Monitoring Ireland's Skills Supply

Trends in Education/Training Outputs 2008

Foras Áiseanna Saothair
Training & Employment Authority

Expert Group on
Future Skills Needs

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Trends in Education/Training Outputs

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Authors:
Nora Condon, Consultant
Joan McNaboe, Research Officer

Available from:
Skills and Labour Market Research Unit
Planning and Research Department, FÁS
25 Clyde Road, Dublin 4
Tel. 01 607 7436
Fax 01 607 74 01
e-mail: annemarie.hogan@fas.ie
www.fas.ie

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Executive Summary

'Monitoring Ireland's Skills Supply: Trends in Education/Training Outputs 2008' is the third in a series of annual reports produced by the Skills and Labour Market Research Unit of FÁS, on behalf of the Expert Group on Future Skills Needs.

The objective of this report is to provide an indication of the supply of skills to the Irish labour market from the formal education and training system. Although the data includes both part-time and full-time participants in education, the main focus is on those who have yet to enter the labour force. As such, it does not specifically examine training for those already in employment.

The report examines outflows from the formal education system across levels 3-10 of the National Framework of Qualifications (NFQ). At each level, the supply of skills is examined in terms of:

- **Graduate output** – this refers to the number of individuals who receive an award on completion of a course of study; graduate output trends are used as an indicator of the potential current supply
- **Student inflows** – this is used as an indicator of the potential future supply
- **Gender** – this is used as an indicator of gender balance
- **Discipline** – this is used as an indicator of the supply of skills by broad type
- **First destination** – this is used as an indication of students' destination following graduation from higher education
- **International comparison** – this is an indicator of how Ireland performs internationally in terms of education outflows.

The report follows a similar pattern to the Monitoring Ireland's Skills Supply report published in June 2007. Additional information is provided in relation to further education and training provision and Irish student enrolments abroad. Demographic data has been updated to reflect the latest population forecasts made available in 2008 by the Central Statistics Office.

The report focuses on the most recent trends and presents statistics up to and including the year 2007 for Junior Certificate, Leaving Certificate, FETAC, CAO and UK student data. The data for higher education outputs is available up to and including 2006 while the latest available international data, for the most part, deals with 2005 graduation data.

In this summary, we outline the salient features of the skills supply emerging from the education and training system in Ireland. For each output level, we compare the latest available data with that in the previous Monitoring Ireland's Skills Supply report.

Outputs from the Irish Education System

Post-Primary

A total of 57,395 candidates sat the Junior Certificate examination in 2007, representing a slight decline of 0.7% on the preceding year.

In 2007, there were 53,926 Leaving Certificate candidates – just 184 fewer than in 2006. Approximately 28,200 females (52%) sat the Leaving Certificate in 2007. Males made up 48% of all candidates and totalled over 25,700.

Of the 60,786 students who entered post-primary level education in 1999, 94.6% sat the Junior Certificate and 80.5% sat the Leaving Certificate. When adjusted for students transferring to non-aided schools and other destinations, the Leaving Certificate retention rate was 83.7% – an increase from the rate of 81.3% for the 1996 cohort.

Junior and Leaving Certificate candidates, 2006-2007

	2006	2007	% Change
Junior Certificate	57,944	57,395	-0.7%
Leaving Certificate	54,110	53,926	-0.3%

Source: SEC

Further Education and Training

A total of 128,624 candidates received 142,648 awards from FETAC in 2007 across levels 3 to 6 on the National Framework of Qualifications. The award types are detailed in Chapter 5. It is possible for an individual to receive two or more awards.

Over 23,600 candidates received certificates (major) in 2007, with, on average, each candidate receiving only one major award. Candidates receiving component (minor) awards totalled 95,276. Approximately 24,150 candidates received specific purpose awards in 2007 and a further 456 candidates received supplemental awards.

FETAC Certificates by type and candidates, 2006 & 2007

Award Type	2006		2007	
	Certificates	Candidates	Certificates	Candidates
Certificates (Major)	26,299	24,515	22,759	22,689
Component (Minor)	75,703	65,521	95,276	87,662
Specific Purpose (Special Purpose)	28,028	24,777	24,157	20,290
Supplemental	196	191	456	456
Total	**130,226**	**111,099***	**142,648**	**128,624***

Source: FETAC

*Note: the number of candidates does not sum up as some candidates may obtain more than one award type.

Of the 22,759 major awards, 5% were at level 3, 7% at level 4, 59% at level 5, and 29% at level 6. On average, holders of component certificates achieve two minors in one year so the 95,276 component awards are comprised of 176,321 minor awards. Of the minor awards, the highest proportion (44%) was at level 5. Similarly, most special purpose awards (90%) were made at level 5. All supplemental awards were made at level 6.

FETAC awards by award type and award level, 2007

Award Type	NFQ Level 3	NFQ Level 4	NFQ Level 5	NFQ Level 6	Total
Major	1,051	1,675	13,481	6,552	22,759
Minor	44,394	25,876	78,301	7,750	176,321
Special Purpose	-	431	21,763	1,963	24,157
Supplemental	-	-	-	456	456
Total	**45,445**	**47,982**	**113,545**	**16,721**	**223,693**

Source: FETAC

Higher Education

CAO Acceptances

In 2007, the number of CAO acceptances increased by 2.5% compared with 2006 and by 6.5% when compared with 2000. This however masks some fluctuations in numbers which occurred since 2000. CAO acceptances actually declined over the three years 2000-2002; they increased by almost 5% on the preceding year in 2003 due largely to reforms in nursing education (which raised the education requirement from a level 7 to a level 8 qualification) but decreased again the following year in 2004. However, in the last three years 2005-2007, overall CAO acceptances have been increasing steadily and the number of people accepting a CAO offer of a place to study at third level reached its highest levels ever in 2007.

Declines were observed for acceptances for level 7/6 courses over the periods 2000-2007 and 2006-2007 while at the same time the number of acceptances for level 8 courses increased.

CAO acceptances by level, 2000-2007

	2000	2006	2007	% change 2007-00	% change 2007-06
Level 7/6 CAO Acceptances	16,739	12,467	12,062	-27.9%	-3.2%
Level 8 CAO Acceptances	20,728	26,488	27,853	+34.4%	+5.2%
Total	**37,467**	**38,955**	**39,915**	**+6.5%**	**+2.5%**

Source: CAO

Graduate Output – Universities and Institutes of Technology

Despite the increase recorded in the number of CAO acceptances since 2000, graduate output over the period 2004-2006 declined by 2%. This is due to the reduced numbers graduating from level 7/6 programmes: level 7/6 graduation numbers reached their highest level in 2004 and stood at nearly 19,000 but there has been a 15% decline in graduations at this level since then. Although level 8 graduate output has increased, the full impact of the increased participation at this level since 2004 has yet to emerge due to the longer duration of their courses (compared with level 7 and in particular level 6 graduates whose courses are 2-3 years in length).

In addition, graduate output from level 9/10 programmes has increased by 5.3% since 2005 and by 6% since 2004.

Graduate output by level, 2004-2006

	2004	2005	2006	% change 2006-2004	% change 2006-2005
Level 7/6	18,876	17,207	16,005	-15%	-6.9%
Level 8	24,720	24,659	25,518	+3%	+3.5%
Level 9/10	12,781	12,883	13,566	+6%	+5.3%
Total	**56,377**	**54,749**	**55,089**	**-2%**	**+0.6%**

Source: HEA, IoTs, HETAC

First Destination of Graduates

According to a HEA survey of 2006 graduates (*What Do Graduates Do? The Class of 2006:* 2008), the majority of those who graduate with level 7/6 awards continue on to further education and training. In contrast, the majority of those with level 8 qualifications are in employment within 9 months of graduation. This is also the case for those receiving postgraduate qualifications.

International Comparisons

In international assessments carried out in 30 OECD countries (PISA 2006), Ireland's 15-year-olds ranked:

- 5th out of 30 for reading literacy (well above the OECD average)
- 14th for scientific literacy (above average)
- 16th for mathematical literacy (at the OECD average)

According to international data (*Education at a Glance 2007*), in 2005

- Ireland's graduate output at certificate/diploma and ordinary degree level was 23.6%, which is well above the OECD average (8.9%)
- Ireland's combined graduate output at honours degree and master degree level stood at 38.2% which was above the average for OECD countries (36.4%)
- Graduate output for advanced research programmes in Ireland was 1.2% which is below the OECD average of 1.3%.

Irish Education Outputs – Overview

In 2007, approximately 200,000 awards, spanning levels 3 to 10 on the National Framework of Qualifications, were made to students emerging from the Irish education system (higher education awards data refers to 2006). One third of all awards in 2007 were for Level 3 (mostly Junior Certificate); one third were for awards made at level 4 and 5; 12% of awards were made at levels 7/6 and the remaining 21% was for degree level and above.

Of the 13,800 postgraduate awards, approximately 970 were for doctoral degrees. This is the highest number of doctoral degrees ever awarded in the State and the number of PhDs awards is soon expected to reach 1,000, given increased enrolments on doctoral programmes.

The table below does not include a further 8,000 awards, not placed on the Framework, made to members of professional institutes (such as the Institute of Bankers) who undertook studies in their given professions. An additional 5,500 awards were made to Irish domiciled students who gained higher level undergraduate qualifications in the United Kingdom.

Summary of Education and Training Awards by NFQ Level, 2007[1]

	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9/10	TOTAL
Junior Certificate	57,400							57,400
Leaving Certifcate		54,000					54,000	
FETAC Major Awards[2]	1,100	1,700	13,500	6,600				22,900
IoTs				13,400		8,600	1,500	23,500
Universities				2,600		16,900	12,100	31,600
Private Colleges				1,100		1,700	200	3,300
Total	**58,500**	**69,200**		**23,700**		**27,200**	**13,800**	**192,400**

Source: State Examination Commission, FETAC, HEA and HETAC

Focus on Science and Technology Skills

This section focuses on the current and future trends affecting the supply of skills from the education system to the technology sector. Education outflows from science, computing, engineering and manufacturing, and construction disciplines are examined.

Entry into many science or technology related courses in Irish higher education require minimum competencies in mathematics. A minimum of a C3 at higher level in Leaving Certificate mathematics or equivalent is required for many level 8 engineering courses. As the table below shows, only 14% of all students are eligible for these courses. For science and computing courses, both at university and IoT level, the most common minimum requirement is a grade D in ordinary level mathematics. An additional 66% of students meet the mathematics requirements for these courses.

Leaving Certificate achievements in mathematics, 2007

Level and Achievement	No of students	% of all students
Higher ≥ C	6,718	14%
Ordinary ≥ D; Higher = D[3]	32,364	66%
Ordinary or Higher ≤ E	4,381	9%
Foundation (all grades)	5,580	11%
Total	**49,043**	**100%**

Source: SEC

On the positive side, the proportion of students sitting and achieving grade D or above for ordinary level mathematics at Junior Certificate rose from 92.3% in 2003 to 93.4% in 2007 and a slight increase in the share of students sitting mathematics at higher level was also observed. This results in an increasing pool of potential candidates with the competencies to prepare for Leaving Certificate mathematics at higher level in the future.

1 *Graduation data for universities and Institutes of Technology is based on 2006 data as this is the latest available. All data in this table has been rounded. Awards granted to Irish students who undertook studies outside of the Republic of Ireland are not included.*

2 *In order to minimise double counting, only major awards have been included in this table: on average, each candidate received one major award in 2007.*

3 *'Ordinary ≥ D' refers to candidates who obtained a grade D or higher in ordinary level mathematics. 'Higher = D' refers to candidates who obtained a grade D in higher level mathematics; those with grades C or above at higher level are catered for in the preceding row.*

Science

The share of Junior Certificate students opting to sit the science examination has increased slightly and candidates were more likely to sit science at higher level in 2007 (70%) than in 2003 (64%). There has been a significant increase in the uptake of Leaving Certificate biology since 2003, with more than two thirds sitting the exam at higher level. The uptake rate for chemistry increased since 2003, while the share of higher level sits in physics also rose.

In 2007, CAO acceptances for science courses at level 7/6 declined by over 3% since 2006 and by almost 11% since 2000. The decline for level 8 CAO acceptances was less marked at 0.4%.

Science CAO acceptances, 2000-2007

NFQ Level	2000	2006	2007	% change 2007-00	% change 2007-06
7/6	1,226	869	840	-31.5%	-3.3%
8	2,495	2,495	2,484	-0.4%	-0.4%
Total	**3,721**	**3,364**	**3,324**	**-10.7%**	**-1.2%**

Source: CAO

The number of science graduates has increased by 4.4% since 2005, and by 7% since 2004. Although graduate output from level 7/6 courses increased overall in 2004-2006, this masks a 2.3% decline in graduations for the period 2005-2006. Since 2005, the most significant percentage increase occurred for level 10 awards (11.8%).

Science graduate output, 2004-2006

NFQ Level	2004	2005	2006	% Change 2004-2006	% Change 2005-2006
7/6	722	780	762	+5.5%	-2.3%
8	2246	2,291	2,408	+7.2%	5.1%
9	528	508	543	+2.8%	6.9%
10	280	306	342	+22.1%	11.8%
Total	**3,776**	**3,885**	**4,055**	**+7.4%**	**4.4%**

Source: HEA; IoTs; HETAC

Outlook: The decline in CAO acceptances at levels 7/6 and 8 indicates that the observed increases in graduate output since 2004 may not continue, particularly at level 7/6. Increases in PhD enrolments will lead to increased graduate output at level 10 in the future.

Engineering and manufacturing

In 2007, the overall number of CAO acceptances for engineering and manufacturing courses grew by almost 2% when compared to 2006 although there has been a significant fall-off of more than 30% since 2000. Despite suffering considerable declines since 2000, the number of acceptances at level 7/6 did not change over the period 2006-2007. There has been a 4% increase in the number of acceptances at level 8 since 2006 although that number is nonetheless 25% lower than in 2000.

Engineering & manufacturing CAO acceptances, 2000-2007

NFQ Level	2000	2006	2007	% Change 2007-2000	% Change 2007-2006
7/6	2,420	1,602	1,602	-33.8%	0.0%
8	1,664	1,203	1,251	-24.8%	+4.0%
Total	**4,084**	**2,805**	**2,853**	**-30.1%**	**+1.7%**

Source: CAO

Total graduate output from engineering and manufacturing courses declined by 7.5% in 2005-2006 and by more than 12% in 2004-2006. These declines are due to reduced output at undergraduate level, particularly at level 7/6. While graduations at level 9 declined over the period 2004-2006, the last year (2005-2006) saw a small but notable increase of almost 3%; a more pronounced increase occurred for level 10 where graduations rose by more than 50% in 2005-2006 and by more than 60% since 2004.

Engineering & manufacturing graduate output, 2004-2006[4]

NFQ Level	2004	2005	2006	% Change 2006-2004	% Change 2006-2005
7/6	2,238	1923	1654	-26.1%	-14.0%
8	1697	1816	1689	-0.5%	-7.0%
9	450	436	448	-0.4%	+2.8%
10	86	90	139	+61.6%	+54.4%
Total	**4,471**	**4,248**	**3,930**	**-12.1%**	**-7.5%**

Source: HEA; IoTs; HETAC

Outlook: Declines in CAO acceptances for engineering and manufacturing courses observed over the period 2004-2005 appear to have halted although the increases have been on a very modest scale and are unlikely to result in significant increases in future graduate output. PhD enrolments in engineering and manufacturing have increased in recent years which will see continued increases in level 10 output in the coming years.

Construction

The number of CAO acceptances for construction programmes have increased by almost 14% since 2000 and by 0.8% over the period 2006-2007. Although level 7/6 acceptances have decreased since 2000, there was a small increase (total of 10 acceptances) between 2006 and 2007. Level 8 acceptances increased significantly since 2000 while the increase in 2006-2007 was less pronounced at 1.3%.

Construction CAO acceptances, 2000-2007

NFQ Level	2000	2006	2007	% Change 2007-2000	% Change 2007-2006
7/6	2128	2051	2061	-3.1%	+0.5%
8	609	1042	1056	+73.4%	+1.3%
Total	**2,737**	**3,093**	**3,117**	**+13.9%**	**0.8%**

Source: CAO

4 *Numbers also include graduates from courses that are combined engineering, manufacturing and construction.*

Graduate output from construction courses declined by just over 2% in 2005-2006 although the overall number of construction graduates in 2006 is broadly similar to that of 2004 (3,393 in 2004 compared to 3,377 in 2006). The only increases in graduate output were observed for level 7/6 programmes which grew by more than 2% since 2005. In 2005-2006, graduate output at level 8 and level 9 fell by 6.8% and 17.3% respectively; although there was a 15% decline in PhDs the total number of graduates is comparatively very small.

Construction graduate output, 2004-2006

NFQ Level	2004	2005	2006	% Change 2006-2004	% Change 2006-2005
7/6	2,122	2,132	2,178	+2.6%	+2.2%
8	970	1,007	939	-3.2%	-6.8%
9	291	301	249	-14.4%	-17.3%
10	10	13	11	+10.0%	-15.4%
Total	**3,393**	**3,453**	**3,377**	**-0.5%**	**-2.2%**

Source: HEA; IoTs; HETAC

Outlook: The increase in CAO acceptances at level 8 in 2006-2007 indicates that the declining graduate output at this level will be reversed in the medium term. Enrolments on PhD construction courses have shown no increases in recent years and therefore no increase in graduate output at this level is anticipated in the short-medium term, although in the longer term the increased number of construction graduates will ensure a pool of candidates suitably qualified to undertake postgraduate level research.

Computing

CAO acceptances for computing courses at level 7/6 declined sharply since 2000. Level 8 acceptances, however, recovered slightly in 2006-2007 with an increase of 2.2% in acceptances since the previous year, although there has been an overall decrease of almost 48% in acceptances at this level since 2000.

Computing CAO acceptances, 2000-2007

NFQ Level	2000	2006	2007	% Change 2007-2000	% Change 2007-2006
7/6	2,288	954	845	-63.1%	-11.4%
8	1,809	926	946	-47.7%	2.2%
Total	**4,097**	**1,880**	**1,791**	**-56.3%**	**-5%**

Source: CAO

Total graduate output from computing courses (all levels) declined by 21.5% over the period 2005-2006. The most significant decline was at level 8 which saw an almost 35% drop in graduate output. Increased output however was observed at levels 9 and 10 but the numbers involved are relatively small.

Computing Graduate Output, 2004-2006

NFQ Level	2004	2005	2006	% Change 2006-2004	% Change 2006-2005
7/6	1,619	1,174	900	-44%	-23.3%
8	2,178	1,869	1,219	-44%	-34.8%
9	1,683	700	794	-53%	13.4%
10	39	49	65	+67%	32.7%
Total	**5,519**	**3,792**	**2,978**	**-46%**	**-21.5%**

Source: HEA; IoTs; HETAC

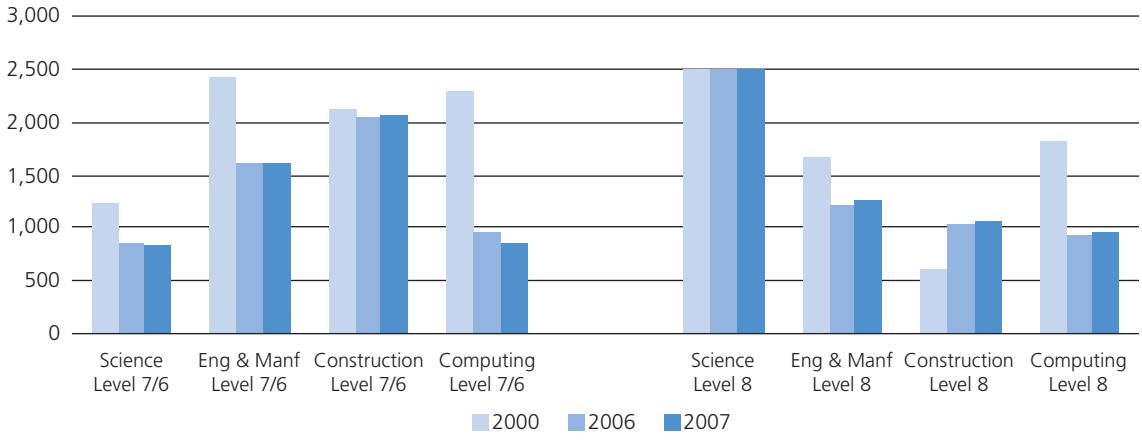
Outlook: Due to declines in acceptances at level 7/6, a reduction in graduate output in computing at this level is likely to continue in the short-term. The increase in CAO acceptances at level 8 is unlikely to prove sufficient to reverse the significant decline in level 8 output although it may halt the declining trend in output at this level.

Overall trends for technology skills

In summary, when compared to 2006, the number of CAO acceptances increased in 2007 for level 8 courses in: engineering & manufacturing (+4%), construction (+1.3%) and computing (+2%). CAO acceptances also increased for level 7/6 courses in construction (+0.5%). Decreases were observed for science courses: a slight drop at level 8 (-0.4%) and at 3% drop at levels 7/6 when compared to 2006. Despite these declines in CAO acceptances, level 8 science remains one of the most popular technology subjects: total acceptances at level 8 amounted to almost 2,500 each year which is higher than any other subject area in the technology group at either levels 7/6 or level 8.

When compared to the number of acceptances in 2000, the 2007 data shows that acceptances for all technology courses, with the exception of level 8 construction courses, declined.

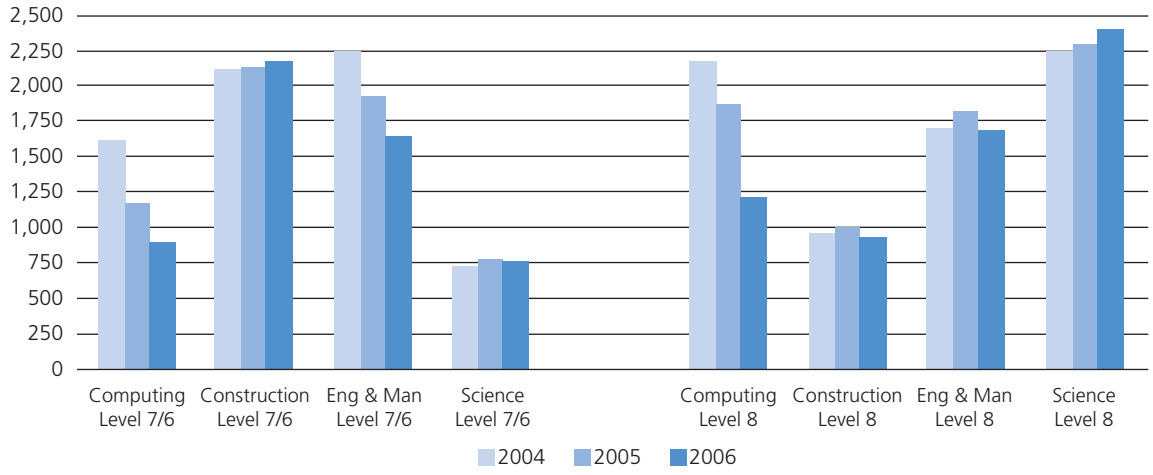
CAO Acceptances – technology courses (level 7/6 and level 8) – 2000, 2006 and 2007



Source: CAO

The undergraduate awards data shows that over the period 2005-2006, declines were observed for the number of graduates from level 7/6 courses in computing (-23%), engineering and manufacturing (-14%), and to a more moderate extent, science (-2%). At level 8 declines were observed for computing (-35%), construction (-7%) and engineering and manufacturing (-7%) but the number of science awards actually increased (+5%).

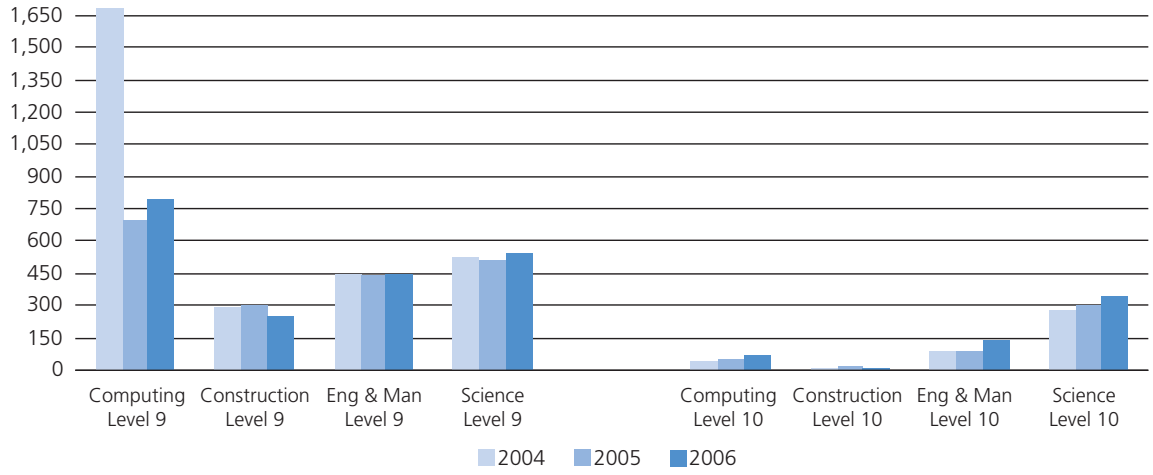
Undergraduate technology awards, 2004-2006



Source: HEA; IoTs

At postgraduate level, graduate output in technology increased over the period 2005-2006 for all subject areas except construction. Despite a significant decline at level 9 in 2005, computing awards recovered somewhat in 2006 with a 13% increase on the preceding year. Also at level 9, the declines in engineering and manufacturing and in science which were observed in 2005 were reversed and graduate output for these two disciplines in 2006 is almost on a par with that of 2004. At doctoral level, steady increases over the period 2004-2006 were observed for each discipline, expect construction.

Postgraduate technology awards, 2004-2006



Source: HEA; IoTs

Future Output

While the number of school leavers (i.e. 16-19 year-old age cohort) is forecast to decline until 2013, the increases observed in Ireland's fertility rate in the mid-1990s have already impacted on primary school enrolment numbers and increases in post-primary school intake are expected to occur from Sept 2008 onwards. This increase in Ireland's school-age population, combined with increased retention rates at second level and rising higher level participation rates among current school leavers, will ensure that the overall supply of skilled labour in Ireland will increase.

The trend for decreasing inflows to level 7/6 education will lead to continued declines in the number of graduates at this level. However, increases observed in inflows and outflows from programmes at levels 8, 9 and 10 are set to continue.

Fewer students are studying technology courses at level 7/6. At level 8, there have been modest increases in the number of acceptances for many technology related areas. However, the increases in level 8 inflows are unlikely to be sufficient to significantly reverse the declining trend in graduate output at this level. This in turn will lead to a smaller pool of candidates with the educational qualifications to engage in postgraduate research in technology.

1. Introduction

This latest edition of *'Monitoring Ireland's Skills Supply: Trends in Education/Training Outputs'* is the third in a series of annual reports produced by the Skills and Labour Market Research Unit of FÁS, on behalf of the Expert Group on Future Skills Needs. The report presents an overview of the key trends in respect of the skills emerging from the Irish education system. Although the data includes both part-time and full-time participants in education, the main focus is on those who have yet to enter the labour force. As such, it does not specifically examine training for those already in employment.

The layout of the report is, in the main, chronological, from primary level through to higher education, including second level and further education and training. Data on private education provision and Irish students emerging from higher education in foreign institutions is also presented, although on a more limited basis.

The report examines outflows from the formal education system across levels 3-10 of the National Framework of Qualifications (NFQ). To date, no awards have been made at level 1 and 2 although the first cohort of learners will emerge from new courses at these levels in 2008. At each level, the supply of skills is examined in terms of:

- Graduate output refers to the number of individuals who receive an award on completion of a course of study. Graduate output trends are used as an indicator of the potential current supply
- Student inflows: this is used as an indicator of the potential future supply
- Gender: this is used as an indicator of gender balance
- Discipline: this is used as an indicator of the supply of skills by broad type
- First destination: this is used as an indication of students' destination following graduation from higher education
- International comparison: this is an indicator of Ireland's performance internationally

The report follows a similar pattern to the Monitoring Ireland's Skills Supply report published in June 2007. Additional information is provided in relation to further education and training provision, Irish student enrolments abroad. Demographic data has been updated to reflect the latest population forecasts made available in 2008 by the Central Statistics Office.

