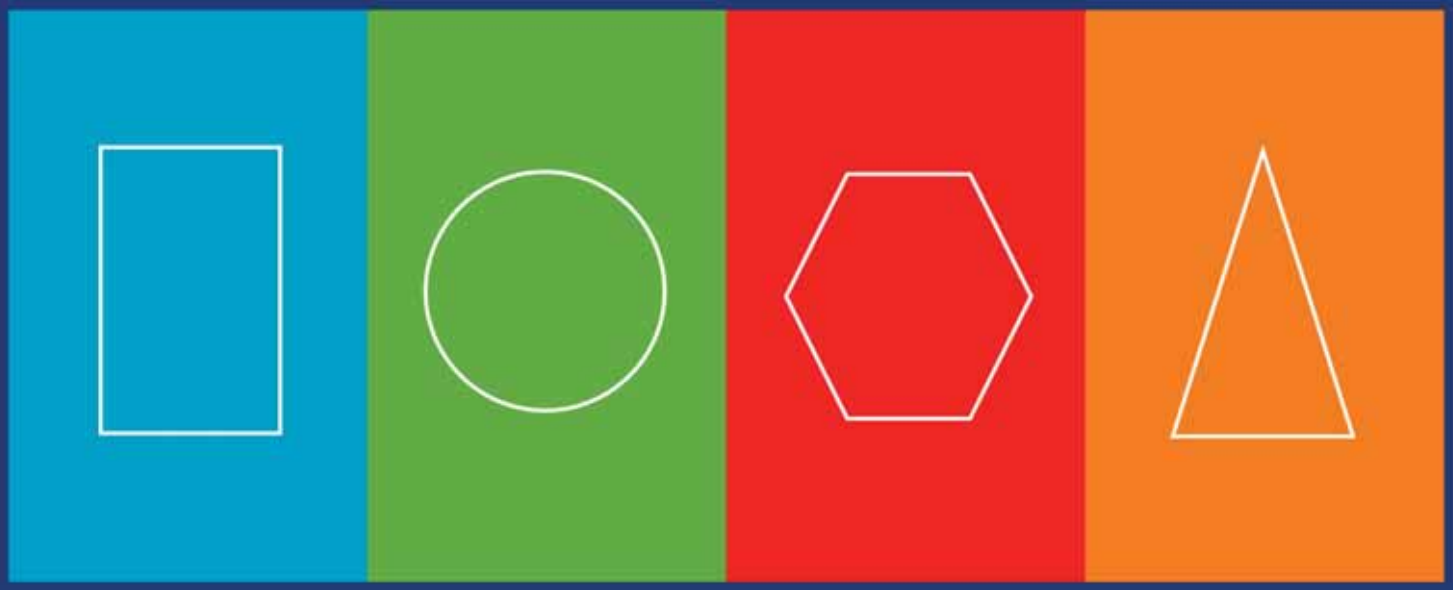

National Skills Bulletin 2010

July 2010

Expert Group on
Future Skills Needs

National Skills Bulletin 2010

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

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Foreword

The National Skills Bulletin is the sixth in a series of annual reports produced by the Skills and Labour Market Research Unit of FÁS on behalf of the Expert Group on Future Skills Needs (EGFSN). The Bulletin provides a statistical analysis of the employment data for all the main occupations in the economy. The principal objective of this report is to identify imbalances in the Irish labour market at occupational level by drawing on the data in the National Skills Database maintained by FÁS.

The employment data presented in this year's Bulletin shows a deterioration on the situation outlined in the National Skills Bulletin 2009. However, most of the skill shortages identified in last year's bulletin have persisted but, as before, are small in magnitude and are almost exclusively confined to specialised, high skill niche areas within IT, engineering, finance, sales, health and management.

This year's bulletin also examines the job openings that are expected to arise through the natural attrition of the workforce that occurs through retirements and other exits. It is estimated that 45,000 posts could become available annually through replacement demand.

The Bulletin aims to assist policy formulation in the areas of employment, education/training and immigration, as well as to inform career guidance advisors, students and other individuals making career and educational choices.

Una Halligan

Una Halligan,

Chairperson, Expert Group on Future Skills Needs

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Executive Summary

The National Skills Bulletin 2010 is the sixth annual report produced by the Skills and Labour Market Research Unit (SLMRU) in FÁS on behalf of the Expert Group on Future Skills Needs (EGFSN). It contains information on skills and occupational trends in the Irish labour market.

The Bulletin aims to assist policy formulation in the areas of employment, education/training and immigration, as well as to inform career guidance advisors, students and other individuals making career and educational choices. It has two main purposes: to provide a statistical record of the employment data for all the main occupations in the economy and to draw on this data, and other qualitative information, to identify any shortages. While the aim is to identify occupations for which shortages exist, further research is necessary to identify the cause of these shortages and the appropriate (if any) policy response.

When interpreting the data the following should be borne in mind:

- the employment stock reported for each occupation is from the Central Statistics Office (CSO) Quarterly National Household Survey (QNHS) and is expressed as the annual average figure (average of four quarters)
- the trend analysis covers the five-year period 2004 to 2009
- the employment composition (e.g. age, gender, etc.) is from the most recent data, which is for quarter 4 2009.

In addition, in 2009, the CSO introduced the following classification changes in the QNHS which have implications for the data presented in the Bulletin:

- The QNHS is conducted on a calendar quarter basis (first quarter starting in January). This creates difficulties in making direct comparisons over time, as historical data held in the National Skills Database up to 2008 was based on seasonal quarters (first quarter starting in December). Although there are differences between calendar and seasonal-based (un)employment estimates, the annual average differences are not considerable. The impact at occupational level is also assumed to be small.
- In the first quarter of 2009, the CSO adopted an updated EU classification of industrial sectors, *NACE Rev.2*. To facilitate a time series analysis, the CSO mapped historical employment data at broad sectoral level to the new NACE classification for all quarters over the period 2004-2008. However, at sub-sectoral level, this historical mapping was available to the SLMRU only for quarter 1 2008. Therefore, sub-sectoral comparisons were made for quarter 1 2008 and quarter 4 2009.

Labour Market Indicators

The Irish labour market deteriorated further in 2009 compared to 2008. The annual figures show that:

- the labour force contracted by 2% (54,000)
- total national employment declined by 170,000 to 1.93 million
- unemployment increased by more than 80% to 260,000

- the participation rate decreased by 1.6 percentage points to 62%
- the employment rate decreased by 5.4 percentage points to 62.2%
- the unemployment rate increased by 6 percentage points to 12%
- net migration turned negative (-7,800).

The deterioration in the above indicators continued throughout 2009.

Sectoral Employment

With the exception of ICT, accommodation/food, transport, health and public administration, employment in all sectors declined between quarter 4 2008 and quarter 4 2009. Over this period, the greatest absolute net job losses were recorded in construction (80,000), traditional and modern manufacturing (30,000), agriculture (27,000) and wholesale and retail (25,000).

Regional Employment

Between quarter 4 2008 and quarter 4 2009, employment declined in all regions. In absolute terms, the greatest net job losses were recorded in the Dublin region (43,000). However, at the greatest risk of unemployment were those living in the South-East, Midlands and Mid-West regions: the unemployment rates in these regions in quarter 4 2009 were 15.7%, 14.4% and 14.2% respectively. At 10.8%, the unemployment rate was the lowest in Dublin. Over the period, the participation rate declined in all regions, with the largest declines recorded in the Border region (4.5 percentage points to 55%).

Education and Training

The supply of skills emerging from the further and higher education and training system in 2008 (expressed as the number of awards issued by field and NFQ level) is presented in Table A1.

National Skills Strategy[1]: Progress to Date

In quarter 4 2009, Ireland continued to make progress towards achieving the NSS targets: the share of the labour force with lower secondary education continued to fall and the share of third level graduates increased to 39%. Nonetheless, further progress is necessary if the targets are to be met by 2020, particularly in relation to those with less than upper secondary education whose share of 21% in quarter 4 2009 was three times higher than the NSS target of 7%.

Table A1. Summary of Further and Higher Education and Training Awards by Field of Education, 2009[2]

	NFQ Level					
Field	1-4	5	6	7	8	9/10
General	2,930	30	0	0	0	0
Education	0	0	250	140	1,570	2,630
Hum.,Arts	20	2,130	530	1,240	4,810	1,870
Social,Bus.,Law	620	4640	1,720	2,460	8,520	4,990
Science	0	690	590	910	3,380	1,830
Eng & Cons.	80	390	5,320	2,050	2,850	850
Ag & Vet.	120	890	630	290	270	70
Health	0	7,300	780	1,040	4,170	2,590
Services	680	1,360	1,880	1,050	570	360
Total	4,450	17,430	11,700	9,180	26,140	15,190

Source: FETAC (Major awards); HEA

Immigration from the Non-EEA

In 2009, 3,633 new employment permits were issued to non-EEA nationals. This is a

[1] EGFSN (2006) Tomorrow's Skills: Towards a National Skills Strategy.
[2] Awards data for universities and institutes of technology is based on 2008 data as this is the latest available.

reduction of almost 60% compared to 2008. Occupations most frequently sourced through the employment permit schemes included nurses, software engineers, computer programmers/analysts, marketing managers, accountants, medical practitioners, chefs, care assistants and managers in manufacturing and ICT .

Vacancies

The number of vacancies advertised through each of the three sources considered (FÁS, the Irish Times, and IrishJobs.ie) declined in 2009 compared to 2008. In addition, the findings from the FÁS (SLMRU) recruitment agency survey indicated that there was an excess supply of labour for most occupations and a general absence of difficult to fill vacancies. Nonetheless, some recruiters reported difficult to fill vacancies in the areas of IT, sales, health, finance, engineering and management (production, marketing, finance).

Shortages

A skill shortage refers to a situation where there is an insufficient number of individuals who have the required educational attainment, skills set and/or experience to fill a particular type of post. In contrast, a labour shortage arises when there is an insufficient number of individuals who are willing to take up employment opportunities in a particular occupation. It is typically associated with occupations which require relatively lower educational attainment, a shorter duration of training (e.g. on the job) and/or no previous experience.

The term 'shortage' in this report refers only to the situation where the supply of skills or labour from within the Irish labour force is insufficient to meet demand. It is possible that a sufficient supply of skills or labour for an occupation in question may be found within the European Economic Area (EEA). Consequently, there may not be a shortage from a European perspective.

Given the sharp rise in unemployment, there is an excess supply of labour in Ireland at present. As a result, no labour shortages have been identified. In addition, the incidence of skills shortages is very low.

The skill shortages identified in this report relate to a small number of posts and are confined to:

- specialists within an occupation (e.g. electrical engineers with an expertise in high voltage grids)
- senior positions (e.g. senior software developer)
- niche areas (e.g. telesales with Nordic languages)
- a specific skill mix (e.g. ICT and business).

Information Technology

Shortages have been identified for senior software developers (e.g. JAVA, SQL), IT security experts, network experts and IT project managers.

Science

Current skills shortages have been identified for high calibre niche area R&D scientists (chemists, biologists etc.), managers (clinical trials, supply chain etc.), animal nutritionists, science technicians (prototyping/development), regulation experts and multidisciplinary experts (e.g. bio-convergence, blend of science and business etc.).

Engineering

Shortages have been identified for the following high level engineering skills: mechanical design and innovation, process (pharmaceutical industry, medical devices, water purification), quality control, validation (pharmaceutical and medical devices sectors), wind energy and high voltage electrical engineering.

Marketing/Sales

There is some evidence of a shortage of experienced marketing managers with specific industry and product knowledge.

There is also a shortage of multilingual telesales/customer care workers with IT skills – particularly persons proficient in Nordic languages and German.

In addition, recruiters are continuing to report difficulties in sourcing experienced sales representatives with specific product or technical knowledge (e.g. medical sales, technical sales).

Healthcare

- Job opportunities in the public healthcare sector remain limited due to funding issues. However, shortages of the following skills have been identified:
- medical practitioners (general practitioners, non-consultant hospital doctors and specialist doctors (e.g. consultant radiologists))
- advanced nursing practitioners (theatre nurses, and those specialising in radiology, diabetes, renal medicine and midwifery)
- senior therapists: occupational and speech and language; physiotherapists (niche areas e.g. paediatric disability)
- medical radiographers (e.g. sonographers, mammograhers etc.)
- dentists (orthodontists).

Financial

Difficult to source occupations include actuaries, risk experts, business analysts, senior claims handlers, fund specialists and senior accountants with specific skills (e.g. regulation, MiFID).

There are some indications of difficulties in sourcing multilingual accounting clerks and debt collectors.

Transport

There is some evidence of a shortage of international supply chain managers. The demand is for experienced individuals with IT skills, forecasting skills, familiarity with material requirements planning (MRP) and master production scheduling (MPS), enterprise resource planning, global team management, proficiency in foreign languages, etc.

Response to shortages

Skills in short supply could be acquired through:

- long-term education and training programmes (e.g. actuaries, doctors, dentists)
- specialist postgraduate training (e.g. supply chain managers)
- short training programmes (e.g. technical sales reps)
- industry experience (e.g. marketing managers, senior software developers, project managers)
- progression (e.g. senior speech and language therapists)

- importing skills from abroad.

Unemployment

In 2009, unemployment increased further on 2008 levels to almost 270,000 persons by quarter 4 2009. While unemployment increased across the board, the impact of the recession varied between the different segments of the labour market:

- males continue to be at a greater risk of unemployment than females: in quarter 4 2009, the unemployment rate for males was 16% compared to 8% for females
- younger persons (e.g. school leavers, new graduates and those 'last in') continue to be more adversely affected than older persons: in quarter 4 2009, the unemployment rate of persons younger than 25 was 26%, compared to 11% for those aged 25-54
- persons with low levels of education remain at a greater risk of unemployment: in quarter 4 2009, the unemployment rate for persons with less than secondary education was 18%, compared to 7% for third level graduates
- non-Irish nationals continue to be at a greater risk of unemployment than Irish nationals: in quarter 4 2009, the unemployment rate for non-Irish was 16% compared to 12% for Irish
- with an unemployment rate of almost 40%, construction workers were at the greatest risk of unemployment in quarter 4 2009; the lowest risk outside of the public sector and agriculture was in the financial, utilities, ICT and transport sectors
- with unemployment rates of 32% and 27% respectively, craftspersons and labourers were at much greater risk of unemployment in quarter 4 2009 compared to other occupations.

Job Openings

It is estimated that 45,000 posts could become available annually through replacement demand (retirements, withdrawal and other exits, including inter-occupational movements). Annual replacement demand is estimated to be greatest for clerical and services (personal, security etc.) occupations (8,000 posts each).

Assuming full economic recovery, annual expansion demand could reach over 50,000, with the greatest job creation in professional, services and craft (recovering from the lowest dip and driven by the green agenda) occupations.

While skills shortages may exist at the more detailed occupational and job title level, the current supply from unemployment is more than sufficient to meet the replacement and potential expansion demand in the short term for all occupational groups, except professionals.

Comparison with the National Skills Bulletin 2009

Employment data presented in this year's Bulletin shows a deterioration on the situation outlined in the National Skills Bulletin 2009.

However, most of the skill shortages identified in last year's bulletin have persisted and, as before, are small in magnitude and are almost exclusively confined to specialised high skill niche areas within IT, engineering, finance, sales, health and management.

Introduction

The National Skills Bulletin 2010 is the sixth annual report produced by the Skills and Labour Market Research Unit (SLMRU) in FÁS on behalf of the Expert Group on Future Skills Needs (EGFSN). It contains information on skills and occupational trends in the Irish labour market.

The Bulletin aims to assist policy formulation in the areas of employment, education/training and immigration, as well as to inform career guidance advisors, students and other individuals making career and educational choices.

The main focus of the Bulletin is on the analysis of employment at occupational level. Each occupation is examined in terms of its employment profile based on data from the Quarterly National Household Survey (QNHS) published by the Central Statistics Office (CSO), recent employment trends and other available indicators on the demand and supply of skills. Such indicators include:

- the number of employment permits issued to non-EEA nationals by the Department of Enterprise, Trade and Employment (DETE)
- the level of difficulty in filling vacancies reported in the six-monthly survey of recruitment agencies conducted by the SLMRU
- an analysis of vacancies advertised through FÁS, the Irish Times and IrishJobs.ie
- an estimate of the supply of skills emerging from the Irish education and training system derived from data supplied by the Higher Education Authority (HEA), Further Education and Training Awarding Council (FETAC), Higher Education and Training Awards Council (HETAC), Department of Education and Science (DES), the State Examinations Commission (SEC) and the Central Applications Office (CAO)
- any other relevant findings from the EGFSN's sectoral studies.

The Bulletin synthesises all available data on the above indicators in order to assess and comment on the balance between the demand and supply for 130 occupations. It has two main purposes: to provide a statistical record of the employment data for all the main occupations in the economy and to draw on this data, and other qualitative information, to identify any shortages. While the aim is to identify occupations where shortages exist, further research is necessary to identify the cause of these shortages and the appropriate (if any) policy response.

The occupations for which shortages have been identified are highlighted and comments are made regarding the nature of the shortage (e.g. a skill shortage or labour shortage). The report highlights recent and current shortages and does not provide forecasts of skill shortages, unless it is implicit from the existing data.

The term 'shortage' in this report refers only to the situation whereby the supply of skills or labour from within the Irish labour force is insufficient to meet demand. It is possible that a sufficient supply of skills or labour for an occupation in question may be found within the European Economic Area (EEA). Consequently, there may not be a shortage from a European perspective.

The analysis of employment was carried out by the SLMRU based on the QNHS data. When

interpreting the data, the following should be borne in mind:

- the employment stock reported for each occupation is expressed as the annual average figure (i.e. the average of four quarters)
- the trend analysis covers the five-year period 2004 to 2009
- the employment composition (e.g. age, gender, etc.) is from the most recent data, which is for quarter 4 2009.

Classification Changes (QNHS)

In 2009, the CSO introduced three classification changes to the QNHS.

First, the QNHS changed from seasonal (first quarter starting in December) to calendar (first quarter starting in January) quarters. This creates difficulties in making direct comparisons over time as historical data up to 2008 held in the National Skills Database was based on seasonal quarters, while 2009 data is calendar based[3]. Although there are differences between calendar and seasonal-based (un)employment estimates, the annual average differences are not considerable[4]. Assuming no bias in the distribution of occupations, the impact at occupational level is also assumed to be small.

Second, in the first quarter of 2009, the CSO adopted an updated EU classification of industrial sectors, *NACE Rev.2*[5]. To facilitate a time series analysis, the CSO mapped historical employment data at broad sectoral level to the new NACE classification for all quarters over the period 2004-2008. However, at sub-sectoral level, this historical mapping was available to the SLMRU for only quarter 1 2008 only. Therefore, sub-sectoral comparisons were made for quarter 1 2008 and quarter 4 2009.

Third, the CSO introduced a new educational attainment classification in the QNHS in quarter 2 2009. The objective of the revised educational classification is to ensure that educational categories can be aligned with the NFQ. Given that broad educational categories are only presented in the Bulletin, these refinements have no implications for the data reported in the Bulletin.

Report Outline

The structure of the National Skills Bulletin 2010 is as follows:

- Section 1: provides an overview of general labour market trends; this includes economic and employment growth, participation rates, employment by age and education, and migration
- Section 2: discusses sectoral employment trends, including recent and expected future employment trends; given its importance to the economy overall, a more detailed examination of the manufacturing sector is provided
- Section 3: examines employment by broad occupation
- Section 4: presents an overview of regional employment trends

[3] There are differences between labour market estimates on a calendar versus seasonal basis. For example, the total number of persons employed in the economy is generally higher in the second calendar quarter of each year, while the converse is generally the case in the third calendar quarter. This is primarily due to seasonal effects: the labour force and employment typically rises in June due to increased participation by school leavers, while the converse is generally the case in the month of September. On a seasonal basis, these effects would emerge in quarter 3 and quarter 4 respectively.

[4] The average annual difference in respect of the total number at work in the economy is around 6,000.

[5] NACE is an acronym for (Nomenclature générale des activités économiques dans les Communautés européennes) and statistics produced on the basis of NACE are comparable at European and, in general, at world level.

- Section 5: focuses on the supply of skills from the education and training system
- Section 6: provides an overview of the inflow of labour from non-EEA countries through the employment permit schemes
- Section 7: examines vacancies by broad occupational group from a number of different sources
- Section 8: presents an analysis of 130 occupations categorised into 17 occupational groups and highlights areas of shortage
- Section 9: provides a profile of unemployed persons in Ireland
- Section 10: presents an overview of estimated job openings by occupational group.

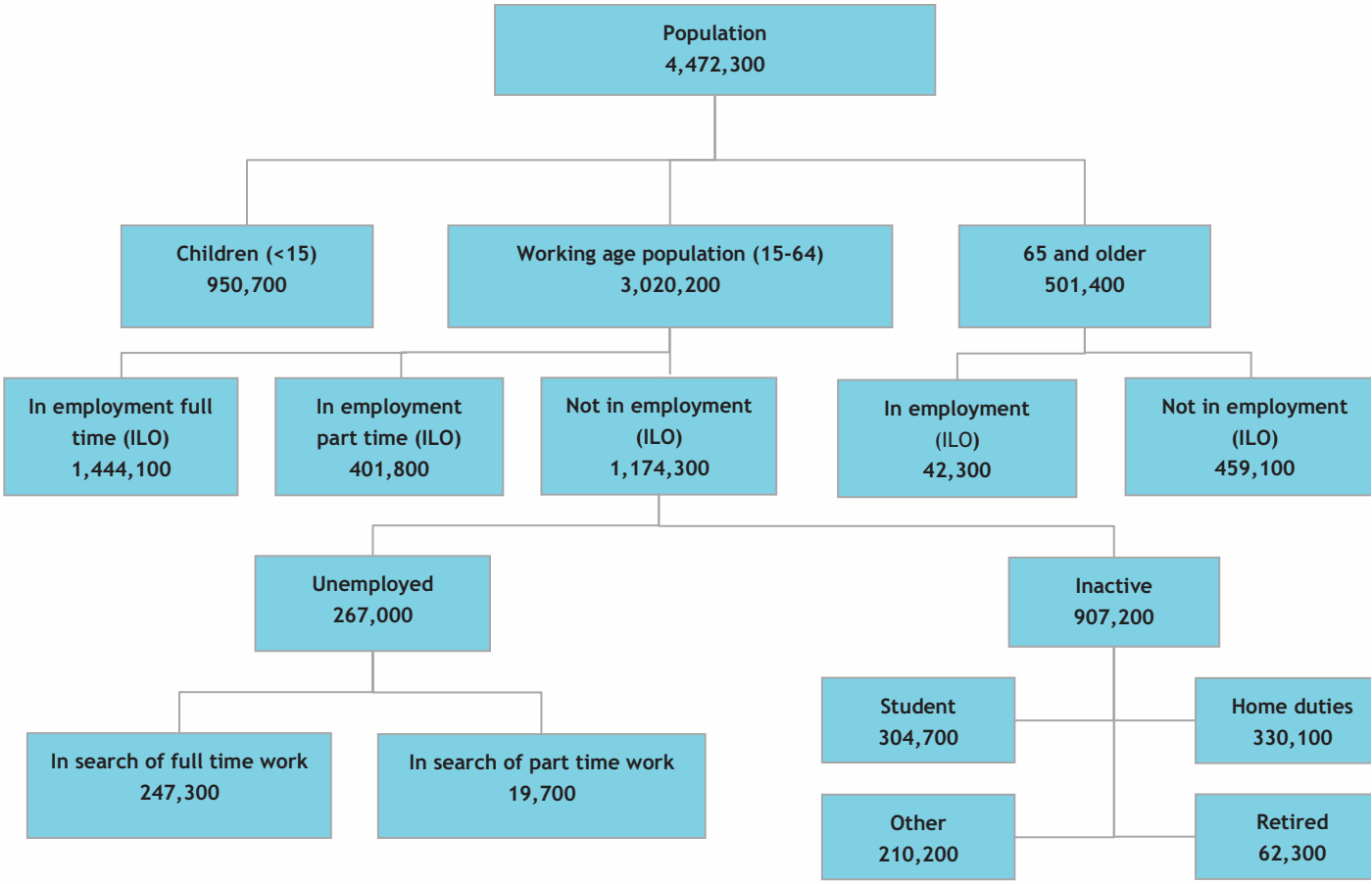
Section 1 General Labour Market Trends

1.1 Population - Labour Status

The number of persons residing in Ireland in quarter 4 of 2009 was almost 4.5 million (Figure 1.1).

There were over a half a million persons aged 65+ while just fewer than 1 million were younger than 15 years. The numbers in each of these groups increased in the same period in 2008. The conventional working age population (15-64) was estimated at 3.02 million, representing a decline of approximately 30,000 compared to the same period last year.

Figure 1.1 Population by Labour Status, Quarter 4 2009



Source: SLMRU (FÁS) analysis of CSO data

Note: Any observed discrepancies in summations are due to the rounding of numbers.

The age dependency ratios were less favourable at the end of 2009 compared to 2008: the youth dependency ratio was 31.5% (up from 30.4%); the old dependency ratio was 16.6% (up from 16.0%); the total age dependency ratio was 48.1% (up from 46.4%)[6].

Of the working age population, there was a total of 1,846,000 persons in employment and 1,174,200 persons not in employment. The latter figure comprises 267,000 unemployed persons and 907,200 economically inactive persons. Of the economically inactive, there were 330,100 persons engaged in home duties, 304,700 were students, 62,300 were retired persons and the remaining 210,200 persons were inactive for other reasons (including those marginally attached to the labour force such as discouraged workers and passive job seekers).

The number of economically inactive persons rose from 872,000 to 907,000, between quarter 4 2008 and quarter 4 2009. The number of those marginally attached, estimated at 21,500 in quarter 4 2009, almost doubled when compared with the same period last year.

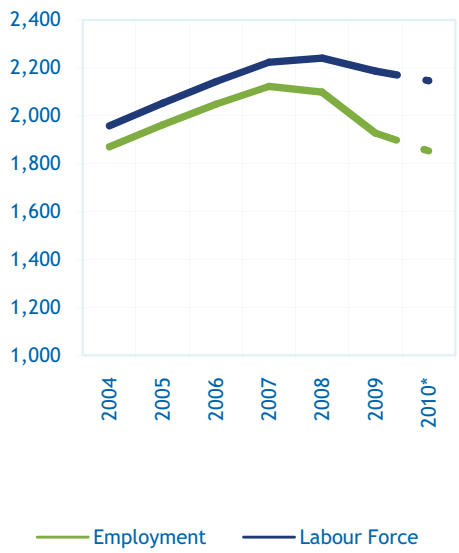
The total national employment in quarter 4 2009 was estimated at 1.88 million persons. This figure includes the 42,000 persons aged 65 and above who were still in employment.

[6] The age dependency ratios compare non-working age persons (dependents) to those of working age in any given population. The dependency ratio is derived by expressing the young population (aged 0 to 14 years) and old population (aged 65 years and over) as a proportion of the population of working age (15 to 64 years).

1.2 Labour Force, Employment and Unemployment

There were just fewer than 2.19 million persons in the Irish labour force in 2009 (average of four quarters). Labour force growth slowed considerably in 2008 and turned negative in 2009 (the first time since the QNHS began), with a decrease of 54,000 or 2% on an annual basis (Figure 1.2). The decline in the labour force was due to a lower participation rate and negative net migration.

Figure 1.2 Labour Force and Employment – Annualised Data 2004-2009 (000s)



Source: SLMRU (FÁS) analysis of CSO data (historical); Central Bank of Ireland (forecasts)

The number of persons in employment averaged 1.93 million in 2009 - 170,000 below the number reported in the previous year. The number of unemployed persons increased by more than 80%, averaging almost 260,000 for the year.

In 2009, the average annual employment rate was 62.2% (down 5.4 percentage points on the

preceding year)[7]; the average annual unemployment rate was 11.8% (almost a twofold increase on 2008 figure); the average annual participation rate declined to 62% (down from 63.6% in 2008) (Table 1.1).

Table 1.1 Participation, Employment and Unemployment Rates (%), 2004-2009

Year	Participation rate	Employment rate	UE rate
2004	60.8	66.3	4.5
2005	62.1	67.8	4.4
2006	63.2	68.7	4.4
2007	64.0	69.2	4.6
2008	63.6	67.6	6.3
2009	62.0	62.2	11.8

Source: SLMRU (FÁS) analysis of CSO data

Table 1.2 shows migration estimates for the period 2004-2009. For the first time since 1995, net migration turned negative in 2009.

Table 1.2 Migration Estimates (000s), 2004-2009

Year	Inward	Outward	Net migration
2004	58.5	26.5	32.0
2005	84.6	29.4	55.1
2006	107.8	36.0	71.8
2007	109.5	42.2	67.3
2008	83.8	45.3	38.5
2009	57.3	65.1	-7.8

Source: CSO, Data Direct & Population and Migration Estimates, April 2009.

Following the year 2008, the labour market continued to further deteriorate throughout 2009, and by the final quarter of that year the:

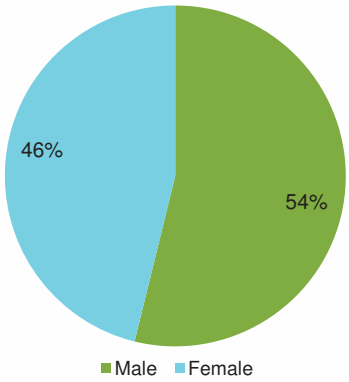
- unemployment rate reached 12.4%[8]
- employment rate dropped to 61.2%
- labour force participation fell to 61.1%
- labour force declined by 69,000 (3.1%) compared to quarter 4 2008
- employment level reverted to the 2004 level.

Although decelerating, this trend is expected to continue in 2010, with both the labour force and employment projected to contract further (Figure 1.2) and the unemployment rate is expected to average 13.7%.

1.3 Employment Composition

Figure 1.3 shows the gender distribution of employment. In quarter 4 2009, males accounted for 54% of national employment, which is two percentage points below its share in quarter 4 2008.

Figure 1.3 Employment by Gender (%), Quarter 4 2009



Source: SLMRU (FÁS) analysis of CSO data

Figure 1.4 shows the breakdown between part time and full time employment. In quarter 4

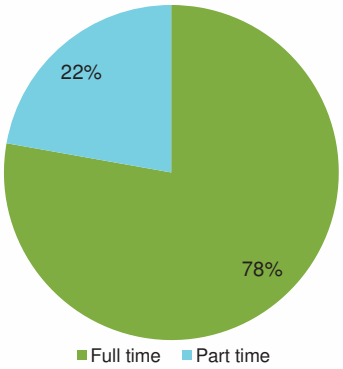
[7] The male employment rate dropped seven percentage points (down to 65.3%) compared to a 2 percentage point decline for females (down to 57%).

[8] The seasonally adjusted unemployment rate was 13.1% in quarter 4 2009 (CSO, Live Register, March 2010).

2009, more than one in five workers were in part time employment[9] - three percentage points above the share in quarter 4 2008.

Females were three times more likely to work part time: 34.6% compared to 11.6% for males in quarter 4 2009. However, the share of males in part time employment rose faster: a 3.5 percentage point increase between quarter 4 2008 and quarter 4 2009, compared to 1.5 for females.

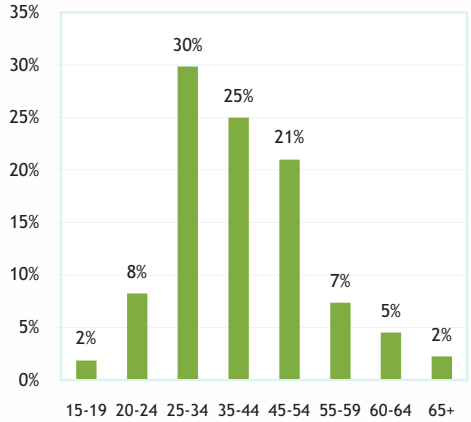
Figure 1.4 Employment by Employment Type (%), Quarter 4 2009



Source: SLMRU (FÁS) analysis of CSO data

Figure 1.5 depicts the age distribution of overall employment. In quarter 4 2009, 40% of national employment was younger than 35 years. However, the share of employment in cohorts between 15 and 34 years declined compared to quarter 4 2008.

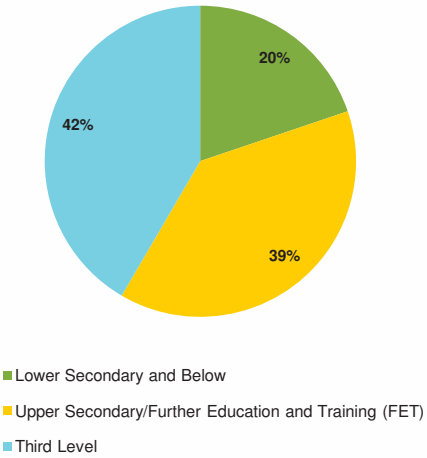
Figure 1.5 Employment by Age (%), Quarter 4 2009



Source: SLMRU (FÁS) analysis of CSO data

Figure 1.5 shows the educational attainment of persons in employment. In quarter 4 2009, 42% held third level qualifications, 39% held upper secondary of further education/training qualifications and 20% held lower secondary and below qualifications. The share of third level graduates increased by almost four percentage points compared to quarter 4 2008.

