, with declines primarily in SSBL, engineering, manufacturing and construction, and services
- arts and humanities and SSBL account for the highest shares of acceptances on level 8 courses; the number of acceptances has been increasing steadily since 2011, with the growth related mostly to increases in acceptances for courses in SSBL along with computing, engineering and arts/humanities.

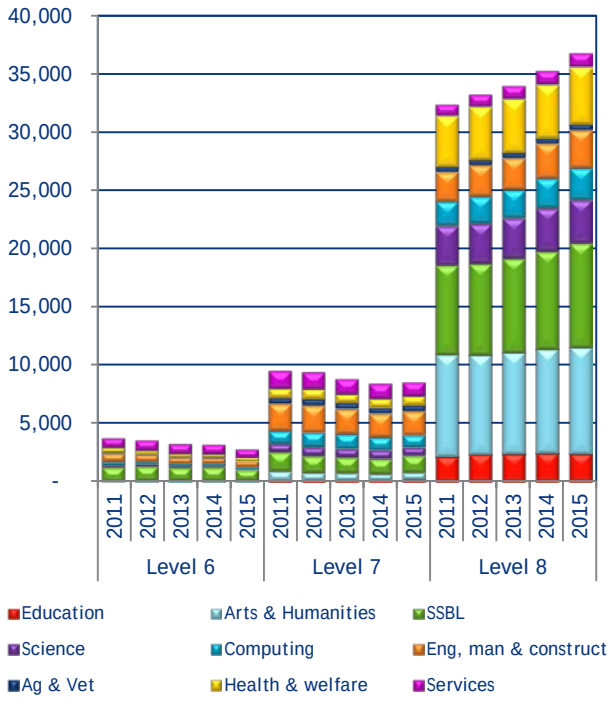
Postgraduate enrolments

There were approximately 36,000 postgraduate enrolments, spanning NFQ levels 9 and 10, in 2014. Figure 3.9 shows that

- postgraduate cert/diploma enrolments were primarily in education, SSBL and health
- masters programmes, at almost 20,000, accounted for the majority of all postgraduate enrolments and were primarily in SSBL but also featured strongly in education, arts and humanities, science/computing and health/welfare
- science and computing had the highest number of PhD enrolments, at approximately 2,200.

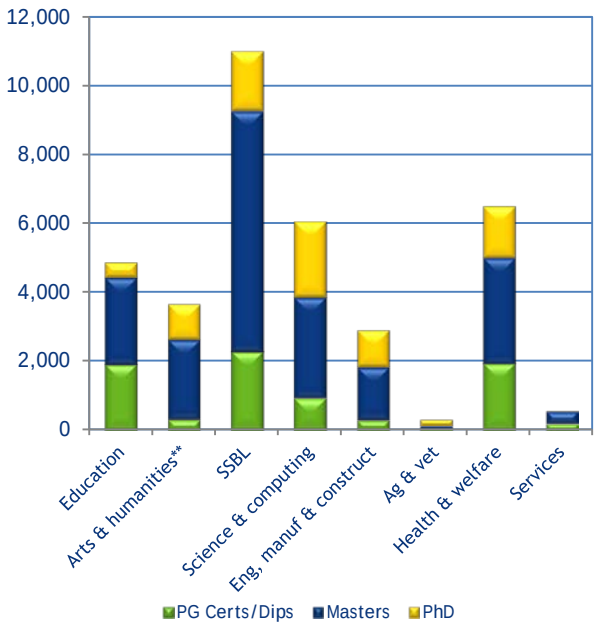
When compared with 2010, overall enrolments increased by 6%; increases occurred across all disciplines with the exception of arts/humanities, agriculture/vet. and services; the largest increases occurred for SSBL and health/welfare enrolments.

Figure 3.8 CAO acceptances by discipline and NFQ level, 2011-2015



Source: CAO

Figure 3.9 Postgraduate enrolments* by discipline and type, 2014



Source: HEA

*Excludes occasional and professional training

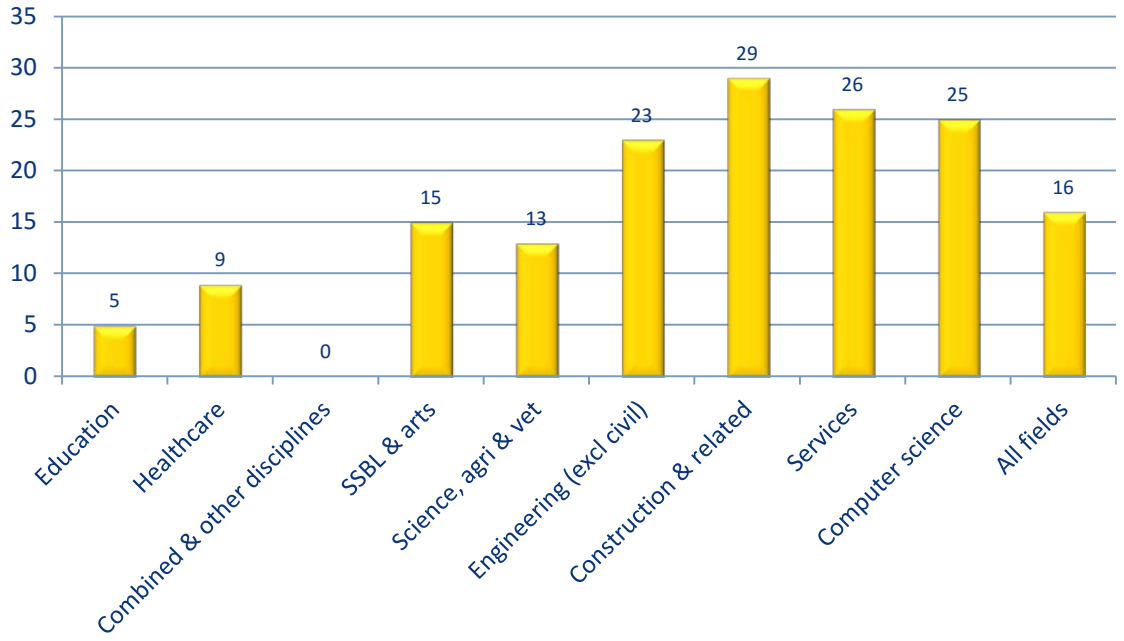
** Includes 100 enrolments in general programmes(NFQ 9)

How many first year students (full-time) progressed to year two of their course at third level?

Research carried out by the HEA (2016)[6] shows that 16% of full-time undergraduate new entrants in 2012/13 did not progress to their second year of study in 2013/14. Non-progression rates tend to vary by NFQ level and field of study (Figure 3.10).

- **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**: the highest non-progression rates were observed for those enrolled on construction related courses (29%), services (26%), computer science (25%) and engineering (23%); at 5% and 9% respectively, learners enrolled on education or healthcare courses had non-progression rates that were well below the average of 16%.

Figure 3.10 Non-progression rates among 1st year full-time undergraduates (2012/13 entrants), by field of study



Source: HEA

[6] Liston, Frawley & Patterson (2016). A study of Progression in Irish Higher Education 2012/13 to 2013/14.

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)[7] 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

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

When compared with the previous survey of 2013 graduates, the share in employment was higher for the 2014 cohort across all disciplines and levels, excluding level 8 computer science graduates.

Figure 3.11 First destination of level 8, level 9 masters degree and level 10 PhD graduates, 2014

Source: HEA

[7] What Do Graduates Do? The Class of 2014. An Analysis of the First Destination of Universities and Colleges of Education Graduates, 2014, HEA, May 2016

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 4 2010 - quarter 4 2015, the overall number of 25-29 year olds in the population fell by over 85,000; there were declines in numbers across all education levels but particularly so for those with upper secondary education, declining by 36,900 (Table 3.4). In terms of changes in the labour market status over this period,

- **in employment**: the share in employment increased across all education levels excluding third level, which declined by one percentage point, although this group still accounted for the highest share in employment at 80%
- **unemployed**: there was a noticeable drop in the share of persons unemployed across all education levels but was most significant for those with post-secondary education with a decline of nine percentage points
- **not active**: the share of persons classified as not active increased across all education levels, with an increasing number of third level graduates in this age group remaining/returning to education.

Table 3.4 Population aged 25-29 by highest level of education attainment and economic status (ILO), quarter 4 2010 and quarter 4 2015

	Q4 2010				Q4 2015			
	Total	In Employment	Unemployed	Not Active	**Total**	In Employment	Unemployed	Not Active
Third level (NFQ 6-10)	**158,700**	81%	10%	10%	**137,500**	80%	6%	13%
Post-secondary (NFQ 5-6)	**49,100**	62%	20%	18%	**31,300**	69%	11%	20%
Upper secondary or less (NFQ 1-5)	**139,000**	54%	20%	26%	**102,100**	59%	13%	28%
Not stated	**23,400**	65%	13%	22%	**13,700**	67%	6%	27%
Total	**370,100**	67%	15%	17%	**284,600**	71%	9%	20%

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.

4. Science and computing

Key points

- There has been a strong increase in the number of third level science and computing graduates when compared to 2010; in relative terms, growth was strongest for computing
- With inflows into the higher education system continuing to increase, graduate output growth looks set to continue in the short to medium term
- Ireland's share of third level graduates was higher than the EU average in this discipline
- FDS: 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 2014-2015, there were almost 10,700 science and computing awards (Table 4.1), the vast majority of which were at third level.

FET (NFQ 1-6)

- In 2015, there were approximately 250 QQI awards made to FET learners.
- The decline observed in recent years at level 5 was due to a fall in IT awards, which is partly a reflection of a shift towards vendor or third party provider certification (e.g. ICS Skills (ECDL)).[8]

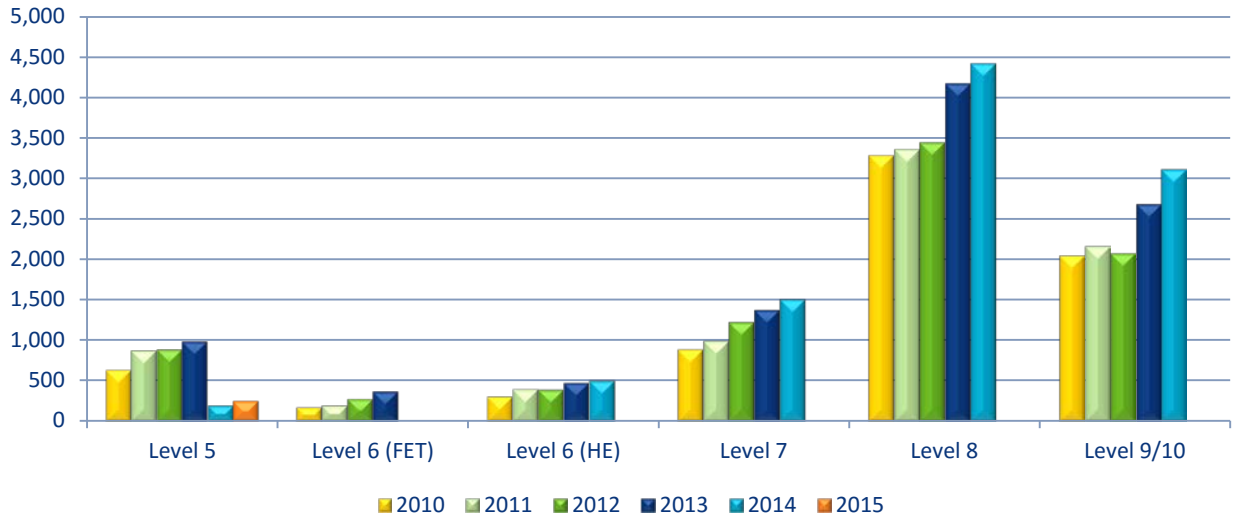
Higher education (NFQ 6-10)

- The number of awards in science and computing has increased across all NFQ levels in recent years.
- **Science and maths**
  - There were almost **5,800 awards** in 2014 (including QQI HE); most were at the higher end of the NFQ, with 94% at level 8 or above; there were over 500 PhDs, the highest number across all fields.
  - The biology/environmental sciences category accounts for the highest share of science awards and includes biopharmaceutical science and biomedical science.
  - When compared to 2010, the number of awards rose by 41%; growth was at all NFQ levels and amounted to an additional 1,590 graduates.
- **Computing**
  - There were **4,700 awards** (including QQI HE), with approximately three quarters at level 8 or above; specific areas include software development, games, networking, informatics and forensic computing.

[8] Outside of the QQI (FET) awards, over 5,300 (non-QQI) certs were issued to ICT learners on selected SOLAS funded courses; of these almost 2,600 were for ICS Skills (ECDL), 189 for Java, and 132 for software testing.

- When compared to 2010, the number of graduates (excluding QQI HE) grew by 54% (with 1,443 additional graduates); when QQI HE awards are included the growth is almost 2,000 additional graduates.

Figure 4.1 Science and computing awards 2010-2014 (2015 for FET)



Source: QQI (FET major awards) & HEA

Table 4.1 Science and computing awards by NFQ level and detailed field, 2014 (HE) or 2015 (FET)

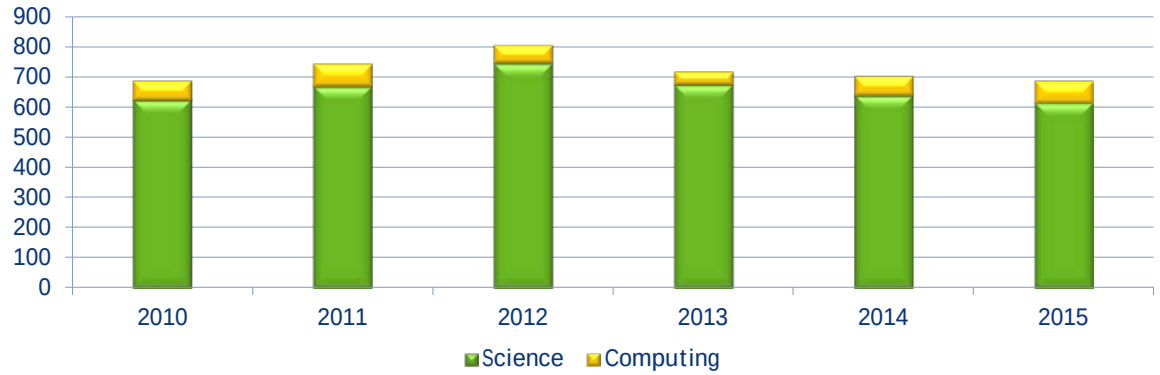
	FET 2015			Higher Ed 2014				Total
	NFQ 1-4	NFQ 5	NFQ 6	NFQ 6	NFQ 7	NFQ8	NFQ 9/10	NFQ1-10
Combined science & computing	**-**	**-**	**-**	**7**	**-**	**134**	**12**	**153**
Biology & environmental science	**3**	**204**	**-**	**142**	**466**	**1,765**	**726**	**3,306**
Biochemistry				*18*	*81*	*341*	*49*	*489*
Environmental science				*14*	*65*	*283*	*217*	*579*
Physical science, including	**-**	**-**	**-**	**75**	**190**	**936**	**371**	**1,572**
Chemistry				*51*	*85*	*347*	*180*	*663*
Maths & statistics	**-**	**-**	**-**	**3**	**31**	**323**	**292**	**649**
Computing	**-**	**44**	**1**	**282**	**834**	**1,265**	**1,715**	**4,140**
Computer use				99	201	231	104	635
Database & networks				26	107	78	65	276
Software development				46	221	462	584	1,313
QQI HE* science & computing	-	**-**	**-**	**125**	**48**	**459**	**203**	**835**
Science				*9*	*11*	*154*	*104*	*278*
Computing				*116*	*37*	*305*	*99*	*557*
Total science & computing	**3**	**248**	**1**	**631**	**1,538**	**4,882**	**3,319**	**10,656**

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

Awards for Irish domiciled graduates from UK higher education institutions

- In 2015, 16% of all Irish domiciled graduates from UK higher education institutions had attained science/computing qualifications.
- The numbers graduating from this discipline have not changed significantly in recent years, peaking in 2012 at over 800 awards, falling to under 700 in 2015 (Figure 4.2).
- Science graduates accounted for over 88% of all awards in this discipline over the period examined.