1.1 The Irish Education System

1.1.1 Description

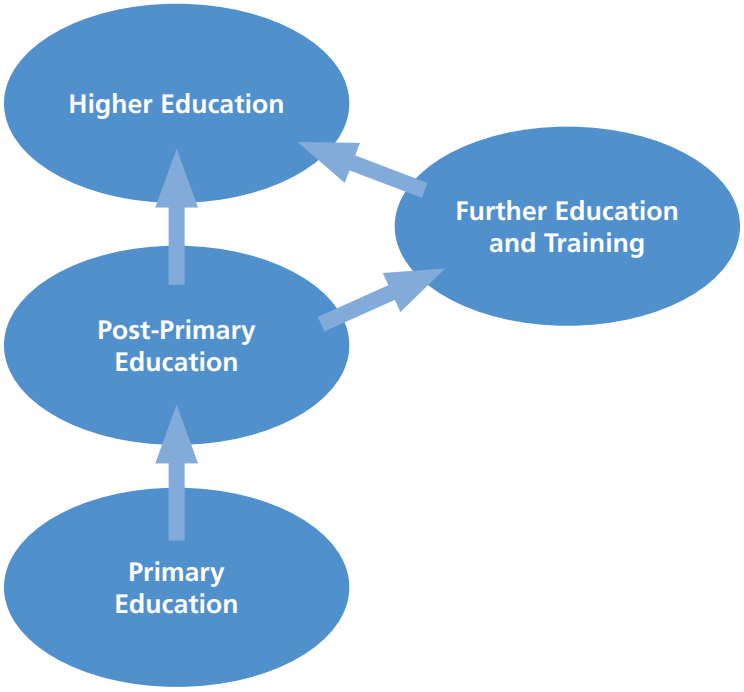
Full time education in Ireland is compulsory for children between the ages of 6 and 16 or until they have completed the first three years of the junior cycle at post-primary level. The Irish education system is subdivided into four main sections: primary education, post-primary education, further education, and higher education. Figure 1.1 outlines the progression routes for each of these sectors.

Primary education is typically eight years in duration. This is followed by five-to-six years of post-primary education. Post-primary education consists of a three-year junior cycle leading to the Junior Certificate examination, followed by a two or three-year senior cycle programme leading to the Leaving Certificate examination.

Education and training which occurs alongside and after second-level schooling but which is not part of the higher education and training system is known as further education and training (FET). Further education and training includes post-leaving certificate courses (PLCs), craft courses, foundation courses and part-time courses meriting credit on the above courses. Further education and training courses are run at both public and privately funded institutions.

The higher education sector in Ireland is comprised of the university sector, the institute of technology sector and the colleges of education. In addition, there exist private institutions, often substantially funded by the state, which provide education in specialist areas such as medicine and law. There are also a small but growing number of independent private colleges which offer a range of courses, mostly in disciplines such as business.

***Figure 1.1** Four interlinked sectors of the Irish Education System*



1.1.2 Awarding Bodies

Since 2003, the State Examinations Commission has been the body responsible for the development, assessment, accreditation and certification of the Irish state examinations at post-primary level, namely the Junior Certificate and the Leaving Certificate.

Since 2001, The Further Education and Training Awards Council (FETAC) has been the body responsible for making awards in FET. Prior to 2001, a range of other bodies performed this function, e.g. FÁS, the National Council for Vocational Awards (NCVA), Fáilte Ireland, Bord Iascaigh Mhara (BIM) and Teagasc.

The Higher Education and Training Awards Council (HETAC) has responsibility for making awards for higher education courses completed in the institutes of technology and private colleges. The Institutes of Technology (IoTs) have delegated authority from HETAC to make their own awards although in some colleges the authority may be limited to certain award types with HETAC making the remainder of the awards. Universities and the Dublin Institute of Technology act as their own awarding authorities.

1.1.3 National Framework of Qualifications

The National Framework of Qualifications (NFQ) was introduced in 2003 and implemented thereafter following an extensive consultation process with all of the national key stakeholders. The framework is defined as "a single, nationally and internationally accepted entity, through which all learning achievements may be measured and related to each other in a coherent way and which defines the relationship between all education and training awards". The NFQ is based on standards of knowledge, skill and competence. The structure of the framework is based on levels which are outlined in Table 1 and further detailed in Appendix A.

Each level has a specified level indicator which is a broad description of the learning outcomes at a given level in terms of eight sub-strands of knowledge, skill and competence (these level indicators are outlined in Appendix B). At each level of the framework there are one or more award types. An award type is described as a class of named awards which share common features and level. Each award type has its own award type descriptor. The National Qualifications Authority of Ireland (NQAI) has the responsibility of setting and developing these level indicators and award type descriptors. At each level in the framework there will be at least one award type. Each award type will have a range of named awards.

It is the responsibility of the awarding bodies (HETAC, FETAC, the universities, and the State Examinations Commission) to develop the named awards. The former and existing awards now placed on the ten-level framework are outlined in Appendix A.

***Table 1.1** National Framework of Qualifications*

Level	Awards
Level 10	Doctoral Degree
Level 9	Master's Degree, Postgraduate Diploma
Level 8	Honours Bachelor Degree, Higher Diploma
Level 7	Ordinary Bachelor Degree
Level 6	Advanced Certificate, Higher Certificate
Level 5	Level 5 Certificate, Leaving Certificate
Level 4	Level 4 Certificate, Leaving Certificate
Level 3	Level 3 Certificate, Junior Certificate
Level 2	Level 2 Certificate
Level 1	Level 1 Certificate

Source: National Qualifications Authority

1.2 Education Data Collection

The education data in this report was gathered from a variety of sources:

- Demographic data was sourced from the Central Statistics Office, Eurydice and Eurostat.
- Junior Certificate and Leaving Certificate data: from the State Examinations Commission, the Central Applications Office (CAO) and the Department of Education and Science (DES).
- International comparison data: from the *OECD Education online database* and other OECD publications (see References section).

- Further education and training data: from FETAC.
- University and institute of technology (IoT) data: from the Higher Education Authority (HEA), DES, HETAC, institutes of technology and the CAO.
- Private education data: from HETAC and individual professional bodies.
- For Irish students studying abroad: from Universities and Colleges Admission Service (UCAS), Higher Education Statistics Association (HESA) and from the *OECD Education online database*.

The report focuses on the most recent trends, usually covering the period 2002-2006, unless the availability of the data dictates otherwise or longer term trends are of particular interest.

1.3 Report Structure

The report is structured as follows. The second chapter presents key demographic data relevant to the population of Ireland's education participants. The educational attainments of Irish students at Junior Certificate level is examined in Chapter 3 and those at Leaving Certificate level in Chapter 4. Chapter 5 focuses on the supply of skills from the further education and training sector. The next three chapters are devoted to higher education: Chapters 6 and 7 examine CAO acceptances and graduations in universities and IoTs for NFQ levels 7/6 and level 8 courses respectively; Chapter 8 looks at enrolment data and skills output from level 9/10 courses from universities and IoTs. Chapter 9 provides an overview of the skills emerging from the private education sector. Finally, the Irish student participation at higher education institutions in other OECD countries is examined in Chapter 10.

2. Demographic Trends

Key Points

- Ireland's fertility rate was 1.93% in 2006, up from 1.86% in 2005
- Ireland's fertility rate was the third highest in Europe in 2005
- Inflows at primary level have been increasing since 2000
- The pool of potential first year Junior Cycle pupils is expected to increase by 17% over the period 2006-2015
- Leaving Certificate sits are expected to increase in June 2014 or June 2015
- The school leaving age cohort is forecast to continue to decline until 2013 but to recover thereafter
- The progression rate to third-level within 18 months of completing the Leaving Certificate is estimated at 57%

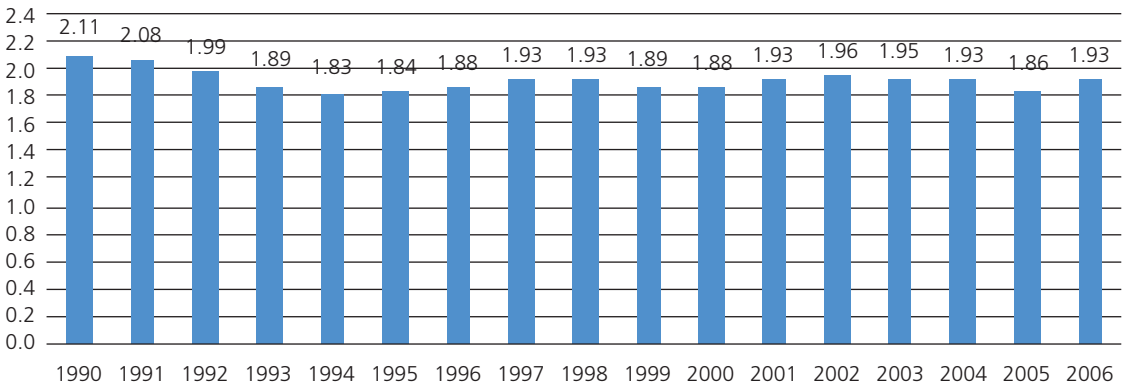
This section provides an overview of demographic information relevant to the Irish school-age population. Demographic trends are important as the number of entrants to the national education system is largely dependent on the number of persons in the relevant age cohort.

2.1 Fertility Rates

Total Fertility Rate, is the *mean number of children that would be born alive to a woman during her lifetime*. An analysis of the fertility rates provides an indication of the future pool of children available to enter the education system at primary level (i.e. junior infants). The information on fertility rates provided here relates only to children born in Ireland. However, one should bear in mind that the school-age population is affected by the net migration of young people to Ireland: children of returning Irish citizens as well as the children of EU and non-EU nationals living in Ireland.

Figure 2.1 provides the fertility rate for Ireland over the period 1990-2006. The fertility rate reached a low of 1.83 in 1994 but began to increase in 1995. Since then the rate has remained between 1.84 and 1.96 and stood at 1.93% in 2006. In absolute terms, the numbers of live births actually increased over the period 1990-2006 and stood at 53,044 and 64,237 respectively. This increase is due to the overall rise in the total population that occurred over the period 1990-2006.

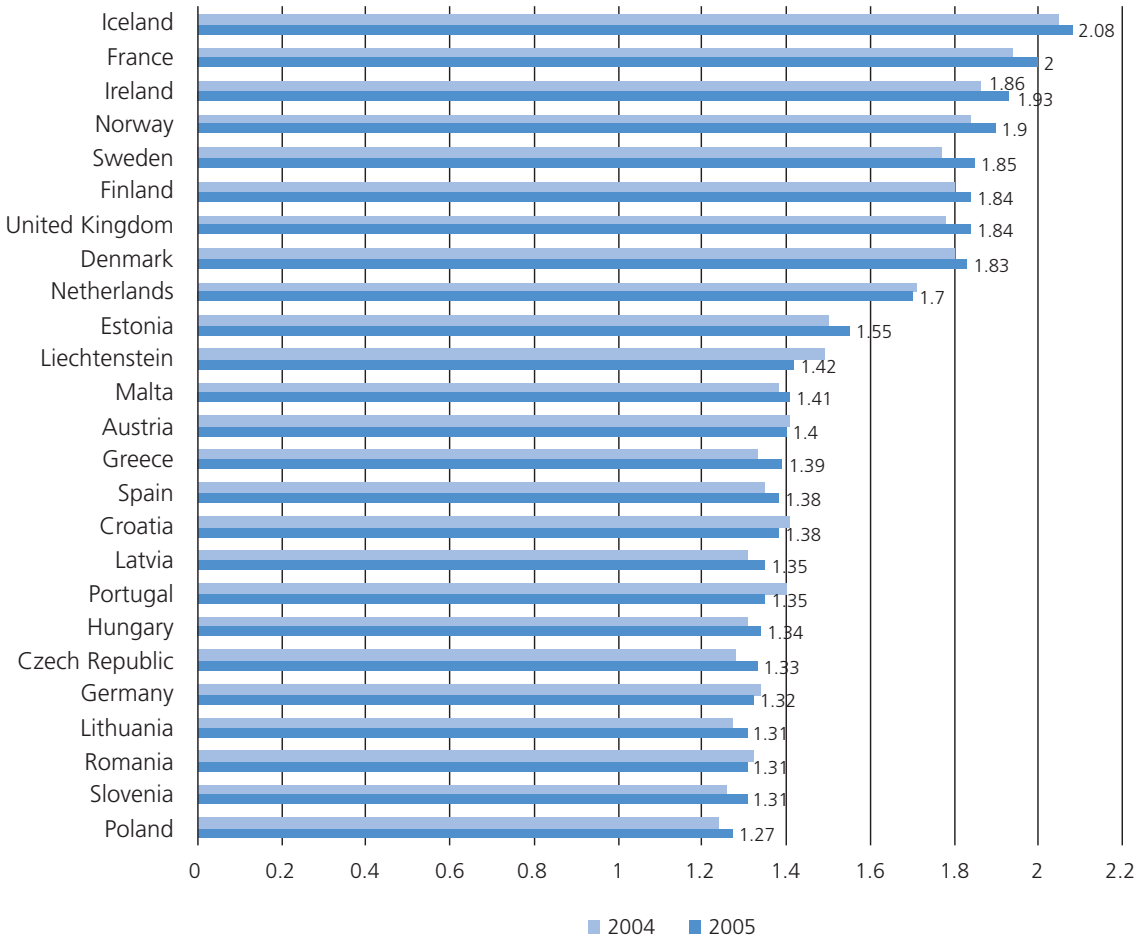
Figure 2.1 *Ireland's fertility rate, 1990-2006*



Source: Eurostat

Figure 2.2 shows the fertility rates for selected European countries in 2004 and 2005 and provides an indication of how Ireland compares internationally. Although at 1.86%, the fertility rate for Ireland recorded in 2005 was lower than in 2004, Ireland nonetheless ranks third overall in Europe, surpassed only by France and Iceland.

Figure 2.2 *Fertility rates for selected European countries, 2005-2006*



Source Eurostat

2.2 Primary and Post-Primary Inflows

The number of children enrolled in junior infants and those in the first year of the Junior Cycle at post-primary level each year over the period 1996-2006 (the latest year for which the data is currently available) is shown in Table 2.1.

The decline in total fertility rates observed up until 1995 resulted in a subsequent decline in the number of Irish born children available to enter primary level education. Given that the average age of children starting primary school is 4-5 years, the decline in numbers entering junior infants continued until 1999. Since then, numbers of junior infant enrolments at primary level have, in the main, been increasing. Junior Cycle entrants have decreased most years since 1997, although small increases were observed in 1998 and 2003.

Increases observed in junior infant enrolments since 2000 may be reflected in an increase in Junior Cycle entrants from 2008 onwards, in Junior Certificate sits in June 2011 and in Leaving Certificate sits two-to-three years later in June 2013 or June 2014.

***Table 2.1** New entrant enrolments in primary and post-primary schools, 1996-2006*

Year	Junior Infants	% Change	Junior Cycle Entrants	% Change
September 1996	55,315		64,269	
September 1997	52,944	-4%	60,179	-6%
September 1998	51,858	-2%	60,952	1%
September 1999	51,946	0%	60,280	-1%
September 2000	52,643	1%	58,411	-3%
September 2001	55,236	5%	55,245	-5%
September 2002	56,520	2%	55,244	0%
September 2003	57,054	1%	55,968	1%
September 2004	56,591	-1%	55,357	-1%
September 2005	58,458	3%	53,709	-3%
September 2006	61,411	5%	53,085	-1%

Source: DES

2.2.1 Population Forecasts (primary and post-primary entrants)

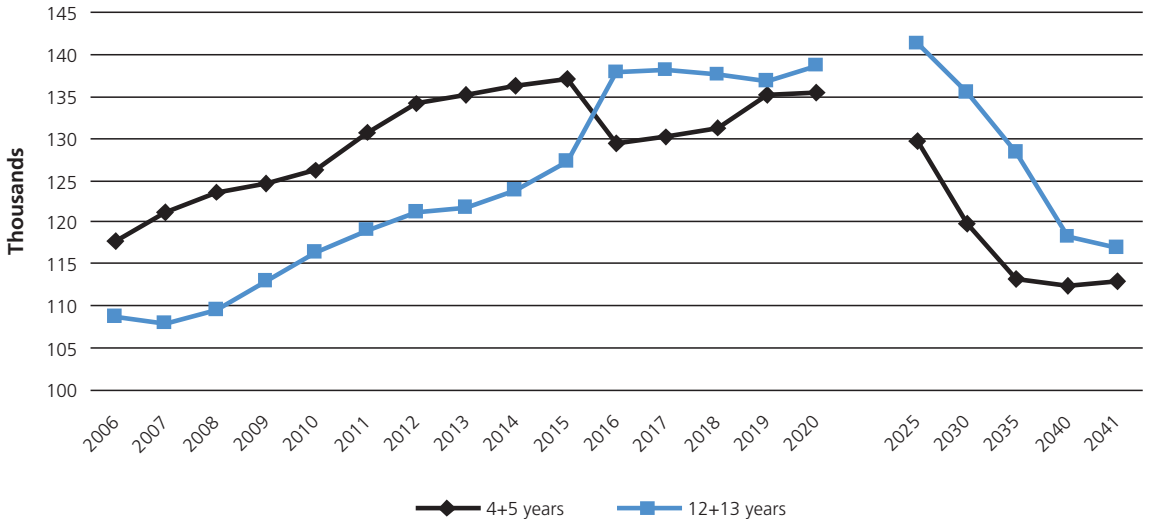
The focus of this section is on the population forecasts for age cohorts relevant to pupils entering primary school and post-primary school. Statistics from the Department of Education and Science show that, in 2006, 98% of all junior infant enrolments were made up of pupils aged either 4 or 5 years and 96% of all first year junior cycle pupils were aged either 12 or 13 years.

Figure 2.3 shows CSO population forecasts (M2F2) for pupils aged 4 and 5 years (potential junior infant pupils) and those aged 12 and 13 years (potential first year junior cycle pupils).[5] The population forecasts estimate that the pool of possible junior infant pupils will continue to increase until 2015, going from 117,833 in 2006 to almost 140,000 in 2015 – an 18% increase in the number of 4 and 5 year olds.

5 *The CSO provides population forecasts making certain assumptions about future migration and fertility rates. Under migration scenario M2, average annual net migration is assumed to be 50,000 for the period 2006 to 2011, falling back to 35,000 in the period 2011 to 2016 and then to 25,000 during 2016 to 2021. It is then assumed to settle at 10,000 per annum for the period 2021 to 2041. Assumption F2 assumes the total fertility rate will decrease from its 2006 level of 1.9 to 1.65 by 2016 and then stabilise at this level until the end of the projection period (2041).*

Following an initial decline over the period 2007-2008, the combined total of 12 and 13 year olds is set to increase from 2008 onwards and will reach approximately 127,200 by 2015; this represents a 17% increase on the current population in this age-group. Further increases are also expected with a peak of 141,280 12- and 13-year-olds forecast for 2025.

***Figure 2.3** Population forecasts for junior infant and junior cycle (1st yr) age cohorts, 2006-41*



Source Population and labour Force Projections, 2011-2041, CSO. M2F2 scenario

According to the latest data available (*Education at a Glance 2006*),[6] demographic data across most European countries indicates that the size of the student population in compulsory school (5-14 age cohort) will decline over the coming years. Ireland, however, is only one of only five countries which can expect to see positive future growth in its school-going population between 2005 and 2015: the school-age population is expected to grow by 19% in Ireland, by 16% in Spain and by 5% in France. On the other hand, it is set to decline by 3% in Italy, 5% in the Netherlands and by 10% or more in counties such as Finland, Germany and Poland.

2.3 School-Leavers

The *School Leavers' Survey Report 2006*, published by the ESRI in 2007, found that a total of 85% of those who completed the Leaving Certificate in 2004 entered *some form* of post-school education and training including Post Leaving Certificate courses, state sponsored training programmes (e.g. FÁS, Fáilte Ireland) and third-level courses.

2.3.1 CAO Applicants

In Ireland, school-leaving age is typically 16-19 years. Table 2.2 shows the percentages of Central Applications Office (CAO) acceptors who were aged 16-19 years over the period 2003-2007. While experiencing a decline since 2003, the vast majority of CAO acceptors in 2007 were aged 16-19 years: 86% of level 8 acceptors and 81% of level 7/6 acceptors were of school-leaving age.

6 *Education at a Glance: Highlights. OECD. 2006.*

Table 2.2 Percentage of CAO acceptors aged 16-19 years, 2002-2007

NFQ Level	2003	2004	2005	2006	2007
Level 8	88%	88%	88%	86%	86%
Level 7/6	86%	87%	85%	84%	81%

Source: CAO Directors' Reports 2002-2006

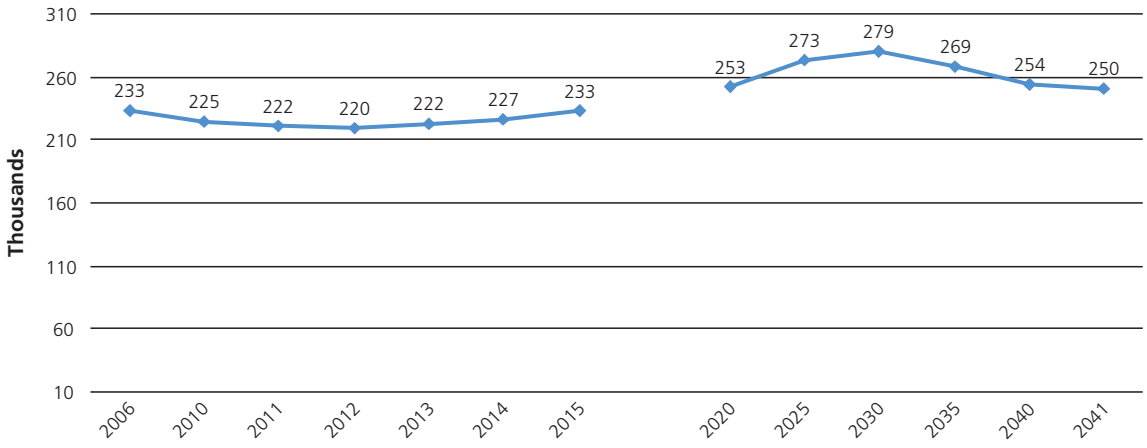
Every year a certain proportion of the third level students are mature students. In 2007, 10% of acceptors at level 8 and 12% at levels 7/6 were aged 23 or over, representing an increase on the share of mature acceptors five years previously – in 2003, 8% of level 8 acceptors and 7% of level 7/6 acceptors were aged 23 or over.

Increases in higher education participation and inward migration are expected to counteract, to some extent, the predicted negative demographic effect on the number of new entrants to third level education in the medium term. The *School Leavers' Survey Report 2006*, (ESRI 2007), estimates that **of all those who completed the Leaving Certificate examination in 2004**, the overall progression rate to third-level within the following 18 months stood at 57%. This is an increase on the ratio observed for 1998 (44%).

2.3.2 Population Projections

CSO population projections (M2F2) for those approaching school leaving age (i.e. persons aged 16-19 years) are presented in Figure 2.4. In the medium term, the CSO predicts that there will be a decline in the number of school leavers. Beginning in 2013, a recovery is forecast to occur, with the predictions for the number of 16-19 year olds in the population in 2015 being almost on a par with the numbers in 2006 (which stood at 232,600).

Figure 2.4 Population forecasts for 16-19 year old age cohort, 2010-2041



Source: Population and labour Force Projections, 2011-2041, CSO. M2F2 scenario

3. Junior Certificate

Key Points

- The retention rate to Junior Certificate was 94.6% with females more likely to sit the exam than males
- Almost 57,400 candidates sat the Junior Certificate exam in 2007, only slightly fewer than in 2006
- Junior Cert candidates are increasingly taking examinations at higher level
- Students are increasingly sitting science at higher level; higher level participation rose from 64% to 70% over the period 2003-2007
- In general, more females than males sat higher level papers; the difference is most pronounced for languages and religious education and narrowest for science, geography and mathematics
- When compared to other OECD countries, Ireland's 15-year-olds were ranked well above average in reading (5th), above average in science (14th), and at the OECD average in mathematics (16th)

3.1 Introduction

The Junior Certificate programme, in terms of candidates, subject choices and achievements, is the focus of this chapter. First, a brief description of the Junior Certificate programme is presented. We then look at the numbers of Junior Certificate candidates and results trends for various examination subjects with particular attention on candidates' performance in the key subjects of English, mathematics and science. The final section reports on the findings of the international assessment project, PISA 2006, which serves as an indicator of the achievements of Ireland's 15-year olds at international level in key subject areas.

3.2 The Junior Certificate – Examination & Candidates

The Junior Certificate examination is held at the end of the Junior Cycle in post-primary schools. Students normally sit for the examinations after three years of post-primary education at the age of 14 or 15 years.

The Junior Certificate examination has been placed at level 3 on the National Framework of Qualifications. The learning outcomes associated with completion of the Junior Certificate (i.e. NFQ level 3) are outlined in Appendix B.

The Junior Certificate examination is offered in approximately 30 subjects. Most are offered at higher and ordinary level. English, mathematics and Irish are offered at higher, ordinary and foundation levels. Civic, Social and Political Education (CSPE) is offered at common level only. On average, candidates sit nine subjects.

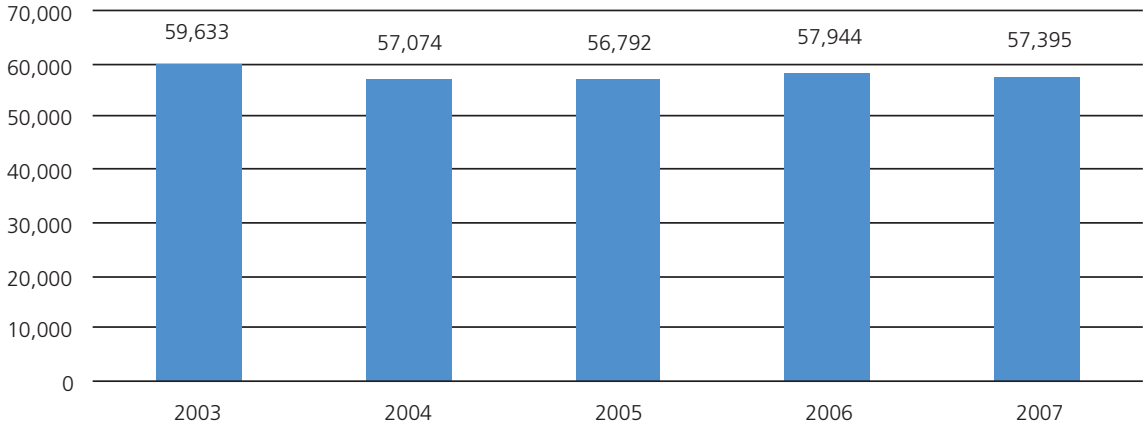
Candidature for the Junior Certificate examination is not restricted to post-primary school students. Candidates who are re-entrants to education may be entered for the examination through approved education schemes such as the Vocational Training Opportunities Scheme (VTOS) and the Back to Education Initiative (BTEI). In 2007, 2.2% (1,256) of all Junior Certificate candidates were re-entrants to education. This proportion is comparable to preceding years.

Not all students who enter post-primary education will sit the Junior Certificate examination. A Department of Education and Science report found that of all those who entered post-primary schools in 1999, 94.6%

sat the Junior Certificate.[7] The retention rate observed for the 1996 cohort was also 94.6%, although it declined slightly to 94.5% in the intervening years. Females are more likely than males to sit the Junior Certificate: the retention rate for females is 95.5% compared to 93.7% for males. The gap between females and males, however, has narrowed slightly: for the 1999 cohort the gap was 1.8 percentage points, down from 2.4 percentage points in 1996.

Figure 3.1 shows the number of Junior Certificate candidates between 2003 and 2007. The number of students sitting the Junior Certificate declined steadily between 2003 and 2005 and while 2006 saw an increase in numbers, they declined again slightly (by 0.7%) in 2007 and stood at almost 57,400. Approximately 50% of Junior Certificate candidates in 2007 were male (28,900 sits) and 50% were female (28,495 sits).

***Figure 3.1** Number of Junior Certificate candidates, 2003-2007*



Source: State Examinations Commission

3.3 Junior Certificate Results Trends

The focus of this section is on Junior Certificate candidates' subject choices in the 2007 examination as compared to that of 2003. First, we compare the total numbers and percentages of students who sat various Junior Certificate examination subjects. Next, we examine the share of students who sat examinations at higher level. Thirdly, the analysis looks at Junior Certificate students' achievements in the key areas of mathematics, science and English. Finally, we provide a gender breakdown in terms of higher and ordinary level sits and achievements.

3.3.1 Total Sits

The top-ten subject choice for Junior Certificate candidates in 2007 and 2003 is presented in Table 3.1. The number and share of students for each examination subject is also indicated.

Overall, student subject choices have remained relatively stable between 2003 and 2007. English, mathematics and CSPE remain the top three subjects with 97%-99% of all students sitting examinations in these subjects. However, significant declines in the overall share of sits were observed for three subjects; business studies, Irish and French which saw reductions of 4 percentage points, 4 percentage points and 5 percentage points, respectively.