Figure 1.6 Employment by Education (%), Quarter 4 2009

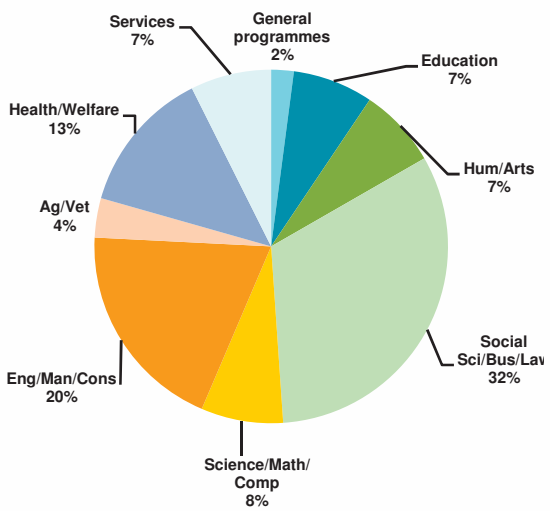


Source: SLMRU (FÁS) analysis of CSO data

[9] Of which, 3.8% stated a preference for longer working hours (i.e. were underemployed).

In terms of their field education, one third had completed programmes in social science, business and law; one in five had completed programmes in engineering, manufacturing and construction (Figure 1.7).

Figure 1.7 Employment by Education Field (%), Quarter 4 2009



Source: SLMRU (FÁS) analysis of CSO data

Note: Based on those in employment stating their field of education.

1.4 National Skills Strategy: Progress to Date

Figure 1.9 compares the education attainment of Ireland's labour force with the targets set out in the National Skills Strategy (NSS) for 2020[10]. In quarter 4 2009, Ireland continued to make progress towards the NSS targets: the share of the labour force with lower secondary education continued to fall and the share of third level graduates increased to 39%. Nonetheless, further progress is necessary if the targets are to be met by 2020, particularly in relation to those with less than upper secondary education whose share of 21% in quarter 4 2009 was three times the NSS target of 7%.

Figure 1.9 Education Attainment of the Labour Force and NSS Vision for 2020

Source: SLMRU (FÁS) analysis of CSO data

Note: Based on those in the labour force stating their highest level of education attained.

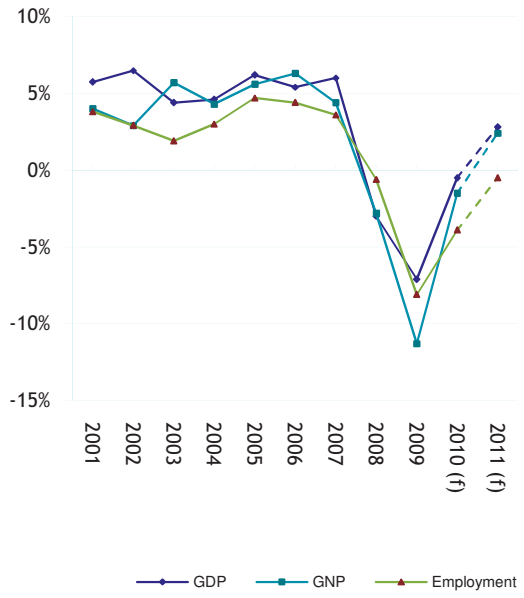
1.5 Economic Outlook and Implications for Employment

In 2009, the Irish economy experienced the sharpest contraction in economic growth to date with GDP falling by 7.1% (GNP by 11.3%) - successive declines were registered in both of these measures in each quarter of the year (Figure 1.8). The economy is expected to contract by a further 0.5% in GDP terms (-1.5% in GNP terms) in 2010, although growth

[10] EGFSN (2006) *Tomorrow's Skills: Towards a National Skills Strategy*

(2.8% GDP (2.4% GNP)) is expected to resume for 2011[11].

Figure 1.8 Economic and Employment Growth (Year on Year Percentage Change), 2000-2010



Source: CSO; Central Bank & Financial Services Authority of Ireland

Following unprecedented falls in employment levels in 2009, the decline in employment is expected to decelerate in 2010, an estimated annual decline of 3.9% or 75,000. The anticipated outward migration and further falls in labour force participation are expected to temper the rise in unemployment (projected to average 13.7% in 2010).

While employment growth is expected from 2011, total employment is not expected to recover to pre-recession levels by 2015. As outlined in the FÁS/ESRI *Occupational Employment Forecasts 2015*[12], assuming a recovery in the global and Irish economies (including restoration in the financial system and Irish competitiveness), employment growth is expected to resume beyond 2010. However, even if all of the above factors were to materialise, the total number of persons employed in 2015 would be almost 80,000 lower than the peak level reached in 2008.

[11] Central Bank & Financial Services Authority of Ireland, Quarterly Bulletin 2002, April 2010. The ESRI expects -0.5% GDP (zero GNP) growth in 2010 and 2.5% GDP (2.75% GNP) growth in 2011 (ESRI, 2010. Spring Quarterly Economic Commentary).

[12] FÁS/ESRI: *Occupational Employment Forecasts 2015* (February 2010).

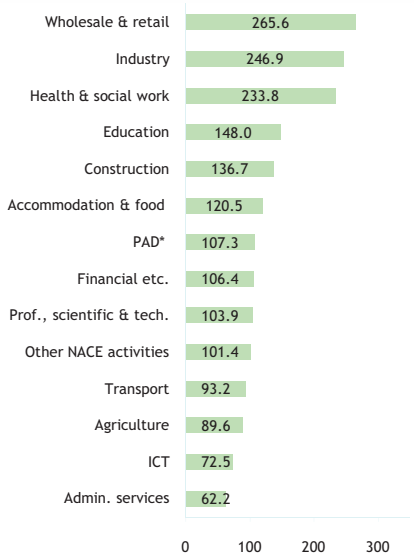
Section 2 Employment by Economic Sector

The new CSO classification of industrial sectors, *NACE Rev.2* has been adopted in this year's Bulletin[13]. To facilitate a time series analysis, the CSO mapped historical employment data at broad sectoral level to the new NACE classification for all quarters over the period 2004-2008. However, at sub-sectoral level, this historical mapping was available to the SLMRU only for quarter 1 2008. Therefore, sub-sectoral comparisons were made for quarter 1 2008 and quarter 4 2009.

2.1 Employment

Figure 2.1 depicts employment by broad sector of economic activity. The wholesale and retail trade was the largest sector in quarter 4 2009, with 265,500 persons employed. The second largest sector, referred to as 'industry', which is comprised of manufacturing and other productive industries, employed 247,000 persons. The third largest sector was health and social work, with just below 234,000 persons employed.

Figure 2.1 Persons in Employment by Broad Economic Sector (000s), Quarter 4 2009



Public administration and defence

Source: SLMRU (FÁS) analysis of CSO data

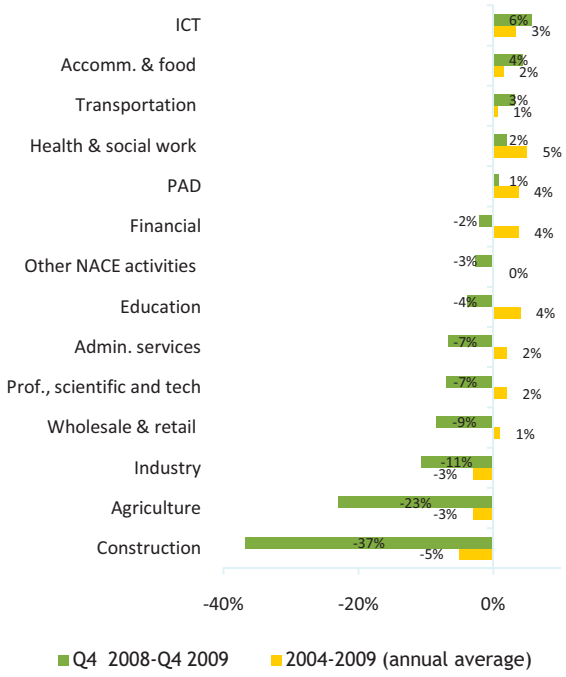
2.2 Employment Growth (2004-2009)

Following the peak employment levels recorded in 2008, overall employment reverted to the 2004 levels in quarter 4 2009. However, while most sectors held at or above their 2004 levels, industry, agriculture and construction recorded lower employment levels compared to quarter 4 2004. This is reflected in the annual average growth rates for the period 2004-2009, presented in Figure 2.2.

With the exception of ICT, accommodation and food services, transport, health and social work, and public administration and defence (PAD), employment in all sectors declined between quarter 4 2008 and quarter 4 2009.

[13] The changes occurred at every level of the classification and introduced new sectors for 'Water Supply, Sewage, Waste Management and Remediation', 'Information and Communication', 'Professional, Scientific and Technical Activities', 'Administrative and Supportive Service Activities' and 'Arts, Entertainment and Recreation'.

Figure 2.2 Employment Growth by Sector (%)



Source: Analysis by FÁS (SLMRU) based on CSO data

Construction

Following a sharp contraction in 2008, employment in construction continued to decline during 2009. Over the period quarter 4 2008 to quarter 4 2009, employment contracted by 37% (80,000). As a result, the relative size of the sector declined from 13% recorded at its peak in 2007 to 7% of total employment.

Administrative and Support Service Activities

Following a sharp decline in 2008, employment in these activities further contracted in 2009. This decline was driven by decreased activity in the property sector (renting, leasing, property management and landscape, etc.) and in overall economic activity (recruitment, travel, security, etc.).

Agriculture

The decline in agricultural employment had been observed even before the recession and this trend continued in 2009. Crop and animal production bore the brunt of this decline, while fishing, aquaculture and forestry remained relatively static.

Wholesale and Retail Trade

Employment in the wholesale and retail sector declined by 9% (25,000) between quarter 4 2008 and quarter 4 2009. Nonetheless, the sector still accounted for 14% of the total national employment, unchanged from its share in the first quarter of 2008.

In quarter 4 2009, the motor trade sub-sector accounted for approximately one-in-eight jobs, while just under one-in-five worked in the wholesale segment. The largest sub sector was retail, employing approximately 185,300 persons, thus accounting for almost 70% of total employment in the wholesale and retail sector.

Both the motor and wholesale trade sectors shed approximately one quarter of their workforce since quarter 1 2008. At the same time, the retail segment contracted by almost 12%.

Accommodation and Food Services

In quarter 4 2009, there were 120,500 persons employed in this sector. Most of the job losses associated with the recession had already occurred between quarter 3 2007 and quarter 4 2008. However, by the end of quarter 4 2009, employment was 4% higher than that recorded in quarter 4 2008.

Within the sector, 44,500 persons were working in accommodation related activities, while 76,000 were engaged in food and beverage service activities.

Professional, Scientific and Technical Activities

This sector comprises a wide range of economic activities that are associated with highly skilled professionals. It is estimated that there were 104,000 persons engaged in these activities in the final quarter of 2009. Considering this sector in more detail reveals the following:

- a total of 27,800 persons were engaged in architectural and engineering activities and technical testing and analysis
- there were just fewer than 24,000 persons engaged in legal and accounting activities
- there were 7,400 persons engaged in activities classified as head office and management consultancy
- a total of 6,400 persons were providing advertising and market research services
- it is estimated that there were 4,800 persons engaged in veterinary activities
- there were approximately 3,700 persons engaged in scientific research and development
- finally, there were 30,000 persons engaged in other professional, scientific and technical activities.

Employment in this sector peaked in quarter 2 2008 and declined thereafter, although growing slightly in quarter 4 2009.

Transportation and Storage

In quarter 4 2009, employment in the transportation and storage sector was estimated at just above 93,000 – approximately 4,000 lower than its peak level in quarter 4 2007.

Within the sector, postal/courier activities and air transport expanded while all other segments (warehousing and support activities for transport, land transport and water transport) contracted since quarter 1 2008.

With 50,500 persons employed, land transport remained the largest economic activity within this sector.

Information and Communication Technology

This sector has not experienced net job losses[14] since the beginning of the recession. At 73,000 in quarter 4 2009, total employment in this sector was 6% higher than recorded in quarter 4 2008.

This sector comprises activities related to:

- computer programming, consultancy and related activities (35,000 persons employed)
- telecommunications (20,000 persons employed)
- information service activities (5,600 persons employed)
- publishing (5,500 persons employed)
- programming and broadcasting activities (4,500 persons employed)
- motion picture, video and television programme production, sound recording and music publishing activities (2,500 persons employed).

[14] The QNHS provides employment data, not job creation data; however, by looking at the change in the level of employment one can assess the net result of the total job creation and job losses. If an increase in the employment level is observed between two time points it implies that there were more jobs created than lost over that period - this is referred to as 'net job creation'; a decline in employment is referred to as 'net job losses'.

Financial, Insurance and Real Estate Services

The total employment in this sector was estimated at 106,500 - financial service activities (banking) remained the largest segment, employing approximately 66,000 persons.

Employment in this sector expanded by about 3% since the first quarter of 2008 (although it contracted by 2% between quarter 4 2008 and quarter 4 2009), with the growth occurring in financial service activities; insurance, reinsurance and pension funding; and activities auxiliary to financial services and insurance activities. On the other hand, employment in real estate activities declined sharply.

Public Administration and Defence (PAD)

In quarter 4 2009, there were approximately 107,000 persons employed in public administration and defence, which is broadly in line with the quarter 4 2008 level.

Health

In quarter 4 2009, there were 234,000 persons employed in health and related activities, accounting for one in eight of all those in employment in Ireland. The health related activities sub sector remained the largest, employing 147,000 persons.

Employment in this sector expanded by 6% between quarter 1 2008 and quarter 4 2009. While all activities grew, residential care and social work activities expanded at a much faster rate (by 13% and 9% respectively) compared to human health activities (4%).

Education

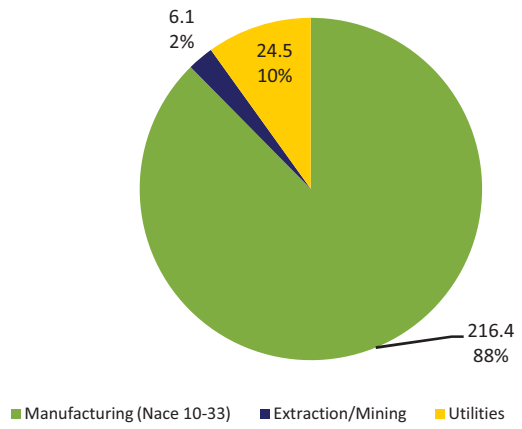
It is estimated that there were 148,000 persons employed in the education sector in quarter 4 2009. Between quarter 4 2008 and quarter 4 2009, employment contracted by 4%, partly driven by the decline in the number of educational assistants and vocational/industrial trainers.

Manufacturing and Other Productive Industries

It is estimated that there were 247,000 persons employed in the industrial sector (manufacturing and other productive activities) in quarter 4 2009 – accounting for 13% of total employment.

At over 216,000, employment in manufacturing activities accounted for almost 90% of total industrial employment in the same period (Figure 2.3). It is estimated that there were 6,000 persons employed in extraction activities (mining and quarrying) and 24,500 persons in utilities (electricity, gas and air conditioning, water supply, sewerage, and waste management).

Figure 2.3 Industrial Employment by Broad Sector (000s), Quarter 4 2009

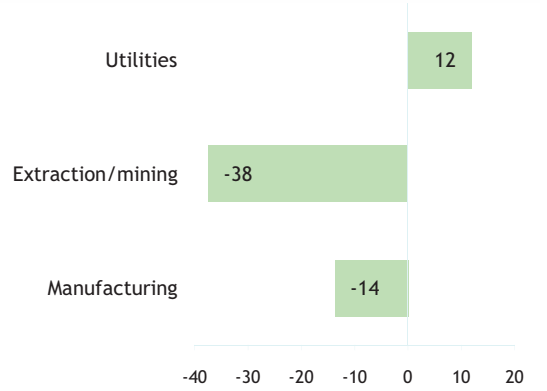


Source: Analysis by FÁS (SLMRU) based on CSO data

Between quarter 1 2008 and quarter 4 2009, the industrial sector as a whole (manufacturing, utilities and extraction combined) contracted by 12.5% - equivalent to net job losses of 35,000. As shown in Figure 2.4, employment in mining and manufacturing contracted by 38% (4,000) and 14% (34,000) respectively.

Employment in utilities increased by 12% - the only segment of industry that recorded positive growth over the period quarter 1 2008 to quarter 4 2009. The total net job creation of 2,700 was due to expansion in the electricity, gas and air conditioning sector. This was driven by energy market deregulation and the policy shift towards renewable energy generation.

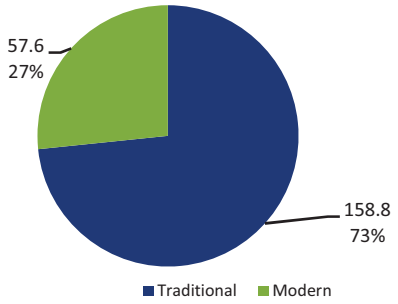
Figure 2.4 Industrial Employment Growth by Sub-Sectors (%), Q1 2008-Q4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 2.5 shows the breakdown of employment between the traditional and modern manufacturing sector (chemicals, pharmaceutical products, computer, electronic & optical products, and electrical equipment). In quarter 4 2009, almost three quarters of manufacturing employment was in the traditional sector.

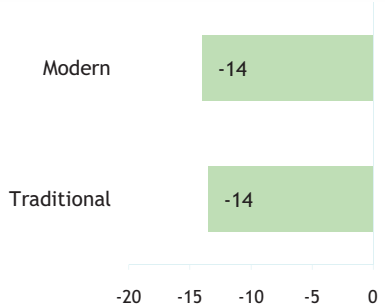
Figure 2.5 Employment in Manufacturing by Broad Sector (000s), Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Between quarter 1 2008 and quarter 4 2009, employment in modern and traditional manufacturing each declined by 14% (Figure 2.6).

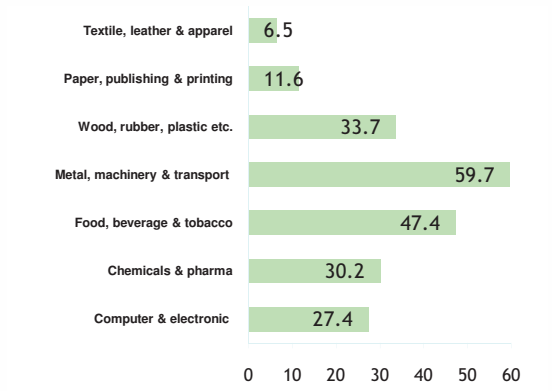
Figure 2.6 Employment Growth in Manufacturing by Broad Sector (%), Q1 2008 - Q4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 2.7 shows the distribution of employment in manufacturing by sub-sector in quarter 4 2009.

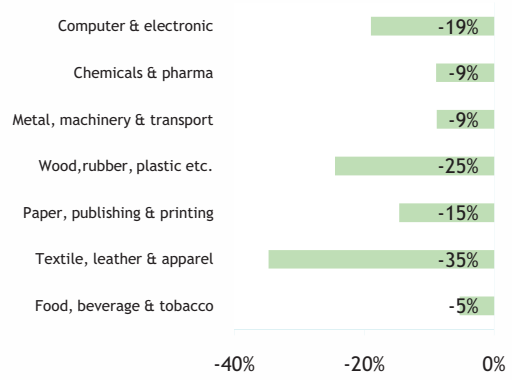
Figure 2.7 Employment in Manufacturing Sub-Sectors (000s), Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 2.8 shows the change in employment across manufacturing sub-sectors between quarter 1 2008 and quarter 4 2009.

Figure 2.8 Employment Change in Manufacturing Sub-Sectors (%), Q1 2008-Q4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Within the modern sector, employment in computer and electronic manufacturing (which includes optical and electrical equipment) declined by 19% (6,500) between quarter 1 2008 and quarter 4 2009; chemicals and pharmaceuticals by 9% (3,000).

Within traditional manufacturing, between quarter 1 2008 and quarter 4 2009:

- employment in the food, beverage and tobacco sub-sector declined by 5%, to 47,400; the decline was almost identical for both food and beverage related activities; the tobacco sector has effectively ceased to provide employment
- employment in the textile, leather and apparel sub-sector declined by 35%; employment in the manufacture of textiles almost halved
- employment in paper, printing and reproduction of recorded media activities declined by almost 15% to 11,600; the manufacture of paper and paper products remained unchanged, suggesting that other activities accounted for the entire reduction in employment
- employment in metal, machinery and transport equipment production declined by 9% to 59,700; the manufacture of basic metals and basic metal products fell by 31% and 23% respectively; the repair and installation of machinery and equipment, and the manufacture of machinery and equipment (including transport equipment) recorded effectively no change in employment
- employment in wood, furniture, rubber, plastic & other non-metal products declined by approximately one fifth; the total employment declined by almost 11,000 to 33,700; the manufacture of non-metallic mineral products declined by 39%; wood & wooden products, by 30%.

Other NACE activities

It was estimated that there were 101,500 persons engaged in a diverse range of activities classified under this heading. The largest sub-segment was personal services activities, with 29,000 persons employed.

2.3 Expected Employment Trends by Sector

The sectoral outlook and its implications on employment are examined in this section. The main focus is on the medium term outlook; however, some indications of the short term perspective are also provided based on relevant policy decisions and the most up-to-date economic commentaries.

Global Context and Outlook

The world economy has been recovering and it is projected that global growth will amount to 4.2% this year, with an almost identical rate projected for the following year (IMF).

Following a 12% decline in 2009, the WTO expects world trade flows to grow by 9.5% in 2010. Exports from developed economies are projected to increase by 7.5% in volume terms.

Given that Ireland is one of the most globalised countries in the world, this should create opportunities for growth in Irish exports. However, growth in the euro area and the UK, which are important trading partners for Ireland, is likely to be slower due to ongoing financial crises, high sovereign debt and a risk of financial crisis contagion.

Ireland's competitiveness is expected to improve: the European Commission estimates that unit labour costs in Ireland will have fallen by 6% in the two year period 2009-2010, compared with an increase in the euro area of 2.9%.

Assuming successful completion of fiscal consolidation and the restoration of the financial system, growth is expected to resume in the latter half of 2010. The recovery is expected to be export driven with the expansion of higher value-added but less labour intensive activities (e.g. ICT; bio-pharma; chemical). As a result, employment growth is likely to lag behind growth in output.

Sectoral Outlook and Employment

Construction

All segments of the construction sector continue to contract, although the rate of decline in the residential and civil engineering slowed in 2010. The short term outlook for the sector is challenging due to an oversupply of housing and commercial property, poor consumer confidence, and reduced state and private investment in capital projects.

While a recovery is projected from 2011, employment is not expected to recover to the peak levels recorded in 2008 in the foreseeable future. Job creation in the recovery is expected to be driven by repair and maintenance activities and energy efficiency related initiatives - investment in renewable energy technologies and infrastructure.

Wholesale and Retail

Activity in this sector tends to reflect overall economic performance. Consequently, some recovery in employment is expected in this sector in the latter half of 2010. However, in the medium term, employment is not expected to recover to the peak levels that prevailed in 2008.

Agriculture

In terms of employment, agriculture is the only sector (along with some traditional manufacturing activities) which is expected to

continue on a downward trajectory even beyond the recession.

In 1990, almost 170,000 persons were employed in agricultural activities; by 2009 this number had declined to 90,000; employment is expected to further decline to 60,000 by 2015[15].

Accommodation and Food Services

The sector experienced a fall in demand in 2009: overseas visits decreased by 11.6% compared with 2008[16] and the number of nights spent in paid accommodation declined by 20%. In the short-term, the sector remains vulnerable to general economic conditions at home and abroad, currency fluctuations, flight disruptions, etc. While the sector is likely to benefit from global recovery in the medium term, employment is not expected to revert to the 2008 level by 2015.

Financial, Insurance and Real Estate

Following the unprecedented efforts to recapitalise and stabilise the domestic banking sector, the attention of policy makers has turned to regulation. As a result, restructuring and consolidation of the sector is expected to continue, with some possible job losses in retail banking. In the medium term, employment is expected to recover strongly and return to pre-recession levels by 2015.

Information and Communication Technology

This sector has demonstrated considerable resilience during the recession. Employment prospects are expected to be good in the medium term.

Professional, scientific and technical activities

Although segments related to property and construction activities (e.g. architectural services) are expected to lag in recovery, the anticipated expansion in professional, scientific and technical activities is expected to contribute significantly to the overall job creation beyond the recession.

Healthcare

Employment prospects in the public healthcare sector are likely to remain limited in the short-medium term due to budgetary constraints. Nevertheless, there is some evidence of demand-driven growth continuing in certain segments of the sector (e.g. private residential care for the elderly).

Manufacturing and Other Industry

In March 2010, manufacturing expanded for the first time in more than two years as the global economic recovery boosted export demand. However, while the modern sector recorded a 5.9% annual increase in production in March 2010, a decrease of 2.9% was recorded in the traditional sector[17].

High-tech manufacturing is expected to contribute to the overall job creation beyond the recession. However, output growth is not expected to translate into equivalent employment growth as many activities are likely to be high value added and less labour intensive.

Employment in some segments of the traditional manufacturing sector (e.g. textile, leather & apparel; paper, publishing and

[15] FÁS/ESRI (2010) *Occupational Employment Forecast 2015.*
[16] CSO (April 2010) *Tourism and Travel 2009.*
[17] CSO (February and March 2010: *Industrial Production & Turnover.*

printing) is expected to continue to contract beyond the recession.

Utilities

The prospects for the sector remain positive. The anticipated National Water Services Infrastructure Programme combined with more stringent targets in the use of renewable sources of energy and the disposal of waste will generate employment opportunities in the future.

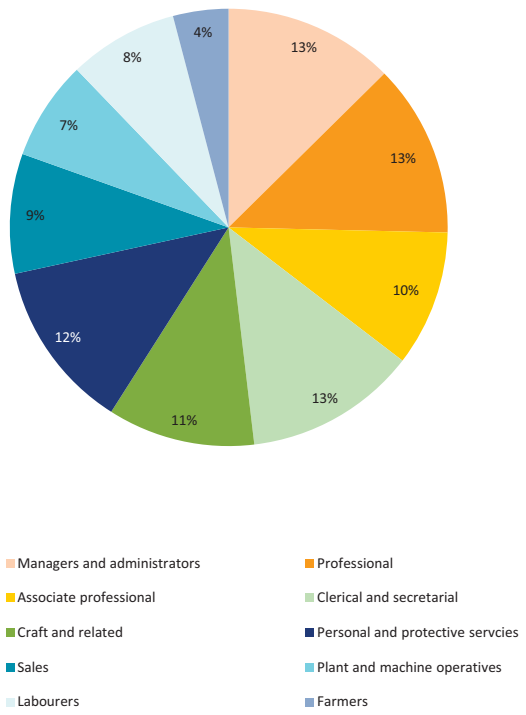
The renewable energy sector is expected to contribute significantly to job creation in the coming years through investment in renewable power generation, clean electricity and energy efficiency (e.g. recent announcements on expansion by ESB and An Bord Gáis).

Section 3 Employment by Broad Occupation

3.1 Employment

Figure 3.1 presents employment in 2009 by broad occupation. In 2009, almost half of those in employment were 'white collar' workers: managers, professionals, associate professionals or clerks. Each of these occupational groups, as well as personal and protective services occupations, has made gains in terms of their share of total employment compared to 2008. In contrast, the share of craftspersons, operatives and labourers declined. The greatest decline was observed for craftspersons who lost 2 percentage points of their share of the national employment (13% to 11%).

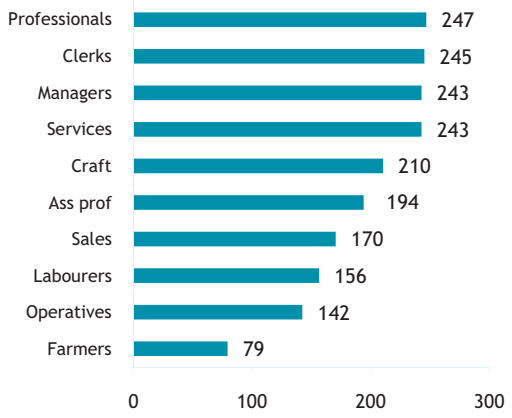
Figure 3.1 Employment by Broad Occupational Group (%), 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

In 2009, professionals, clerks, managers and services occupations each accounted for a quarter of a million persons in employment (Figure 3.2). At 210,000, craftspersons represented the fifth largest occupational group. This is a change from preceding years, when craft occupations accounted for the largest number of persons employed compared each of the other occupational groups.

Figure 3.2 Employment by Broad Occupational Group (000s), 2009



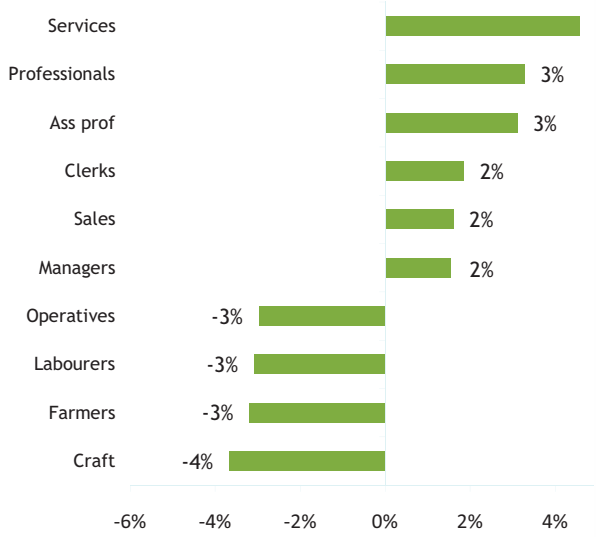
Source: Analysis by FÁS (SLMRU) based on CSO data

3.2 Employment Growth

Figure 3.3 shows employment growth in broad occupational groups for the period 2004-2009. With the exception of farmers, employment in all occupational groups grew until 2007. The decline in 2009 brought employment to below 2004 levels for craft, operative, labouring and farming occupations, resulting in a negative 5-year annual growth rate for each of these occupations. Employment in all other

occupations remained above 2004 levels resulting in each occupation recording a 5-year annual average growth rate exceeding the national average of 1%. The strongest growth was recorded in the services, professional and associate professional categories.

Figure 3.3 Annualised Employment Growth by Broad Occupational Group, 2004-2009

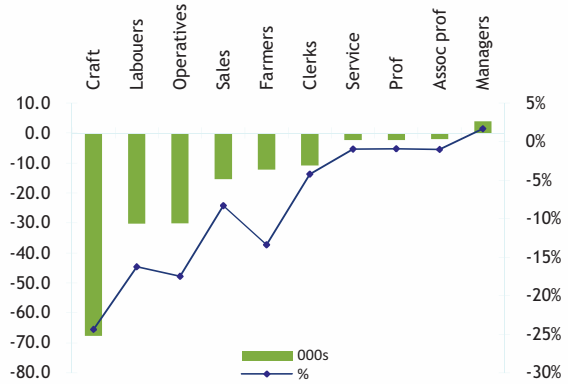


Source: Analysis by FÁS (SLMRU) based on CSO data

With the exception of managers, employment declined in all occupational groups between 2008 and 2009 (Figure 3.4). The greatest decline was recorded for craft occupations, for which employment contracted by a quarter. This represents a decline of almost 70,000 (on an annual average basis), which is 40% of the total national employment decline during that period. The number of operatives and labourers contracted by more than 15% or by 30,000 each.

The number of professionals and associate professionals in employment declined by 1% compared to 2008. However, there was an upward movement in employment levels in the last quarter of 2009.

Figure 3.4 Employment Growth by Broad Occupational Group, Annualised Data, 2008-2009



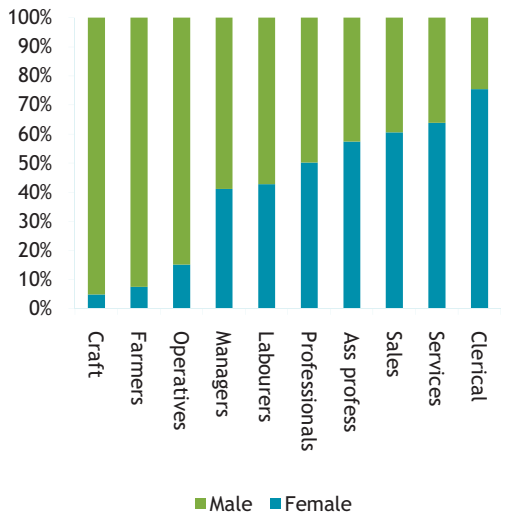
Source: Analysis by FÁS (SLMRU) based on CSO data

3.3 Employment by Gender

Figure 3.5 presents the gender distribution of employment in broad occupational groups in quarter 4 2009. The share of females remained relatively unchanged in all occupations compared to quarter 4 2008, with females dominating in clerical, sales, services and associate professional occupations (e.g. nurses).

The exception is the labourer category in which females gained 4 percentage points compared to quarter 4 2008. This shift is likely due to the disproportionate decline in construction activity on male labourers.