Figure 4.2 Irish domiciled graduates from UK higher education institutions in science/computing, 2010-2015

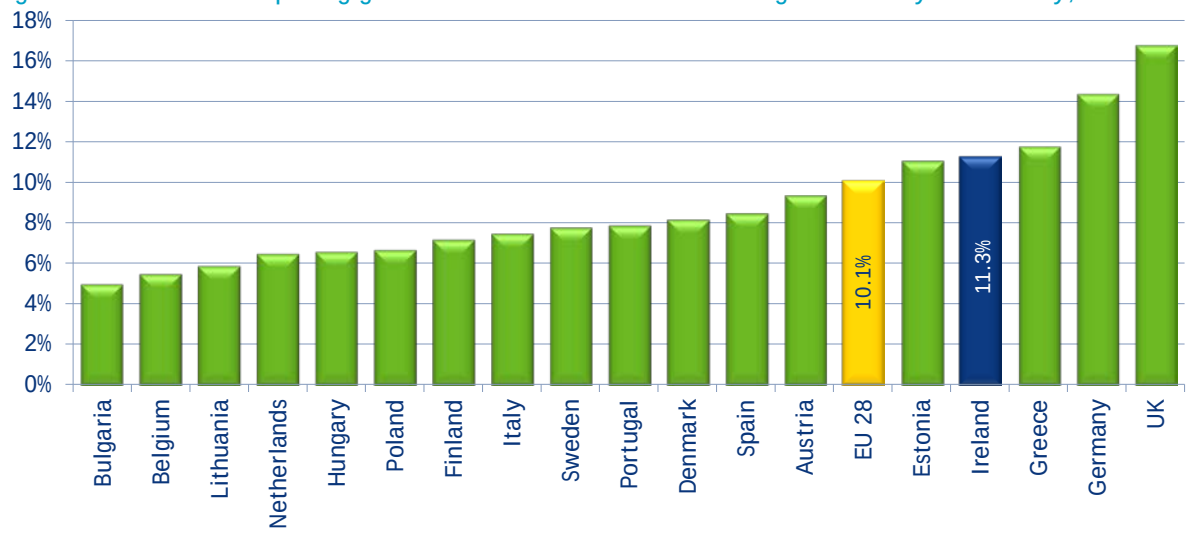


Source: HESA

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 11.3% of graduates in science/computing, Ireland has the fourth highest share among selected EU countries, above the EU 28 average of 10.1%.

Figure 4.3 Science/computing graduates as a % of all third level* graduates by EU country, 2014



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 2014,* shows the first destination of science/maths and computing graduates by level.

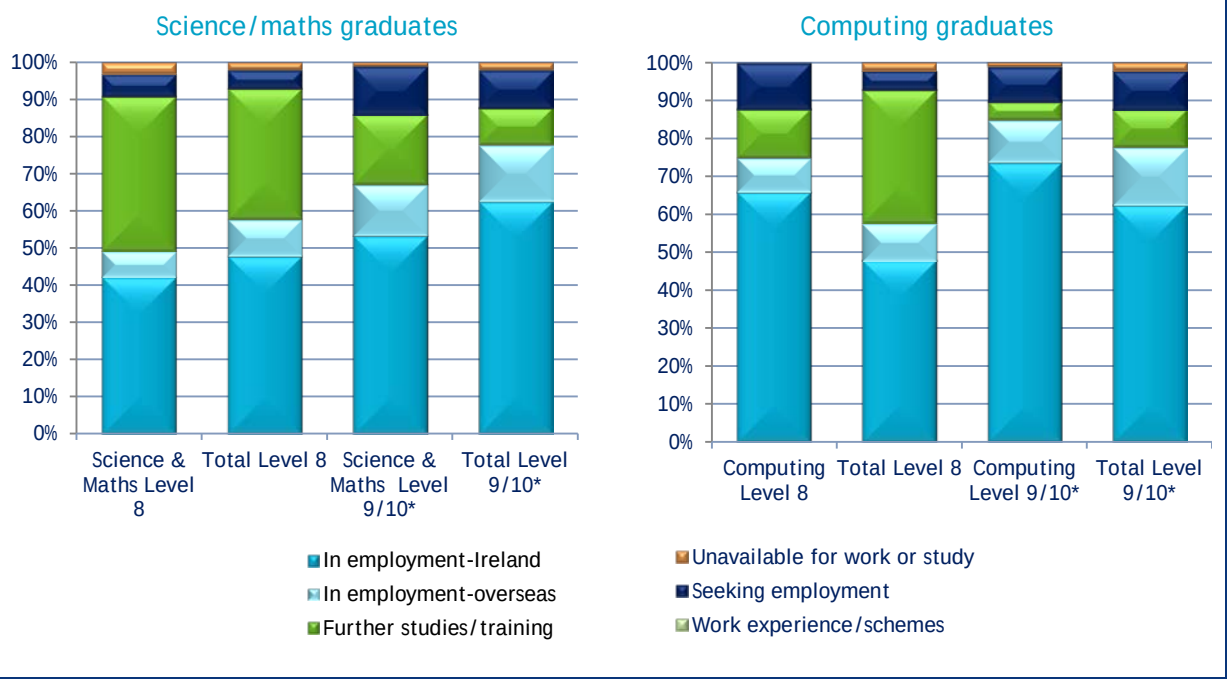
Science/maths

- 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
- The share of level 8 graduates in employment (both in Ireland and overseas) grew by seven percentage points since 2013, while the share of level 9/10 graduates in employment grew by three percentage points over the same period

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 remained unchanged when compared to 2013, whereas there was a seven percentage point increase in the share of level 9/10 graduates in employment over the same period.

Figure 4.4 First destination of NFQ level 8-10 higher education science/computing graduates, 2014



Source: HEA

*Level 9/10 includes masters and PhDs only

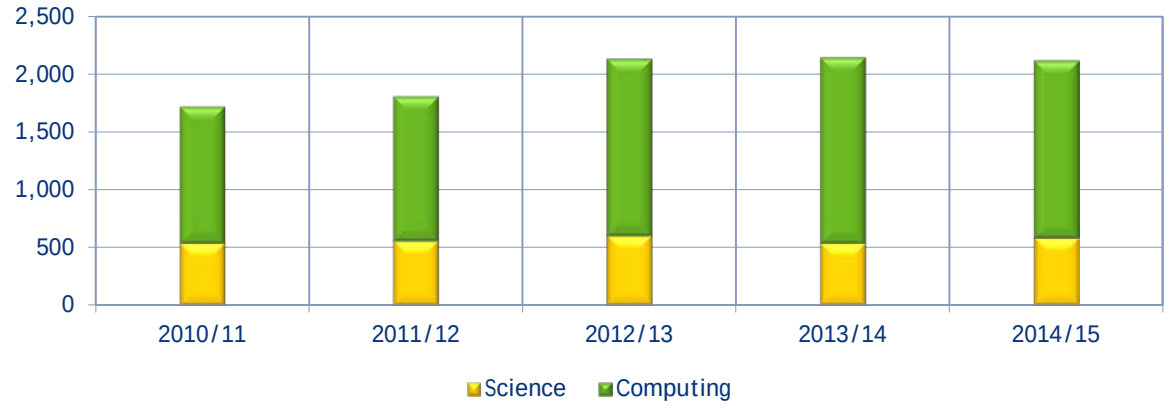
4.4 Future output of science and computing graduates

PLC Enrolments

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

- In 2014/15, there were over 2,100 learners enrolled on year one of PLC courses in science/computing; of these, more than two thirds (almost 1,200 enrolments) were for IT related courses (e.g. information technology, computer and network maintenance etc.); the science category included laboratory techniques or general science courses.
- When compared to 2010, the number of enrolments grew by almost a quarter, with most of the growth due to increases in computing related courses which occurred between 2011 and 2012.

Figure 4.5 First year PLC enrolments for science/computing etc. related courses, 2010/11-2014/15



Source: DES

Apprenticeship

Following a review of the apprenticeship system 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 proposals. Combined, it is expected that these will lead to up to 300 annual apprenticeship registrations. Each programme will have a duration of a minimum of two years and a maximum of four years. New apprenticeships are being rolled out from quarter 4 2016.

Table 4.2. Proposed new apprenticeships in ICT related areas

Apprenticeship title	NFQ	No. annual registrations	Duration (years)	Proposer / provider
ICT Network Engineer	6	100	2	Fast Track into Technology (FIT) industry network
ICT Software Developer	6	100	2	FIT industry network
Telecom Field Technician	6	80	2	Eir

Source: SOLAS

CAO Acceptances

There were almost 8,500 CAO acceptances for science/computing in 2015 (Figure 4.6).

- **Level 6:** the number of acceptances at this level was small and has been declining over the period examined; the declines occurred across both science and computing disciplines.
- **Level 7:** there was a peak in the number of acceptances in 2012 with declines occurring since; approximately two thirds of all acceptances in this discipline were for computing courses over the period examined; of the 700 science acceptances each year, the largest numbers were in applied biology and pharmaceutical science.
- **Level 8:** the number of acceptances has been increasing steadily since 2010 relating primarily to an increase in the number of persons accepting places on computing courses (+30% since 2011), although science still accounted for an average of 60% of acceptances at this level over the period examined; 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 2010 and 2014, with numbers peaking in 2012 at over 6,200.

- Over this period, enrolments increased for postgraduate cert/diploma and master programmes while PhD programme enrolments have been declining since 2012 resulting in a 21% decline on 2010 enrolments.
- There was an overall increase in enrolments on computing programmes since 2010; science enrolments declined over the same period, related to a fall in PhD enrolments.
- In 2014, enrolments on computing programmes accounted for 46% of the share of total enrolments; over 60% of enrolments for postgraduate cert/diploma and master programmes were in computing whereas PhD enrolments were predominately in science, accounting for an 82% share in 2014.

Figure 4.6 CAO acceptances for science, mathematics and computing courses, 2011-2015

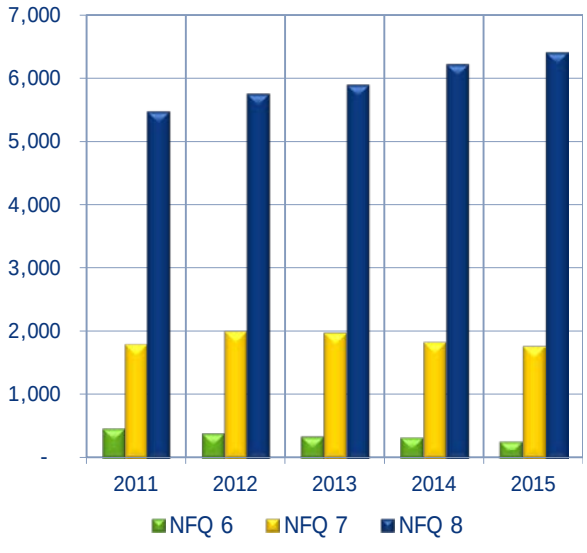
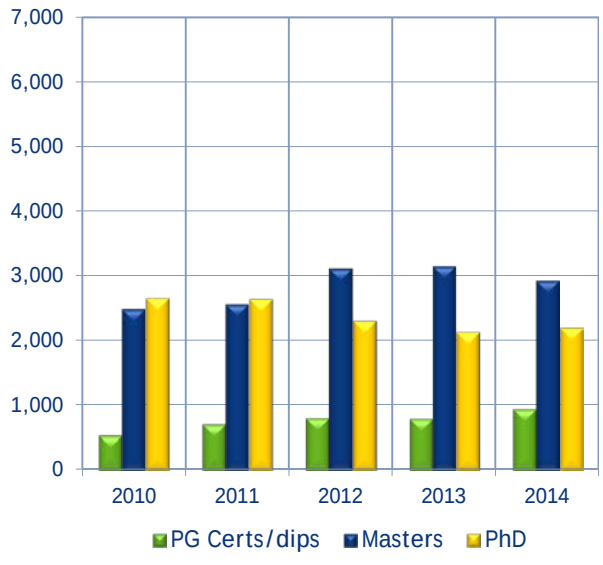


Figure 4.7 Postgraduate enrolments in science and computing, 2010-2014



Source: CAO, HEA

5. Engineering, manufacturing and construction

Key points

- The sharp decline in the number of FET awards is almost entirely due to the impact of the recession on the construction sector
- Intake into craft apprenticeship programmes has begun to recover, with over 3,000 new registrations in 2015
- The downturn in the construction sector has also affected output from higher education in this discipline, with the number of HE awards at levels 7 and 8 particularly negatively impacted
- Inflows into the higher education system at level 8 have been increasing in recent years, which should result in a reversal of recent declines at this level; until recently, all increases were driven by engineering courses, although construction is showing signs of recovery lately
- Ireland's share of third level graduates in this discipline was lower than the EU average; at 10%, Ireland's share is less than half that of Austria, Finland and Germany, each at 20% or higher
- FDS: the share of third level engineering etc. graduates who were in employment nine months after graduation was higher than the average; when compared to the previous survey, there was a significant fall in the share of level 8 graduates employed overseas

5.1 How many awards in engineering, manufacturing and construction?

In 2014-2015, there were approximately 8,500 FET and third level graduates in engineering related fields (Table 5.1).

FET (NFQ 1-6)

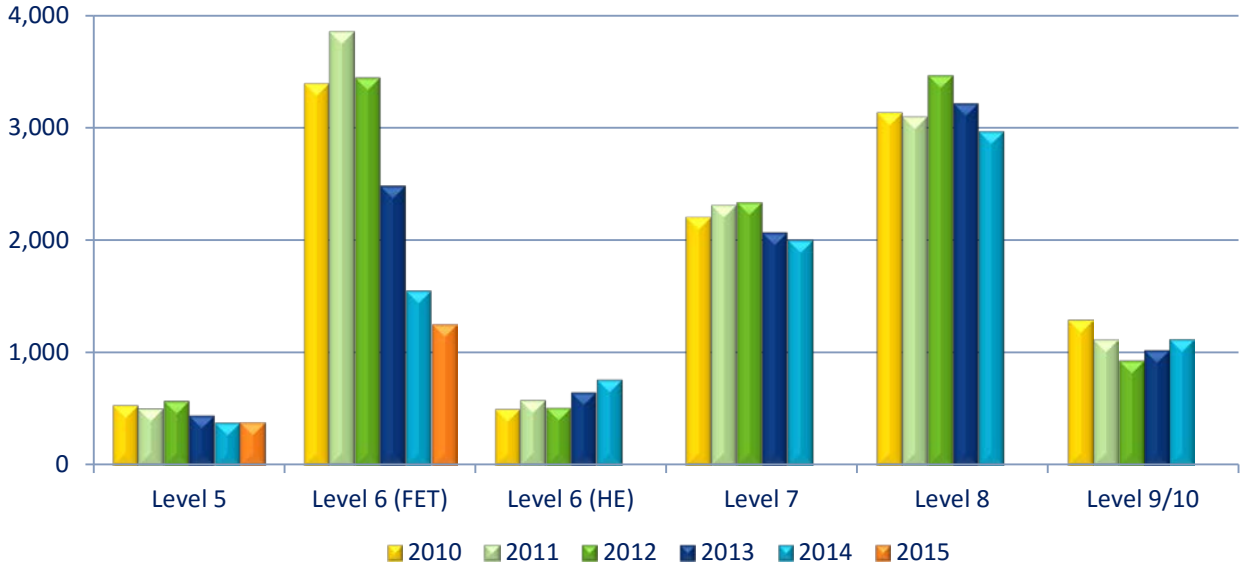
- At almost 1,700, in 2015, FET awards declined by 62% when compared to the peak in 2011.
- The decrease is related to the decline of the construction industry and reduced intake of apprentices in preceding years (apprenticeship training typically takes 4 years).
- Engineering etc. is the only field 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 2014; of these, approximately 30% were in construction; there was also a small number of awards made in the non-HEA aided sector.
- Awards at level 6 and levels 9/10 have increased slightly since 2012 but levels 7 and 8 have continued to decline; the declines are due almost entirely to a fall in construction related courses (especially civil engineering); the number of awards in other engineering fields rose.
- **Engineering & manufacturing:** in 2014, almost 4,200 awards were made in engineering, with a further 620 in manufacturing; engineering awards were mainly at levels 7 and 8 and in areas such as electrical services, electronic engineering, mechatronics, mechanical engineering and energy systems; since 2010, the overall number of awards has increased, particularly in relation to the areas of electrical and electronic engineering at level 7.

- **Construction**: in 2014, there were almost 2,100 awards, a decline of over a third when compared to 2010; in civil engineering, level 8 awards fell by 50% to 200 and level 6/7 awards fell by 64% to 180 in this period.