7 *Department of Education and Science report published in March 2008:* Retention Rates of Pupils in Second-Level Schools. 1999 Cohort. *Figures quoted here are* ***unadjusted*** *for students transferring to non-aided schools and other destinations.*

The *number* of students decreased markedly in nine out of the ten top subject choices. The decline is in part a reflection of the declining population in the relevant age cohort and the related decline in numbers sitting the Junior Certificate examination in 2007. Other reasons for the decline relate to increased interest in some subjects outside the top ten: for example, the share of students sitting the examination in art, craft & design increased from 36% to 38% over the period 2003-2007. Religious education, first introduced as a Junior Certificate examination subject in 2003, increased significantly in numbers as the programme was rolled out in schools throughout the country.

Science and mathematics saw slight increases (one percentage point each) in the proportion of Junior Certificate candidates sitting examinations in these subjects.

***Table 3.1** Junior Certificate sits, 2003-2007*

	2003		2007	
	Total	% of Total	Total Sits	% of Total
English	58,716	99%	56,671	99%
Maths	58,441	98%	56,539	99%
CSPE	57,526	97%	55,854	97%
Geography	53,786	91%	51,984	91%
History	53,453	90%	51,311	89%
Science	51,090	86%	50,101	87%
Irish	53,979	91%	49,837	87%
French	39,323	66%	35,039	61%
Business Studies	37,315	63%	33,667	59%
Religious Education*	5,787	10%	24,601	43%

Source: State Examinations Commission

*2003 was the first year Religious Education was available at JC examination level. While Religious Education was the 10th most popular subject in 2007, Art, Craft & Design was the 10th most popular subject in 2003 with 36% of all JC sits.

3.3.2 Higher Level Sits

Table 3.2 presents the share of students who opted to take higher level papers for each subject. Mathematics and Irish are the only two subjects where the share of ordinary level candidates is greater than higher level candidates. Proportionately, more students opted to sit a higher level paper in each of the top-ten subjects in 2007 when compared with 2003. The highest increases were recorded for science where the proportion of candidates who sat the higher level paper increased from 64% in 2003 to 70% in 2007 – 2,400 more candidates.

Table 3.2 Junior Certificate sits, 2003-2007

% Higher Level Sits	2003	2007
CSPE	-	-
Geography	75%	77%
Religious Education	72%	76%
Science	64%	70%
Business Studies	66%	69%
French	67%	69%
History	64%	67%
English	63%	67%
Irish	41%	45%
Mathematics	41%	42%

Source: State Examinations Commission

3.3.3 English, Mathematics and Scientific Literacy

Basic literacy skills in English, mathematics and science are essential in order for individuals to work and participate in the economy as they form the foundation for basic education and lifelong learning. These subjects therefore warrant a closer examination in terms of grade achievements.

The number and share of Junior Certificate candidates who obtained grade D or higher (i.e. a pass grade) in English, mathematics and science at ordinary and higher level in 2007 is provided in Table 3.3.

Table 3.3 Higher & ordinary level Junior Certificate English, mathematics & science, 2003 & 2007

	2003		2007	
Ordinary Level	**Grades ≥ D**	**% ≥ D**	**Grades ≥ D**	**% ≥ D**
English	18,865	98.9%	16,310	98.3%
Maths	25,283	92.3%	25,313	93.4%
Science	17,786	96.5%	14,221	94.9%
Higher Level				
English	36,439	98.4%	37,219	98.6%
Maths	22,875	96.4%	22,569	94.8%
Science	31,159	95.4%	34,368	97.9%

Source: State Examinations Commission

At ordinary level, more than 90% of candidates obtained at least a grade D in each of these subjects. However, the shares of students who obtained a grade D or more for English and science were slightly lower in 2007 than in 2003. On the positive side, the pass rate for ordinary level mathematics increased slightly, going from 92% to 93% between 2003 and 2007.

The vast majority (over 90%) of candidates at higher level received a minimum of a grade D. Despite a reduced pass rate for science at ordinary level, at higher level it rose from just over 95% in 2003 to almost 98% in 2007. Proportionately fewer students obtained a grade D or more in mathematics and those for English remained largely unchanged at approximately 98.5% in 2003 and 2007.

3.3.4 Gender Distribution of Subject Choice

A gender breakdown of higher and ordinary level Junior Certificate sits in 2007 is provided in Table 3.4. At higher level, there were more female than male sits in all subjects examined. The imbalance was most pronounced for languages (English, Irish and French) and religious education and narrowest for science, geography and history.

At ordinary level, the greater share of candidates was male in all but two subjects. More females than males sat ordinary level business studies and the genders were equally distributed in art, craft and design.

Table 3.4 Gender breakdown of higher and ordinary level Junior Certificate sits, 2007

	Higher Level				Ordinary Level			
	Male Sits	(%)	Female Sits	(%)	Males Sits	(%)	Female Sits	(%)
English	17,135	**45**	20,605	**55**	9,802	**59**	6,790	**41**
Mathematics	11,443	**48**	12,361	**52**	13,745	**51**	13,350	**49**
Geography	19,509	**49**	20,388	**51**	6,304	**52**	5,783	**48**
History	16,766	**49**	17,524	**51**	8,643	**51**	8,378	**49**
Irish	9,162	**41**	13,331	**59**	13,064	**54**	11,124	**46**
Science*	17,104	**49**	18,007	**51**	8,900	**59**	6,090	**41**
French	10,407	**43**	13,600	**57**	5,882	**53**	5,150	**47**
Business Studies	10,841	**47**	12,368	**53**	5,138	**49**	5,320	**51**
Religious Education	7,977	**43**	10,755	**57**	3,082	**53**	2,787	**47**
Art, Craft, Design	5,017	**33**	9,977	**67**	3,407	**50**	3,417	**50**

Source: State Examinations Commission

3.3.5 Gender Distribution of Junior Certificate Results

Gender differences in Junior Certificate results achievements in 2007 are presented in Table 3.5. At higher level, the share of females with grades A, B, or C is greater than that for males in all subjects examined. The superior female performance is most marked in language subjects (English, Irish and French) and art, craft and design where the gender gap is between 8 and 11 percentage points. Males' achievements are closest to those of females in geography and business studies where the difference between male and female achievements is two percentage points or less.

The trend at ordinary level is similar. With the exception of geography, the share of females with A, B, or C grades is greater than that for males in all subjects. Again, the difference is most pronounced for languages and art, craft and design. There was no difference between male and female performance in history at ordinary level, and there were four percentage points in the difference between males and females in science and religious education.

Table 3.5 Gender differences in achievements at higher and ordinary level in the Junior Certificate, 2007

Higher Level	Male (%) ABC	Female (%) ABC	Difference between male and female (% points) ABC
English	71	82	11
Mathematics	74	77	3
Geography	67	68	1
History	70	73	3
Irish	74	83	9
Science*	75	80	5
French	64	72	8
Business Studies	84	86	2
Religious Education	75	80	5
Art, Craft, Design	79	90	11
Ordinary Level	**Male (%) ABC**	**Female (%) ABC**	**Difference between male and female (% points) ABC**
English	75	84	9
Mathematics	71	76	5
Geography	82	79	-3
History	77	77	0
Irish	66	78	12
Science*	77	81	4
French	53	63	10
Business Studies	74	80	6
Religious Education	77	81	4
Art, Craft, Design	68	77	9

Source: State Examinations Commission

3.4 Irish 15-Year-Olds: International Comparison

3.4.1 Introduction

The data for this section is from a summary report, prepared for the Department of Education and Science by Eivers et al. (2007) entitled *'Ready for Tomorrow's World: The Competencies of Irish 15-Year-Olds PISA 2007'*.[8]

The Programme for International Student Assessment (PISA) is an international assessment project implemented across member states of the Organisation for Economic Co-operation and Development (OECD) and partner countries (non-OECD states participating in the study). It aims to provide

8 *Eivers, E., Shiel, G., & Cunningham, R.* Ready for Tomorrow's World? The Competencies of Irish 15-year-olds in PISA 2006. Summary Report. *Prepared for the Department of Education and Science by the Educational Research Centre, St Patrick's College, Dublin.*

internationally comparable indicators of the educational attainment of 15-year old students in the key domains of reading, mathematical and scientific literacy. The programme was first run in 2000 with a focus on the in-depth assessment of reading literacy. A second PISA cycle took place in 2003, this time with mathematics as a focus domain. The latest PISA cycle was in 2006 and focused on scientific literacy.

With 59% in their third year of post-primary education, the majority of Irish PISA participants in 2006 were preparing to sit the Junior Certificate examination. A further 38% were in either transition year or fifth year, the vast majority of which had already sat the Junior Certificate. Therefore, although the PISA results are not directly comparable with the Junior Certificate results, the PISA 2006 assessments provide an insight into how the performance of those of Junior Certificate age compares internationally.

3.4.2 Ireland's Performance in PISA 2006

Table 3.6 outlines Ireland's performance compared to other countries in terms of scientific, reading, and mathematical literacy. The mean score for each of 30 OECD countries is provided. (For ease of reading, partner countries were omitted from the table but Appendix C contains a full list of OECD and partner countries, 57 in total, and their respective rankings.) Although countries have been presented in descending order according to mean score obtained, country rankings are not necessarily meaningful in themselves as small differences do not always translate into statistically significant differences. Therefore, an indication of each country's performance in relation to Ireland's is given in the IRL column.

Overall, the results from PISA 2006 show that Ireland's 15-year-olds perform well above average on reading literacy, slightly above average on science and at the OECD average in terms of mathematical literacy.

Table 3.6 OECD countries' mean scores in scientific, reading and mathematical literacy, PISA 2006

Science		IRL	Reading		IRL	Mathematics		IRL
Finland	563	↑	Korea	556	↑	Finland	548	↑
Canada	534	↑	Finland	547	↑	Korea	547	↑
Japan	531	↑	Canada	527	↑	Netherlands	531	↑
New Zealand	530	↑	New Zealand	521	○	Switzerland	530	↑
Australia	527	↑	**Ireland**	**517**		Canada	527	↑
Netherlands	525	↑	Australia	513	○	Japan	523	↑
Korea	522	↑	Poland	508	↓	New Zealand	522	↑
Germany	516	○	Sweden	507	↓	Belgium	520	↑
United Kingdom	515	○	Netherlands	507	↓	Australia	520	↑
Czech Republic	513	○	Belgium	501	↓	Denmark	513	↑
Switzerland	512	○	Switzerland	499	↓	Czech Republic	510	○
Austria	511	○	Japan	498	↓	Iceland	506	○
Belgium	510	○	United Kingdom	495	↓	Austria	505	○
Ireland	**508**		Germany	495	↓	Germany	504	○
Hungary	504	○	Denmark	494	↓	Sweden	502	○
Sweden	503	○	*OECD average*	*492*	↓	**Ireland**	**501**	
OECD average	*500*	↓	Austria	490	↓	*OECD average*	*498*	○
Poland	498	↓	France	488	↓	France	496	○
Denmark	496	↓	Iceland	484	↓	United Kingdom	495	○
France	495	↓	Norway	484	↓	Poland	495	○
Iceland	491	↓	Czech Republic	483	↓	Slovak Republic	492	↓
United States	489	↓	Hungary	482	↓	Hungary	491	↓
Slovak Republic	488	↓	Luxembourg	479	↓	Luxembourg	490	↓
Spain	488	↓	Portugal	472	↓	Norway	490	↓
Norway	487	↓	Italy	469	↓	Spain	480	↓
Luxembourg	486	↓	Slovak Republic	466	↓	United States	474	↓
Italy	475	↓	Spain	461	↓	Portugal	466	↓
Portugal	474	↓	Greece	460	↓	Italy	462	↓
Greece	473	↓	Turkey	447	↓	Greece	459	↓
Turkey	424	↓	Mexico	410	↓	Turkey	424	↓
Mexico	410	↓				Mexico	406	↓

= Mean score significantly above OECD Average
= Mean score *not* significantly different from OECD Average
= Mean score significantly below OECD Average
↑ = Mean score significantly above Ireland
○ = Mean score *not* significantly different from Ireland
↓ = Mean score significantly below Ireland

Source: *adapted from* Eivers et al (2007).

Scientific Literacy

With an average score of 508.3 in scientific literacy, Ireland scored above the OECD average (500) and was **ranked 14th highest out of 30 OECD countries** (or 20th out of 57 when partner countries are also included). As indicated by arrows in Table 3.6, seven OECD countries obtained scores that were significantly higher than Ireland; eight countries did not differ significantly; 14 countries scored significantly lower.

In-depth analyses revealed that Ireland's above average performance in scientific literacy is due to the presence of proportionally fewer students with scores at the lower levels of proficiency rather than an unusually large share of high-achieving students (*Eivers et al. 2007*).

Reading Literacy

In reading literacy, Ireland was **the 5th highest of 29 OECD countries** (or 6th highest score out of 56 countries), ranking Irish 15-year-olds well above the average across OECD countries. Three countries were significantly higher, a further two countries were not significantly different and 23 countries were significantly poorer in performance than Ireland.

The achievement gap between the highest and lowest achievers in reading literacy amongst Irish 15-year olds is narrower than the OECD average. Low-achievers accounted for 12% of the total which is considerably lower than the rate across the OECD countries as a whole (20%). At the other end of the scale, 12% of Irish 15-year olds achieved the top levels in reading literacy, which is higher than the OECD average of just 9%. Thus, Ireland's above average performance in reading is due to both a comparatively strong performance of low achievers and the good performance of high achievers.

Mathematical Literacy

Ireland's score in mathematical literacy was **16th out of 30 OECD countries** (or 22nd out 57) and was not significantly different from the OECD average. A total of 10 countries were significantly higher; eight were not significantly different and 11 countries performed significantly less well.

The results of in-depth analyses show that the percentage of Irish 15-year-olds (16%) who scored at the lower end of the scale is smaller than the OECD average of 21%. The proportion of students scoring at the highest levels, on the other hand, was lower for Ireland: 10% of 15-year-olds are at the top level compared to the OECD average of 13%. These findings indicate that average performance of Irish 15-year-olds in mathematical literacy can be attributed to the comparatively strong performance of low achievers and high achievers doing comparatively less well.

3.4.3 Comparisons with PISA 2000 and 2003

In **scientific literacy**, the mean score for Ireland increased from 505.4 in 2003 to 508.3 in 2006 but it remains below the 2000 score of 513.4. In each of the three assessment cycles, the mean science score of Irish 15-year-olds was statistically significantly higher than the OECD average.

Overall, the performance of Irish 15-year-olds in **reading literacy** has been 'reasonably stable' since 2000 (*Eivers* et al.). The average scores obtained in reading in 2006 do not differ significantly from those in 2000.

Ireland's mean score in **mathematical literacy** was two points lower in 2006 when compared to 2003, but this difference is not statistically significant.

4. Leaving Certificate

Key Points

- The Leaving Certificate retention rate (adjusted) for the 1999 cohort was 83.7%, up from 81.6% for the 1996 cohort
- There were almost 54,000 Leaving Certificate candidates in 2007, a 9% decline since 2003
- Mathematics and biology remain the most popular science subjects with 96.4% and 51% of all candidates sitting the examination in these subjects
- Over the period 2003-2007, there was a significant increase in the share of Leaving Certificate sits in Biology (from 40% to 51%) and a moderate increase in the share for chemistry (from 12% to 14%)
- With the exception of mathematics and chemistry, students are increasingly taking science subjects at higher level
- Females outnumber males in eight out of the top-ten Leaving Certificate subjects; only history and geography are male dominated subjects within the top-ten
- Over the period, 2003-2007, there was a slight shift towards higher points attainments: 27.7% of CAO applicants obtained 400 point or more in 2003; by 2007 this had increased to 30.4%

4.1 Introduction

This chapter provides an overview of the supply of skills from persons completing the Leaving Certificate programme. The Leaving Certificate programme and the typical candidates for the examination are first outlined. An analysis of Leaving Certificate trends is also provided with a particular focus on (a) science and related subjects, (b) business and related subjects, (c) languages and (d) gender distribution. The key skills areas (English, mathematics and science related subjects) are also examined in terms of grade achievements. The final section of this chapter provides an outline of the points system (the principal means of application and entry to higher level education in the Republic of Ireland), followed by a short description of recent trends in the points achievements of Leaving Certificate candidates.

4.2 The Leaving Certificate – Examination and Candidates

The Leaving Certificate examination is held at the end of the senior cycle in post-primary schools. It spans levels 4 and 5 on the National Framework of Qualifications for Ireland. The learning outcomes associated with these levels are outlined in Appendix B.

The majority of Leaving Certificate candidates are students in post-primary school, are 16-18 years old, and have completed five or six years of post-primary education. Every year a proportion of Leaving Certificate candidates are repeat students and are sitting the examination for the second time. In 2007, repeat students accounted for just under 4% (1,878 sits) of all Leaving Certificate sits, a proportion which is similar to that of 2006.

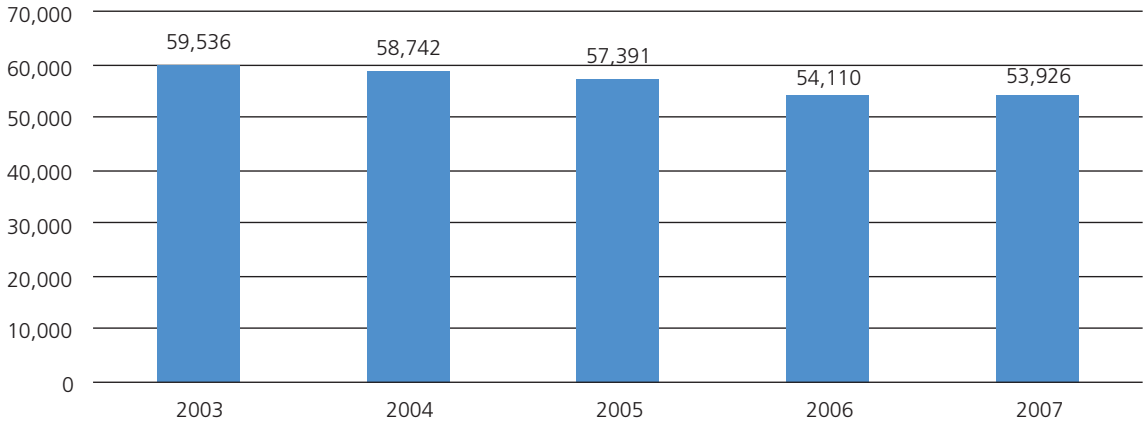
Participants in the Vocational Training Opportunities Scheme (VTOS) and others studying outside the formal school system may also take the Leaving Certificate examination. In 2006, the total number of VTOS candidates was 882.

Not all students who enter second level education will complete the Leaving Certificate. A Department of Education and Science report, published in 2008, estimates that the Leaving Certificate retention rate for the 1999 cohort was 83.7%, up from 81.3% in 1996.[9] There is a significant gender gap of 10.2 percentage points between male and female retention rates: 75.5% of males in the 1999 cohort sat the Leaving Certificate, compared to 85.7% of females.[10] The gender gap has, nonetheless, declined slightly: for the 1996 cohort, there was a difference of 11.7 percentage points between male and female retention rates.

There are three types of programmes which lead to the Leaving Certificate award: Leaving Certificate Established, Leaving Certificate Vocational Programme and Leaving Certificate Applied. The number of candidates who sat the Leaving Certificate (all programmes) from 2003 to 2007 is presented in Figure 4.1. In 2007, almost 54,000 students sat the Leaving Certificate examination, a decline of 0.3% (or 184 candidates) on the preceding year.

Overall, numbers have declined by more than 9% (5,600 candidates) since 2003, a phenomenon attributable to the declining birth rate observed since the late 1980s, as well as to a related decline in the number of repeat candidates: there were over 3,100 repeat candidates in 2003, compared to just 1,900 in 2007.

***Figure 4.1** Number of Leaving Certificate candidates, 2003-2007*



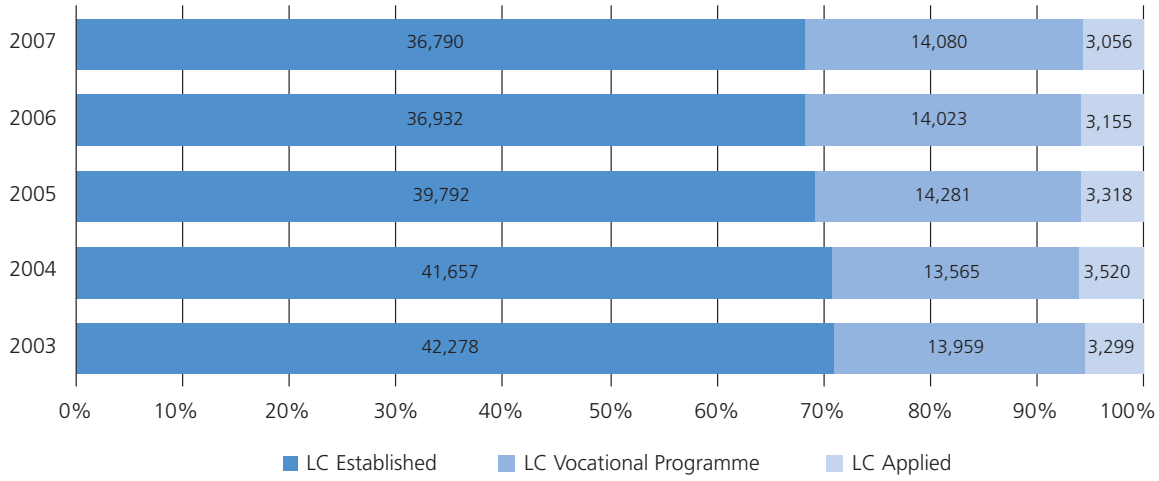
Source: State Examinations Commission

Figure 4.2 provides the candidate numbers for each of the three Leaving Certificate programmes over the five year period 2003-2007. The Leaving Certificate Established programme is by far the most popular programme: in any given year the numbers sitting the Leaving Certificate Established examinations account for, on average, 70% of the total Leaving Certificate sits. However, there has been a shift towards increased take-up of the Leaving Certificate Vocational programme (LCVP) which rose from 23% to 26% over the period 2003-2007. Thus, despite the decline in overall Leaving Certificate numbers, no such decline has been observed for the LCVP. Despite a decline in absolute numbers opting to sit the Leaving Certificate Applied programme, the overall proportion has remained relatively stable at just under 6% of all sits in both 2003 and 2007.

9 *Department of Education and Science report published in March 2008: Retention Rates of Pupils in Second-Level Schools. 1999 Cohort. Figures are adjusted for students transferring to non-aided schools but not to other destinations.*

10 *Gender differences refer to unadjusted figures*

Figure 4.2 *Breakdown of LC sits by type of programme, 2003-2007*



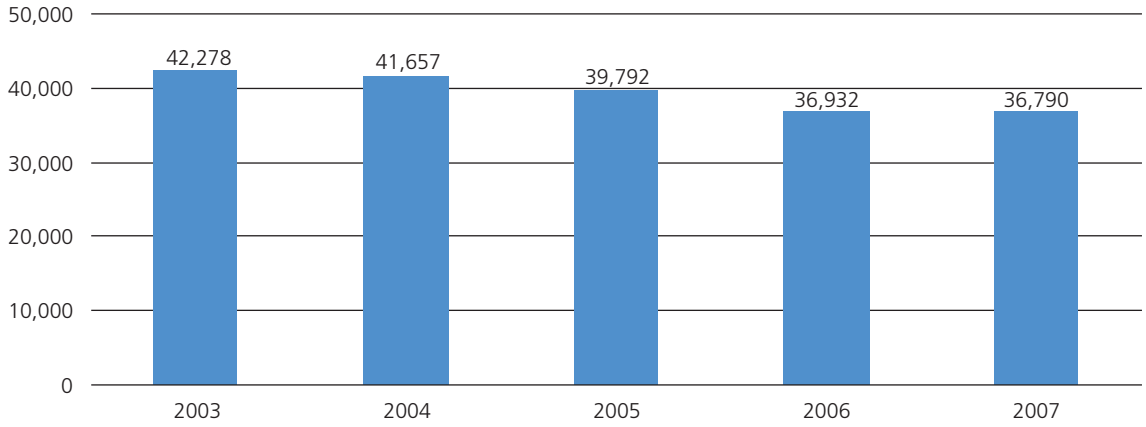
Source: State Examinations Commission

4.3 Leaving Certificate Established and Vocational

4.3.1 Leaving Certificate Established

The Leaving Certificate Established programme is designed to provide students with a broad and balanced education while allowing for some specialisation. The certificate is used to gain entry to further education, employment, training, and higher education. As detailed in Figure 4.3, the number of students who sat the Leaving Certificate Established exams decreased steadily over the period 2003-2007, going from 42,278 in 2003 to 36,790 in 2007. This represents a decline of almost 13% over the same period.

Figure 4.3 *Number of LC Established sits, 2003-2007*

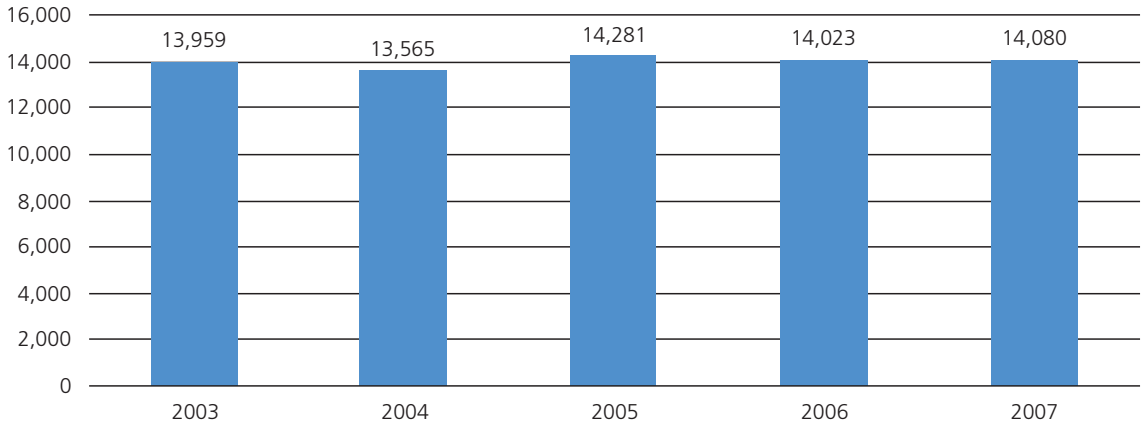


Source: State Examinations Commission

4.3.2 Leaving Certificate Vocational Programme

The Leaving Certificate Vocational Programme (LCVP) is a two year academic and experience-based programme. It is designed to give a strong vocational dimension to the Leaving Certificate Established but is not a separate stand-alone Leaving Certificate programme. On average, almost 14,000 students took the LCVP examination every year over the period 2003-2007, as shown in Figure 4.4. While overall Leaving Certificate candidate numbers have fallen, the total number taking the LCVP in 2007 was marginally higher than in 2003.

Figure 4.4 Number of LC Vocational Programme sits, 2003-2007



Source: State Examinations Commission

4.4 Leaving Certificate Results Trends (Established & Vocational Programme)

The analysis of Leaving Certificate (Established and Vocational programmes) results trends breaks down into six sections. First, the top ten subject choice for 2007 examination candidates is examined. This is followed by an overview of the uptake for subjects in specific fields (that is, science, engineering and technology subjects, business related subjects and languages) in 2003 and 2007. The fifth section is devoted to an in-depth look at grades achievements in English and the physical sciences. Finally, the gender distribution of subject choice and achievement is also examined.

4.4.1 Top-ten subject choice

The top-ten subject choice for Leaving Certificate candidates in 2007 is detailed in Table 4.1. English and mathematics are the two most popular subjects due largely to the fact that they are compulsory subjects for the vast majority of students and are a pre-requisite for entry to many courses in FET and higher education. With the exception of mathematics, Irish and French, most candidates sat the Leaving Certificate examinations at higher level.

The top-ten choice remains largely similar to that of preceding years: as in 2006 and 2005, biology is the only science subject to appear amongst the top-ten subject choice while construction studies, physics and chemistry all fell outside the top-ten and were ranked, as in 2006, in 11th, 13th and 14th place, respectively.