Figure 3.5 Employment by Gender and Broad Occupational Group (%), Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

3.4 Employment by Age

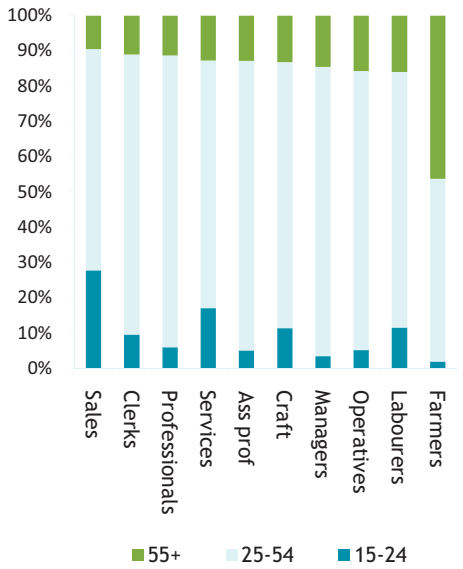
The age distribution of employment in broad occupational groups in quarter 4 2009 is presented in Figure 3.6. As in last year's Bulletin, the share of younger workers was the highest for sales occupations (28%), while the share of persons older than 55 was by far the highest among farmers (46%).

Compared to quarter 4 2008, the share of persons younger than 25 years declined in all occupations. The share of employment in this age cohort declined by 4 percentage points for craftspersons; 3 percentage points for operatives; clerks and personal, security etc. service providers. In contrast, the share of persons older than 55 years increased marginally in most occupations.

The decline in the share of those aged 25 or under in each occupational group indicates that younger persons have been disproportionately negatively affected by the recession. Although under-25s represented 13% of national employment in 2008, they accounted for 40% of the decline in employment between quarter 4 2008 and quarter 4 2009. Employment in this age cohort declined for professional and associate professional groups over the period, while employment in older age groups increased.

The inflow of new labour market entrants into employment has been impeded by the lack of job opportunities in the downturn. In addition, younger persons have been at a greater risk of losing employment through workforce adjustments based on the 'last in, first out' principle. These factors have contributed to the shifts in the age distribution of the workforce towards older age cohorts.

Figure 3.6 Employment by Age and Broad Occupational Group (%), Quarter 4 2009



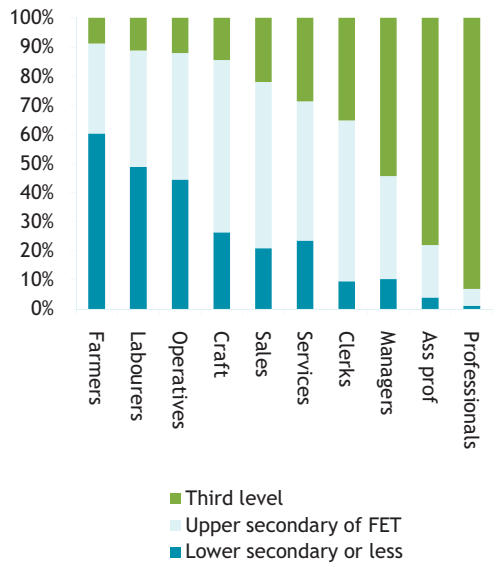
Source: Analysis by FÁS (SLMRU) based on CSO data

3.5 Employment by Education

Figure 3.7 presents the education distribution of employment in broad occupational groups in quarter 4 2009. Similar to previous Bulletin issues, third level graduates are dominant amongst professionals, associate professionals and managers.

Compared to quarter 4 2008, the share of third level graduates increased for associate professionals, clerks and managers. In fact, for these occupational groups, employment of third level graduates increased, while it declined in cohorts with lower education attainment. The share of third level graduates also increased in services occupations.

Figure 3.7 Employment by Education and Broad Occupational Group (%), Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

3.6 Employment by Nationality

Figure 3.8 presents employment in broad occupational groups by nationality in quarter 4 2009.

Between quarter 4 2008 and quarter 4 2009, the share of non-Irish nationals decreased in all occupational groups. Their share amongst craftspersons declined by 3 percentage points to 14% in quarter 4 2008. However, the share of non-Irish nationals continues to be above the national average for labourers, operatives, service workers and sales persons.

The number of non-Irish managers, professionals and associate professionals declined between quarter 4 2008 and quarter 2009, while it increased for the Irish nationals. In addition, the share of non-Irish in the decline in employment for all other occupations was greater than their share in employment in quarter 4 2008.

Figure 3.8 Employment by Nationality and Broad Occupational Group (%), Quarter 4 2009

Source: Analysis by FÁS (SLMRU) based on CSO data

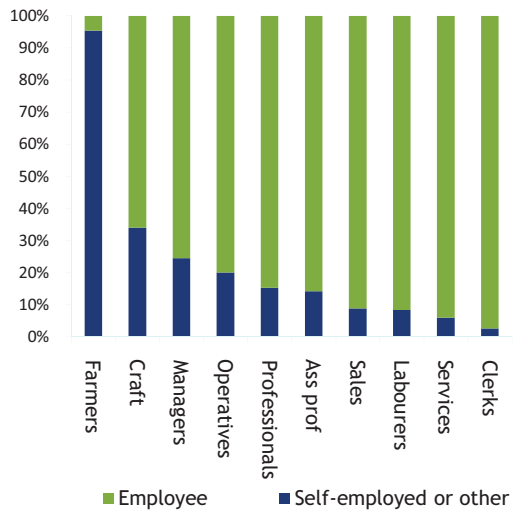
3.7 Employment Status

Figure 3.9 presents employment in broad occupational groups by employment status in quarter 4 2009. With the exception of farmers, most persons working in each of the broad occupational groups are employees. The presence of proprietors (e.g. shop owners) increases the share of those self-employed in the managerial occupational group.

The share of self-employed craftspersons increased by 3 percentage points compared to quarter 4 2008, suggesting that the decline in job opportunities resulted in some redundant craftspersons establishing their own business.

The share of self-employed increased by 1 percentage point for professionals, sales persons and operatives.

Figure 3.9 Employment by Employment Status and Broad Occupational Group (%), Quarter 4 2009

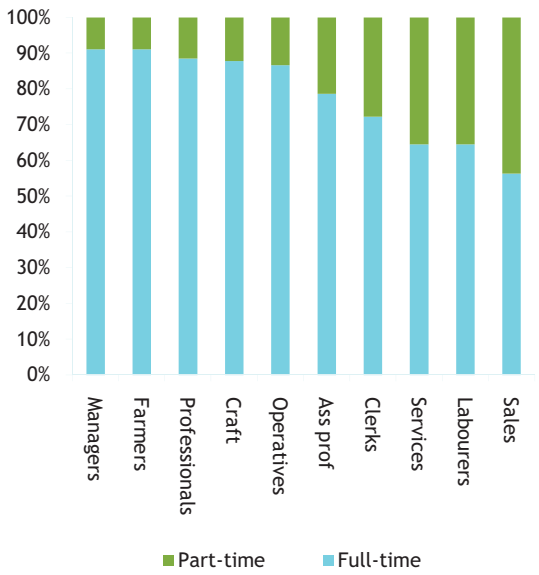


Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 3.10 presents the distribution of employment between full time and part time workers in broad occupational groups in quarter 4 2009.

As in previous Bulletin issues, in quarter 4 2009, employment across all occupational groups was predominantly full time. However, between quarter 4 2008 and quarter 4 2009, there was an increase in the share of part time workers in all occupational groups, except for farmers and managers. This suggests that there has been further adjustment in the labour market (in terms of hours worked) in line with lower levels of economic activity. The greatest increase in the share of part time workers was observed for craftspersons and labourers (6 percentage points each).

Figure 3.10 Full Time and Part Time Employment in Broad Occupational Groups (%), Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

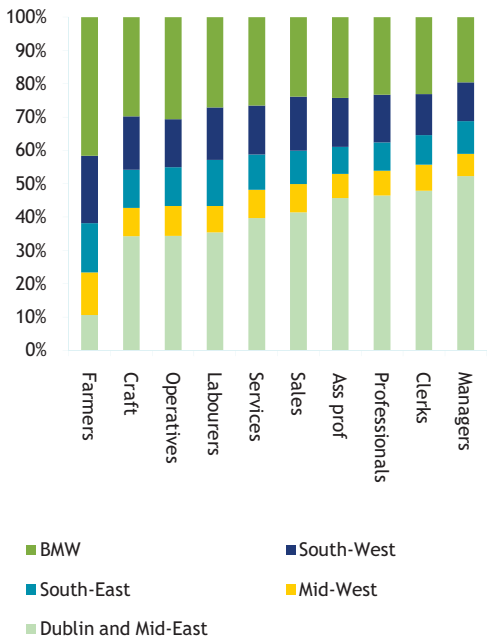
3.8 Employment by Region[18]

The regional distribution of employment in broad occupational groups in quarter 4 2009 is presented in Figure 3.11.

With the exception of farmers, at least one third of employment in each occupational group is located in the Dublin and Mid-East region. Over 40% of all 'white collar' workers (professionals, associate professionals, managers and clerks) are employed in this region.

The regional distribution of employment has not changed significantly compared to quarter 4 2008. The share of employment located in Dublin and the Mid-East declined marginally for professionals, operatives and labourers.

Figure 3.11 Employment by Region and Broad Occupational Group (%), Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

[18] While regions are defined by NUTS3, for presentation purposes the Border, Midlands and Western Regions are grouped into the BMW region and Dublin and the Mid-East into the Dublin and Mid-East region.

Section 4 Regional Skills Profiles

4.1 Employment Level and Employment Growth

Figure 4.1 presents national employment broken down by region for quarter 4 2009. At 550,000, 30% of national employment was located in Dublin.

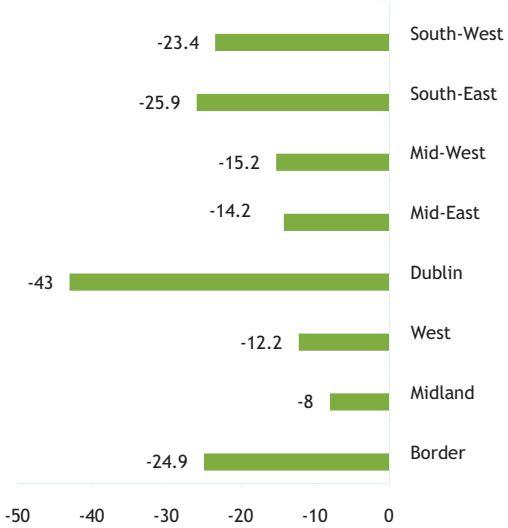
Between quarter 4 2008 and quarter 4 2009 employment levels declined in all regions. Over that period the regional distribution of employment remained almost unchanged, with marginal losses in shares for the Border, Mid-West and South-East regions and gains elsewhere.

Figure 4.1 Employment by Region (000s)

Source: CSO

At 43,000, the greatest decline in employment was recorded in Dublin (Figure 4.2). This was followed by the Border, South-West and South-East regions, each recording a net loss of approximately 25,000 jobs.

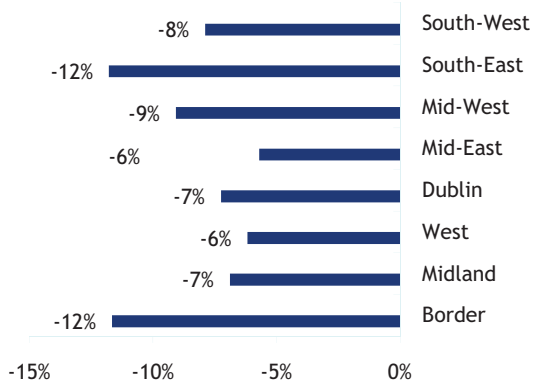
Figure 4.2 Employment Change by Region (000s), Q4 2008 – Q4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

In relative terms, the greatest declines were recorded in the Border and South-East regions – each contracting by 12% over the period (Figure 4.3). The smallest relative declines were recorded for the West and Mid-East regions.

Figure 4.3 Employment Change by Region (%), Q4 2008 – Q4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Of the total employment decline of 167,000 recorded between quarter 4 2008 and quarter 4 2009, one quarter was located in Dublin (Table 4.1). When combined with the Mid-East region, it accounted for just over one third of the total employment decline.

Table 4.1 Change in Employment (000s) and Regional Share in the Change

	Q4 2008 - Q4 2009	Share in total decline	Share in total employment quarter 4 2009
Border	-24.9	15%	10%
Midland	-8.0	5%	6%
West	-12.2	7%	10%
Dublin	-43.0	26%	29%
Mid-East	-14.2	9%	12%
Mid-West	-15.2	9%	8%
South-East	-25.9	16%	10%
South-West	-23.4	14%	14%
Total	-166.8	100%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Between quarter 4 2008 and quarter 4 2009, unemployment increased in all regions (Table 4.2). In absolute terms, the greatest increase was observed in Dublin (+23,000), which represents one quarter of the total increase in unemployment over the period.

Since quarter 4 2008, the unemployment rate moved into double digits in all regions. In quarter 4 2009, persons located in the South-East region were at the highest risk of unemployment. The unemployment rate in this region increased from 9% to almost 16%. The unemployment rate was also higher than the national average for the Border, Midlands, and Mid-West regions. The risk of unemployment was the lowest in Dublin.

Table 4.2 Unemployment (000s), Change in Unemployment (000s) and Unemployment Rates (%) by Region

	Q4 2009	Q4 2008 - Q4 2009	UE rate	Share In total UE
	000s			
Border	28.9	+9.1	13.3%	11%
Midland	18.3	+6.1	14.4%	7%
West	26.5	+6.1	12.5%	10%
Dublin	66.9	+23.1	10.8%	25%
Mid-East	30.3	+14.0	11.4%	11%
Mid-West	25.2	+9.4	14.2%	9%
South-East	36.2	+15.0	15.7%	14%
South-West	35.1	+14.8	11.4%	13%
Total	267.4	+97.6	12.4%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

While withdrawal from the labour force was evident in all regions in quarter 4 2009, compared to quarter 4 2008, the greatest decrease in the participation rate was observed for the Border and the South-East

regions (4.5 and 3.2 percentage points respectively) as shown in Table 4.3.

Table 4.3 Participation Rates by Region

	Q4 2008	Q 4 2009	Percentage point change
Border	59.7%	55.2%	-4.5
Midland	61.5%	60.1%	-1.4
West	63.3%	61.7%	-1.6
Dublin	64.7%	63.5%	-1.2
Mid-East	66.0%	65.8%	-0.2
Mid-West	61.9%	60.9%	-1.0
South-East	62.2%	59.0%	-3.2
South-West	61.1%	59.9%	-1.2
Total	62.9%	61.2%	-1.7

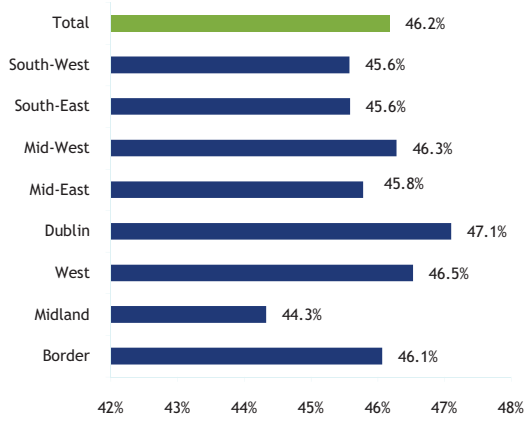
Source: Analysis by FÁS (SLMRU) based on CSO data

4.2 Employment by Gender

Figure 4.4 presents the share of females in employment by region. In quarter 4 2009, males dominated employment in all regions. The highest share of females was found in the Dublin region; the lowest was in the Midlands.

Between quarter 4 2008 and quarter 4 2009, the share of females increased in all regions. In some regions (the Border and Mid-East), the increase in share over this period was almost as large as that recorded in the ten-year period 1998-2008. The substantial gain in share during 2009 would suggest that, in each region, females were less affected by the recession than males.

Figure 4.4 Share of Females in Employment by Region, Quarter 4 2009



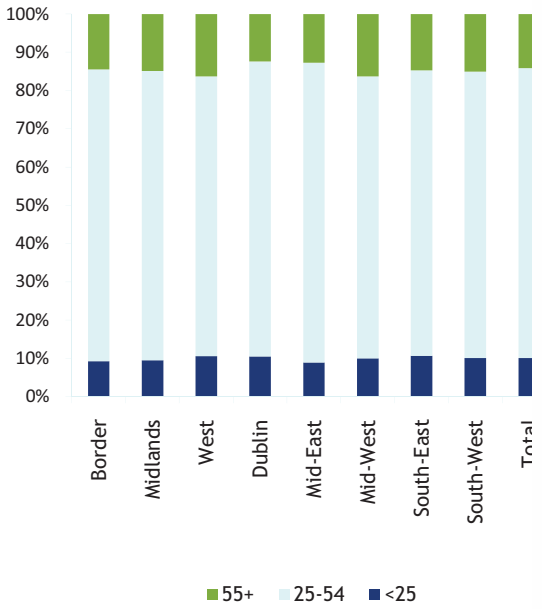
Source: Analysis by FÁS (SLMRU) based on CSO data

4.3 Employment by Age

Figure 4.5 presents regional employment by age in quarter 4 2009. In this quarter, all regions had similar age distributions, with approximately three quarters of employment in the 25-54 age cohort. The West and Mid-West regions had the highest share of older workers.

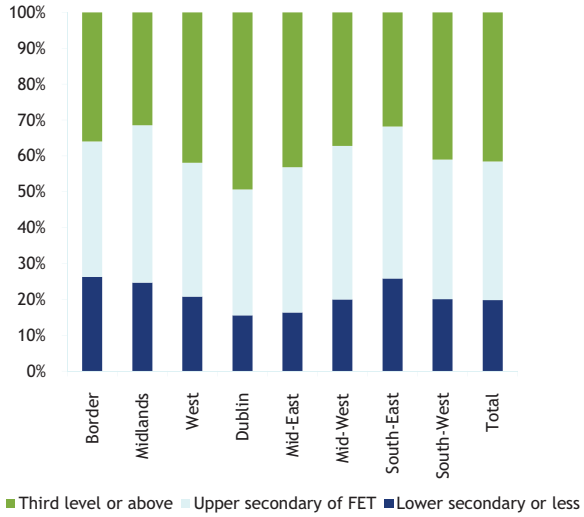
Since quarter 4 2008, the share of employment in the under 25 category declined in all regions. For instance, in the Border region, the share of persons aged 25 or younger declined from 13% to 9%. This suggests that, in each region, younger persons (new entrants into the labour force and those 'last in' employment) have been more severely affected by the recession than older workers. The decrease in the labour market participation rate of under-25s in each region suggests that many are staying on or returning to education.

Figure 4.5 Regional Employment by Age, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 4.6 Regional Employment by Education, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

4.4 Employment by Education

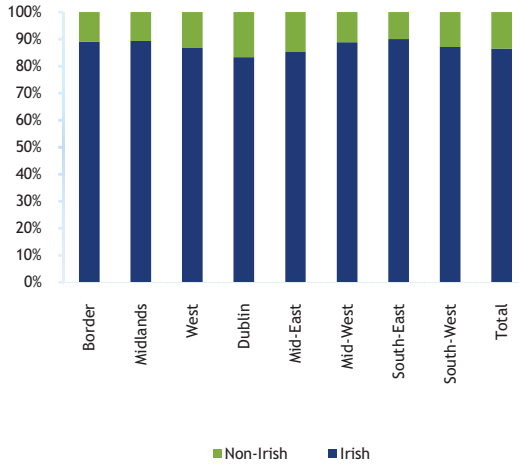
Figure 4.6 presents regional employment by the highest level of education attained. In quarter 4 2009, almost one in two people in employment in the Dublin region held a third level qualification; in Midlands and South-East, one in three.

The education profile of employment has changed since 2008, with the share of third level graduates increasing in each region (3-5 percentage points) and the share of persons holding less than upper secondary qualifications decreasing. The substantial improvements in the educational composition of employment over a one-year period would suggest that, in each region, third level graduates were less severely affected by the recession than persons with lower qualifications.

4.5 Employment by Nationality

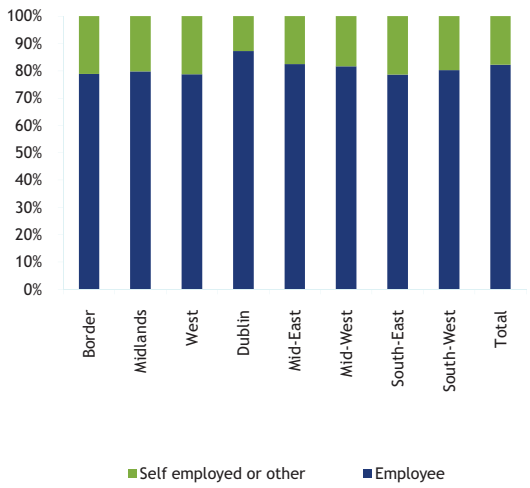
Figure 4.7 presents regional employment by nationality. In quarter 4 2009, the highest share of non-Irish workers was found in Dublin (17%). With the exception of the Mid-East and West, the share of non-Irish workers declined in all regions between quarter 4 2008 and quarter 4 2009.

Figure 4.7 Regional Employment by Nationality, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 4.8 Regional Employment by Employment Status, Quarter 4 2009



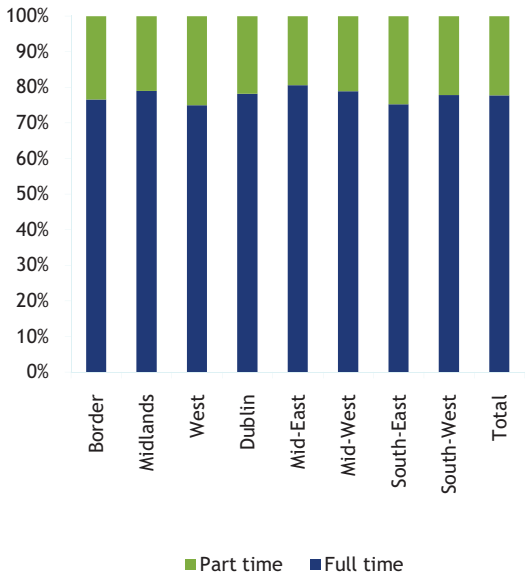
Source: Analysis by FÁS (SLMRU) based on CSO data

4.6 Employment by Employment Type

Figure 4.8 presents regional employment by employment status. At 13%, Dublin had the lowest share of self-employed in the workforce in quarter 4 2009. In most regions, one in five persons was self-employed.

Figure 4.9 presents regional employment by employment type. In quarter 4 2009, at least three quarters of the workforce in each region was working on a full time basis. The West and South-East regions had the highest share of part time workers.

Figure 4.9 Regional Employment by Employment Type, Quarter 4 2009



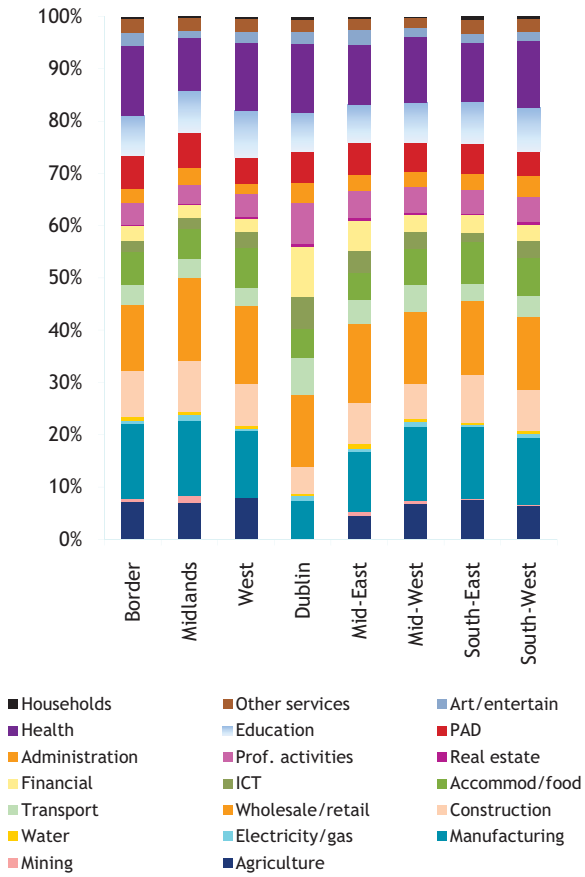
Source: Analysis by FÁS (SLMRU) based on CSO data

4.7 Employment by Sector

Figure 4.10 presents regional employment by sector. In quarter 4 2009, Dublin had a greater share of employment in high value activities (such as ICT, professional services and finance) compared with the other regions. On the other hand, it had a lower share of employment in agriculture and household activities.

Since 2008, the share of construction employment declined to one digit level in all regions except for the Midlands where, although lower than in 2008, in quarter 4 2009, it was still 10%.

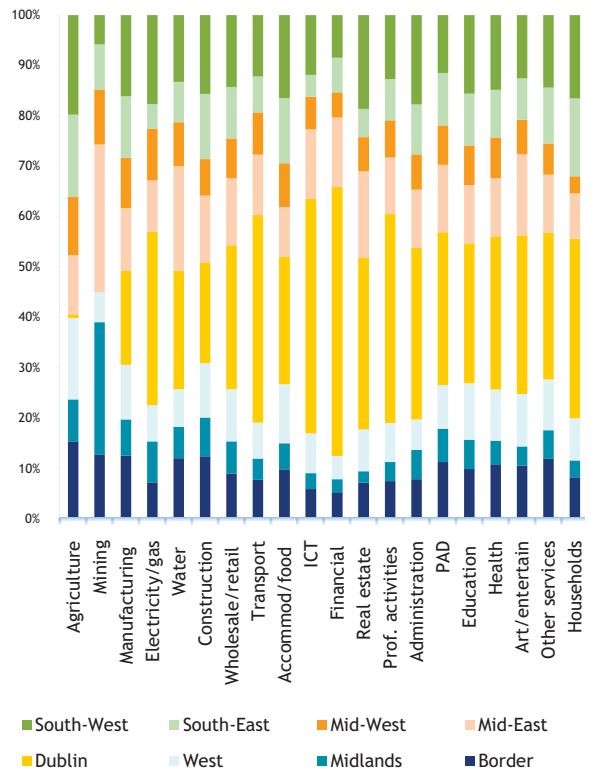
Figure 4.10 Regional Employment by Sector, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 4.11 presents sectoral employment by region. In quarter 4 2009, more than 40% of ICT, professional and finance related employment was located in Dublin. In contrast, Dublin had virtually no agricultural employment. Manufacturing employment was the most evenly distributed across regions.

Figure 4.11 Sectoral Employment by Regions, Quarter 4 2009

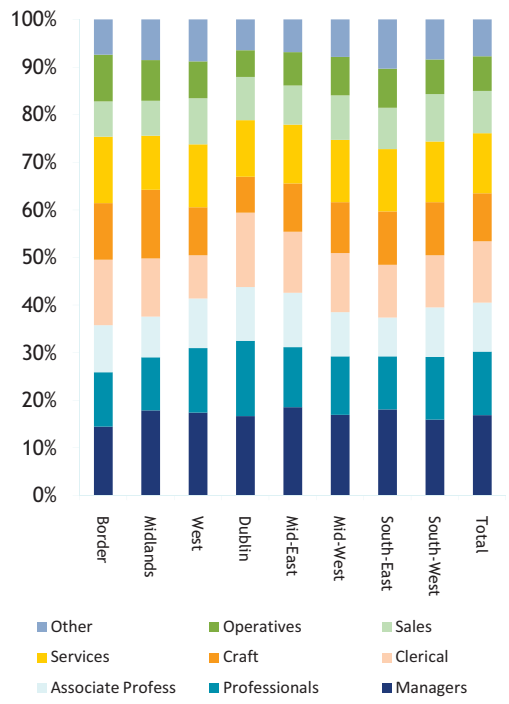


Source: Analysis by FÁS (SLMRU) based on CSO data

4.8 Employment by Occupation

Figure 4.12 presents regional employment by broad occupational group. In quarter 4 2009, Dublin had a greater concentration of employment in 'white collar' jobs compared with other regions. Combined employment of professionals, associate professionals, managers and clerks accounted for 60% of total employment in Dublin, compared with 48% in the South-East and 49% in the Border. The share of operatives and labourers in the Dublin region was 12%, compared with 19% in the South-East.

Figure 4.12 Regional Employment by Occupation, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 4.4 shows the individual occupations that recorded the largest net increase/decline in employment (1,000+) between quarter 4 2008 and quarter 4 2009.

Construction-related occupations (e.g. building labourers, electricians and carpenters) continued to experience net job losses in most regions. The decline in retail activity negatively affected employment of sales assistants in most regions. The number of farmers in employment also decreased, with over a net 1,000 job losses recorded in most regions outside Dublin.

Most of the net job losses over 1,000 were in lower skilled occupations; however, in Dublin the number of construction (architects, civil engineers) and finance related professionals

(accountants, financial managers) also contracted by over 1,000 over the period.

Table 4.4 Occupations with Net Job Gains/Losses Greater than 1,000 by Region, Q4 2008[19] – Q4 2009

Region	Net job gains >1,000	Net job losses >1,000
Border	Nurses	Sales assistants
	Clerks	Building and civil eng labourers
		Carpenters and joiners
		Metal working fitters
		Technical sales reps
		Cleaners, domestics
		Drivers of road goods vehicles
Midlands	Primary/nursery ed teachers	Sales assistants
		Carpenters and joiners
		Nurses
		Technical sales reps
		Metal working fitters
		Drivers of road goods vehicles
West	All other labourers	Carpenters and joiners
	Labourers in processing ind	Farm owners and managers
	Catering assistants	Electricians
	Sales assistants	Clerks
		Bar staff
		Drivers of road goods vehicles
Dublin	Natural scientists	Carpenters and joiners
	Cashiers bank and counter clerks	Building and civil eng labourers
	Nurses	Drivers of road goods vehicles
	Care assistants and attendants	Warehousemen/women
	General managers	Sales assistants
		Proprietors of shops
		Builders, building contractors
		Waiters, waitresses
		Authors, writers, journalists
		Cleaners, domestics
		Receptionists
		Childcare occupations
		Security guards
		Catering assistants
		Construction workers
		Architects
		Secretaries
		Civil/mining engineers
		Chartered accountants
		Financial managers
		Marketing managers
		Plasterers
		Production and works managers
		Packers, bottlers, etc.
		Actors, entertainers,
Mid-East	Marketing managers	Drivers of road goods vehicles
	Cashiers bank and counter clerks	Farm owners and managers
	Nurses	Farming occupations
	General managers	Carpenters and joiners
		Builders, building contractors
		Building and civil eng labourers
Mid-West	Accounts and wages clerks	Carpenters and joiners
		Drivers of road goods vehicles
		Building and civil eng labourers
		Metal working fitters
South-East		Farm owners and managers
		Sales assistants
		Electricians
		Drivers of road goods vehicles
		Building and civil eng labourers
		Care assistants and attendants
		Warehousemen/women
		Labourers in processing ind
		Labourers
		Builders, building contractors
		Packers, bottlers, etc.
South-West	All other labourers	Farm owners and managers
	General managers	Care assistants and attendants
	Clerks	Electricians
		Carpenters and joiners
		Nurses
		Builders, building contractors
		Production and works managers
		Financial managers
		Building and civil eng labourers
		Bricklayers, masons

[19] Q4 2008 is a seasonal quarter, compared to Q4 2009 calendar quarter.

Despite the overall decline in employment, there were still net job gains recorded for some occupations in each region, except the South-East. Most regions recorded net job gains for clerks and general managers. While net job gains in nursing and care were recorded in some regions, the number of nurses and care assistants declined in others.

Section 5 Education and Training

This section provides an overview of the supply of labour and skills from the Irish education and training sector. Education and training qualifications in Ireland are classified according to the National Framework of Qualifications (NFQ) (Appendix A). The tables below provide the estimated number of awards made at each NFQ level in 2009 by provider type (Table 5.1) and field of education (Table 5.2)[20].

Table 5.1 Summary of Education and Training Awards by NFQ Level, 2009

	NFQ 1-2	NFQ 3	NFQ 4	NFQ 5	NFQ 6	NFQ 7	NFQ 8	NFQ 9/10	Total
Junior Certificate	-	55,560	-	-	-	-	-	-	55,560
Leaving Certificate	-	-	57,460		-	-	-	-	57,460
FETAC (Major awards)	270	2,500	1,670	17,440	6,900	-	-	-	28,780
Institutes of Technology	-	-	-	-	3,070	7,120	8,520	1,980	20,690
Universities	-	-	-	-	1,720	2,060	17,630	13,200	34,610
Total	270	58,060	76,570		11,690	9,180	26,150	15,180	197,100

Source: SEC; FETAC (Major Awards); HEA

Table 5.2 Summary of Further and Higher Education and Training Awards by Field of Education, 2009

Field	NFQ 1-2	NFQ 3	NFQ 4	NFQ 5	NFQ 6	NFQ 7	NFQ 8	NFQ 9/10	Total
General	270	2,280	380	30	-	-	-	-	2,960
Education	-	-	-	-	250	140	1,570	2,630	4,590
Humanities & Arts	-	-	20	2,130	530	1,240	4,810	1,870	10,600
Social Science, Bus. & Law	-	220	400	4640	1,720	2,460	8,520	4,990	22,950
Science	-	-	-	690	590	910	3,380	1,830	7,400
Engineering & Construction	-	-	80	390	5,320	2,050	2,850	850	11,540
Agriculture & Veterinary	-	-	120	890	630	290	270	70	2,270
Health & Welfare	-	-	-	7,300	780	1,040	4,170	2,590	15,880
Services	-	-	680	1,360	1,880	1,050	570	360	5,900
Total	270	2,500	1,680	17,430	11,700	9,180	26,140	15,190	84,090

Source: FETAC (Major awards); HEA

[20] Graduation data is for universities and institutes of technology and is based on the year 2008 – the most recent available data. All data presented in Tables 5.1 and 5.2 has been rounded to the nearest 10 and therefore the figures do not add to the totals in each respective table. Awards granted to those pursuing higher education at private independent colleges and Irish students who undertook studies outside the Republic of Ireland are not included. The total in Table 5.1 does not include an estimated 10,000 non-HETAC/non-FETAC awards which have recently been placed on the NFQ (e.g. Council for Awards in Children's Care and Education (CACHE)); the output data is not currently available by level and field.

