Monitoring Ireland's Skills Supply:

Trends in Education / Training Outputs

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

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Foreword by Ms. Anne Heraty, Chairperson, Expert Group on Future Skills Needs

The availability of data in relation to the labour market and the supply and demand for skills has greatly improved in recent years, primarily through the development of the National Skills Database. The availability of good data and information is the cornerstone of good policy formulation. In this regard the Expert Group on Future Skills Needs continues to strive to make available in the public domain as much information as possible in relation to the labour market and the supply of and demand for skills.

It is widely acknowledged that the availability of skills have been amongst the key factors in Ireland's current economic prosperity. The supply of educated and skilled labour will continue to play a central role in our efforts to establish Ireland as a knowledge-based economy.

Imbalances between the supply and demand of skills can have an adverse effect on Ireland's future economic performance. A number of areas of the economy are currently experiencing skill shortages. Addressing current and minimising future skill imbalances is of vital importance for the economy.

Regular monitoring of supply and demand of skills provides a platform for the timely identification of labour market disparities. In this context, this report represents an important contribution to our understanding of the domestic labour supply. It provides an overview of the output from the education and training system – the key source of supply of skills to the Irish economy. This report complements research undertaken by the Expert Group in the National Skills Bulletin published in November 2005. That report looked at the current demand for skills in the Irish economy.

I would like to thank all those who contributed to the preparation and publication of this report. In particular I would like to thank the Skills and Labour Market Research Unit of FÁS for undertaking this research on behalf of the Expert Group on Future Skills Needs.

Anne Heraty
Chairperson
Expert Group on Future Skills Needs

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Executive Summary

Monitoring Ireland's Skills Supply: Trends in Education/Training Output is a report produced by the Skills and Labour Market Research Unit of FÁS, on behalf of the Expert Group on Future Skills Needs. This report is the first of a series to be produced annually.

The objective of this report is to provide an indication of the supply of skills to the Irish labour market from the formal education system. The report represents a reference document; it does not put forward recommendations nor comment on education policy. It differs to the existing literature in that it collates the most up to date information from a wide range of education sources and at different education levels. As such, it provides an overview of the potential supply of skills in a single document. The report is aimed at informing the formulation of policy in the area of education, labour market, immigration, as well as providing information to career guidance groups, students and other interested parties.

The supply of skills is estimated using data on education and training from the formal education system. It covers a wide range of education provision across levels 3-10 of the National Framework of Qualifications (NFQ). At each level, the supply of skills is examined in terms of:

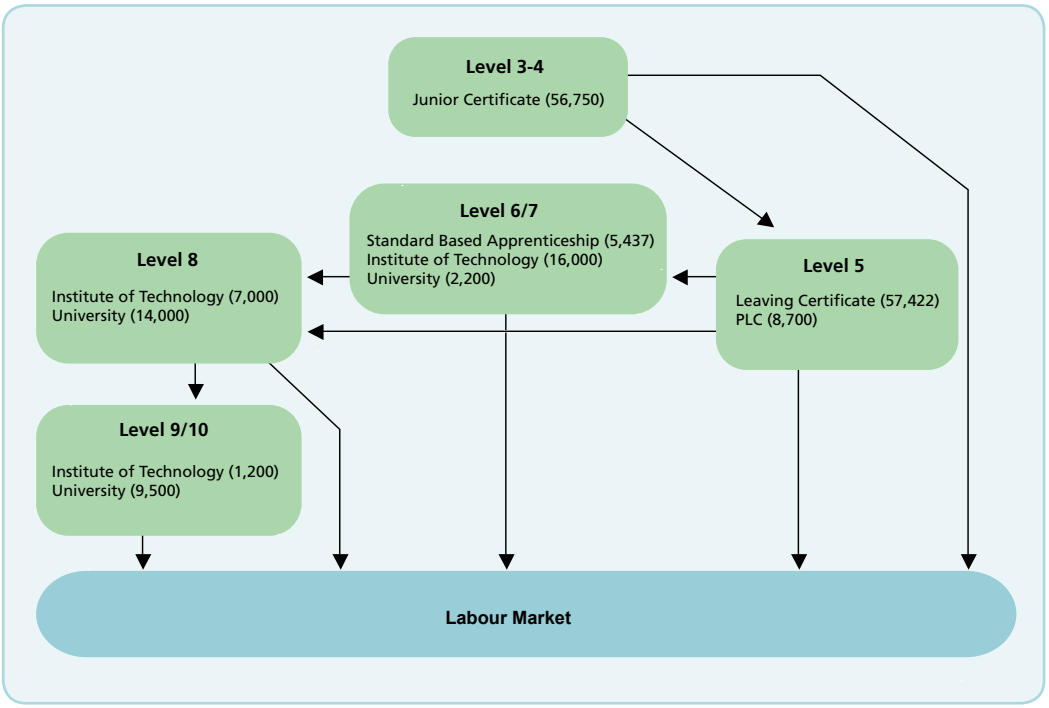
- Graduate output trends; this is used as an indicator of the potential current supply
- Student inflows; this is used as an indicator of the potential future supply
- Gender; this is used as an indicator of gender balance
- Discipline; this is used as an indicator of the supply of skills at broad type
- First destination; this is used as an indication of students' destination following graduation from higher education
- International comparison; as an indicator of Ireland's performance internationally

While the data presented in the report is not exhaustive, it provides a good indication of the supply of labour emerging through the different levels of the education system.

Outputs from the Irish Education System

- In 2005, 56,750 students sat the Junior Certificate, representing an estimated 95% of the total number of students who enrolled 3 years previously
- In 2005, 57,422 students sat the Leaving Certificate, representing an estimated 82% of the total number of students who enrolled 5/6 years previously
- In 2004, approximately 5,437 apprentices graduated with a National Craft Certificate
- In 2004, approximately 8,700 students graduated with a PLC qualification
- In 2003, approximately 17,400 students graduated from higher education programmes with a level 7/6 award, of whom, 74% continued to further study
- In 2003, approximately 21,000 students graduated from higher education programmes with a level 8 qualification; almost 56% continued to further study
- In 2003, approximately 10,400 students graduated with level 9/10 qualifications

Figure 1. Education Outputs Levels 3 - 10



Trends in Outputs from the Irish Education System

- Graduate outputs from all levels, with the exception of the Junior Certificate (level 3) and the Leaving Certificate (level 4/5), have increased in recent years
- Standard Based Apprenticeship level 6/7 and level 8 outputs from the Institutes of Technology have doubled since 2000

Future Outputs from the Irish Education System

- Outputs from the Junior and Leaving Certificate will continue to be negatively affected by demographic factors; the number of students sitting the Junior Certificate should begin to increase by 2006, while the Leaving Certificate output should start to recover in 2012
- Negative demographic effect will be cancelled to some extent by immigration and the increase in participation rates in higher and further education; over 55% of Leaving Certificate students now continue to higher education, an increase from 35% in 1992
- Declines in level 7/6 inflows experienced from 2000 will result in a decline in future graduate output at this level
- Student inflows at Level 8 and at Level 9/10 have been increasing continuously since 1998 - this will result in future increased output at these levels

Key Points on Level 3-5 Outputs

- The percentage of students achieving grades E and below in the Junior Certificate (level 3) at ordinary and higher level mathematics and English have decreased over the last 4 years (11.4% to 8.2% and 5.0% to 4.4% for mathematics at ordinary and higher level respectively; 2.7% to 1.3% and 2.4% to 1.7% for English at ordinary and higher level respectively); in science they have increased (2.4% to 5.0% and 5.0% to 7.0% for ordinary and higher level respectively)
- Females are achieving more A, B, C grades than males at ordinary and higher level for the majority of subjects in the Junior and Leaving Certificate

- Although declining, the percentage of students achieving grades E and below for ordinary level Leaving Certificate mathematics remains high (12% in 2005)
- Post Leaving Certificate courses are increasingly been seen as an alternative route to higher education; in 2005, approximately 900 PLC award holders accepted places on higher education courses (2.3% of total CAO acceptances in 2005)

Key Points on Level 6/7 Outputs

- In 2004, the numbers registered on Standard Based Apprenticeship courses continued to remain high at over 8,000 (up almost 1,000 on 2003), with preliminary figures for 2005 following the same trend; of these, 57% registered on construction related trades
- The numbers accepting places on science courses at level 7/6 increased in 2005 for the first time since 2000; those receiving science qualifications will, however, decrease over the next few years given the decline in student inflows over the period 2002 - 2005
- The output from computing courses will continuously decline in the coming years due to significant declines in student inflows from 2,300 in 2000 to 800 in 2005
- Declines in inflows into engineering courses at level 7/6 over the last 5 years will also result in future reductions in graduate outputs in the field over the next few years

Key Points on Level 8-10 Outputs

- In recent years, student inflows into science courses at level 8 have remained stable, hence the output is expected to remain relatively constant
- Inflows to engineering courses recovered slightly in 2005 after several years of decline; while a decline is expected in the meantime, a recovery in the graduate output from engineering courses can be expected by 2009
- A 50% decline in acceptances of places on computing courses at level 8 since 2000 will result in a significant decline in graduate output in the future
- Inflows into construction courses at Level 8 have doubled since 2000; this will result in a significant increase in output from this field in the coming years
- Graduate output from the institutes of technology at level 9/10 has shown large increases in recent years
- The overall graduate output from level 9/10 courses has been continuously increasing from 1998

International Comparisons

Internationally Ireland's education outputs compare as follows:

- When compared to OECD countries, Ireland's 15-year-olds perform above average in mathematics, English and science
- Ireland's participation rate to the Leaving Certificate is above EU average; the gap between male and female participation rates is high by international standards, with lower participation rates for males
- In 2003, Ireland exceeded the OECD average in terms of third level graduate output at level 7/6
- In 2003, Ireland exceeded the OECD average in terms of third level graduate output at level 8
- In 2003, Ireland is below the OECD average in advanced research graduate output

Chapter 1

1. Introduction

Monitoring Ireland's Skills Supply: Trends in Education/Training Output is a report produced by the Skills and Labour Market Research Unit of FÁS, on behalf of the Expert Group on Future Skills Needs. This report is the first of a series to be produced annually.

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While the data presented in the report is not exhaustive, it provides a good indication of the supply of labour emerging through education system.

Irish Education System

Ireland has four interlinked complementary systems of education: primary, secondary, further and higher education. Second level education encompasses courses and subjects (full-time and part-time) from the programme for second level schools. Further education encompasses post leaving certificate courses, craft courses, foundation courses and part-time courses meriting credit on the above courses. Higher education encompasses higher certificates, three-year full-time ordinary degrees and 2+1 ordinary degrees, four year honours degrees, postgraduate and higher diplomas, master degrees and doctoral degrees. Entry into higher education is primarily through the Central Applications Office (CAO).

In 1999, the Qualification (Education and Training) Act was enacted, leading to the establishment of the National Qualifications Authority of Ireland (NQAI). The two principal tasks of the NQAI are to establish and maintain a National Framework of Qualifications (NFQ) and to promote and facilitate access, transfer, and progression in education. Subsequently, two awarding bodies, the Higher Education and Training Awards Council (HETAC) and the Further Education and Training Awards Council (FETAC), were set up in June 2001.

HETAC is the qualifications awarding body for higher educational and training institutions outside the university sector. It undertakes the validation of new programmes of education, and sets and monitors standards in higher education and training. HETAC has the power to delegate authority to make awards to recognised Institutes of Technology under the Qualifications Act.

FETAC is responsible for making awards in further education and training previously made by FÁS, the National Council for Vocational Awards (NCVA), Fáilte Ireland, Bord Iascaigh Mhara and Teagasc.

National Framework of Qualifications

The National Framework of Qualifications (NFQ) was implemented in 2005 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. 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 later in the report). 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 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 and FETAC) to develop the named awards. The former and existing awards now placed on the ten-level framework are outlined in Appendix 1.

Table 1. National Framework of Qualifications

Level	Qualification
Level 10	Doctoral Degree
Level 9	Masters Degree, Post-Graduate 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

Education Data Collection

The data presented in the report has been collected from the State Examinations Commission, Central Applications Office (CAO), Higher Education Authority (HEA), Department of Education and Science, HETAC, FETAC, FÁS and institutes of technology. The report focuses on most recent trends, usually covering period 2000-2005, unless the availability of the data dictates otherwise or longer term trends are of particular interest.

Document Structure

This document is structured as follows: Chapter 2 examines the effect of demographic changes on future participation in education; Chapter 3 analyses the supply of skills at levels 1-3; Chapter 4 examines the supply of skills at levels 4 and 5; Chapter 5 focuses on the supply of skills at levels 6 and 7; Chapter 6 covers the supply of skills at level 8; Chapter 7 analyses the supply of skills at postgraduate level (levels 9 and 10); Chapter 8 examines the third level UK acceptances of those living in the Republic of Ireland; finally, Chapter 9 examines further education and training statistics.

Chapter 2

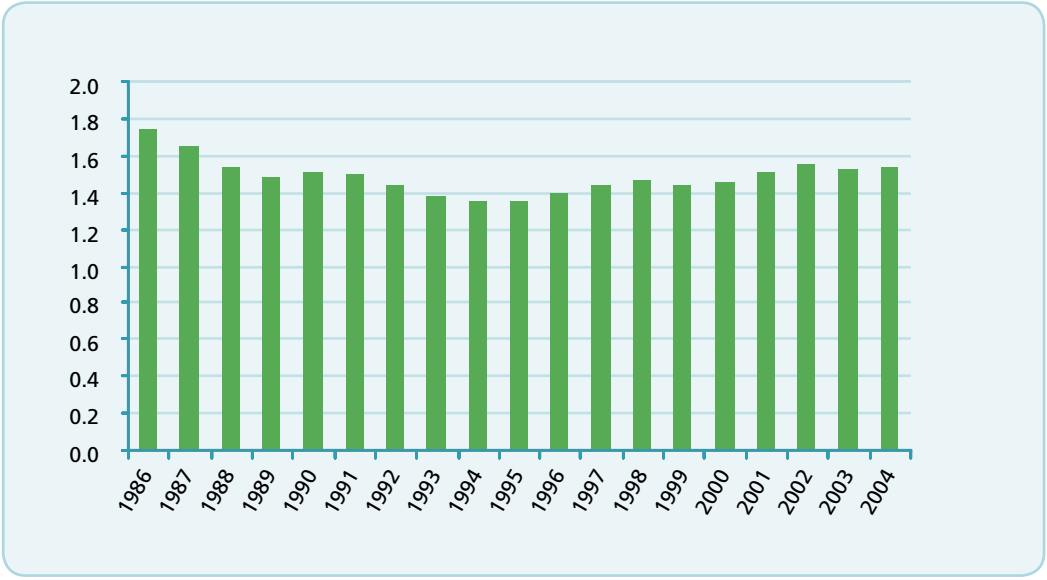
2. Demographic Outlook

The inflow into the education system at any level depends primarily on the number of young persons in a relevant age cohort. For this reason, it is important to reflect on demographic trends and their effects on the number of students entering the national education system in the coming years. This is done by examining the average annual birth rate in Ireland and providing an international comparison. Particular attention is given to the school-leaving age cohort due to its relevance to the third level education system.

Birth rate is defined here as the number of live births per 100 of the population. It is an important indicator of the future pool of children available to enter the education system. In addition to birth rates, the school attending age cohorts are affected by the net migration of young people to Ireland (children of returning Irish citizens, other EU-25 nationals and non-EU nationals. The information provided here relates only to children born in Ireland.)

Figure 2.1 presents annual birth rates in Ireland for the period 1986-2004. Since a peak of 1.7 in 1986, the birth rate reached its lowest in 1994 at 1.3, recovering to almost 1.6 by 2004. In absolute terms, the numbers of live births in 1986 and 2004 are almost equivalent at 61,620 and 61,684, respectively.

Figure 2.1 Birth Rates in Ireland 1986-2004



Source: Eurostat

A continuous decline in birth rates from 1986 to 1994 resulted in a lower number of Irish born children available to enter primary level education. Given that the average age of children starting primary school is 5, this effect continued until 1999 (51,858 junior infants) and has been reversed since (56,520 junior infants in 2003). The recovery for the secondary education should have occurred in 2005.

Typically 16 – 19 is the school leaving age. Table 2.1 shows the ages of Central Applications Office (CAO) acceptors for 2004. Almost 90% of level 8 acceptors and 86% of level 7/6 acceptors are 16-19.

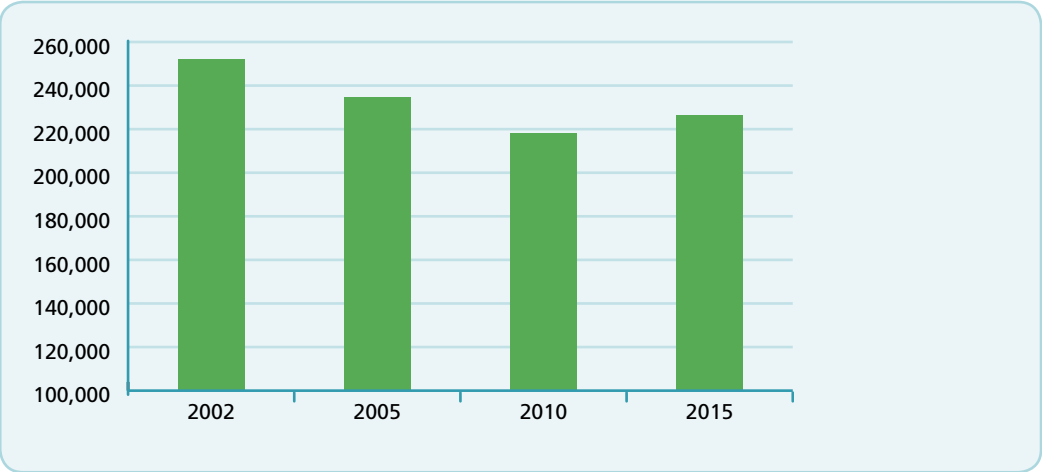
Table 2.1 CAO Acceptors 16 - 19 Age Cohort 2004

	16-19
Level 8	88%
Level 7/6	86%

Source: CAO Directors Report, 2004

As a result of the demographic trend, the number of school leavers is predicted to continuously decline in the medium term. However, the decline is likely to be modest and could even be reversed by inward migration. The CSO predicts a recovery in this age cohort by 2015 (Figure 2.2).

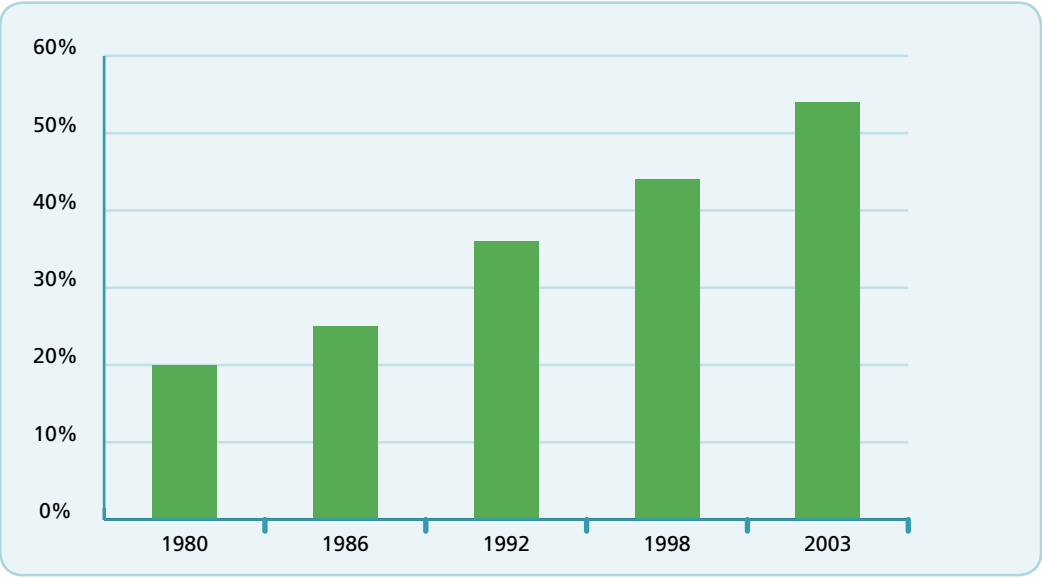
Figure 2.2 Population Projections: Age Group 16-19



Source: Regional Population Projections 2006-2021, CSO, May 2005

The increase in higher education participation and inward migration are expected to off set, to some extent, the predicted negative demographic effect on the number of new entrants to third level education. Figure 2.3 shows third level participation rates for new entrants in the school leaving age cohort for the period 1980-2003. Over the last two decades, the participation rate has been increasing continuously. The participation rate of 54% in 2003 was almost three times that of the 1980 rate.