Table 4.1 Top-ten subject choice for Leaving Certificate candidates, 2007

Subject	Totals	% of all LC sits	% Higher Level
Mathematics	**49,043**	96.4%	17.1%
English	**48,455**	95.3%	64.1%
Irish	**44,018**	86.5%	31.4%
French	**27,805**	54.7%	49.5%
Biology	**25,791**	50.7%	67.9%
Geography	**24,218**	47.6%	73.3%
Business	**18,957**	37.3%	66.8%
Home Economics	**12,250**	24.1%	68.1%
History	**11,363**	22.3%	65.2%
Art	**10,133**	19.9%	74.3%

Source: State Examinations Commission

4.4.2 Science, engineering and technology subjects

The number of students who sat science, engineering and technology subjects in the Leaving Certificate examinations in 2003 and 2007 is presented in Table 4.2. The proportion of the total number of Leaving Certificate candidates who opted to sit a given subject and the share who took the higher level paper for each subject are also provided

Overall, the pattern is broadly similar to preceding years: subject rankings have remained unchanged with mathematics and biology being the most popular science subjects each year. The most notable difference between 2003 and 2007 is the increase in the uptake of biology: 3,000 more students sat biology in 2007, amounting to just over 50% of the total number of Leaving Certificate candidates. Agricultural science and chemistry also saw increases in both number and share of total sits, albeit on a more modest scale. Finally, while the number of students sitting applied mathematics decreased, the overall share increased slightly from 2% to 3% of total sits.

Slight decreases were observed in the uptake of four subjects: mathematics, physics, technical drawing and physics/chemistry[11].

In the main, students are increasingly sitting science subjects at higher level. With the exception of mathematics, the majority of students sat higher level papers in these subjects. Applied mathematics had the highest proportion of higher level sits, at 94%. This was followed by chemistry at 83%, which, while it is lower than the 86% recorded in 2003, is nonetheless an increase on the share in 2006 of 81%.

The percentage of higher level sits in mathematics stood at 17% in both 2003 and 2007. The 2007 rate is nonetheless lower than that observed last year in 2006 when the share of students taking the mathematics examination at higher level was 18%.

At the same time, the proportion of those taking mathematics at foundation level increased: the overall proportion went from 10.5% in 2003 to 11.4% in 2007.

11 *Physics/chemistry comprises elements of the Leaving Certificate physics syllabus and elements of the Leaving Certificate chemistry syllabus. Candidates are not normally permitted to sit physics/chemistry in combination with either physics or chemistry*

Table 4.2 Leaving Certificate science, engineering and technology subjects, 2003-2007

	2003			2007		
	No. of Sits	% of Total	% Higher Level	No. of Sits	% of Total	% Higher Level
Maths	54,256	96%	17%	49,043	95%	17%
Biology	22,671	40%	61%	25,791	51%	68%
Construction Studies	8,898	16%	74%	8,318	16%	76%
Physics	8,806	16%	70%	7,251	14%	72%
Chemistry	6,698	12%	86%	6,926	14%	83%
Technical Drawing	6,471	12%	52%	5,216	10%	73%
Engineering	4,989	9%	71%	4,589	9%	73%
Agricultural Science	2,972	5%	68%	4,267	8%	76%
Applied Maths	1,394	2%	92%	1,305	3%	94%
Physics/Chemistry	933	2%	74%	538	1%	73%

Source: State Examinations Commission

4.4.3 Business related subjects

Uptake rates for business related subjects are presented in Table 4.3. While business remains the most popular subject within this group, its share of total sits declined by five percentage points to 37% between 2003 and 2007. This continues a similar trend to last year which also saw a five percentage point drop between 2002 and 2006. The second most popular subject is accounting at 13%, up slightly from 12% of total sits in 2003.

The majority of candidates who sat business related subjects did so at higher level. There were slight increases in the proportion of higher level sits for accounting and economics (2 percentage points each); slightly fewer students sat higher level business in 2007 (67%) compared to 2003 (68%).

Table 4.3 Leaving Certificate business subjects, 2007

	2003			2007		
	Total Sits	% of All sits	% Higher Level	Total Sits	% of All sits	% Higher Level
Business	23,531	42%	68%	18,957	37%	67%
Accounting	6,699	12%	70%	6,809	13%	72%
Economics	4,843	9%	77%	4,444	9%	79%

Source: State Examinations Commission

4.4.4 Language subjects

The number and share of candidates who sat the top five language subjects in the Leaving Certificate examination are presented in Table 4.4. The languages taken by the vast majority of students are English (95%) and Irish (87%). Overall, the uptake rate for three of the four most popular languages has declined: Irish fell from 89% to 87%; French, from 58% to 55% and German, from 16% to 15%. Only Spanish saw increases, in both number and share, going from 3% of total sits in 2003 to 5% of total sits in 2007.

With the exception of Spanish, Leaving Certificate candidates are increasingly opting to sit languages subjects at higher level. At 64%, English had the highest proportion of higher level sits for a language subject, up from 61% in 2003. Nonetheless, mathematics aside, the 2007 *higher level* participation in language subjects was lower than for all other subjects in either the business or science groups.

Table 4.4 Leaving Certificate language subjects, 2003-2007

	2003			2007		
	Total Sits	% of All sits	% Higher Level	Total Sits	% of All sits	% Higher Level
English	53,460	95%	61%	48,455	95%	64%
Irish	49,828	89%	30%	44,018	87%	31%
French	32,491	58%	46%	27,805	55%	50%
German	8,692	16%	58%	7,539	15%	60%
Spanish	1,551	3%	59%	2,660	5%	58%

Source: State Examinations Commission

4.4.5 Grades obtained in English and science subjects

English, mathematics and scientific literacy skills are essential requirements for the successful functioning of a knowledge-based economy. Basic literacy and numeracy skills form the foundations of education and are the gateway not only to further and higher education but also to employment. The number and percentage of candidates who obtained a grade D or above (i.e. a pass grade) in English, mathematics and selected science subjects are presented in Table 4.5 for ordinary level examinations and in Table 4.6 for higher level.

Ordinary Level

In both 2003 and 2007 English, at 98% and 97% respectively, had the highest rate of A-D grades and all other subjects had rates of 80% or more. However, the most significant difference over the period 2003-2007 is in chemistry, where the pass rate dropped 10 percentage points from 93% to 83%. Nonetheless, due to the increased uptake for chemistry overall, the number of Grade D or higher grades has increased by almost 100 over the same period. Other subjects at ordinary level which experienced declining pass rates were mathematics and English, which each fell by one percentage point.

The pass rates for biology and physics increased over the period 2003-2007 reaching 85% and 92% respectively.

Table 4.5 Ordinary level achievements in Leaving Cert maths, English & science subjects, 2003 & 2007

	Ordinary Level 2003		Ordinary Level 2007	
	Grades ≥ D	% ≥ D	Grades ≥ D	% ≥ D
English	20,614	98%	16,789	97%
Mathematics	34,620	89%	31,020	88%
Biology	7,075	80%	7,027	85%
Chemistry	903	93%	997	83%
Physics	2,343	89%	4,829	92%

Source: State Examinations Commission

Higher Level

Overall, the A,B,C & D rate was highest for English in each year although a slight decline was observed in 2007, with a drop of one percentage point. Pass rates in mathematics and chemistry remained unchanged while the pass rate for physics, and to a lesser extent for biology, increased.

Table 4.6 Higher level achievements in maths, English & science subjects, 2003 & 2007

	Higher Level 2003		Higher Level 2007	
	Grades ≥ D	% ≥ D	Grades ≥ D	% ≥ D
English	31,940	99%	30,509	98%
Mathematics	9,048	96%	8,062	96%
Chemistry	5,395	94%	5,409	94%
Biology	12,545	91%	16,123	92%
Physics	5,485	89%	4,829	92%

Source: State Examinations Commission

4.4.6 Leaving Certificate results by gender

Total sits

The gender breakdown of Leaving Certificate sits (Established and Vocational) for the top-ten subjects in 2007 is presented in Table 4.7. As in 2006, females outnumbered males in eight subjects, including mathematics and languages. Of the top ten Leaving Certificate subjects, the number of males exceeded that of females in history and geography only.

For science related subjects, females dominated in mathematics and biology but for science subjects outside the top-ten choice, the trend is reversed: as in 2006, males outnumbered females in chemistry (28% female), Physics (26% female), physics/chemistry (38%) and construction studies (7%).

Females outnumbered males in each of the three languages in the top-ten: they accounted for 52% of all sits in English, 54% in Irish and 59% in French. Females also dominated in business and art, making up 54% and 64% respectively of all candidates in these subjects.

Table 4.7 Gender breakdown of top-ten LC subjects, 2007

Subjects	Total sits (2007)	% Male	% Female
Mathematics	49,043	48	52
English	48,455	48	52
Irish	44,018	46	54
French	27,805	41	59
Biology	25,791	33	67
Geography	24,218	54	46
Business	18,957	46	54
Home Economics	12,250	10	90
History	11,363	55	45
Art	10,133	36	64

Source: State Examinations Commission

Gender distribution of higher level and ordinary level sits

The gender distribution for higher and ordinary level sits in the top ten subjects for 2007 is provided in Table 4.8. Females dominated in seven out of ten subjects at higher level. The vast majority (92%) of those taking higher level home economics were female while approximately two thirds of sits in higher level biology (69%), Irish (66%) and French (63%) were female. Finally, although by a smaller margin, the number of females also exceeded the number of males in higher level English (57% female) and higher level business (55% female). Males on the other hand dominated in higher level mathematics, geography and history.

At ordinary level, females also outnumbered males in six of the top ten subjects. Males, however, outnumbered females in history, geography and English. The gender balance was most equitable in ordinary level Irish where males and females accounted for 51% and 49% respectively of all sits in this subject

Foundation level is offered for mathematics and Irish only. Although almost equal numbers of males and females took foundation level mathematics in 2007, only 38% of females took foundation level Irish.

Table 4.8 Gender breakdown of sits at higher and ordinary level, 2007

Subjects	Higher Level			Ordinary Level		
	Total Higher Level	% Male	% Female	Total Ordinary Level	% Male	% Female
Mathematics	8,388	53%	47%	35,075	47%	53%
English	31,078	43%	57%	17,377	56%	44%
Irish	13,831	34%	66%	25,662	51%	49%
French	13,770	37%	63%	14,035	45%	55%
Biology	17,521	31%	69%	8,270	36%	64%
Geography	17,763	53%	47%	6,455	55%	45%
Business	12,670	45%	55%	6,287	47%	53%
Home Economics	8,348	8%	92%	3,902	16%	84%
History	7,411	52%	48%	3,952	60%	40%
Art	7,531	33%	67%	2,602	45%	55%
Construction Studies	6,326	94%	6%	1,992	92%	8%

Source: State Examinations Commission

Gender distribution of achievement

Results for males and females in the key areas of English, mathematics and science related subjects are detailed in Table 4.9. Females outperform males in each of the selected subjects at both higher and ordinary level.

At higher level, females outperformed males on all subjects, although only moderately so in English and chemistry, where the difference is just one percentage point. The most significant gender difference is observed in physics/chemistry with 94% of females obtaining grade D or above compared to 88% of males.

At ordinary level, the gender gap in achievement is greater than that observed at higher level, with females again outperforming males. Two percentage points separate male and female performance in English and physics and there is three percentage point difference for mathematics and biology.

The most significant differences are for chemistry (seven percentage points) and physics/chemistry (11 percentage points).

Table 4.9 Gender breakdown of those with Grade D or above in English, mathematics and science, 2007

Subject	Higher Level					Ordinary Level				
	Males ≥ D	%	Females ≥ D	%	Difference (%)	Males ≥ D	%	Females ≥ D	%	Difference (%)
English	12991	98	17518	99	-1	9355	96	7434	98	-2
Mathematics	4237	95	3825	98	-3	14232	87	16788	90	-3
Biology	4949	91	11174	93	-2	2503	84	4524	86	-3
Chemistry	2264	94	3145	95	-1	517	80	480	87	-7
Physics	3355	92	1474	94	-2	1529	90	302	92	-2
Physics / Chemistry	194	88	160	94	-6	83	74	29	85	-11

Source: State Examinations Commission

4.5 Leaving Certificate Applied

The Leaving Certificate Applied (LCA) programme, which spans levels 4 and 5 on the National Framework of Qualifications, was introduced in 1995 and is designed for students who do not wish to proceed directly to higher education or whose needs and aptitudes are not fully served by the other two Leaving Certificate programmes. The LCA is a distinct, self-contained programme and, as with the other Leaving Certificate programmes, is two years in duration. It aims to prepare students for the transition from school to adult and working life.

The LCA programme is comprised of a range of courses, each designed on a modular basis and delivered over four half-year sessions. Participants complete a total of 44 modules with eleven modules per session. The outcome of student assessment in the LCA is stated in the form of credits: a maximum of 200 credits can be gained by each student through a combination of successful completion of modules and the sitting of final examinations. Candidates are required to sit exams in the following subjects

- English and Communication
- Two vocational specialisms (e.g. Agriculture/Horticulture, Engineering, Childcare/Community Care, Technology, Hair and Beauty, etc.)
- Mathematical Applications
- Languages (Irish and a modern European language)
- Social Education.

The Leaving Certificate Applied is awarded at three levels:

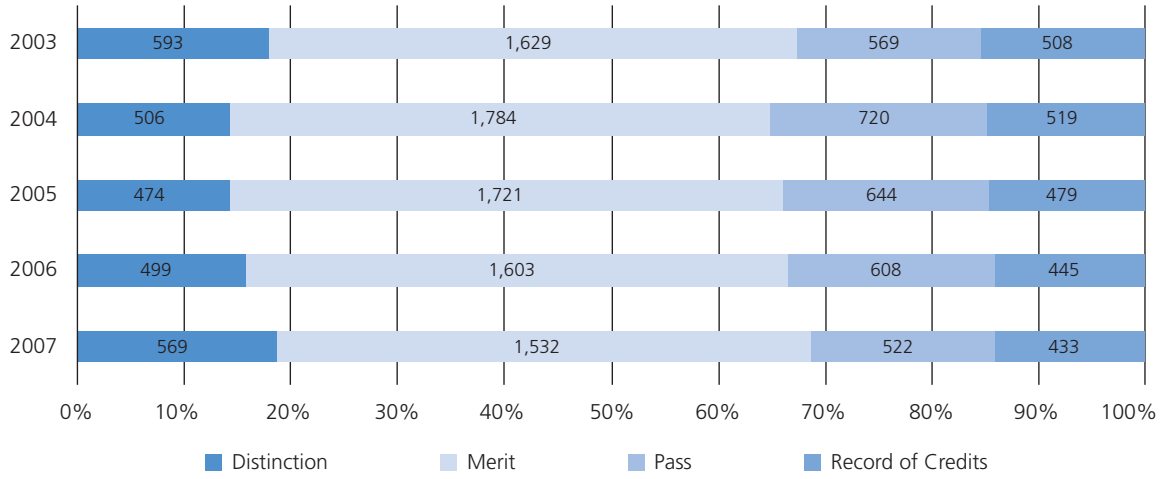
Pass	60-69%	(120-139 credits)
Merit	70-84%	(140-169 credits)
Distinction	85-100%	(170-200 credits)

Candidates who obtain less than 60% (120 credits) or who leave school prior to the completion of the programme receive a record of credits.

The LCA award holder is eligible to enter a range of Post-Leaving Certificate (PLC) courses, apprenticeships or courses offered by Fáilte Ireland. The PLC courses can lead to a Further Education and Training Awards (FETAC) level 5 award and in some cases a FETAC level 6 award. Students with the Leaving Certificate Applied cannot gain direct entry through the Central Applications Office (CAO) system to the universities or institutes of technology. However, those who hold a FETAC level 5 or 6 award can be eligible to apply for some third-level courses in higher education institutions (including universities, institutes of technology and private, independent colleges).[12]

The numbers of students who received a pass, merit, distinction or record of credit in the Leaving Certificated Aapplied 2003-2007 are presented in Figure 4.5. Overall, there is little difference in the results trend for 2003 when compared to 2007: approximately half of all LCA candidates received a merit; just less than 20% received a distinction; approximately 17% received pass while the proportion of those with a record of credit fell slightly from 15% in 2003 to 14% in 2007.

***Figure 4.5** Leaving Certificate Applied results, 2003-2007*



Source: State Examinations Commission

4.6 The Points System

The Central Applications Office (CAO) undertakes the task of processing centrally the applications to undergraduate (levels 6, 7, and 8) courses at many of the higher education institutes in Ireland. Students wishing to follow a course at any of the participating institutions indicate to the CAO their course choices in order of preference. Places are subsequently offered on the basis of points calculated from a candidate's Leaving Certificate results.

The points system gives priority to students with the better performance. The six best results in recognised subjects are added up for points computation. In general, most subjects carry equal points and points are awarded for each grade as per Table 4.10 below. However, bonus points for higher level mathematics are awarded by the University of Limerick. Dublin Institute of Technology also awards bonus points for mathematics and a number of science subjects in the case of certain level 8 courses. The Leaving Certificate Vocational Programme Link Modules carry points as follows: Distinction = 70, Merit = 50, Pass = 30. The Link Modules score may be included as one of a student's best six subjects but may not be counted in addition to the best six subjects.

12 *In 2008, 18 higher education institutions operated the Higher Education Links Scheme where specific FETAC Level 5 and Level 6 awards are linked to reserved places on a variety of higher education undergraduate programmes. In addition, the Pilot Scheme, with a total of 22 participating higher education institutions, facilitates progression to higher education by leaving most course places open to FETAC applicants along with Leaving Certificate applicants.*

Table 4.10 *Leaving Certificate grade points*

Grade	A1	A2	B1	B2	B3	C1	C2	C3	D1	D2	D3	<E
%	90-100	85-89	80-84	75-79	70-74	65-69	60-64	55-59	50-54	45-49	40-44	0-39
Higher Level	100	90	85	80	75	70	65	60	55	50	45	0
Ordinary Level	60	50	45	40	35	30	25	20	15	10	5	0

Source: CAO

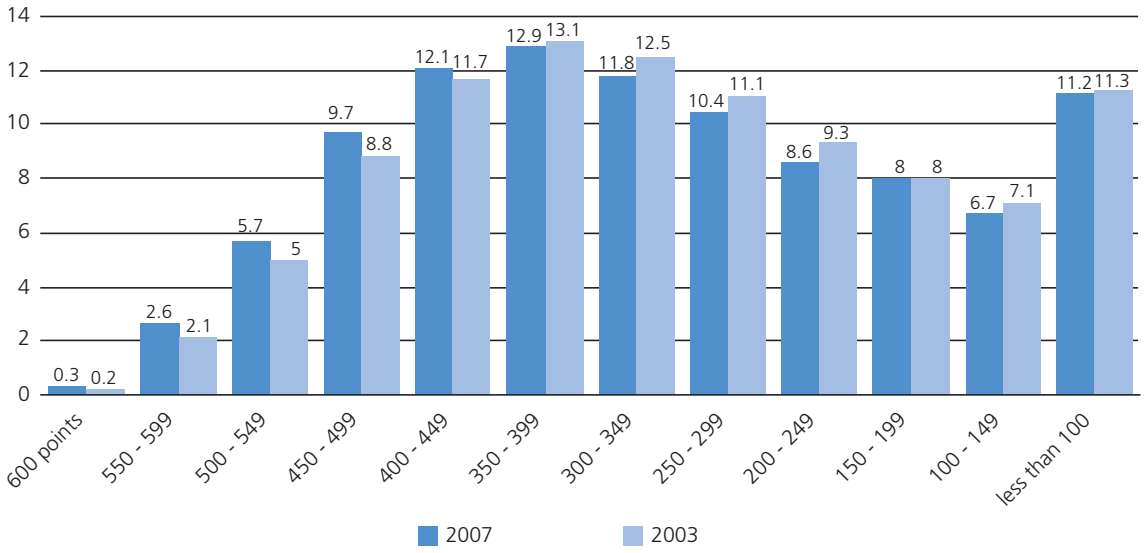
No points are allocated for subjects taken at foundation level (i.e. mathematics or Irish) or for Leaving Certificate Applied results.

4.6.1 Points Achievements 2003 and 2007

Figure 4.6 details the share of students in 2003 and 2007 whose points achievements fell within the various points bands (bonus points are not included here). Continuing a pattern observed in pervious years, there was a slight shift towards higher points attainments over the period 2003-2007. Increases were observed in 2007 for each of the bands from 400 points upwards (equivalent to six C2 grades or above at higher level). In 2003 approximately 27.7% of CAO applicants obtained 400 points or more; by 2007, this had increased to 30.4%. At the same time, the overall proportion of students who obtained 350 points or less decreased. The proportion of students with less than 100 points (exaggerated on the scale by the results of external candidates who may only sit one subject) also fell marginally.

In 2007, 160 Leaving Certificate students (0.3%) obtained the maximum 600 points. This is an increase of 59 on the 2003 figure which stood at 101 (0.2%). Cumulatively, more than half of all CAO applicants obtained 300 points or more (e.g. six D2 grades at higher level or six A2 grades at ordinary level).

Figure 4.6 *Leaving Certificate points achievements, 2006 and 2007*



Source: CAO

5. Further Education and Training Awards

Key Points

- In 2007, a total of 128,624 candidates received a FETAC award, 17,525 more than in 2006
- 142,648 FETAC certificates were issued, an increase of 12,426 on 2006
- Major awards totalled 22,759 and were made mostly at level 5 (60%) or 6 (29%)
- Minor awards (disaggregated) totalled 176,321, of which 44% were made at level 5, 26% at level 4, and 25% at level 3
- Slightly more males (53%) than females received FETAC awards in 2007
- 53% of all FETAC awards in 2007 were made to male recipients. For major awards, male recipients outnumber females at level 6 (88% are male); at level 5, females outnumber males (79% are female)
- Almost half of all awards recipients were aged 30 years or over
- For major awards, over half (57%) are under 25; almost one third were aged 30 or over
- 70% of supplemental award recipients and 60% of special purpose award recipients were aged 30 or over
- The VEC/Schools sector is the largest provider of awards (40% of the total).

5.1 Introduction

The focus of this chapter is on the supply of skills emerging from the further education and training sector in Ireland. The Further Education and Training Awards Council (FETAC) is the national awarding body for further education and training (FET) in Ireland. In general, FET awards are placed across levels 1-6 on the NFQ, although, up to the end of 2007, all FET awards have been made at levels 3 to 6. In 2007, however, FETAC validated the first programmes leading to awards at levels 1 and 2. The first cohort of learners will emerge from these courses from 2008 onwards. Learning outcomes associated with NFQ levels 1-6 are presented in Appendix B.

Programmes leading to FETAC awards are offered nationwide by almost 700 providers (incorporating approximately 1,400 separate centres) including Fáilte Ireland, FÁS, Teagasc, Bord Iascaigh Mhara (BIM), Vocational Education Committees (VECs), institutes of technologies, adult and community education and training centres, a range of private providers, and in the workplace. The training they provide ranges from short courses to longer programmes including apprenticeships.

5.2 Further Education and Training Providers

FÁS is Ireland's National Training and Employment Authority. It has responsibility for the Public Employment Service as well as the apprenticeship system and provides a large range of other courses. It has roles in training the employed and disadvantaged groups.

Teagasc provides training courses for the agriculture, horticulture and food sectors. These courses range from higher education, further education and short courses in both the agriculture and food sectors. Higher education courses supported by Teagasc are included in Chapters 6-8.

BIM provides training in catching, fish farming and seafood processing. They also provide training in safety and aquaculture.

Fáilte Ireland provides training for those working in or wishing to enter the tourism industry. Courses are provided through institutes of technology and in Fáilte Ireland centres. They are designed to develop skills in areas such as accommodation, bar, cookery, front office/reception, restaurant and tourism/travel. These courses include: full-time courses delivered by institutes of technology and short-term courses for those already working in the industry who wish to update their skills and for those wishing to return to work.

The majority of courses provided by the VECs take place in schools, colleges and community education centres. These courses are full-time and are of 1-2 years in length. PLC courses combine technical knowledge, core skills and work experience.

Other provider types include a range of private colleges and work-based learning (e.g. skillnets).

5.3 Further Education and Training Awards

The majority of the courses provided by these public bodies are accredited by the Further Education and Training Awards Council (FETAC), the national awarding body for further education and training. Named awards have been assigned a level on the NFQ by FETAC. A description of the levels and learning outcomes are detailed in Appendices A and B. The types of awards are described below.

Types of Certificates:

A **Certificate** is a major award and is the principal class of award made at each level. It represents a significant volume of learning outcomes. A major award will prepare learners for employment, participation in society and community and access to higher levels of education and training e.g. Level 5 Certificate in Childcare.

A **Component Certificate** is made up of one or more minor awards which are derived from and linked to at least one major award. Minor awards are smaller than their parent major award(s). Achievement of a minor award provides for recognition of learning that has relevance and value in its own right e.g. Word Processing, Health and Safety at Work.

A **Specific Purpose Certificate (special purpose award)** is made for specific relatively narrow purposes. It does not have to link to a major award e.g. Environmental Inspection Skills.

A **Supplemental Certificate** is an award made to recognise learning which involves updating/up-skilling and/or continuing education and training with specific regard to occupations e.g. Gas Installation.

5.3.1 Certificates and Candidates

In 2007, a total of 128,624 candidates received 142,648 FETAC certificates across the various award types. Since a candidate may receive more than one certificate, the number of certificates will not always equal the number of candidates, as can be seen from Table 5.1. It is also possible for a candidate to receive more than one award type, i.e. a candidate receiving certificates for both a major and a minor award. Over the period 2006-2007, there was a 16% increase in the number of candidates receiving FETAC certificates (all types). There was a 10% increase in the number of awards made, accounted for by an increase in component certificates (which are for minor awards) and this was a result, in part, of a reclassification of award types.

Almost 22,690 candidates received **major awards** in 2007 with, in most cases, each candidate receiving only one major award. This represents a decline of over 7% (1,800) when compared to the number of 2006 candidates. The number of certificates awarded declined by 13.5% over the same period.

Component Certificates (minor awards), on the other hand saw increases over the period 2006-2007. There were 87,662 candidates receiving a total of 22,759 awards in 2007 compared to 65,521 candidates and 75,703 awards in 2006, representing increases of 26% and 34% respectively. As previously mentioned, minor awards are linked to major awards and candidates with minor awards often go on to achieve major awards.

Almost 20,300 candidates received a total of 24,157 **Specific Purpose** Certificates in 2007. When compared to 2006, this represents decreases of 18% in the number of candidates and 14% in the number of awards. Finally, the number of candidates and awards for **Supplemental Certificates** increased substantially, albeit from a very low base. The number of candidates and awards each rose from 191 in 2006 to 456 in 2007.

Table 5.1 Certificates by type and candidates, 2006 & 2007

Award Type	2006		2007	
	Certificates	Candidates	Certificates	Candidates
Certificates (Major)	26,299	24,515	22,759	22,689
Component (Minor)	75,703	65,521	95,276	87,662
Specific Purpose (Special Purpose)	28,028	24,777	24,157	20,290
Supplemental	196	191	456	456
Total	**130,226**	**111,099***	**142,648**	**128,624***

Source: FETAC

*Note: the number of candidates does not sum up as some candidates may obtain more than one award type.

5.3.2 Awards by NFQ Level, 2006-2007

Table 5.2 provides a breakdown of the total number of awards made by NFQ level for 2007. Minor awards data has been disaggregated: on average, holders of component certificates achieve two minors in one year; therefore, the 95,276 component awards are comprised of 176,321 minor awards. When the disaggregated figure for minor awards is included, the total number of awards for 2007 is 223,693.

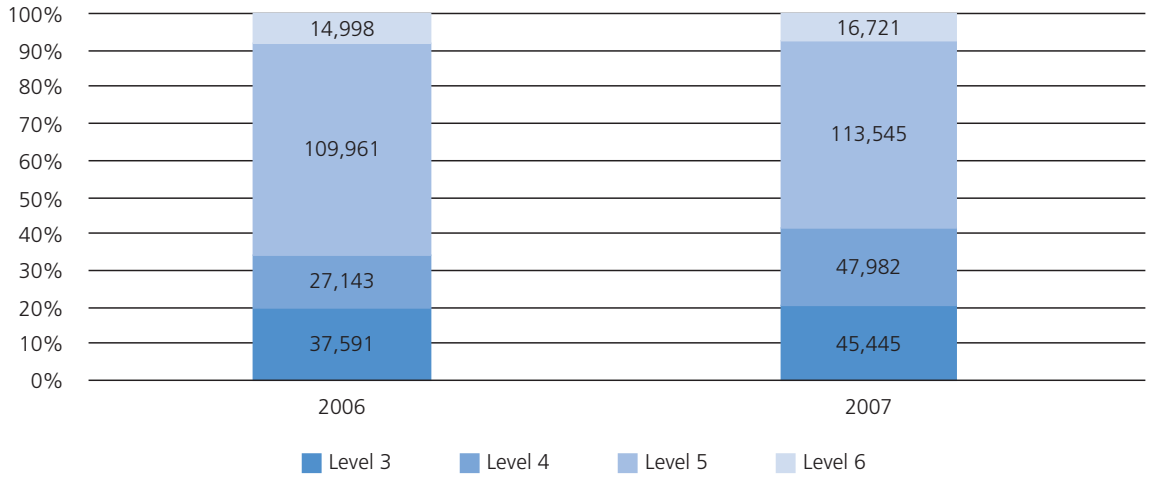
Table 5.2 FETAC awards by award type and award level, 2007

Award Type	NFQ Level 3	NFQ Level 4	NFQ Level 5	NFQ Level 6	Total
Major	1,051	1,675	13,481	6,552	22,759
Minor	44,394	25,876	78,301	7,750	176,321
Special Purpose	-	431	21,763	1,963	24,157
Supplemental	-	-	-	456	456
Total	**45,445**	**47,982**	**113,545**	**16,721**	**223,693**

Source: FETAC

Figure 5.1 provides a breakdown of the total number of awards made by NFQ level for 2006 and 2007. Level 5 awards made up the largest proportion of awards made in both 2006 and 2007. While the overall number of level 5 awards increased between 2006 and 2007, their share fell slightly, going from 58% of all awards made in 2006 to 51% in 2007. The share of level 4 awards increased substantially in 2007 going from 12 % of all awards in 2006 to over 20%. The proportion of level 6 awards remained the same at 7% although, in absolute terms, there was an increase of 1,700 over the period 2006-2007. Similarly, the overall share of level 3 awards remained largely unchanged although the actual number of awards made increased by almost 8,000.