5.1 Junior and Leaving Certificate

The combined number of Junior and Leaving Certificate sits in 2009 was approximately 113,000. Junior Certificate awards, placed at level 3 on the NFQ, amounted to 55,560 (a 1% decline on the preceding year). The number of Leaving Certificate awards (NFQ 4-5) increased by 3% between 2008 and 2009 to reach 57,455. This was made up of 39,100 Leaving Certificate Established sits, 15,000 Leaving Certificate Vocational Programme sits and 3,260 Leaving Certificate Applied sits.

5.2 Further Education and Training

The Further Education and Training Awards Council (FETAC) is the awarding body for further education and training in Ireland. Programmes leading to FETAC awards are offered through: Fáilte Ireland, Bord Iascaigh Mhara, Teagasc, FÁS, Vocational Education Committees (VECs), adult and community education and training centres, private providers and the workplace (e.g. Skillnets). The courses offered range in duration from a number of days to longer courses such as apprenticeship programmes, which are typically 4 years.

The number of FETAC awards for 2008 and 2009 is presented in Table 5.3. The number of award holders increased by a third over the period 2008-2009 reaching 174,870 in 2009. The number of awards made also increased (by 43%) and totalled 314,820 in 2009.

In terms of award types, the number of awards and candidates increased for each award type, except for special purpose awards: there were 28,722 FETAC major awards in 2009 - representing an increase of almost a fifth on the preceding year; a total of 268,680 minor awards were made to almost 136,000 individuals with, on average, two minor awards per person; there were 16,087 special purpose awards - a 6% decline on the 2008 figure; there were a total of 1,281 supplemental awards – an increase of more than three quarters between 2008 and 2009.

Table 5.3 FETAC Award by Type and Award Holders, 2008 and 2009

	2008		2009	
Award Type	Awards	Award Holders	Awards	Award Holders
Certificates (Major)	24,429	24,429	28,772	28,722
Component (Minor)[21]	177,228	93,910	268,680	135,804
Special Purpose	17,176	17,176	16,087	16,087
Supplemental	717	717	1,281	1,281
Total	219,550	131,089*	314,820	174,870*

Source: FETAC

* Note :the total number of candidates does is not equivalent to the number of candidates as some candidates gained more than one award type.

Major Awards: level 5 awards accounted for the largest share (61%) of major awards in 2009, while level 6 awards accounted for an additional one quarter. Most of the remaining awards were at levels 3 and 4. Awards at levels 1 and 2 (made for the first time) accounted for less than 1% of all major awards in 2008.

In terms of field of learning, just over a quarter of all awards were in health and welfare (e.g. childcare and healthcare support courses); Social science, business and law had the second highest share of major awards making up a fifth of the total (or 5,700), most of which were made at level 5 for courses in business or secretarial studies.

[21] One or more minor award may lead to a FETAC Component Certificate. The figures here refer to the disaggregated numbers of minor awards.

Minor Awards: on average, minor award holders received two minor awards in a single year. In 2009, one half of minor awards were made at level 5 while a further 25% and 19% were made at levels 3 and 4 respectively. Level 6 awards accounted for just 6%.

The services category (e.g. catering, security services) had the highest share of minor awards (28%), followed by general programmes (e.g. communications; computer literacy) at 24%. Over one half of general programmes were at level 3.

Special Purpose Awards: awards were made at levels 4-6 only, with 86% at level 5. More than 80% were in the engineering and construction field of learning – mostly courses in roadworks.

Supplemental Awards: all awards were made at level 6 for courses in heating installation (e.g. gas, solar, biomass).

5.3 Higher Education

Higher education spans levels 6-10 on the NFQ and is provided by the institutes of technology (IoTs), universities and private colleges. This section first examines the supply of skills from the Irish higher education sector (IoT and Universities) by NFQ level; this is followed by an overview of the awards made to students at private/independent colleges. The final section provides information on Irish domiciled students pursuing higher education abroad.

5.3.1 Universities and IoTs

Graduate data allows an individual to ascertain the current supply of persons gaining higher education qualifications, while CAO data provides an indication of future trends[22]. The latest data available for graduate numbers relates to 2008; CAO acceptance data is for 2009.

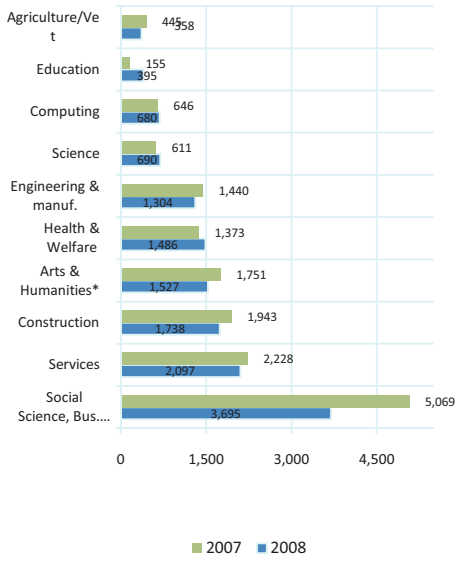
Level 7/6

In 2008, there were almost 14,000 level 7/6 graduates from Irish higher education. This represents a decline of 11% on the 2007 figure – a continuation of the trend observed in each year since 2004 – the decline relates primarily to level 6 courses.

Figure 5.1 shows the number of graduates by field of education in 2007 and 2008. The decline in graduate output since 2007 is reflected in several disciplines.

The increase in CAO acceptances observed in 2008 and 2009 might not be sufficient to counteract the steady decline in graduate output observed in recent years.

Figure 5.1 Level 7/6 Graduates, 2007-2008



Source: HEA

[22] Although CAO acceptance data contains some colleges not included in the university/IoT sector as defined in this report (i.e. IBAT Swords), it can still be used as an indication of overall trends.

The most notable changes in graduate output over the period 2007-2008 occurred in the following education fields:

Social science, business and law: graduate output declined by more than a quarter between 2007 and 2008, continuing the downward trend observed in recent years. Over 70% of this decline was at level 6. There was a 3% rise in CAO acceptances for this discipline in 2009 which may slow the rate of decline in the medium-term.

Construction: the declines in the number of level 7/6 construction graduates observed in 2006-2007 continued over the period 2007-2008, despite a small increase at level 7. Given the recent declines in the number of CAO acceptances for this discipline, particularly the 16% and 17% declines observed in 2008 and 2009 respectively, further decreases in graduate output are likely to continue.

Engineering & Manufacturing: the number of level 7/6 graduates declined in recent years. All of the decline between 2007 and 2008 was at level 6. However, the number of CAO acceptances increased in 2008 and again in 2009 which should positively impact on output numbers in the short-term.

Computing: graduate output grew for the first time in several years (+5%, albeit from a low base). Moreover, CAO acceptances in 2008 and 2009 have increased (by 18% and 5% respectively) indicating that the downward trend observed in recent years has halted.

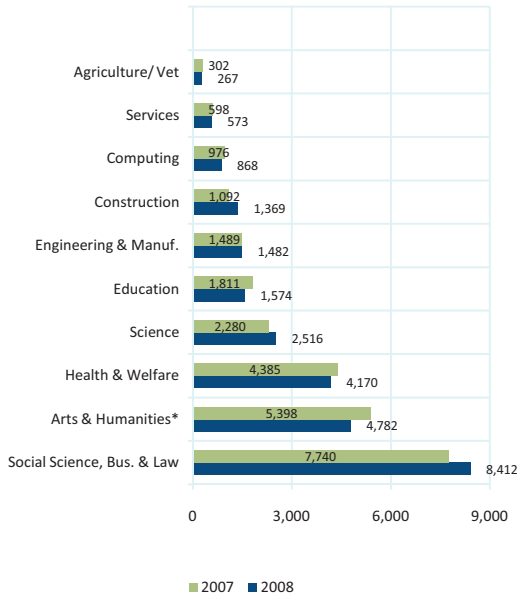
Science: there was a 13% rise in graduate output in 2008, with the increase confined to level 7. Further growth is unlikely in the short term, but the rise in CAO acceptances in 2009 is expected to result in an increase in output in the medium term.

Level 8

The number of level 8 graduates in 2007 and 2008 was just over 26,000 per annum. Future growth in graduate outflow at this level is expected due to an annual average rise of 6% in CAO acceptances for level 8 programmes since 2006.

Figure 5.2 compares graduate numbers by broad discipline for 2007 and 2008.

Figure 5.2 Level 8 Graduates, 2007-2008



Source: HEA

Engineering & manufacturing: graduate numbers in 2007 and 2008 were almost identical; CAO acceptances increased by 16% in 2009 indicating that the declines observed in preceding years have halted and could reverse in the medium term.

Construction: graduate output continued to grow in 2008 but this is likely to reverse in the coming years due to the significant drop-off in students accepting places on construction-related courses in 2009.

Computing: the decline in graduate output observed in previous years slowed in 2008; steady increases in CAO acceptances point to a reversal of this trend in the medium-term.

Science: Graduate output increased by 10% between 2007 and 2008, reversing the downward trend of previous years. The 40% increase in the number of CAO acceptances between 2006 and 2009 indicates a continuation in output growth in the medium term.

Health and Welfare: output declined by 5% over the period 2007-2008. The reduced allocation for places in nursing will further negatively impact on output in the short-medium term.

Arts & Humanities: following no changes between 2006 and 2007, graduate output declined by 11% in the period 2007-2008. The 5% rise in CAO acceptances over the period 2008-2009 will have an impact on graduate output in the medium-term although it is unlikely to be sufficient to fully offset the decline observed in recent years.

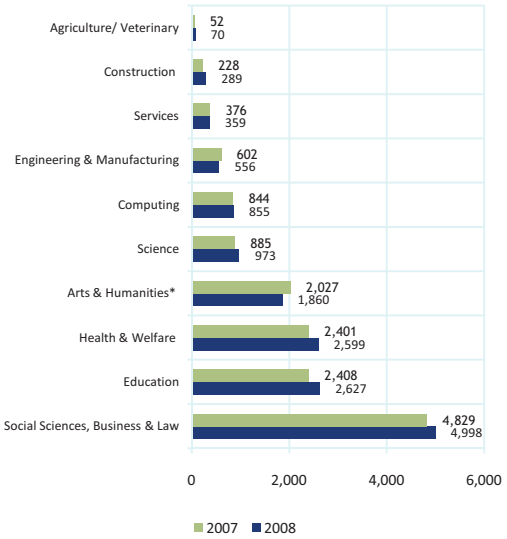
Social science, business and law: graduate output in this discipline has continued to grow - expanding by 9% over the period 2007-2008. This trend is likely to continue in the short-medium term given the 3% rise in CAO acceptances in 2009.

Level 9/10

Level 9/10 qualifications include postgraduate certificates and diplomas, master degrees and PhDs. Postgraduate output has been continually increasing in recent years, with a 4% increase between 2007 and 2008, it reached almost 15,200 in 2008. Further increases in level 9-10 output are expected due to the steady growth in the number of enrolments at postgraduate level in recent years.

In 2008, 37% of level 9/10 awards were postgraduate cert/diplomas, 56% were masters and 7% were PhDs. The discipline breakdown of postgraduate awards for 2007 and 2008 is shown in Figure 5.3.

Figure 5.3 Level 9-10 Graduates, 2007 - 2008



*Includes general and combined studies.

Source: HEA

Engineering & manufacturing: there was an 8% decline in graduate output between 2007 and 2008, with declines occurring across all programme types. Enrolments, however, increased by 15% for PhDs. Significant

increases in CAO acceptances at undergraduate level may reverse the trend in the future, although it will take several years to have an impact on graduate output at this level.

Construction: graduate output increased by 27% between 2007 and 2008, although from a small base. This is likely to continue in the short-term given that total enrolments increased by 15%, mostly at postgraduate cert/diploma level and mainly in architecture.

Science: graduate output increased by 10% between 2007 and 2008. More than three quarters of awards were either at master degree or PhD level (79%). Approximately one third of all PhDs awarded in 2008 were in science.

Computing: graduate output remained relatively unchanged between 2007 and 2008. As enrolments (for all programme types) remained constant between 2007 and 2008, any changes in graduate output are unlikely in the short-medium term.

Education: graduate output rose between 2007 and 2008. At least three quarters of education awards were at postgraduate cert/diploma level. As education enrolments, particularly at postgraduate cert/diploma level, have been increasing steadily in recent years, further growth in graduate output is likely.

Health and Welfare: the number of graduates rose by almost 200 (8%) over the period 2007-2008 primarily due to increases in the number of master degree awards (+57% year-on-year). Over one half of awards were for postgraduate cert/diplomas (made mostly in the university sector). Increased enrolments observed for masters and PhD programmes should lead to further rises in graduate output.

Social science, business and law: graduate output increased by 3% between 2007 and 2008, continuing a trend observed in recent years. The growth in master degree and PhD enrolments should give rise to increases in future output in the short-medium term.

Arts and Humanities: graduate output declined by 8% over the period examined primarily due to an 8% decline in output from masters' programmes; with 163 awards, this discipline had the second highest number of PhDs in 2008.

5.3.2 Private Providers

Education and training in Ireland also includes a small, but significant, private sector, comprised of private, independent colleges and professional institutes. Courses offered in private colleges are accredited by a variety of awarding bodies including, among others, the Higher Education and Training Awards Council (HETAC) and the National University of Ireland. This section examines the awards made by HETAC to graduates undertaking study at private and independent colleges. Appendix B provides a list of colleges.

Table 5.4 provides the distribution of HETAC awards by NFQ level and discipline. Approximately 60% of HETAC awards were at level 8, one fifth were at level 7 and 10% were at levels 9 and 10.

More than one half of awards in 2009 were in the arts and humanities category (including unspecified fields of learning), mostly at

levels 7 and 8. Business had the second highest share at 38% - accounting for over 1,260 awards. The remaining 8% of awards was in the science and engineering category.

Table 5.4 HETAC Awards (Private/Independent Colleges), 2009

	Arts, Humanities*	Business	Science & Engineering	Total
NFQ 6	177	150	11	338
NFQ 7	430	188	31	649
NFQ 8	1,083	819	89	1,991
NFQ 9	77	107	133	317
NFQ 10	2	0	0	2
Total	1,769	1,264	264	3,297

Source: HETAC

* Also includes unspecified disciplines

5.3.3 Irish Students Abroad[23]

Every year, a number of Irish-domiciled students undertake higher education studies outside of the Republic of Ireland. The OECD collects data on international students, by country of origin, who enrol on higher education programmes at third level institutions in other OECD countries. The data is available by type of programme:

- Tertiary Type A corresponds to honours bachelor degree, postgraduate diploma and master degree courses;
- Tertiary Type B corresponds to ordinary bachelor degrees and higher certificates;
- Advanced research programmes to doctoral programmes.

The number of Irish students enrolled in foreign universities is presented in Table 5.5. In 2007, the latest year for which data is available, there were almost 18,000 students enrolled in higher education institutions abroad. The vast majority study in the UK while the remainder primarily study in other English speaking countries (USA, Australia, Canada), mostly on Tertiary Type A programmes.

Table 5.5 Irish Student Enrolments Abroad by Programme Level and Country, 2007

Country	Tertiary A	Tertiary B	Advanced research	Unspecified	Total
Australia	148	2	21		171
Others*	83	10	11		104
Canada	60		24		84
Denmark	99	5			104
Spain	84		5		89
Sweden	80				80
UK	12,947	2124	1,183		16,254
USA	0	0	0	1,105	1,105
Total	**13,501**	**2141**	**1,244**	**1,105**	**17,991**

Source: OECD

*Includes Belgium, the Netherlands, New Zealand and the Slovak Republic.

[23] Excludes students on ERASMUS and other similar programmes.

Section 6 Employment Permits

The recession has led to a decline in the inflow of immigrants into the Irish labour market: the PPS numbers issued to non-Irish nationals in 2009 was 50% lower than in 2008, decreasing from 156,000 to 80,000. In addition, the number of non-Irish nationals in employment declined by 50,000 between quarter 4 2008 and quarter 4 2009 to 255,000.

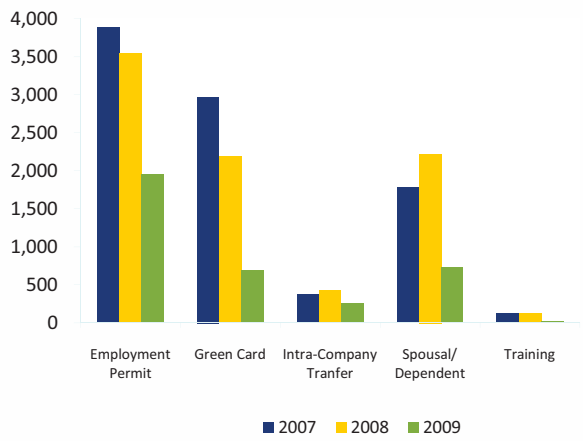
While the demand for skills and labour has decreased significantly in 2009, employers continued to experience difficulty in sourcing suitably qualified persons from the Irish labour market for certain occupations.

In 2009, a total of 3,633 new[24] employment permits[25] were issued to non-EEA nationals. This is a reduction of 57% since the previous year and 60% since 2007. The decline occurred across all types of permits; employment permits declined by 50% between 2007 and 2009, while green cards declined by 77% over the same period (Figure 6.1).

6.1 Green Cards

A green card is an employment permit issued to employees allowing them to gain employment in a specified occupation. Unlike employment permits, green card applications do not have to undergo a labour market test. Most occupations with an annual salary of €60,000 or above are considered along with a restricted list of occupations within the salary range of €30,000 to €60,000, mainly within the ICT, health, financial services, and services sectors. However, since April 2009, some healthcare occupations (e.g. physiotherapists), finance (e.g. fund accountants) and marketing managers no longer qualify for this scheme.

Figure 6.1 New Permits by Type, 2007-2009



Source: DETE

A total of 688 new green cards were issued in 2009, a decline of 68% since 2008. The majority of the green cards issued in 2009 were in the healthcare and information technology sectors (Table 6.1). While the proportion of green cards issued to those employed in healthcare declined from 39% to 35% between 2008 and 2009, the number in information technology increased from 27% to 31%.

In terms of occupations (Table 6.2), green cards issued to nurses accounted for over a quarter of all green cards issued in 2009, while software engineers and computer analysts/programmers accounted for 15% and 8% respectively.

[24] While each year a number of employment permits are renewed, focusing on new permits allows for an identification of most recent occupations which cannot be sourced within the EU labour market.

[25] Although EEA nationals (excluding Romania and Bulgaria citizens) can enter employment in Ireland without restrictions, non-EEA nationals, along with citizens of Romania and Bulgaria, must obtain an employment permit from the Department of Enterprise, Trade and Employment (DETE). There are a number of permit types available: employment permit, green card, intra-company transfer, spousal/dependent and training.

Each of the top five occupations experienced a decline in the number of green cards issued between 2008 and 2009 – particularly in the case of nurses for which the number declined from 697 to 182.

6.2 Employment Permits

Employment permits are issued for occupations which have been identified as being difficult to source in the Irish labour market and for which the salary is identified as between €30,000-€60,000. Only in exceptional cases are employment permits issued for positions offering less than €30,000. Applications are subject to a labour market test, whereby a vacancy must be advertised with FÁS, EURES – European job mobility portal – and in the national newspaper as proof that no suitable EEA candidates are available. Since the downturn in the Irish economy, the DETE have increased the duration of the labour market test and have refined the list of eligible occupations[26].

Despite the overall decline in numbers, with a total of 1,947, employment permits still accounted for the highest number of new permits issued in 2009. A third of all employment permits issued in 2009 were for positions in the healthcare sector with jobs in catering and services each accounting for a further 14% (Table 6.1). While the distribution of new permits issued by sector is broadly similar to that of 2008, the proportion issued in the healthcare sector increased from 23% in 2008 to 33% in 2009.

In terms of occupations (Table 6.2), medical practitioners accounted for 28% of all new employment permits issued in 2009; this is followed by chefs (12%), software engineers (8%), care assistants and attendants (3%), and computer analysts/programmers (3%).

While the number of new employment permits issued for those employed as chefs halved over the period 2008-2009, the number of permits issued to medical practitioners and software engineers increased.

6.3 Intra-Company Transfers (ICT)

The ICT scheme was designed to facilitate the transfer of senior management, key personnel and trainees who are foreign nationals from an overseas branch of a multinational corporation to its Irish branch. The annual salary of the applicant must be at least €40,000 and the person must have been an employee of the parent company for at least 12 months prior to the application. No labour market test is required for this scheme.

A total of 255 permits were issued in the ICT category, a decline of 40% since the previous year. Over a third of all new permits issued in this scheme were in manufacturing while a further 30% were in information technology.

Given that the ICT scheme is primarily designed for senior management and staff with specialist knowledge and experience, it is not surprising that managers account for 42% of the total number of permits issued in this category. An additional 24% were issued to those in professional occupations.

6.4 Employment Permits for Spouses and Dependants of Employment Permit Holders

This scheme was introduced to allow spouses and dependants of employment permit

[26] The list of ineligible occupations for employment permits continues to apply for Romanian and Bulgarian citizens

holders to apply for an employment permit. From June 2009, the standard employment permit eligibility criteria, which include a labour market test, restriction to vacancies in eligible job categories and payment of the standard application fee, applies to spouses of new employment permit applicants.

In 2009, 725 employment permits were issued to spouses and dependants of employment permit holders, representing a decline of 67% on the previous year.

The healthcare sector accounted for 30% of all spousal/dependent permits issued in 2009; 22% were in the services sector; the catering and retail sectors accounted for 15% and 10% respectively. In terms of occupations, 40% of all new permits issued in this scheme were for those employed in personal and protective services occupations (primarily care assistants), while occupations such as sales assistants, chefs, cleaners and catering staff also appeared regularly.

Table 6.1 New Employment Permits by Sector, 2009

Sector	Emp Permit	Green Card	ICT	Spousal	Train.	Total
Agriculture	94	-	-	20	-	114
Catering	274	1	-	112	-	387
Construction	56	15	10	4	-	85
Domestic	51	-	-	24	-	75
Education	50	27	-	11	-	88
Entertainment	21	-	2	3	-	26
Financial	50	66	32	16	-	164
Government	3	2	1	-	-	6
Healthcare	642	243	2	214	1	1,102
IT	241	216	76	28	11	572
Legal Services	1	-	-	2	-	3
Manufacturing	40	26	93	24	5	188
Research	11	7	-	2	-	20
Retail	49	7	6	75	-	137
Services	277	69	29	161	1	537
Sport	45	-	-	1	-	46
Tourism	23	-	-	24	-	47
Transport	19	9	4	4	-	36
Total	**1,947**	**688**	**255**	**725**	**18**	**3,633**

Sectors are defined by the DETE.

Source: DETE

6.5 Training

Employment permits can also be issued to non-EEA nationals undertaking training in Irish-based companies. In 2009, 18 employment permits were issued for training purposes, an 85% decline on the previous year. The majority of these permits were issued for those training in information technology.

Table 6.2 New Employment Permits by Type and Most Frequent Occupations, 2009

Type of permit/occupation	New permits	%
Employment permit (of which)	**1,947**	**100%**
Medical practitioners	540	28%
Chefs	231	12%
Software engineers	150	8%
Care assistants and attendants	62	3%
Computer analyst/programmers	49	3%
Other	915	47%
Green card (of which)	**688**	**100%**
Nurses	182	26%
Software engineers	100	15%
Computer analyst/programmers	55	8%
Marketing managers	23	3%
Chartered & certified accountants	21	3%
Other	307	45%

Source: DETE

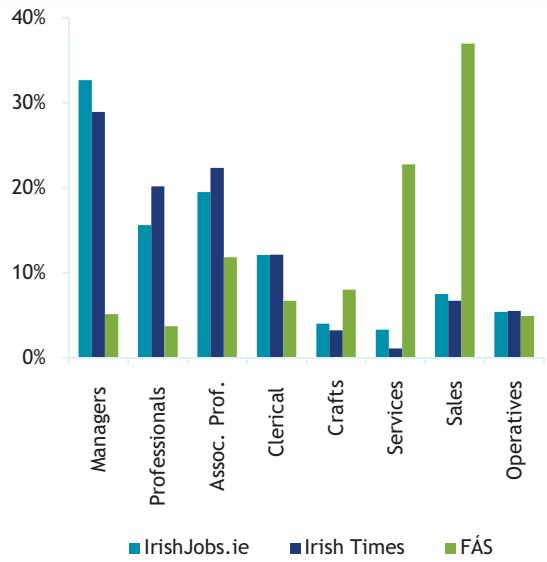
Section 7 Vacancies

This section examines trends in advertised job vacancies as they are a useful indicator of potential labour demand[27]. First, an analysis of the vacancies notified to FÁS, the Irish Times and IrishJobs.ie is presented. Second, the key findings of the FÁS (SLMRU) Recruitment Agency Survey conducted in April 2010 are highlighted.

7.1 Notified Vacancies[28]

The number of notified vacancies declined across all sources in the period 2008-2009. However, the distribution of vacancies by occupational group (Figure 7.1) remained largely similar to that reported in previous years. Vacancies advertised through IrishJobs.ie and the Irish Times are predominately for managerial, professional and associate professional occupations – 68% and 71% respectively, with the Irish Times having the highest proportion of vacancies for professional occupations at 20%. The share of managerial vacancies in the Irishjobs.ie vacancy stock in 2009 increased by 7 percentage points compared to 2008. In 2009, two thirds of the vacancies advertised through FÁS were for craft, personal and protective services, and sales positions.

Figure 7.1 Vacancies by Occupational Group (%), 2009



Source: IrishJobs.ie, Irish Times, FÁS

Table 7.1 shows the number of vacancies notified to FÁS by broad occupational group over the period 2007-2009. There were a total of 55,000 vacancies advertised in 2009 – 61% below the peak number in 2007.

Declines occurred across all occupational groups over the period from 2007 to 2009; the most pronounced decline in the number of notified vacancies was for skilled workers, operatives and clerical staff – decreases of 76%, 77% and 74% respectively over the period.

[27] Several issues arise with advertised job vacancy data including the following: vacancies may be advertised through channels not captured in the analysis leading to an underestimation of the true demand; vacancies may be advertised simultaneously through several channels leading to an overestimation of the true demand; the extent to which vacancies are arising due to expansion demand (the creation of a new position by an employer), replacement (a person leaving an already existing position) or other reason is unclear.

[28] While not an issue with FÁS vacancies (given the vacancy validation procedures in place), difficulties in distinguishing between true vacancies and non-substantiated advertisements can lead to an overestimation of the true demand; for this reason, non-FÁS data is expressed in relative rather than absolute terms.

Table 7.1 FÁS Vacancies by Occupational Group, 2007-2009

	2007	2008	2009	% Change 07-09
Managers	7,072	4,663	2,822	-60%
Professionals	3,564	2,456	2,042	-43%
Associate Professional	10,854	9,226	6,531	-40%
Skilled Workers	15,171	9,720	3,702	-76%
Clerical	16,844	10,635	4,414	-74%
Personal Services	27,592	21,569	12,559	-54%
Sales and Services	48,401	30,575	20,409	-58%
Operatives	11,805	7,408	2,708	-77%
Total	**141,303**	**96,252**	**55,187**	**-61%**

Source: FÁS

A further analysis of the FÁS vacancy data found that:

- Almost half of the managerial positions advertised in FÁS in 2009 were for marketing/sales/advertising managers with a further 22% for hotel/catering managers.
- Teaching positions accounted for 70% of all professional vacancies in 2009, compared to 32% in 2007. The share of engineering and business professional positions declined sharply over the period 2007-2009.
- Information technology specialists and performing artists/directors each accounted for a quarter of all associate professional vacancies.
- The number of vacancies for skilled building/construction workers declined from 5,000 in 2007 to 730 in 2009.
- While the number of retail sales assistants declined significantly over the period 2007-2009, they still accounted for over a quarter of all sales and services vacancies.

The top ten occupations most frequently cited in notified vacancies to the Irish Times and IrishJobs.ie in 2009 are shown in Table 7.2.

Vacancies for IT professionals and associate professionals, managers (marketing, production and financial), accounting and other clerks and technical sales representatives were among the most frequently advertised in both sources. For the Irish Times, accounts and wage clerks were cited the most frequently (8%), whereas stores managers were the most cited occupation for IrishJobs.ie (10%).

Table 7.2 Top 10 Occupations Notified to the Irish Times and IrishJobs.ie (%), 2009

	Irish Times	Irish Jobs.ie
Managers & Professional Occupations:		
Production and works managers	3%	2%
Marketing etc. managers	7%	6%
Other financial managers n.e.c.	5%	3%
Stores managers	-	10%
Software engineers	3%	4%
Chartered and certified accountants	3%	-
Associate Professional & Clerical Occupations:		
Computer analyst/programmers	3%	5%
Underwriters, claims assessors and analysts	5%	-
Taxation experts	2%	-
Accounts & wages clerks, other financial clerks	8%	3%
Other clerks (n.o.s.)	-	4%
Sales & Services Occupations:		
Technical and wholesale sales representatives	4%	3%
Sales assistants	-	2%
Other Occupations	**57%**	**57%**
Total	**100%**	**100%**

Source: IrishJobs.ie, Irish Times

As shown in the IrishJobs.ie data, over the period 2007-2009, the proportion of notified vacancies for permanent full time positions declined from 77% to 64% while the proportion for contract positions more than doubled, increasing from 11% to 24% (Table 7.3).

Table 7.3 IrishJobs.ie Vacancies by Job Type, 2007-2009

	2007	2008	2009
Permanent full time	77%	77%	64%
Permanent part time	2%	3%	4%
Temporary full time	4%	4%	6%
Temporary part time	1%	1%	2%
Contract	11%	15%	24%
Other/not disclosed	5%	0%	1%
Total	**100%**	**100%**	**100%**

Source: IrishJobs.ie

In 2009, retailing accounted for the highest share of vacancies notified to IrishJobs.ie (Table 7.4). In terms of job titles these were primarily vacancies for stores managers. While the IT sector experienced a decline in the number and share of advertised vacancies over the period 2007-2009, it nonetheless was for the second highest by the number of vacancies in 2009. Job titles included in this category were software engineers, testers, developers, systems administrators and IT helpdesk support. The construction sector experienced the most significant decline in the number of vacancies advertised over the period 2007-2009 (84%).

Table 7.4 IrishJobs.ie Vacancies by Sector, 2007-2009

	2007	2008	2009	% Change 07-09
Accountancy & Finance	10%	9%	7%	-2%
Banking, Financial services & Insurance	9%	6%	6%	-3%
Beauty, Hair Care, Leisure & Sport	1%	1%	0%	0%
Construction, Architecture & Property	4%	2%	1%	-3%
Customer Service, Call Centres & Languages	4%	5%	5%	1%
Education, Childcare & Training	2%	3%	3%	1%
Engineering & Utilities	8%	9%	11%	2%
Environmental, Health & Safety	1%	1%	0%	0%
General Management	1%	1%	2%	0%
Hotel & Catering	5%	5%	4%	-1%
HR & Recruitment	2%	2%	2%	-1%
IT	19%	16%	14%	-5%
Legal	1%	0%	0%	0%
Marketing	2%	2%	3%	1%
Medical Professionals & Healthcare	2%	3%	5%	3%
Production, Manufacturing & Materials	2%	3%	2%	0%
Public Sector	0%	1%	1%	0%
Publishing, Media & Creative Arts	0%	0%	0%	0%
Retailing, Wholesaling & Purchasing	5%	6%	15%	10%
Sales	8%	10%	8%	0%
Science, Pharmaceutical & Food	4%	5%	3%	-1%
Secretarial & Admin	5%	4%	3%	-2%
Security, Trades & General Services	1%	1%	1%	0%
Social & Not for Profit	1%	1%	1%	1%
Telecoms	2%	2%	1%	-1%
Tourism, Travel & Airlines	0%	0%	0%	0%
Transport, Warehousing & Motor	1%	1%	1%	0%
Total	100%	100%	100%	0%

Source: IrishJobs.ie

Note: Sectors defined by Irishjobs.ie.