Figure 2.3. Third Level Participation Rate 1980 - 2003

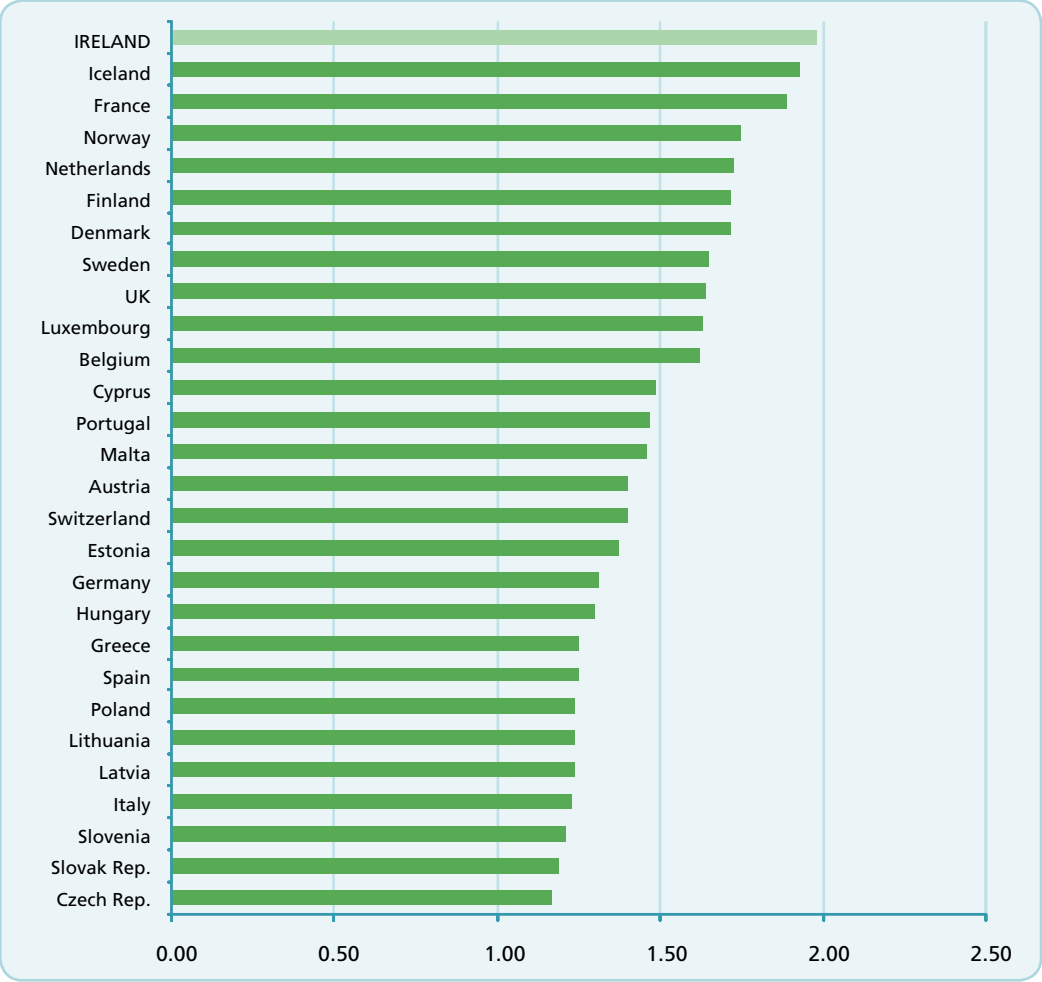


Source: A Review of Higher Education Participation in 2003, HEA

Despite the decline in the birth rate in the early 1990s, Ireland continues to have a favourable demographic structure, when compared with other European countries. Eurostat population statistics (2002) show that Ireland has the highest proportion (45.6%) of persons less than 30 years of age; the highest proportion (16.3%) of persons aged 20-29; the second highest proportion (13.9%) of persons aged 0-9; the third highest proportion (15.4%) of persons aged 10-19.

In addition, at 1.98, Ireland had the highest fertility rate in 2002 amongst EU countries (Figure 2.4). Fertility rate is defined as the number of live child births per woman of child bearing age.

Figure 2.4 Fertility Rates for EU Countries 2002



Source: Population and Labour Projections 2006 – 2036, CSO

Key Points Demographic Outlook

- Ireland's birth rate reached its lowest in 1994 and has been increasing since
- The school leaving age cohort will continuously decline in numbers until 2012; however, the decline is likely to be modest
- In 2003, the third level participation rate was 54%; three times the rate of 1980
- Ireland has one of the youngest populations in the EU-25

Chapter 3

3. Levels 1-3

3.1. Introduction

This chapter examines the supply of skills from programmes placed at levels 1-3 on the National Framework of Qualifications. Currently, there is no education data available at levels 1-2. The Junior Certificate is placed at level 3. The learning outcomes required at level 3 are outlined below.

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. The progression routes lead to a Level 4 Certificate programme or at a higher level if appropriate.

The chapter is structured as follows: first, the trend in numbers sitting the Junior Certificate is outlined; second, an analysis of students' performance in the Junior Certificate is presented.

3.2. The Junior Certificate

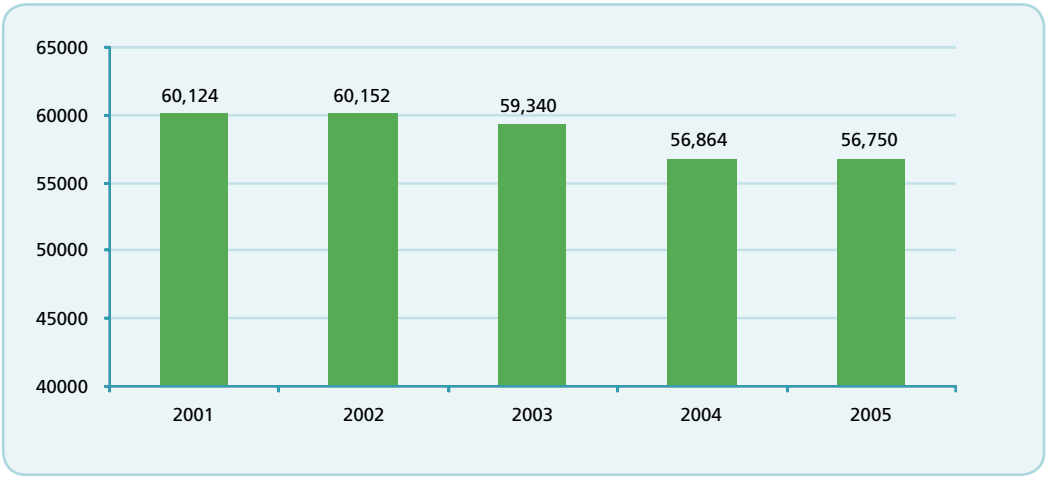
The exam is held at the end of the junior cycle at school. The junior cycle caters for students largely in the 13 – 15 year age group. Students normally sit the examinations at the age of 14 or 15, after 3 years of post primary education. Candidature for the examination is not limited to post-primary school students. Candidates following an approved course of study outside the state or attending an approved course of study organised under the Vocational Training Opportunities Scheme, Adult Literacy and Community Education Schemes, The Department of Social and Family Affairs second level scheme for the unemployed or an analogous scheme may also participate.

3.3. Junior Certificate Candidates

Of all students enrolling into secondary school, not all will sit the Junior Certificate exam. In the recently published report entitled *"Retention Rates of Pupils in Second-Level Schools"*, the Department of Education and Science examined the 1996 cohort of pupils who entered second-level schools. The results showed that of all students entering secondary education in 1996, 94.6% sat the Junior Certificate. This participation rate has increased by 0.7 percentage points from the 1991 cohort. Females have a slightly higher retention rate than males, at 95.8% and 93.4% respectively.

The number of candidates sitting the Junior Certificate from 2001 to 2005 is shown in Figure 3.1. A total of 56,750 students sat the exam in 2005. Approximately equal numbers of males and females sit the exam. The number of candidates declined by 6% over the period 2001-2005 and by 16% from 67,275 in 1995.

Figure 3.1. Number of Junior Certificate Candidates, 2001 - 2005.



Source: State Examinations Commission

Junior Certificate candidates can sit subjects at higher, ordinary and foundation level. There are 27 subjects to choose from and candidates on average sit 9 subjects.

Table 3.1 outlines the top ten subject choices for the Junior Certificate and the proportion sitting these subjects at higher level in 2001 and 2005.

Table 3.1 Top Ten Subject Choice for the Junior Certificate

Subject	Numbers Sitting (% Higher Level)	
	2001	2005
English	59,495 (62)	56,025 (65)
Mathematics	59,184 (36)	55,813 (42)
History	54,266 (69)	50,910 (66)
Geography	50,174 (84)	51,116 (75)
Irish	55,856(40)	50,318 (43)
Science	50,578 (61)	48,151 (64)
French	41,709 (65)	36,194 (70)
Business Studies	38,475 (67)	33,646 (68)
Religious Education	N/A	21,251 (73)
Home Economics	20,661 (74)	9,808 (74)

Source: State Examinations Commission

The percentage of candidates sitting higher level in the top ten subjects has increased in six subjects from 2001 to 2005. As in 2001, the majority of students in 2005 sit higher level in all subjects, except Irish and Mathematics. Religious education was not offered as an exam subject in 2001.

A gender breakdown for those subjects is presented in Table 3.2. At ordinary level males outnumber females in eight out of the ten selected subjects. The reverse is the case at higher level, indicating that proportionately more females sit higher level papers at Junior Certificate level. Males dominated courses on metalwork, construction, technology and technical graphics at both ordinary and higher level.

Table 3.2 % Gender Breakdown of Higher and Ordinary Level Junior Certificate Sits, 2005

Subject	Ordinary Level		Higher Level	
	Male	Female	Male	Female
English	60	40	45	55
Mathematics	51	49	48	52
History	52	48	48	52
Geography	55	46	48	52
Irish	55	45	40	60
Science	59	41	49	51
French	55	45	45	55
Business Studies	50	50	46	54
Religious Education	55	45	43	57
Home Economics	28	72	7	93

Source: State Examinations Commission

Not only do females outnumber males at higher level, they achieve higher grades than males at both ordinary and higher level for almost all subjects. Table 3.3 shows the percentages of males and females achieving A, B and C grades at higher and ordinary levels for the top ten subject preferences. Males outperform females in metalwork at both levels and in geography at ordinary level.

Table 3.3 Gender Differences in Achievements at Higher and Ordinary Level in the Junior Certificate, 2005

Subject	Ordinary Level			Higher Level		
	Female A,B,C (%)	Male A,B,C (%)	% ± Difference	Female A,B,C (%)	Male A,B,C (%)	% ± Difference
English	6,050 (87)	7,810 (74)	-13.0	16,270 (82)	11,140 (69)	-13.0
Mathematics	9,960 (77)	9,390 (69)	-8.0	9,440 (77)	8,240 (74)	-3.6
History	6,380 (76)	6,790 (74)	-2.3	13,160 (77)	11,530 (72)	-5.0
Geography	4,780 (82)	5,820 (83)	1.5	15,980 (81)	14,650 (79)	-1.5
Irish	8,770 (78)	8,690 (63)	-15.0	10,720 (83)	6,380 (73)	-10.0
Science	5,420 (76)	7,790 (75)	-1.4	11,590 (73)	10,205 (69)	-4.7
French	3,170 (64)	3,810 (53)	-12.0	11,820 (82)	7,270 (68)	-14.0
Business Studies	4,360 (80)	3,940 (73)	-6.4	10,250 (83)	8,310 (80)	-2.8
Home Economics	3,310 (88)	1,140 (80)	-8.7	13,090 (96)	850 (87)	-8.6

Source: State Examinations Commission

This section focuses on the achievements of Junior Certificate candidates sitting higher and ordinary level English, mathematics and science. Performance in mathematics and English indicates the level of basic numeracy and literacy skills. Proficiency in reading, writing and mathematics are indicators of social wellbeing and provide the skills that set the foundations for further education in and beyond school. The importance of these skills was emphasised by the development of the PISA[1] survey by the OECD. In addition, the decline in the uptake of science in second level education has been of concern in recent years, highlighted by the establishment of the Taskforce on the Physical Sciences in 2000.

Table 3.4 shows the performance of higher and ordinary level students sitting Junior Certificate English in 2005. At higher level, 1.7% achieved grades E or below compared to 1.3% at ordinary level. The percentage achieving grades E or below at both levels has decreased since 2001.

Table 3.4 Higher and Ordinary Level Junior Certificate English

Subject	English Ordinary Level		English Higher Level	
	2001	2005	2001	2005
Grades E, F, NG	547 (2.7%)	228 (1.3%)	885 (2.4%)	615 (1.7%)
Grades A, B, C, D	19,693 (97.3%)	17,323 (98.7%)	35,990 (97.6%)	35,557 (98.3%)

Source: State Examinations Commission

For mathematics, 4.4% and 8.2% achieved grades E or below at higher and ordinary level respectively. The number of students achieving these grades decreased since 2001 by 0.6 and 3.2 percentage points respectively.

Table 3.5 Higher and Ordinary Level Junior Certificate Mathematics

Subject	Mathematics Ordinary Level		Mathematics Higher Level	
	2001	2005	2001	2005
Grades E, F, NG	3,439 (11.4%)	2,175 (8.2%)	1,056 (5.0%)	1,029 (4.4%)
Grades A, B, C, D	26,723 (88.6%)	24,343 (91.8%)	20,057 (95.0%)	22,359 (95.6%)

Source: State Examinations Commission

In contrast to English and mathematics, the percentage of students achieving grades E or below in science has increased at both levels since 2001. They now stand at 7% and 5% for higher and ordinary level respectively.

Table 3.6 Higher and Ordinary Level Junior Certificate Science

Subject	Science Ordinary Level		Science Higher Level	
	2001	2005	2001	2005
Grades E, F, NG	475 (2.4%)	875 (5.0%)	1,539 (5.0%)	2,160 (7.0%)
Grades A, B, C, D	19,319 (97.6%)	16,626 (95.0%)	29,245 (95.0%)	28,504 (93.0%)

Source: State Examinations Commission

The results from the PISA survey conducted in 2003 revealed the following: out of 40 countries, Ireland was ranked 7th in reading, 20th in mathematics and 16th in science. It is worth noting, that despite an above average rating, Ireland still lags behind the best performers.

[1] The results of PISA survey for Ireland were summarised in the report titled "Education for Life – the Achievements of 15 year olds in Ireland in the second Cycle of Pisa 2003", OECD. The report compared the achievements of 15 year olds in mathematics, reading and science in 40 OECD countries and 11 partner countries.

Key Points Level 1-3

- In 2005, 56,750 candidaties sat the Junior Certificate; a 6% decline since 2001 and a 16% decline since 1995
- It is estimated that of all students entering second level education, 5.4% do not sit the Junior Certificate exam
- Junior Certificate students are increasingly opting to sit subjects at higher level
- Females are outnumbering males in participation in Junior Certificate subjects at higher level and they are also achieving higher grades then males at both levels
- The number of students achieving grades E or below in Junior Certificate English and mathematics have decreased, while they have increased in science

Chapter 4

4. Levels 4/5

4.1. Introduction

This chapter examines the supply of skills from selected programmes whose awards are placed at level 4 and 5 on the NFQ. This includes the Leaving Certificate and Post Leaving Certificate programmes. The Leaving Certificate has a spectrum of options: established, vocational and applied programmes offered at higher, ordinary and foundation levels spanning levels 4 and 5 on the framework. Post Leaving Certificates are mostly placed at level 5 with a small number of certificates placed at level 6 on the framework. As a distinction cannot be made between level 5 and level 6 vocational certificates, both are discussed in this chapter. The learning outcomes required at these levels are outlined below.

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.

This chapter is structured as follows: first, the Leaving Certificate is examined followed by a detailed analysis of each programme - applied, vocational and established; second, we examine the performance of Leaving Certificate vocational and established candidates by subject and gender focusing on English, mathematics and science subjects; finally, we focus on the Post Leaving Certificate programme examining numbers enrolling and discipline choices.

4.2. The Leaving Certificate Candidates

Of all students who enter second level education not all will complete the Leaving Certificate. In their report entitled *"Retention Rates of Pupils in Second-Level Schools"*, the Department of Education and Science found that only 81.8% of those entering second level in 1996 went on to sit their Leaving Certificate. A gap of almost 12% between the male and female percentage retention rates was observed. This male/female retention rate gap is high by international standards and is exceeded by only four of the OECD member states.

The modern Leaving Certificate comprises of three distinct programmes –applied, vocational and established. The overall numbers sitting the Leaving Certificate (all programmes) from 2002 to 2005 are given in Table 4.1. The number of candidates sitting the Leaving Certificate (all programmes) in 2005 was 57,422. A gender breakdown is not available for 2005, however, in 2004 slightly more females sat the Leaving Certificate than males.

The overall number of candidates has declined from a peak in 2003 of 59,536 to 57,422 in 2005; in 1995 the number of candidates stood at 59,200.

Table 4.1 Number of Leaving Certificate Candidates (all programmes) 2002 – 2005

Year	Total
2002	58,552
2003	59,536
2004	58,742
2005	57,422

Source: State Examinations Commission

4.2.1. The Leaving Certificate Established and Vocational

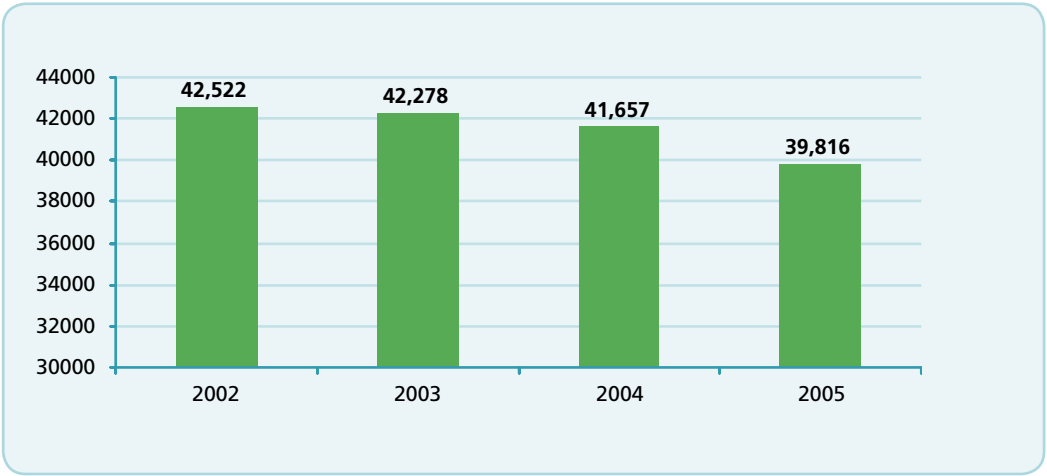
Leaving Certificate Established

The Leaving Certificate (Established) Programme offers students a broad education while allowing for some specialisation. The majority of candidates, who sit for the examinations, are recognised students in post-primary schools, are 16-19 years of age and have completed 5 or 6 years of post-primary education. The examination also caters for external candidates (i.e. those outside the school system) who sit individual subjects. The Leaving Certificate numbers also include repeat students.

School students typically are required to sit 7 subjects from a list of 33 subjects. The number of candidates sitting the Leaving Certificate Established from 2002 to 2005 is outlined in Figure 4.1. In 2005, 39,819 candidates sat the exam.