***Figure 5.1** FETAC awards by level, 2006 & 2007*

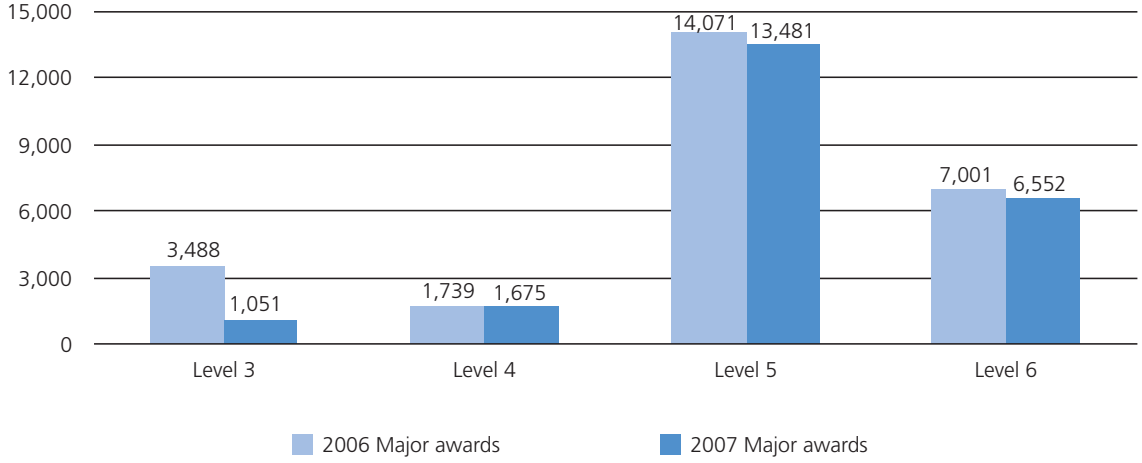


Source: FETAC

Major Awards by NFQ Level, 2006 & 2007

As detailed in Figure 5.2, the share of major awards made at levels 4, 5 and 6 has remained stable, with only slight decreases observed between 2006 and 2007. The highest number of major awards in both 2006 and 2007 was made at level 5, totalling 14,000 in 2006 and almost 13,500 in 2007. Level 6 awards accounted for the second highest number of awards in both years. The number of level 3 awards, on the other hand, decreased substantially going from 3,488 in 2006, to just over 1,000 in 2007. These decreases are due to award reclassification issues.

***Figure 5.2** Major awards by NFQ Level, 2006 and 2007*

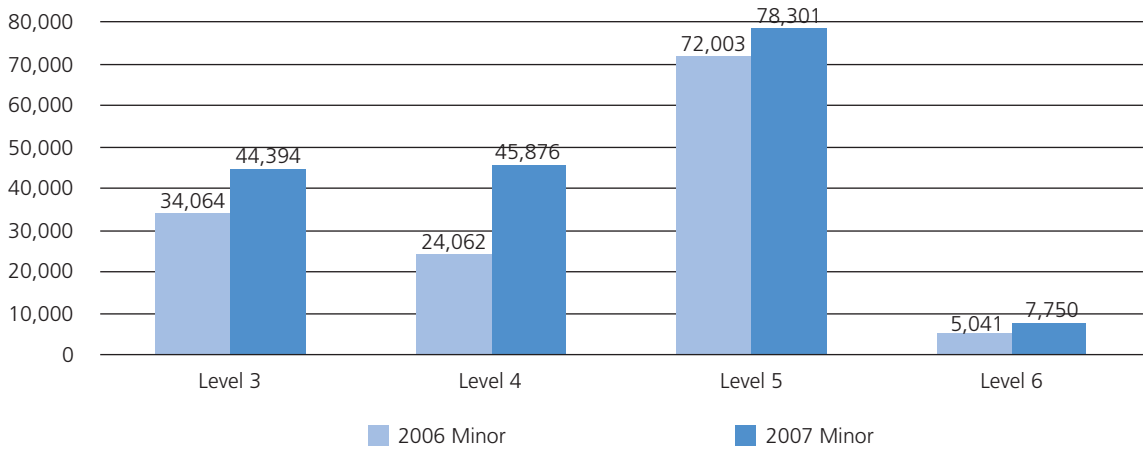


Source: FETAC

Minor Awards by Level

Unlike major awards, the number of minor awards (disaggregated figure) made in 2007 increased at each NFQ level when compared to 2006, with significant increases in the proportion of minor awards made at level 6 (a 53% rise) and level 4 (90+% increase). The largest proportion of awards in each year was made at level 5: there were 78,300 level 5 awards in 2007 representing an 8.7% increase on the preceding year. Level 4 and level 3 awards account for the second and third highest proportion of minor awards in both 2006 and 2007. Level 6 had the smallest share of minor awards in both 2006 and 2007, amounting to less than 5% of all minor awards made.

Figure 5.3 Minor awards by NFQ level, 2006 and 2007

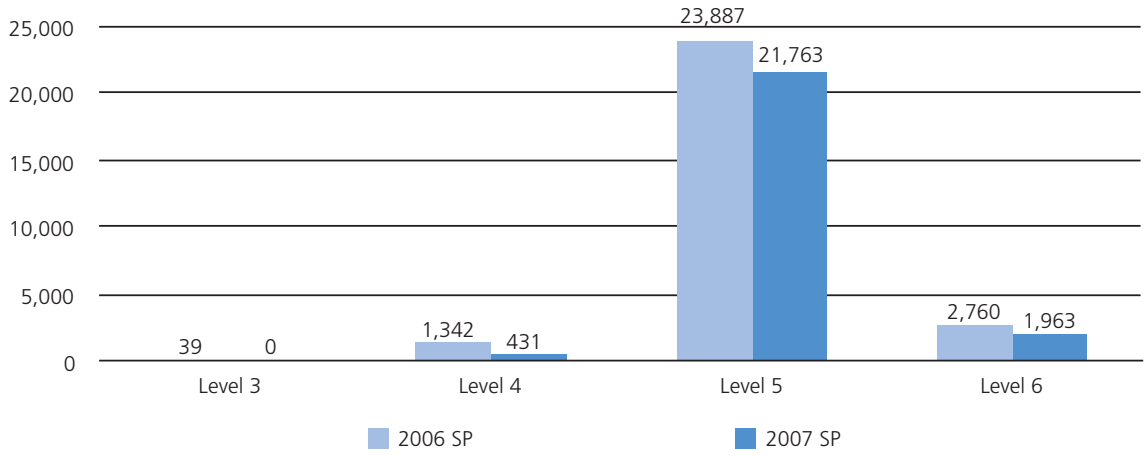


Source: FETAC

Special Purpose Awards by level

The number of special purpose awards made at each NFQ level decreased between 2006 and 2007. No special purpose awards were made at level 3 in 2007 and just 39 in 2006. Level 5 awards accounted for the highest proportion of special purpose awards, followed by level 6 awards.

Figure 5.4 Special purpose awards by NFQ level, 2006 and 2007



Source: FETAC

Supplemental Awards by level

All supplemental awards in 2006 and 2007 were made at level 6. While the overall share of supplemental awards remains small, the total number increased by approximately 250, to reach a total of 456 between 2006 and 2007.

5.3.3 Awards by Gender

Over the period 2006-2007, the proportion of all awards made to male candidates increased from 51% in 2006 to 53% in 2007. This resulted in a corresponding decline in the proportion of awards made to female candidates.

Table 5.3 details the proportion of awards that were made to males and females in 2007 by level and award type. For major awards, the gender balance is skewed towards male recipients for level 6 (88% were male) and towards female recipients for level 5 (79% were female). The gender distribution was closer to balanced for major awards at levels 3 and 4 where the ratio of males to females was approximately 40:60. Overall, however, 53% of major awards recipients were female.

Three-quarters of all minor awards (disaggregated) made at levels 5 and 6 were for female recipients. Special purpose awards were predominantly achieved by males, and all supplemental awards went to male recipients.

The gender distribution mirrors that for 2006 for most award types, at all levels. However, for special purpose awards at level 4, males accounted for just 46% of recipients in 2006, but 76% in 2007. Nonetheless, the numbers involved are comparatively small, totalling just 431 in 2007 and 1,342 in 2006.

Table 5.3 Awards by type, level and gender, 2007

Award Type	Level 3		Level 4		Level 5		Level 6	
	Male	Female	Male	Female	Male	Female	Male	Female
Major	41%	59%	40%	60%	21%	79%	88%	12%
Minor	37%	63%	59%	41%	25%	75%	27%	73%
Specific Purpose	-	-	76%	24%	98%	2%	72%	28%
Supplemental	-	-	-	-	-	-	100%	0%
Overall	**37%**	**63%**	**58%**	**42%**	**39%**	**61%**	**56%**	**44%**

Source: FETAC

5.3.4 Awards by Age

This section looks at the age distribution for FETAC awards in 2007 only, since 2006 and 2007 age-bands categories are not comparable. FETAC awards for 2007 are presented according to the age group of award recipients in Table 5.4.

Almost half (48%) of all FETAC awards in 2007 were attained by learners who were less than 30 years old. The age profile of major awards is skewed towards the younger age cohorts: over half (57%) of major awards were for recipients under the age of 25 years. For minor awards, just under half of recipients were under 30. Although major and minor awards recipients are predominantly in the younger cohorts, the share of those in the older cohorts is nonetheless substantial: almost one third of major award recipients and almost one half of minor awards recipients are aged over 30.

Approximately, 70% of supplemental award recipients and 60% of special purpose award recipients were aged 30 or over. This higher age profile is most likely related to the fact that these awards are frequently targeted at those already in the workforce.

Table 5.4 FETAC awards by award type and age, 2007

AwardType	≤19	20-24	25-29	30-49	50-65+	n/a	Total
Major	24%	33%	12%	25%	5%	1%	100%
Minor	19%	15%	12%	36%	12%	6%	100%
Specific Purpose	5%	16%	19%	47%	13%	0%	100%
Supplemental	2%	10%	19%	58%	12%	0%	100%
Grand Total	**18%**	**17%**	**13%**	**36%**	**12%**	**5%**	**100%**

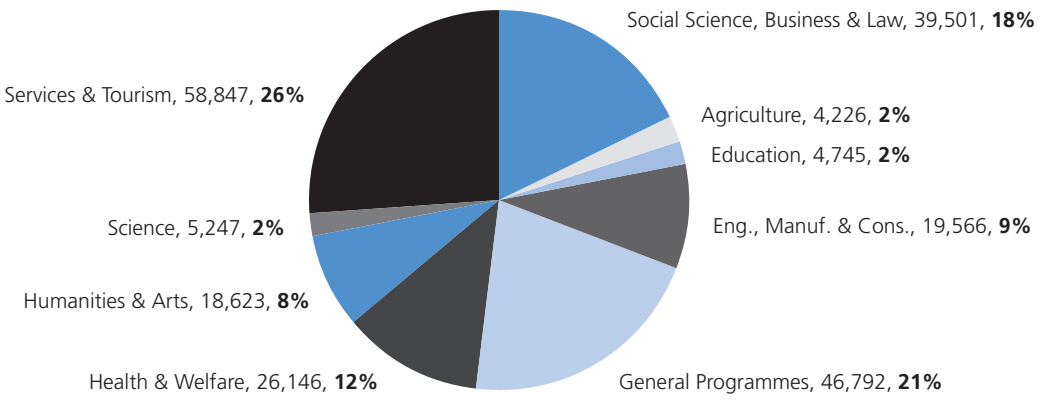
Source: FETAC

5.3.5 Awards by Fields of Education

Awards made by FETAC in 2007 were classified according to ISCED fields of education.[13] This was the first time such classification was carried out and as such it is impossible to draw comparisons with the 2006 awards data for field of education. The following section focuses on 2007 FETAC awards by field of education.

The highest number of awards was made for studies in the services and tourism field. They made up 26% of all FETAC awards in 2007 and totalled more than 58,800. This was followed by awards for general programmes which made up 21% of all awards and amounted to more than 46,800 awards. Social science, business & law had the third highest share of awards with 39,500, or 18%. Awards made in the fields of science, education and agriculture each accounted for 2% of the total.

Figure 5.5 FETAC awards by field of education, 2007



Source: FETAC

13 *The International Standard Classification of Education (ISCED) serves as an instrument suitable for assembling, compiling and presenting statistics of education within individual countries and internationally. Internationally, it is used by EUROSTAT (Statistical Office of the European Union) and the OECD. Within Ireland, it is used by the Higher Education Authority, FETAC, the Department of Education and Science, among others.*

Major awards

Table 5.5 details the number of major awards by field of education and NFQ level. The highest number of major awards made in any individual field was for courses in health and welfare which totalled 5,875 in 2007. The vast majority of health and welfare awards were made at NFQ level 5 (e.g. courses in nursing studies or community and health services). This was closely followed by awards made in engineering, manufacturing & construction, which accounted for over 5,400 of all major awards, mostly at NFQ level 6 (e.g. Craft – Construction Plant Fitting). Together, these two fields of education account for half of all major awards made in 2007. Social science, business and law accounted for 18% of all major awards.

Table 5.5 Major awards by field of education and NFQ level, 2007

Field of education	Level 3	Level 4	Level 5	Level 6	Total
General programmes	913	186	164	-	1,263
Education	-	-	8	-	8
Humanities & arts	-	-	1,722	60	1,782
Social science, business & law	138	268	3,612	88	4,106
Science & computing	-	-	317	80	397
Engineering, manufacturing & construction	-	75	327	5,025	5,427
Agriculture	-	119	609	428	1,156
Health & welfare	-	9	5,653	213	5,875
Services & tourism	-	1,018	1,069	658	2,745
Total	**1,051**	**1,675**	**13,481**	**6,552**	**22,759**

Source: FETAC

Minor Awards

Minor awards in 2007 are detailed in Table 5.6 and were made mostly for general programmes (45,529, or 26%) and services and tourism, including courses in sport and recreation and private security services (44,805, or 25%). Of the 45,529 minor awards made in the general programmes field, over half were made at level 3. General programmes include courses in core skills, communications, job seeking etc. Services and tourism awards totalled 44,805, with those at level 4 accounting for the highest proportion of minor awards in this field. There were also a significant number of awards made in social science, business & law, totalling more than 34,336 and amounting to 19.5% of the total share of minor awards.

Table 5.6 Minor awards by NFQ level and field of education, 2007

Field of education	Level 3	Level 4	Level 5	Level 6	Total
General programmes	26,568	5,244	12,962	755	45,529
Education	-	23	2,885	1,408	4,316
Humanities & arts	6,217	2,120	7,147	1,357	16,841
Social science, business & law	3,219	9,623	20,432	1,062	34,336
Science & computing	1,333	427	2,162	908	4,830
Engineering, manufacturing & construction	1,219	534	1,515	191	3,459
Agriculture	793	164	892	85	1,934
Health & welfare	856	1,003	17,409	1,003	20,271
Services & tourism	4,189	26,738	12,897	981	44,805
Total	**44,394**	**45,876**	**78,301**	**7,750**	**176,321**

Source: FETAC

Special Purpose Awards

As can be seen from Table 5.7, there were no special purpose awards at Level 3 in 2007. With almost 11,300 awards, the majority of special purpose awards were in services and tourism. Engineering, manufacturing & construction accounted for the second highest proportion of special purpose awards, accounting for more than 10,200 of the total. The vast majority of the awards in these two fields were made at level 5. There were no special purpose awards in the fields of general programmes, humanities & arts, and health & welfare for 2007.

Table 5.7 Special Purpose awards by NFQ level and field of education, 2007

Field of education	Level 4	Level 5	Level 6	Total
General programmes	-	-	-	-
Education			421	421
Humanities & arts	-	-	-	-
Social science, business & law	51	-	1,008	1,059
Science & computing	-	-	20	20
Engineering, manufacturing & construction	114	9,877	233	10,224
Agriculture	-	988	148	1,136
Health & welfare	-	-	-	-
Services & tourism	266	10,898	133	11,297
Total	431	21,763	1,963	24,157

Source: FETAC

Supplemental Awards

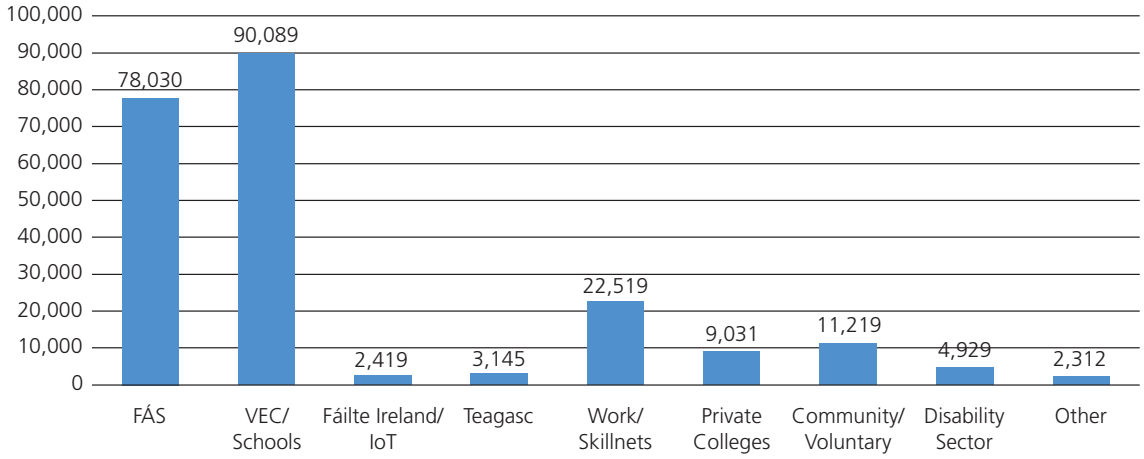
In 2007, as in 2006, all supplemental awards were made at level 6, primarily for courses in gas installation, safety in gas installation and solar hot water systems.

5.3.6 Awards by Provider

Education and training programmes leading to FETAC awards are offered by a range of providers. Figure 5.6 illustrates the overall distribution of awards made in 2007 by provider type. Overall, VECs/Schools are the largest provider type with over 90,000 awards (40% of the total). This is followed by FÁS which had a 35% share of all awards.

Of the 22,759 major awards, 48% for VEC/Schools; 34% were made for FÁS programmes; 7% for Fáilte Ireland. The largest share of the 176,321 minor awards was made in VECs/Schools (45%) and FÁS (27%) with a further 13% through Skillnets. Almost 90% of special purpose awards and all supplemental awards were made through FÁS provided education and training.

***Figure 5.6** Total FETAC awards by provider type*



Source: FETAC

6. Universities & Institutes of Technology – Levels 7/6

Key Points

- CAO Acceptances: in 2007, there were 12,062 acceptances for level 7/6 courses, representing a 28% decline since 2000 but only a 3% decline since 2006
- Graduate Output: there were 16,000 level 7/6 graduates in 2006, mostly from the IoT sector
- Outlook: the declining level 7/6 CAO acceptances mean that graduate output will continue to decline also
- Science: the number of acceptances on science courses is down 3.3% on the 2006 figure; overall graduate output in science declined by 2% in 2005-2006
- Engineering: the number of acceptances for engineering and manufacturing courses has changed little between 2006 and 2007; overall graduate output declined by 14% over the period 2005-2006
- Computing: computing acceptances fell by 11.4% in 2006-2007; graduate output declined sharply by 23% in 2006
- First Destination: almost three quarters of level 7/6 graduates are in further study or training in the nine months following graduation
- International Comparison: Ireland ranks well (2nd) when compared to other OECD countries in its percentage of Tertiary Type B graduates.

6.1 Introduction

The learning outcomes from universities and institutes of technology which are placed at level 6 and 7 on the National Framework of Qualifications are examined in this chapter. Higher certificates are placed at level 6 and ordinary degrees at level 7 on the Framework. Learning outcomes associated with awards at levels 6 and 7 are detailed in Appendix B. As level 6 and 7 data from universities and institutes of technology does not always allow a distinction between the two levels, they are combined for the purposes of this report.

CAO acceptance data is first presented, followed by output data for both universities and institutes of technology. The third section of this chapter focuses on the first destination of graduates at this level while the final section compares Ireland's graduate output at this level with other OECD countries.

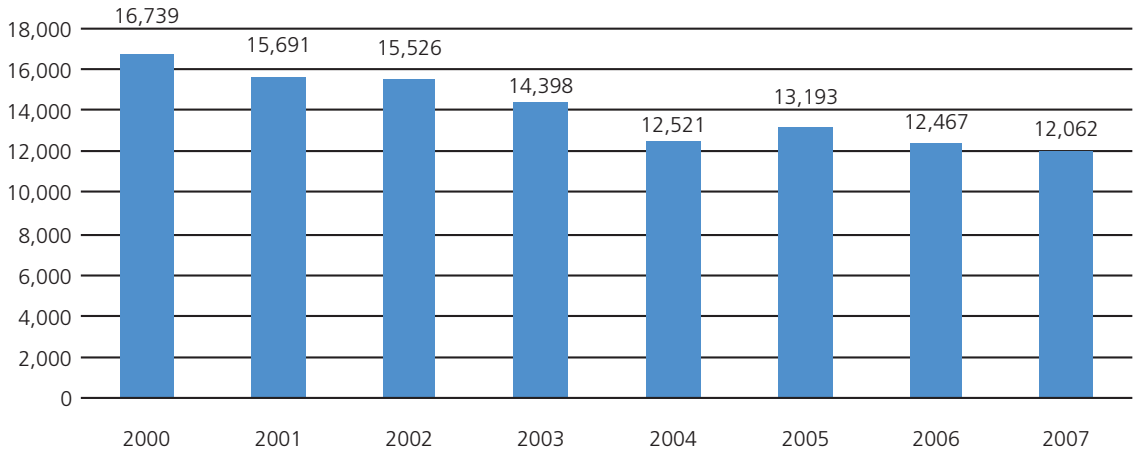
6.2 CAO Acceptances

The majority of those entering higher education at levels 7/6 apply for their desired courses through the Central Applications Office (CAO). Foreign and some mature students can bypass the CAO and apply directly to the education provider.

CAO course acceptances are not the same as student enrolments. Some acceptors do not enrol and some seek deferment. Nonetheless, they are a good indicator of the number of first year entrants to programmes at these levels.

The total number of CAO level 7/6 acceptances from 2000 to 2007 is outlined in Figure 6.1. There were 12,062 acceptances for places on level 7/6 courses in 2007, representing 30% of all CAO acceptances to higher level education. Overall, a decline of 28% occurred in the number of acceptances in the period 2000-2007, with a decline of 3% when compared to 2006. Declines observed in the number of level 7/6 acceptances in recent years are due to two major factors – the increase in those applying for level 8 courses and the decline in the size of the school-leaving age cohort.

***Figure 6.1** CAO Level 7/6 total acceptances, 2000-2007*



Source: CAO

A breakdown of acceptances by discipline for the period 2000-2007 is provided in Table 6.1. In 2007, acceptances on technology-related courses accounted for 44.3% of all acceptances at this level. Compared to the 28% decline for all courses, a significant decline (33.7%) occurred for those accepting places on *technology* courses in the period 2000-2007. Nonetheless, the numbers of acceptances has somewhat levelled off since 2005. The most significant decline in technology acceptances during the period 2000-2007 occurred for computing courses with a decline of 1,443, or 63.1%. This trend looks set to continue with a decline of 11% between 2006 and 2007. While the numbers accepting places within engineering and manufacturing declined sharply between 2000 and 2007, the numbers have remained relatively unchanged in recent years.

The health, veterinary and agriculture category was the only grouping which experienced a rise in the number of acceptances in the period 2000-2007, with an increase of 20.6%, although the numbers involved are relatively small. A slight decline in acceptances on these courses has occurred since 2006.

The 'other' category has experienced a decline in the number of acceptances both in the periods 2000-2007 and 2006-2007. Business and law disciplines declined within these periods by 39.1% and 3% respectively. Social services experienced increases in both time periods examined while the opposite is the case for acceptances on arts and humanities courses. The number of acceptors for services courses (e.g. hotel and catering) has remained relatively unchanged since 2000.

Table 6.1 CAO Level 7/6 total acceptances by discipline, 2000-2007

Discipline	2000 (%)	2006 (%)	2007 (%)	%Change 2007-2000	%Change 2007-2006
Engineering & Manufacturing	2,420 (14.5%)	1,602 (12.8%)	1,602 (13.3%)	-33.8%	+0.0%
Construction	2,128 (12.7%)	2,051 (16.4%)	2,061 (17.1%)	-3.1%	+0.5%
Computing	2,288 (13.7%)	954 (7.7%)	845 (7.0%)	-63.1%	-11.4%
Science (Non Healthcare)	1,226 (7.3%)	869 (6.9%)	840 (7.0%)	-31.5%	-3.3%
Total Technology	8,062 (48.2%)	5,476 (43.9%)	5,348 (44.3%)	-33.7%	-2.3%
Agriculture & Veterinary	277 (1.7%)	353 (2.8%)	327 (2.7%)	+18.1%	-7.4%
Health and Welfare	253 (1.5%)	327 (2.7%)	312 (2.6%)	+23.3%	-4.6%
Total Health, Vet and Agriculture	530 (3.2%)	680 (5.5%)	639 (5.3%)	+20.6%	-6.0%
Arts & Humanities	1,439 (8.6%)	1,210 (9.7%)	1,002 (8.3%)	-30.4%	-17.2%
Education	0 (0%)	27 (0.2%)	38 (0.3%)	-	+40.7%
Business & Law	5,226 (31.2%)	3,284 (26.3%)	3,184 (26.4%)	-39.1%	-3.0%
Social Services	359 (2.1%)	584 (4.7%)	669 (5.5%)	+86.4%	+14.6%
Services	1,123 (6.7%)	1,206 (9.7%)	1,182 (9.8%)	+5.3%	-2.0%
Total Other	8,147 (48.7%)	6,311 (50.6%)	6,075 (50.4%)	-25.4%	-3.7%
Total	**16,739 (100%)**	**12,467 (100%)**	**12,062 (100%)**	**-27.9%**	**-3.2%**

Source: Central Applications Office

Table 6.2 provides a gender breakdown of level 7/6 acceptances for each year between 2000 and 2007. Overall, the proportion of males who accept places on level 7/6 courses is higher than the proportion of females. The share of male CAO acceptors in 2007, at over 58%, was higher than at any other time since 2000.

Table 6.2 Gender distribution of CAO acceptances, level 7/6 (%), 2000-2007

Year	Male %	Female %
2000	54.6	45.4
2001	55.4	44.6
2002	56.0	44.0
2003	57.0	43.0
2004	56.3	43.7
2005	55.4	44.6
2006	56.5	43.5
2007	58.5	41.5

Source: Central Applications Office

The majority of CAO level 7/6 acceptors are aged 17 and 18 years, accounting for 63% of all acceptors. However, in recent years, the number of CAO mature acceptors (i.e. those aged 23 years and over) has been increasing. In 2007, 12% of all acceptors at level 7/6 were aged 23+. This is an increase from 10% in 2006 and from just 4% in 2000.

6.3 Graduate Output

Successful completion of a level 7/6 course leads to one of the following awards: higher certificate, university certificate, ordinary degree or university diploma. In terms of labour supply, graduate output indicates the potential annual pool of technicians and higher technicians (also known as associate professionals). It is worth noting that due to the inclusion of part-time graduates and those emerging through the 2+1+1 route (progression from a 2-year level 6 to 3-year level 7 to 4-year level 8) in the graduate output, there is no direct comparability between the output and CAO acceptances: a level 7 graduate in any given year may be a level 8 graduate the following year also. Graduation data for level 7/6 programmes was obtained from the Higher Education Authority and individual institutes of technology.