7.2 FÁS (SLMRU) Recruitment Agency Survey

The key findings from the survey conducted in April 2010 are as follows:

1. the demand for labour remained weak – with 15% of respondents reporting no vacancies which were difficult to fill; although some recruiters reported more activity, they stated that this was deferred activity from 2009, rather than new business
2. though few in numbers, certain vacancies remained difficult to fill; these were concentrated at the higher end of the skills scale: more than a half of all difficult to fill mentions were for managerial or professional occupations; more than one third required at least five years' relevant experience
3. agencies reported the following issues with the supply of Irish candidates:
   - a lack of skills e.g. European languages
   - lack of relevant experience for the position in question
   - a preference for permanent employment and a slow up-take of temporary job offers
   - reduced labour mobility (geographical or intra-occupational) resulting from increased economic uncertainty
   - the jobs on offer were not attractive (accounting for 10% of difficult to fill mentions)
4. most of the difficult to fill vacancies were filled by non-Irish candidates.

The occupations mentioned as difficult to source were:

- Senior software engineers and developers (e.g. Java, .NET, C++, system networking, PHP[29], specific industry applications (e.g. LIFE/400 administration solution for insurance industry)); computer systems managers; IT professionals with business acumen
- Managers: marketing, industry specific sales/procurement (e.g. bio-pharma) and financial
- Scientists (e.g. biologists, chemists)
- Engineers: design, production, quality control and validation, process (e.g. biotech/bio-pharma, medical devices), water and waste treatment, energy (e.g. wind energy) and grid supply (e.g. high voltage electrical)
- Healthcare professionals and associate professionals: specialist doctors (e.g. GPs, non-consultant hospital doctors, consultant radiologists); senior clinical psychologists; senior therapists (occupational, speech and language), radiographers; nurses (advanced nursing practitioners in theatre nursing, radiology, diabetes, renal medicine and midwifery)
- Sales representatives: telesales with language skills (i.e. Nordic languages, German); sales representatives with technical skills and relevant industry knowledge
- Financial professionals: actuaries, accountants (e.g. senior chartered accountants), compliance experts (e.g. MiFID[30])

[29] PHP is a general-purpose scripting language that is used for web development, especially for creating dynamic web page content. PHP can be deployed on most web servers, many operating systems and platforms, and can be used with many relational database management systems.

[30] MiFID is the abbreviation most commonly used for Markets in Financial Instruments Directive, legislation for investment intermediaries and financial markets, aimed at increasing competition and consumer protection in investment services.

Section 8 Occupational Employment Profiles

This section examines employment trends by occupation. The statistical analysis covers the period 2004-2009, which is the most recent period for which detailed quantitative information is available at occupational level.

The labour market is undergoing significant change at present. Therefore, any developments which have occurred since the beginning of 2010 and which have a considerable impact on the occupational structure of employment are taken into account when commenting on skill shortages.

The CSO's QNHS is the source of data on employment and unemployment. As already stated in the introduction, this survey, unlike in previous years, is now conducted on a calendar quarter basis.

The section is organised as follows: first, most of the data used in the analysis is presented Table 8.1; this is followed by profiles for the selected occupations.

Table 8.1 contains demand and shortage indicators for the selected occupations and broad occupational groups which were used in the analysis of skills shortages. The contents of the table are as follows:

Column 1 contains occupation titles. Occupations highlighted in bold are broad occupational groups. Below most broad occupation titles, the key individual occupations comprising that group are detailed.

Column 2 presents the employment stock for each occupation. Employment is reported as the annual average figure for 2009. Source: Analysis by FÁS (SLMRU) based on data provided by the Central Statistics Office – Quarterly National Household Survey (QNHS), quarter 1 to quarter 4 2009.

Column 3 shows the percentage of females in the employment stock of an occupation. Source: QNHS, quarter 4 2009.

Column 4 shows the percentage of part time workers in the total employment stock of an occupation. Source: QNHS, quarter 4 2009.

Column 5 gives an indication of the unemployment levels in broad occupational groups. The unemployment rate is calculated by dividing the number of persons unemployed in an occupational group by the sum of the number of employed and unemployed persons in that group. The unemployment rate is indicated as follows:

- 'below average' for unemployment rates less than 12.4% (the national rate for quarter 4 2009)
- 'above average' for unemployment rates greater than 12.4%.

Only unemployed persons who stated their occupation are captured in this indicator. As a result, the indicator used here could understate the true unemployment level in an occupational group. Source: QNHS, quarter 4 2009.

Column 6 shows the percentage of persons aged 55 and over represented in the total employment stock of an occupation. This indicator was used in combination with the appropriate replacement rate (Column 12) to

estimate the replacement demand for an occupation. An age distribution skewed towards older workers indicates higher retirement rates in the short to medium-term. Source: QNHS, quarter 4 2009.

Column 7 shows the percentage of non-Irish persons represented in the total employment stock of each occupation. A higher than average proportion of non-Irish nationals in an occupation suggests that Irish employers have had to recruit from abroad to fill vacancies. Source: QNHS, quarter 4 2009.

Column 8 shows the percentage of persons in employment in an occupation that holds a third level qualification. Third level qualifications correspond to NFQ levels 6-10. See Appendix A for the awards placed at these NFQ levels. Source: QNHS, quarter 4 2009.

Column 9 shows the average annual employment growth rate for an occupation for the period 2004-2009, which was used to assess employment growth trends. Source: QNHS 2004-2009.

Column 10 presents the number of new employment permits issued for each occupation for the year 2009. This data was used as an indicator of the demand for labour that could not be met from domestic or EEA sources. Source: Department of Enterprise, Trade and Employment (DETE).

Column 11 reports the results of the FÁS (SLMRU) Recruitment Agency Survey conducted in April 2010. Occupations which were mentioned as being difficult to fill are indicated by an 'X'. Source: FÁS (SLMRU) Recruitment Agency Survey.

Column 12 contains replacement rates for each occupation. The replacement rate indicates the share of employment in an occupation which is expected to be lost each year as a result of inter-occupational movements, retirement, illness, emigration or death in service. In other words, the replacement rate reflects the minimum number of persons required annually to preserve the existing employment stock in each occupation. Source: Current Trends in Occupational Employment and Forecasts for 2010 and 2020: Final Report to the Expert Group on Future Skill Needs. ESRI, 2006.

Column 13 provides an indication of shortage for each occupation. The indicator was derived by considering all indicators (columns 2-11), and using additional information on vacancies, education and relevant qualitative information including recent and on-going sectoral studies. The following explains the indicator of shortage:

- 'no shortage' is used for occupations for which there are no apparent labour market imbalances
- 'skill shortage' refers to a situation whereby there is an insufficient number of individuals who have the required level of educational attainment, skills set and/or experience to meet the labour market demand
- 'labour shortage' refers to a situation whereby there are an insufficient number of individuals who are willing to take up employment opportunities in a particular occupation; a labour shortage is typically associated with occupations which require relatively lower levels of education, a shorter duration of training (e.g. on the job) and/or no previous experience
- 'inconclusive' is used for occupations for which the available quantitative

information is insufficient for the identification of shortages.

For grouped occupations an indication of shortage does not mean that all occupations in the grouping are in short supply.

The term 'shortage' in this report refers only to the situation whereby the supply of skills or labour from within the Irish workforce is insufficient to meet demand. It may be the case that there is a sufficient supply of skills or labour for the occupation in question within the EU or EEA. Consequently, there may not be a shortage from a European perspective.

Column 14 elaborates further on the shortages identified in column 13.

Using the data from Table 8.1, individual occupations were examined in detail. The analysis covered 125 occupations, which were grouped into families of skills. These are:

- Scientists
- Engineers
- IT occupations
- Business & financial occupation
- Healthcare occupations
- Education occupations
- Social and care occupations
- Legal & security occupations
- Construction professional occupations
- Construction craft occupations
- Other craft occupations
- Arts, sports & tourism occupations
- Transport & logistic occupations
- Clerical occupations
- Sales occupations
- Operatives
- Labourers.

In general, occupations in the same sector or occupations with similar duties are grouped together. First, the level of employment for each occupational group in 2009 is presented. This is followed by an examination of employment growth trends for the period 2004-2009. Small occupations (in terms of absolute numbers) are either excluded or grouped. Subsequently, age profiles are analysed by grouping employment into the following categories: persons aged 15 to 24, 25 to 54, and 55 and older. This is followed by an examination of education profiles by grouping employment into the following categories: persons with lower secondary education or less; upper secondary or further education and training (FET); and third level education.

Each section on occupational profiles also contains a summary of the balance between the demand and supply. For each occupation, the estimated recruitment requirement was derived by combining expected expansion and replacement demand. In the short term, most of the recruitment requirement for each occupation is expected to arise from replacement demand.

The supply of skills was approximated using the expected output from the formal education system.[31] The expected output was derived using third level enrolment and graduation data, as well as data from FÁS and other education providers.

Supply data at occupational level is not reported due to the complexity of linking course output to specific occupations (e.g. business courses can be a source of supply for

[31] It should be noted that it is possible that individuals do not work in the occupations for which they are trained.

numerous occupations). In addition, for the majority of occupations there are no mandatory qualification requirements; this further complicates the task of determining supply. Thus, the intention is not to provide an exact quantification of supply for each occupation but rather to obtain a general approximation.

By comparing estimates of demand and supply, an indication of potential shortage was derived. In addition, the other shortage indicators (e.g. work permits, difficult to fill vacancies, etc.) were examined to reinforce the findings. The results also drew on conclusions from previous reports produced by the Expert Group on Future Skills Needs and other qualitative information where available. The objective was to identify areas of shortages, without quantifying them.

Identified shortages are classified as skill or labour shortages and an indication of the persistence of shortages is also discussed. Given that the findings are based on current data, future shortages are only indicated in cases where there is clear evidence that the shortages will persist or if current trends in education provision indicate that future shortages will emerge.

A skills shortage may arise for a number of different reasons. For example, the shortage may reflect a temporary or a sustained increase in the demand for a particular expertise, or a reduction in the number of students who are acquiring the relevant qualifications.

The most effective way to alleviate a shortage will depend on the reason for which the shortage has arisen. For example, if the shortage is of a temporary nature, it may be more effective to source the scarce skills from abroad rather than to increase the number of student places in the relevant disciplines.

It is outside the scope of this bulletin to provide an analysis of why shortages have arisen in certain occupations. However, it is important for policy makers to appreciate that the existence of shortages does not necessarily require a response from Government, either in terms of increasing education or training provision or increasing immigration.

The purpose of this bulletin is solely to identify occupations for which shortages exist. Identification of the cause of these shortages and the appropriate (if any) policy response requires further research. The EGFSN's research programme includes a number of such studies.

Table 8.1 Demand and Shortage Indicator for Selected Occupations

Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
General managers	24.8	28%	8%	Below Average	26%	8%	60%	1.1%	25	X	-1.5%	No Shortage	
Production managers	22.6	20%	6%	Below Average	12%	9%	57%	-1.8%	60	X	-1.5%	Skill shortage	High level expertise
Building managers	5.3	10%	3%		16%	11%	41%	-1.8%	5		-1.5%	No Shortage	
Specialist managers	51.4	43%	9%	Below Average	7%	12%	74%	8.8%	125	X	-1.5%	Skill shortage	High level expertise
Marketing etc. managers	20.7	43%	9%		8%	12%	65%	4.2%	54	X	-1.5%	Skill shortage	High level expertise
Purchasing managers	1.6	48%	13%		0%	7%	89%	8.7%	7	X	-1.5%	No Shortage	
Advertising & pr managers	3.4	60%	6%		7%	9%	75%	2.9%	10		-1.5%	No Shortage	
Personnel managers	7.4	72%	11%		4%	10%	76%	11.7%	1		-1.5%	No Shortage	
Computer systems managers	14.2	21%	5%		3%	13%	86%	20.0%	35	X	-1.5%	Skill shortage	High level expertise
Financial managers	**39.9**	**60%**	**11%**	**Below Average**	**11%**	**6%**	**56%**	**7.0%**	**47**		**%**	**No Shortage**	
Bank managers	31.5	60%	10%		11%	7%	61%	9.7%	46		-1.5%	No Shortage	
Credit controllers	3.7	65%	18%		9%	6%	49%	-1.3%	0	X	-1.5%	No Shortage	
Managers in transport	**11.9**	**13%**	**5%**	**Below Average**	**15%**	**16%**	**38%**	**3.2%**	**16**		**-1.5%**	**No Shortage**	
Transport managers	5.5	14%	5%		16%	11%	50%	6.7%	7		-1.5%	Skill shortage	
Stores managers	3.5	16%	5%		13%	24%	30%	0.9%	6		-1.5%	No Shortage	
Warehousing managers	2.9	6%	6%		15%	13%	29%	0.2%	3		-1.5%	No Shortage	
Protective service officers	**1.8**	**8%**	**0%**	**Below Average**	**14%**	**0%**	**73%**	**3.8%**	**2**		**-1.5%**	**No Shortage**	
Managers in farming	**79.4**	**8%**	**12%**	**Below Average**	**46%**	**1%**	**9%**	**-3.2%**	**8**			**No Shortage**	
Farm owners and managers	79.0	7%	12%		46%	1%	9%	-3.2%	2		3.1%	No Shortage	
Proprietors service industries	**75.1**	**44%**	**10%**	**Below Average**	**17%**	**14%**	**38%**	**2.0%**	**34**			**No Shortage**	

Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
Hotel managers	6.9	53%	17%		25%	13%	42%	5.0%	4		-1.5%	No Shortage	
Restaurant & catering managers	10.7	50%	10%		10%	34%	41%	2.9%	10		-1.5%	No Shortage	
Publicans	6.0	30%	13%		32%	3%	23%	-3.3%	0		1.7%	No Shortage	
Entertainment/sports managers	4.9	44%	20%		5%	7%	59%	21.7%	2		-1.5%	No Shortage	
Travel agency managers	2.4	85%	18%		26%	5%	45%	5.0%	1		-1.5%	No Shortage	
Other managers	**14.7**	**52%**	**9%**	Below Average	**18%**	**10%**	**62%**	**-15.3%**	**52**	**X**	**-1.5%**	**No Shortage**	
Natural scientists	**10.9**	**54%**	**6%**	Below Average	**7%**	**15%**	**95%**	**6.8%**	**19**		**2.8%**	**Skill shortage**	
Chemists	2.0	61%	8%		0%	11%	91%	-0.1%	2	X	2.8%	Skill shortage	High level R&D
Biological scientists	5.3	52%	7%		13%	12%	92%	9.2%	5	X	2.8%	Skill shortage	High level R&D
Other natural scientists	3.7	54%	4%		3%	20%	100%	8.3%	12	X	2.8%	Skill shortage	High level R&D
Engineers and technologists	**40.8**	**10%**	**6%**	Below Average	**5%**	**16%**	**89%**	**1.2%**	**342**		**2.8%**	**Skill shortage**	
Civil/mining engineers	9.5	10%	8%		4%	12%	97%	1.3%	2		2.8%	No Shortage	
Mechanical engineers	4.9	3%	7%		17%	10%	87%	7.0%	2	X	2.8%	Skill shortage	High level niche areas
Electrical engineers	3.0	0%	0%		7%	5%	72%	-1.7%	3	X	2.8%	Skill shortage	High level niche areas
Electronic engineers	3.3	4%	5%		2%	20%	90%	0.1%	7		2.8%	Skill shortage	High level niche areas
Software engineers	9.0	11%	2%		1%	26%	92%	0.7%	282	X	2.8%	Skill shortage	High level expertise
Chemical engineers	**1.7**	**20%**	**0%**		**4%**	**12%**	**100%**	**0.8%**	**2**		**2.8%**	**Skill shortage**	**High level expertise**
Design & develop engineers	1.1	15%	10%		7%	18%	88%	-9.4%	17	X	2.8%	Skill shortage	High level niche areas
Planning & QC engineers	1.6	46%	14%		3%	18%	85%	-6.6%	4	X	2.8%	Skill shortage	High level niche areas
Other engineers & technologists	6.7	11%	8%		7%	13%	83%	5.3%	23	X	2.8%	No Shortage	
Health professionals	**19.4**	**42%**	**10%**	Below Average	**13%**	**19%**	**95%**	**0.9%**	**563**		**2.8%**	**Skill shortage**	

Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
Medical practitioners	10.8	39%	6%		15%	23%	94%	-2.6%	555	X	2.8%	Skill shortage	
Pharmacists/pharmacologists	4.0	53%	16%		4%	15%	97%	10.0%	2		2.8%	No Shortage	
Dental practitioners	1.8	57%	24%		22%	12%	93%	2.0%	6		2.8%	Skill shortage	
Veterinarians	2.1	15%	8%		17%	15%	100%	3.6%	0		2.8%	Inconclusive	
Teaching professionals	**92.9**	**74%**	**16%**	Below Average	**13%**	**5%**	**95%**	**3.9%**	**55**		**2.8%**	No Shortage	
University and iot lecturers	14.3	44%	14%		17%	16%	99%	6.9%	40		2.8%	No Shortage	
Secondary education teachers	31.8	70%	14%		13%	2%	98%	3.5%	1		2.8%	No Shortage	
Primary education teachers	36.0	86%	11%		9%	1%	94%	5.2%	4		2.8%	No Shortage	
Other teaching professionals	10.8	80%	42%		20%	8%	82%	-1.7%	8		2.8%	No Shortage	
Legal professionals	**10.1**	**46%**	**6%**	Below Average	**13%**	**3%**	**99%**	**2.5%**	**3**		**2.8%**	No Shortage	
Judges, barristers & advocates	2.0	38%	2%		11%	0%	100%	5.7%	3		2.8%	No Shortage	
Solicitors	8.0	48%	8%		13%	4%	98%	1.8%	0		2.8%	No Shortage	
Business and financial prof.	**48.1**	**41%**	**8%**	Below Average	**9%**	**11%**	**92%**	**6.0%**	**95**		**2.8%**	No Shortage	
Accountants & tax experts	41.6	42%	8%		8%	10%	92%	6.9%	62	X	2.8%	Skill shortage	High level niche areas
Actuaries, economists, statist.	2.1	34%	10%		11%	23%	94%	6.3%	3	X	2.8%	Skill shortage	
Business analysts	6.4	35%	11%		19%	13%	86%	0.1%	40	X	2.8%	Skill shortage	High level expertise
Architects, planners,surveyors	**8.2**	**21%**	**10%**	Below Average	**17%**	**10%**	**94%**	**6.6%**	**6**		**2.8%**	No shortage	
Architects and town planners	6.7	24%	11%		15%	7%	98%	7.7%	6		2.8%	No shortage	
Building and other surveyors	1.5	9%	9%		23%	21%	83%	2.4%	0		2.8%	No shortage	
Librarians, archive.& curators	**2.1**	**80%**	**34%**	Below Average	**16%**	**11%**	**71%**	**-3.6%**	**0**		**2.8%**	No Shortage	
Other professional occupations	**14.2**	**63%**	**17%**	Below Average	**20%**	**8%**	**90%**	**6.7%**	**8**		**2.8%**	No Shortage	

Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
Psychologists	2.3	82%	16%		2%	0%	97%	5.7%	4	X	2.8%	Inconclusive	
Soc. workers, probation officers	8.8	77%	23%		9%	10%	86%	13.4%	2		2.8%	Inconclusive	
Scientific technicians	**20.1**	**30%**	**9%**	Below Average	**11%**	**12%**	**67%**	**-1.3%**	**50**		**2.6%**	No Shortage	
Laboratory technicians	5.4	67%	12%		5%	11%	84%	-0.4%	18		2.6%	Skill shortage	
Engineering technicians	1.6	6%	0%		15%	9%	68%	0.2%	15		2.6%	No Shortage	
Electrical/electronic tech.	1.9	0%	0%		7%	3%	68%	-7.2%	2		2.6%	No Shortage	
Architectural and civil eng.tech.	1.4	29%	30%		22%	9%	100%	-1.7%	2		2.6%	No shortage	
Other scientific technicians	9.9	19%	7%		13%	14%	54%	-0.5%	13		2.6%	No Shortage	
Draughtspersons, surveyors	**5.0**	**5%**	**8%**	Below Average	**15%**	**3%**	**81%**	**2.4%**	**2**		**2.6%**	No Shortage	
Draughtspersons	1.7	8%	7%		8%	0%	61%	-1.8%	1		2.6%	No Shortage	
Quantity surveyors	3.1	5%	9%		16%	0%	92%	3.8%	1		2.6%	No Shortage	
Computer analyst/program.	**18.4**	**22%**	**5%**	Below Average	**3%**	**21%**	**84%**	**2.7%**	**119**	X	**2.6%**	Skill shortage	**High level niche areas**
Ship/aircraft officers	**2.5**	**17%**	**14%**	Below Average	**20%**	**3%**	**70%**	**0.1%**	**23**		**2.6%**	No Shortage	
Health associate professionals	**72.9**	**90%**	**28%**	Below Average	**16%**	**14%**	**92%**	**3.4%**	**291**		**2.6%**	No Shortage	
Nurses and midwives	56.7	93%	27%		17%	16%	94%	2.3%	205	X	2.6%	Skill shortage	Niche areas
Medical radiographers	1.5	91%	35%		4%	4%	95%	5.8%	26	X	2.6%	Skill shortage	
Physiotherapists	2.3	87%	29%		15%	4%	100%	5.6%	14	X	2.6%	Skill shortage	Niche areas
Medical and dental technicians	3.0	71%	29%		10%	5%	80%	17.5%	12	X	2.6%	No Shortage	
Occupational & therapists	6.3	88%	40%		17%	17%	90%	9.8%	33	X	2.6%	Skill shortage	Niche areas
Other health assoc. prof.	3.8	68%	18%		10%	6%	74%	2.5%	1		2.6%	No Shortage	
Legal associate professionals	**1.9**	**81%**	**8%**	Below Average	**3%**	**4%**	**90%**	**3.9%**	**4**	X	**2.6%**	No Shortage	
Business and fin. assoc.prof.	**15.9**	**43%**	**10%**	Below Average	**8%**	**10%**	**76%**	**1.6%**	**44**		**2.6%**	No Shortage	

Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
Underwriters, claims assessors	11.6	39%	10%		8%	13%	75%	2.5%	29	X	2.6%	Skill shortage	
Personnel officers	2.1	79%	12%		4%	4%	74%	-2.1%	3		2.6%	No Shortage	
Community & youth workers	**9.9**	**70%**	**40%**	**Below Average**	**12%**	**9%**	**51%**	**7.0%**	**13**	**X**	**2.6%**	**No Shortage**	
Literary, art and sports prof.	**30.4**	**38%**	**27%**	**Below Average**	**11%**	**14%**	**63%**	**5.0%**	**71**	**X**	**2.8%**	**No Shortage**	
Other associate professional	**16.9**	**46%**	**22%**	**Below Average**	**18%**	**10%**	**66%**	**5.7%**	**47**	**X**	**2.6%**	**No Shortage**	
Careers guidance advisors	1.5	76%	38%		35%	3%	89%	0.6%	0		2.8%	No Shortage	
Vocational, industrial trainers	6.0	50%	19%		16%	4%	60%	4.6%	13		2.6%	No Shortage	
Admin./clerical officers	**33.4**	**66%**	**11%**	**Below Average**	**14%**	**1%**	**37%**	**4.5%**	**1**		**3.5%**	**No Shortage**	
Numerical clerks & cashiers	**66.4**	**77%**	**26%**	**Below Average**	**8%**	**8%**	**42%**	**1.9%**	**49**	**X**	**3.5%**	**No Shortage**	
Filing & records clerks	**7.1**	**68%**	**33%**	**Above Average**	**16%**	**11%**	**40%**	**-0.5%**	**8**		**3.5%**	**No Shortage**	
Other clerks	**70.5**	**81%**	**28%**	**Below Average**	**10%**	**9%**	**36%**	**7.1%**	**31**		**3.5%**	**No Shortage**	
Warehousemen/women	**17.4**	**10%**	**18%**	**Above Average**	**11%**	**18%**	**14%**	**-1.9%**	**14**	**X**	**3.5%**	**No Shortage**	
Secretaries	**34.3**	**97%**	**43%**	**Below Average**	**15%**	**7%**	**28%**	**-2.7%**	**8**		**3.5%**	**No Shortage**	
Legal secretaries	3.9	97%	40%		8%	4%	31%	2.4%	3		3.5%	No Shortage	
Other secretaries	30.4	97%	43%		16%	7%	28%	-3.2%	5		3.5%	No Shortage	
Receptionists & telephonists	**14.2**	**88%**	**48%**	**Above Average**	**12%**	**14%**	**27%**	**-2.8%**	**4**		**3.5%**	**No Shortage**	
Computer operators	**1.9**	**41%**	**9%**	**Above Average**	**8%**	**8%**	**44%**	**-12.6%**	**6**		**3.5%**	**No Shortage**	
Construction trades	**48.6**	**1%**	**14%**	**Above Average**	**15%**	**13%**	**10%**	**-5.8%**	**23**		**2.7%**	**No Shortage**	
Bricklayers, masons	6.1	0%	10%		5%	15%	6%	-15.2%	0		2.7%	No shortage	
Roofers	3.9	0%	5%		6%	16%	7%	-3.3%	1		2.7%	No shortage	
Plasterers	5.4	0%	21%		10%	16%	10%	-14.2%	8		2.7%	No shortage	

Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
Builders, building contractors	16.3	2%	15%		20%	8%	13%	0.3%	2		2.7%	No shortage	
Scaffolders	1.1	0%	0%		6%	30%	36%	-7.0%	6		2.7%	No shortage	
Floorers	1.9	0%	9%		9%	20%	0%	-2.7%	1		2.7%	No shortage	
Painters & decorators	8.3	1%	9%		20%	14%	8%	-3.3%	2		2.7%	No shortage	
Other construction trades	5.6	2%	22%		18%	20%	8%	-0.4%	3		2.7%	No shortage	
Instrument making trades	**22.5**	**3%**	**7%**	Above Average	**14%**	**10%**	**23%**	**-1.9%**	**18**		**1.5%**	**No Shortage**	
Electrical/ electronic trades	**32.1**	**5%**	**6%**	Above Average	**9%**	**9%**	**28%**	**-3.5%**	**32**		**2.1%**	**No Shortage**	
Metal forming, welding trades	**23.6**	**0%**	**10%**	Above Average	**14%**	**12%**	**6%**	**-1.9%**	**21**		**1.5%**	**No Shortage**	
Plumbers	12.6	1%	9%		14%	6%	8%	0.3%	0		2.7%	No Shortage	
Other metal forming trades	11.0	0%	10%		15%	19%	5%	-4.2%	21		1.5%	No Shortage	
Vehicle trades	**17.3**	**2%**	**8%**	Above Average	**11%**	**17%**	**11%**	**-0.7%**	**8**		**2.1%**	**No Shortage**	
Textiles trades	**3.1**	**58%**	**31%**	Below Average	**19%**	**21%**	**19%**	**-11.6%**	**2**		**2.7%**	**No Shortage**	
Printing and related trades	**5.6**	**17%**	**10%**	Above Average	**10%**	**24%**	**16%**	**-3.5%**	**2**		**2.7%**	**No Shortage**	
Woodworking trades	**31.7**	**1%**	**20%**	Above Average	**13%**	**14%**	**6%**	**-4.9%**	**5**		**2.7%**	**No Shortage**	
Carpenters & joiners	27.8	1%	19%		12%	13%	6%	-5.3%	5		2.7%	No Shortage	
Wood working trades	3.9	6%	25%		15%	19%	6%	-1.4%	0		2.7%	No Shortage	
Food preparation trades	**10.0**	**14%**	**11%**	Below Average	**10%**	**36%**	**8%**	**-0.4%**	**46**	X	**1.5%**	**No Shortage**	
Other craft occupations	**15.9**	**12%**	**21%**	Above Average	**20%**	**18%**	**21%**	**-0.4%**	**9**		**2.7%**	**No Shortage**	
Ncos and other	**5.4**	**5%**	**0%**	Below Average	**1%**	**2%**	**16%**	**-3.3%**	**0**		**1.2%**	**No Shortage**	
Ncos and other ranks	6.3	6%	0%		3%	1%	25%	-2.0%	1		1.2%	No Shortage	
Security occupations	**35.2**	**19%**	**12%**	Below Average	**12%**	**10%**	**43%**	**3.6%**	**34**		**1.2%**	**No Shortage**	
Police officers	14.5	22%	1%		6%	0%	73%	4.9%	1		3.9%	No Shortage	

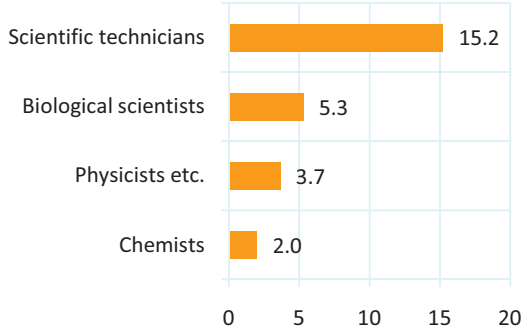
Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
Fire service officers	2.5	7%	12%		8%	7%	32%	-0.1%	0		3.9%	No Shortage	
Prison service officers	2.9	11%	0%		5%	3%	30%	-1.8%	0		3.9%	No Shortage	
Security guards	15.7	18%	25%		21%	22%	19%	4.3%	34		1.2%	No Shortage	
Catering occupations	**63.6**	**55%**	**47%**	Below Average	**8%**	**30%**	**25%**	**0.4%**	**315**		**3.9%**	**No Shortage**	
Chefs, cooks	23.6	45%	28%		10%	37%	35%	3.3%	273		3.9%	No Shortage	
Waiters, waitresses	19.7	84%	65%		5%	44%	22%	-0.5%	34		3.9%	No shortage	
Bar staff	20.2	38%	52%		10%	11%	18%	-1.6%	8		3.9%	No shortage	
Travel attendants and related	**4.0**	**72%**	**16%**	Below Average	**4%**	**23%**	**47%**	**6.4%**	**4**		**3.9%**	**No shortage**	
Travel & flight attendants	4.0	72%	16%		4%	23%	47%	6.1%	4		3.9%	No Shortage	
Health and related occ.	**54.2**	**82%**	**36%**	Below Average	**20%**	**14%**	**26%**	**8.3%**	**205**		**2.6%**	**No Shortage**	
Care assistants etc.	49.8	83%	38%		21%	15%	23%	8.0%	203		2.6%	No Shortage	
Dental nurses	2.9	100%	23%		7%	7%	64%	8.0%	1		2.6%	No shortage	
Childcare and related	**35.3**	**98%**	**41%**	Below Average	**9%**	**16%**	**35%**	**11.1%**	**32**	X	**3.9%**	**No shortage**	
Nursery nurses	8.2	99%	40%		8%	12%	41%	6.3%	3		3.9%	No shortage	
Educational assistants	13.6	96%	33%		14%	6%	41%	18.7%	3		3.9%	No shortage	
Other childcare occupations	13.5	98%	49%		5%	29%	27%	8.3%	26		3.9%	No shortage	
Hairdressers, beauticians etc.	**22.5**	**93%**	**33%**	Below Average	**4%**	**9%**	**31%**	**6.2%**	**10**		**3.9%**	**No shortage**	
Domestic staff	**17.2**	**52%**	**48%**	Below Average	**30%**	**23%**	**8%**	**2.6%**	**107**		**3.9%**	**No shortage**	
Other personal service occ.	**5.2**	**41%**	**28%**	Above Average	**15%**	**12%**	**22%**	**4.7%**	**2**		**3.9%**	**No shortage**	
Buyers, brokers etc.	**3.9**	**37%**	**8%**	Below Average	**11%**	**2%**	**52%**	**-2.2%**	**5**		**4.4%**	**No shortage**	
Sales representatives	**36.1**	**31%**	**15%**	Below Average	**13%**	**11%**	**39%**	**-0.2%**	**24**	X	**4.4%**	**Skill shortage**	**Specialists**

Occupations	Numbers Employed ('000s)	% Females	% Part time	Unemployment	% >55	% Non-Irish Nationals	% Third-Level Graduates	Annual Average Growth Rate 2004-2009	Employment Permits	SLMRU Recruitment Agency Survey	Replacement Rate	Shortage Indicator	Comment
Sales assistants	119.5	71%	55%	Below Average	8%	18%	16%	2.5%	78		4.4%	No Shortage	
Other salespersons etc.	4.1	8%	17%	Below Average	23%	13%	8%	-0.3%	1		4.4%	No shortage	
Other sales occupations	6.7	71%	35%	Below Average	12%	20%	26%	3.8%	5	X	4.4%	Skill shortage	Multilingual telesales
Food operatives	11.8	23%	14%	Above Average	11%	39%	15%	-4.8%	18		1.5%	No shortage	
Chemicals process operatives	8.3	23%	4%	Above Average	5%	17%	20%	-8.3%	7		1.5%	No shortage	
Metal working operatives	1.1	0%	25%	Above Average	9%	19%	17%	0.5%	34		1.5%	No shortage	
Assemblers/lineworkers	16.8	45%	11%	Above Average	4%	27%	18%	-1.6%	3		1.5%	No shortage	
Other routine operatives	9.4	53%	17%	Below Average	8%	34%	34%	-8.4%	23		1.5%	No shortage	
Road transport operatives	66.2	4%	15%	Below Average	23%	12%	7%	0.4%	20		-1.2%	No shortage	
Transport/machinery oper.	14.2	2%	8%	Above Average	13%	9%	4%	-4.1%	11		1.5%	No shortage	
Other plant operatives	14.6	7%	15%	Above Average	16%	17%	18%	-6.1%	16	X	1.5%	No shortage	
Other occupations in ag.	14.5	18%	21%	Below Average	14%	16%	7%	-0.3%	49		3.1%	No shortage	
Other occupations in manufact.	10.3	32%	12%	Above Average	11%	22%	9%	11.7%	20		4.5%	No shortage	
Other occ. in construct.	18.6	1%	10%	Above Average	14%	23%	7%	-6.8%	3		4.5%	No shortage	
Other occupations in transport	5.4	5%	7%	Above Average	12%	15%	9%	-2.2%	2		4.5%	No shortage	
Other occ. in communication	11.0	17%	14%	Below Average	16%	6%	14%	1.2%	0		-1.2%	No shortage	
Other occupations in sales	65.6	74%	59%	Below Average	19%	35%	13%	2.1%	176		4.5%	No shortage	
Other occupations n.e.c.	30.9	25%	24%	Above Average	14%	20%	14%	-13.4%	19		4.5%	No shortage	
All occupations	1,928.9	46%	22%	Average	14%	14%	42%	0.7%	3,634				

8.1 Science Occupations

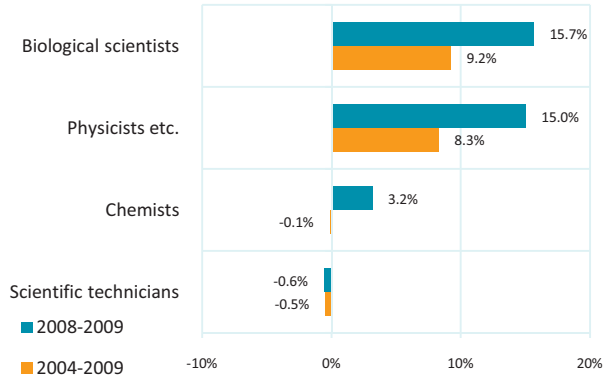
- There were approximately 26,000 persons employed in the selected science occupations, representing just over 1% of national employment
- Employment was primarily concentrated in manufacturing (pharmaceuticals; computer and electronics; machinery and equipment) and healthcare
- Just under 60% of employment was at technician level; the remainder was at professional level
- Just over one third of all employed scientific technicians were laboratory technicians
- Over the period 2004-2009, employment grew at an annual average rate of 2.2% (a net 2,700 jobs) compared to the national average of 0.7%
- Employment of biological scientists and physicists and other natural scientists grew by 9.2% and 8.3% on average annually over the period 2004-2009; in 2009, the number of scientific technicians was almost on a par with 2004 levels
- Over 80% of employment in professional and associate science occupations was concentrated in the 25-54 age group
- Over 90% and 60% of those employed in professional and associate professional science occupations respectively held third level qualifications
- Employment of professional occupations was broadly gender balanced while over 65% of technicians were male
- One in five physicists and other natural scientists was non-Irish compared to the national average of 13.5%

Figure 8.1.1 Numbers Employed (000s) in Selected Science Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.1.2 Average Annual Growth (%) in Selected Science Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.1.1 Age Profile of Selected Science Occupations, 2009

	15-24	25-54	55+	Total
Scientific tech.	7%	83%	10%	100%
Biological scientists	3%	84%	13%	100%
Physicists etc.	5%	92%	3%	100%
Chemists	0%	100%	0%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.1.2 Education Profile of Selected Science Occupations, 2009

	Lower Secondary or Less	Upper Secondary or FET	Third level	Total
Scientific tech.	5%	31%	64%	100%
Biologists	2%	7%	92%	100%
Physicists etc.	0%	0%	100%	100%
Chemists	0%	9%	91%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

Current skills shortages have been identified for high calibre niche area R&D scientists (chemists, biologists etc.), managers (clinical trials, supply chain etc.), animal nutritionists, science technicians (prototyping/development), regulation experts and multidisciplinary experts (e.g. bio-convergence, blend of science and business etc.).