The number of candidates has decreased from 42,522 in 2002 to 39,816 in 2005 representing a decline of over 6%. As a proportion of the total number of candidates sitting the Leaving Certificate (all programmes) the numbers sitting the established programme have declined from 72.6% in 2002 to 69.3% in 2005.

Figure 4.1 Number of Candidates Sitting the Leaving Certificate Established, 2002 – 2005.



Source: The State Examinations Commission

Leaving Certificate Vocational

The Leaving Certificate Vocational Programme (LCVP) is designed to give a strong vocational dimension to the Leaving Certificate Established. It is not a separate stand-alone Leaving Certificate programme. The strong vocational focus of the LCVP is achieved by arranging Leaving Certificate subjects into Vocational Subject Groupings and through the provision of link modules.

Requirements for the Leaving Certificate Vocational Programme are as follows:

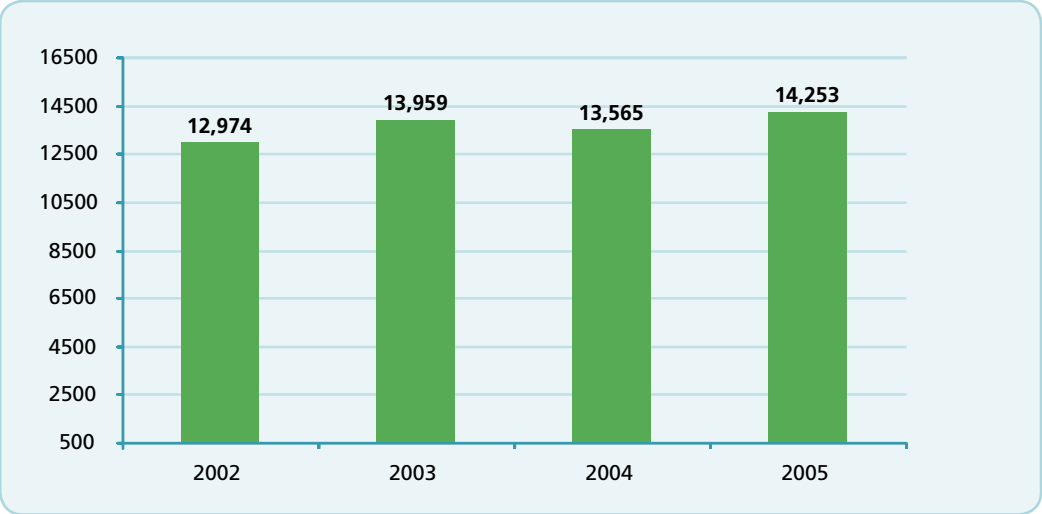
- A LCVP student, must take a minimum of five Leaving Certificate Subjects (at higher, ordinary or foundation level) including Irish
- Two of the above must be selected from one of the designated Vocational Subject Groupings
- The student must study the two link modules, namely Preparation for the World of Work and Enterprise Education
- The student is required to follow a course in a Modern European Language (other than Irish or English).

Students opting for an alternative to the Leaving Certificate Modern European Language, or who are exempt from studying Irish, must take an additional subject to ensure a minimum of 5 Leaving Certificate subjects. Currently, all Irish third level institutions accept LCVP and award the same points scale for LCVP results.

The number of candidates sitting the Leaving Certificate Vocational Programme from 2002 to 2005 is outlined in Figure 4.2. The number of candidates sitting the LCVP in 2005 was 14,253.

The number of candidates sitting the LCVP has increased from almost 12,974 in 2002 to 14,253 in 2005. As a proportion, it has increased from 22.2% of all Leaving Certificate candidates in 2002 to 25% in 2005.

Figure 4.2 Number of Candidates Sitting the Leaving Certificate Vocational Programme, 2002 – 2005.



Source: State Examinations Commission

Leaving Certificate Established and Vocational candidates may sit subjects at higher, ordinary or foundation level. The top-ten subject selection for the Leaving Certificate in 2001 and 2005 and the percentage of students who sat the subjects at higher level in those years are outlined in Table 4.2.

Of the total number of students sitting the Leaving Certificate Established and Vocational (54,069) in 2005, 97% (52,178) and 95% (51,524) sat mathematics and English respectively.

Table 4.2 Top Ten Subject Choice for the Leaving Certificate Vocational and Established

Subject	Numbers Sitting (% Higher Level)	
	2001	2005
Mathematics	55,149 (18)	52,178 (19)
English	53,283 (59)	51,524 (63)
Irish	50,825 (31)	47,436 (30)
French	33,818 (47)	30,592 (48)
Geography	28,971 (75)	28,092 (74)
Biology	24,060 (61)	25,362 (69)
Business	24,239 (68)	20,506 (65)
Home Economics	19,405 (73)	14,459 (67)
History	11,270 (63)	10,307 (62)
Art	9,038 (71)	10,237 (74)

Source: State Examinations Commission

In general, more than 50% of candidates sit higher level papers, with the exception of mathematics, Irish and French. The percentage sitting higher level increased in five of the ten selected subjects from 2001 to 2005. With development of the foundation level mathematics syllabus in 1995 targets were set for the numbers sitting higher, ordinary and foundation level mathematics. In designing the three Leaving Certificate courses the National Council for Curriculum Assessment course committee intended that the cohort should divide in the ratio 1:2:1. That is the higher level course was designed to meet the needs of the top 25% of the cohort, ordinary level to meet the needs of the next 50% and the foundation level to meet the needs of the remaining 25%. In 2005, 19% sat the higher level 6.2 percentage points below the target set.

A gender breakdown in 2005 of those subjects is presented in Table 4.3. At ordinary level females outnumber males in five of the nine subjects. Females also outnumber males in seven of the nine subjects at higher level. In the traditional male dominated courses, such as technical drawing, engineering and construction studies, males significantly outnumber females at ordinary and higher level.

Table 4.3 Gender Breakdown of Higher and Ordinary Level Leaving Certificate Sits (%), 2005

Subject	Ordinary Level		Higher Level	
	Male	Female	Male	Female
Mathematics	46	54	51	49
English	56	44	42	58
Irish	51	49	32	68
French	44	56	36	64
Geography	58	43	50	50
Biology	38	62	29	71
Business	48	52	44	56
Home Economics	17	83	8	92
History	96	4	52	48
Art	46	54	33	67

Source: State Examinations Commission

Females outnumber and outperform males at both levels for almost all subjects as outlined in Table 4.4. The table shows the percentage of males and females achieving A, B or C grades at higher and ordinary level for the top nine subject preferences. Males obtained higher grades than females in one of the selected subjects - ordinary level history – a subject which males dominate at ordinary level. Males, however, do outperform females in traditionally male dominated subjects, such as engineering and technical drawing at higher and ordinary level.

Table 4.4. Gender Differences in Achievements at Higher and Ordinary Level in the Leaving Certificate, 2005

Subject	Ordinary Level			Higher Level		
	Female A,B,C (%)	Male A,B,C (%)	% ± Difference	Female A,B,C (%)	Male A,B,C (%)	% ± Difference
Mathematics	13,848 (70)	10,618 (62)	-7.7	3,806 (79)	3,872 (77)	-2.7
English	7.025 (83)	7,771 (72)	-11.0	14,760 (79)	9840 (72)	-7.7
Irish	11,189 (81)	9,854 (69)	-11.0	8,174 (84)	3,700 (80)	-3.9
French	6,182 (69)	4,531 (64)	-4.9	7,021 (75)	3,516 (67)	-7.8
Geography	2,141 (71)	2,860 (70)	-1.0	8,051 (77)	7,337 (70)	-6.8
Biology	2,699 (55)	1,504 (51)	-4.2	8,906 (72)	3,529 (69)	-3.0
Business	2,732 (74)	2,460 (72)	-1.8	5,371 (71)	3,912 (67)	-4.2
Home Economics	2,627 (67)	390 (49)	-17.9	6,883 (77)	502 (65)	-12.8
History	919 (64)	1,720 (70)	5.9	2,190 (72)	2,203 (66)	-5.5
Art	1,069 (76)	821 (69)	-7.2	4,278 (84)	1,828 (72)	-11.2

Source: State Examinations Commission

English, mathematics and scientific literacy are fundamental to the effective functioning of a knowledge based society. These skills form part of a broader skill set that assists young people in further education and in obtaining employment. Achievement in these subjects is of particular importance in relation to course choice and entry at third level. Entry to technical courses and a number of health related courses is dependent on good performance in mathematics and science subjects.

The numbers sitting ordinary level English, mathematics, physics and biology have declined from 2001 to 2005. The percentage of students achieving grades D or above was highest for those sitting ordinary level English and physics, at 97% and 89% respectively, in 2005. With the exception of ordinary level chemistry the proportion of candidates achieving grades D or above in these 5 subjects has increased from 2001. The percentage of students achieving grades E or below for each subject at ordinary level is greater than that at higher level in 2005. With 18%, biology had the highest percentage of students achieving grades E or below at ordinary level in 2005. This is down from 23% in 2001.

The numbers sitting higher level English, chemistry and biology has increased over the period 2001 to 2005. Higher level physics and mathematics sits have declined slightly in the same period. In 2005, the percentage of students achieving grades D or higher is highest for those sitting higher level English and mathematics, at 98% and 96% respectively. With the exception of higher level English and mathematics the proportion of candidates achieving grades D or above in these subjects has increased from 2001. The percentage of students achieving grades E or below is highest for those sitting higher level physics and chemistry, at 9% and 7% respectively.

Table 4.5. Students Who Achieved Grades A, B, C, D for Higher and Ordinary Level English, Mathematics and Sciences

Subject	Grades A,B,C,D - Ordinary Level	
	2001 (%)	2005 (%)
English	20,910 (95%)	18,642 (97%)
Mathematics	33,364 (83%)	32,355 (88%)
Physics	2.398 (87%)	3,159 (89%)
Chemistry	1,022 (90%)	1,173 (88%)
Biology	7,339 (77%)	6,429 (82%)
	Grades A,B,C,D - Higher Level	
English	30,905 (99%)	31,768 (98%)
Mathematics	9,531 (96%)	9,422 (96%)
Physics	5,058 (90%)	5,023 (91%)
Chemistry	4,821 (93%)	5,623 (93%)
Biology	13,332 (91%)	16,406 (94%)

Source: State Examinations Commission

4.2.2. The Leaving Certificate Applied Programme

The Leaving Certificate Applied Programme (LCAP) was introduced in 1995. It was developed because of concerns that the Established Leaving Certificate Programme did not meet the needs of all students. It is a distinct, self-contained two-year programme aimed at preparing students for adult and working life.

The programme consists of a range of courses each designed on a modular basis. The number of modules depends on the course. Each year of the two-year programme is divided into two sessions, September to January and February to June. A module within a given course is usually completed within one session. Over the two-year duration of the programme, participants complete 44 modules i.e. 11 modules per session. Candidates are required to take final examinations in the following subjects:

- English and Communications
- Mathematical Applications
- Social Education
- Gaeilge Chumarsaideach
- Modern European Language i.e. French, German, Spanish or Italian
- 2 Subjects from the Vocational specialisation e.g. Agriculture/Horticulture, Childcare/Community Care, Engineering, Technology, Hair and Beauty

The number of candidates sitting the Leaving Certificate Applied from 2002 – 2005 is outlined in Figure 4.3. The number of students sitting the exam in 2005 was 3,353.

The number of candidates increased from 3,026 in 2002 to 3,520 in 2004 and decreased to 3,353 in 2005. However, as a proportion of the total number of Leaving Certificate candidates, it has increased in popularity from 5.2% in 2002 to 5.8% in 2005. There were approximately an equal number of males and females sitting the exam in 2004 at 49% and 51% respectively.

Figure 4.3. Number of Candidates Sitting the Leaving Certificate Applied, 2002 – 2005

Source: State Examinations Commission

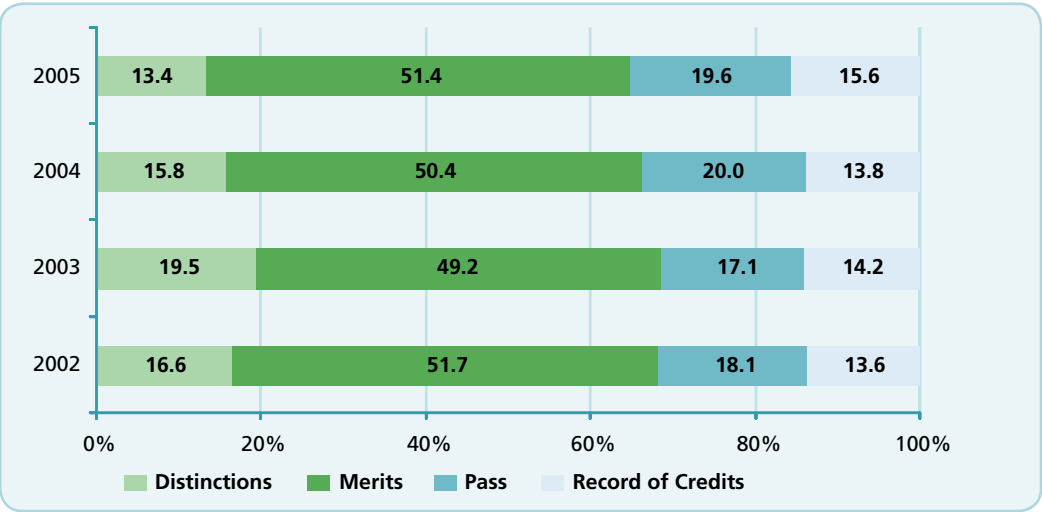
The LCA certificate is awarded at 3 levels.

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

Candidates who acquire less than 120 credits receive a Record of Credits. This also applies to those who leave before the end of the programme.

The number of people receiving different levels in the LCA from 2002 to 2005 is outlined in Figure 4.4. The percentage of those receiving distinctions and merits has decreased from 2,065 (68.2%) in 2002 to 2,175 (64.8%) in 2005.

Figure 4.4 Leaving Certificate Applied Results, 2002 – 2005



Source: The State Examination Commission

Leaving Certificate Applied students are not qualified to apply directly to third-level colleges. However, they may use the LCA to proceed to higher education through Post Leaving Certificate courses or other further education courses. The LCA is acceptable for direct entry to apprenticeships and courses offered by Fáilte Ireland.

4.3. The Points System

The points system is the predominant method of admitting students to universities, institutes of technology, teacher training and other institutions. To gain entry to higher education applicants must achieve the minimum Leaving Certificate point requirement for their choices of courses. The points allocated to each Leaving Certificate grade are outlined in Table 4.7. The points required for each course vary depending on the demand for the course each year. Points are calculated using best achievement in 6 subjects. The maximum number of points achievable by a Leaving Certificate candidate based on their 6 best subjects is 600 points.

Table 4.7 Leaving Certificate Grade Points

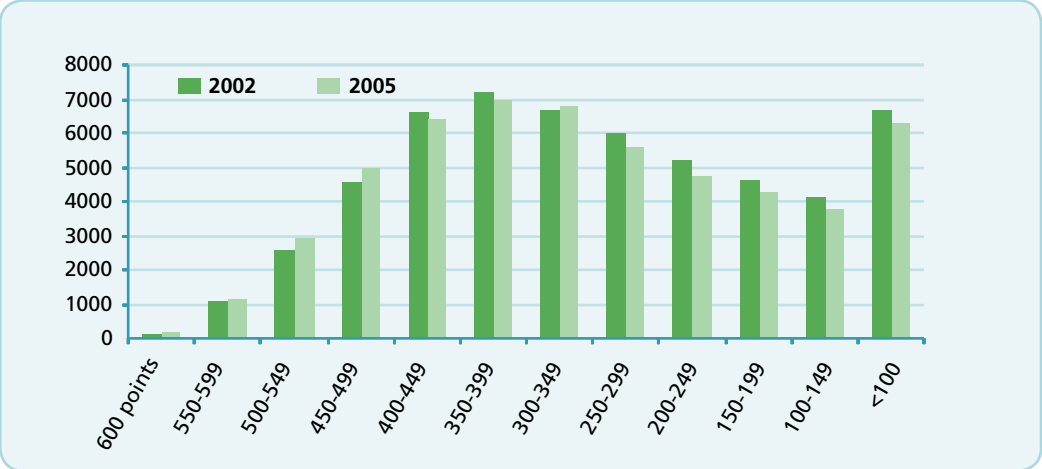
Grade	A1	A2	B1	B2	B3	C1	C2	C3	D1	D2	D3
Higher	100	90	85	80	75	70	65	60	55	50	45
Ordinary	60	50	45	40	35	30	25	20	15	10	5

Source: CAO

Figure 4.5 compares points achieved by Leaving Certificate candidates in 2002 and 2005.

The graph shows that the number of students achieving 450 – 600 points has increased from 8,277 (15% of the total) to 9,181 (17%) over the period 2002-2005. The number of candidates receiving the lower point range, 100 – 299 (exaggerated on the scale by the results of external candidates who may only sit one subject) has decreased from 26,640 in 2002 to 24,755 in 2005.

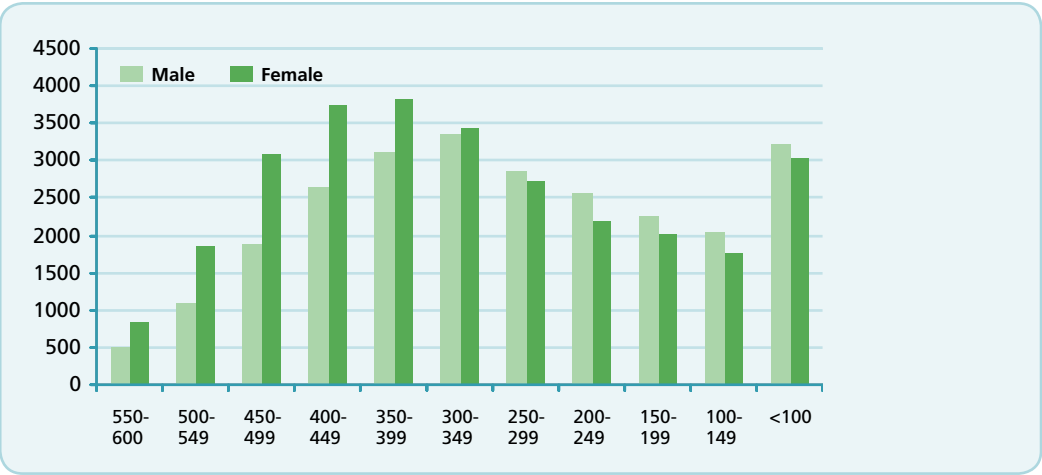
Figure 4.5 Points Achieved by Leaving Certificate Candidates Who Applied Through the CAO, 2002 and 2005



Source: Central Applications Office

There are significant differences in the points achieved by female and male candidates. Figure 4.6 shows the gender distribution for points received in the Leaving Certificate in 2005.

Figure 4.6 Leaving Certificate Points 2005 by Gender



Source: Central Applications Office

Females outnumber males in the points range 300-600, while males dominate the lower part of the point scale. Females constitute 62% of those with 550+ points, 62% of those with 450+ points and 60% of all those with 350+ points.

4.4. Post Leaving Certificate Programme

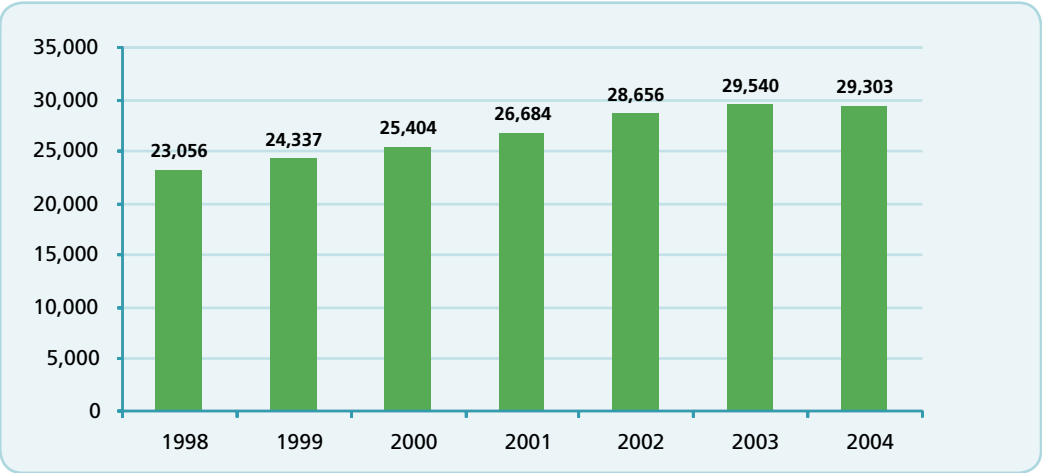
The Post Leaving Certificate Programme (PLC) comprises full-time one and two year (and some three and four year) courses of integrated education, training and work experience provided in schools and colleges outside the third level sector. The courses are designed to prepare participants for employment or further education/training, and develop the skills needed for specific occupations. The majority of courses are placed at level 5 on the National Framework of Qualifications. There are a limited number of courses which are placed at level 6 on the framework.