6.3.1 Output by Provider Type and Gender

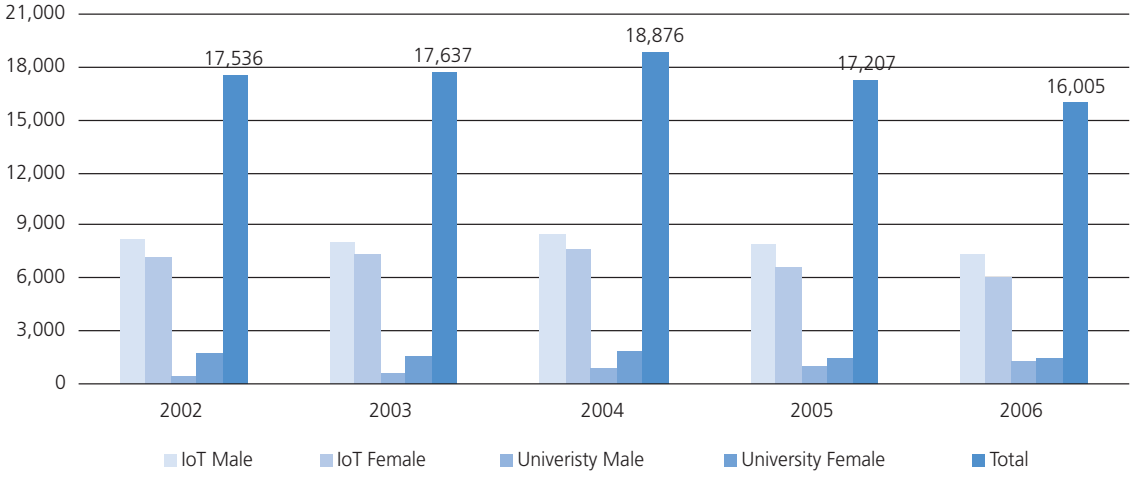
Figure 6.2 outlines recent trends in graduate output from institutes of technology and university level 7/6 courses. Overall, there were approximately 16,000 level 7/6 graduates from Irish higher education in 2006, a decline of 6.9% on the preceding year and a decline of 8.6% since 2002. Graduations, therefore, at this level were lower in 2006 than at any time over the past five years. The declining number of graduations observed since 2004 is a reflection of the fall in CAO acceptances for level 7/6 programmes in recent years.

The vast majority (84%, 2006) of level 7/6 awards are made in the IoT sector which had almost 13,400 graduations in 2006. The university sector, however, has increased the number of awards made at this level from approximately 2,100 in 2002 to over 2,600 in 2006, an increase of 22%. University output now accounts for 16% of all level 7/6 graduates. Thus, the decline in graduates at this level is due to a decline in IoT output.

In terms of gender distribution, males dominate in the IoT sector (55% in 2006 were male). Females, on the other hand, dominate in the university sector, although males are making significant gains: male university graduates now make up 47% of the total, compared to 21% in 2002. In fact, the increased share of university graduates for level 7/6 education is due mostly to the increased participation of males in level 7/6 programmes at university.

The overall share of female graduations at this level (IoTs and universities combined) has declined over the period 2002-2006, from 51% in 2002 to 46% in 2006.

***Figure 6.2** Level 7/6 output by provider type and gender, 2002-2006*



Source: HEA, IoTs

6.3.2 Output by Discipline

Table 6.3 details the number of graduations by provider type and discipline for 2005 and 2006. The table also provides an indication of the percentage change observed over the period for each discipline. The highest number of graduates in 2006 was observed in the discipline of social science, business & law which, with over 5,000 graduates, made up almost one third of all level 7/6 graduates. This is followed by the construction and services discipline, which made up 14% and 12% of the total, respectively.

The decline in overall graduations is reflected in declines in computing (-23%), health and welfare (-20%) and engineering and manufacturing (-14%). The decrease in CAO acceptances in computing in recent years means that the declining trend in graduate output in this discipline is unlikely to be reversed in the short-term.

Output in the health and welfare discipline actually increased in the IoT sector (by 20%). However, it decreased in the university sector – the largest provider of level 7/6 health and welfare education, resulting in an overall decline in graduate numbers for this discipline. This decline is linked to the changes in nursing education which has been a four-year level 8 programme since 2002. Although the main impact of this change was felt in 2005, when there were no nursing graduates, the residual effects of this change continue to be observed in 2006.

Despite the overall declining trend in level 7/6 output, there was a significant increase (+17%) in services graduates, mostly in the university sector. More modest increases in the social services discipline (+5%) and construction discipline (+2%) also occurred.

Table 6.3 Level 7/6 output by provider type and discipline, 2005-2006

	2005			2006			% change	% change	% change
	IoT	University	Total	IoT	University	Total	IoT	University	Total
Engineering & Manufacturing	1,891	32	**1,923**	1,620	34	**1,654**	-14%	6%	**-14%**
Construction	2,132	0	**2,132**	2,178	0	**2,178**	2%	0%	**2%**
Computing	1,125	49	**1,174**	875	25	**900**	-22%	-49%	**-23%**
Science	711	69	**780**	661	101	**762**	-7%	46%	**-2%**
Total Technology	5,859	150	**6,009**	5,334	160	**5,494**	-9%	7%	**-9%**
Agriculture/Veterinary	376	44	**420**	375	26	**401**	0%	-41%	**-5%**
Health & Welfare	336	753	**1,089**	402	472	**874**	20%	-37%	**-20%**
Total Health, Vet & Agriculture	712	797	**1,509**	777	498	**1,275**	9%	-38%	**-16%**
Arts & Humanities	1,055	439	**1,494**	884	601	**1,485**	-16%	37%	**-1%**
Education	159	88	**247**	147	79	**226**	-8%	-10%	**-9%**
Social Sciences, Business & Law	5,324	459	**5,783**	4,658	437	**5,095**	-13%	-5%	**-12%**
Social Services	549	0	**549**	575	0	**575**	5%	0%	**5%**
Services	944	636	**1,580**	1,020	835	**1,855**	8%	31%	**17%**
Total Other	8,031	1,622	**9,653**	7,284	1,952	**9,236**	-9%	20%	**-4%**
Total	**6,817**	**1,095**	**7,912**	**6,253**	**1,272**	**7,525**	**-8%**	**16%**	**-5%**

Source: HEA, IoTs

6.4 First Destination

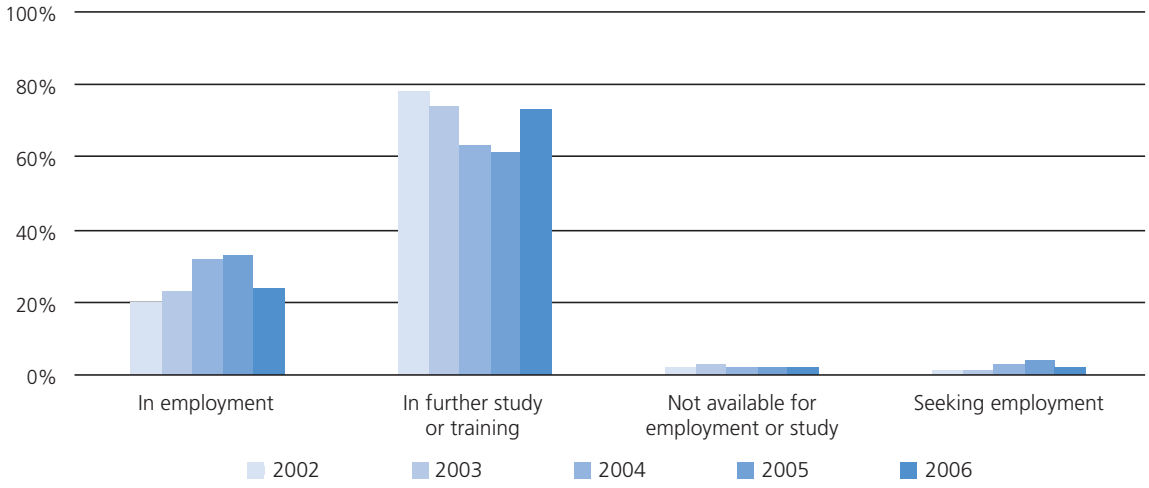
Following the completion of level 7/6 courses, graduates have a number of options available including entering the workforce, continuing to further study or seeking employment abroad. In order to assess the extent to which graduates avail of these options, the HEA conducts an annual survey on the first destination of graduates from higher education in the nine months following graduation. The results of this survey allow for the estimation of the following:

- the difference between the potential and actual supply of labour from level 7/6 education
- the progression of graduates through the education system
- the success of securing employment following graduation.

Figure 6.3 details the first destination of level 7/6 graduates for the period 2002-2006. The majority of graduates in any given year over the period 2002-2006 opted to pursue further study or training opportunities. While the overall share declined each year between 2002 and 2005, 2006 saw increases in the number of level 7/6 graduates in further study and training. This increase reflects a rise in the proportion of level 7/6 graduates who progress through the 2+1+1 education route: this route allows students who complete a two year certificate course (level 6) to move on to a one year ordinary bachelor degree (level 7) and then to spend a further year to obtain an add-on honours bachelor degree (level 8). The share of graduates in further education and training in 2006 (73%) was broadly similar to that of 2003 (74%).

The share of level 7/6 graduates in employment in 2006 stood at 24% – a drop of almost 12 percentage points on the preceding year, bringing the overall rate of those in employment to a level similar to that of 2003 (23%). The share of level 7/6 graduates not available for employment or study has remained the same for the past three years at approximately 2% while the proportion seeking employment fell from 4% in 2005 to 2% in 2006.

***Figure 6.3** First destination of level 7/6 award recipients, 2002-2006, (% of graduates)*



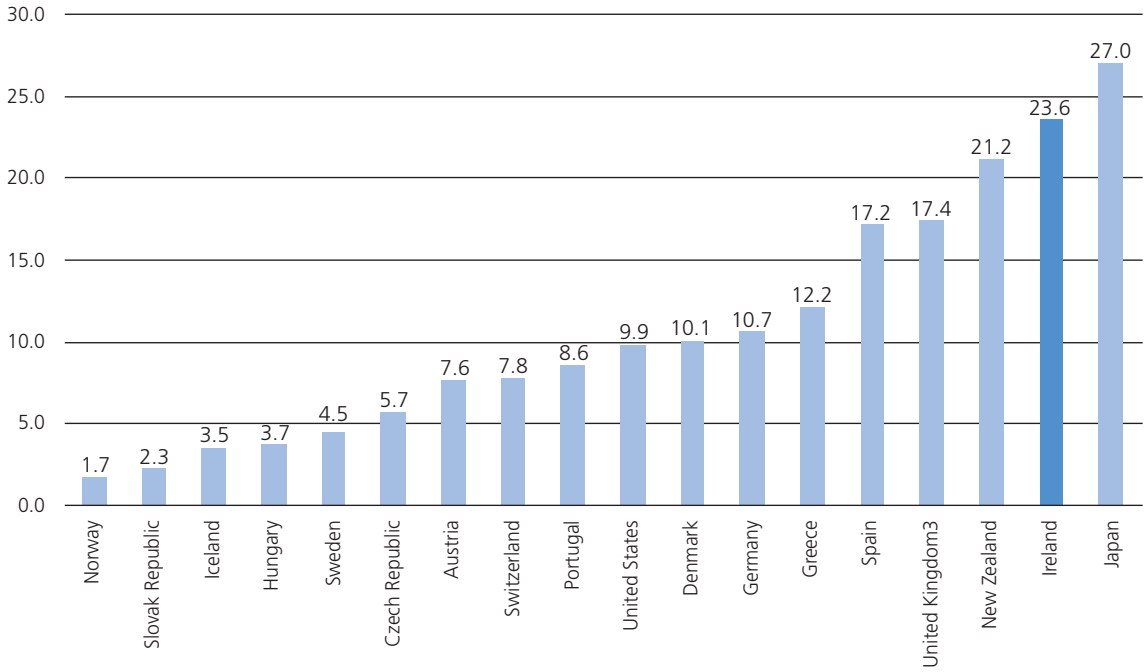
Source: HEA

6.5 International Comparison

The purpose of this section is to situate Ireland's graduate output at level 7/6 in higher education within an international context. For this purpose, we use the results of the OECD survey of education entitled *Education at a Glance 2007*, which provides the results of an annual survey of education in over 40 participating countries. To date, no cross-classification of NFQ award levels and OECD data (which is classified according to ISCED levels) is available and a direct comparison between graduate output at level 7/6 and international data will only be approximate. However, ISCED Tertiary Type B education is defined as shorter (2-3 years) vocationally orientated third level courses and thus corresponds, in very general terms, to diploma/certificate and ordinary degree-level education in Ireland.

Figure 6.4 presents the graduation rates from Tertiary Type B programmes for selected OECD countries in 2005. At a rate of 23.6%, Ireland ranks second to only Japan in terms of the number of Tertiary Type B and well above the OECD average of 8.9%.

***Figure 6.4** Tertiary Type B graduation rates for selected OECD countries, 2005*



Source: EAG 2007, OECD.

7. Universities and Institutes of Technology – Level 8

Key Points

- CAO Acceptances: approximately 27,900 persons accepted places on level 8 courses in 2007, an increase of 5.2% since 2006, and 34.4% since 2000
- Graduate Output: there were over 25,500 graduates from IoTs and universities in 2006, an increase of 28% on 2002, and 3.5% since 2005
- Outlook: increasing CAO acceptances at this level mean that the trend for increasing output will continue in the medium term
- Science: there has been only a very small decline in acceptances for science since 2006; graduate output increased by 5% overall, but significant increases are unlikely to continue in the medium term
- Engineering: CAO acceptances declined significantly over the period 2000-2007 (-24.8%), which means that the declining trend in output is unlikely to be reversed in the short-term; however, a modest increase in acceptances in 2006-2007 indicates that in the medium term this decline may be halted
- Computing: in 2000-2007 computing acceptances declined by almost 48%; although they increased slightly (2.2%) in 2006-07; graduate output has declined significantly, and this trend will not be reversed in the short-term
- First Destination: approximately 60% of level 8 graduates enter the workforce within nine months of graduation
- International Comparison: when the combined graduate output for honours bachelor degree and masters degree courses is considered, Ireland is ranked above the OECD average and 10th overall in the proportion of Tertiary Type A graduates to the population

7.1 Introduction

The focus of this chapter is on the supply of skills from programmes placed at level 8 on the National Framework of Qualifications. Awards currently placed at this level are honours bachelor degrees and graduate diplomas (conversion). A description of the learning outcomes associated with awards at this level is outlined in Appendix B.

CAO acceptances for level 8 programmes are first outlined. Second, graduate output at level 8 from institutes of technology and universities is examined. This is followed by a review of the first destination of level 8 award recipients. Finally, we take look at Ireland's performance internationally in terms of the graduation rate at this level.

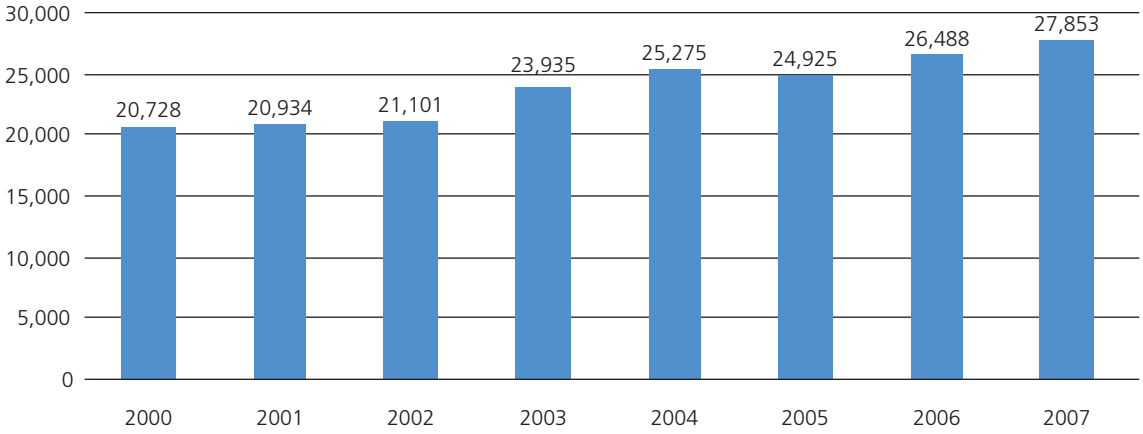
7.2 CAO Acceptances

The higher education institutions in the Republic of Ireland have delegated to the Central Applications Office the task of processing centrally applications to their first year undergraduate courses. The majority of first year entrants to level 8 courses have applied for their course of choice and accepted this course, if offered, through the CAO.

Because some acceptors do not enrol and some may seek deferment, CAO acceptances are not the same as student enrolments. They nevertheless give a good indication of annual first year enrolments.

Figure 7.1 details the total number of level 8 acceptances over the period 2000-2007. There were 27,853 acceptances for level 8 course places in higher education in 2007, making up over two thirds of all CAO acceptances that year. The total number of level 8 acceptances increased by 34% over the period 2000-2007 and by 4.9% since 2006.

Figure 7.1 CAO level 8 total Acceptances, 2000-2007



Source: CAO Directors Reports

Table 7.1 presents a discipline breakdown of level 8 CAO acceptances (for 2000, 2006 & 2007). **Technology courses** accounted for 20.6% of all acceptances in 2007, representing an overall decline of 13% since 2000. However, this decline appears to have halted with the overall proportion of acceptances actually increasing by 1.3% over the period 2006-2007. Within technology, the most significant decreases were observed for engineering and manufacturing and for computing: over the period 2000 and 2007, the proportion of acceptances in these two disciplines declined by 24.8% and 47.7% respectively. Their share increased marginally in 2006-2007, although this did not translate into a significant increase in numbers. Acceptances for science have remained constant although some fluctuations did occur over the period. The only technology courses to experience an increase over either time period were in construction which increased by 73% between 2000 and 2007.

The number of Level 8 acceptances for **health, veterinary and agriculture** courses has increased substantially going from 5.6% of the overall share in 2000 to 15.2% in 2007. This increase is due primarily to the introduction of level 8 honours bachelor's degrees for nursing as well as an increase in acceptances on other healthcare courses.

The **'other'** category makes up the most significant proportion of level 8 acceptances, accounting for more than 64% of all acceptances in 2007. Within this category, humanities and arts account for almost one third of acceptances and business and law for more than one fifth. These disciplines have both increased in the period 2000-2007 by 39% and 28.3% respectively. The largest percentage increase occurred for social services courses, albeit from a very small base in 2000.

Table 7.1 CAO level 8 acceptances by discipline, 2000-2007

Discipline	2000 (%)	2006 (%)	2007 (%)	%Change 2007-2000	%Change 2007-2006
Engineering & Manufacturing	1,664 (8.0%)	1,203 (4.5%)	1,251 (4.5%)	-24.8%	+4.0%
Construction	609 (2.9%)	1,042 (3.9%)	1,056 (3.8%)	+73.4%	+1.3%
Computing	1,809 (8.7%)	926 (3.5%)	946 (3.4%)	-47.7%	+2.2%
Science (Non Healthcare)	2,495 (12.0%)	2,495 (9.4%)	2,484 (8.9%)	-0.4%	-0.4%
Total Technology	6,577 (31.7%)	5,666 (21.4%)	5,737 (20.6%)	-12.8%	+1.3%
Agriculture & Veterinary	324 (1.6%)	309 (1.2%)	327 (1.2%)	+0.9%	+5.8%
Nursing	0 (0.0%)	2,037 (7.7%)	2,105 (7.6%)	-	+3.3%
Medicine	330 (1.6%)	415 (1.6%)	502 (1.8%)	+52.1%	+21.0%
Dentistry	66 (0.3%)	66 (0.3%)	63 (0.2%)	-4.5%	-4.5%
Other Healthcare	443 (2.1%)	1,265 (4.8%)	1,223 (4.4%)	+176.1%	-3.3%
Total Health, Vet and Agriculture	1,163 (5.6%)	4,092 (15.5%)	4,220 (15.2%)	+262.9%	+3.1%
Arts & Humanities	6,237 (30.1%)	7,969 (30.1%)	8,672 (31.1%)	+39.0%	+8.8%
Education	1,515 (7.3%)	2,030 (7.7%)	2,124 (7.6%)	+40.2%	+4.6%
Business & Law	4,847 (23.4%)	5,987 (22.6%)	6,220 (22.3%)	+28.3%	+3.9%
Social Services	78 (0.4%)	397 (1.5%)	463 (1.7%)	+493.6%	+16.6%
Services	311 (1.5%)	347 (1.3%)	417 (1.5%)	+34.1%	+20.2%
Total Other	12,988 (62.7%)	16,730 (63.2%)	17,896 (64.3%)	+37.8%	+7.0%
Total	**20,728 (100%)**	**26,488 (100%)**	**27,853 (100%)**	**+34.4%**	**+5.2%**

Source: Central Applications Office

Table 7.2 provides a gender breakdown of level 8 acceptances for each year between 2000 and 2007. In contrast to level 7/6, the proportion of females who accept places on level 8 courses is higher than the proportion of males. On average, 58% of all level 8 acceptors in 2007 are female.

Table 7.2 Gender distribution of CAO acceptances, level 8 (%), 2000-2007

Year	Male %	Female %
2000	42.6	57.4
2001	42.9	57.1
2002	43.5	56.5
2003	42.0	58.0
2004	42.4	57.6
2005	40.6	59.4
2006	41.5	58.5
2007	41.7	58.3

Source: Central Applications Office

In terms of age, the majority (71%) of level 8 acceptors were aged 17 or 18 years in 2007. Mature acceptors (i.e. aged 23 or over) accounted for 10% of all acceptors in 2007 – the same as in 2006. This percentage has more than doubled since 2000 when 4% of all acceptors were aged 23 years or over.

7.3 Graduate Output

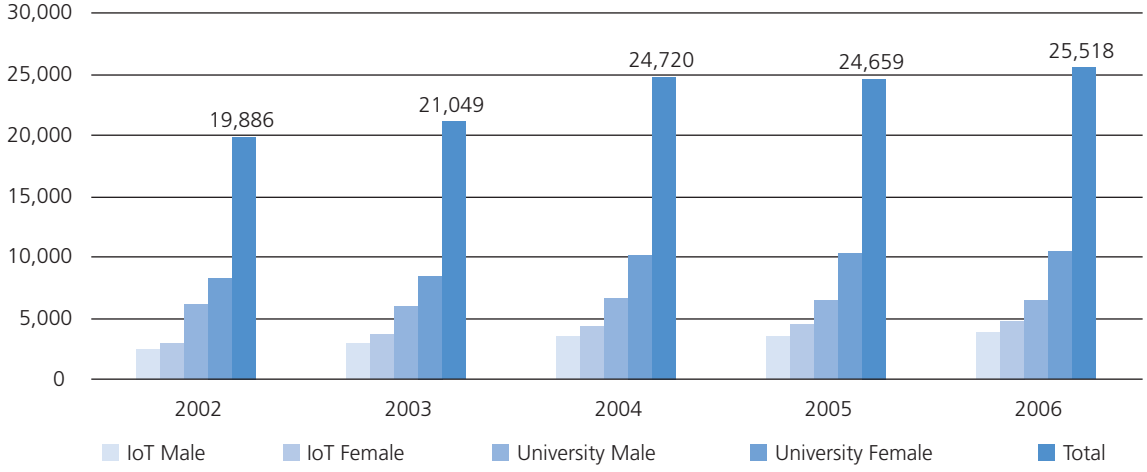
This section examines the numbers of students who graduated with a level 8 honours bachelor degree from universities and institutes of technology in Ireland. In terms of labour supply, graduate output indicates the potential annual supply of professionals. Due to the inclusion of part-time graduates and those emerging through the 2+1+1 route in the graduate output, there is no direct comparability between graduate output and CAO acceptances. Graduate data for the university sector is provided by the HEA and by individual IoTs for the institute of technology sector.

7.3.1 Graduate Output by Provider Type and Gender

Figure 7.2 provides details on level 8 graduate output by provider type and gender over the period 2002-2006. In 2006, the combined output from universities and institutes of technology was 25,550, representing an increase of 28% since 2002, and 3.5% since 2005. The university sector is the main provider of level 8 education in Ireland and in 2006 accounted for two thirds of all level 8 graduates. Graduate numbers from the IoT sector, however, have been increasing in recent years: the IoT share of graduates in 2002 was 28% but by 2006 this had increased to 34%, translating into an additional 3,000 graduates when compared to 2002.

Females are increasingly outnumbering males in terms of level 8 award recipients. Females increased their share of graduations from 54% of the total (from IoTs and universities) in 2002 to 60% in 2006. The increased share is most pronounced in the university sector where females now make up 62% of all graduations at this level. At 56%, females also outnumber males in the IoT sector.

***Figure 7.2** Level 8 graduate output by provider type and gender, 2002-2006*



Source: HEA, IoTs

7.3.2 Output by Discipline

The distribution of level 8 graduates across various disciplines in the IoTs and universities for 2005 and 2006 is detailed in Table 7.3. As with level 7/6 output, just less than one third of all level 8 graduates in 2007 were in the discipline of social science, business and law (almost 7,600). This is followed by graduations in humanities and arts (5,400 or 21%) and health and welfare (over 4,150 or 16%).

When compared to 2005, the most notable changes in graduations across disciplines were observed in the 42% increase in services; a 23% increase in health and welfare output and a 35% decline in computing graduates. The 42% increase in services (e.g. leisure management) is due almost entirely to increases in the IoT sector. Increases in the health and welfare discipline occurred in both the IoT and university sectors. This increase is a result, in part, of the changes in nursing education which is now a four-year level 8 programme instead of a three-year level 7 programme.

In computing, the sharpest decline in output was in the university sector, where the numbers fell from 955 in 2005 to 573 in 2006 – a fall of 40%. The decline in the IoT sector was less pronounced but, at 27%, was significant nonetheless and translated into almost 270 fewer computing graduates from this sector alone over the period 2005-2006.

***Table 7.3** Level 8 graduate output by provider type and discipline, 2005-2006*

	2005			2006			% change	% change	% change
	IoT	University	Total	IoT	University	Total	IoT	univeristy	Total
Engineering & Manufacturing	757	1,059	**1,816**	723	966	**1,689**	-4%	-9%	**-7%**
Construction	703	304	**1,007**	700	239	**939**	0%	-21%	**-7%**
Computing	914	955	**1,869**	646	573	**1,219**	-29%	-40%	**-35%**
Science	426	1,865	**2,291**	525	1,883	**2,408**	23%	1%	**5%**
Total Technology	2,800	4,183	**6,983**	2,594	3,661	**6,255**	-7%	-55%	**-10%**
Agriculture And Veterinary	0	229	**229**	0	238	**238**	0%	4%	**4%**
Health & Welvare	969	2,405	**3,374**	1,306	2,856	**4,162**	35%	19%	**23%**
Total Health, Vet & Agriculture	969	2,634	**3,603**	1,306	3,094	**4,400**	35%	8%	**22%**
Arts & Humanities	746	4,390	**5,136**	833	4,541	**5,374**	12%	3%	**5%**
Education	49	1,253	**1,302**	36	1,343	**1,379**	-27%	7%	**6%**
Social Science, Business & Law	3,023	4,231	**7,254**	3,318	4,266	**7,584**	10%	1%	**5%**
Services	355	15	**370**	507	19	**526**	43%	0%	**42%**
Total Other	4,173	9,889	**14,062**	4,694	10,169	**14,863**	12%	-100%	**6%**
Total	**7,942**	**16,706**	**24,648**	**8,594**	**16,924**	**25,518**	**8%**	**1%**	**4%**

Source: HEA, IoTs

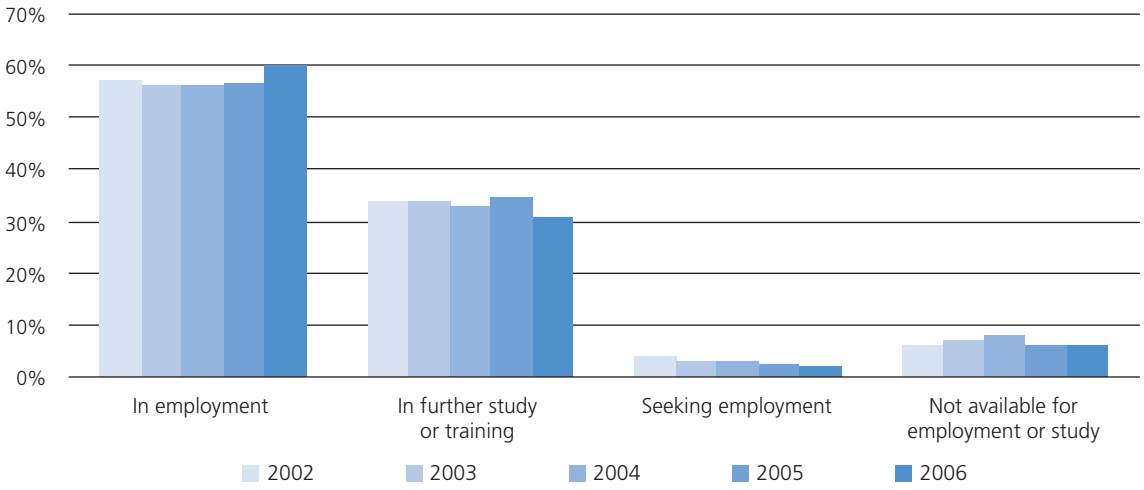
7.4 First Destination

Following completion of level 8 programmes, graduates have a number of options available. To assess the extent to which graduates follow different routes, the results of the HEA's first destination survey *(What Do Graduates Do? The Class of 2006)* from higher education are outlined in Figure 7.3.