Figure 5.1 Engineering, manufacturing and construction awards by level, 2010-2014/15



Source: QQI (FET major awards) & HEA

Table 5.1 Eng., manuf. & const. awards by NFQ level & detailed field, 2014 (HE) or 2015 (FET)

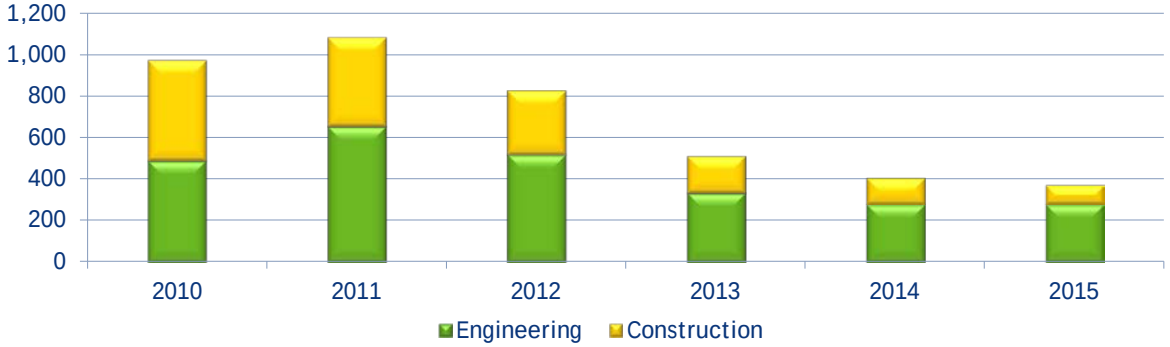
	FET (2015)			Higher Ed (2014)					Total
	NFQ 3-4	NFQ 5	NFQ 6	NFQ 6	NFQ7	NFQ 8	NFQ 9	NFQ 10	
Combined eng., manuf. & const.	9			2					11
Engineering, *including*	6	227	880	483	1,457	1,562	510	180	5,305
Mechanics & metal work			*172*	*75*	*52*	*114*	*179*	*21*	*613*
Electricity & energy			*402*	*26*	*287*	*282*	*80*	*0*	*1,077*
Electronics & automation		*9*	*5*	*129*	*519*	*418*	*66*	*24*	*1,170*
Chemical & process				*75*	*52*	*114*	*179*	*21*	*441*
Manufacturing & process, inc		53	7	163	74	296	83	1	677
Food processing		*2*		*11*	*2*	*48*	*28*	*0*	*89*
Materials			*7*	*5*	*21*	*79*	*11*	*1*	*117*
Construction, *inc*		106	363	120	476	1,117	306	47	2,535
Archit. & town planning				*4*	*112*	*439*	*141*	*8*	*704*
Building & civil eng				*110*	*357*	*537*	*140*	*39*	*1,183*
QQI-HE (2015)					21				21
Total	15	386	1,250	768	2,028	2,975	899	228	8,549

Source: QQI & HEA

Awards for Irish domiciled graduates from UK higher education institutions

- In 2010 and 2011, engineering/construction graduates accounted for 17% of all Irish domiciled graduates from UK higher education institutions; by 2015, this share declined to 9%, with awards falling from 1,085 in 2011 to 375 awards in 2015.
- While the number of awards fell for both engineering and construction, the fall was most dramatic in construction, with an 80% decline in the number of Irish domiciled graduates attaining awards in this field.

Figure 5.2 Irish domiciled graduates from UK higher education institutions in engineering/construction, 2010-2015

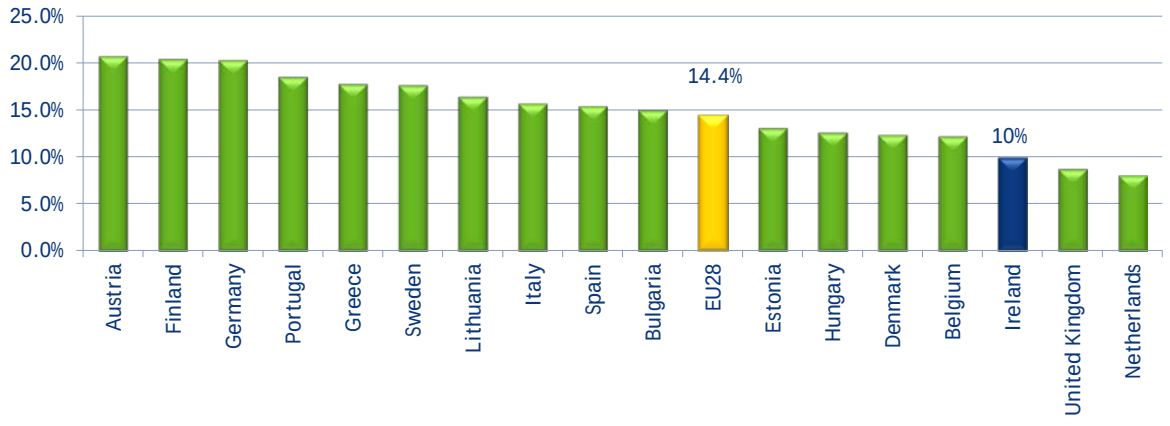


Source: HESA

5.2 EU comparison

Figure 5.3 provides a breakdown of the share of third level engineering etc. graduates in 2014 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 (14.4%). Its share is also far below that of countries such as Austria, Finland and Germany, each with a share greater than 20%.

Figure 5.3 Engineering, manufacturing & construction graduates as a % of all third level* graduates by EU country, 2014



Source: Eurostat

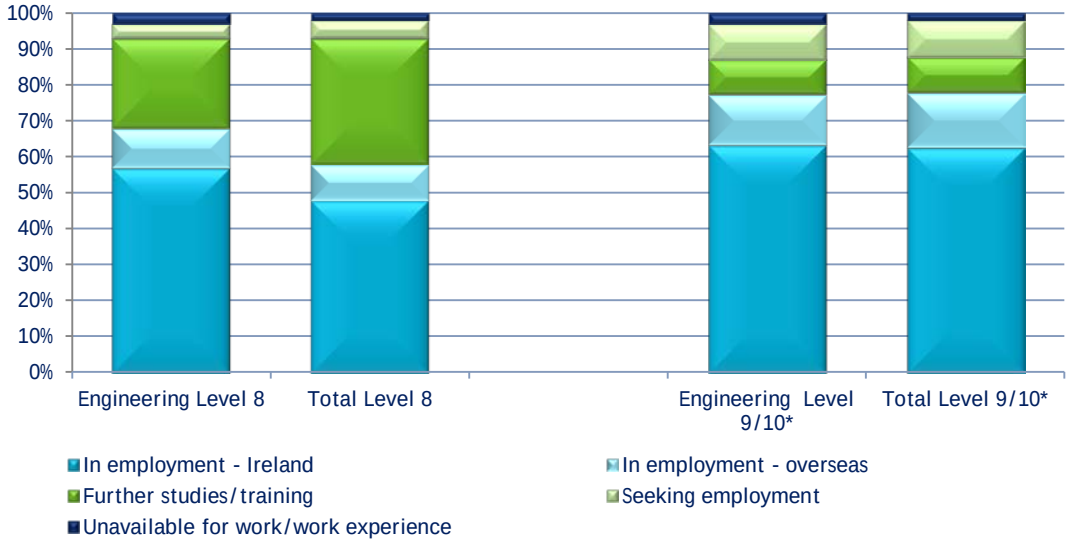
* Refers to all third level categories (equivalent in Ireland to levels 6-10)

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 2014*,

- level 8 engineering etc. graduates had a higher share of persons employed than the overall graduate pool nine months after graduation and a corresponding smaller share of graduates undertaking further studies/training; since 2013, there was a significant fall in the share employed overseas, from 17% to 11%, and a large increase in the share employed in Ireland, from 44% to 57%, reflecting the upturn in activity in the construction sector
- the destination of engineering etc. graduates at level 9/10 was broadly in line with the overall destination of graduates at this level; since 2013, there was a six percentage point increase in the share employed in Ireland.

Figure 5.4 First destination of NFQ level 8-10 higher education engineering etc. graduates, 2014



Source: HEA

*Level 9/10 includes masters and PhDs only

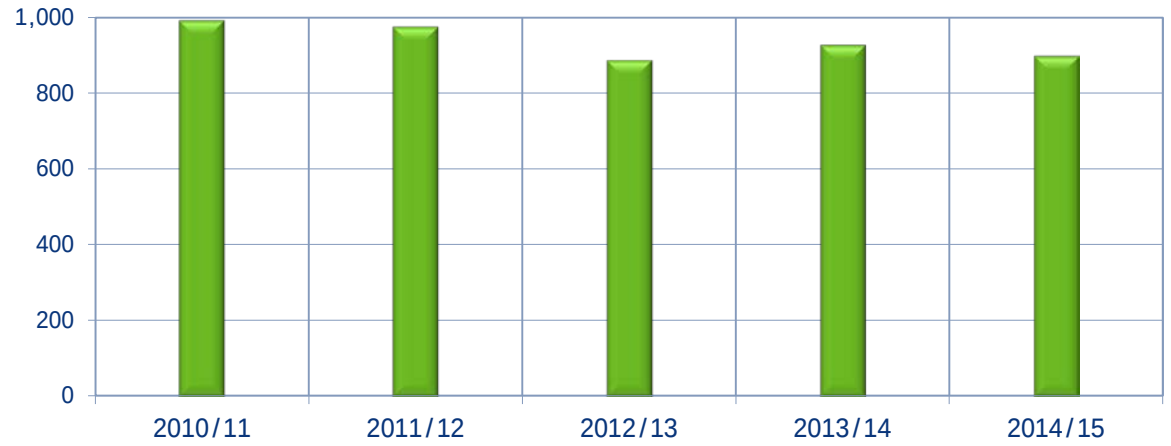
5.4 Future output of engineering, manufacturing and construction graduates

PLC Enrolments

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

- There were approximately 900 learners enrolled on year one of a PLC course in engineering in 2014/15, etc.; this is a decline of 9% on 2010/11and 3% on 2013/14.
- The declines are due to a reduced number of enrolments on construction related courses (e.g. construction technology); in contrast, the number of enrolments on motor technology increased to over 300 (approximately 100 additional learners).

Figure 5.5 First year PLC enrolments for engineering etc. related courses, 2010/11-2014/15



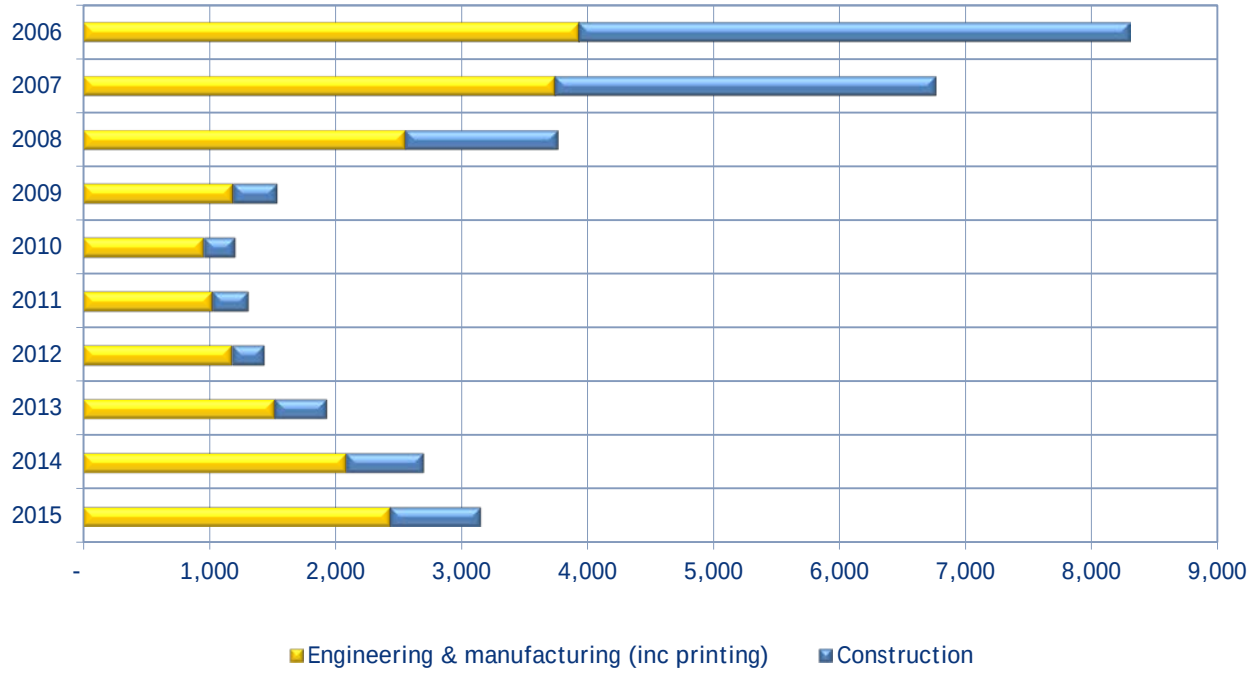
Source: DES

Apprenticeship

Figure 5.6 details the number of new registrations for craft 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 has been growing annually since the lowest levels in 2010.

- **Engineering & manufacturing:** in 2015, more than three quarters of all new apprenticeship registrations were for these trades; this compares to 2006, when they accounted for less than half; the trades with the highest number of registrations in this category in 2015 were electrical (almost 1,000), motor mechanic (over 400) and metal fabricator (almost 200).
- **Construction:** new registrations declined rapidly with the recession; since then, although numbers are well below those observed in 2006, the number of new registrations has increased; despite this growth, construction accounted for less than a quarter of all new apprenticeship registrations in 2015, compared to over a half in 2006; trades with the highest number of registrations in 2015 were plumber and carpenter/joiner (each with almost 300 registrations).

Figure 5.6 Apprenticeship registrations for engineering etc. trades, 2006-2015



Source: SOLAS

In addition to the traditional 'craft' apprenticeships, a number of new apprenticeships have been proposed following a review of the apprenticeship system in 2013 (DES). Of the 25 new proposed apprenticeships, a number are directly relevant to engineering and manufacturing sectors (Table 5.2); these new apprenticeships aim to have approximately 500 annual registrations in a number of engineering related occupations such as welder and manufacturing engineer and technician. The new apprenticeships will be rolled out from autumn 2016 onwards.

Table 5.2 Proposed apprenticeships in engineering & manufacturing related areas

Apprenticeship title	NFQ	No. annual registrations	Duration (years)	Proposer / provider
Industrial electrical engineer	7	16	2	Limerick Institute of Technology
Manufacturing engineer	7	40	4	Irish Medical Devices Association IBEC
Manufacturing technician	6	64	2	
Polymer processing technologist	6	40	3	IBEC
OEM engineer	6	50	3	Combilift

Source: SOLAS

CAO Acceptances

There were almost 5,800 CAO acceptances in engineering, manufacturing and construction in 2015 (Figure 5.7). The overall numbers increased by 3% between 2011 and 2015; while total engineering acceptances remained static, construction acceptances grew by 13% indicating a returned confidence in the recovery in the construction sector.

Level 6

- Engineering courses accounted for over three quarters of acceptances at this level over the period 2011 - 2015, despite a fall of 41% since 2011; over the same period, the number of acceptances for construction related courses remained constant, albeit at a low level.
- Almost half of all acceptances in 2015 related to mechanical engineering courses.

Level 7

- Both engineering and construction courses experienced a 14% decline in the number of acceptances between 2011 and 2015, with engineering acceptances maintaining a share of at least three quarters over the period examined.
- In engineering, mechanical engineering courses accounted for both the highest share of acceptances and the largest fall in acceptances over the period; construction acceptances were primarily in civil engineering.

Level 8

- There were gains in acceptances for both engineering and construction courses since 2011 (+495 and +233 respectively); while engineering acceptances have been growing steadily over the period, construction acceptances only began to show signs of recovery since 2014.
- For engineering, acceptances were primarily for broad engineering courses; construction acceptances were in the areas of architectural technology, civil engineering and construction management.

Postgraduate enrolments

Postgraduate enrolments in this discipline have fluctuated over the period 2010 to 2014, primarily related to enrolments on masters programmes (Figure 5.8).

- While the number of enrolments was broadly in line with that of 2010, there was a 9% increase since 2013, primarily related to a rise in postgraduate cert/diploma enrolments.
- In 2014, construction-related courses accounted for the highest share of enrolments on postgraduate cert/diploma programmes, although they accounted for less than a third of enrolments on masters programmes and 16% for PhD programmes.
- Since 2010, there was a net increase in enrolments on construction related courses and a decline in engineering enrolments, related mostly to masters programmes.

Figure 5.7 CAO acceptances for engineering, manufacturing & construction courses, 2011-2015

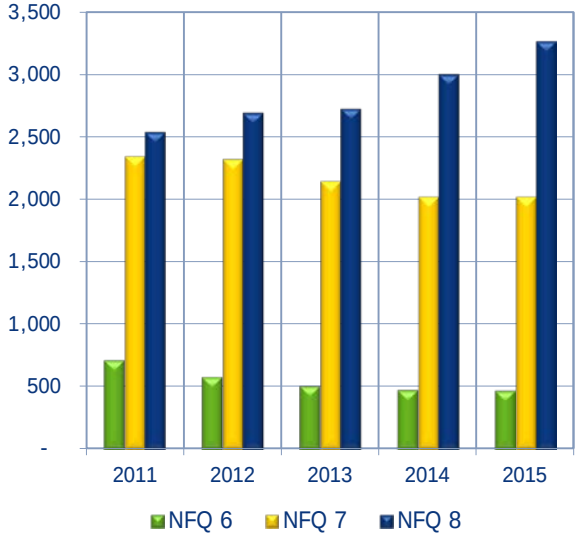
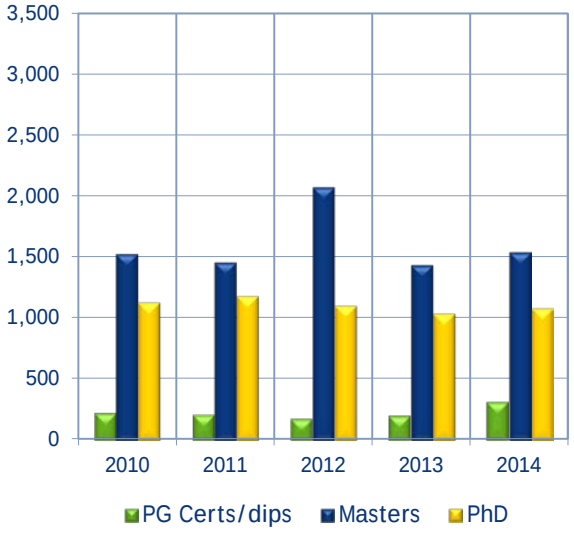


Figure 5.8 Postgraduate enrolments in engineering, manufacturing & construction, 2010-2014



Source: CAO, HEA

6. Social science, business and law (SSBL)

Key points

- This discipline accounts for the largest number of awards across all disciplines: it makes up almost a fifth of total FET awards and almost a third of total higher education awards
- A number of apprenticeship programmes in the financial sector have been proposed, with the insurance practitioner apprenticeship having commenced in September 2016
- 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
- Ireland's share of third level graduates in this discipline was lower than the EU average
- FDS: the outcomes for third level SSBL graduates nine months after graduation was on a par with the average for all graduates

6.1 How many awards SSBL?

- There were almost 30,500 FET, third level and professional awards in SSBL in 2014 (Table 6.1).