All PLC programmes follow an agreed format which has these components:

- General Education - the core skills needed for all types of employment such as literacy, numeracy, communications, new technology, decision making etc
- Technical Knowledge - the skills needed for particular occupational groups
- Work Experience - preparation for work and experience.

Figure 4.7 shows the total number of participants on PLC courses from 1998 to 2004. In 2004, 29,303 students were taking PLC courses. This is an increase of 27% on 2001. The majority (72% in 2004) of participates were female.

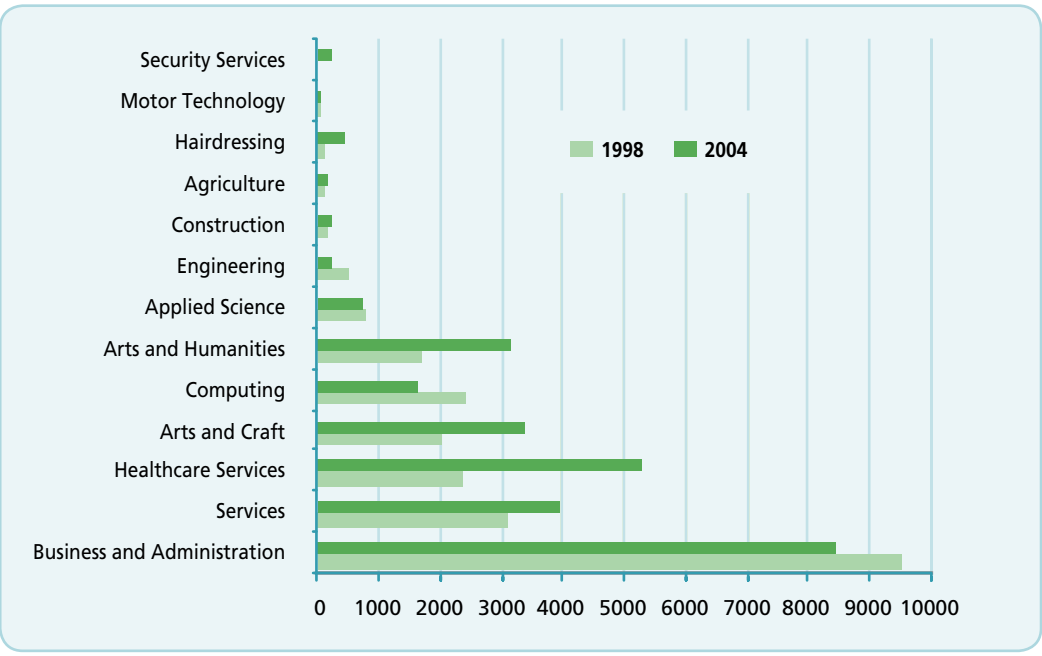
Figure 4.7 Number of Post Leaving Certificate Participants, 1998 -2004



Source: Department of Education and Science

Business and administration courses including secretarial, marketing and e-business are the most popular PLC courses (Figure 4.8). They comprise 41% (9,508) of all participants in 1998 and 28% (8,452) in 2004. Healthcare services which include courses such as childcare, community care and nursing studies represent the second most popular group of courses. In 1998, they represented 11% (2,373) of participants compared to 18% (5,333) in 2004.

Figure 4.8 Total Enrolments By Discipline on Post Leaving Certificate Courses 1998 and 2004



Source: Department of Education and Science

PLC courses are increasingly used as an alternative route to higher level education. Table 4.8 shows the numbers of applicants with PLC qualifications and the number of those who accepted places in 2005 in higher education. In 2005, 1,432 holders of PLC qualifications applied to the Central Applications Office (CAO) at level 7/6 representing 3.2% of total applications at this level; 744 accepted places representing 5.6% of the total acceptances. Similarly, 373 holders of PLC qualifications applied at level 8 representing 0.6% of total applications at this level; 212 accepted places, representing 0.9% of total acceptances.

Table 4.8 PLC and Total Applicants and Acceptors to CAO in 2005

Grade	Level 7/6	Total Level 7/6	Level 8	Total Level 8
Applicants	1432	44,605	373	45,307
Acceptances	744	13,191	212	24,984

Source: CAO

Key Points Level 4 and 5

- In 2005, 57,020 candidates sat the Leaving Certificate (all programmes); a decline of 2.6% since 2002
- It is estimated that of all students entering second level education, 18% will not sit the Leaving Certificate exam; in particular, male retention rate is low by international standards
- Females are outnumbering males in participation in Leaving Certificate subjects (established and vocational) at higher level and they are also obtaining higher grades than males
- Although declining, the percentage of students achieving grades E or below for ordinary level mathematics remains high (12% in 2005)
- Females outnumber males at the higher end of the Leaving Certificate point scale, while males outnumber females at the lower part
- In 2005, there was over 29,000 students taking Post Leaving Certificate courses
- Approximately 900 PLC qualified persons entering third level education in 2005

Chapter 5

5. Levels 6/7

5.1. Introduction

This chapter outlines the supply of skills for selected courses placed at levels 6 and 7 on the NFQ. This includes standard based apprenticeships and higher education programmes placed at levels 7/6. The data does not allow distinction between the two levels. Therefore, this report combines levels 6 and 7. Descriptions of the learning outcomes required from these levels are described below.

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.

This chapter first examines the standard based apprenticeship system. Second, the third level sector is analysed moving from CAO acceptances to graduates and first destination of graduates. Finally, we provide some international comparisons. (Post Leaving Certificate qualifications placed at level 6 were included in the previous chapter.)

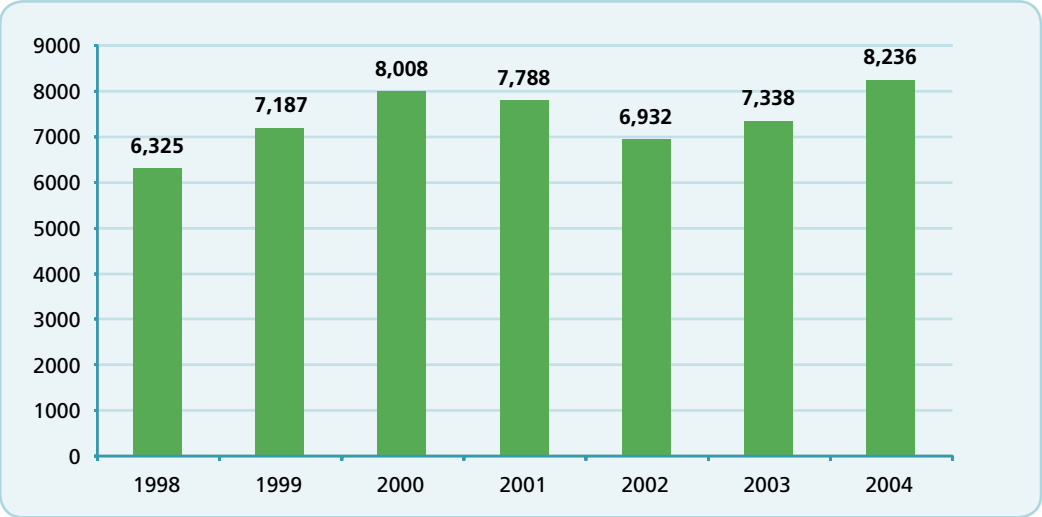
5.2. The Standard Based Apprenticeship

The standard based (designated) apprenticeship system was introduced in 1991 and fully implemented in 1993. Apprentices are required to follow a specific course of training and undergo a series of assessments to confirm that they have reached the required standard. The apprenticeship has seven phases, three off-the-job and four on-the-job. FÁS and the Department of Education through the Institutes of Technology have responsibility for providing the off-the-job training. There are currently 25 apprenticeship trades which lie in the broad categories: construction, mechanics, electrics, printing and engineering. The present duration of an apprenticeship is four years leading to a National Craft Certificate awarded by FETAC, which has been placed at level 6 on the National Framework of Qualifications. There are, however, some level 7 learning outcomes associated with apprenticeship. The placement does not preclude the possibility of existing National Craft Certificate programmes being validated at level 7 in the future.

5.2.1 Apprenticeship New Registrations

The number of new registrations to all apprenticeship trades from 1998 to 2004 is outlined in Figure 5.1. In 2004, 8,236 new registrations were recorded.

Figure 5.1 Apprenticeship New Registrations, 1998 – 2004

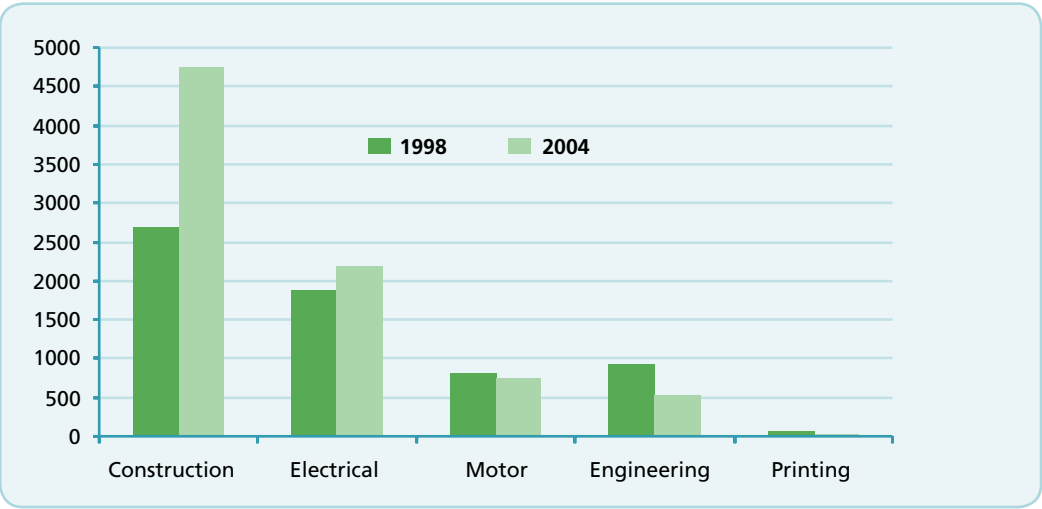


Source: FÁS

Since 1996, the number of new apprentices has doubled. The number of registrations has increased from 6,325 in 1998 to 8,236 in 2004, representing a 32% increase. New registrations reached almost 6,000 by September 2005. Males represent 99.5% of new registrations in all years. The work–and-study format of the apprenticeship programmes now attracts in excess of 20% of the male 16-18 age cohort. Campaigns to attract females into the trades have been unsuccessful.

Changes in the pattern of new registrations to the broad trades in 1998 and 2004 are outlined in Figure 5.2.

Figure 5.2 Apprenticeship New Registrations By Broad Trade Group 1998 – 2004



Source: FÁS

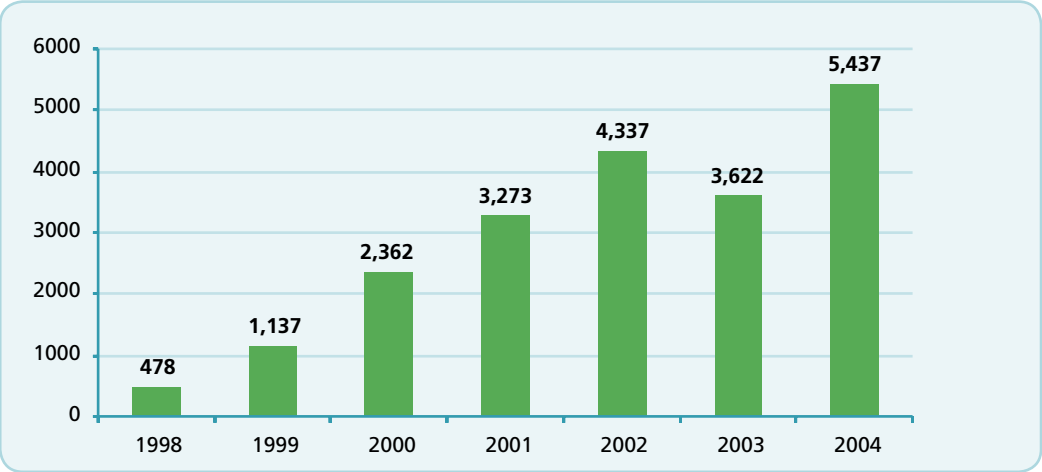
The construction group of trades commanded the greatest number of new registrations in 1998 and 2004. Within this group carpentry and joinery has the largest number of new registrations with registrations almost doubling over the 6 year period: from 1,180 in 1998 to 2,089 in 2004. Electricians are the second largest group of apprentices, with new registrations increasing from 1,660 in 1998 to 2,029 in 2004. New registrations to the printing trades have declined significantly over the time period, due mainly to increased automation of the printing process.

In 2004, 65% of all new registrations were in three trades – carpentry/joinery, plumbing and electrician - all heavily influenced by the boom in the construction industry over the time period. This percentage has increased from 54% in 1998.

5.2.2. National Craft Certificate Awards

The National Craft Certificates are awarded by FETAC. The number of National Craft Certificates awarded in all apprenticeship trades from 1998 to 2004 is outlined in Figure 5.3. The graph shows a significant increase in the number of National Craft Certificates issued - from 478 in 1998 to 5,437 in 2004.

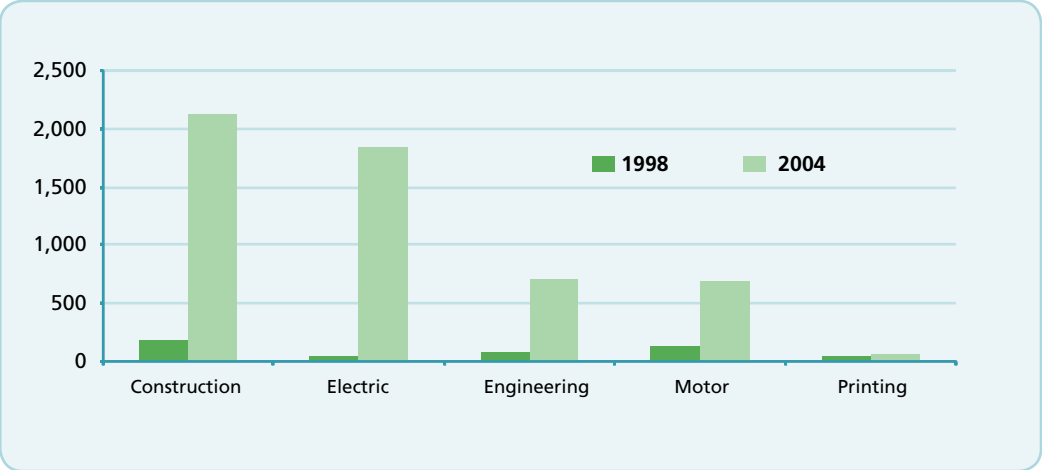
Figure 5.3 National Craft Certificate Awards, 1998 - 2004



Source: FÁS

Figure 5.4 outlines the number of certificates awarded by broad trade from 1998 to 2004.

Figure 5.4 National Craft Certificate Awards by Broad Trade Group 1998 - 2004



Source: FÁS

The construction group of trades has the greatest output of apprentices with over 2,000 graduates in 2004. As with new registrations, awards granted are dominated by three trades - carpentry/joinery, plumbing and electricians - comprising 57% of all National Craft Certificates awarded in 2004.

5.3. Higher Education – Levels 7/6

This section focuses on higher education awards placed at levels 6 and 7 on the National Framework of Qualifications. These awards include higher certificate and ordinary degree. Most level 7/6 activity occurs in the Institute of Technology and Private College sectors.

We first examine the pattern and trends in CAO acceptances. Second, the pattern in the number of awards granted at these levels is examined. Third, the first destination of Irish graduates is analysed. Finally, we make some international comparisons.

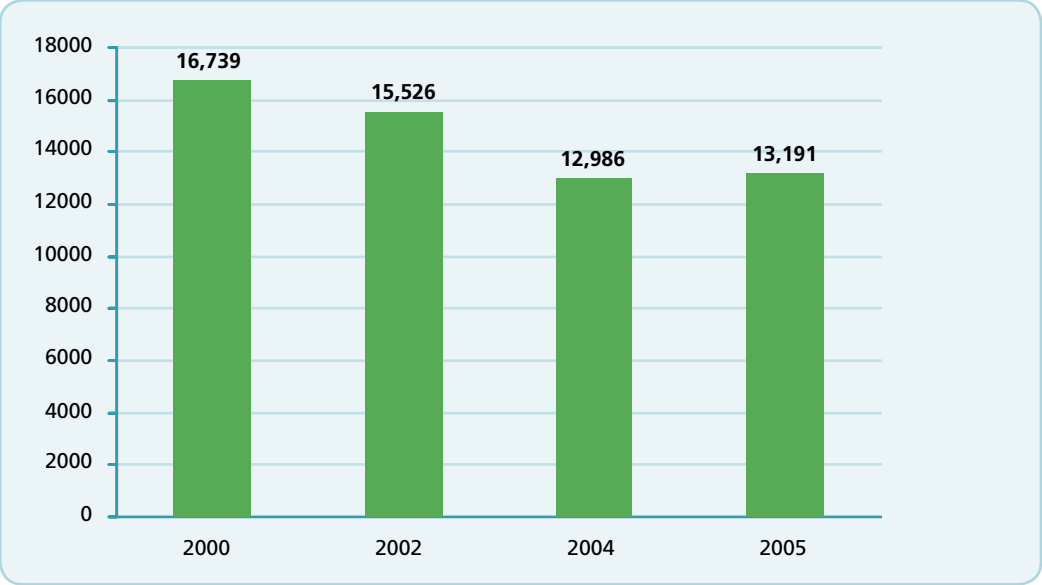
5.3.1. CAO Acceptances

Most entrants to levels 7/6 in higher education apply for their desired courses through the CAO. Foreign and some mature students can bypass the CAO and apply directly to the education provider. Those who apply through the CAO can apply to two lists: level 7/6 list and the level 8 list. An applicant may receive an offer of a level 7/6 and a level 8 course; however, only one course can be accepted.

CAO course acceptances are not the same as student enrolments. Some acceptors do not enrol and some seek deferment. Nonetheless, they are a good indication of 1st year enrolment trends and inflows into programmes at these levels.

Figure 5.5 shows the total number of CAO level 7/6 acceptances from 2000 to 2005. In 2005, 13,191 people accepted a place on a level 7/6 course. This represents a third of all CAO acceptances to higher level education in 2005. Acceptances declined from a peak of 16,739 in 2000 to 13,191 in 2005. Total acceptances have, however, increased slightly from 12,986 in 2004.

Figure 5.5 CAO Level 7/6 Total Acceptances



Source: Central Applications Office

The discipline choice acceptances are examined in Table 5.1.