Overall, the first destination of level 8 graduates in 2006 is similar to preceding years. As can be seen from Figure 7.3, a majority of graduates enter the workforce and approximately one third are in further study and training. However, in 2006, there was an slight increase in the proportion of graduates in employment (up from 57% in 2005 to 60% in 2006) and a corresponding decrease in those in further study or training (down from 35% in 2005 to 31% in 2006). The share of graduates seeking

employment also decreased slightly in 2006 and reached its lowest rate (2%) over the five year period. At the same time, the share not available for employment or study remained the same at 6%.

***Figure 7.3** First destination of primary degree award recipients, 2002-2006 (% of graduates)*



Source: HEA

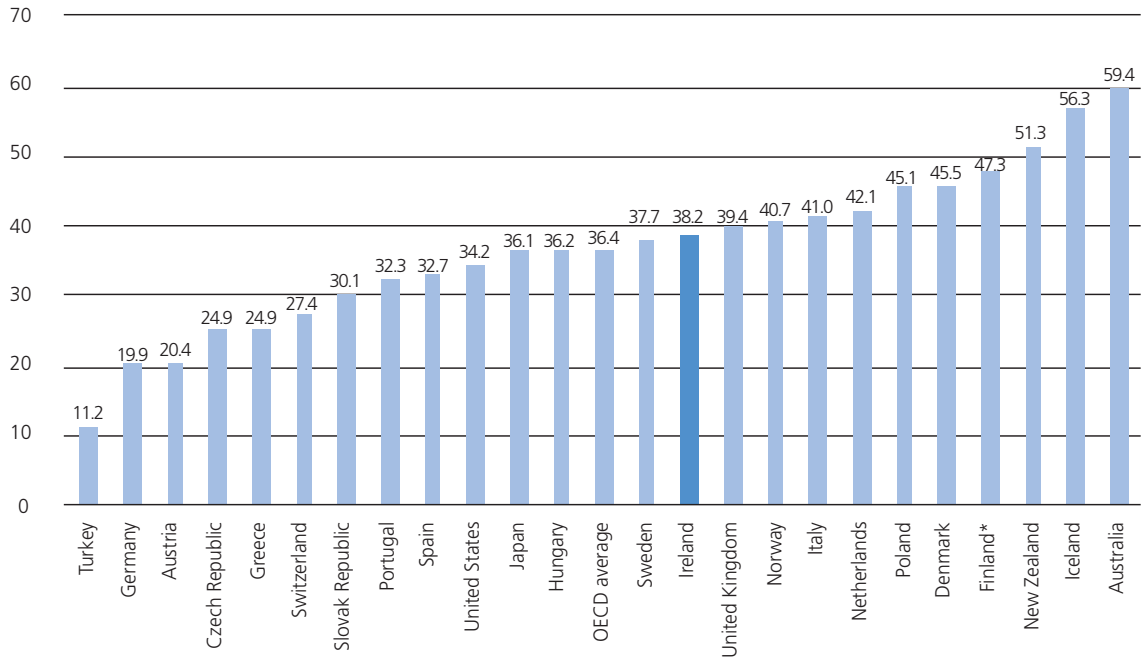
7.5 International Comparison

The purpose of this section is to provide an overview of how Ireland's performance in terms of graduate output from level 8 courses compares internationally.

The percentage of Tertiary Type A graduates from selected OECD countries in 2005 is presented in Figure 7.4 below. ISCED Tertiary Type A education is defined as theoretically based programmes designed to provide qualifications for entry into advanced research programmes and professions with high skill requirements. As such, honours bachelor degrees and master degrees (placed at NFQ levels 8 and 9 respectively, as detailed in Appendix A) in Irish higher education correspond to Tertiary Type A. As it is not possible to disaggregate the OECD data for Tertiary Type A, this section represents the combined graduate output at honours bachelor degree and master degree levels.

Ireland, with 38.2% of the typical age cohort graduating from Type A programmes in 2005 ranks above the OECD average of 36.4%. This continues an increasing trend for Ireland for which previous graduation rates were 37.4% in 2004 and 36.8% in 2003. However, the graduation rate for Ireland at this level still lags behind that of the best performers, including Australia, New Zealand and many Scandinavian countries, which have graduation rates of between 40% and 60%.

Figure 7.4 Tertiary Type A graduates to the Population (%) at typical age of graduation, 2005



*Year of reference is 2004

Source: EAG 2007

8. Universities and Institutes of Technology – Level 9/10

Key Points

- Enrolments totalled over 26,600 in 2006, including 5,287 (20%) enrolments for doctoral programmes
- Graduate output: there were over 13,550 graduates (IoTs and universities) in 2006, a 48% increase since 2002. Graduations from doctoral programmes totalled more than 960 in 2006
- Outlook: increases observed in postgraduate course (all types) enrolments indicate that output at this level will also continue to increase in the coming years
- Science: there were almost 900 level 9/10 science awards in 2006. Of these, 342 were for doctorates which increased by 12% compared to the previous year
- Computing: postgraduate output (all types) in computing increased by 110 awards over the period 2005-2006 and totalled almost 860 in 2006; Approximately two thirds of all computing awards were for master degrees
- Engineering: there were 589 awards made in engineering and manufacturing in 2006, approximately 60% of which were for master degrees. Doctoral degrees accounted for just less than one quarter of all level 9/10 engineering awards
- First Destination: the majority of those with postgraduate qualifications are in employment within nine months of graduation
- International Comparison: Ireland ranked below the OECD average in terms of graduates to the population at advanced research level

8.1 Introduction

The focus of this chapter is on the supply of skills emerging from programmes placed at levels 9 and 10. Master degrees and postgraduate diplomas (first stage of a master degree) awards are placed at level 9 on the National Framework of Qualifications. Doctoral degrees are placed at level 10. For simplicity purposes higher diplomas from universities and all postgraduate diplomas, whether conversion or leading to a master degree, are discussed in this chapter. The learning outcomes associated with a level 9 or a level 10 award are outlined in Appendix B.

The total enrolments on level 9/10 programmes at universities and institutes of technology are first examined. Graduate output from these programmes is examined in the second section of this chapter, followed by an outline of the first destination of level 9/10 award recipients. Finally, we look at how Ireland compares internationally at this level in terms of graduation rates across OECD countries.

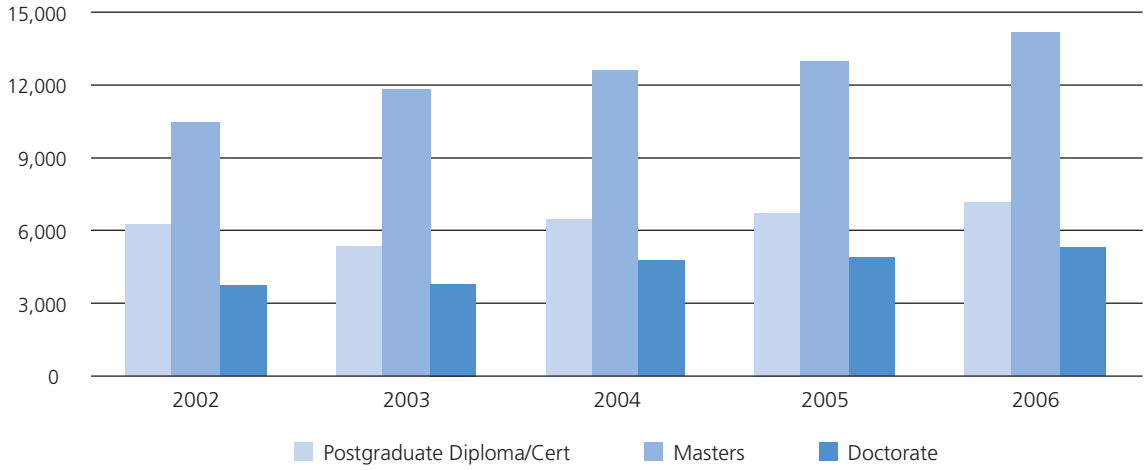
8.2 Enrolment Data

A prior higher education qualification is a pre-requisite for entry to level 9/10 programmes. For the majority of higher education institutions in Ireland, there is no central applications process associated with postgraduate programme entry. Those wishing to enter apply directly to the education institution.

Enrolment data at levels 9 and 10 is available from institutes of technology, from the Department of Education and Science and from the Higher Education Authority.

Figure 8.1 outlines the number of level 9/10 enrolments (full-time and part-time) by award type at institutes of technology and universities over the period 2002-2006. Level 9/10 course enrolments totalled over 26,600 in 2006, representing a 31% increase since 2002 and an 8% increase on the preceding year. In 2006, as in 2005, postgraduate diploma/certificate courses accounted for 7,200 (27%) of all enrolments; master degrees made up 14,140 (53%) of the total; doctoral programmes totalled 5,287 (20%). The most significant increase over the period 2002-2006 was for doctoral programmes which increased by approximately 43%.

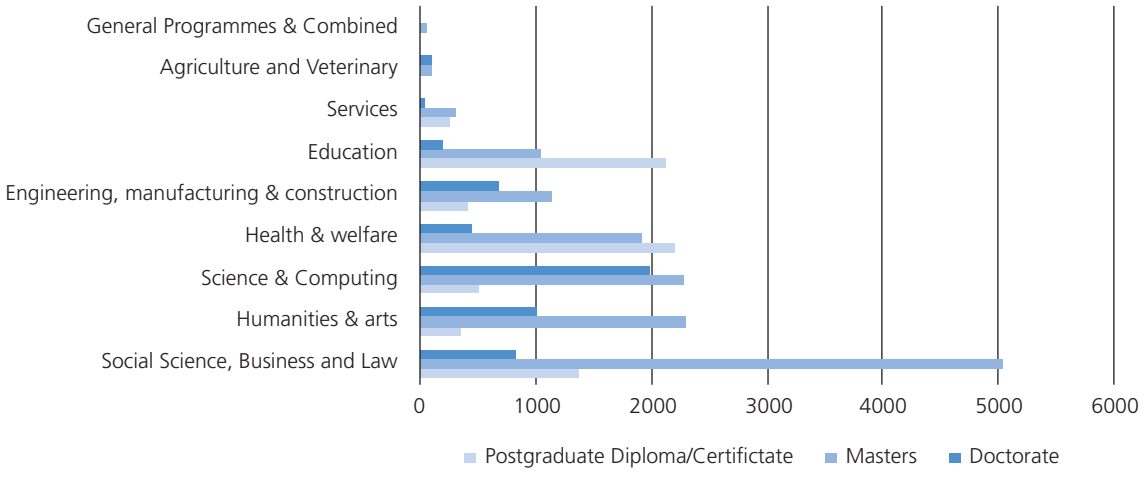
***Figure 8.1** Level 9/10 institutes of technology and university enrolments, 2002-2006*



Source: Department of Education and Science, HEA

The breakdown of level 9/10 enrolments by type and by discipline is presented in Figure 8.2. With a total of 7,226, social science, business & law had the largest share of the total postgraduate enrolments (27%). For master programmes, the largest share was in the social science, business & law discipline (5,030 enrolments or 36%). Enrolments in postgraduate diploma/certificate programmes were primarily in health & welfare (31%) followed by education (29%). More than one third of doctoral enrolments were in science (1,986 enrolments).

***Figure 8.2** Level 9/10 enrolments in institutes of technology and universities by discipline, 2006*



Source: Department of Education and Science, HEA

Females make up 53% of all postgraduate enrolments, representing a slight decline when compared to 2005 where females made up 56% of the total. Males and females are almost equally distributed at doctoral level, where females account for 49% of all enrolments. Females, however, dominate for master degree courses, making up 63% of all enrolments at this level.

8.3 Postgraduate Output

This section examines the most recent graduate data available for level 9/10 awards in the institute of technology sector and the university sector.

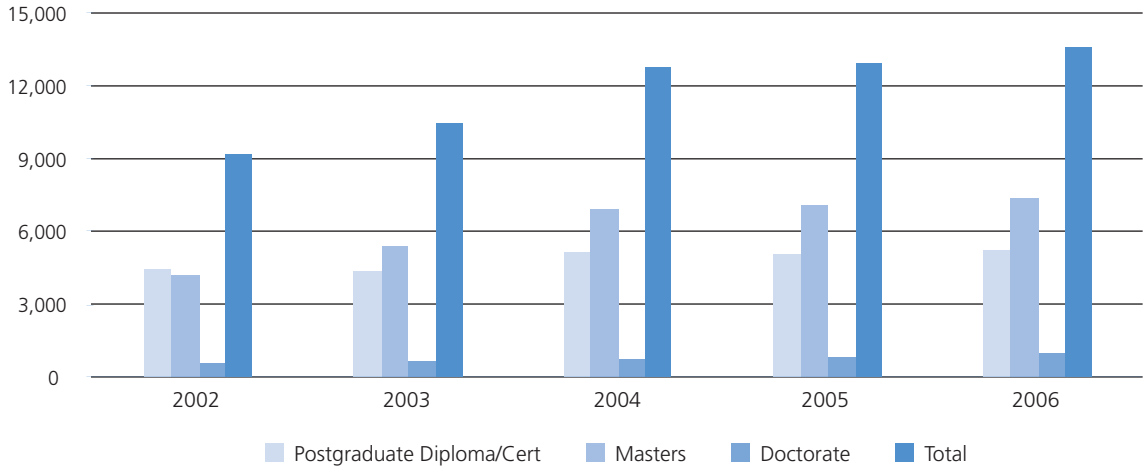
8.3.1 Postgraduate Output by Award Type

Figure 8.3 presents the combined (universities and IoTs) total of level 9/10 graduations, by award type, over the period 2002-2006. There has been a significant increase in the number of level 9/10 graduates over the last five years: graduations increased by approximately 48%, going from almost 9,150 in 2002 to over 13,550 in 2006. The IoTs are not a major provider of postgraduate education, accounting for just 11% of level 9/10 output in 2006. Their share, however, has increased from 7.6% (approximately 700 graduates) in 2002.

Overall PhD output has increased by more than two thirds since 2002, going from approximately 550 in 2002 to more than 950 in 2006.

Of all level 9/10 graduations, master degrees account for the largest share of graduates in any given year, making up approximately 55% of all level 9/10 awards in 2006. With over 950 awards in 2006, doctoral awards make up 7% of the total; postgraduate diploma/certificate awards account for 38%.

***Figure 8.3** Level 9/10 graduate output by award type, 2002-2006*



Source: HEA; IoTs

8.3.2 Postgraduate Awards by Provider Type, Award Type & Discipline

Table 8.1 outlines graduations across disciplines by award type and provider type in 2006. When all award types are considered, social science, business and law account for one third of level 9/10 awards. This is followed by awards in education (17%) and health and welfare (16%). Education accounts for more than one third (35%) of all postgraduate certificates and diplomas; 43% of master awards were in social science, business and law and 35% of all doctoral degrees were for science.

In universities, the largest number of graduations was in social science, business and law (almost 4,000), education (over 2,000), health and welfare (over 2,000). In the IoTs, most graduations were in social science, business and law (600), humanities and arts (200) and science (over 100).

***Table 8.1** Level 9/10 graduations by provider type and discipline, 2006*

	University				IoT				Combined Total			
	PG Dip/Cert	Masters	PhD	Total	PG Dip/Cert	Masters	PhD	Total	PG Dip/Cert	Masters	PhD	Total
Engineering & Manufacturing	79	282	134	**495**	5	82	5	**92**	84	364	139	**587**
Construction	47	132	10	**189**	7	63	1	**71**	54	195	11	**260**
Computing	188	487	64	**739**	31	88	1	**120**	219	575	65	**859**
Science	144	302	316	**762**	44	53	26	**123**	188	355	342	**885**
Total Technology	458	1,203	524	**2,185**	87	286	33	**406**	545	1,489	557	**2,591**
Agriculture & Veterinary	1	38	23	**62**	0	0	0	**0**	1	38	23	**62**
Health & Welfare	1,290	739	106	**2,135**	36	5		**41**	1,326	744	106	**2,176**
Total Health, Vet & Agriculture	1,291	777	129	**2,197**	36	5	0	**41**	1,327	782	129	**2,238**
Humanities & Arts	135	1,159	122	**1,416**	26	172	7	**205**	161	1,331	129	**1,621**
Education	1,700	446	28	**2,174**	96	18		**114**	1,796	464	28	**2,288**
Social Science, Business & Law	1,049	2,768	106	**3,923**	206	394	5	**605**	1,255	3,162	111	**4,528**
Services	102	94	10	**206**	2	90	2	**94**	104	184	12	**300**
Total Other	2,986	4,467	266	**7,719**	330	674	14	**1,018**	3,316	5,141	280	**8,737**
Total	**4,735**	**6,447**	**919**	**12,101**	**453**	**965**	**47**	**1,465**	**5,188**	**7,412**	**966**	**13,566**

Source: HEA; IoTs; HETAC

8.4 First Destination

Graduates at level 9/10 have a number of options available to them such as entry into the workforce and the pursuit of further study. A report published by the HEA in 2008 *(What Do Graduates Do? The Class of 2006)* confirms that a high proportion of level 9/10 graduates enter employment on completion of their studies.

The first destination of postgraduate diploma award recipients from 2002 to 2006 is outlined in Figure 8.4. The number of graduates in employment decreased from 74% in 2005 to 70% in 2006 although the overall employment rate among postgraduate diploma recipients in 2006 is almost on a par with the 71% observed in 2002.

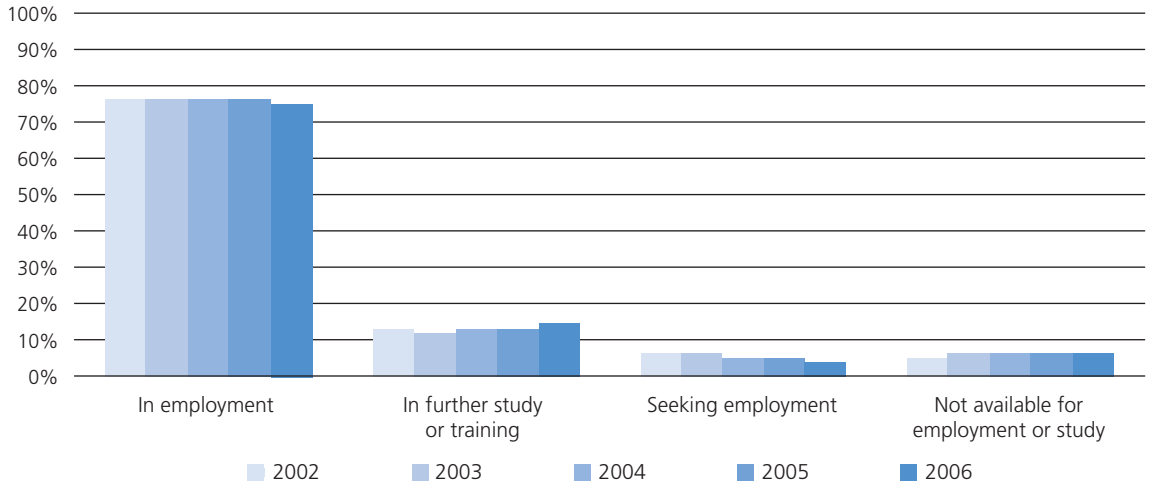
The proportion of graduates in further study or training in 2006 was 22% representing an increase of two percentage points on the preceding year and the highest observed over the five year period 2002-2006. There have also been small increases, when compared to 2005, in the share of those seeking employment (up from 2% to 3%) and in those not available for employment or study (up from 4% to 5%).

Figure 8.4 First destination of postgraduate diploma award recipients, 2002-2006 (% of graduates)

Source: HEA

Higher degrees are classified as master degrees and doctoral degrees. Despite a slight decrease (of one percentage point) in 2006, approximately three quarters of higher degree award recipients over the period 2002-2006 were in employment. The share of graduates in further study and training reached its highest rate over the five year period in 2006 and accounted for 15% of graduates at this level. The percentage of those seeking employment following graduation decreased to 4% – down from a high of 6% in 2002; the share of those not available for employment or study has remained stable in recent years at 6%.

Figure 8.5 First destination of higher degree award recipients, 2002-2006 (% of graduates)



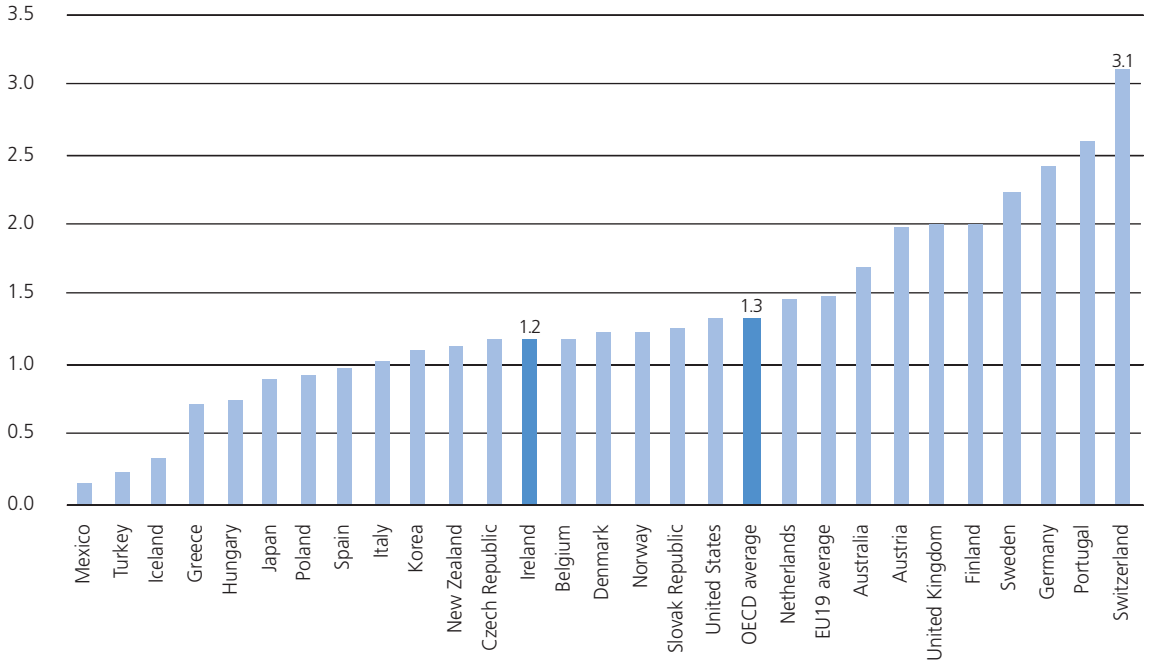
Source: HEA

8.5 International Comparison

This section presents an indication of Ireland's performance in terms of advanced research graduates compared with that of other OECD countries. The data was obtained from the OECD publication, *Education at a Glance (EAG) 2007*.

Figure 8.6 compares the graduation rates from advanced research programmes (i.e. PhD level or equivalent) for selected OECD countries. With 1.2% of the typical age cohort graduating from advanced research programmes in 2005, Ireland ranks marginally below the OECD average of 1.3%. The best performers in terms of graduations at this level include Switzerland (3.1%) and Portugal (2.6%).

***Figure 8.6** Advanced research programme graduates to the population (%) at typical age of graduation, 2005*



Source: EAG 2007, OECD

9. Private Education

Key Points

- Over 11,000 individuals received awards as a result of study undertaken in the private education sector
- The vast majority of these awards represent qualifications made by recognised awarding bodies (e.g. HETAC; the National University of Ireland) or by professional institutions
- Level 8 awards accounted for over 50% of those made in private colleges
- The majority of awards made to students at private colleges were for courses in arts and humanities
- Approximately 8,000 awards were made by professional institutions, more than half at sub-degree level.

9.1 Introduction

Education and training in Ireland includes a small but significant private sector which includes a number of independent private colleges and professional institutes[14] and the aim of this chapter is to provide an indication of the number of individuals who obtain awards via the private sector.

There are a number of limitations when gathering awards data for the private sector. First, not all parties involved are in a position to make such data, if held, available to the public. Second, while many of the awards have already been placed on the National Framework of Qualifications, a sizeable share have not. Therefore, presenting aggregate data by award type and level is only approximate. Thirdly, it is not possible to make year-on-year comparisons as data received each year is not always from the same providers and/or awarding bodies. Finally, there is no definitive list of all private education and training providers in Ireland and it is possible that the numbers in this chapter do not reflect the full extent of private education provision in Ireland.

The above limitations notwithstanding, the private sector accounts for a notable share of the education and training in Ireland. The data discussed in this chapter therefore represents the **minimum** number of individuals who obtained a recognised qualification.

This chapter breaks down into two sections; first we examine awards data for courses of study undertaken at private colleges; second, we look at awards made by professional institutes.

9.2 Private Colleges

This section focuses on independent, private, third level colleges. The majority of such colleges provide courses that lead to an award either made or recognised by HETAC, Irish universities, UK universities or by the education providers themselves. The data presented in this section was obtained from HETAC which makes awards to students who completed programmes in almost 25 private colleges in Ireland.

14 *Professional institutes are bodies that represent the concerns and interests of those working in a given occupation, e.g. the Law Society, Institute of Chartered Accountants in Ireland, the Institute of Bankers, etc. Many professional institutes promote, and in some cases provide, education and training for their members. A list of the professional institutes whose awards data is included in this section is presented in Appendix D.*

All HETAC awards have been placed on the National Framework of Qualifications. In addition, data was also obtained from some NUI recognised colleges which were not included in the HEA data presented in Chapters 6-8 of this report. Finally, a small number of individual private colleges also provided data.

Table 9.1 presents awards made in 2007 by NFQ level and broad subject discipline. Almost 3,300 awards were made to students in the private sector in 2007. Awards at NFQ levels 6-8 make up more than 80% of all awards in the private sector. Arts and humanities account for the highest number of awards at levels 7/6 and 8 and include awards made in education, journalism, and management, among many others. Awards in the level 9/10 category were made mostly for master degrees in science (including the fields of computing and digital media).

Finally, there were a small number of awards, made by some individual private colleges, which were not placed on the Framework, awarded to students in arts and humanities (mostly in the sub-field of education) and in business and administration.

Table 9.1 HETAC awards for private colleges by level and discipline, 2007

Discipline	Level 7/6	Level 8	Level 9/10	Not Placed	Grand Total
Arts & Humanities	843	1474	80	96	2,493
Business & Administration	168	113	16	253	550
Science	23	120	113	-	256
Grand Total	**1,034**	**1,707**	**209**	**349**	**3,299**

Source: HETAC and personal contact with individual colleges

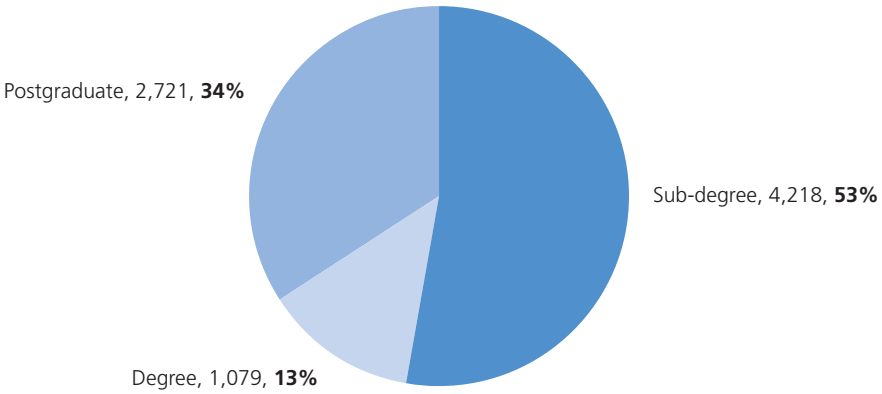
9.3 Professional Institutions

In this section the awards made to student members of selected professional institutions are presented. Many professional institutes promote, and in some cases provide, education and training for their members. Only professional institutes that act as education or training providers are included in this analysis in order to avoid any double counting which may arise in cases where students must source their own education via private or public bodies. (Appendix D provides a list of all the institutions considered here.)