FET 2015 (NFQ 1-6)

- There were 6,000 awards in 2015, of which 73% were at level 5.
- The number of awards has fluctuated in recent years, and although lower than the peak of 2011, SSBL accounted for approximately one fifth of all QQI (FET) major awards in 2015; the sharp drop that occurred in 2013-2014 was due to a decline across most SSBL award titles, particularly in office administration, business studies, retail skills etc.
- SSBL awards are typically for programmes in business studies, secretarial studies etc.

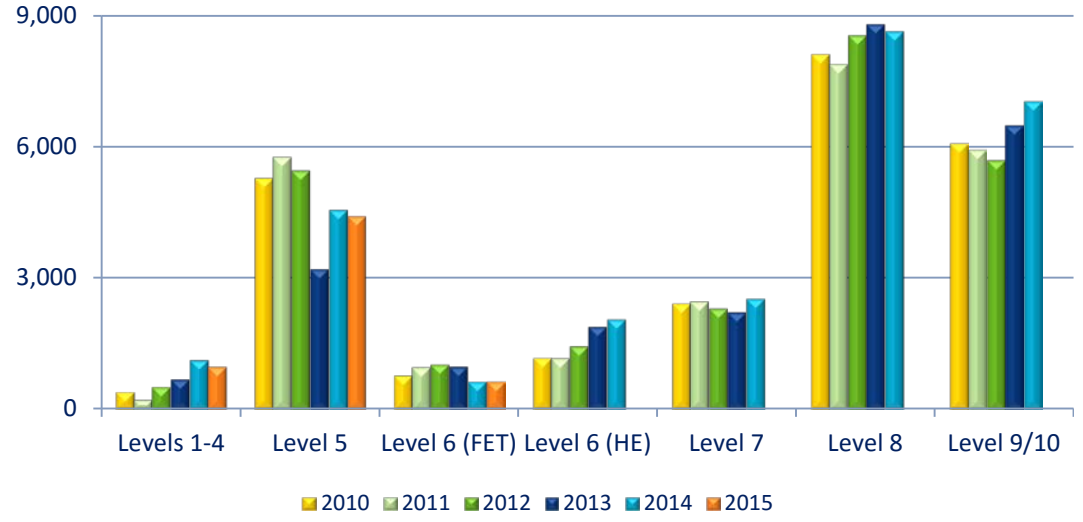
Higher education (NFQ 6-10)

- There were 20,300 awards in SSBL in 2014, 14% more than in 2010; there were a further 2,250 QQI awards in the non-HEA sector.
- Almost two thirds of awards at level 6 were made to part-time learners.
- At level 8, the highest numbers were in general business studies and commerce; at level 9, awards were concentrated in business management related areas.
- The increases observed were across most subject areas in business (including marketing/advertising, which rose by more than 300 awards); the exceptions were the accounting and finance sub-fields, which declined by between 100 and 200 awards each.

Professional qualifications

- There were almost 2,000 professional awards in accounting and taxation; while this is lower than the 2,200 observed in 2010, the number has remained stable in the last three years, having recovered from approximately 1,600 in 2012.

Figure 6.1 SSBL awards by level, 2010-2014 (2015 for FET)



Source: QQI (FET major awards) & HEA

Table 6.1 SSBL awards by NFQ level & detailed field, 2014 (HE) or 2015 (FET)

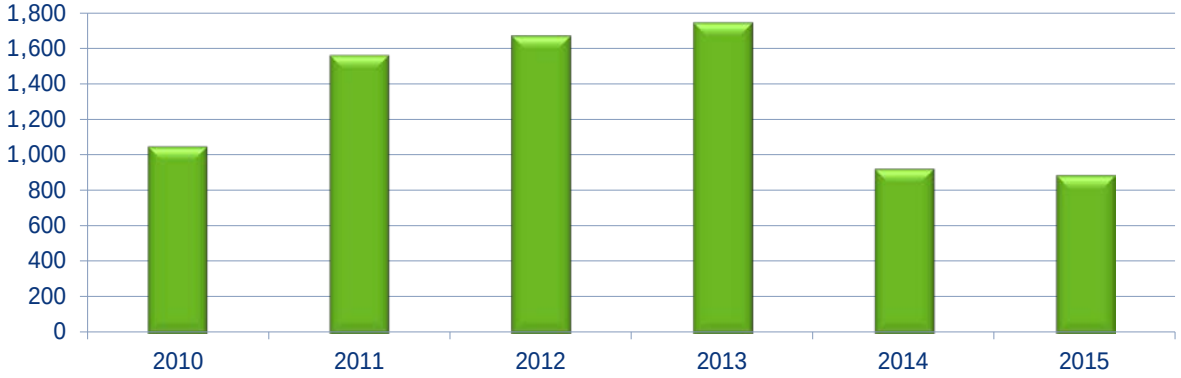
	FET (2015)			Higher education (2014)					Total
	NFQ 1-4	NFQ 5	NFQ 6	NFQ 6	NFQ 7	NFQ 8	NFQ 9	NFQ 10	
Social science & info, *inc.*	-	1,108	96	430	246	2,238	1,464	222	5,804
Economics	-	-	-	*14*	*41*	*209*	*210*	*21*	*495*
Business & admin, *inc.*	981	3,305	547	1,634	2,292	6,412	5,248	114	20,533
Business & admin	-	*1,072*	*346*	*803*	*1,047*	*2,827*	*788*	*41*	*6,924*
Sales	*169*	*106*	*9*	*31*	*15*	*57*	*62*	*0*	*449*
Marketing/advertising	-	*47*	-	*99*	*218*	*379*	*607*	*0*	*1,350*
Finance & insurance	-	-	-	*5*	*5*	*145*	*461*	*2*	*618*
Accounting & tax	-	-	-	*60*	*261*	*723*	*436*	*4*	*1,484*
Management & admin	-	*1,726*	*192*	*544*	*609*	*1,320*	*2,338*	*17*	*6,746*
Secretarial & work skills	*812*	*313*	-	*66*	*32*	-	*11*	-	*1,234*
Law	-	*41*	-	*26*	*105*	*961*	*545*	*50*	*1,728*
Professional qualifications (2015)	-	-	-	-	-	-	-	-	1,874
QQI-HE (2015), *inc.*	-	-	-	89	248	1,408	506	-	2,251
Social science & info	-	-	-	-	*24*	*276*	*22*	-	*322*
Business & admin	-	-	-	*89*	*224*	*1,132*	*484*	-	*1,929*
Total	981	4,413	643	2,153	2,786	10,058	7,218	336	30,462

Source: HEA; QQI; IAASA; Irish Tax Institute

Awards for Irish domiciled graduates from UK higher education institutions

- The number of Irish domiciled graduates from UK higher education institutions in SSBL peaked at 1,750 in 2013, followed by two consecutive falls in 2014 and 2015, to 890.
- At 21% in 2015, this discipline accounted for the second highest share of Irish students gaining third level awards in the UK.

Figure 6.2 Irish domiciled graduates from UK higher education institutions in SSBL, 2010-2015

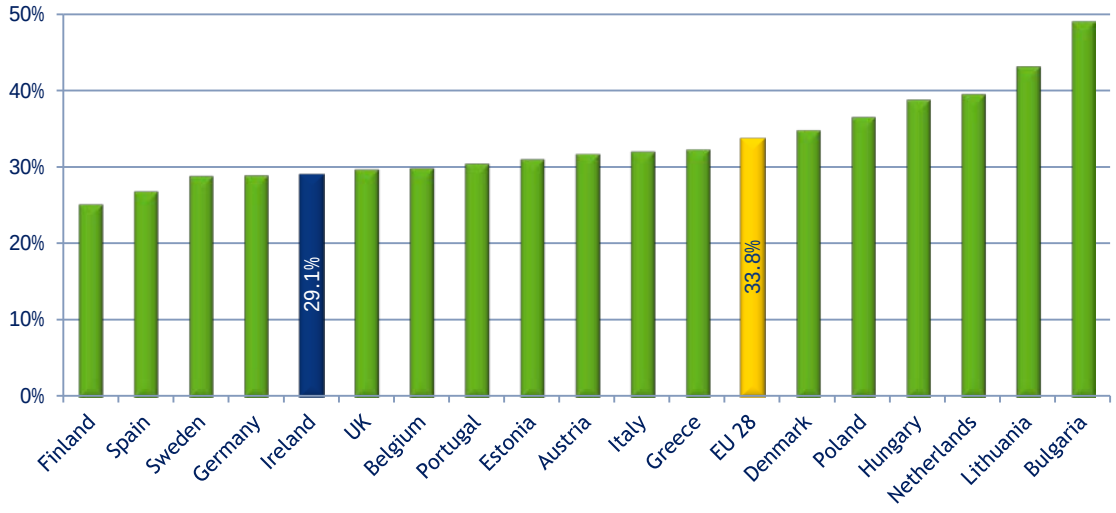


Source: HESA

6.2 EU comparison

In 2014, approximately 30% of Ireland's third level graduates had studied programmes in social science, business and law (Figure 6.3); this compares to the EU 28 average of 33.8%; however, countries such as Spain and Finland have smaller shares of SSBL graduates amongst their third level graduates (approximately a quarter), while countries such as Lithuania and Bulgaria have higher shares (in excess of 40%).

Figure 6.3 SSBL third* level graduates as a share of total graduates in selected EU countries, 2014



Source: Eurostat

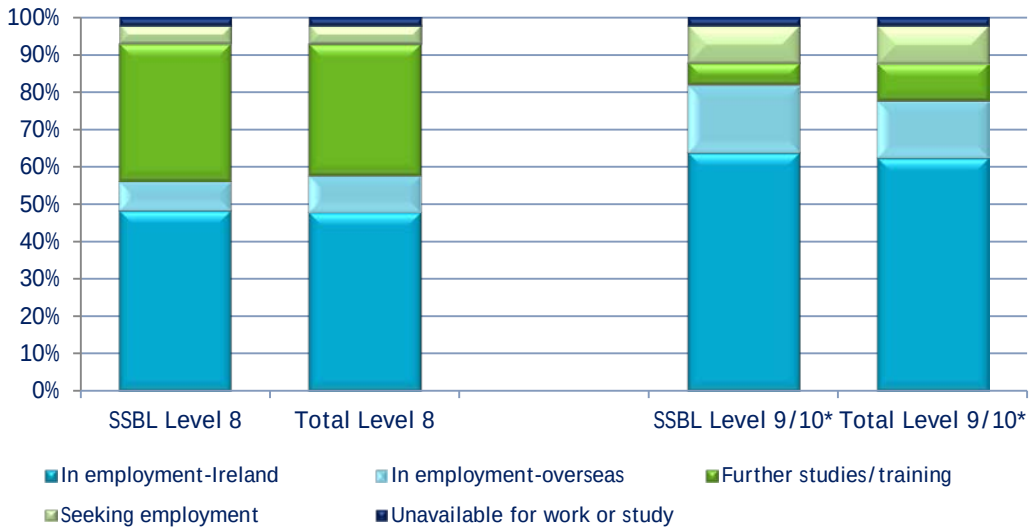
* Refers to all third level categories (equivalent in Ireland to levels 6-10)

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 2014*,

- the destination of level 8 SSBL graduates is broadly in line with the overall breakdown for all graduates at this level; since 2013, the share of graduates in employment in Ireland grew by eleven percentage points
- level 9/10, SSBL graduates are more likely to be in employment than level 9/10 graduates overall and less likely to be in further studies/training; since 2013, there was an increase of five percentage points in the share in employment (both in Ireland and overseas).

Figure 6.4 First destination of NFQ level 8 and level 9/10 SSBL graduates, 2014



Source: HEA

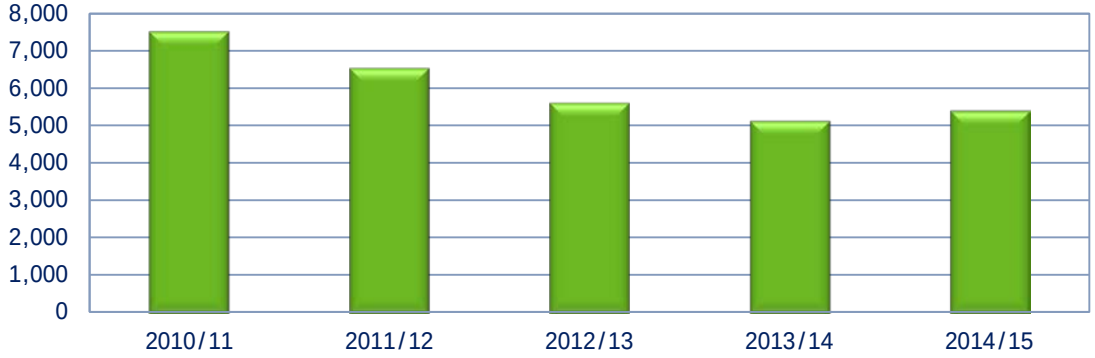
*Level 9/10 includes masters and PhDs only

6.4 Future output of SSBL graduates

PLC Enrolments

- There were approximately 5,400 enrolments on year one of SSBL PLC courses in 2014/15.
- When compared to 2010/2011, the number of learners enrolled on year one declined by one quarter (approximately 2,000 fewer learners) (Figure 6.5); the decline was mostly due to decreases in the number in business administration courses.

Figure 6.5 First year PLC enrolments in SSBL, 20010/11-2014/15



Source: DES

New apprenticeship

Following a review of the apprenticeship system 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 five finance-related proposals. Combined, it is expected that these will lead to up to 400 annual apprenticeship registrations. Each programme will have a duration of a minimum of two years and a maximum of four years. New apprenticeships are being rolled out from quarter 4 2016; a new apprenticeship in Insurance Practice is now underway, with 67 apprentices registered in September 2016. The Insurance Institute of Ireland is the industry lead on the apprenticeship, with IT Sligo.

Table 6.2 Proposed apprenticeships in business related areas

Apprenticeship title	NFQ	No. annual registrations	Duration (years)	Proposer / provider
IFS associate professional	6	120	2	
IFS specialist	8	60	2	Financial Services Ireland
IFS advanced specialist	9	30	2	
Insurance practitioner	8	67	3	The Insurance Institute
Accounting technician	6	80	2	Accounting Technicians Ireland

Source: SOLAS

CAO Acceptances

There were over 11,400 CAO acceptances in SSBL in 2015 (Figure 6.6). The 8% increase between 2011 and 2015 was driven by growth in level 8 acceptances (+17%) and despite a fall in the number of acceptances at level 6 (-21%) and level 7 (-12%).

- 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 2011 (+1,300 acceptances), primarily due to increases in acceptances on business (many with languages) and law courses.

Postgraduate enrolments in SSBL by programme type

- The number of postgraduate enrolments in SSBL has been increasing 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).
- Of all enrolments in this discipline, social sciences accounted for 29%; management related courses accounted for the highest share of business and administration courses, followed by general business and law.

Figure 6.6 CAO acceptances in SSBL, 2011-2015

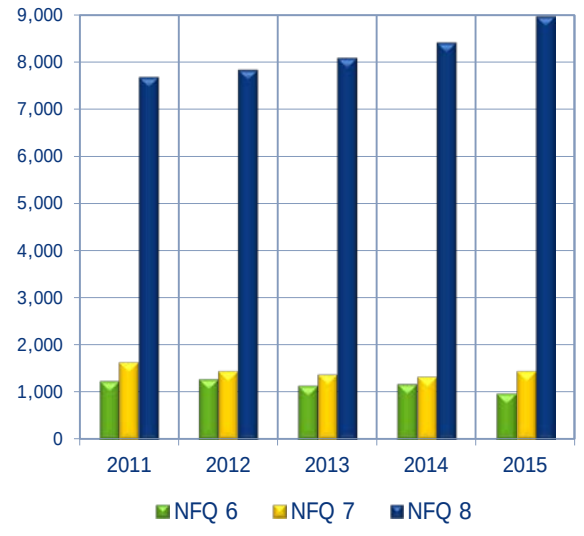
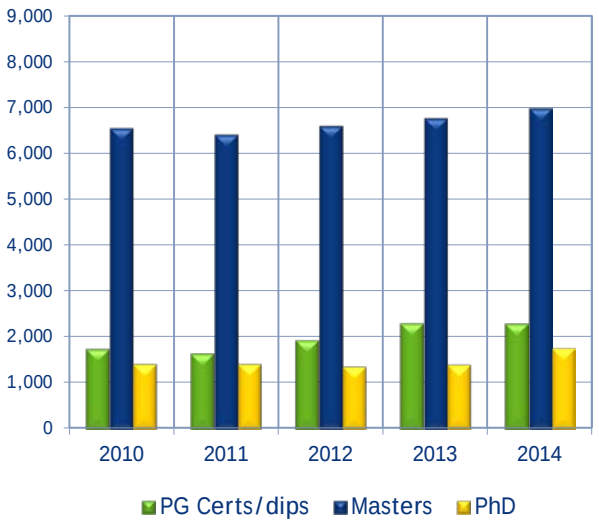


Figure 6.7 Postgraduate enrolments in SSBL by programme type, 2010-2014



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
- Level 5 awards account for the highest share of awards in this discipline, in areas such as healthcare support and childcare
- Inflows into and outputs from the higher education system have remained relatively static in recent years; any increases tended to occur for welfare related courses
- Ireland's share of third level graduates in this discipline is higher than the EU average
- FDS: health and welfare graduates were more likely to be in employment nine months after graduation than the overall average; while a large share was employed overseas, it is significantly smaller than the previous year

7.1 How many awards health and welfare?

- In 2014-15, there were 23,100 FET and third level awards in health/welfare in (Table 7.1).