Table 5.1 CAO Level 7/6 Total Acceptances by Discipline, 2000 – 2005

Discipline	Acceptances 2000	Acceptances 2004	Acceptances 2005
Engineering	2,420 (14.5%)	1,684 (12.9%)	1,599 (12.1%)
Construction	2,128 (12.7%)	1,995 (15.3%)	2,136 (16.2%)
Computing	2,288 (13.7%)	985 (7.5%)	833 (6.3%)
Science	1,226 (7.3%)	661 (5.4%)	808 (6.1%)
Total Technology	8,062 (48.2%)	5,325 (41.1%)	5,376 (40.8%)
Health	253 (1.5%)	338 (2.0%)	407 (3.1%)
Agriculture and Veterinary	277 (1.7%)	398 (2.9%)	363 (2.7%)
Total Health, Vet & Agriculture	530 (3.2%)	736 (4.9%)	770 (5.8%)
Arts and Humanities	1,439 (8.6%)	1,166 (9.8%)	1,229 (9.3%)
Business and Law	5,226 (31.2%)	4,083 (31.2%)	3,755 (28.5%)
Education	0 (0%)	0 (0%)	41 (0.3%)
Social Services	359 (2.1%)	647 (4.7%)	855 (6.5%)
Services	1,123 (6.7%)	1,029 (8.4%)	1,165 (8.8%)
Total Other	8,147 (48.7%)	6,925 (53.9%)	7,045 (53.4%)
Total All	16,739 (100%)	12,986 (100%)	13,191 (100%)

Source: Central Applications Office

The acceptance figures reveal the following:

- Of the total number of acceptances at levels 7/6 in 2005, 41% of applicants chose technology related disciplines
- The number of acceptances to technology disciplines declined from 8,062 in 2000 to 5,376 in 2005 - a 33% decline
- Acceptances to computing declined by 63% since 2000 from 2,288 to 833 in 2005
- Acceptances to science increased significantly in numbers from 661 in 2004 to 808 in 2005; however, this is down from 1,226 acceptances in 2000
- Acceptances to healthcare courses increased from 338 in 2004 to 407 in 2005; overall health, vet and agriculture acceptances have increased in number from 736 in 2004 to 770 in 2005
- Other total acceptances have declined from 8,147 in 2000 to 7,045 in 2005 but increased from 6,925 in 2004
- Acceptances to business and law declined significantly from 5,226 in 2000 to 3,755 in 2005 and from 4,083 in 2004
- Acceptances to social studies increased significantly from 359 in 2000 to 855 in 2005; this is due to the introduction of a number of new courses over the time period

Discipline choice varies strongly by gender. Table 5.2 shows the percentage male/female acceptors by discipline in 2005.

Table 5.2 Male/Female Comparison: Level 7/6 Acceptors, 2005

Discipline	% Male	%Female
Engineering	95%	5%
Construction	84%	16%
Computing	79%	21%
Science	44%	56%
Total Technology	81%	19%
Agriculture and Veterinary	77%	23%
Other Healthcare	26%	74%
Total Healthcare & Agriculture	50%	50%
Arts and Humanities	42%	58%
Education	0%	100%
Business and Law	40%	60%
Social Services	9%	91%
Services	43%	57%
Total Other	37%	63%
Total	55%	45%

Source: CAO

Overall, males form the majority of level 7/6 acceptors in 2005 with 55% of acceptances. Four times as many males accepted technology courses than females in 2005 at level 7/6. In 2005, 95% of acceptors to engineering were male. Females dominated education, and social services and other healthcare areas. Science, business and law and arts and humanities show more gender balanced acceptances.

Mature Acceptors

Mature acceptors are defined as 23+ years of age. Table 5.3 shows that CAO mature acceptors have been increasing in recent years. These figures are derived from the total number of CAO acceptances at level 7/6. In 2004, 8% of all acceptors at level 7/6 were 23+. This percentage increased from 4% in 2000.

Table 5.3 Level 7/6 Mature 23+ CAO Acceptors 2000 – 2004

	2000 (%)	2002 (%)	2004 (%)
Level 6 / 7	4	6	8

Source: CAO

An analysis of mature acceptors by discipline in 2002 showed that mature applicants to institutes of technology tend to be in technical disciplines. In 2002, 48% of level 7/6 acceptances were in science, engineering, construction and computing courses.

5.3.2. Graduate Output

Following successful completion of a level 7/6 course, students are awarded one of the following: higher certificate, university certificate, ordinary degree or university diploma. In terms of labour supply, graduate output at level 7 / 6 indicates the potential annual pool of technicians and higher technicians.

In 2003, approximately 17,400 students graduated from higher education programmes with a level 7/6 award. The most up to date graduate data available from the institutes of technology is 2004 awards. However, university graduate data is only available for 2003. For this reason we have separated graduate output from universities and institutes of technology. It is also worth noting that due to the inclusion of part-time graduates and those emerging though the 2+1 route in the graduate output there is no direct comparability between the output and acceptances.

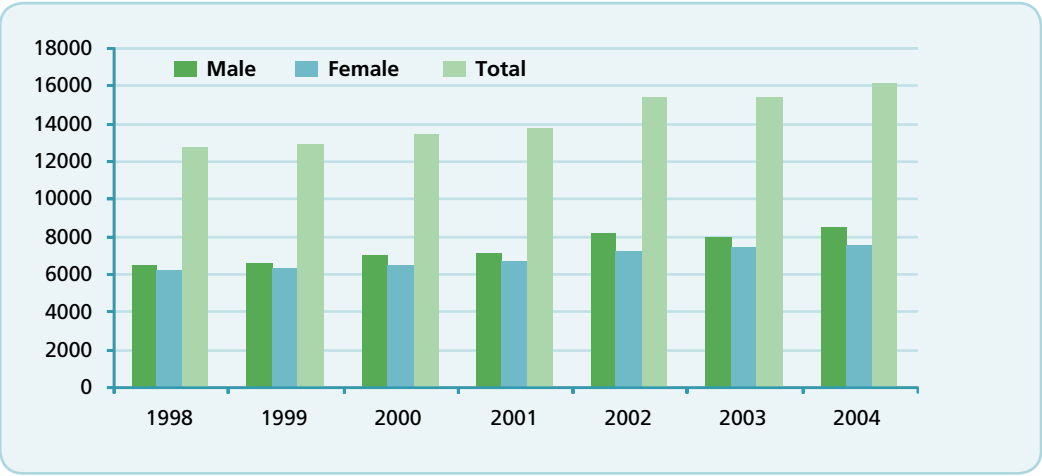
5.3.2.1. Institute of Technology Sector

Institutes of technology are the main education provider of level 7/6 programmes. Graduate data for institutes of technology is supplied by HETAC and those Institutes with delegated authority.

Recent trends in the graduate output from institutes of technology level 7/6 courses is outlined in Figure 5.6. The number of graduates has been continuously increasing since 1998. In 2004, approximately 16,000 students graduated. This was an increase of 26% on 1998 figure. Given that level 7/6 acceptances are declining, we can expect a future decline in the graduate output at these levels.

Male graduates outnumbered female graduates every year over the time period however, there is no major gender imbalance in the overall graduate output.

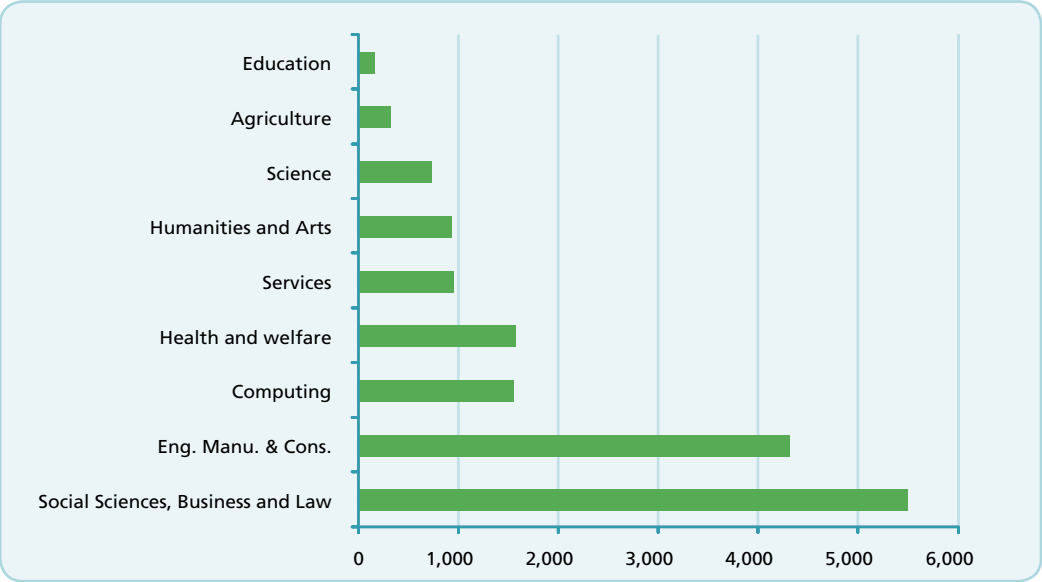
Figure 5.6 Level 7/6 Output by Gender from Institutes of Technology, 1998 – 2004



Source: HETAC, Institutes of Technology

Figure 5.7 shows the graduate output from institutes of technology by discipline in 2004. In 2004, the greatest number of awards was issued for social sciences, business and law. This is followed by engineering, manufacturing and construction. The distribution of graduates by discipline has not changed significantly since 1998.

Figure 5.7 Discipline Breakdown of Level 7/6 Output from Institutes of Technology in 2004



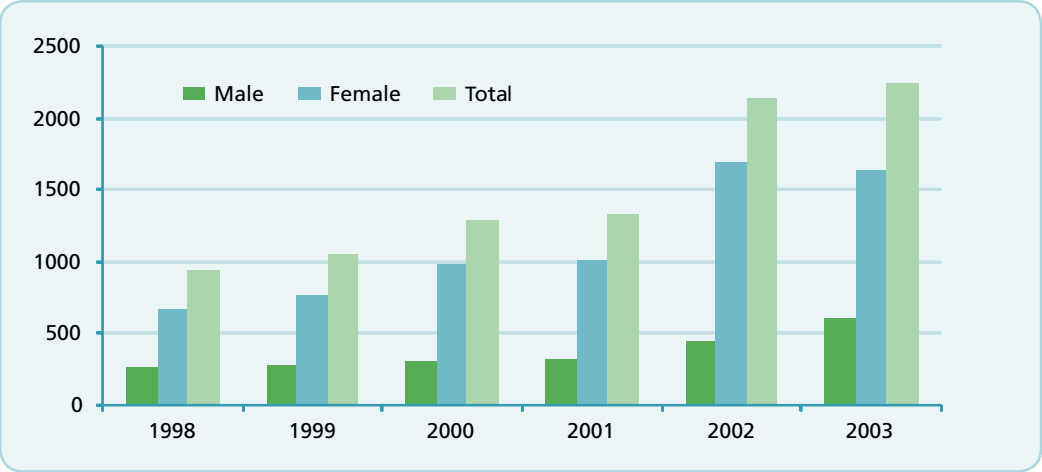
Source: HETAC, Institutes of Technology

At 90%, almost all engineering, manufacturing and construction graduates are male. In contrast, health and welfare graduates are almost 90% female.

5.3.2.2 University Sector

Universities are not major players in the provision of level 7/6 programmes. However, the graduate output more than doubled since 1998 due to an increase in the number of courses offered in the time period. In 2003, just over 2,200 students graduated (Figure 5.8). Graduates are predominantly female, holding 61% of awards in 2003.

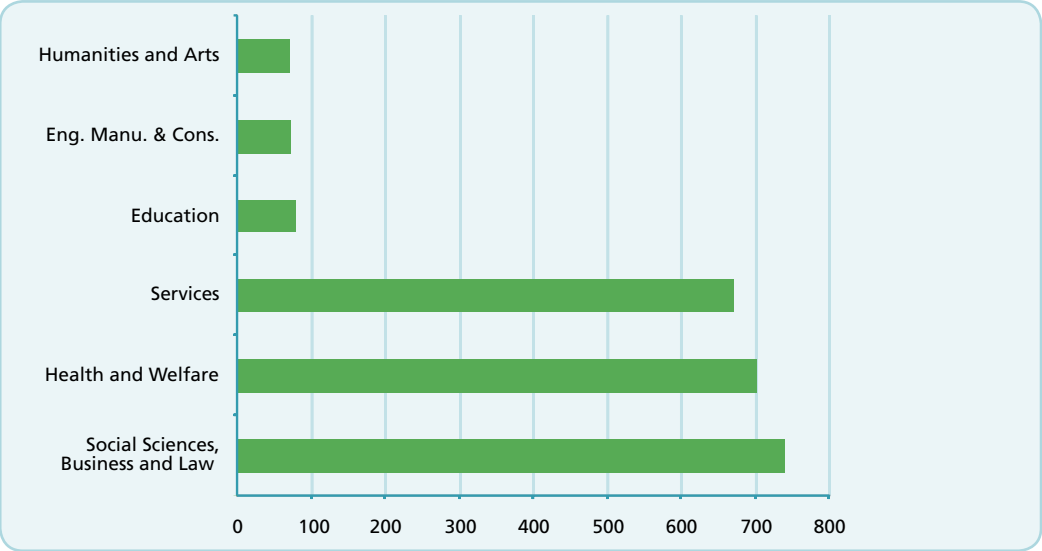
Figure 5.8 Level 7/6 Output by Gender from Universities, 1998 – 2003



Source: HEA

Figure 5.9 examines the discipline mix of the graduate output from universities at level 7/6 in 2003. More than 90% of the graduate output from universities is concentrated in three disciplines: health and welfare; social sciences, business and law; and services.

Figure 5.9 Discipline Breakdown of Level 7/6 Output from Universities, 2003



Source: HEA

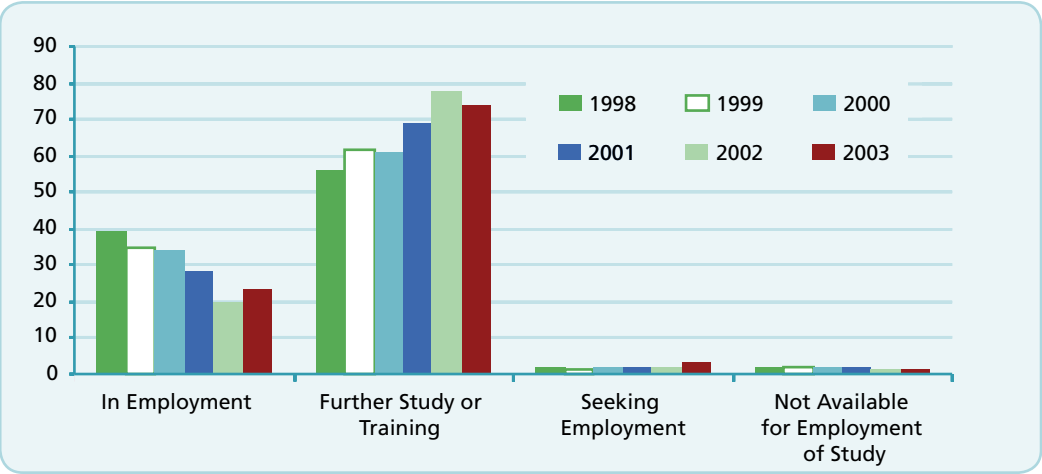
5.3.3. First Destination of Level 7/6 Award Recipients from Higher Education

Following completion of level 7/6 courses, graduates have a number of options available: they can enter the work force as technicians or higher technicians; they can continue to further study or seek 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. 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 5.10 examines the first destination of level 7/6 graduates for the period 1998 - 2003. A significant majority (74%) of level 7/6 graduates progress to further study. This indicates a high incidence of education progression through the 2+1+1 route: progression from a 2-year level 6 to 3-year level 7 to 4-year level 8. The number of respondents continuing to further study has increased from 56% in 1998. To mirror this, there has been a decrease in the number of respondents in employment from 39% in 1998 to 23% in 2003.

Figure 5.10 First Destination of Level 7/6 Award Recipients, 1998 -2003 (% of graduates)



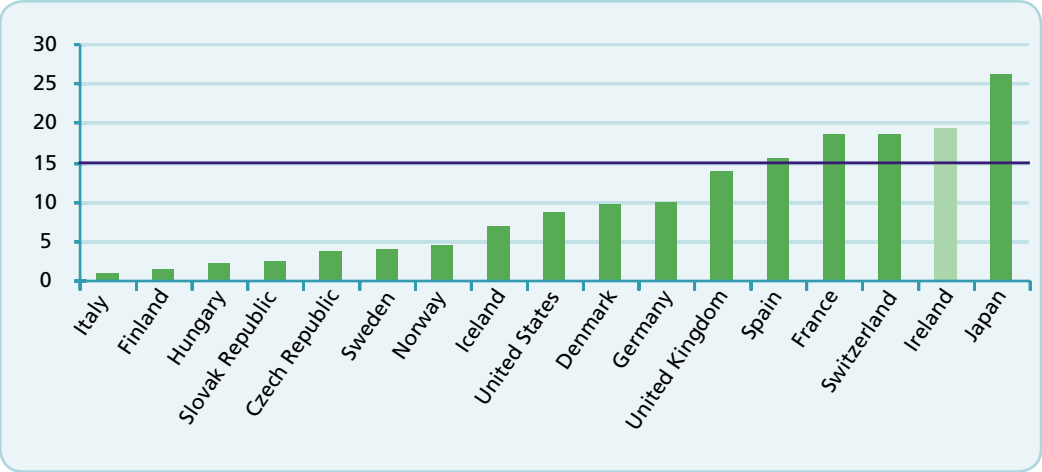
Source: First Destination of Award Recipients 2003, Higher Education Authority

5.3.4. International Comparison

In this section we provide some indication of how Ireland compares to other developed countries in terms of graduate output at level 7/6. For this purpose, we use the results of the OECD survey of education published in 2005. Irish level 7/6 education corresponds to the OECD Tertiary Type B education defined as shorter (2-3 years) vocationally orientated 3rd level courses.

Figure 5.11 outlines the percentage of Tertiary Type B graduates to the population at typical age of graduation for selected OECD countries in 2003. The mean for selected OECD countries is just below 10%. With 19.3% of Tertiary Type B graduates to the population at typical age of graduation, Ireland is well above the mean of the group. This suggests that Ireland produces higher than OECD average graduate output at level 7/6.

Figure 5.11 Percentage of Tertiary Type B Graduates to the Population at Typical Age of Graduation 2003 for Selected OECD Countries



Source: Education at a Glance 2005, OECD.

Key Points Level 6 and 7

- 8,300 persons entered FÁS apprenticeships in 2004; this is an increase of 32% from 1998
- 57% of new apprentices are in construction related trades
- Just over 13,000 persons accepted level 7 / 6 courses in 2005
- Computing acceptances declines by 63% over the period 2000 - 2005, from 2,288 to 833
- Currently, an estimated 18,000 full and part-time students graduate at Level 7 / 6
- Output is expected to decline in the coming years
- A significant majority of level 7 / 6 graduates progress to further study

Chapter 6

6. Level 8

6.1. Introduction

This chapter outlines 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 required from those receiving awards at these levels is outlined below.

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.

This section first examines CAO acceptances for level 8 programmes. Second, we examine graduate output at level 8 from institutes of technology and universities. Third, we examine the first destination of level 8 award recipients. Finally, we take an international perspective of level 8 graduates.

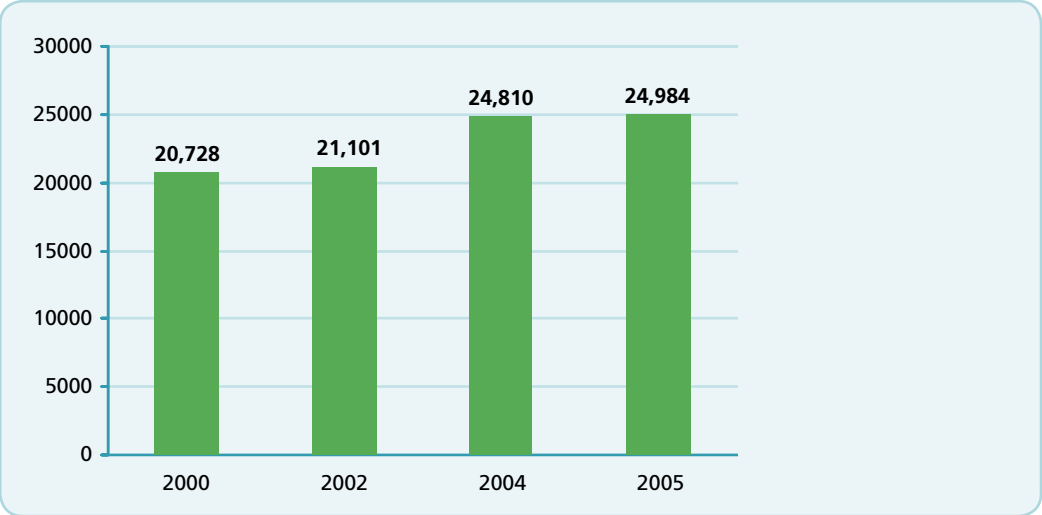
6.2. CAO Acceptances

The majority of 1st year entrants to level 8 courses have applied for their course of choice and accepted this course if offered through the Central Applications Office. Applicants may receive an offer of a level 7/6 and a level 8 course; however, only one offer can be accepted.