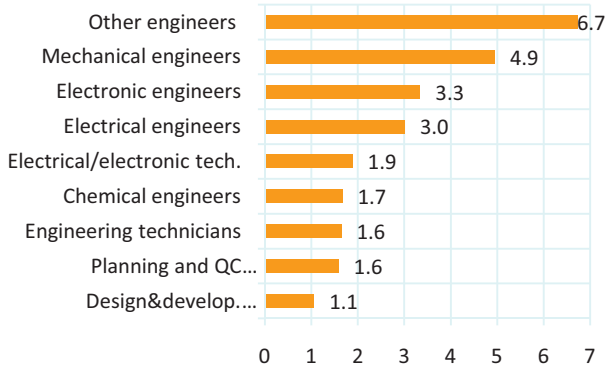
The following factors are expected to positively impact on the future demand for science occupations:

- global demand for pharmaceuticals, biotechnology products and medical devices has proven to be relatively resilient; despite some job losses expected to occur as a result of consolidation within the sector (mergers and acquisitions), bio-pharma and related activities are expected to be the key drivers of export led growth in the recovery, which is evident in recent announcements on job creation (e.g. Warner Chilcott, PPD, Freund Corporations and EirGen Pharma)
- the Irish Government has made a commitment to further advance job creation in science related areas (e.g. Science Foundation Ireland's Strategy on Powering the Smart Economy in 2009, partial funding of the National Institute for Bio-processing Research and Training etc.); recently, it has allocated a multi-million fund for the establishment of competence centres which are expected to employ high calibre researchers in the fields of science, ICT, engineering etc.
- the green agenda (environmental protection (e.g. impact assessment on flora and fauna), renewable energy, etc.)) is expected to create an additional demand for natural scientists in the future
- advances in products and services associated with bio-convergence are expected to drive the future demand for blended science, nanotechnology and ICT expertise
- the structure of operations in the biopharma-chemical sector has been changing towards higher value added (e.g. R&D, clinical trials, supply chain management) but less labour intensive activities, as some manufacturing operations move to lower cost locations (e.g. China); as a result, the demand for skills is moving away from operative to professional (scientists) and associate professional (scientific technicians) levels; in addition, manufacturing operations are likely to increasingly employ skilled 'super-operatives' in the areas of science, regulation and ICT.

8.2 Engineering Occupations

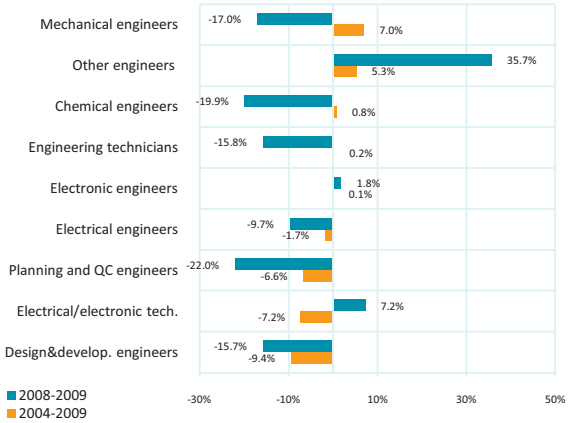
- There were approximately 26,000 persons employed in the selected engineering occupations, representing just over 1% of Ireland's workforce
- Approximately one half of employment was concentrated in manufacturing (primarily computers and electronics; pharmaceuticals), professional, scientific and technical activities, and ICT
- Over 80% of employment was at professional level (engineers); the remainder was at technician level
- With the exception of other engineers and technologists, employment for the selected engineers in 2009 either remained relatively unchanged or decreased compared to 2008; the largest number of net job losses was recorded for mechanical engineers
- At 8%, the share of older workers was below the national average of 14%
- Over 80% of those employed at professional level were third level graduates; the share for associate professionals was almost 70%
- Employment of planning and quality control engineers is the most gender balanced (46% were female); at least 80% of employment in each of the other occupations was male
- Just under 6% of those working in all engineering occupations were in part time employment – this share is well below the national average of 22%

Figure 8.2.1 Numbers Employed (000s) in Selected Engineering Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.2.1 Average Annual Growth (%) in Selected Engineering Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.2.1 Age Profile of Selected Engineering Occupations, 2009

	15-24	25-54	55+	Total
Other engineers	3%	90%	7%	100%
Mechanical engineers	5%	79%	17%	100%
Electrical engineers	4%	89%	7%	100%
Electronic engineers	7%	91%	2%	100%
Electrical/electronic tech.	0%	93%	7%	100%
Design and develop. eng.	0%	93%	7%	100%
Planning and QC engineers	5%	92%	3%	100%
Chemical engineers	4%	92%	4%	100%
Engineering technicians	0%	85%	15%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.2.2 Education Profile of Selected Engineering Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Other engineers	5%	13%	82%	100%
Mechanical engineers	5%	8%	87%	100%
Electrical engineers	0%	28%	72%	100%
Electronic engineers	3%	7%	90%	100%
Electrical/electronic tech.	10%	21%	68%	100%
Design and develop. eng.	0%	12%	88%	100%
Planning and QC eng.	0%	15%	85%	100%
Chemical engineers	0%	0%	100%	100%
Engineering technicians	0%	32%	68%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

Shortages have been identified for the following high level engineering skills: mechanical design and innovation, process (pharmaceutical industry, medical devices, water purification), quality control, validation (pharmaceutical and medical devices sectors), wind energy and high voltage electrical engineering.

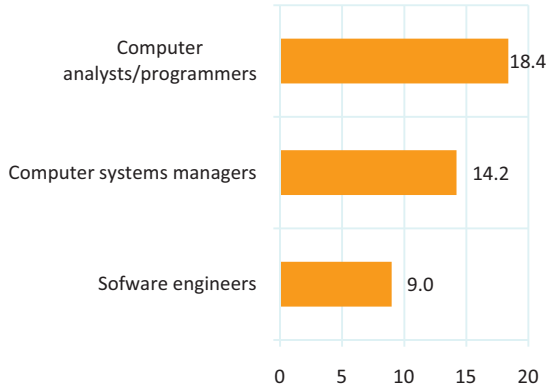
There are a number of factors which are expected to positively impact on the future demand for engineering skills:

- exposure to global competition — companies in food processing, medical devices, pharmaceuticals etc. are being forced to increase productivity, quality and flexibility through changes in system architecture, the application of leaner manufacturing processes (e.g. SixSigma) and through further automation. All of these processes require the application of professional engineering skills.
- the expansion of R&D and other activities to facilitate improvements in power generation and the management and transmission of energy is expected to continue into future; recent investment announcements include Texas Instruments (power management semiconductor engineering), PAS Technologies (gas turbines), Sierra Support Services, United Technologies, Crompton Greaves, Endesa and Eirgrid.
- the green agenda — renewable energy (solar, wind, wave and tidal) and environmental protection, is expected to be a significant driver of job opportunities for engineering skills (mechanical, electric, electronic, civil, environmental, design, development etc.). The Government is committed to supporting investment in these areas.

8.3 IT Professional Occupations

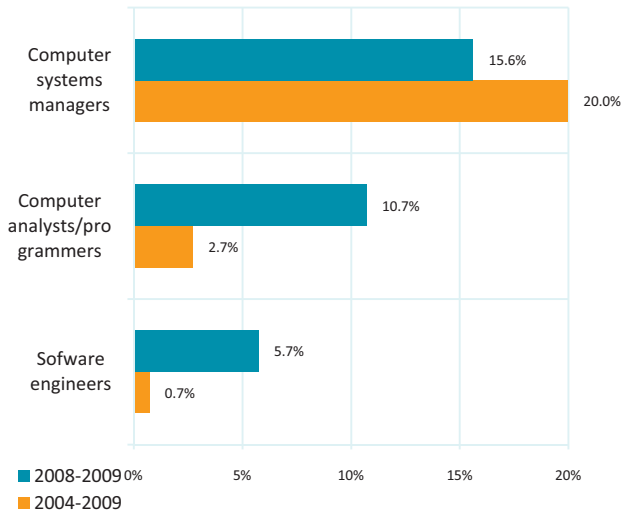
- There were approximately 42,000 persons employed in the selected IT professional occupations, accounting for just over 2% the national workforce
- Almost 60% of employment was concentrated in the ICT sector
- Employment in IT professional occupations grew by 6.4% on average annually over the period 2004-2009 – adding a net 11,200 new jobs, 4,000 of which were created during the recession
- Over 90% of employment in each of the occupations was concentrated in the 25-54 age group
- IT professionals had one of the highest levels of educational attainment among occupations economy-wide: almost 90% were third level graduates
- Approximately one fifth of overall employment in the IT occupations was female
- Just over one quarter and one fifth of software engineers and computer analysts/programmers were non-Irish nationals respectively

Figure 8.3.1 Numbers Employed (000s) in Selected IT Professional Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.3.2 Average Annual Growth (%) in Selected IT Professional Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.3.1 Age Profile of Selected IT Professional Occupations, 2009

	15-24	25-54	55+	Total
Computer analysts/program	3%	93%	3%	100%
Software engineers	4%	95%	1%	100%
Computer systems managers	1%	96%	3%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.3.2 Education Profile of Selected IT Professional Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Comp.analysts/program	2%	14%	84%	100%
Software engineers	2%	7%	92%	100%
Comp. systems managers	2%	12%	86%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

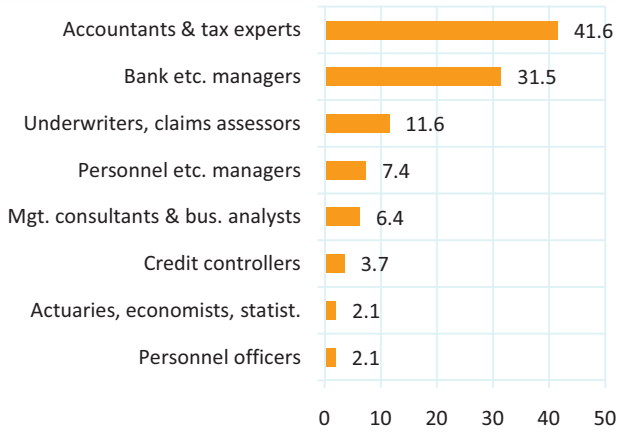
Shortages of senior software developers (JAVA, SQL, C++, .net, VB6, Search Engine Optimisation (SEO), PHP), IT security experts, network experts and IT project managers have been identified. The sourcing of high level IT skills from abroad continued during the recession, with 400 employment permits issued to non-EEA software engineers and programmers in 2009. IT experts were one of the most frequently mentioned difficult to source occupations in the FÁS/ESRI Recruitment Agency Survey. In 2009, vacancies for IT occupations were among the top ten most frequently advertised by the Irish Times and Irishjobs.ie.

IT skills are expected to be instrumental in driving employment growth in the recovery. Expected job creation in IT related areas is supported by recent investment announcements by Gala Networks (games), Alcatel-Lucent (IT applications, platforms and servers for fixed and mobile operators), Infineon Technologies AG and University of Limerick (R&D centre of excellence in applied research for semiconductor supply chain), Disney Research and CLARITY (multimedia), IBM (IT services for urban planning), Havoc (games) and Openet (software solutions for telecommunications).

8.4 Business and Financial Occupations

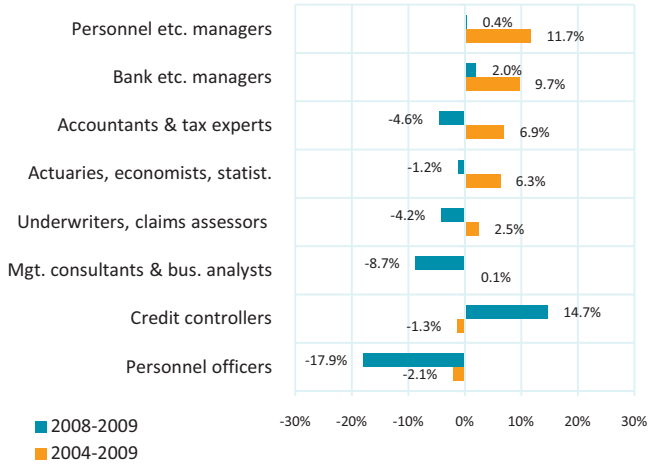
- Approximately 106,000 persons were employed in the selected business and financial occupations, representing over 5% Ireland's workforce
- One third of total employment in these occupations was concentrated in financial and insurance activities; one fifth in professional, scientific and technical activities (primarily in legal and accounting services)
- Almost 50% of employment was at professional level (primarily accountants and tax experts); approximately 40% was at managerial level and the remainder was at associate professional level
- Over the period 2004-2009, employment in business and financial occupations grew by 6.3% on average annually – equivalent to a net 28,000 additional jobs; the most significant number was created for accountants and tax experts and bank and other financial managers (almost 12,000 for each of these occupational groupings)
- Between 2008-2009, employment contracted by a net 2,500; most of the job losses were recorded in accounting and taxation
- At 80% and over, most of those employed in business and financial occupations were aged 25-54; management consultants and business analysts had the oldest age profile
- Actuaries, economists and statisticians and business and tax experts had the highest level of educational attainment, with over 90% holding third level qualifications; in contrast, bank and other financial managers had the lowest level

Figure 8.4.1 Numbers Employed (000s) in Selected Business and Financial Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.4.2 Average Annual Growth (%) in Selected Business and Financial Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.4.1 Age Profile of Selected Business and Financial Occupations, 2009

	15-24	25-54	55+	Total
Accountants/tax experts	8%	85%	8%	100%
Bank managers	4%	85%	11%	100%
Underwriters claims assessors	5%	87%	8%	100%
Mgt. consultants/business anal.	1%	80%	19%	100%
Personnel etc. managers	9%	87%	4%	100%
Credit controllers	4%	86%	9%	100%
Personnel officers	9%	87%	4%	100%
Actuaries, economists, statist.	9%	79%	11%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.4.2 Education Profile of Selected Business and Financial Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Accountants/tax experts	0%	7%	92%	100%
Bank managers	7%	33%	61%	100%
Underwriters claims assess.	2%	23%	75%	100%
Mgt. consultants/bus. anal.	1%	12%	86%	100%
Personnel etc. managers	3%	20%	76%	100%
Credit controllers	5%	46%	49%	100%
Personnel officers	0%	26%	74%	100%
Actuaries, econ., statist.	0%	6%	94%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

Despite the global and domestic financial crises and significant number of job losses (e.g. Bank of Scotland Ireland), shortages of high level financial skills have been identified. Difficult to source occupations include actuaries, risk experts, business analysts, senior claims handlers, fund specialists and senior accountants with specific skills (e.g. regulation, MiFID). Almost 100 financial professionals were sourced from outside the EEA in 2009.

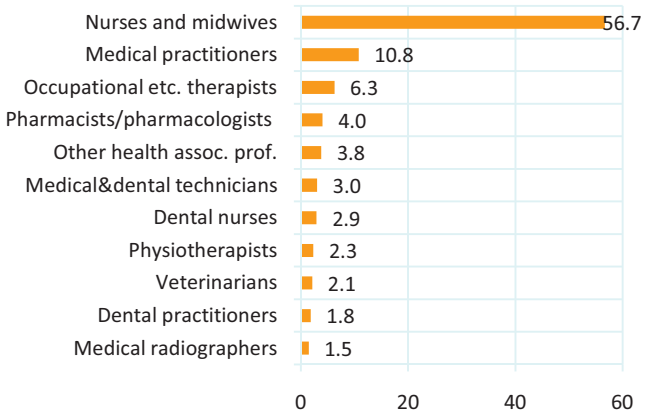
The insurance sector has been holding up well during the recession. Despite the anticipated job losses from Quinn insurance, job creation is expected from recent investment announcements by Zurich Financial Services Group, Generali PanEurope and Allianz.

The demand for financial skills (e.g. accounting, quantitative finance and risk management) is expected to be driven by changes in the regulatory environment, product innovation, system changes to support more complex product sets and industry consolidation (mergers into a smaller number of large 'global banks').

8.5 Healthcare Occupations

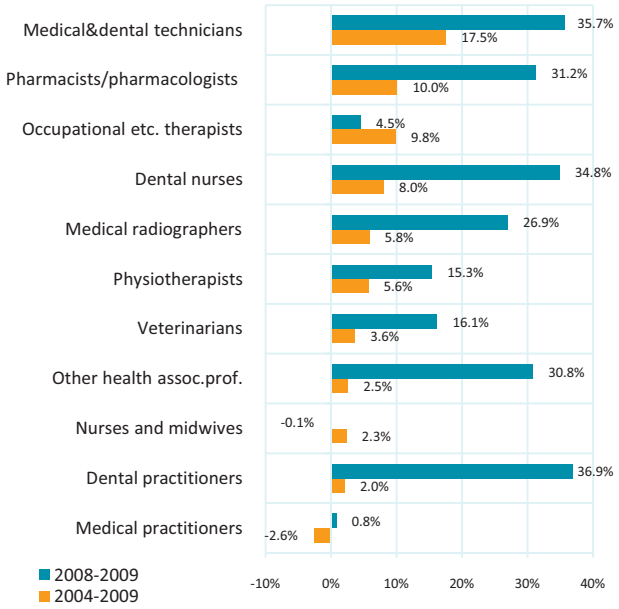
- There were approximately 95,000 persons employed in the selected healthcare occupations, representing 5% of total national employment
- Most employment was concentrated in the healthcare sector
- Over 70% of employment was at associate professional level (primarily in nursing and midwifery)
- Nurses and midwives were one of the largest occupations in the workforce as a whole, after sales assistants, teaching professionals and farmers
- Employment in healthcare occupations increased by 3% on average annually over the period 2004-2009 – above the national average of 0.7%; a net 13,000 jobs were created between 2004 and 2009, primarily for nurses and midwives, therapists (excluding occupational therapists), medical technicians and auxiliaries
- The majority of those employed in healthcare occupations were highly skilled: over 90% hold third level qualifications
- Over one fifth of persons employed as medical practitioners was non-Irish
- At 80% (90% for nurses), healthcare occupations were predominantly female

Figure 8.5.1 Numbers Employed (000s) in Selected Healthcare Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.5.2 Average Annual Growth (%) in Selected Healthcare Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.5.1 Age Profile of Selected Healthcare Occupations, 2009

	15-24	25-54	55+	Total
Nurses and midwives	4%	79%	17%	100%
Medical practitioners	2%	83%	15%	100%
Occupational therapists	2%	81%	17%	100%
Other health associate prof.	10%	80%	10%	100%
Pharmacists/pharmacolog.	5%	91%	4%	100%
Dental nurses	13%	81%	7%	100%
Veterinarians	4%	79%	17%	100%
Physiotherapists	6%	79%	15%	100%
Medical and dental tech.	6%	84%	10%	100%
Dental practitioners	0%	78%	22%	100%
Medical radiographers	5%	92%	4%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.5.2 Education Profile of Selected Healthcare Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Nurses and midwives	0%	6%	94%	100%
Medical practitioners	2%	4%	94%	100%
Occupational therapists	1%	9%	90%	100%
Other health assoc.prof.	0%	26%	74%	100%
Pharmacists/pharmacolog.	0%	3%	97%	100%
Dental nurses	0%	36%	64%	100%
Veterinarians	0%	0%	100%	100%
Physiotherapists	0%	0%	100%	100%
Medical and dental tech.	2%	17%	80%	100%
Dental practitioners	0%	7%	93%	100%
Medical radiographers	0%	5%	95%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

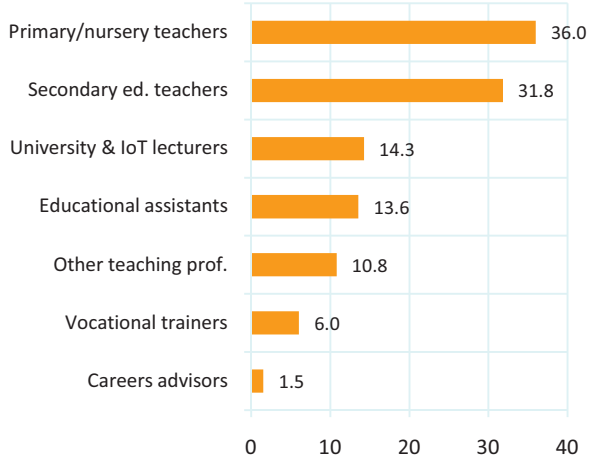
Job opportunities in the public healthcare sector remain limited due to funding issues. However, shortages of the following skills have been identified:

- medical practitioners (general practitioners, non-consultant hospital doctors and specialist doctors (e.g. consultant radiologists)): over 500 doctors were sourced from outside the EEA in 2009
- advanced nursing practitioners (theatre nurses, and those specialising in radiology, diabetes, renal medicine and midwifery)
- senior therapists: occupational and speech and language (33 employment permits were issued in 2009); physiotherapists (14 employment permits were issued in 2009) in niche areas e.g. paediatric disability
- medical radiographers (e.g. sonographers, mammograhers etc.) were reported as difficult to source by recruitment agencies, while 26 employment permits were issued for this occupation in 2009
- the level of education and training output from dentistry has not kept pace with the growing demand for dental/orthodontic services, resulting in a shortage in this area.

8.6 Education Occupations

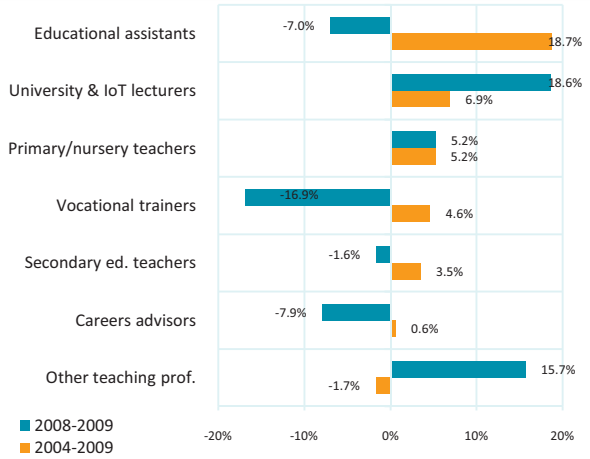
- There were approximately 114,000 persons employed in the selected education-related occupations, representing 6% of total national employment
- Just over 80% were at professional level
- At 5.2%, employment in education-related occupations grew faster than the national average over the period 2004-2009; the number of education assistants grew the fastest between 2004 and 2008, although it has declined since 2008
- Between 2004 and 2009, a net 25,000 jobs were created: professional posts (primary/nursery and secondary/vocational) and educational assistant posts accounted for just over 60% and 30% of this jobs growth respectively
- At 40%, educational assistants had the lowest share of third level graduates among the selected occupations
- Just over one in three careers advisors is 55 years or older — one of the highest shares among associate professional occupations
- Approximately 16% of those employed as university and IoT lecturers were non-Irish nationals

Figure 8.6.1 Numbers Employed (000s) in Selected Education Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.6.2 Average Annual Growth (%) in Selected Education Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.6.1 Age Profile of Selected Education Occupations, 2009

	15-24	25-54	55+	Total
Secondary ed. teachers	5%	82%	13%	100%
Primary&nursery teachers	11%	80%	9%	100%
Univ.and IoT lecturers	2%	82%	17%	100%
Educational assistants	7%	79%	14%	100%
Other teaching prof.	10%	69%	20%	100%
Vocational, trainers	0%	84%	16%	100%
Careers advisors	0%	65%	35%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.6.2 Education Profile of Selected Education Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Secondary ed. teachers	1%	1%	98%	100%
Primary ed.teachers	0%	6%	94%	100%
Univ.and IoT lecturers	0%	1%	99%	100%
Educational assistants	10%	49%	41%	100%
Other teaching prof.	3%	15%	82%	100%
Vocational, trainers	10%	30%	60%	100%
Careers advisors	0%	11%	89%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

There is no evidence of a shortage of education and training professionals at present. It should be noted, however, that 40 university and institute of technology lecturers were sourced from the non-EEA area in 2009.

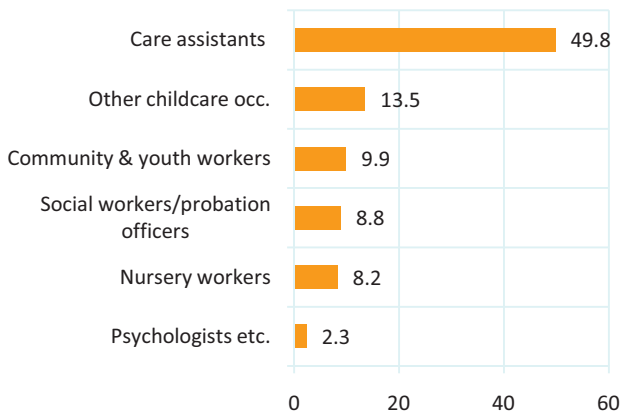
Demand for education and training professionals is expected to be driven by the projected increase in the number of new entrants at all NFQ levels in the coming years (DES 2010 *Projections of Full Time Enrolment at Primary, Second and Third Level, 2008-2030*). Some of the factors driving demand include:

- with the exception of 1999 and 2005, the number of births increased steadily during the period 1995-2008
- high unemployment and the need to preserve skills and up-skill
- the emergence of structural unemployment and the need to re-direct certain segments of the labour force (e.g. construction workers) into alternative careers.

8.7 Social and Care Occupations

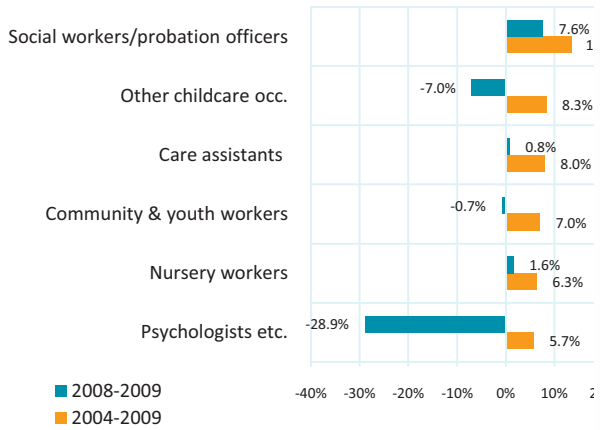
- There were approximately 93,000 persons employed in social and care occupations, accounting for almost 5% of total national employment
- Most employment was concentrated in human health and social work activities
- At over 50%, care assistants and attendants accounted for the highest proportion of those employed in social and care occupations; professional occupations accounted for 12%
- Employment in the selected occupations grew strongly over the period 2004-2009 – at an annual average rate of 8.2% which was the highest rate of growth among all occupational groups in the national workforce as a whole; employment grew the strongest for social workers and care assistants – at 13.4% and 8% respectively
- Approximately 30,000 additional jobs were created during the period 2004-2009; the most significant number was created for care assistants and attendants (almost 16,000), followed by childcare and related occupations (over 4,000)
- One in three of all those employed in childcare related occupations was non-Irish, exceeding the national average of 13.5%
- Childcare related workers had the youngest age profile among the selected occupations, with one in four aged under 25
- Professional occupations (psychologists and social workers) had the highest share of persons employed with third level qualifications; care assistants had the lowest level of educational attainment, with one third holding lower secondary or less qualifications
- Over 80% of employment in social and care occupations was female; the workforce of childcare workers and nursery nurses was almost exclusively female
- With the exception of psychologists, the share of those in part time employment in social and care occupations exceeded the national average; the share was the highest for childcare related workers and nursery nurses and play group leaders – approximately 50% and 40% respectively

Figure 8.7.1 Numbers Employed (000s) in Selected Social and Care Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.7.2 Average Annual Growth (%) in Selected Social and Care Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.7.1 Age Profile of Selected Social and Care Occupations, 2009

	15-24	25-54	55+	Total
Care assistants	8%	71%	21%	100%
Other childcare occupations	25%	70%	5%	100%
Community & youth workers	10%	78%	12%	100%
Nursery nurses	15%	76%	8%	100%
Social workers/probation officers	7%	85%	9%	100%
Psychologists etc.	0%	98%	2%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.7.2 Education Profile of Selected Social and Care Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Care assistants	32%	45%	23%	100%
Other childcare occupations	20%	53%	27%	100%
Community & youth workers	15%	34%	51%	100%
Nursery nurses	13%	47%	41%	100%
Social workers/probation officers	4%	10%	86%	100%
Psychologists etc.	0%	3%	97%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

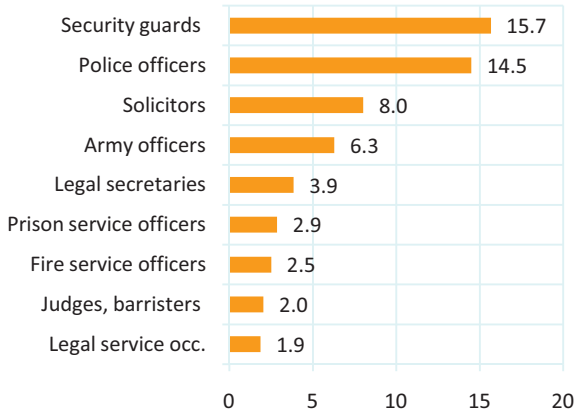
Shortage Indicators

No shortages have been identified for social and care workers in the short term. However, there is some evidence of a current shortage of clinical psychologists.