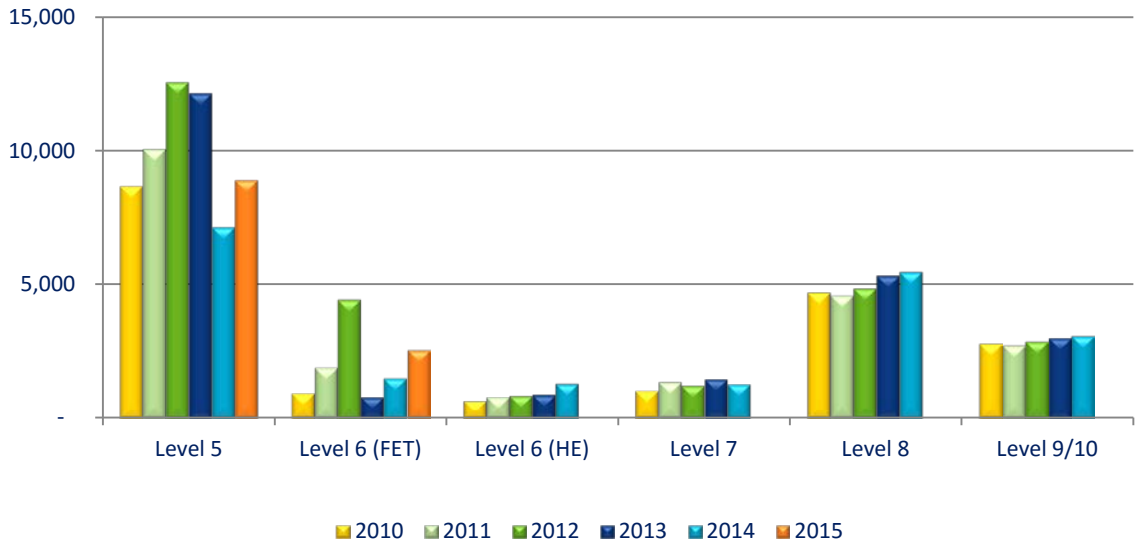
FET (NFQ 1-6)

- There were 11,500 major awards (QQI) in 2015, 77% of which were at NFQ 5.
- Numbers fluctuated between 2010 and 2015, and particularly between 2013 and 2014; these movements were due largely to falls and subsequent rises in the number of awards in healthcare support and nursing studies; the growth observed in 2015, however, was not sufficient to offset the decline in 2014.
- Awards were almost equally divided between health related studies (e.g. healthcare support, nursing studies, which combined accounted for 4,515 level 5 awards)) and welfare related studies (childcare, community health services).

Higher education (NFQ 6-10)

- There were 11,100 awards in 2014 and an additional 550 awards made by QQI to learners in the non-HEA-aided sector.
- Almost 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.).
- Any gains in output in recent years were concentrated at level 8 courses in welfare areas.
- 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, 2010-2014 (2015 for FET)



Source: QQI (FET major awards) & HEA

Table 7.1 Health and welfare awards by NFQ level & detailed field, 2014 (HE) or 2015 (FET)

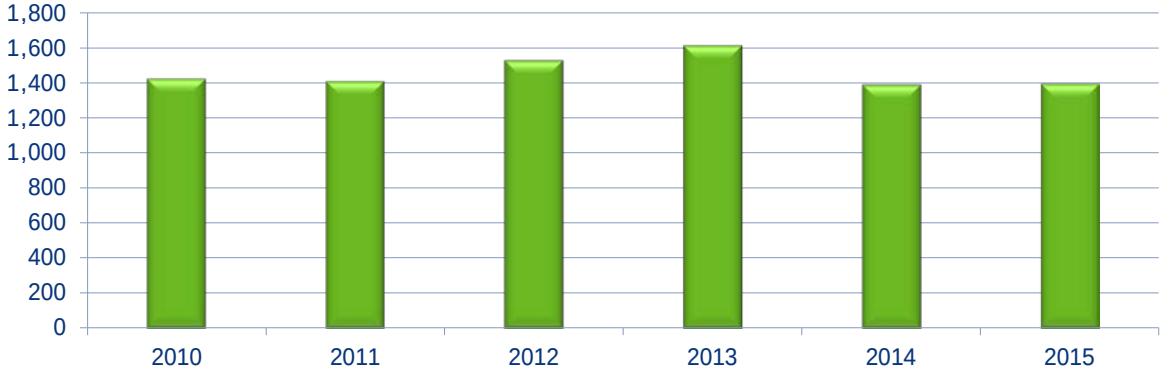
	FET (2015)			Higher Education (2014)					Total
	NFQ 1-4	NFQ 5	NFQ 6	NFQ 6	NFQ 7	NFQ 8	NFQ 9	NFQ 10	
Health & welfare n.e.c.	-	-	-	386	20	127	350	63	946
Health, *including*	-	4,515	-	173	314	3,760	1,911	232	10,905
Medicine					*49*	*1,063*	*323*	*150*	*1,585*
Nursing & caring		*4,515*		*18*	*71*	*1,664*	*1,000*	*14*	*7,282*
Dental studies				*41*	*96*	*81*	*18*	*8*	*244*
Pharmacy				*75*	*23*	*174*	*193*	*24*	*489*
Welfare, *including*	28	4,384	2,556	740	953	1,568	498	14	10,741
Childcare youth services	*28*	*2,662*	*2,373*	*246*	*422*	*645*	*47*	*0*	*6,423*
Social work & counselling		*1,722*	*183*	*354*	*379*	*682*	*357*	*14*	*3,691*
QQI-HE (2015)	-	-	-	8	207	163	173	0	551
Total	28	8,899	2,556	1,307	1,494	5,618	2,932	309	23,143

Source: QQI & HEA

Awards for Irish domiciled graduates from UK higher education institutions

- 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 2015.
- The number of awards for Irish graduates peaked in 2013 at 1,620, falling to 1,400 in 2015.

Figure 7.2 Irish domiciled graduates from UK higher education institutions in health, agriculture & vet, 2010-2015

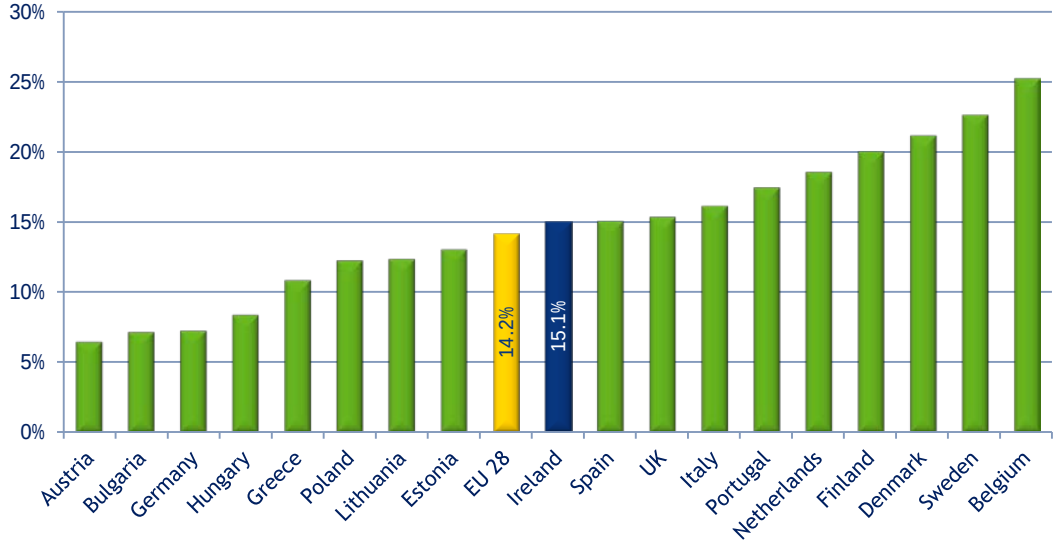


Source: HESA

7.2 EU comparison

On average, 14.2% of all third level graduates in the EU in 2014 had studied health/welfare programmes (Figure 7.3); Ireland's share was slightly higher at 15.1%, 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, 2014



Source: Eurostat

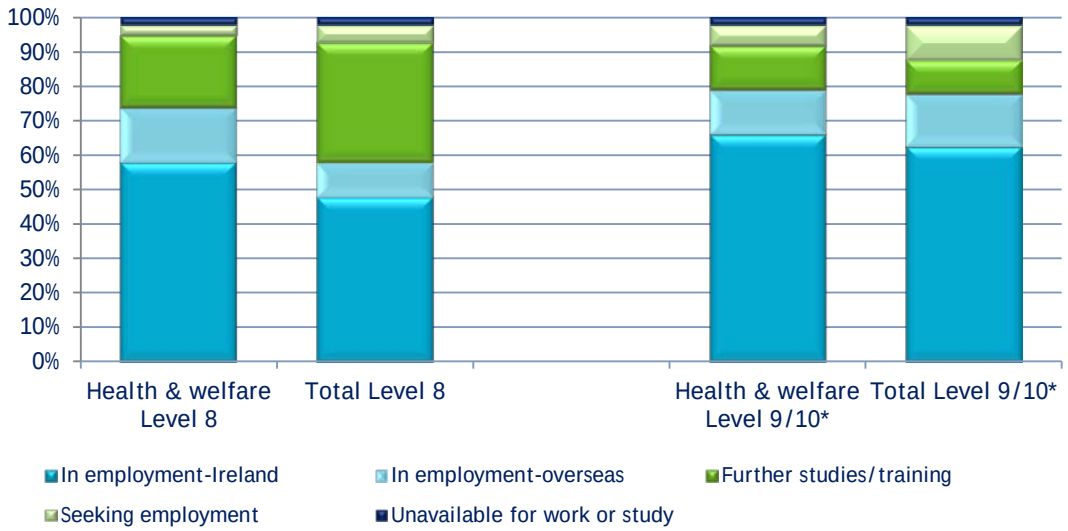
* Refers to all third level categories (equivalent in Ireland to levels 6-10)

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 2014*,

- at level 8, health and welfare graduates had a much higher share in employment in Ireland and abroad nine months after graduation than the total cohort; as such, they were less likely to be engaged in further studies or seeking employment; while the share employed overseas was still higher than that for all graduates, it fell from 21% to 16% between 2013 and 2014
- at level 9/10, health and welfare graduates were more likely to be engaged in further studies and less likely to be seeking employment than level 9/10 graduates.

Figure 7.4 First destination of NFQ level 8 and level 9/10 health and welfare graduates, 2014



Source: HEA

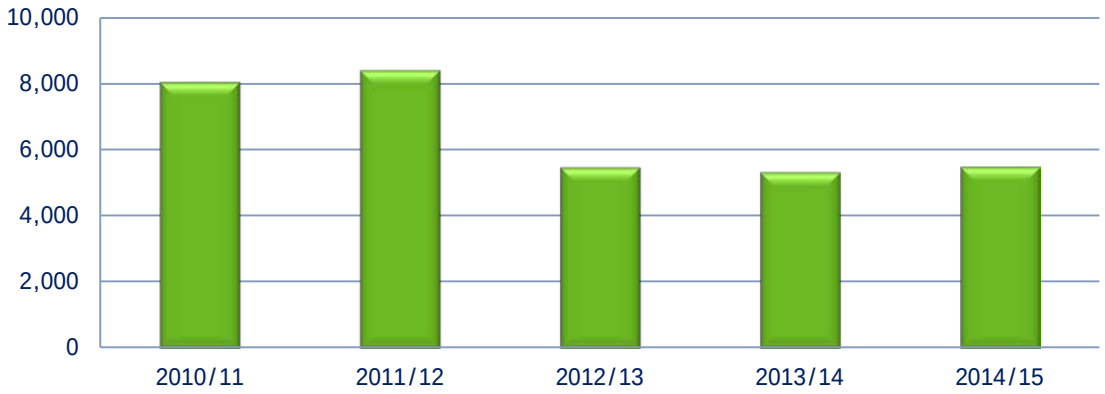
*Level 9/10 includes Masters and PhDs only

7.4 Future output of health and welfare graduates

PLC Enrolments

- There were approximately 5,500 learners enrolled on year one of health/welfare related PLC courses in 2014/15; of these, the largest numbers were for nursing studies, community and health services, healthcare support and applied social studies, each of which had at least 1,000 enrolments.
- 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.

Figure 7.5 First year PLC enrolments in health/welfare, 2010/11-2014/15



Source: DES

Note: numbers cited here differ slight to those published in Monitoring Ireland's Skills Supply 2015 as previously unclassified enrolments have since been reclassified by the SLMRU.

CAO Acceptances (Figure 7.6)

There were over 6,000 CAO acceptances for health and welfare courses in 2015 (Figure 7.6). The overall number of CAO acceptances (levels 6-8) grew by 5% between 2011 and 2015; while declines occurred at levels 6 and 7, acceptances at level 8 increased by 11% 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 three quarters of all acceptances in this field over the period examined; nursing accounted for the highest share, followed by medicine, with the number of acceptances in these subjects remaining static in recent years; the largest gains in acceptances since 2011 occurred for sports therapy and social services related courses.

Postgraduate enrolments

- In 2014, the majority of postgraduate certs/diplomas programmes were in nursing; masters programmes were mostly in medicine but also nursing, therapy and pharmacy; medicine accounted for 58% of all enrolments on PhD programmes.
- Following a number of years where the number of enrolments remained almost unchanged, increases have been occurring since 2012, reaching 6,500 in 2014; masters programmes accounted for almost half of all enrolments in 2014, 30% were for postgraduate certs/diplomas and the remainder (23%) for PhD programmes (Figure 7.7).
- The largest growth in the period since 2013 relates to postgraduate certs/diplomas in nursing.

Figure 7.6 CAO acceptances in health and welfare, 2011-2015

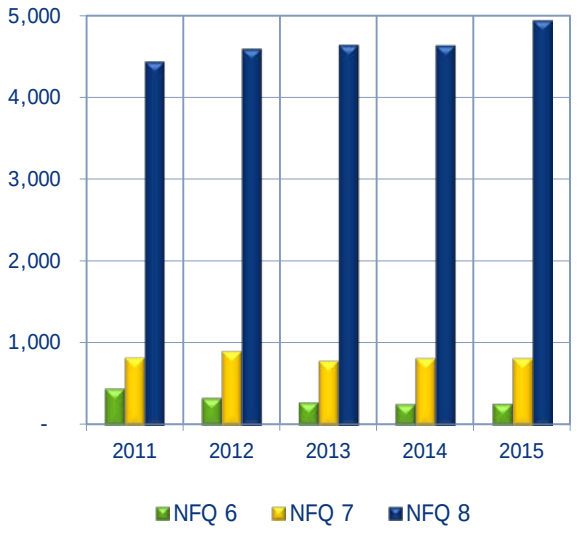
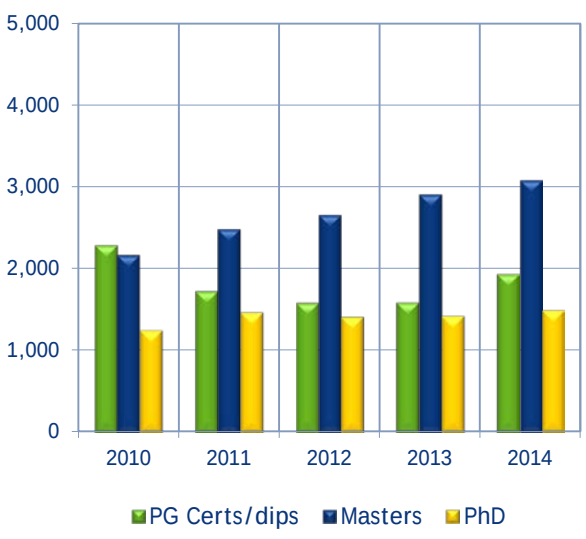


Figure 7.7 Postgraduate enrolments in health and welfare by programme type, 2010-2014



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
- This discipline accounted for a relatively small share of total higher education awards (5%); almost two thirds are at levels 6 and 7; as inflows have remained stable in recent years, significant increases in the number of awards attained are not expected
- Ireland's share of third level graduates in this discipline is higher than the EU average
- FDS: outcomes for university graduates in this field nine months after graduation were broadly in line with the average outcomes

8.1 How many awards services?

- In 2014-15, there were 6,700 FET and third level awards (Table 8.1), with approximately 3,500 awards in FET and over 3,100 in higher education.