CAO acceptances are not the same as student enrolments. Some acceptors do not enrol and some may seek deferment. They do, however, give a good indication of annual 1st year enrolments.

The total number of level 8 acceptances from 2000 – 2005 is outlined in Figure 6.1. In 2005, 24,984 people accepted an offer of a level 8 course. This represents two thirds of all CAO acceptances in 2005. Overall in 2005, a record number of acceptances to third level institutions were received. The total number of level 8 acceptances increased from 18,872 in 1998 to 20,728 in 2000 to 24,984 in 2005; an increase of 32% in the time period. Institutes of technology increased their proportion of acceptances from 13.6% of all level 8 acceptances in 2002 to 20% in 2005.

Figure 6.1 CAO Level 8 Total Acceptances



Source: Central Applications Office

The discipline choice is examined in Table 6.1.

Table 6.1 CAO Level 8 Total Acceptances by Discipline, 2000-2005

Discipline	Acceptances 2000	Acceptances 2004	Acceptances 2005
Engineering	1,664 (8.0%)	1,171 (4.7%)	1,206 (4.8%)
Construction	609 (2.9%)	1,031 (4.2%)	1,116 (4.5%)
Computing	1,809 (8.7%)	889 (3.6%)	995 (4.0%)
Science (non healthcare)	2,495 (12.0%)	2,594 (10.5%)	2,665 (10.7%
Total Technology	6,577 (31.7%)	5,685 (23.0%)	5,982 (23.9)
Agriculture and Veterinary	324 (1.6%)	274 (1.1%)	284 (1.1%)
Nursing	0 (0.0%)	1,802 (7.3%)	1,822 (7.3%)
Medicine	330 (1.6%)	308 (1.2%)	306 (1.2%)
Dentistry	66 (0.3%)	68 (0.3%)	63 (0.3%)
Other Healthcare	443 (2.1%)	1,099 (4.4%)	1,175 (4.7%)
Total Health, Vet & Agriculture	1,163 (5.6%)	3,551 (14.3%)	3,650 (14.6%)
Arts and Humanities	6,237 (30.1%)	7,457 (30.1%)	7,359 (29.5%)
Education	1,515 (7.3%)	1,957 (7.9%)	2,083 (8.3%)
Business and Law	4,847 (23.4%)	5,347 (21.5%)	5,269 (21.1%)
Social Services	78 (0.4%)	249 (1.0%)	236 (0.9%)
Services	311 (1.5%)	564 (2.2%)	405 (1.6%)
Total Other	12,988 (62.7%)	15,574 (62.7%)	15,352 (61.4%
Total All	20,728 (100.0%)	24,810 (100.0%)	24,984 (100.0%)

Source: Central Applications Office

The acceptance figures show the following:

- Of the total number of acceptances at level 8 in 2005, 24% of applicants chose technology related disciplines; this compares to 41% at level 7/6
- The number of acceptances to technology disciplines has declined from 6,577 in 2000 to 5,982 in 2005; this number has however, increased slightly from 5,685 in 2004
- Acceptances to construction increased from 609 in 2000 to 1,116 in 2005. Science (non healthcare) acceptances have increased from 2,495 in 2000 to 2,665 in 2005
- Acceptances to engineering declined from 1,664 in 2000 to 1,206 in 2005. The number of engineering acceptances has increased slightly from 1,171 in 2004 to 1,206 in 2005
- Acceptances to computing almost halved from 1,809 in 2000 to 1,130 in 2002 to 995 in 2005; acceptances have increased from 889 in 2004
- Acceptances to health, vet and agriculture increased from 1,163 in 2000 to 3,650 in 2005 due largely to the introduction of nursing degrees in 2003. Acceptances have increased from 3,551 in 2004
- Acceptances to other disciplines increased from 12,988 in 2000 to 15,352 in 2005; acceptances have declined however from 15,574 in 2004; this decline is due largely to a decline in acceptances to business and law and services courses
- Acceptances to education increased from 1,515 in 2000 to 2,083 in 2005

Discipline choice varies strongly with gender. Table 6.2 shows the percentage male/female level 8 acceptors by discipline in 2005.

Table 6.2: Male/Female Comparison: Level 8 Acceptors, 2005

Discipline	% Male	%Female
Engineering	75.7%	24.3%
Construction	76.9%	23.1%
Computing	77.1%	22.9%
Science	44.2%	55.8%
Total Technology	62.2%	37.8%
Agriculture and Veterinary	48.4%	51.6%
Nursing	7.4%	92.6%
Medicine	41.7%	58.3%
Dentistry	31.7%	68.3%
Other Healthcare	23.7%	76.3%
Total Health, Vet & Agriculture	19.2%	80.8%
Arts and Humanities	35.3%	64.7%
Education	24.0%	76.0%
Business and Law	46.2%	53.8%
Social Services	13.1%	86.9%
Services	37.2%	62.8%
Total Other	37.2%	62.8%
Total	40.6%	59.4%

Source: CAO

The overall pattern of male/female level 8 acceptances contrasts with level 7/6 acceptances. Females form the majority at level 8 with 59.4% of acceptances in 2005. The proportion of female acceptances has increased from 55% in 2002 at level 8.

In 2005, males dominate technology with 62.2% of acceptances at level 8. Engineering/ construction and computing acceptances are strongly male dominated. Females dominate education and social services. Over 90% of nursing acceptances are female. Females also accept a greater percentage of disciplines requiring high-points achievement in the Leaving Certificate, such as medicine, dentistry and other healthcare. Disciplines that showed more of a gender balance in acceptances in 2005 are business and law, agriculture and veterinary and science.

Mature Acceptors

In 2004, 8% of all level 8 acceptors were mature in the 23+ age group. This percentage had doubled since 2000 when 4% were mature. These figures are derived from the total number of CAO acceptances at level 8.

Table 6.3 Level 8 Mature 23+ CAO Acceptors 2000 – 2004

	2000 (%)	2002 (%)	2004 (%)
Level 8	4	6	8

Source: CAO

An analysis of level 8 mature CAO acceptors by discipline in 2002 showed a difference between mature acceptors to universities and institutes of technology. Humanities and social areas dominate the mature acceptances to universities. Mature acceptors to institutes of technology are more inclined to accept places on technical courses suggesting that they may contribute to more technical skills supply.

6.3. Graduate Output

Students successfully graduating with a level 8 honours bachelor degree are outlined in this section. In terms of labour supply, graduate output indicates the potential annual supply of professionals.

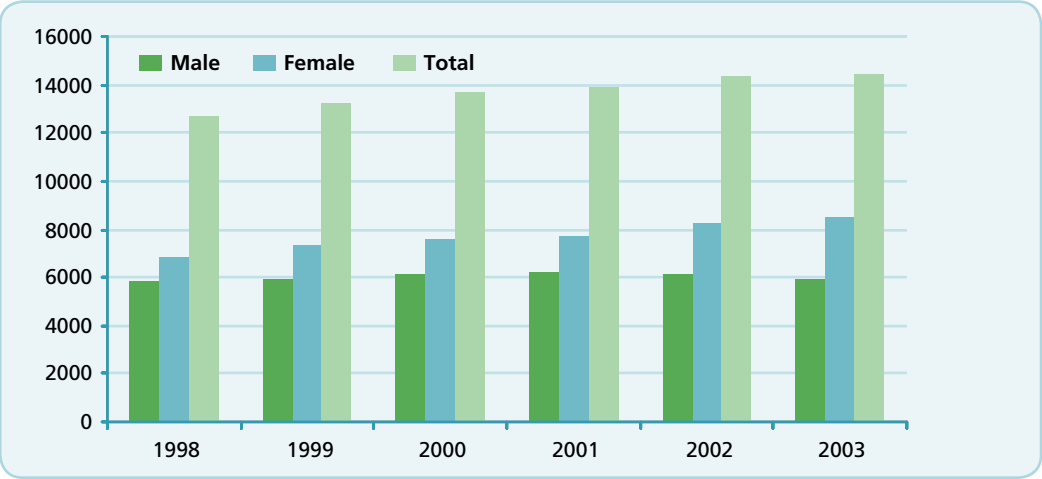
In 2003, approximately 21,000 students graduated from higher education programmes with a level 8 qualification. The most recent data available from the institutes of technology is the 2004 graduates. University graduate data is available for 2003. For this reason the graduate output for the two sectors is presented individually. It is also worth noting that 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 the output and acceptances.

6.3.1. University Sector

Universities are the main education provider of level 8 programmes. Graduate data for the university sector is provided by the HEA.

Recent trends in the level 8 graduate output from universities are outlined in Figure 6.2. In 2003, approximately 14,500 students graduated. The number of graduates has been steadily increasing from approximately 12,700 in 1998 (total of 14%). Females outnumber male graduates every year over the time period. This gender difference is increasing: 53% of graduates were female in 1998 compared to 59% in 2003.

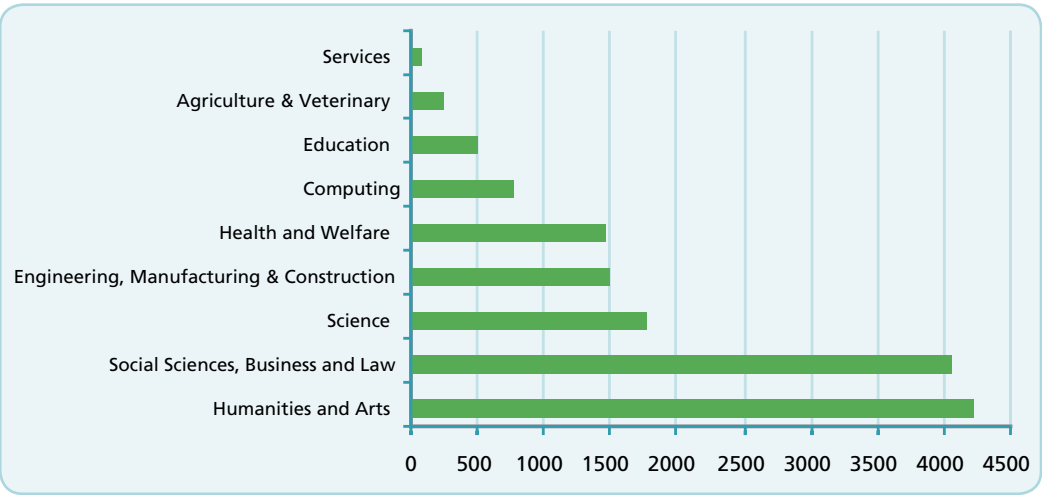
Figure 6.2 Level 8 University Output by Gender, 1998 – 2003



Source: Higher Education Authority

The graduate output by discipline is outlined in Figure 6.3. In 2003, the greatest number of awards was issued for humanities and arts courses, providing approximately 30% of graduates. This is followed closely by business and law, providing approximately 28% of awards in 2003. Health and welfare graduates will increase over the next few years with the first graduate output from the nursing degrees due in 2006. The number of computing graduates is expected to fall off considerably with the decline in enrolments to computing courses currently being experienced.

Figure 6.3 Discipline Breakdown of Level 8 University Output in 2003



Source: Higher Education Authority

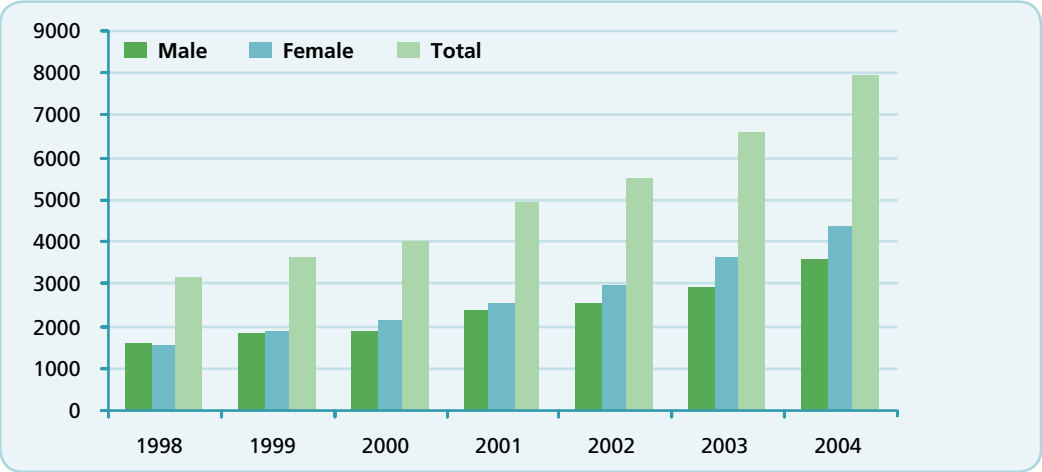
6.3.2. Institute of Technology Sector

Institutes of technology are the second biggest provider of level 8 education in Ireland. Their provision at this level has been increasing dramatically over the last 7 years, as they continue to increase the number of level 8 courses they offer. Graduate data for the institutes of technology is provided by HETAC and those institutes with delegated authority.

The graduate output at level 8 over the period 1998 – 2004 from institutes of technology is outlined in Figure 6.4. In 2004, approximately 8,000 students graduated with level 8 qualifications. This number increased from approximately 3,200 in 1998, representing a 150% increase in graduate output at level 8.

Since 1999 female graduates have been outnumbering male graduates. In 1999, just over 50% of graduates were female however, this had risen to 55% in 2004.

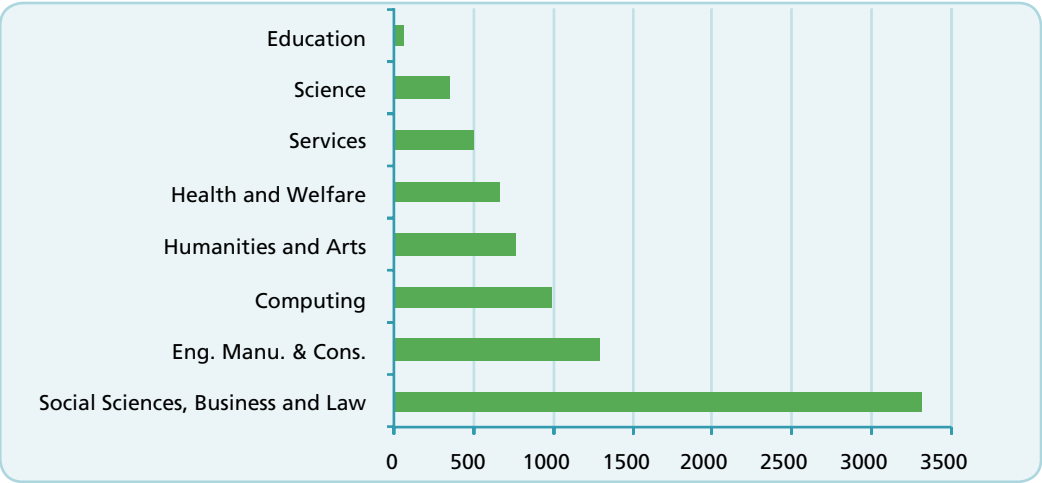
Figure 6.4 Level 8 Institute of Technology Output by Gender, 1998 – 2004



Source: HETAC, institutes of technology

The discipline breakdown of level 8 graduates from institutes of technology in 2004 is outlined in Figure 6.5. Over 40% (3,300) of graduates are from the social sciences, business and law disciplines with 94% of these graduating in business and administration. In 2004, 63% (2,100) of business and administration graduates were female. In 2004, 83% of engineering, manufacturing and construction graduates were males. All disciplines have seen large increases in graduate output since 1998, due largely to the increased number of level 8 courses on offer at institutes of technology.

Figure 6.5 Discipline Breakdown of Level 8 Institute of Technology Output, 2004



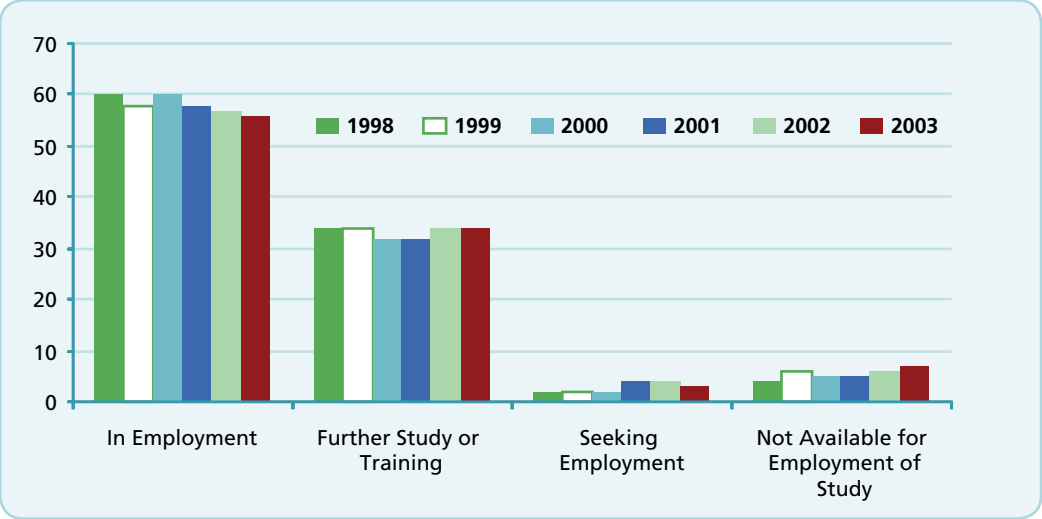
Source: HETAC, institutes of technology

6.3. First Destination of Level 8 Award Recipients of Higher Education

Following completion of level 8 courses, graduates have a number of options available: they can enter the workforce, they can continue to further study or seek employment abroad. To assess the extent to which graduates avail of their options the results of the HEA's First Destination Survey from higher education is outlined in Figure 6.6.

The percentage of graduates in employment has decreased from 60% in 1998 to 56% in 2003. Of those entering the workforce, more now gain employment in Ireland than overseas. The number of graduates continuing to further postgraduate study has remained constant at 34%, with 3% going on to further study abroad. There has been an increase in the number not available for employment or study.

Figure 6.6 First Destination of Primary Degree Award Recipients, 1998 -2003 (% of graduates)



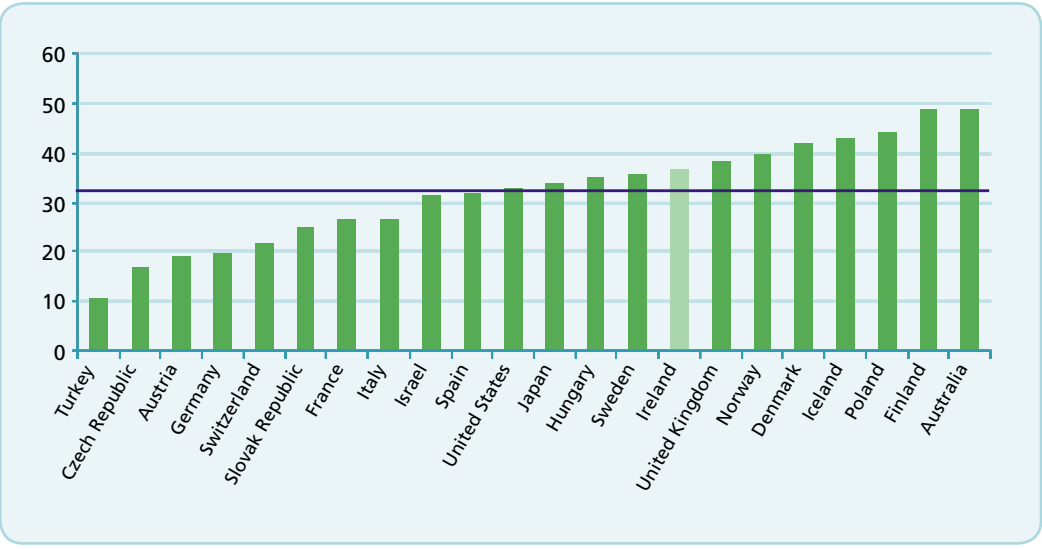
Source: First Destination of Awards Recipients of Higher Education 2003, Higher Education Authority

6.4. International Comparison

This section provides an indication of how Ireland compares to other developed countries in terms of graduate output at level 8. The results of the annual survey of education from the OECD entitled "Education at a Glance, 2005" provide this comparison. Irish level 8 education corresponds to OECD Tertiary Type A education, defined as theoretically based programmes designed to provide qualifications for entry into advanced research programmes and professions with high skill requirements.