8.8 Legal and Security Occupations

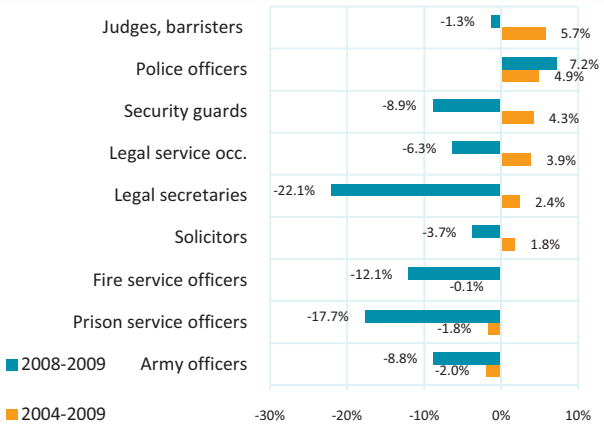
- There were approximately 58,000 persons employed in legal and security occupations, which represents 3% of total national employment
- Almost half of employment was concentrated in public administration and defence
- The majority of persons were employed as security guards and police officers: 15,700 and 14,500 respectively
- Employment in legal and security occupations grew by 2.6% on average annually over the period 2004-2009, creating 7,000 net additional jobs; the most significant number of new jobs was created for security guards and police officers
- Almost 4,000 net job losses were recorded between 2008 and 2009; with the exception of police officers and judges, barristers and advocates, all occupations experienced job losses: the largest number was for security guards and legal secretaries
- At 20%, the share of security guards aged 55 and over exceeded the national average
- Almost all legal professionals were third level graduates; army, prison and security guards had the lowest level of education in this group, with 40% holding lower secondary or less qualifications
- Approximately 40% of legal secretaries and one in four security guards were in part time employment
- Almost all of those employed as legal secretaries were female; the reverse is the case for army and prison service officers
- One in five security guards was non-Irish; the share in all other security occupations was negligible

Figure 8.8.1 Numbers Employed (000s) in Selected Legal and Security Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.8.2 Average Annual Growth (%) in Selected Legal and Security Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.8.1 Age Profile of Selected Legal and Security Occupations, 2009

	15-24	25-54	55+	Total
Security guards	15%	64%	21%	100%
Police officers	7%	87%	6%	100%
Solicitors	3%	84%	13%	100%
Army officers	17%	80%	3%	100%
Legal secretaries	2%	90%	8%	100%
Prison service officers	0%	95%	5%	100%
Fire service officers	0%	92%	8%	100%
Judges, barristers	3%	86%	11%	100%
Legal service occupations	4%	93%	3%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.8.2 Education Profile of Selected Legal and Security Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Security guards	39%	42%	19%	100%
Police officers	3%	24%	73%	100%
Solicitors	1%	1%	98%	100%
Army officers	23%	52%	25%	100%
Legal secretaries	2%	67%	31%	100%
Prison service officers	8%	62%	30%	100%
Fire service officers	16%	52%	32%	100%
Judges, barristers	0%	0%	100%	100%
Legal service occ.	0%	10%	90%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

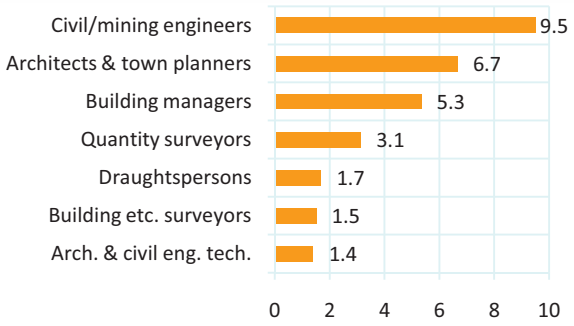
Shortage Indicators

There are no shortages of legal and security skills in Ireland at present.

8.9 Construction Professional and Associate Professional Occupations

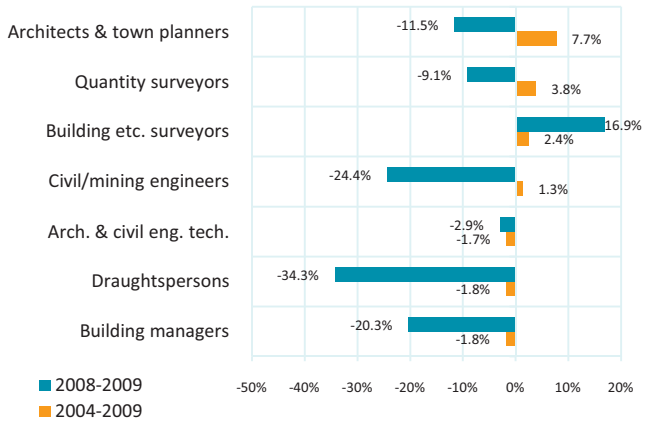
- There were approximately 29,000 persons employed in the selected professional and associate professional construction occupations, representing 1.5% of national employment
- Employment was primarily concentrated in two sectors: construction and professional, scientific and technical activities — accounting for 20% and 58% respectively
- While growing strongly up to 2008, employment in all of these occupations contracted between 2008 and 2009
- With the exception of building, mining and other surveyors, employment in these occupations contracted between 2008 and 2009 with 6,300 net job losses; architects and town planners and quantity surveyors experienced the most pronounced negative employment growth
- With the exception of building managers, the majority of persons employed in construction professional and associate professional occupations held a third level qualification
- Employment in most occupations was concentrated in the 25-54 age cohort; approximately one fifth of building, mining and other surveyors and civil engineering technicians were aged 55 and over
- Approximately one fifth of building, mining and other surveyors was non-Irish, which exceeds the national average of 13.5% and is the highest share among the selected occupations
- At 70% and over, the workforce of each of the selected occupations was predominantly male
- Just under one third of employed architectural and civil engineering technicians was in part time employment.
-

Figure 8.9.1 Numbers Employed (000s) in Selected Construction Professional Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.9.2 Average Annual Growth (%) in Selected Construction Professional Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.9.1 Age Profile of Selected Construction Professional Occupations, 2009

	15-24	25-54	55+	Total
Civil/mining engineers	7%	89%	4%	100%
Architects/town planners	3%	82%	15%	100%
Building managers	0%	84%	16%	100%
Quantity surveyors	2%	82%	16%	100%
Building etc. surveyors	17%	60%	23%	100%
Draughtspersons	0%	92%	8%	100%
Architectural tech.	6%	73%	21%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.9.2 Education Profile of Selected Construction Professional Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Civil/mining engineers	1%	2%	97%	100%
Architects/planners	0%	2%	98%	100%
Building managers	22%	37%	41%	100%
Quantity surveyors	4%	4%	91%	100%
Building etc. surveyors	0%	18%	82%	100%
Draughtspersons	0%	39%	61%	100%
Architectural tech.	0%	0%	100%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

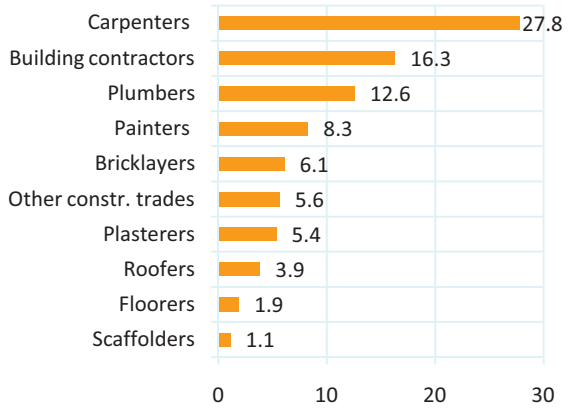
As a result of the sharp contraction in construction activities, there are currently no shortages of professional construction skills in Ireland. Job creation in the recovery is expected to be concentrated in the following construction-related areas:

- infrastructure for the generation and transmission of energy (including renewables); recent investment announcements include those by Endesa and Eirgrid
- energy efficiency (e.g. retro-fitting; compliance with the Energy Performance of Buildings Directive (EPBD) and improved energy efficiency standards under Part L of the Building Regulations)
- site assessment
- water supply and water treatment
- management and treatment of waste
- construction of 'alternative' waste treatment plants
- export of new building materials and processes.

8.10 Construction Craft Occupations

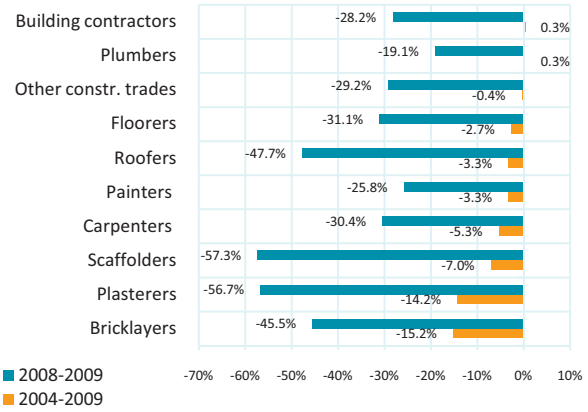
- There were approximately 89,000 persons employed in construction craft occupations, representing 4.6% of Ireland's workforce
- At 85%, employment was primarily concentrated in the construction sector
- Between 2008 and 2009, employment in all craft occupations contracted with the number employed halving in many occupations; almost 45,000 net job losses were recorded; carpenters, plasterers, and builders and building contractors experienced the most significant decline in employment, with 12,200, 7,000 and 6,400 net job losses respectively
- The age profile of carpenters and plumbers was younger than the national average — approximately 21% and 17% were aged 15-24 respectively compared to the national average of 10% — reflecting the inclusion of apprentices in the employment figures
- Just under 10% of those employed in construction craft occupations had attained third level qualifications; in contrast, approximately 30% held below Leaving Certificate qualifications, while just over 60% held upper secondary or FET qualifications (mostly National Craft Certificates) — both of these shares exceeded the national average
- The share of non-Irish in most of these occupations exceeded the national average
- Employment in these occupations was almost exclusively male.

Figure 8.10.1 Numbers Employed (000s) in Selected Construction Craft Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.10.2 Average Annual Growth (%) in Selected Construction Craft Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.10.1 Age Profile of Selected Construction Craft Occupations, 2009

	15-24	25-54	55+	Total
Carpenters	21%	67%	12%	100%
Building contractors	5%	75%	20%	100%
Bricklayers	9%	86%	5%	100%
Plumbers	17%	69%	14%	100%
Plasterers	8%	83%	10%	100%
Painters	8%	72%	20%	100%
Roofers	9%	84%	6%	100%
Other constr. trades	3%	79%	18%	100%
Floorers	8%	83%	9%	100%
Scaffolders	7%	87%	6%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.10.2 Education Profile of Selected Construction Craft Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Carpenters	22%	72%	6%	100%
Building contractors	39%	48%	13%	100%
Bricklayers	44%	50%	6%	100%
Plumbers	11%	81%	8%	100%
Plasterers	33%	56%	10%	100%
Painters	31%	61%	8%	100%
Roofers	30%	63%	7%	100%
Other constr.trades	55%	38%	8%	100%
Floorers	39%	61%	0%	100%
Scaffolders	24%	39%	36%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

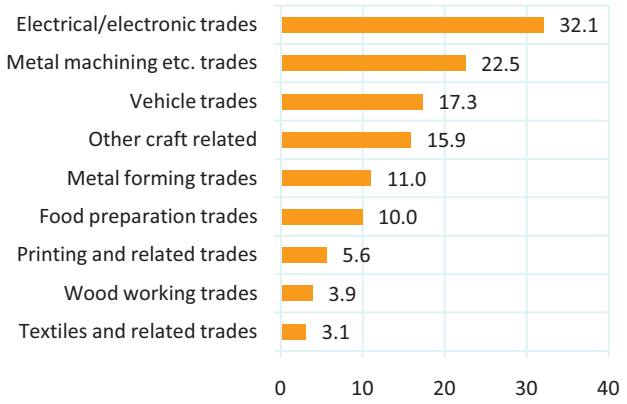
There are currently no shortages of construction craftspersons in Ireland. Moreover, following a sharp decline from all-time highs in 2008, construction activities are not projected to recover to pre-recession levels in the medium term. This is expected to result in structural unemployment and the need for many construction workers to re-orientate to alternative careers.

Job creation in the recovery is expected to be primarily linked to residential repair and maintenance activity (traditional craft skills) and energy infrastructural projects (new craft skills for the installation of energy efficient heating systems, ventilation systems and insulation).

8.11 Other Craft Occupations

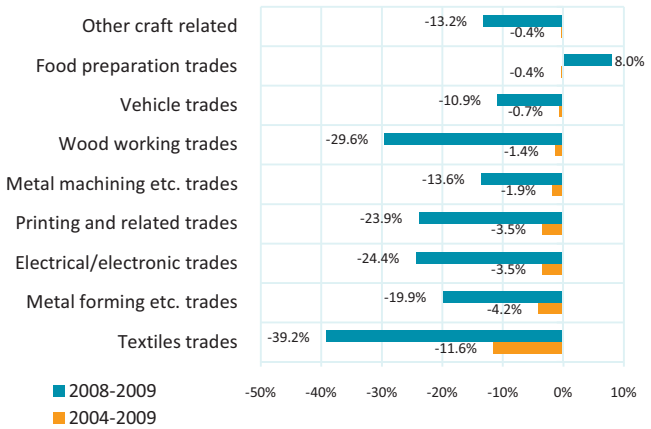
- There were approximately 122,000 persons employed in other craft occupations, just over 6% of the national workforce
- Employment was primarily concentrated in the manufacturing and wholesale and retail trade sectors – with a share of 37% and 19% respectively
- The combined group electrical and electronic trades and metal trades accounted for almost one half of total employment in the selected occupations
- With the exception of food preparation trades, employment contracted sharply in each of the selected occupations between 2008 and 2009 – an overall net decline of 26,000 or 18%
- The age profile of those employed in other craft occupations was broadly similar to the national average; however, almost one fifth of those employed in textiles, garments and related trades were aged 55 and over
- With the exception of electrical and metal machining trades, the share with less than upper secondary education in all other craft occupations was above the national average
- Over a third of those employed in food preparation trades was non-Irish – one of the highest shares economy-wide
- With the exception of textiles, garments and related trades, employment in other craft occupations was predominantly male

Figure 8.11.1 Numbers Employed (000s) in Selected Other Craft Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.11.2 Average Annual Growth (%) in Selected Other Craft Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.11.1 Age Profile of Selected Other Craft Occupations, 2009

	15-24	25-54	55+	Total
Electrical/electronic	14%	77%	9%	100%
Metal machining etc.	9%	77%	14%	100%
Vehicle	15%	74%	11%	100%
Other craft	8%	73%	20%	100%
Welding and related	5%	80%	15%	100%
Food preparation	15%	76%	10%	100%
Printing and related	5%	85%	10%	100%
Wood working	6%	80%	15%	100%
Textiles related	8%	73%	19%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.11.2 Education Profile of Selected Other Craft Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Electrical/electronic	9%	64%	28%	100%
Metal machining etc.	20%	57%	23%	100%
Vehicle	22%	67%	11%	100%
Other craft	42%	37%	21%	100%
Welding and related	40%	55%	5%	100%
Food preparation	34%	58%	8%	100%
Printing and related	30%	54%	16%	100%
Wood working	28%	66%	6%	100%
Textiles related	39%	42%	19%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

There are currently no shortages of other craft skills in Ireland.

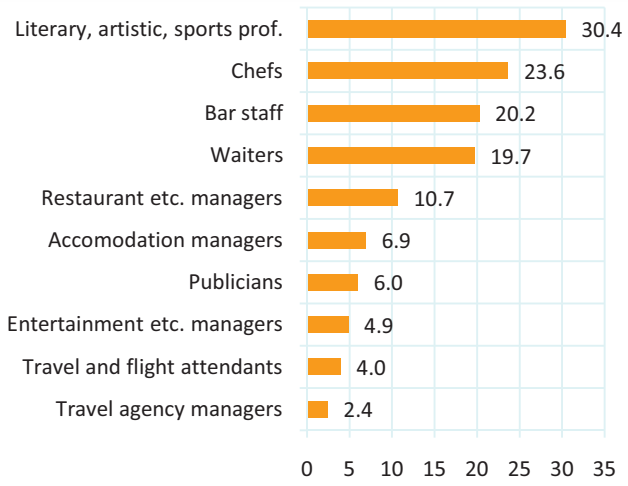
However, there is some evidence that the meat processing industry is experiencing difficulty in attracting and retaining de-boners and meat cutters.

Job opportunities for electricians are likely to be enhanced by the growth in household demand for electrical services in SMART homes, electronic security systems and renewable energy solutions (e.g. solar panels, wind turbines etc.).

8.12 Arts, Sports and Tourism Occupations

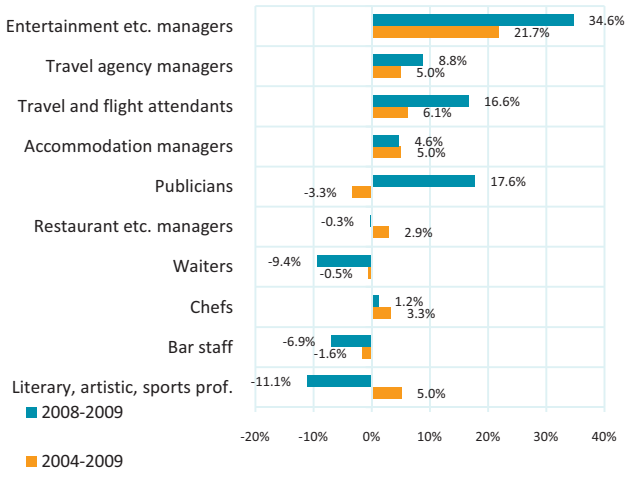
- There were approximately 129,000 persons employed in the selected arts, sports and tourism occupations, representing almost 7% of Ireland's workforce
- Employment was primarily concentrated in two sectors: accommodation and food services and arts, entertainment and recreation
- Almost 4,000 net job losses were recorded across all of these occupations between 2008 and 2009: the largest decline was for literary, artistic and sports professionals, waiters and waitresses and bar staff
- Over 60% of those employed in artistic and sports professionals held third level qualifications; in contrast, less than 20% of bar staff were third level graduates
- With approximately two fifths of persons younger than 25, waiting and bar staff had the youngest workforce among the selected occupations
- While overall employment in the selected occupations was evenly distributed between the genders, females accounted for at least three quarters of the workforce in some occupations (i.e. waiting staff, flight and travel attendants, and travel agency managers)
- Approximately two thirds of waiting staff and one half of bar staff work part time
- At 43% and 37% respectively, the share of non-Irish waiters and chefs was amongst the highest across all occupations in the workforce

Figure 8.12.1 Numbers Employed (000s) in Selected Arts, Sports and Tourism Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.12.2 Average Annual Growth (%) in Selected Arts, Sports and Tourism Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.12.1 Age Profile of Selected Arts, Sports and Tourism Occupations, 2009

	15-24	25-54	55+	Total
Literary, artistic, sports prof.	9%	80%	11%	100%
Bar staff	37%	53%	10%	100%
Chefs, cooks	8%	82%	10%	100%
Waiters, waitresses	40%	55%	5%	100%
Restaurant managers	5%	84%	10%	100%
Publicans	2%	66%	32%	100%
Accommodation managers	4%	71%	25%	100%
Travel and flight attendants	12%	84%	4%	100%
Travel agency managers	17%	57%	26%	100%
Entertainment etc. managers	6%	89%	5%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.12.2 Education Profile of Selected Arts, Sports and Tourism Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Lit., artistic, sports prof.	7%	30%	63%	100%
Bar staff	20%	62%	18%	100%
Chefs, cooks	14%	51%	35%	100%
Waiters, waitresses	22%	56%	22%	100%
Restaurant managers	15%	44%	41%	100%
Publicans	18%	59%	23%	100%
Accommodation managers	15%	43%	42%	100%
Travel and flight attendants	8%	45%	47%	100%
Travel agency managers	3%	52%	45%	100%
Entertain etc. managers	5%	35%	59%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

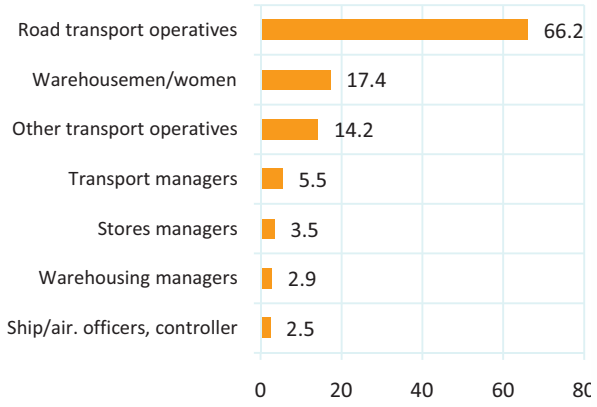
Shortage Indicators

There are currently no shortages of artists, sports persons and tourism workers in Ireland.

8.13 Transport and Logistics Occupations

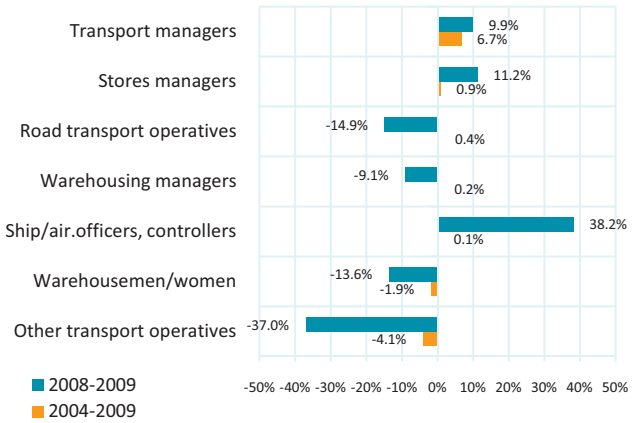
- There were approximately 112,000 persons employed in transport and logistics occupations, accounting for almost 6% of national employment
- Road transport operatives accounted for 60% of total employment in this group
- Employment declined sharply between 2008 and 2009, with 21,000 net job losses; most of the job losses were for operative occupations
- One in five of all employed road transport operatives was 55 or older
- The overall workforce of these occupations was predominantly male
- One in two road and other transport operatives had not completed upper secondary education
- Just over one fifth of all stores managers was non-Irish.

Figure 8.13.1 Numbers Employed (000s) in Selected Transport and Logistics Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.13.2 Average Annual Growth (%) in Selected Transport and Logistics Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.13.1 Age Profile of Selected Transport and Logistics Occupations, 2009

	15-24	25-54	55+	Total
Road transport operatives	3%	75%	23%	100%
Warehousemen/women	18%	71%	11%	100%
Other transport operatives	6%	81%	13%	100%
Stores managers	5%	82%	13%	100%
Transport managers	2%	82%	16%	100%
Warehousing managers	0%	85%	15%	100%
Ship/aircraft officers, controllers	0%	80%	20%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.13.2 Education Profile of Selected Transport and Logistics Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Road transport operatives	56%	38%	6%	100%
Warehousemen/women	33%	53%	14%	100%
Other transport operatives	56%	41%	4%	100%
Stores managers	16%	55%	30%	100%
Transport managers	16%	35%	50%	100%
Warehousing managers	28%	43%	29%	100%
Ship/air officers,controllers	9%	22%	70%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

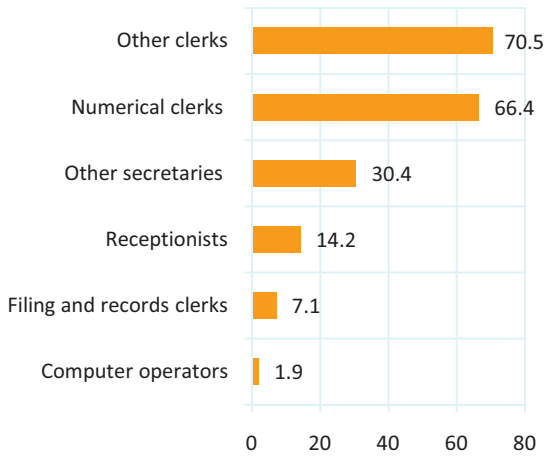
Shortage Indicators

There is some evidence of a shortage of international supply chain managers. The requirement is for experienced individuals with IT skills, forecasting skills, familiarity with material requirements planning (MRP) and master production scheduling (MPS), enterprise resource planning, global team management, proficiency in foreign languages etc.

8.14 Clerical Occupations

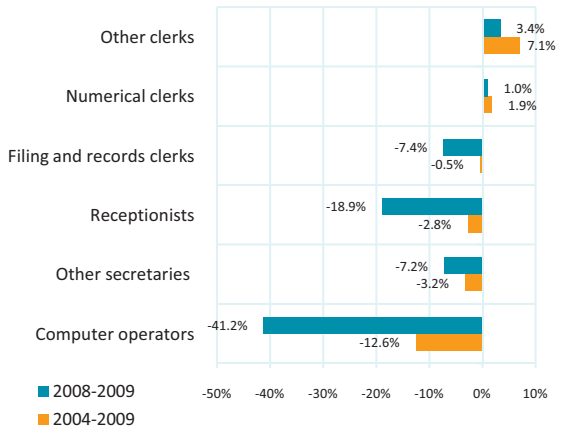
- There were approximately 191,000 persons employed in clerical occupations, representing 10% of total employment in the economy
- Employment was distributed across several sectors of the economy, primarily in financial intermediation (including insurance), wholesale and retail and public administration
- Between 2008 and 2009, there were 5,000 net job losses; the total number of job gains in both other clerks and numerical clerks and cashiers was not sufficient to compensate for the total number of jobs losses in the other occupations
- At 16% each, the share of secretaries (excluding legal) and filing and other records clerks aged 55 and over exceeded the national average
- With the exception of computer and office machine operators, the share with third level qualifications in each of the occupations was below the national average
- Employment in clerical occupations was predominantly female: with the exception of computer and office machine operators, at least two thirds of the workforce in each occupation was female
- Almost 50% of all employed receptionists and telephonists worked part time
- At 8.5%, the share of non-Irish employed in the selected occupations was below the national average

Figure 8.14.1 Numbers Employed (000s) in Selected Clerical Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.14.2 Average Annual Growth (%) in Selected Clerical Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.14.1 Age Profile of Selected Clerical Occupations, 2009

	15-24	25-54	55+	Total
Numerical clerks	12%	79%	8%	100%
Other clerks	10%	81%	10%	100%
Other secretaries	3%	81%	16%	100%
Receptionists	18%	70%	12%	100%
Filing clerks	11%	73%	16%	100%
Computer operators	20%	72%	8%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.14.2 Education Profile of Selected Clerical Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Numerical clerks	7%	50%	42%	100%
Other clerks	8%	56%	36%	100%
Other secretaries	11%	62%	28%	100%
Receptionists	14%	59%	27%	100%
Filing clerks	10%	50%	40%	100%
Computer operators	5%	51%	44%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

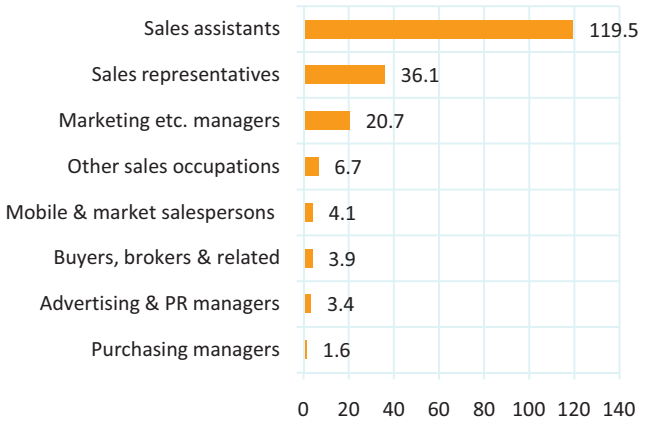
Shortage Indicators

There are currently no shortages of clerks in Ireland. There are some indications of difficulties in sourcing multilingual accounting clerks and debt collectors.

8.15 Sales Occupations

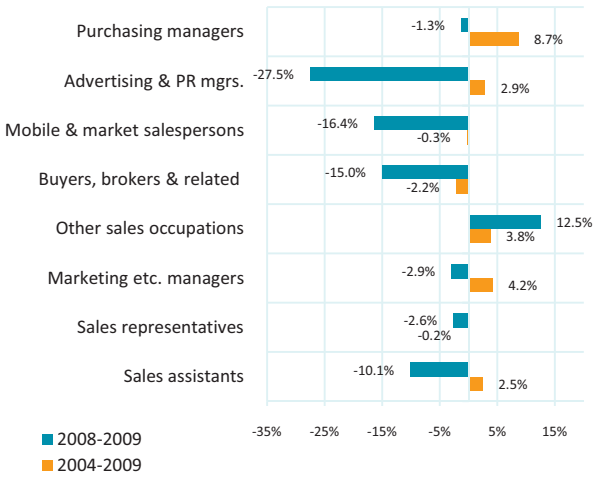
- There were approximately 196,000 persons employed in sales occupations, which represents 10% of total national employment
- At almost 120,000, sales assistants was the largest occupation in the economy as a whole
- Between 2008 and 2009, employment in most sales occupations contracted, with 17,000 net job losses
- Employment of sales assistants was skewed towards the younger age cohorts: over one third was aged under 25, which was among the youngest occupations in the national workforce
- Over one fifth and a half of all sales assistants and mobile market and door-to-door salespersons held below Leaving Certificate qualifications respectively; in contrast, at least two thirds of those in management occupations held third level qualifications
- Over 50% of all sales assistants worked part time
- Approximately 70% of all employed sales assistants and other sales occupations was female
- At 18% and 20% respectively, the share of non-Irish sales assistants and other sales occupations exceeded the national average

Figure 8.15.1 Numbers Employed (000s) in Selected Sales Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.15.2 Average Annual Growth (%) in Selected Sales Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.15.1 Age Profile of Selected Sales Occupations, 2009

	15-24	25-54	55+	Total
Sales assistants	35%	57%	8%	100%
Sales representatives	10%	77%	13%	100%
Marketing managers	3%	89%	8%	100%
Other sales occupations	15%	72%	12%	100%
Buyers and related agents	4%	86%	11%	100%
Market salespersons	9%	69%	23%	100%
Advertising&PR managers	0%	93%	7%	100%
Purchasing managers	12%	88%	0%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.15.2 Education Profile of Selected Sales Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Sales assistants	23%	61%	16%	100%
Sales representatives	14%	47%	39%	100%
Marketing managers	8%	27%	65%	100%
Other sales occupations	14%	60%	26%	100%
Buyers and related agents	7%	41%	52%	100%
Market salespersons	50%	42%	8%	100%
Advertising&PR managers	2%	23%	75%	100%
Purchasing managers	0%	11%	89%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

There is some evidence of a shortage of experienced marketing managers with specific industry and product knowledge. They have been mentioned as difficult to source in the recruitment agency survey and 54 employment permits were issued to non-EEA marketing managers in 2009. Marketing experts are expected to be instrumental in Ireland's efforts to increase its market share of the global demand for products and services.

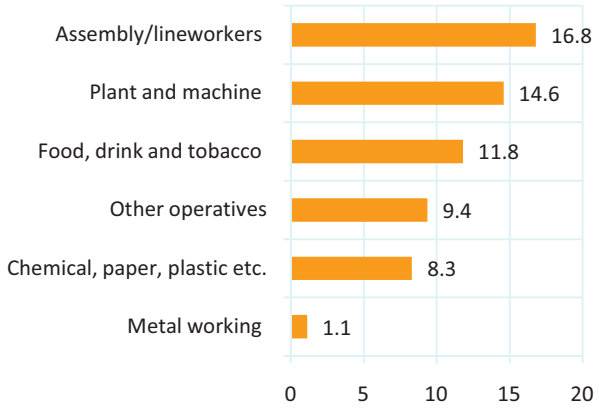
There is also a shortage of multilingual telesales/customer care workers with IT skills. They have been frequently mentioned as difficult to source in the recruitment agency survey. In particular, there is a demand for persons proficient in Nordic languages and German. The shortage is likely to continue as most of the recent job creation was in the customer care and telesales areas (e.g. StreamServe (customer care for documentation solutions), PayPal (customer care for internet payment solutions), HP (IT customer support call centre), eBay, Datapack, Abtran etc.

In addition, recruiters are continuing to report difficulties in sourcing experienced sales representatives with specific product or technical knowledge (e.g. medical sales and technical sales).