Although there are some exceptions, awards made by professional institutes are not made according to NFQ levels. However, in consultation with the main providers, it was possible to discern three broad levels for the programmes they offer: sub-degree, degree- level and postgraduate level. Figure 9.1 shows the awards by level made by professional institutes in 2007. More than 8,000 awards were made by professional institutes in 2007, more than half of which were at sub-degree level (53%). A further 34% were made at postgraduate level and 13% were made at degree level.

Awards were made predominantly in the areas of banking, accountancy, insurance, tax and law. Postgraduate awards were made predominantly in the areas of accountancy; the 'sub-degree' category is mainly comprised of awards in banking and insurance; degree awards were made largely in banking and taxation.

*Table 9.2 Awards made by professional institutes, 2007**



* Accountancy data relates to 2006 only

Source: Individual contact with institutes

10. Irish Students Abroad

Key Points

- Almost 18,000 Irish-resident students were enrolled in higher education institutions outside the Republic of Ireland in 2005. The United Kingdom had the highest number of Irish students (16,345) followed by the USA (1,020)
- Over 13,300 students were enrolled in Tertiary Type A courses abroad in 2005
- Over 1,000 were enrolled in advanced research programmes abroad
- Approximately 2,570 students accepted places to study at UK universities and colleges in 2007, a 4% drop on the 2006 figure and an 11% drop on the 2003 figure
- Students accepting places on UK higher education courses in 2007 primarily chose to study health related courses (26.7%), arts (17%), engineering and technology (12.2%) or science and computing (11.5%).
- Of the total Irish studying in the UK in 2006/07, the highest share was in health, vet & agriculture (28%)
- Over 5,500 Irish students graduated from higher education in the UK in 2007

10.1 Introduction

The purpose of this chapter is to provide an overview of the number of Irish domiciled students who are studying at higher education institutions abroad. The discussion breaks down into two areas. First, we examine the available data regarding the numbers of Irish students who are enrolled in third level education in other OECD countries (excluding Ireland). The availability of additional data for the UK means that in the second section Irish students who are studying for a first degree in the United Kingdom are examined in greater detail.

10.2 Irish Students in OECD Countries

The data for this section was obtained from the OECD Education online database. This database holds data on the distribution of foreign students by, inter alia, country of origin and level of education. The term 'foreign students' as it is employed by the OECD Education database refers to students whose permanent residence is not in the country of study.[15] Levels of education are classified according to ISCED levels; however, information for Irish students who follow Tertiary Type B programmes (equivalent to certificate/diploma and ordinary bachelor degree level) abroad is unavailable. The data does not provide a breakdown by field of education.

The number of Irish students (that is, students whose permanent residence is in the Republic of Ireland) who were enrolled in third level education outside the state in 2005, is presented in Table 10.1. Irish student enrolments abroad totalled almost 18,000 in 2005. With over 13,000 enrolments, the majority of Irish students abroad are enrolled in Tertiary Type A (equivalent to honours degree and master degree) programmes. A further 1,146 Irish students are enrolled in advanced research programmes (corresponding to PhD level education).

15 *Students who are of Irish citizenship but who are resident in the country of study due to migration by themselves or their parents prior to enrolment are not included.*

As in 2004, the United Kingdom had by far the highest number of students with a permanent residence in Ireland. In 2005, the total enrolment figure for Irish students in the United Kingdom was over 16,500. This is followed by the United States at just over 1,000.

Overall, the distribution of Irish students abroad is similar to 2004. However, the total number across OECD countries rose from 16,160 in 2004 to 17,860 in 2005, with the largest share of this increase occurring for Tertiary Type A students in the UK with an additional 1,400 students.

Table 10.1 Irish students' enrolments in foreign universities by type of programme, 2005

	Tertiary Type A	Advanced Research	Unspecified	Total
UK	13,058	1,117	2,170	16,345
United States			1,019	1,019
Australia	1	24	156	181
Others	113	4	10	127
Denmark	104	1	11	116
Sweden	68	0	0	68
Total	**13,344**	**1,146**	**3,366**	**17,856**

Source: OECD Education Online Database

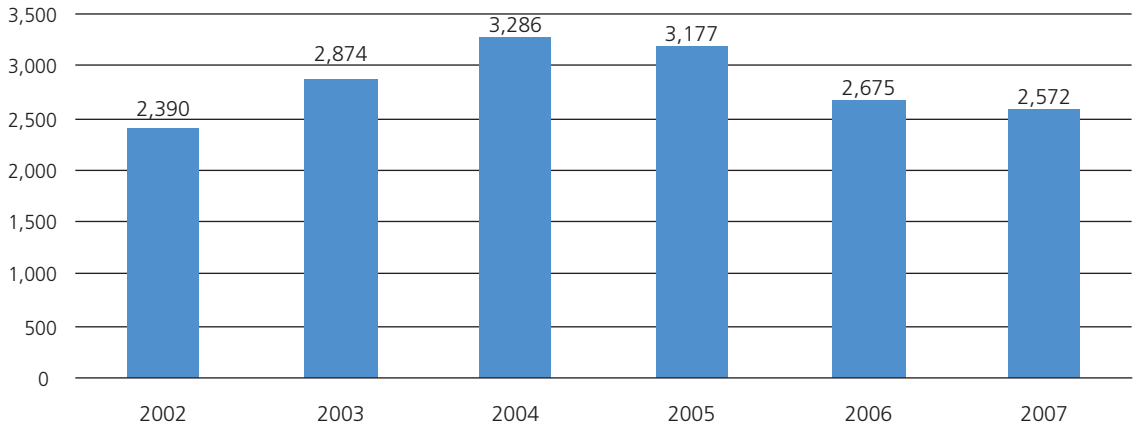
10.3 Irish Students in the UK

In this section, we examine in greater detail Irish students who are studying in the UK. First, we look at the numbers of students who applied for and accepted a place at a UK higher education institution over the period 2002-2007. This is followed by an analysis of the total enrolments of Irish students according to broad discipline. Data on graduate numbers by discipline is also provided.

The Universities and Colleges Admission Service (UCAS) is an organisation, comparable to the CAO in Ireland, which handles the application process for various UK third level institutions. Figure 10.1 outlines the number of acceptors from the Republic of Ireland who applied through the UCAS system over the period 2002-2007. Acceptance figures may not be the same as enrolment figures, as some students accept but do not take up a place. Nonetheless, acceptances give a good indication of new entrant trends for those choosing to study in the UK.

More than 2,500 Republic of Ireland domiciled students accepted places in third level institutions in the UK in 2007. The number of Irish acceptors has declined in the last two years and although the 2007 total still remains higher than in 2002 it is also 11% smaller than the figure recorded in 2003. This decline is thought to be a result of the introduction of top-up fees for some UK institutions as well as a decline in the numbers in the relevant age cohort.

Figure 10.1 Republic of Ireland domiciled UCAS acceptors, 2002-2007



Source: UCAS

The discipline breakdown of Republic of Ireland domiciled UCAS acceptors in 2007 is presented in Table 10.2. Health related courses had the highest share of acceptors (over 26%). This is followed by arts (17%), engineering and technology (12%) and science and computing (12%). No significant differences were observed in the discipline distribution of 2007 acceptors compared with 2006.

Table 10.2 Republic of Ireland domiciled UCAS acceptors by discipline, 2007

Discipline	2007	2007 %	2006 %
Engineering & Technology	314	12%	13%
Architecture, Building & Planning	220	9%	8%
Science & Computing	295	12%	12%
Total Technology	829	32%	34%
Medicine & Dentistry	75	3%	4%
Health	687	27%	23%
Agriculture & Vet	70	3%	3%
Total Health, Vet & Agriculture	832	32%	29%
Arts	436	17%	17%
Social Sciences & Arts	35	1%	1%
General Other Common & Unknown	12	1%	0%
Science, Social Science & Arts	88	3%	4%
Combined Sciences	31	1%	2%
Social Studies	57	2%	2%
Business & Law	186	7%	8%
Education	61	2%	3%
Combined Social Studies	5	0%	1%
Total Other	911	35.%	37%
Grand Total	**2572**	**100%**	**100.0%**

Source: UCAS

The Higher Education Statistics Agency (HESA) in the UK holds data on student enrolments and graduations at each publicly funded higher education institution in the United Kingdom. The student population data includes details on students' domicile (permanent/home address prior to the start of their studies) as well as their chosen subject area of study. Data on course level and mode of delivery (full-/part-time) is unavailable.

Table 10.3 provides a breakdown by subject area of the Irish domiciled students enrolled in and graduating from courses at UK higher education institutions for the academic year 2006/2007. Courses in health, veterinary studies and agriculture have the largest number of Irish students with 4,514 enrolments and 1,174 graduations in 2006/07. More than 80% of these students were studying courses allied to medicine (that is, healthcare courses other than medicine and dentistry). Social science, business and law had the second highest number of enrolments at almost 2,900.

In 2007, 5,500 Irish students graduated from UK higher education. Of these, there were 1,174 graduates from health, vet & agricultural courses and almost 1,000 from social science, business and law.

***Table 10.3** Enrolments and graduations for Irish domiciled students in the UK, 2006/2007*

Subject Area	Enrolments	Graduations
Health, Vet & Agriculture	4,514	1,174
Social Science, Business & Law	2,884	963
Arts, Humanities & Combined Studies	2,402	774
Science & Computing	2,377	779
Education	1,579	859
Engineering & Technology	1,514	521
Architecture, Building & Planning	984	433
Grand Total	**16,254**	**5,503**

Source: HESA (UK) Student Records

Appendix A: Awards Placed on the National Framework of Qualifications

Level	Awarding Bodies	Existing and Former Awards (Awarding Bodies)	New Framework Awards (Awarding Bodies)
1	FETAC	-	Level 1 Certificate (FETAC)
2	FETAC	Primary Certificate (DES)	Level 2 Certificate (FETAC)
3	FETAC SEC	Introductory Skills Certificate (FETAC/CERT/NTCB) Introductory Vocational Skills (IVS) (FETAC/FÁS) National Foundation Certificate (FETAC/NCVA) Day Vocational (Group) Certificate (DES) Intermediate Certificate (DES)	Level 3 Certificate (FETAC) Junior Certificate (SEC)
4	FETAC SEC	Elementary Skills Certificate (FETAC/CERT/NTCB) Specific Skills (FETAC/FÁS) National Skills Certificate (FETAC/FÁS) National Vocational Certificate Level 1 (FETAC/NCVA) Basic Horticultural Skills (FETAC/TEAGASC)	Level 4 Certificate (FETAC) Leaving Certificate (SEC)
5	FETAC SEC	Certificate in Hotel Operations (FETAC/CERT/NTCB) Specific Skills (FETAC/FÁS) National Skills Certificate (FETAC/FÁS) Vocational Certificate Level 2 (FETAC/TEAGASC) National Vocational Certificate Level 2 (FETAC/NCVA) Foundation Certificate (FETAC/NCEA)	Level 5 Certificate (FETAC) Leaving Certificate (SEC)
6	FETAC HETAC DIT	Advanced Skills/Supervisory Certificate (FETAC/CERT/NTCB) National Certificate in Professional Cookery (FETAC/CERT/NTCB) Specific Skills (FETAC/FÁS) National Skills Certificate (FETAC/FÁS) National Craft Certificate * (FETAC/FÁS/DES) National Vocational Certificate Level 3 (FETAC/NCVA) Vocational Certificate Level 3 (FETAC/TEAGASC) Advanced Certificate in Agriculture (FETAC/TEAGASC) Certificate in Farm Management (FETAC/TEAGASC) One-Year Certificate (HETAC/NCEA) Advanced Certificate (HETAC/NCEA) National Certificate (HETAC/NCEA) Certificate (DIT)	Advanced Certificate (FETAC) Higher Certificate (DIT, HETAC)
7	Universities HETAC DIT	National Diploma (HETAC/NCEA) Ordinary Bachelor/Bachelor Degree (DIT) Diploma (Three Year) (DIT)	Ordinary Bachelor Degree (Universities, DIT, HETAC)

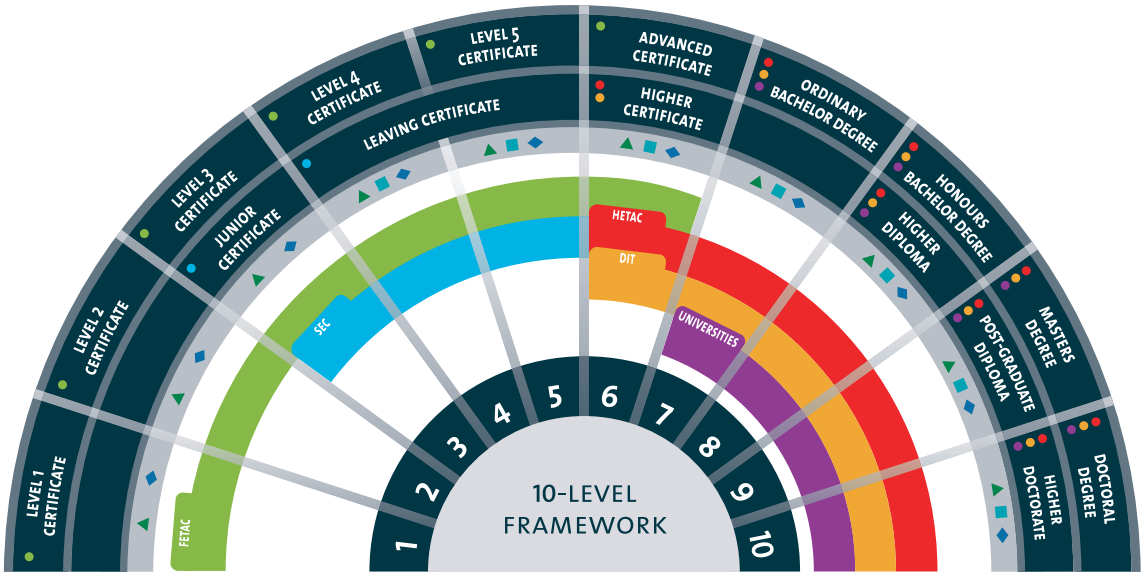
Level	Awarding Bodies	Existing and Former Awards (Awarding Bodies)	New Framework Awards (Awarding Bodies)
8	Universities HETAC DIT	Bachelor Degree (3 & 4 Year Honours) (HETAC/NCEA) Graduate Diploma (Conversion) (HETAC/NCEA) Honours Bachelors Degree (DIT) Diploma ** (DIT)	Honours Bachelor Degree (Universities, DIT, HETAC) Higher Diploma (Universities, DIT, HETAC)
9	Universities HETAC DIT	Masters Degree (HETAC/NCEA) Graduate Diploma (1st Stage Masters) (HETAC/NCEA) Masters Degree (DIT) Graduate Diploma (DIT)	Master Degree (Universities, DIT, HETAC) Postgraduate Diploma (Universities, DIT, HETAC)
10	Universities HETAC DIT	Doctor Of Philosophy (HETAC/NCEA) Doctor Of Philosophy (DIT)	Doctoral Degree (Universities, DIT, HETAC) Higher Doctorate (Universities, DIT, HETAC)

* While the National Craft Certificate has been placed as a set at level 6, there are level 7 outcomes associated with the awards in the set. This placement does not preclude the possibility of existing National Craft Certificate programmes being validated at level 7.

** A range of Diploma awards formerly made by DIT has been placed at level 8: Honours Diploma, Higher Diploma, Advanced Diploma, Graduate Diploma (in music performance), Diploma (four and five year).

Figure A.1 National Framework of Qualifications

The 'fan diagram' below illustrates each of the ten levels on the National Framework of Qualifications, the awarding bodies that make the awards and the major award-types.



KEY to Awarding Bodies

FETAC Further Education and Training Awards Council

SEC State Examinations Commission (Department of Education & Science)

HETAC Higher Education and Training Awards Council

DIT Dublin Institute of Technology

Appendix B: NFQ Learning Outcomes

The National Framework of Qualifications (NFQ) is based on standards of knowledge, skill and competence. The structure of the framework is based on levels which range from level 1 to level 10. Associated with each level is a specified level indicator. Level indicators are broad descriptions of the learning outcomes at a given level in terms of eight sub-strands of knowledge, skill and competence. Outlined below is a synopsis of each level indicator pertaining to NFQ levels 1 – 10, the levels referred to in this report.

Level 1 – The learning outcomes relate to the performance of basic tasks in a controlled environment under supervision and the display of an ability to learn information and basic repetitive skills, as well as to sequence learning tasks. Literacy and numeracy achievements would correspond to those measured at the initial levels of international assessment systems.

Level 2 – Key outcomes relate are basic literacy and numeracy and the introduction to systematic learning. Learning outcomes relate to the ability to learn new skills and knowledge in a supervised environment and to carry out routine work under direction. Learning outcomes at this level are typically developmental rather than geared towards a specific occupation.

Level 3 – Learning outcomes at this level relate to a low volume of practical capability and of knowledge of theory. The outcomes relate to the performance of relatively simple work and may be fairly quickly acquired. Outcomes at this level may also confer a minimum employability for low-skilled occupations and include functional literacy and numeracy.

Level 4 – Independence is the hallmark of this level. Learning outcomes at this level correspond to a growing sense of responsibility for participating in public life and shaping one's own life. The outcomes at this level would be associated with first-time entry to many occupational sectors.

Level 5 – Learning outcomes at this level include a broad range of skills that require some theoretical understanding. The outcomes may relate to engaging in a specific activity, with the capacity to use the instruments and techniques relating to an occupation. They are associated with work being undertaken independently subject to general direction.

Level 6 – The learning outcomes at this level include a comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

Level 7 – Learning outcomes at this level relate to knowledge and critical understanding of the well established principles in a field of study and the application of those principles in different contexts. This level includes knowledge of methods of enquiry and the ability to critically evaluate the appropriateness of different approaches to solving problems. The outcomes include an understanding of the limits of the knowledge acquired and how this influences analyses and interpretations in a work context. Outcomes at this level would be appropriate to the upper end of many technical occupations and would include higher technicians, some restricted professionals and junior management.

Level 8 – Innovation is a key feature of learning outcomes at this level. Learning outcomes relate to being at the forefront of a field of learning in terms of knowledge and understanding. The outcomes include an awareness of the boundaries of the learning in the field and the preparation required to push

back those boundaries through further learning. The outcomes relate to adaptability, flexibility, ability to cope with change and ability to exercise initiative and solve problems within their field of study. In a number of applied fields the outcomes are those linked with the independent, knowledge-based professional. In other fields the outcomes are linked with those of a generalist and would normally be appropriate to management positions. Those holding a Level 8 qualification are eligible for transfer to a programme leading to a higher diploma or progression to programmes leading to master degree or postgraduate diploma or in some cases to programmes leading to a doctoral degree.

Level 9 – The learning outcomes at this level relate to the demonstration of knowledge and understanding which is at the forefront of a field of learning. The outcomes relate to the application of knowledge, understanding and problem solving abilities in new or unfamiliar contexts related to a field of study. The outcomes are associated with an ability to integrate knowledge, handle complexity and formulate judgements. Outcomes associated with this level would link with employment as a senior professional or manager with responsibility for the work outputs of teams. Progression and transfer routes for those completing postgraduate diplomas would lead to a masters degree some of which they may be exempt from. Those with masters degrees would progress or transfer to a doctoral degree or to another masters degree or to a postgraduate diploma.

Level 10 – Learning outcomes at this level relate to the discovery and development of new knowledge and skills and delivering findings at the frontiers of knowledge and application. Further outcomes at this level relate to specialist skills and transferable skills required for managing such as the abilities to critique and develop organisational structures and initiate change.

Appendix C: PISA 2006

Table C1 OECD and partner countries' mean scores in scientific, reading & mathematical literacy, PISA 2006

Science			Reading			Mathematics		
Finland	563	↑	Korea	556	↑	Chinese Taipei	549	↑
Hong Kong-China	542	↑	Finland	547	↑	Finland	548	↑
Canada	534	↑	Hong Kong-China	536	↑	Hong Kong-China	547	↑
Chinese Taipei	532	↑	Canada	527	↑	Korea	547	↑
Estonia	531	↑	New Zealand	521	○	Netherlands	531	↑
Japan	531	↑	**Ireland**	**517**		Switzerland	530	↑
New Zealand	530	↑	Australia	513	○	Canada	527	↑
Australia	527	↑	Liechtenstein	510	○	Macao-China	525	↑
Netherlands	525	↑	Poland	508	↓	Liechtenstein	525	↑
Liechtenstein	522	↑	Sweden	507	↓	Japan	523	↑
Korea	522	↑	Netherlands	507	↓	New Zealand	522	↑
Slovenia	519	↑	Belgium	501	↓	Belgium	520	↑
Germany	516	○	Estonia	501	↓	Australia	520	↑
United Kingdom	515	○	Switzerland	499	↓	Estonia	515	↑
Czech Republic	513	○	Japan	498	↓	Denmark	513	↑
Switzerland	512	○	Chinese Taipei	496	↓	Czech Republic	510	○
Macao-China	511	○	United Kingdom	495	↓	Iceland	506	○
Austria	511	○	Germany	495	↓	Austria	505	○
Belgium	510	○	Denmark	494	↓	Slovenia	504	○
Ireland	**508**		Slovenia	494	↓	Germany	504	○
Hungary	504	○	Macao-China	492	↓	Sweden	502	○
Sweden	503	○	*OECD average*	*492*	↓	**Ireland**	**501**	
OECD average	*500*	↓	Austria	490	↓	*OECD average*	*498*	○
Poland	498	↓	France	488	↓	France	496	○
Denmark	496	↓	Iceland	484	↓	United Kingdom	495	○
France	495	↓	Norway	484	↓	Poland	495	○
Croatia	493	↓	Czech Republic	483	↓	Slovak Republic	492	↓
Iceland	491	↓	Hungary	482	↓	Hungary	491	↓
Latvia	490	↓	Latvia	479	↓	Luxembourg	490	↓
United States	489	↓	Luxembourg	479	↓	Norway	490	↓
Slovak Republic	488	↓	Croatia	477	↓	Lithuania	486	↓
Spain	488	↓	Portugal	472	↓	Latvia	486	↓
Lithuania	488	↓	Lithuania	470	↓	Spain	480	↓
Norway	487	↓	Italy	469	↓	Azerbaijan	476	↓
Luxembourg	486	↓	Slovak Republic	466	↓	Russian Federation	476	↓
Russian Federation	479	↓	Spain	461	↓	United States	474	↓
Italy	475	↓	Greece	460	↓	Croatia	467	↓
Portugal	474	↓	Turkey	447	↓	Portugal	466	↓
Greece	473	↓	Chile	442	↓	Italy	462	↓
Israel	454	↓	Russian Federation	440	↓	Greece	459	↓
Chile	438	↓	Israel	439	↓	Israel	442	↓
Serbia	436	↓	Thailand	417	↓	Serbia	435	↓
Bulgaria	434	↓	Uruguay	413	↓	Uruguay	427	↓
Uruguay	428	↓	Mexico	410	↓	Turkey	424	↓
Turkey	424	↓	Bulgaria	402	↓	Thailand	417	↓
Jordan	422	↓	Serbia	401	↓	Romania	415	↓
Thailand	421	↓	Jordan	401	↓	Bulgaria	413	↓
Romania	418	↓	Romania	396	↓	Chile	411	↓
Montenegro	412	↓	Indonesia	393	↓	Mexico	406	↓
Mexico	410	↓	Brazil	393	↓	Montenegro	399	↓
Indonesia	393	↓	Montenegro	392	↓	Indonesia	391	↓
Argentina	391	↓	Colombia	385	↓	Jordan	384	↓
Brazil	390	↓	Tunisia	380	↓	Argentina	381	↓
Colombia	388	↓	Argentina	374	↓	Colombia	370	↓
Tunisia	386	↓	Azerbaijan	353	↓	Brazil	370	↓
Azerbaijan	382	↓	Qatar	312	↓	Tunisia	365	↓
Qatar	349	↓	Kyrgyzstan	285	↓	Qatar	318	↓
Kyrgyzstan	322	↓				Kyrgyzstan	311	↓

= Mean score significantly above OECD Average

= Mean score *not* significantly different from OECD Average

= Mean score significantly below OECD Average

↑ = Mean score significantly above Ireland

○ = Mean score *not* significantly different from Ireland

↓ = Mean score significantly below Ireland

Appendix D: Private Providers

D1 Higher education providers with programmes accredited by HETAC in 2007

Academy of Medical Laboratory Science
Carlow College
Dublin Business School
Dublin Business S School of Art
FISC Ireland Ltd.
Griffith College Dublin
Hibernia College
Holy Ghost
Irish Management Institute
Institute of Public Administration
Irish Academy of Public Relations
Midwest Business Schools
Miltown Institute of Theology and Philosophy
National College of Ireland
Newpark Music Centre
Open Training College
Portobello College Dublin
St Nicholas Montessori College Ireland
St Patrick's College Thurles
American College Dublin
Thomas Crosbie Holdings Ltd
Tipperary Institute

D2 Professional institutes education providers

The Law Society
Kings Inns
Irish Taxation Institute
Institute of Chartered Accountants in Ireland
Association of Chartered Certified Accountants
Chartered Institute of Management Accountants
The Insurance Institute
The Society of Actuaries
The Life Insurance Association
The Institute of Bankers

D3 Other private education providers

Institute of Public Administration (Awards accredited by NUI)
Montessori College
Montessori Education Centre

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Mr.	Ned	Costello	Chief Executive, Irish Universities Association
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Ms.	Jacinta	Stewart	Chief Executive, City of Dublin VEC
Mr.	Martin	Shanahan	Divisional Manager, Science, Technology and Human Capital, Forfás

Publications by the Expert Group on Future Skills Needs

Report	Date of Publication
Future Requirement for High-Level ICT Skills in the ICT Sector	June 2008
Future Skills Needs of the Irish Medical Devices Sector	February 2008
Survey of Selected Multi-National Employers Perceptions of Certain Graduates from Irish Higher Education	December 2007
The Future Skills and Research Needs of the International Financial Services Industry	December 2007
National Skills Bulletin 2007	October 2007
Monitoring Ireland's Skills Supply: Trends in Education D Training Outputs	June 2007
Tomorrow's Skills: Towards a National Skills Strategy	March 2007
National Skills Bulletin 2006	December 2006
Future Skills Requirements of the International Digital Media Industry: Implications for Ireland	July 2006
Careers and Labour Market Information in Ireland	July 2006
Skills at Regional Level in Ireland	May 2006
SME Management Development Report	May 2006
Monitoring Ireland's Skills Supply: Trends in Education D Training Outputs	January 2006
Data Analysis of In-Employment Education Training in Ireland	December 2005
Skills Needs in the Irish Economy: The Role of Migration	October 2005
National Skills Bulletin 2005	October 2005
The Demand & Supply of Foreign Language Skills in the Enterprise Sector	May 2005
Skills Requirements of the Digital Content Industry in Ireland Phase I	February 2005
Innovate Market Sell	November 2004
The Supply and Demand for Researchers and Research Personnel	September 2004
Literature Review on Aspects of Training of those at Work in Ireland	June 2004
Financial Skills Monitoring Report	November 2003
Responding to Ireland's Growing Skills Needs – The Fourth Report of the Expert Group on Future Skills Needs	October 2003
The Demand and Supply of Skills in the Biotechnology Sector	September 2003
Skills Monitoring Report – Construction Industry 2003/10	July 2003
Benchmarking Education and Training for Economic Development in Ireland	July 2003
The Demand and Supply of Engineers and Engineering Technicians	June 2003
The Demand and Supply of Skills in the Food Processing Sector	April 2003

Report	Date of Publication
National Survey of Vacancies in the Private Non-Agricultural Sector 2001/2002	March 2003
National Survey of Vacancies in the Public Sector 2001/2002	March 2003
The Irish Labour Market: Prospects for 2002 and Beyond	January 2002
Labour Participation Rates of the over 55s in Ireland	December 2001
The Third Report of the Expert Group on Future Skills Needs – Responding to Ireland's Growing Skills Needs	August 2001
Benchmarking Mechanisms and Strategies to Attract Researchers to Ireland	July 2001
Report on E-Business Skills	August 2000
Report on In-Company Training	August 2000
The Second Report of the Expert Group on Future Skills Needs – Responding to Ireland's Growing Skills Needs	March 2000
Business Education and Training Partnership 2nd Forum, Dublin	March 2000
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The First Report of the Expert Group on Future Skills Needs – Responding to Ireland's Growing Skills Needs	December 1998

SLMRU,
Planning and Research Department, FÁS
25 Clyde Road, Dublin 4.
Tel. 01 607 74 36
Fax 01 607 74 01
www.fas.ie