Figure 6.9 outlines the percentage of Tertiary Type A graduates from selected OECD countries in 2003. The mean for selected OECD countries is just over 32%. With 36.8% of Tertiary Type A graduates to the population at the typical age of graduation, Ireland is above the mean of the group. Ireland, therefore, produces higher than the OECD average level 8 graduate output.

Figure 6.7 Percentage of Tertiary Type A Graduates to the Population at Typical Age of Graduation 2003



Source: Education at a Glance 2005, OECD.

Key Points Level 8

- Almost 25,000 persons accepted level 8 courses in 2005; an all time record number of acceptances
- There has been a significant shift in student course choice away from computing
- Currently, over 22,000 students graduate at level 8
- Graduate output at level 8 in the institutes of technology has increased by 150% over the period 1998 - 2004, from 3,200 to 8,000
- Graduate output is expected to increase in the coming years
- Ireland exceeds the OECD average in terms of the third level graduate output at level 8

Chapter 7

7. Levels 9 / 10

7.1. Introduction

This chapter outlines the supply of skills from programmes placed at levels 9 and 10. Awards placed at level 9 on the Framework are master degrees and postgraduate diplomas (first stage of masters). Awards placed at level 10 are doctoral degrees. For simplicity purposes higher diplomas from universities and all postgraduate diplomas, whether conversion or leading to a masters, are discussed in this chapter.

The learning outcomes required by a person receiving a level 9 or a level 10 award are outlined below.

Level 9 – The learning outcomes at this level relate to the demonstration of knowledge and understanding which is 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.

First, we examine total enrolments on level 9/10 programmes at universities and institutes of technology. Second, the graduate output from these programmes is examined. Third, the first destination of level 9/10 award recipients is examined and finally, and international comparison is taken.

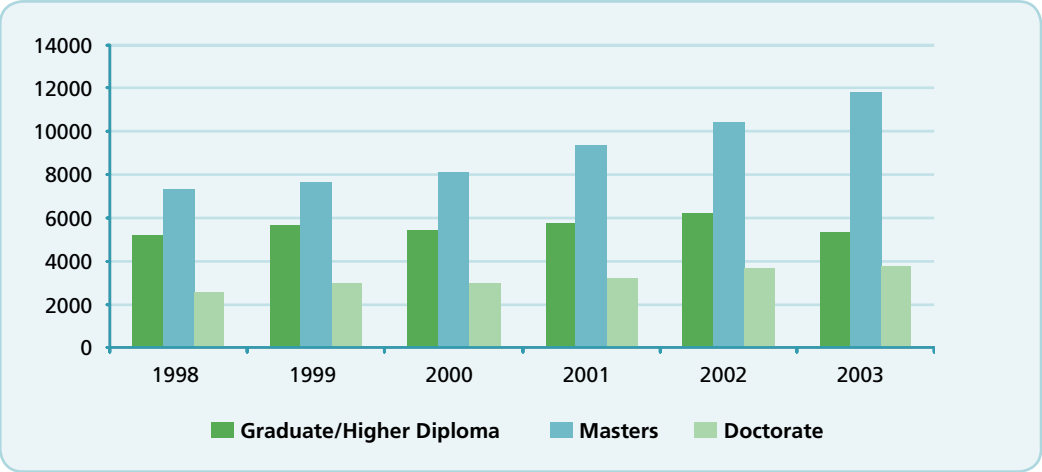
7.2. Enrolment Data

Those entering level 9/10 courses are required to hold a higher education qualification. 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 are available for institutes of technology (Department of Education and Science) and universities (Higher Education Authority).

The number of level 9/10 enrolments by award at institutes of technology and universities from 1998 to 2003 is outlined in Figure 7.1. In 2003, the overall number of level 9/10 students enrolled in the institutes of technology and universities was approximately 21,000. Of these 25% were high / graduate diplomas, 57% were master degrees and 18% were doctorates. Masters and doctorate enrolments increased continuously over the period.

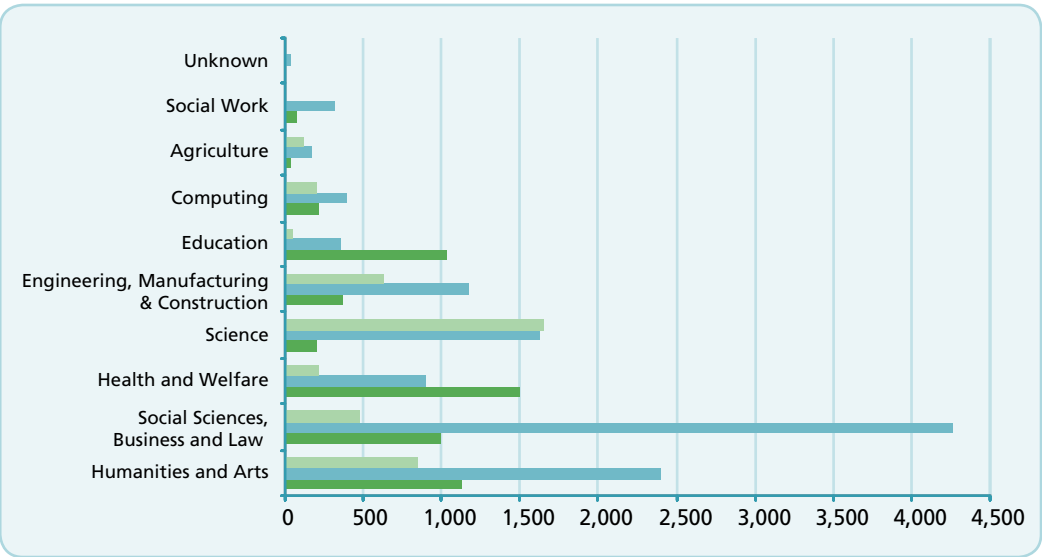
Figure 7.1 Level 9/10 Institute of Technology and University Enrolments, 1998 - 2003



Source: Department of Education and Science and HEA

Figure 7.2 shows the discipline mix of level 9/10 enrolments in the academic year 2003/2004. In 2003/2004, over 40% of doctorate enrolments are on science research programmes. Over 50% (6,700) of masters enrolments are on humanities and arts and social sciences, business and law courses. Enrolments on computing graduate diplomas and masters programmes declined by almost 40% from 2000/2001 to 2003/2004.

Figure 7.2 Number of Level 9/10 Enrolments by Discipline at Institutes of Technology and Universities, 2003/2004



Source: Department of Education and Science and HEA

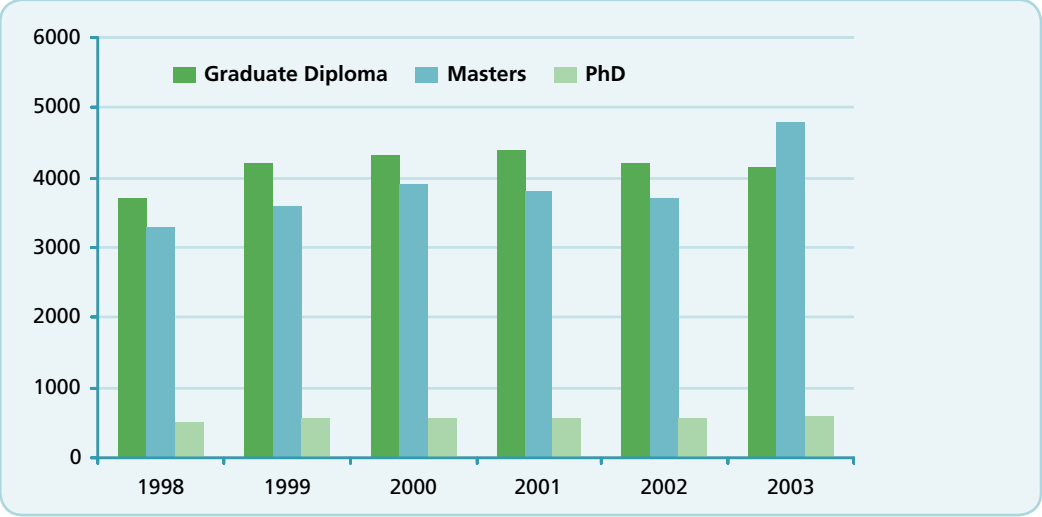
7.3. Postgraduate Output

The supply of level 9/10 graduates to the Irish labour force is vitally important in the development of Ireland as a knowledge-based economy. This section examines the most recent graduate data available for level 9/10 awards in the institute of technology sector and the university sector. Data is available for 2004 for the institutes of technology and for 2003 for the University sector. In 2003, approximately 10,400 students graduated with level 9/10 qualifications (4,300 graduate diplomas, 5,450 masters degrees, 620 doctorates).

7.3.1. University Sector

Universities are the major provider of level 9/10 programmes in Ireland. The number of level 9 and level 10 awards granted by the universities from 1998 to 2003 is outlined in Figure 7.3. In 2003, almost 9,500 students graduated with a level 9/10 qualification from universities. This number increased by almost 30% since 1998 (7,500). The number of graduate diplomas awarded has been declining since 2001, however, the number is still greater than in 1998. Master degrees awarded have increased by 31% from 3,300 in 1998 to almost 5,000 in 2003. Doctorates awarded have shown the smallest increase of 16% from approximately 500 to 600 in 1998 and 2003 respectively.

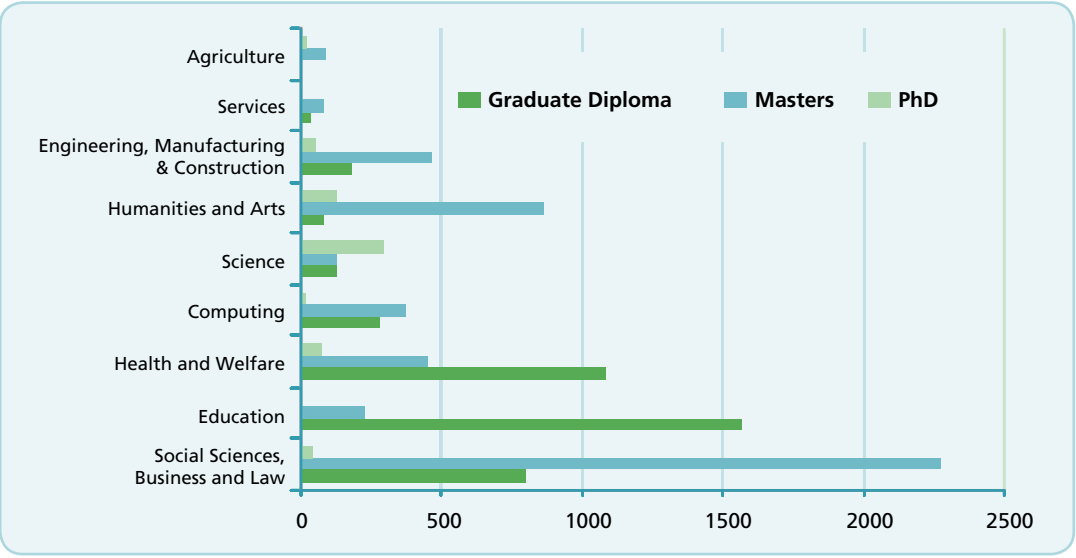
Figure 7.3 Level 9/10 University Output, 1998 -2003



Source: HEA

Figure 7.4 examines the discipline pattern in graduate output at levels 9 and 10 by the universities in 2003. Education outputted the largest number of postgraduate diplomas (38% (1,600)) in 2003. The highest number (46% (2,300)) of masters degrees were awarded in the social sciences, business and law disciplines. Almost three times as many master degrees were awarded in the business and law disciplines than were in the social sciences category in 2003. Science doctorates comprised almost 50% (300) of doctorates awarded in 2003.

Figure 7.4 Level 9/10 University Output by Discipline, 2003



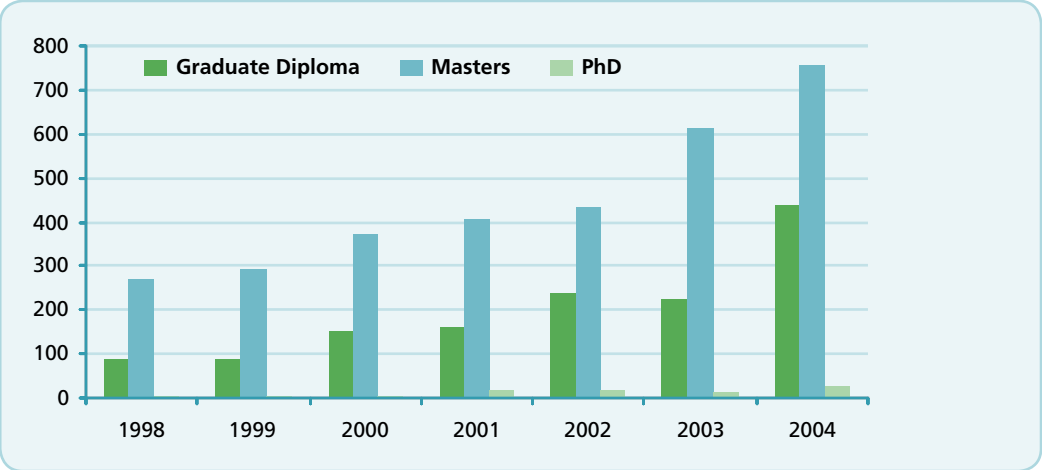
Source: HEA

7.3.2. Institute of Technology Sector

Institutes of technology are relatively minor players in postgraduate study in Ireland. However, their provision has been steadily increasing since 1998.

Figure 7.5 outlines the number of level 9/10 awards granted by the institutes of technology from 1998 to 2004. The data is collected from HETAC and from the institutes of technology with delegated authority. In 2004, approximately 1,200 students graduated with level 9/10 qualifications from institutes of technology. The majority of these qualified with a higher/postgraduate diploma (36%). A small number were awarded doctorates (2.2%). The overall number of awards granted at levels 9 and 10 has increased by 200% from approximately 400 in 1998 to 1,200 in 2004.

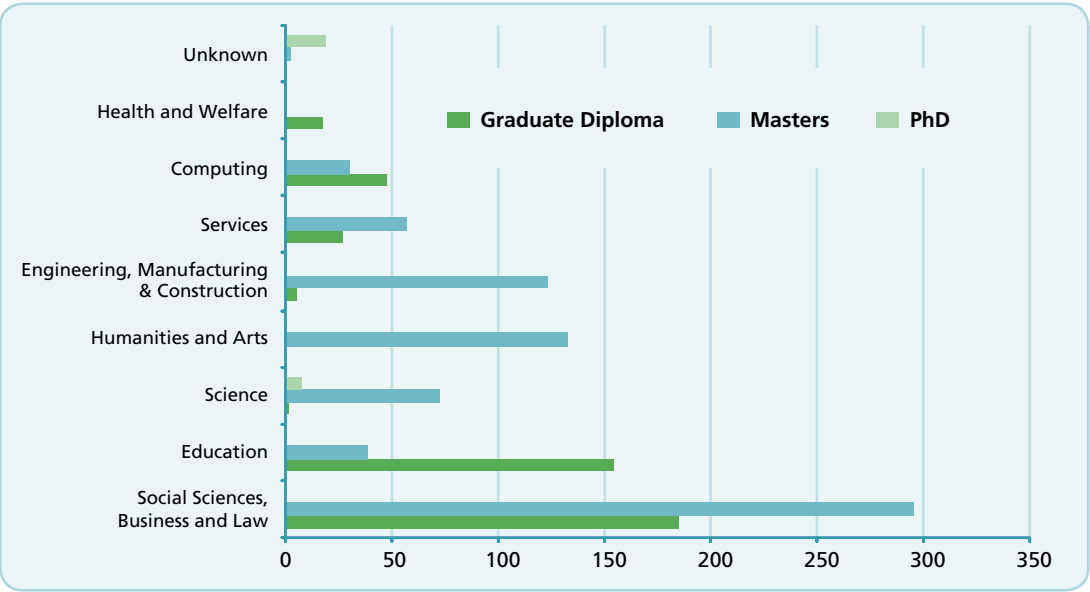
Figure 7.5 Level 9/10 Institute of Technology Output, 1998 - 2004



Source: HETAC & institutes of technology

Figure 7.6 shows the discipline pattern of level 9/10 graduates from institutes of technology in 2004. In 2004, 43% of graduate diplomas were awarded in social sciences, business and law. The same is true for the master degrees awarded: 64% (300) of awards were made in this category. Doctorate awards are in most cases not recorded under any discipline category, but simply as postgraduate awards.

Figure 7.6 Level 9/10 Institute of Technology Output by Discipline, 2004



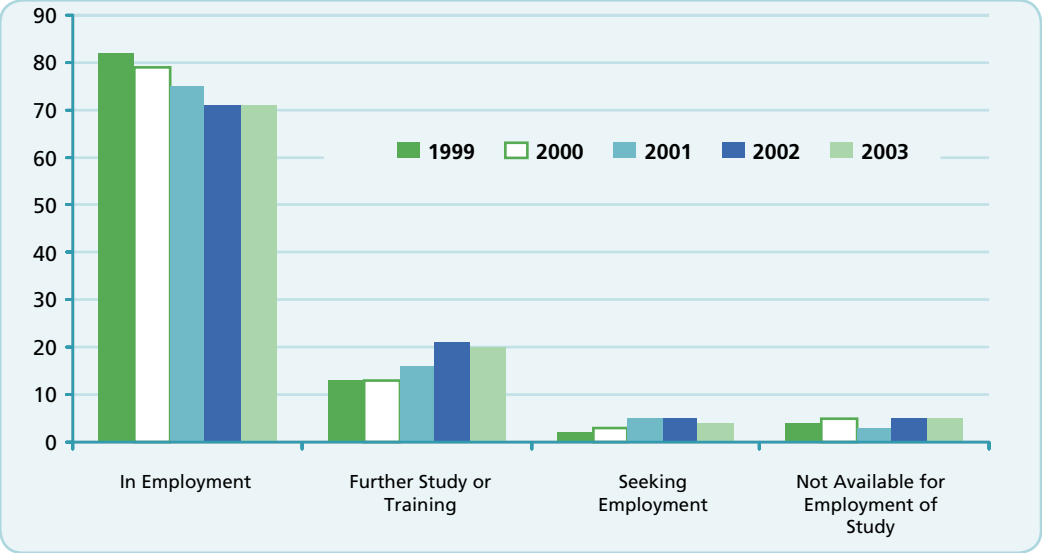
Source: HETAC & institutes of technology

7.3. First Destination of Level 9/10 Award Recipients of Higher Education

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 high proportion of level 9/10 graduates go directly into employment. The results of the HEA's First Destination of Award Recipients survey in 2003 confirm this point.

The first destination of graduate/postgraduate diploma award recipients from 1998 to 2003 is outlined in Figure 7.7. The number of graduates in employment has declined from 82% in 1998 to 71% in 2003. The number of graduates continuing to further study has increased from 13% to 20% in 2003.