8.16 Operatives

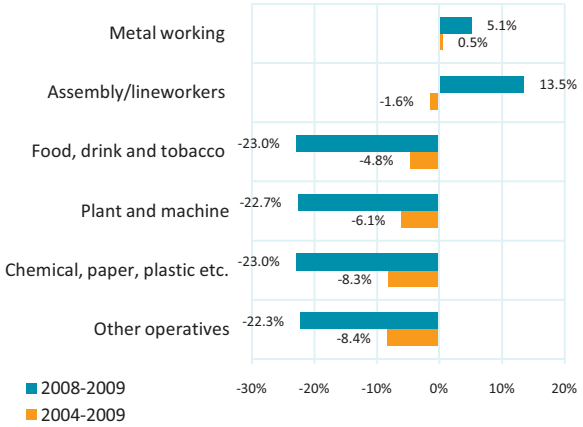
- There were approximately 62,000 persons employed as operatives, representing 3.2% of overall national employment
- Employment in these occupations is distributed across various sectors of the economy
- Between 2008 and 2009, employment of operatives declined by 15% — equivalent to 11,000 net job losses; however, job gains were recorded for assembly and lineworkers
- With the exception of other routine process operatives, at least one quarter of operatives had not completed upper secondary education
- The share of non-Irish nationals employed in each of the occupations exceeded the national average: the share for both food, drink and process operatives and other routine process operatives was over twice the national average
- With the exception of other routine process operatives and assembly lineworkers, employment for each of the other operative occupations was predominantly male

Figure 8.16.1 Numbers Employed (000s) in Selected Operatives and Related Occupations, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.16.2 Average Annual Growth (%) in Selected Operatives and Related Occupations, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.16.1 Age Profile of Selected Operatives and Related Occupations, 2009

	15-24	25-54	55+	Total
Metal working	9%	82%	9%	100%
Plant and machine	5%	79%	16%	100%
Food, drink and tobacco	11%	78%	11%	100%
Chemical, paper, plastic etc.	2%	94%	5%	100%
Other operatives	13%	79%	8%	100%
Assembly/lineworkers	8%	88%	4%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.16.2 Education Profile of Selected Operatives and Related Occupations, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Metal working	51%	32%	17%	100%
Plant and machine	37%	45%	17%	100%
Food, drink and tobacco	35%	50%	15%	100%
Chemical, paper, plastic etc.	25%	54%	20%	100%
Other operatives	20%	46%	34%	100%
Assembly/lineworkers	27%	55%	18%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

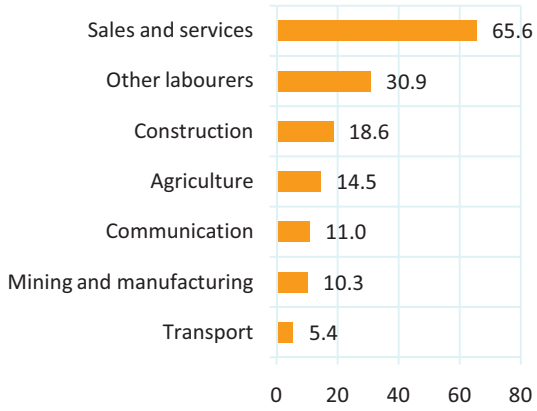
Shortage Indicators

There are currently no shortages of operatives of Ireland.

8.17 Labourers and Occupations Not Elsewhere Classified (N.E.C.)[32]

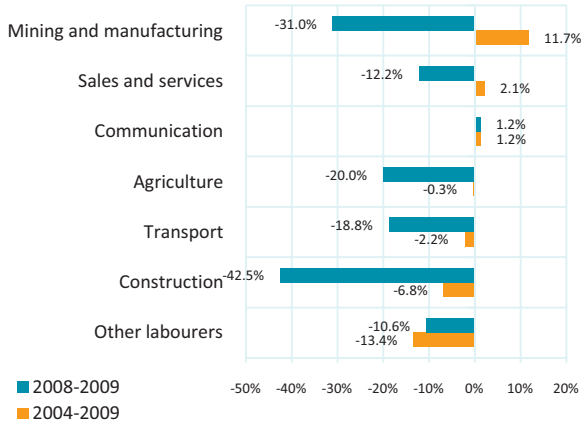
- There were just over 156,000 labourers in employment, accounting for 8% of the national workforce
- Just over 40% of total employment in the selected occupations was in the sales and services sector, predominantly in cleaning and catering services
- Between 2008 and 2009, employment contracted in all occupations except for labourers in communication; the total number of job losses were estimated at 36,000; the largest decline was for labourers in construction (almost 14,000 net job losses) followed by labourers in sales and services (9,000 net job losses)
- The education attainment of labourers was skewed towards lower education attainment: with the exception of labourers in communications, over 40% of these employed in selected occupations did not hold a Leaving Certificate (or equivalent)
- Labourers in sales and services had the oldest age profile among the selected occupations: almost one fifth was aged 55 and over, exceeding the national average of 14%
- Almost three quarters of labourers in sales and services were female (mostly notably cleaners and catering assistants); in contrast, the workforce of labourers in construction was almost exclusively male
- The prevalence of part time work among labourers in sales and services was one of the highest among occupations economy-wide
- Over one third of labourers (two thirds for kitchen porters) in sales and services were non-Irish.

Figure 8.17.1 Numbers Employed (000s) Labourers, 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 8.17.2 Average Annual Growth (%) Labourers, 2008-2009 & 2004-2009



Source: Analysis by FÁS (SLMRU) based on CSO data

[32] There are a number of occupations discussed in this section which for simplicity purposes are referred to as labourers; these include cleaners, porters, sorters, various types of mates.

Table 8.17.1 Age Profile of Labourers, 2009

	15-24	25-54	55+	Total
Sales and services	13%	68%	19%	100%
Other labourers	11%	74%	14%	100%
Construction	11%	76%	14%	100%
Agriculture	14%	73%	14%	100%
Communication	4%	80%	16%	100%
Manufacturing	11%	78%	11%	100%
Transport	9%	79%	12%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Table 8.17.2 Education Profile of Labourers, 2009

	Lower secondary or less	Upper secondary or FET	Third level	Total
Sales and services	53%	35%	13%	100%
Other labourers	43%	43%	14%	100%
Construction	54%	39%	7%	100%
Agriculture	53%	40%	7%	100%
Communication	35%	52%	14%	100%
Manufacturing	43%	47%	9%	100%
Transport	45%	46%	9%	100%

Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

There are currently no shortages of labourers in Ireland.

Section 9 Unemployment

9.1 Unemployment and Unemployment Rate

Figure 9.1 presents average annual unemployment levels and average annual unemployment rates for the period 1998-2009.

Following almost a decade of low unemployment, the number of persons seeking employment increased in 2008 and made a further jump in 2009. The average annual unemployment level in 2009 was over a quarter of a million, compared to less than 100,000 during the boom years. In the two-year period to 2009, the unemployment rate trebled to 12%.

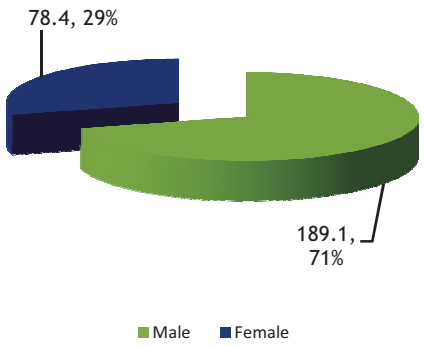
Figure 9.1 Unemployment Level (000s) and Unemployment Rate (%)

Source: CSO

9.2 Unemployment by Gender

Figure 9.2 presents the gender distribution of unemployment in quarter 4 2009. Of the total 270,000 unemployed persons, 71% were male.

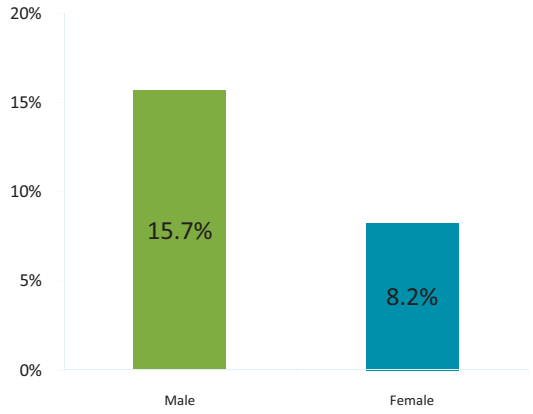
Figure 9.2 Unemployment by Gender, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

As at the beginning of the downturn in 2008, in quarter 4 2009, females remained at a lower risk of unemployment relative to males, with an unemployment rate of 8.2%, compared to 15.7% for males (Figure 9.3).

Figure 9.3 Unemployment Rate by Gender, Quarter 4 2009

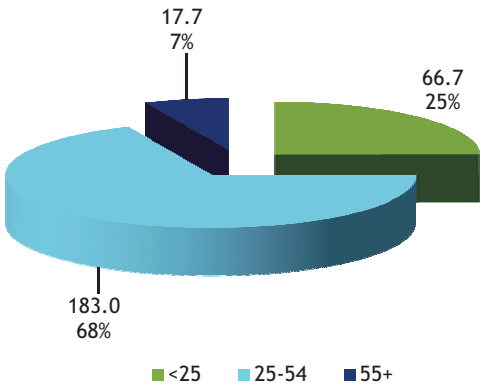


Source: Analysis by FÁS (SLMRU) based on CSO data

9.3 Unemployment by Age

Figure 9.4 presents the age distribution of unemployment. In quarter 4 2009, just over two thirds of those unemployed were aged 25-54; one in four was 25 or younger.

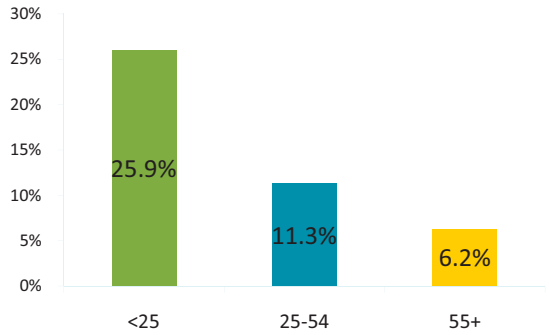
Figure 9.4 Unemployment by Age, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

In quarter 4 2009, younger persons continued to be at the greatest risk of unemployment. The unemployment rate for under 25s was more than twice that recorded for those aged 25-54 (Figure 9.5). Since quarter 4 2008, the unemployment rate for those aged 15-19 and 20-24 increased by 10 percentage points each. This is a greater increase compared to that recorded for all other age cohorts.

Figure 9.5 Unemployment Rate by Age, Quarter 4 2009

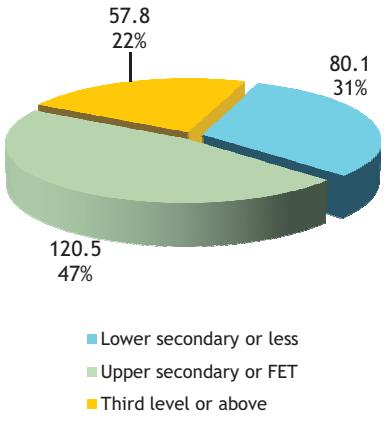


Source: Analysis by FÁS (SLMRU) based on CSO data

9.4 Unemployment by Education

The distribution of unemployment by education is presented in Figure 9.6. In quarter 4 2009, almost a half of all unemployed persons held upper secondary or FET qualifications.

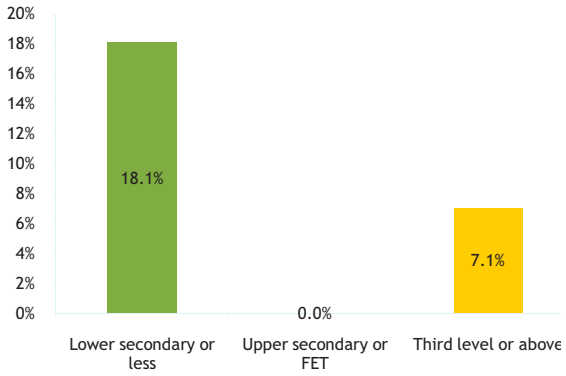
Figure 9.6 Unemployment by Education, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

With an unemployment rate of 18%, persons holding less than upper secondary qualifications were at the greatest risk of unemployment compared to third level graduates (7%)(Figure 9.7). While the unemployment rate for all educational categories increased compared to quarter 4 2008, the unemployment rate for third level graduates, unlike that for other groups, remained in single digits by the end of 2009.

Figure 9.7 Unemployment Rate by Education, Quarter 4 2009

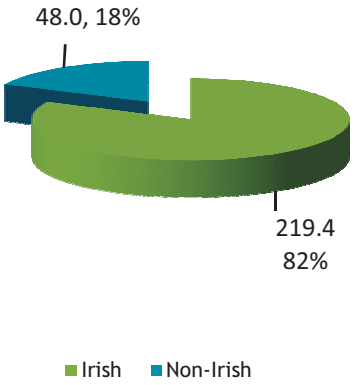


Source: Analysis by FÁS (SLMRU) based on CSO data

9.5 Unemployment by Nationality

Figure 9.8 presents unemployment by nationality. In quarter 4 2009, the number of non-Irish nationals seeking employment was 48,000, which is 15,000 above the number reported in the previous twelve months. In the same quarter, non-Irish nationals accounted for 18% of total unemployment.

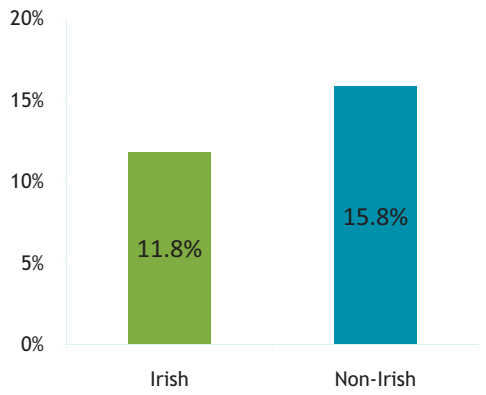
Figure 9.8 Unemployed by Nationality (%), Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Non-Irish nationals continued to be at a greater risk of unemployment compared to Irish nationals (National Skills Bulletin 2009). While the unemployment rate increased for all nationalities between quarter 4 2008 and quarter 4 2009, the rate for non-Irish nationals in quarter 4 2009 was 4 percentage points above that for Irish nationals (15.8% compared to 11.8%).

Figure 9.9 Unemployment Rate by Nationality, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

9.6 Unemployment by Sector

The distribution of unemployment by sector is presented in Table 9.1. In absolute terms, the highest number of unemployed persons in quarter 4 2009 had previously been employed in the construction sector – accounting for almost one third of all unemployed persons. This is followed by the manufacturing and retail sectors.

In relative terms, construction workers were at by far the greatest risk of unemployment, with an unemployment rate of almost 40%. Other sectors with a higher than average unemployment rate were mining, manufacturing and administrative services.

Table 9.1 Unemployment by Sector, Quarter 4 2009

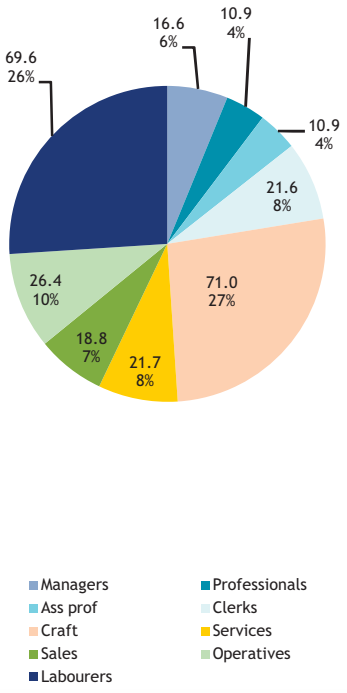
Sector	Unemployed	Unemployment rate
Agriculture	2.6	2.8%
Mining	1.3	17.3%
Manufacturing	31.4	12.7%
Utilities	1.0	6.9%
Water	1.2	9.1%
Construction	83.3	37.8%
Wholesale/retail	29.1	9.9%
Transport	8.8	8.6%
Accomm/food	13.7	10.2%
ICT	6.5	8.2%
Finance	4.3	4.3%
Real estate	1.0	10.1%
Prof activities	10.9	9.5%
Admin. services	10.9	14.9%
PAD	2.2	2.0%
Education	4.8	3.1%
Health	9.9	4.1%
Art/entertainment	4.7	10.3%
Other services	4.5	9.1%
Household	*	*
Extraterritorial org	*	*
Not Stated	34.7	*
Grand Total	267.4	12.4%

Source: Analysis by FÁS (SLMRU) based on CSO data

9.7 Unemployment by Occupation

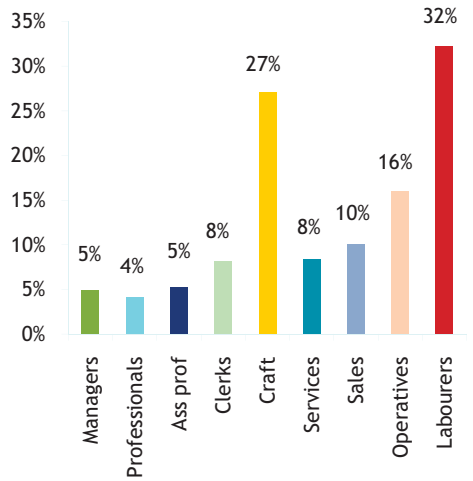
Figure 9.10 presents the occupational distribution of unemployment. In absolute terms, craftspersons and labourers were the most numerous among the unemployed in quarter 4 2009 – accounting for more than a half of total unemployment.

Figure 9.10 Unemployment by Occupation, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 9.11 Unemployment Rate by Occupation, Quarter 4 2009



Source: Analysis by FÁS (SLMRU) based on CSO data

Labourers and craftspersons were at the greatest risk of unemployment, with unemployment rates significantly exceeding those experienced by other occupations. Lower skilled persons were at a greater risk than the higher skilled: the unemployment rate of professionals, associate professionals and managers remained at 5% or less, compared to sales persons, craftspersons, operatives and labourers – the unemployment rate for each of these occupations was in double digits.

Section 10 In Focus: Job Openings

This section provides an overview of the estimated number of job openings by occupational group. The analysis, distinguishes between the number of expected job openings associated with expansion demand and those arising from the need to replace persons leaving the labour force (e.g. retirement).

10.1 Replacement Demand

Every year, across all occupations, a number of posts are vacated due to retirements, emigration, career change or other exits. Not all vacated posts translate into employment opportunities for persons who are not in employment; some cease to exist once vacated and others are filled by persons switching jobs. However, even during a recession, natural attrition creates some job opportunities for new entrants into employment.

Measuring replacement demand at occupational level is a difficult task. Some of the issues in generating calculations are discussed in Box 1. Our estimates of replacement demand at occupational level take the following into account:

- the age of those currently employed, which determines the level of retirements and mortality rates
- other exits including withdrawal from the labour force and emigration (implicit in Sexton at al. attrition estimates)[33]
- the extent to which the occupation gains or loses workers from inter-occupational movements (implicit in Sexton at al. attrition estimates).

Box 1. Measuring Replacement Demand

A simplistic approach in estimating replacement demand involves measuring only retirements and deaths. This approach was used previously by Wilson at al. (2004)[34].

A more comprehensive approach in estimating replacement demand was adopted by Sexton et al. (2006). The authors estimated replacement and survival rates (i.e. the inverse of replacement rates) for Ireland using Labour Force Survey data on annual flows over the period 1989-1997. They calculated gross replacement rates based on gross outflows and net inter-occupational movements. The estimated rates are presented in the Column C of the Table 10.1.

In cases where there are re-entrants from unemployment and outside of the labour force, these rates overestimate net replacement demand. In this approach, occupations with the highest estimated replacement rate (or the lowest survival rate) are those associated with less specialised skills such as sales (the majority of which refers to sales assistants) and labourers. Occupations associated with specialised skills (e.g. professionals, associate professionals and craft) are less likely to leave their occupations, which is reflected in a lower replacement rate. Managerial occupations have a survival rate of over 100% as each year such occupations receive an inflow of persons from other occupations through progression to senior posts, which tends to exceed the outflows through retirements etc. Inflows are also greater than outflows for drivers (road transport operatives), which reduces the replacement rate for the overall operative group.

The estimated annual retirement rates by occupational group are presented in Column A of Table 10.1. These rates are based on the estimated share of employment for those aged 60+ in each broad occupational group. This entire cohort will reach retirement age by 2014 and while some will continue working, most are expected to retire over the next 5 years. The highest retirement rates are expected for farmers whose workforce is older relative to the other occupational

[33] Sexton, J. J. and Doyle, N. (2006), Current Trends in Occupational Employment and Forecasts for 2010 and 2020: Final Report to the Expert Group on Future Skills Needs, ESRI, Dublin.

[34] Wilson, R., K. Homenidou and A. Dickerson, (2004), Working Futures: New Projections of Occupational Employment by Sector and Region, 2002-2012, IER, Warwick.

groups. Sales and associate professionals have both the lowest share of employment in the 60+ age cohort and the lowest retirement rates.

Mortality rates are calculated as a ratio of deaths to the relevant population using data for 2006 (Column B, Table 10.1). Calculations carry an implicit assumption that the occupation specific effect on mortality rates is zero and that any variability in rates is due to the difference in gender[35] and age profile of employment between occupations.

Farmers have the highest mortality rate due to the relatively higher share of older workers and males.

Table 10.1 Annual Replacement Rates and Estimated Gross Replacement Demand by Broad Occupational Group, 2010-2014

Occupation	A	B	C	D
Farmers	7.7%*	0.21%	2.9%	2,000
Managers	1.3%	0.17%	-0.7%	-2,000
Prof	1.1%	0.15%	2.8%	7,000
Assoc. prof.	0.9%	0.15%	2.6%	5,000
Clerical	1.0%	0.13%	3.4%	8,000
Craft	1.2%	0.18%	2.1%	4,000
Services	1.0%	0.14%	3.2%	8,000
Sales	0.9%	0.11%	4.4%	7,000
Operatives	1.8%	0.19%	0.2%	0
Labourers	1.6%	0.17%	3.2%	5,000
Total	1.4%	0.16%	2.3%	44,000

A - Estimated annual retirement rate
B - Estimated annual mortality rate for under 60s
C - Estimated annual replacement rates (gross outflows and net inter-occupational flows) (Sexton et al.)
D - Estimated replacement demand based on gross outflows and net inter-occupational flows
*The retirement rate for farmers is an overestimate as many farmers continue farming beyond 65

Based on the suggested retirement rates, an estimated 26,000 posts could be vacated annually through outflows into retirement. In absolute terms, retirements could result in 1,000-3,000 openings in an occupational group. The exception is farmers, for which the number retiring is expected to be greater. In addition to retirements, each occupation will lose some of its workforce through death. This varies in the range of 200-400 for each occupational group.

The actual replacement demand is likely to be greater than retirements and deaths for most occupational groups due to net losses through inter-occupational movements and other exits (e.g. withdrawals from the labour force, early retirements and emigration).

Based on the gross outflows and net occupational flows estimated by Sexton at al. (Column C, Table 10.1), approximately 45,000 posts could be vacated annually (inclusive of retirement and deaths (Column D, Table 10.1)). In absolute terms, the greatest number of posts (7,000 or more per annum) to be vacated through replacement is estimated for occupations associated with greater turnover such as sales, clerical and services. For managers, gains through inter-occupational movements (promotions to managerial posts across all occupational groups) generally exceed the losses through various exits, leading to negative replacement demand on balance. In other words, all outflows through retirements and other exits are expected to be by approximately 2,000 fewer than the inflows into managerial posts through progression from all occupations.

[35] The mortality rate for females is lower than that for males for all age cohorts.

10.2 Expansion Demand

Based on the FÁS/ESRI Occupational Employment Forecasts 2015[36], we estimate the annual expansion demand for broad occupational groups (Table 10.2). Estimates for overall employment growth are based on a set of assumptions, including the following:

- the global economy recovers and Ireland's trading partners resume growth in 2010
- Ireland restores competitiveness
- the financial system is restored and credit is flowing
- the fiscal situation is stabilised.

As per the FÁS/ESRI report, employment growth for each occupational group is driven by overall economic performance, sector specific employment growth and the projected changes in the sectoral occupational mix.

Table 10.2 Estimated Expansion Demand by Broad Occupational Group, 2010-2014

Occupational group	Employment q4 2009	Average annual employment growth	Average annual expansion demand
Farmers	75,000	-2%	-2,000
Managers	243,000	2%	5,000
Professionals	252,000	3%	9,000
Assoc. prof.	195,000	3%	5,000
Clerical	243,000	2%	5,000
Craft	191,000	4%	7,000
Services	238,000	3%	7,000
Sales	168,000	4%	7,000
Operatives	138,000	2%	3,000
Labourers	146,000	3%	5,000
Total	1888,000	3%	52,000

[36] Behan, J. and Shally, C. (2010), Occupational Employment Forecasts 2015, FÁS/ESRI Manpower Forecasting Studies, Report No. 13, FÁS and ESRI, Dublin.

Based on the above assumptions, the average annual employment growth in broad occupational groups in the period 2010-2014 is expected to range between 2-4%. The exception is the farming category, which is expected to continue to contract even after the recession. If all of the assumptions underlying macroeconomic performance materialise, annual net job creation over the medium term could be over 50,000. In the recovery scenario, the greatest absolute net job creation is expected in professional occupations (e.g. engineers, IT, scientists, business professionals etc.), services occupations (e.g. personal services providers, security personnel etc.) and sales occupations. Strong employment growth for craftspersons could be achieved in the upturn as employment numbers recover from the furthest relative dip. Growth in these occupations is expected to be partially driven by the green agenda (e.g. energy conservation, renewable energy etc.).

10.3 Job Openings

Table 10.3 combines the estimated replacement and expansion demand to give estimates of annual job openings in recovery. It is estimated that a total of 96,000 job openings could be achieved if each of the assumptions underpinning the recovery materialise. In absolute terms the greatest number of job openings is estimated for professional and service occupations, followed by clerical and sales.

While skills shortages may exist at the more detailed occupational and job title level, the current level of supply from unemployment is more than sufficient to meet the replacement and potential expansion demand for all

occupational groups, except professionals, in the short term.

When annual output from the education and training system is added (estimated at 60,000+ from NFQ 6-10 programmes), domestic supply is expected to significantly exceed annual recruitment requirement across all occupational groups in the short term, even if a strong recovery resumes in 2010. However, if the recovery in Ireland lags behind other countries, the pool of skills available to meet the recruitment requirement domestically may be depleted through emigration.

Table 10.3 Estimated Annual Recruitment Requirement and Unemployment by Broad Occupational Group

Occupational group	Estimated average annual recruitment requirement 2011-2014	Unemployed (q4 2009)
Farmers	0	<1,000
Managers	3,000	16,000
Professionals	16,000	11,000
Assoc. prof.	10,000	11,000
Clerical	14,000	22,000
Craft	11,000	71,000
Services	15,000	22,000
Sales	14,000	19,000
Operatives	3,000	26,000
Labourers	10,000	69,000
Total	96,000	267,000

Economic recovery is expected to lead to a relatively quick absorption of excess supply at the higher end of the skill scale (e.g. professionals and associate professionals). However, it may take longer to absorb the overhang of craftspersons and labourers.

Some of this excess supply may never be re-deployed unless re-skilled and could result in a higher structural unemployment in the medium term.

Appendix A: National Framework of Qualifications

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

Key to Awarding Bodies

- FETAC – Further Education and Training Awards Council
- SEC – State Examinations Commission
- HETAC – Higher Education and Training Awards Council
  IoTs – Institutes of Technology
- DIT – Dublin Institute of Technology
- Universities

Key to Awards in the Framework

- Major Awards
- Minor Awards
- Supplemental Awards
- Special Purpose Awards

Appendix B: Private Education Providers

HETAC data in Chapter 9 includes awards data for the following private higher education providers:

Fidelity Investments, Ireland
The American College, Dublin
Griffith College
Kimmage Development Studies Centre
Independent Colleges
Irish Academy of Public Relations
Milltown Institute of Theology And Philosophy
National College of Ireland
St. Nicholas Montessori College Ireland
The Open Training College
Hibernia College
Carlow College
Institute of Business And Technology, Swords
ICD Business School/BPP Professional Education
Dublin Business School
Institute of Physical Therapy and Applied Science
Irish Institute of Purchasing and Materials Management
Newpark Music Centre
Clanwilliam Institute

Appendix C: EGFSN MEMBERS

Ms. Una Halligan **(Chairperson),** Director, Government & Public Affairs for Ireland, Hewlett Packard

Ms. Inez Bailey, Director, National Adult Literacy Agency

Mr. George Bennett, IDA Ireland

Ms. Marie Bourke, Head of Secretariat and Department Manager, Human Capital and Labour Market Policy, Forfás

Ms. Liz Carroll, Training and Development Manager, ISME

Mr. Terry Corcoran, Director of Planning and Research, FÁS

Mr. Ned Costello, Chief Executive, Irish Universities Association

Ms. Margaret Cox, Managing Director, ICE Group

Mr. Tony Donohoe, Head of Education, Social and Innovation Policy, IBEC

Mr. Brendan Ellison, Principal Officer, Department of Finance

Ms. Anne Forde, Principal Officer, Department of Education and Science

Mr. Pat Hayden, Principal Officer, Department of Enterprise, Trade and Employment

Mr. Gary Keegan, Director, Acumen

Mr. Enda McDonnell, Senior Policy Adviser, Corporate Development and Policy, Enterprise Ireland

Mr. John Martin, Director for Employment, Labour & Social Affairs, OECD

Mr. Dermot Mulligan, Assistant Secretary, Department of Enterprise, Trade and Employment

Mr. Frank Mulvihill, Former President, Institute of Guidance Counsellors

Dr. Brendan Murphy, President, Cork Institute of Technology

Mr. Alan Nuzum, CEO, Skillnets

Mr. Muiris O'Connor, Higher Education Authority

Mr. Peter Rigney, Industrial Officer, ICTU

Mr. Martin Shanahan, Divisional Manager, Science Technology and Human Capital, Forfás

Ms. Jacinta Stewart, Chief Executive, City of Dublin VEC

Appendix D: Publications by the EGFSN

Report	Date of Publication
Future Skills needs of the Wholesale and Retail Sector	April 2010
The Expert Group on Future Skills Needs Statement of Activity 2009	April 2010
Future Skills Requirements of the Food and Beverage Sector	November 2009
Skills in Creativity, Design and Innovation	November 2009
Monitoring Ireland's Skills Supply: Trends in Education and Training Outputs 2009	November 2009
National Skills Bulletin 2009	July 2009
A Quantitative Tool for Workforce Planning in Healthcare: Example Simulations	June 2009
The Expert Group on Future Skills Needs Statement of Activity 2008	June 2009
A Review of the Employment and Skills Needs of the Construction Industry in Ireland	December 2008
Statement on Raising National Mathematical Achievement	December 2008
National Skills Bulletin 2008	November 2008
All-Island Skills Study	October 2008
Monitoring Ireland's Skills Supply: Trends in Education/Training Outputs 2008	July 2008
The Expert Group on Future Skills Needs Statement of Activity 2007	June 2008
Future Requirement for High-Level ICT Skills in the ICT Sector	June 2008
Future Skills Needs of the Irish Medical Devices Sector	February 2008
Survey of Selected Multi-National Employers' Perceptions of Certain Graduates from Irish Higher Education	December 2007
The Future Skills and Research Needs of the International Financial Services Industry	December 2007
National Skills Bulletin 2007	November 2007
Monitoring Ireland's Skills Supply: Trends in Educational/Training Outputs	June 2007
Tomorrow's Skills: Towards a National Skills Strategy	March 2007
National Skills Bulletin 2006	December 2006
Future Skills Requirements of the International Digital Media Industry: Implications for Ireland	July 2006
Careers and Labour Market Information in Ireland	July 2006
Skills at Regional Level in Ireland	May 2006
SME Management Development in Ireland	May 2006
Monitoring Ireland's Skills Supply: Trends in Educational/Training Outputs	January 2006
Data Analysis of In-Employment Education and Training in Ireland	December 2005
National Skills Bulletin 2005	October 2005
Skills Needs in the Irish Economy: The Role of Migration	October 2005
Languages and Enterprise	May 2005

Report	Date of Publication
Skills Requirements of the Digital Content Industry in Ireland Phase I	February 2005
Innovate Market Sell	November 2004
The Supply and Demand for Researchers and Research Personnel	September 2004
Literature Review on Aspects of Training of those at Work in Ireland	June 2004
Financial Skills Monitoring Report	November 2003
Responding to Ireland's Growing Skills Needs - The Fourth Report of the Expert Group on Future Skills Needs	October 2003
The Demand and Supply of Skills in the Biotechnology Sector	September 2003
Skills Monitoring Report - Construction Industry 2003/10	July 2003
Benchmarking Education and Training for Economic Development in Ireland	July 2003
The Demand and Supply of Engineers and Engineering Technicians	June 2003
The Demand and Supply of Skills in the Food Processing Sector	April 2003
National Survey of Vacancies in the Private Non-Agricultural Sector 2001/2002	March 2003
National Survey of Vacancies in the Public Sector 2001/2002	March 2003
The Irish Labour Market: Prospects for 2002 and Beyond	January 2002
Labour Participation Rates of the over 55s in Ireland	December 2001
The Third Report of the Expert Group on Future Skills Needs - Responding to Ireland's Growing Skills Needs	August 2001
Benchmarking Mechanisms and Strategies to Attract Researchers to Ireland	July 2001
Report on E-Business Skills	August 2000
Report on In-Company Training	August 2000
The Second Report of the Expert Group on Future Skills Needs - Responding to Ireland's Growing Skills Needs	March 2000
Business Education and Training Partnership 2nd Forum, Dublin	March 2000
Business Education and Training Partnership Report on the Inaugural Forum, Royal Hospital Kilmainham	March 1999
The First Report of the Expert Group on Future Skills Needs - Responding to Ireland's Growing Skills Needs	December 1998

Notes

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