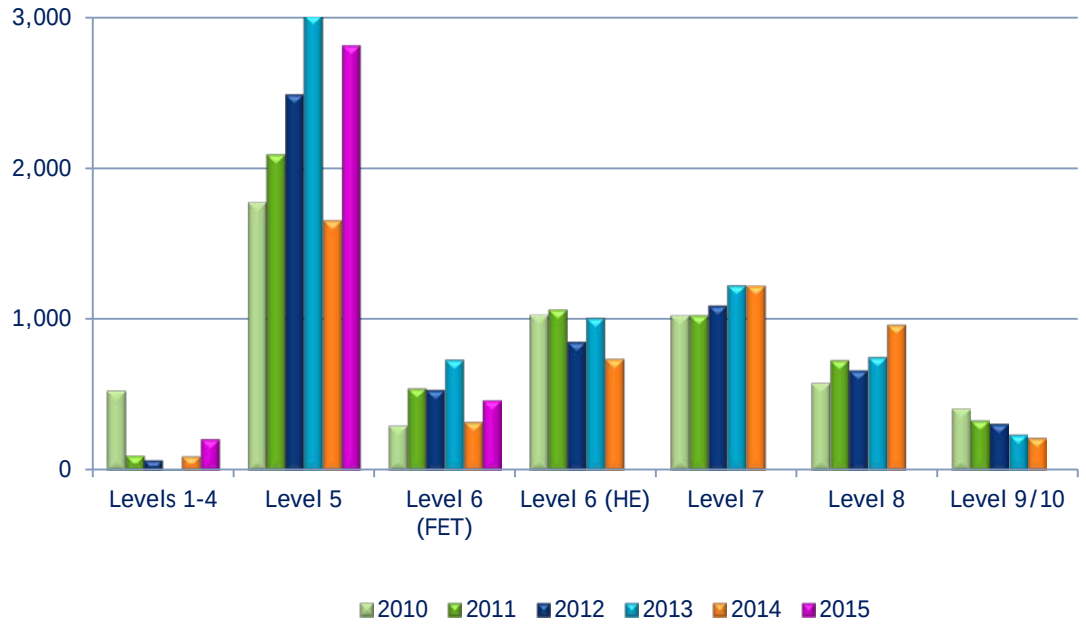
FET (NFQ 1-6)

- In 2015, there were almost 3,500 FET major awards, two thirds more than in 2014.
- The vast majority (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**: professional cookery awards amounted to 313 with almost equal numbers at levels 5 and 6; this compares to 25 awards in 2010 and 296 in 2014.
- **Logistics/distribution**: there were 88 awards at level 5, more than double the number observed in 2014.

Higher education (NFQ 6-10)

- There were approximately 3,200 awards in 2014; an additional 36 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 almost 450 awards, spanning levels 6-8 on the NFQ (approximately 60% were at level 6); this compares to over 300 awards in the preceding year, and over 250 awards in 2011.
- **Transport services** awards are mostly related to nautical science and transport management; logistics/supply chain management awards are included in business/admin (254 awards at NFQ 7-9).

Figure 8.1 Services awards by level, 2010-2014 (2015 for FET)



Source: QQI (FET major awards) & HEA

Table 8.1 Services awards by NFQ level & detailed field, 2014 (HE) or 2015 (FET)

	FET (2015)			Higher Ed (2014)				
	NFQ 1-4	NFQ 5	NFQ 6	NFQ 6	NFQ 7	NFQ 8	NFQ 9/10	Total
Personal services, *of which*	208	2,598	435	515	1023	820	81	5,680
Hotel, rest. & catering	*145*	*232*	*160*	*420*	*385*	*195*	*30*	*1,567*
Travel, tourism & leisure		*276*	*73*	*41*	*235*	*237*	*24*	*886*
Sports	*63*	*1,163*	*139*	*54*	*403*	*388*	*27*	*2,237*
Hair & beauty services		*927*	*63*					*990*
Transport services	-	88	-	5	63	45	7	208
Security services	2	128	30	176	100	35	51	522
Occupational health & safety	-	-	-	46	38	64	78	226
QQI-HE (2015)	-	-	-	-	21	15	-	36
Total Services	210	2,814	465	742	1245	979	217	6,672

Source: QQI & HEA

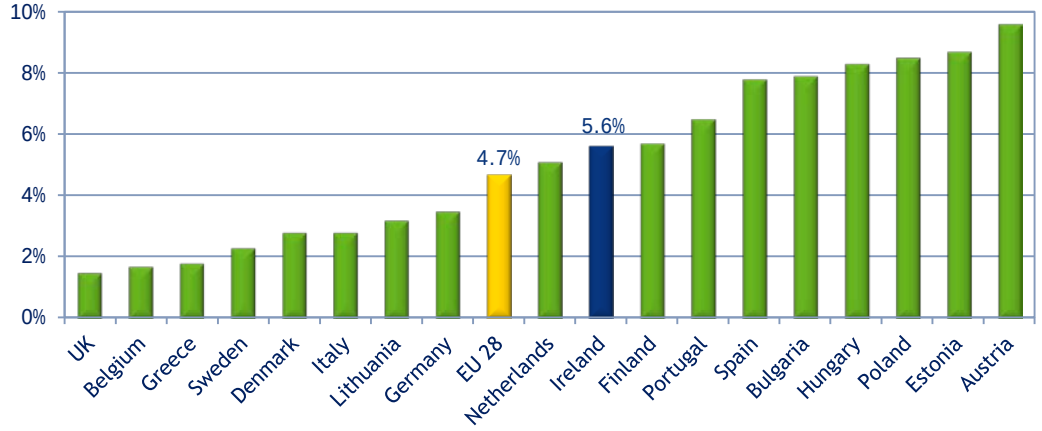
Awards for Irish domiciled graduates from UK higher education institutions

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

Almost 6% of Ireland's third level graduates had studied programmes in the services field (e.g. hotel/catering, sports) (Figure 8.2); this compares to the EU 28 average of 4.7% and over 8% for countries such as Austria, Estonia, and Poland.

Figure 8.2 Services third* level graduates as a share of total graduates in selected EU countries, 2014



Source: Eurostat

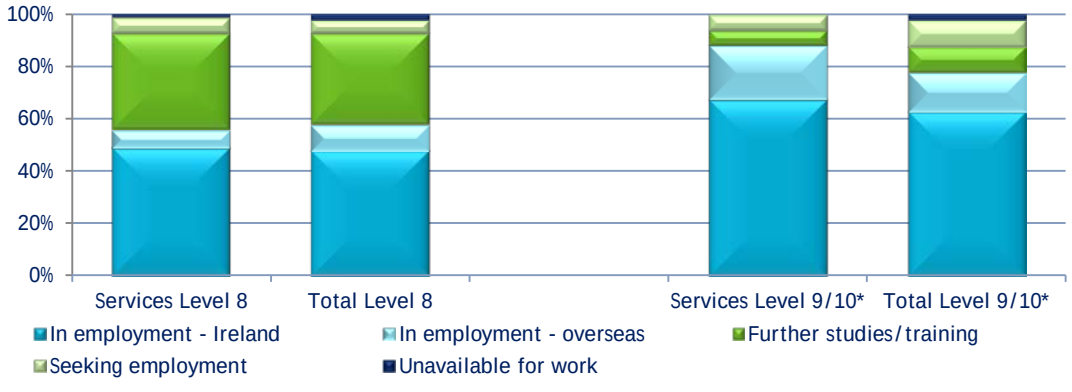
* Refers to all third level categories (equivalent in Ireland to levels 6-10)

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 2014*,

- the destination of level 8 services graduates was broadly in line with that for all graduates in 2014; the share in employment in Ireland grew by nine percentage points since 2013
- at 21%, services graduates at level 9/10 had the highest share of persons employed overseas, although the numbers involved were reported to be low.

Figure 8.3 First destination of NFQ level 8-10 higher education services graduates, 2014



Source: HEA

*Level 9/10 includes masters and PhDs only

8.4 Future output of services graduates

PLC Enrolments

- Figure 8.4 shows that the number of learners enrolled in year one of PLC services courses reached over 6,000 in 2014/15; almost two thirds of all enrolments in services were for sports/leisure courses or hairdressing/beauty therapy courses.
- Between 2010/11 and 2014/15, the number of enrolments on services courses grew annually. Growth was strongest, in absolute terms, for sports related courses (+ 250 learners or 13%) and hotel and catering (+ 100 learners or 73%); the rise in hotel and catering was due in part to increases in the number of learners on professional cookery courses at levels 5 and 6, which reached 230 enrolments in 2014/15 (up from 68 in 2012/13).

Figure 8.4 First year PLC enrolments in services, 2010/11-2014/15

Source: DES

Apprenticeship

Following a review of the apprenticeship system 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 seven services-related proposals. Combined, it is expected that these will lead to up to 300 annual apprenticeship registrations. Each programme will have a duration of a minimum of two years and a maximum of four years. New apprenticeships are being rolled out from quarter 4 2016.

Table 8.2 Proposed apprenticeships in services related areas

Apprenticeship	NFQ	No. annual registrations	Duration (years)	Proposer / provider
Craft butchery	6	60	2	Association of Craft Butchers of Ireland
Bakery	6	30	2	Scottish Bakers
Commis chef	6	16	2	Irish Hotels Federation Restaurant Association of Ireland
Chef de partie	8	16	2	
Sous chef	8	18	2	
Executive chef	9	16	2	
HGV driving	5	70	2	Irish Road Haulage Association

Source: SOLAS

CAO Acceptances

There were 3,100 CAO acceptances for services courses in 2015 (Figure 8.5). The number of CAO acceptances (levels 6-8) fell by 6% between 2011 and 2015; whereas the number of acceptances at levels 6 and 7 declined (by 14% and 21% respectively), there were gains for level 8 acceptances (+24%).

- 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 2015; tourism and hospitality also featured strongly.
- Level 8: growth at this level is almost entirely due to an increased number of acceptances on sports-related courses since 2011 (+170).

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 have grown since 2012 across all programme types excluding PhDs, with masters programmes accounting for the largest share over the period examined (Figure 8.6).

Figure 8.5 CAO acceptances in services, 2011-2015

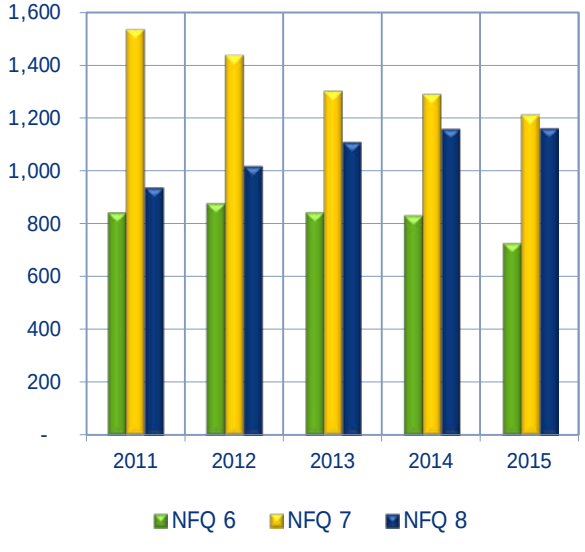
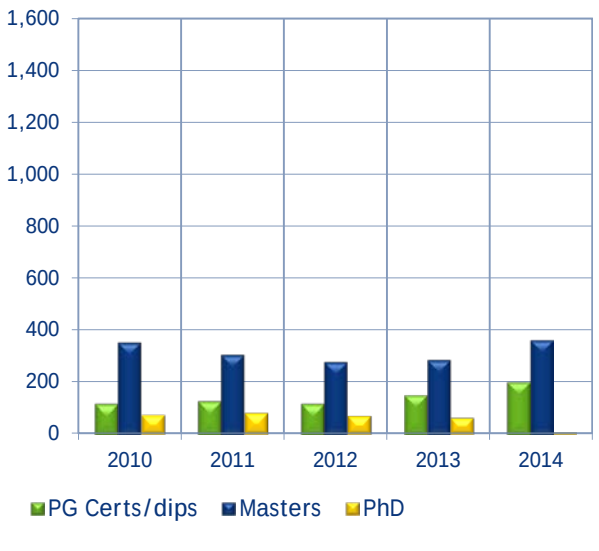


Figure 8.6 Postgraduate enrolments in services by programme type, 2010-2014



Source: CAO, HEA

9. Arts and humanities

Key points

- Arts and humanities accounts for one of the highest numbers of FET and higher education awards each year; however, in 2014, for the first time, the number of third level science/computing graduates outnumbered arts/humanities graduates
- The declines observed in higher education since 2012 are likely to be halted in the medium term, as CAO acceptances at level 8 have increased in recent years
- Ireland's share of graduates in art/humanities is higher than the EU average
- FDS: arts and humanities graduates tend to have a lower share in employment nine months after graduation than those from other disciplines

9.1 How many awards arts and humanities?

- In 2014-15, there were almost 16,300 FET and third level awards in 2014 (Table 9.1); the total number of arts/humanities awards declined annually between 2012 and 2014.

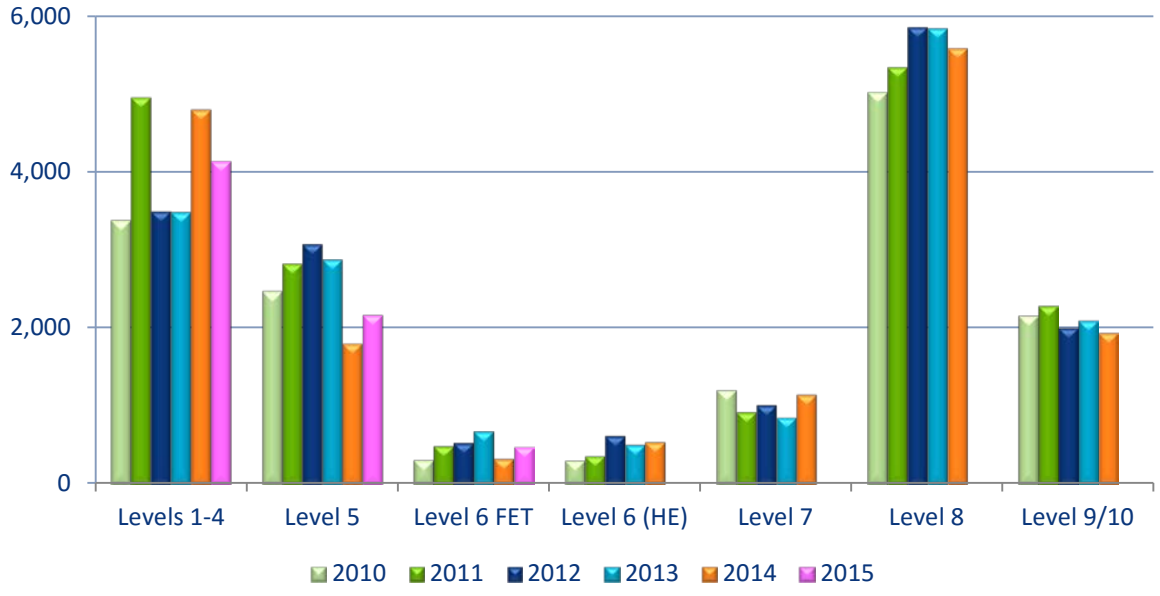
FET (NFQ 1-6)

- There were almost 6,800 awards made in 2015, over 60% of which were at levels 1-4 (mostly 'general learning and employability skills' awards).
- Almost 1,000 FET awards were for art, craft and design subjects.
- Numbers fluctuated between 2010 and 2015, largely due to changes at level 3.
- 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 9,200 awards in 2014, with a further 235 made (in 2015) in the non-HEA aided sector.
- Over 80% of all third level awards in arts/humanities were made at level 8 or higher.
- When compared to 2012 and 2013, numbers declined slightly; this combined with an increase in the number of science/computing awards, means that science/computing awards outnumbered (by approximately 300) those in arts/humanities for the first time in 2014.

Figure 9.1 Arts and humanities* awards by level, 2010-2014 (2015 for FET)



Source: QQI (FET major awards) & HEA

*includes general learning

Table 9.1 Arts and humanities* awards by NFQ level & detailed field, 2014 (HE) or 2015 (FET)

	FET (2015)			Higher Education (2014)					Total
	NFQ 1-4	NFQ 5	NFQ 6	NFQ 6	NFQ 7	NFQ 8	NFQ 9	NFQ 10	
Combined arts/humanities	2,627	-	-	144	-	362	61	0	3,194
Arts, *inc.*	-	2,174	484	198	762	2,954	653	56	7,281
Audio-visual/media production	-	*748*	*165*	*40*	*362*	*459*	*183*	*4*	*1,961*
Fine arts	-	*371*	*147*	*11*	*166*	*419*	*116*	*11*	*1,241*
Humanities, inc.	1,510	-	-	204	391	2,271	1,024	147	5,547
Literature & linguistics	-	-	-		*191*	*479*	*242*	*19*	*931*
Language acquisition	-	-	-	*22*	*90*	*265*	*140*	*17*	*534*
History/archaeology	-	-	-	*100*	*85*	*355*	*326*	*58*	*924*
QQI-HE (2015)	-	-	-	8	83	128	16	-	235
Total	4,137	2,174	484	554	1,236	5,715	1,754	203	16,257

Source: QQI & HEA

* Includes general learning

Awards for Irish domiciled graduates from UK higher education institutions

- The number of arts and humanities awards attained by Irish domiciled graduates from UK higher education institutions peaked at 770 in 2011, with declines in each subsequent year to 480 in 2015.