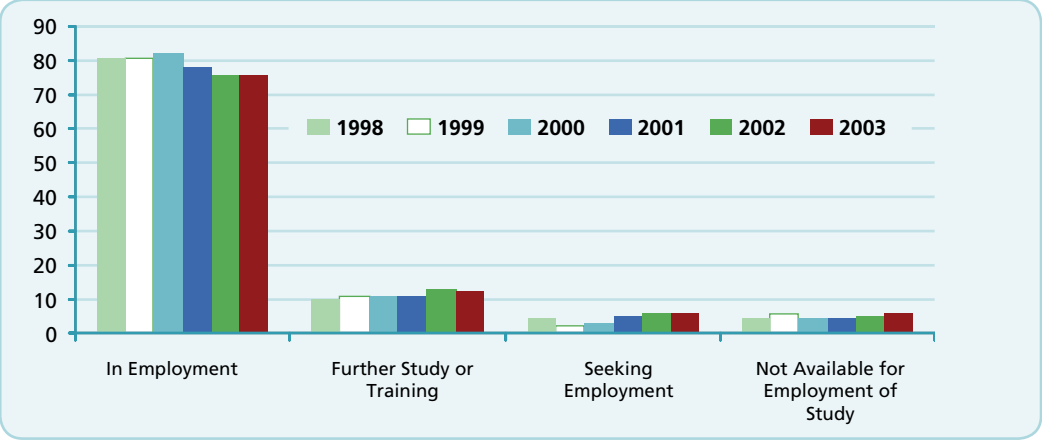
Figure 7.7 First Destination of Graduate/Postgraduate Diploma Award Recipients, 1998 - 2003.



Source: First Destination of Award Recipients 2003, Higher Education Authority

The first destination of higher degree award recipients from 1998 to 2003 is outlined in Figure 7.8. Higher degrees are classified as master degrees and doctoral degrees. The percentage of higher degree graduates in employment has decreased from 81% in 1998 to 76% in 2003. The percentage of respondents working overseas has declined from 16% to 12% in 2003. This implies that Ireland is retaining a greater number of its postgraduates. The percentage of respondents continuing to further study has increased from 10% in 1998 to 12% in 2003, with a constant 2% going abroad to study since 1998. The number of those seeking employment following graduation has increased from 4% in 1998 to 6% in 2003.

Figure 7.8 First Destination of Higher Degree Award Recipients, 1998 - 2003.

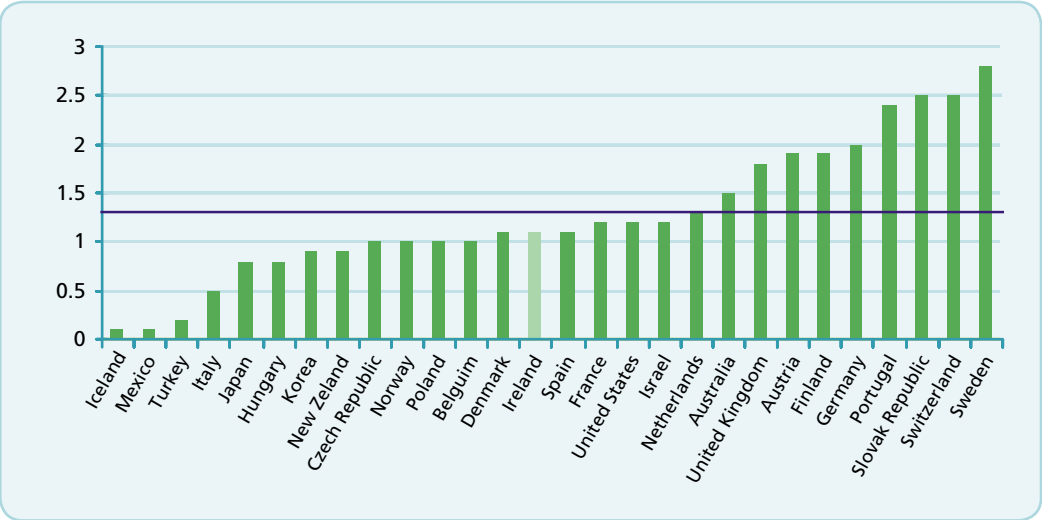


Source: First Destination of Award Recipients 2003, Higher Education Authority

7.4. International Comparison

A comparison of research graduates at level 9/10 in Ireland to other developed OECD countries in 2003 is outlined in Figure 7.9. The mean for selected OECD countries was 1.3% in 2003. In contrast to level 7/6 and level 8 graduates, Ireland, with 1.1% of advanced research graduates to the population at typical age of graduation is below average. In 2004, the Expert Group on Future Skills Needs recommended an increase in the number of researchers produced through the higher education system in Ireland. Initiatives such as the establishment of Science Foundation Ireland, an organisation involved in funding research programmes, should in the coming years provide for an increase in the number of research graduates.

Figure 7.9 Percentage of Advanced Research Graduates to the Population at Typical Age of Graduation, 2003



Source: Education at a Glance 2005, OECD.

Key Points level 9 and 10

- In 2003 / 2004 approximately 21,000 students were enrolled in level 9 / 10 programmes in Ireland
- Currently, an estimated 11,000 people graduate with level 9 / 10 qualifications annually
- Most doctorates are awarded in science; most masters are awarded in social science, business and law
- Ireland is below the OECD average in terms of advanced research graduates

Chapter 8

8. Universities & Colleges Admission Service (UCAS)

Thousands of Republic of Ireland students are accepting college places in the United Kingdom annually. Students take up courses in the UK for two main reasons:

- to secure a place in a desired course not available to them in the Republic of Ireland due to the high point requirement
- to access courses which are not provided in the Republic.

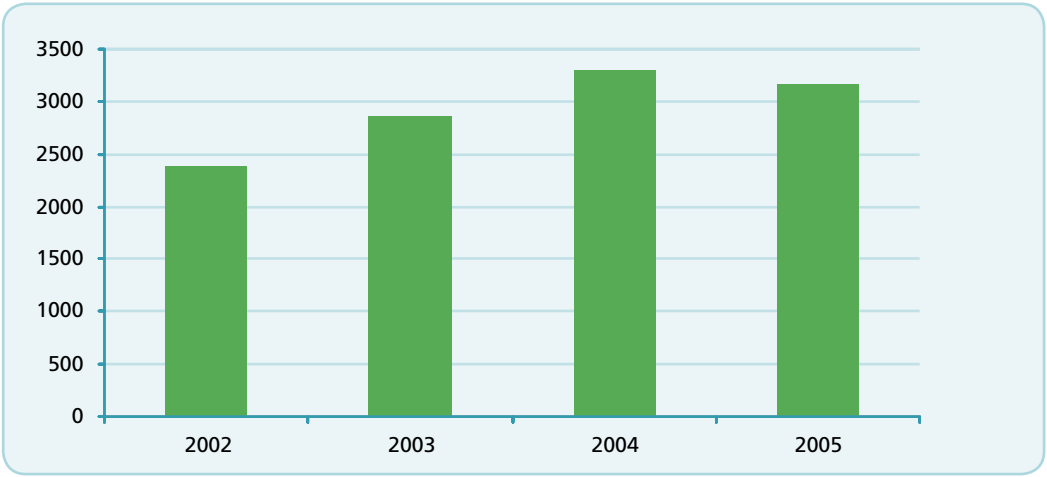
The extent to which these students avail of third level education in the UK is important as it indicates an additional source of skills supply from higher education.

This chapter first examines the overall number of Republic of Ireland domiciled UCAS acceptors. Second, we examine the discipline choice of acceptors.

Republic of Ireland students apply to colleges in the UK through the UCAS (Universities and Colleges Admission Service) system, the equivalent of the CAO system in the Republic. Figure 8.1 shows the number of acceptors from the Republic of Ireland applying through the UCAS system. 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 the numbers studying in the UK.

In 2005, just over 3,000 Republic of Ireland domiciled students accepted places in the UK. This is an increase of 32% on the 2002 figure. However, there has been a slight decline in numbers since 2004, which could be a result of the introduction of top-up fees.

Figure 8.1 Republic of Ireland Domiciled UCAS Acceptors, 2002 - 2005



Source: UCAS

Table 8.1 shows the discipline breakdown of Republic of Ireland domiciled UCAS acceptors in 2004. The discipline with the highest number of acceptances is health. This is followed by arts and technology disciplines.

Table. 8.1. Republic of Ireland Domiciled UCAS Acceptors by Discipline, 2004

Discipline	Acceptors	%
Engineering & Technology	389	13
Architecture, Building & Planning	307	10
Science & Computing	372	12
Total Technology	1068	35
Medical & Dentistry	67	35
Health	630	21
Vetinary & Agriculture	55	2
Total Health, Vet & Agriculture	752	25
Arts	442	15
Social Sciences & Arts	50	2
General Other Common & Unknown	66	2
Science, Social Science & Arts	42	1
Science & Computing	138	5
Social Sciences	84	3
Business & Law	289	10
Education	110	4
Combines Social Studies	23	1
Total Other	1220	40
Total	3040	100

Source: UCAS

Key Points UCAS

- In 2005, over 3,000 Republic of Ireland domiciled students accepted third level places in the UK; this is an increase of 32% from 2002
- Health, arts and technology are the most popular discipline choice for Replublic of Ireland domiciled students studying in the UK

Chapter 9

9. Further Education

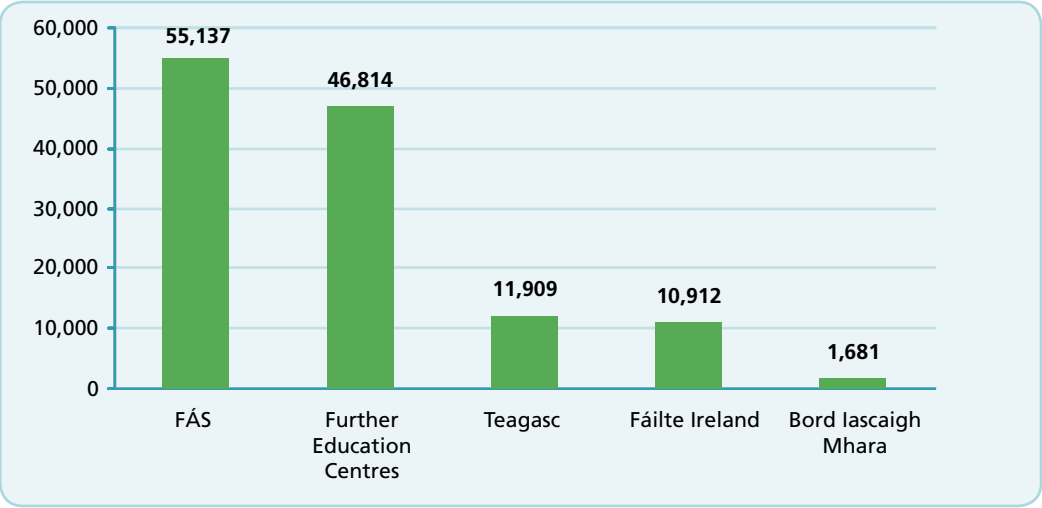
9.1. Introduction

A number of education and training programmes have not been covered in the previous chapters which are equally important to those already discussed. These refer to programmes whose awards are granted by FETAC. Providers of these programmes include FÁS, further education centres, Teagasc, Fáilte Ireland and Bord Iascaigh Mhara. The data available on these programmes cannot be easily analysed within the NFQ framework; in general, the programmes are placed across levels 2-6. Therefore, this data is presented as a separate chapter, which firstly outlines the total enrolments by provider and then examines course enrolments by provider in 2003/2004. The data presented was provided by FETAC and FÁS. The data does not represent an exhaustive list of all available programmes from further education providers in Ireland.

9.2. Further Education and Training Enrolments

The total enrolment on further education and training courses for 2003/2004 is outlined in Figure 9.1. In 2003/2004, almost 130,000 persons were participating in further education and training. With in excess of 55,000 participants, FÁS was the main provider. This figure excludes the apprentice population, already discussed in chapter 5. Further education centres had 47,000 participants. This figure excludes PLC candidates, discussed in Chapter 4. Together, FÁS and further education centres accounted for over 80% of further education and training provision.

Figure 9.1 Participation in Further Education and Training, 2003/2004



Source: Further Education and Training in Ireland – A Quantitative Analysis of the Sector – FETAC, 2005.

Table 9.1 examines the shares that different programmes have of total participation for the different education providers. In 2003/2004, almost 32,000 persons participated in employment programmes in FÁS. Just over 28,000 persons participated in adult literacy courses in further education centres in 2003/2004. Over 85% (10,159) of participants on Teagasc courses were enrolled on farmer training courses in 2003/2004. Almost 60% (6,500) of all enrolments on Fáilte Ireland programmes were on management and staff development courses in 2003/2004. The majority of training in Bord Iascaigh Mhara was on health and safety, 41% (696) and radio communications, 37% (617) courses.

Table 9.1 Further Education and Training Participation by Provider, 2003/2004

Agency	Total Enrolment 2003/2004
FÁS*	
Specific Skills Training	8,861
Foundation Skills	11,870
Sponsored Training	2,613
Employment Programmes	31,793
Further Education Centres	
Youth Reach and Traveller	3,814
Adult Guidance	3,012
Adult Literacy	28,363
BTEI	6,000
VTOS	5,625
Teagasc	
Vocational Certificate	750
Farmer Training	10,159
Food Industry Training	1,000
Fáilte Ireland	
Adult Training	2,018
Management and Staff Development	6,511
Craft Training	2,383
Bord Iascaigh Mhara	
Processing and Retail	14
Commercial Fishing	11
Aquaculture	48
Health and Safety	696
Radio Communications	617
Skills	159
Deck Officer and Engineer Officer	202

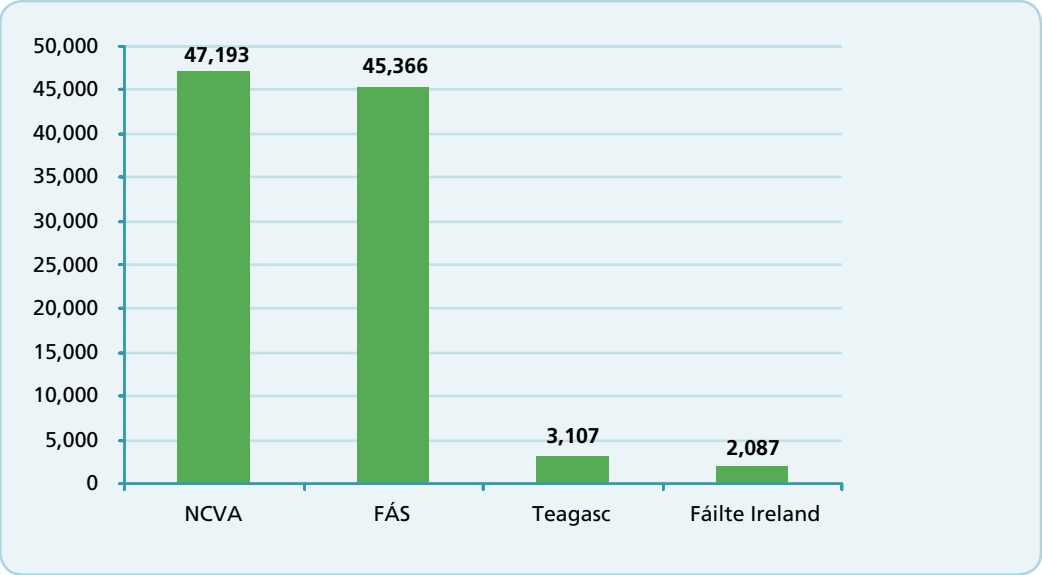
Source: Further Education and Training in Ireland – A Quantitative Analysis of the Sector – FETAC, 2005.
**FÁS Annual Report 2004*

9.3 Further Education and Training Awards

FETAC is responsible for making further education and training awards that were previously made by FÁS, NCVA (National Council for Vocational Awards), Fáilte Ireland and Teagasc. The following section outlines, where available, the number of awards made by FETAC in 2004.

Figure 9.2 examines the number of FETAC awards categorised by former awarding body in 2004.

Figure 9.2 FETAC Awards 2004



Source: Further Education and Training in Ireland – A Quantitative Analysis of the Sector – FETAC, 2005
Note: FÁS awards are inclusive of National Craft Certificate

NCVA (including further education centres and Bord Iascaigh Mhara awards) accounted for 48% (47,193) of all awards in 2004, followed by FÁS with 46% (45,366).

Key Points Further Education and Training

- In 2003 / 2004, almost 130,000 persons participated in further education and training
- In 2003 / 2004, almost 98,000 persons were awarded a further education and training qualification

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Education for Life – the Achievements of 15 year olds in Ireland in the second cycle of PISA, 2003

Appendix 1

Level 2	Primary Certificate
Level 3	Intermediate Certificate
	Day Vocational Group Certificate (DES)
	Nat. Foundation Certificate (FETAC/NCVA)
	Introductory Vocational Skills (FETAC/NCVA)
	Introductory Skills Certificate (FETAC/NCVA/NTCB)
	Junior Certificate
Level 4	Basic Horticultural Skills (FETAC/Teagasc)
	Nat. Vocational Certificate Level 1 (FETAC/NCVA)
	National Skills Certificate (FETAC/FÁS)
	Specific Skills (FETAC/FÁS)
	Elementary Skills Certificate (FETAC/CERT/NTCB)
	Leaving Certificate
Level 5	Foundation Certificate (FETAC/NCEA)
	Nat. Vocational Certificate Level 2 (FETAC/NCEA)
	Vocational Certificate Level 2 (FETAC/Teagasc)
	National Skills Certificate (FETAC)
	Specific Skills (FETAC/FÁS)
	Certificate in Hotel Operations (FETAC/CERT/NTCB)
Level 6	Certificate (DIT)
	National Certificate (HETAC/NCEA)
	Advanced Certificate (HETAC/NCEA)
	One-year Certificate (HETAC/NCEA)
	Certificate in Farm Management (FETAC/Teagasc)
	Ad. Certificate in Agriculture (FETAC/Teagasc)
	Vocational certificate Level 3 (FETAC/Teagasc)
	Nat. Vocational Certificate Level 3 (FETAC/NCVA)

Programmes Placed on the National Framework of Qualifications

Level 6 (cont'd)	National Craft Certificate (FETAC/FÁS/DES)
	National Skills Certificate (FETAC/FÁS)
	Specific Skills (FETAC/FÁS)
	Nat. Cert. in Prof. Cookery (FETAC/CERT/NTCB)
	Advanced Skills/Supervisory (FETAC/CERT/NTCB)
Level 7	National Diploma (HETAC/NCEA)
	Ordinary Bachelor/Bachelor Degree (DIT)
	Diploma (3 Year) (DIT)
Level 8	Diploma ** (DIT)
	Honours Bachelor Degree (DIT)
	Graduate Diploma (conversion) (HETAC/NCEA)
	Bachelor Degree (3 & 4 Year Hons) (HETAC/NCEA)
Level 9	Graduate Diploma (DIT)
	Masters Degree (DIT)
	Graduate Diploma (1st Stage Master) (HETAC/NCEA)
	Masters Degree (HETAC/NCEA)
Level 10	Doctor of Philosophy (DIT)
	Doctor of Philosophy (HETAC/NCEA)

** While the National Craft Certificate has been placed as a set at Level 6, there are Level 7 outcomes associated with 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).*

Primary Level Second Level Further Education Higher Education

Appendix 2

Membership of the Expert Group on Future Skills Needs

Anne Heraty	CPL Resources PLC	Chairperson
Senan Cooke	Waterford Crystal Ltd.	Member
Jack Golden	Cement Roadstone Holdings PLC/IEI	Member
Una Halligan	Hewlett Packard	Member
Joe McCarthy	Arkaon Ltd.	Member
Dr. Sean McDonagh	Former Director of Dundalk IT	Member
Aileen O'Donoghue	IBEC	Member
Peter Rigney	ICTU	Member
Linda Tanham	Mandate	Member
Pat Hayden	Dept. of Enterprise, Trade & Employment	Advisor
Ruth Carmody	Dept. of Education & Science	Advisor
Andrew McDowell	Forfás	Advisor
Fergal Costello	Higher Education Authority	Advisor
Roger Fox	FÁS	Advisor
Anne Nolan	Dept. of Finance	Advisor
Martin Shanahan	Forfás	Head of Secretariat