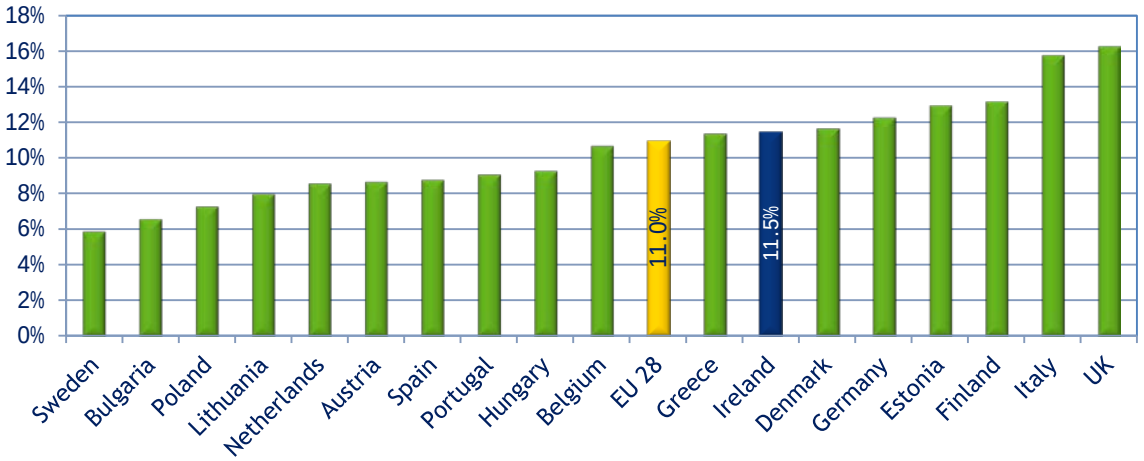
Figure 9.2 Irish domiciled graduates from UK higher education institutions in arts & humanities, 2010-2015

Source: HESA

9.2 EU comparison

The share of third level arts/humanities graduates in Ireland was broadly in line with the EU 28 average (at 11.5% and 11% respectively) (Figure 9.3).

Figure 9.3 Arts & humanities third* level graduates as a share of total graduates in selected EU countries, 2014



Source: Eurostat

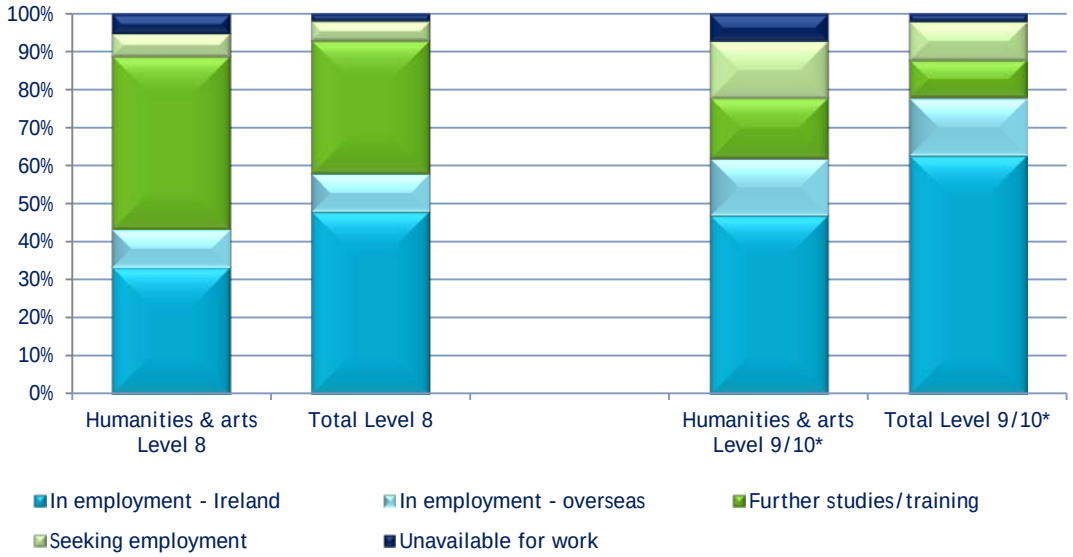
* Refers to all third level categories (equivalent in Ireland to levels 6-10)

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 2014*,

- level 8 arts/humanities graduates had the lowest share employed in Ireland (33%) compared to all other disciplines and a correspondingly high share of persons in further studies (45%); the share in employment grew by seven percentage points since 2013.
- 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 (47% compared to 62%) with higher shares in further studies or seeking employment.

Figure 9.4 First destination of NFQ level 8-10 higher education arts/humanities graduates, 2014



Source: HEA

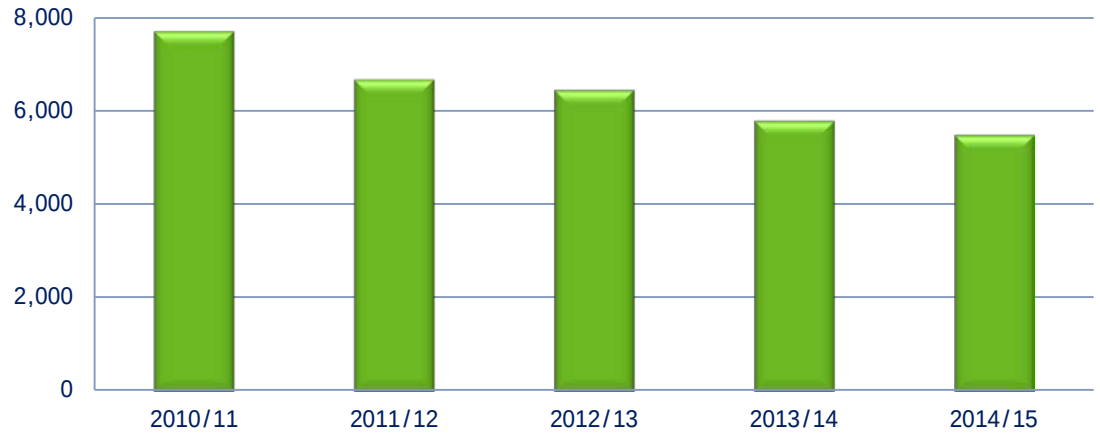
*Level 9/10 includes masters and PhDs only

9.4 Future output of arts/humanities graduates

PLC Enrolments

- In 2014, there were approximately 5,500 learners enrolled in year one of arts/humanities PLC courses; of these, over 80% 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 2010, 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, 2010/11-2014/15



Source: DES

CAO Acceptances

There were almost 9,800 CAO acceptances for arts/humanities courses in 2015 (Figure 9.6). The number of CAO acceptances (levels 6-8) increased by 2% between 2011 and 2015; while level 8 acceptances increased by 5%, there were declines at levels 6/7 (-22%).

- Level 6/7 acceptances account for a small share of overall acceptances and have been declining in recent years; courses at these levels were primarily in audio-visual techniques.
- At level 8, the number of acceptances increased, particularly since 2013; acceptances are primarily for general arts programmes.

Postgraduate enrolments

The number of arts/humanities enrolments has been declining since 2010, with almost 1,000 fewer enrolments in 2014 compared to five years previously (Figure 9.7). In 2014, masters programmes accounted for almost two thirds of all enrolments in areas including creative digital media, music, history/archaeology, and languages/linguistics.

Figure 9.6 CAO acceptances in arts/humanities, 2011-2015

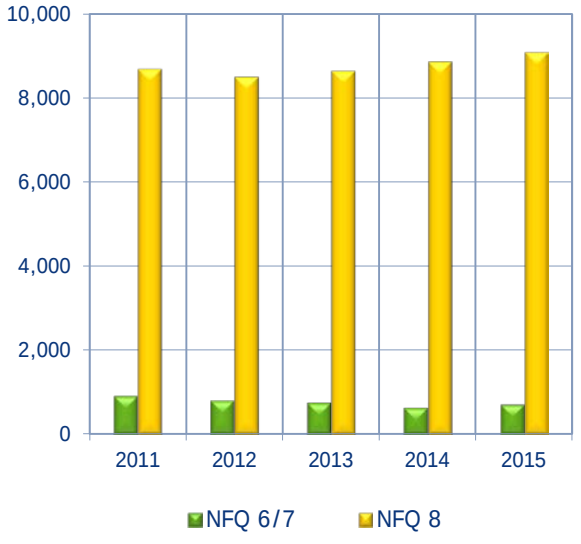
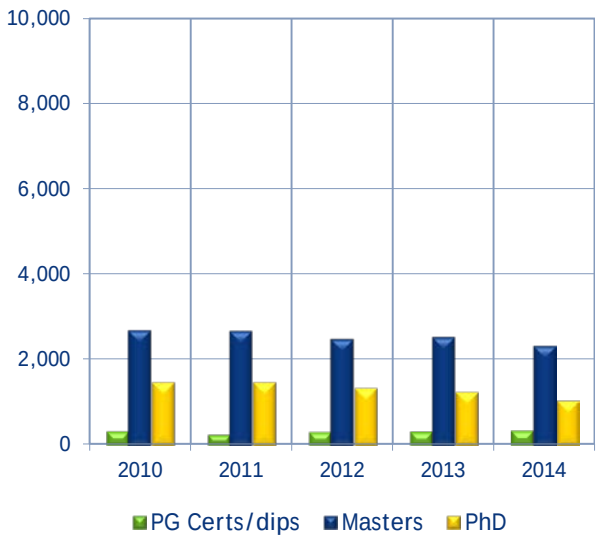


Figure 9.7 Postgraduate enrolments in arts/humanities by programme type, 2010-2014



Source: CAO, HEA

10. Education

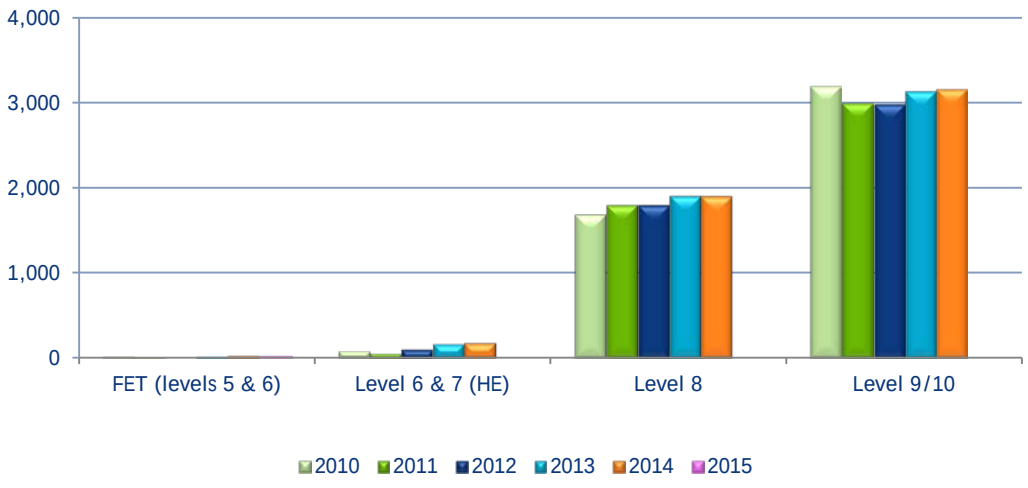
Key points

- 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
- Ireland's share of third level graduates in this discipline was one of the smallest in the EU
- FDS: the share of education graduates in employment in Ireland nine months after graduation was one of highest across all disciplines (after computing); there were fewer graduates employed overseas when compared to the previous survey

10.1 How many awards education?

- There were almost 5,300 awards in education in 2014 (Figure 10.1).
- FET awards in education amounted to 25 in 2015 which were mostly 'inclusive education and training' awards. FET awards relating to early childhood care and education were included in the health/welfare awards.
- The vast majority of awards were in higher education, mostly at level 8 and above.
- Not included in the graph are an additional 935 awards made by QQI to learners in the non-HEA aided sector, almost entirely at postgraduate level.

Figure 10.1 Education awards by level, 2010-2014 (2015 for FET)

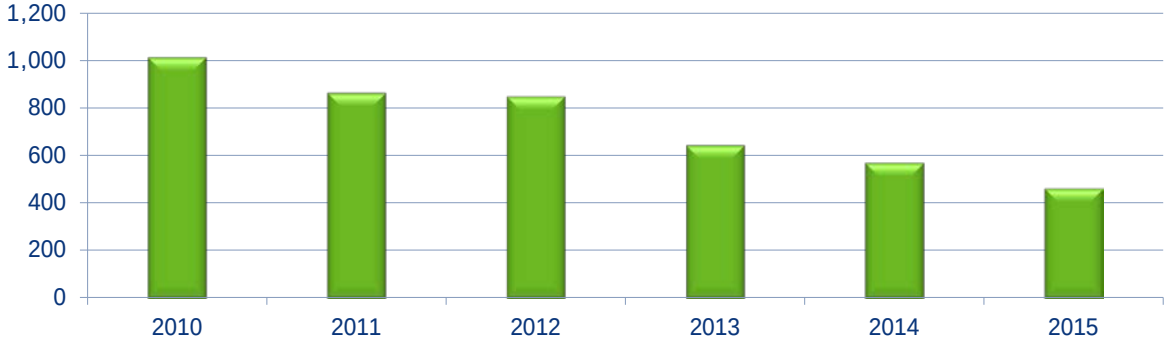


Source: QQI (FET major awards) & HEA

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 2010, going from 1,015 to 465 in 2015.
- The share of education awards as a proportion of all awards to Irish persons in the UK also fell from 17% in 2010 to 11% in 2015.

Figure 10.2 Irish domiciled graduates from UK higher education institutions in education, 2010-2015

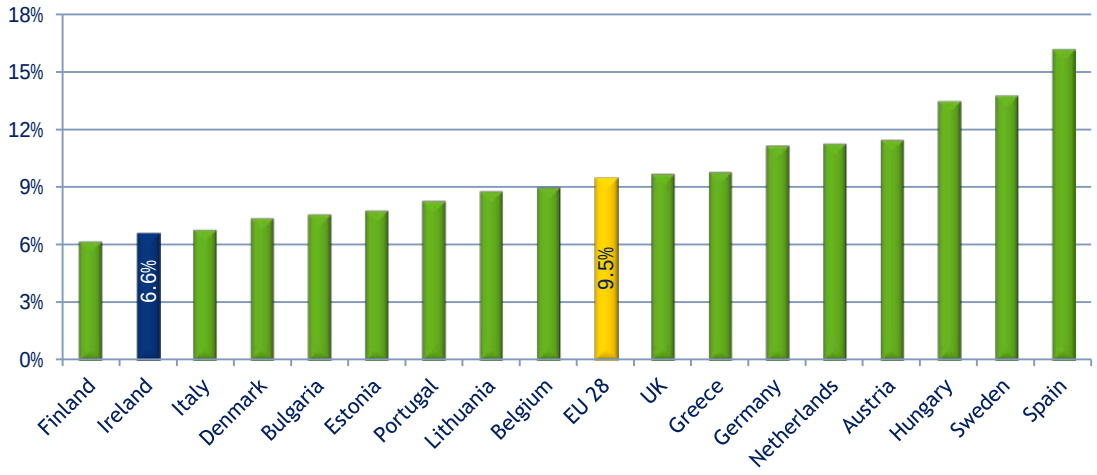


Source: HESA

10.2 EU comparison

Approximately 7% of Ireland's third level graduates had studied programmes in education (Figure 10.3), a two percentage point decline on the share in 2012, resulting in a fall in rank from seventh lowest in 2012 to second lowest in 2014 for the selected countries. The EU average has remained relatively unchanged since 2012 at 9.5%, with countries such as Hungary, Sweden and Spain at a share above 13%.

Figure 10.3 Third* level graduates in education as a share of total graduates in selected EU countries, 2014



Source: Eurostat

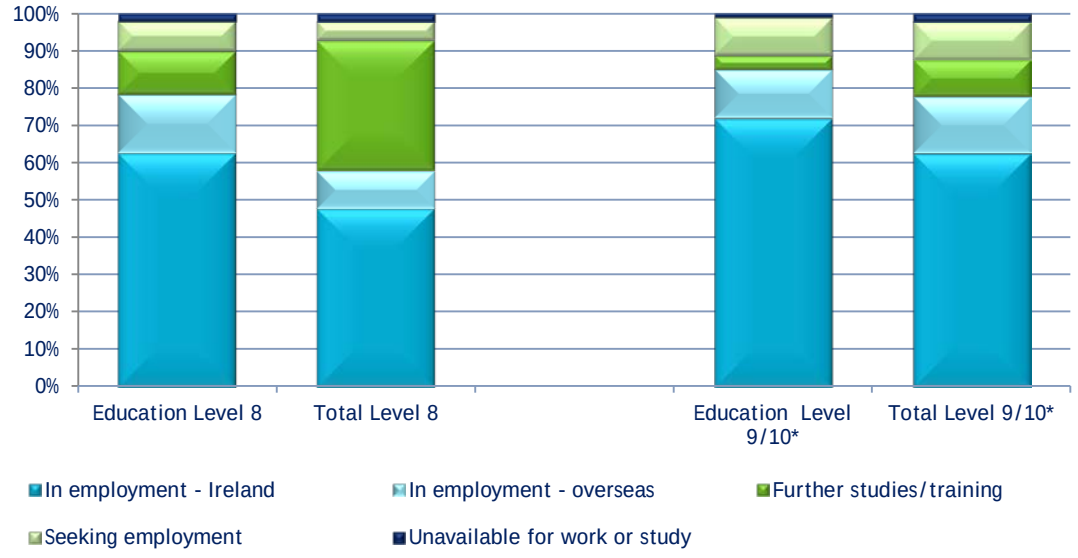
* Refers to all third level categories (equivalent in Ireland to levels 6-10)

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 2014*,

- level 8 education graduates had a higher share of persons employed both in Ireland and overseas when compared to the overall (80% compared to 58% overall); the share employed overseas fell from 25% in 2013 to 16% in 2014
- 72% of level 9/10 education graduates were in employment in Ireland nine months after graduation, a rise of eighteen percentage points since 2013.

Figure 10.4 First destination of NFQ level 8-10 higher education graduates in education, 2014



Source: HEA

* Level 9/10 includes masters and PhDs only

10.4 Future output of education graduates

PLC Enrolments

- In 2014/2015, there were approximately 2,500 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.

CAO Acceptances

In 2015, there were 2,800 CAO acceptances for education courses (Figure 10.5), with level 8 acceptances accounting for 89% of the total. Since 2011, level 8 acceptances grew by 10%, or 210; this increase was particularly related to an increase in acceptances on courses relating to early childhood education and primary school teaching.

Postgraduate enrolments

- Due to new legislation brought into effect from September 2014, all postgraduate programmes for initial teacher education must be of two years' duration, resulting in professional diploma courses in education being changed to professional masters; this is reflected in Figure 10.6 where 2014 saw a jump in the number of enrolments on masters programmes and a corresponding fall in enrolments on postgraduate cert/diploma programmes.
- There was a year-on-year decline in enrolments in this discipline of 3% between 2013 and 2014, although overall enrolments were 5% higher than in 2010.

Figure 10.5 CAO acceptances in education, 2011-2015

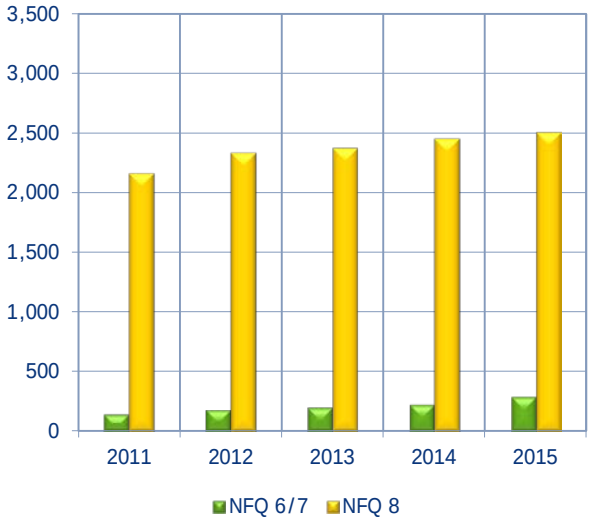
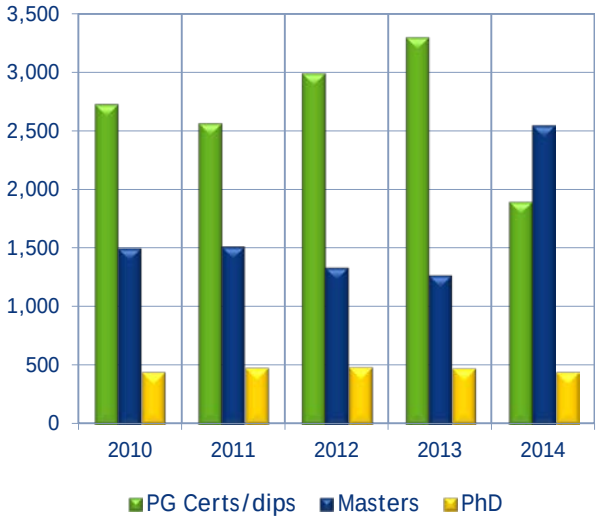


Figure 10.6 Postgraduate enrolments in education by programme type, 2010-2014



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
- While the numbers involved were small compared to other disciplines, there was a substantial increase in the number of FET awards between 2010 and 2015, mostly as a result of additional awards at level 5
- The number of awards made in higher education also grew strongly, albeit from a low base; the growth was strongest at levels 7 and 8
- FDS: agriculture/vet graduates had a higher share in employment nine months after graduation than the overall

11.1 How many awards?

- Over 3,300 awards were made in 2014, with 2,300 FET awards and almost 1,000 higher education awards.

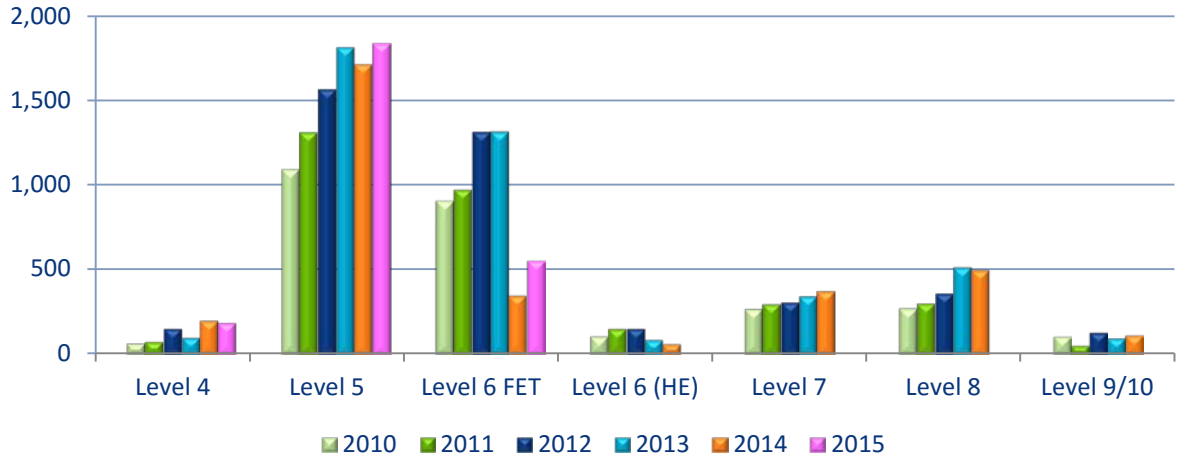
FET (NFQ 1-6)

- There were almost 2,600 FET awards in 2015, an increase of 14% on the preceding year.
- FET awards were made mostly at level 5; agriculture awards were the most numerous (almost 1,300), followed by horticulture (over 500 awards).
- Between 2010 and 2015, there was a substantial increase in the number of FET awards, due mostly to a 68% increase (an extra 747 awards) made at level 5; nonetheless, there were fluctuations at level 6, predominantly for agriculture awards.

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 39% (almost 300 additional awards) between 2010 and 2014, with the strongest growth at levels 7 and 8.

Figure 11.1 Agriculture & vet awards by level, 2010-2014 (2015 for FET)



Source: QQI (FET major awards) & HEA

Awards for Irish domiciled graduates from UK higher education institutions

Irish domiciled graduate numbers for this discipline are included in health and welfare.

11.2 EU comparison

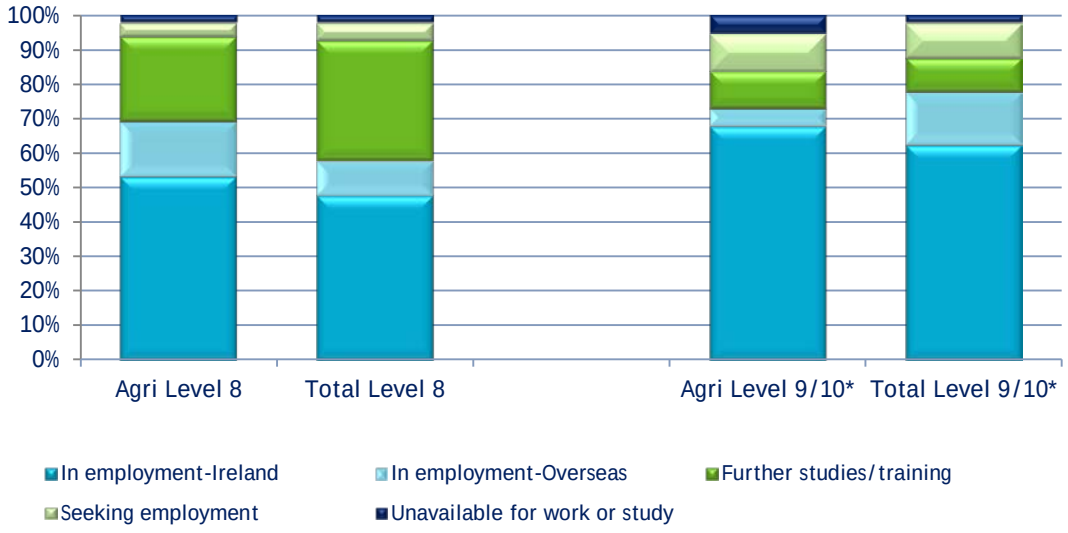
Ireland's share of third level graduates in this discipline was 1.2% in 2014, slightly below that of the EU 28 average of 1.6%.

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. Figure 11.2 shows that, based on the HEA's report *What Do Graduates Do? The Class of 2014*,

- at level 8, agriculture graduates had a higher share in employment in Ireland nine months after graduation than the total cohort (54% compared to 48%) and, as such, were less likely to be engaged in further studies or training
- at level 9/10, agriculture graduates were more likely to be in employment in Ireland than level 9/10 graduates overall.

Figure 11.2 First destination of NFQ level 8 and level 9/10 agriculture graduates, 2014



Source: HEA

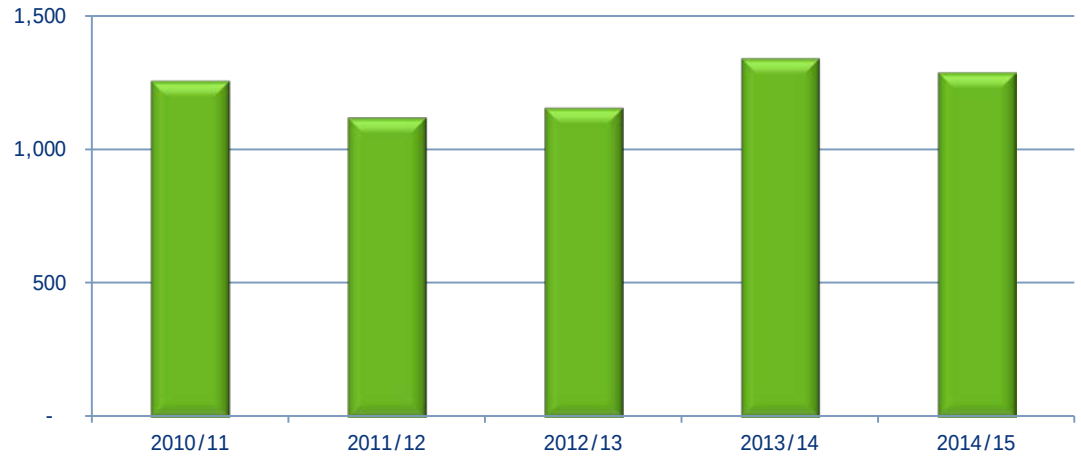
* Level 9/10 includes masters and PhDs only

11.4 Future output of agriculture/vet graduates

PLC enrolments

- There were 1,300 year one enrolments on agriculture/vet PLC courses in 2014/15; while there were small fluctuations in the intervening years, this number is unchanged from 2010/2011.
- Enrolments were mostly for animal care and horticulture courses.

Figure 11.3 First year PLC enrolment in agriculture & vet, 2010/11 – 2014/15



Source: DES

CAO Acceptances

CAO acceptances (levels 6-8) for courses in agriculture/vet accounted for 2% of all acceptances in 2015; the overall number of acceptances increased by 22% (or 200 acceptances) between 2011 and 2015 (Figure 11.4).

- At levels 6 and 7, most courses were in the areas of agricultural science, veterinary nursing and horticulture; the declines at level 6 since 2011 have been offset by gains at level 7.
- At level 8, acceptances were primarily in the areas of agricultural science and veterinary medicine.

Postgraduate enrolments

- At 1% in 2014, the number of postgraduate enrolments in agriculture/vet represents a small share of overall enrolments at this level.
- There was a decline of almost 50 enrolments in 2014 compared to the previous year (Figure 11.5).
- This is the only field where the highest numbers of enrolments were for PhD programmes, although the numbers involved were small (amounting to 177 learners in 2014).
- Enrolments related primarily to courses in agriculture & food science and veterinary medicine.

Figure 11.4 CAO acceptances in agriculture/vet, 2011-2015

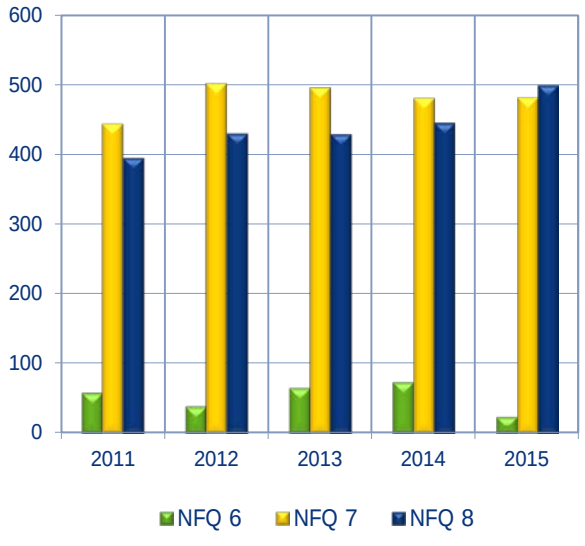
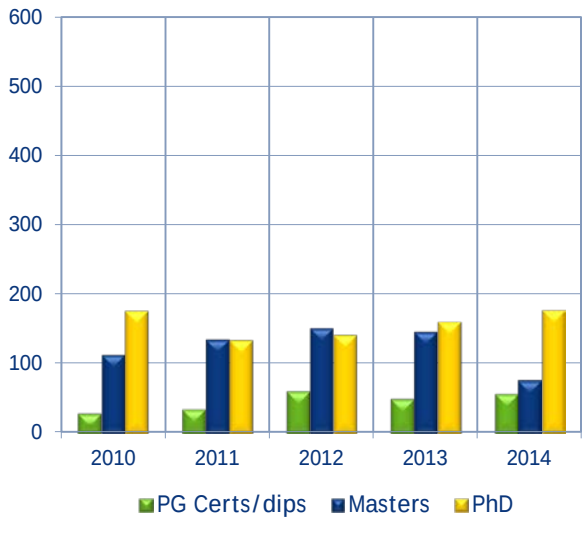


Figure 11.5 Postgraduate enrolments in agriculture/vet, by programme type, 2010-2014



Source: CAO, HEA

Appendix A: Other education and training facts & figures by field

	Science	Computing	Engineering	Construction	SSBL	Health & welfare	Services	Arts/ humanities	Education	Ag & vet	Overall	Description
Gender (FET)	46%		2%		64%	87%	53%	51%	76%	32%	62%	Share of all QQI (FET) major awards **made to females** in 2015 (Source: QQI)
Gender (HE)	49%		16%		52%	76%	45%	59%	72%	39%	52%	Share of higher education graduates in 2014 who were female (Source: HEA)
Further Education & Training	9,700		11,800		36,800	34,100	59,000	12,000	4,100	21,300	238,000	The number of **QQI FET minor and special purpose awards** made in 2015 (Source: QQI)
	249		1,600		6,000	7,800	3,200	3,900	<30	1,200	25,600	The number of QQI FET major awards made to **learners at ETBs/SOLAS centres** (Source: QQI)
Higher Education	13%	25%	23%	29%	15%	9%	26%	15%	5%	See science*	16%	The **non-progression rate amongst higher education**[9] new entrants in 2012/13 (Source: HEA)
	0	+2	-2	+1	-1	-1	-1	-1	+2	See science*	0	The percentage point change in the non-progression rate when compared to 2011/2012 (Source: HEA)

*Note: for non-progression rates, science includes agri & vet

[9] Refers to full-time undergraduate new entrants NFQ levels 6-8.

Appendix B

Non-HEA aided higher education providers (e.g. private colleges)

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
The Society of Actuaries in Ireland

Expert Group on Future Skills Needs
c/o Skills and Labour Market Research Unit
(SLMRU)
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Further Education and Training Authority