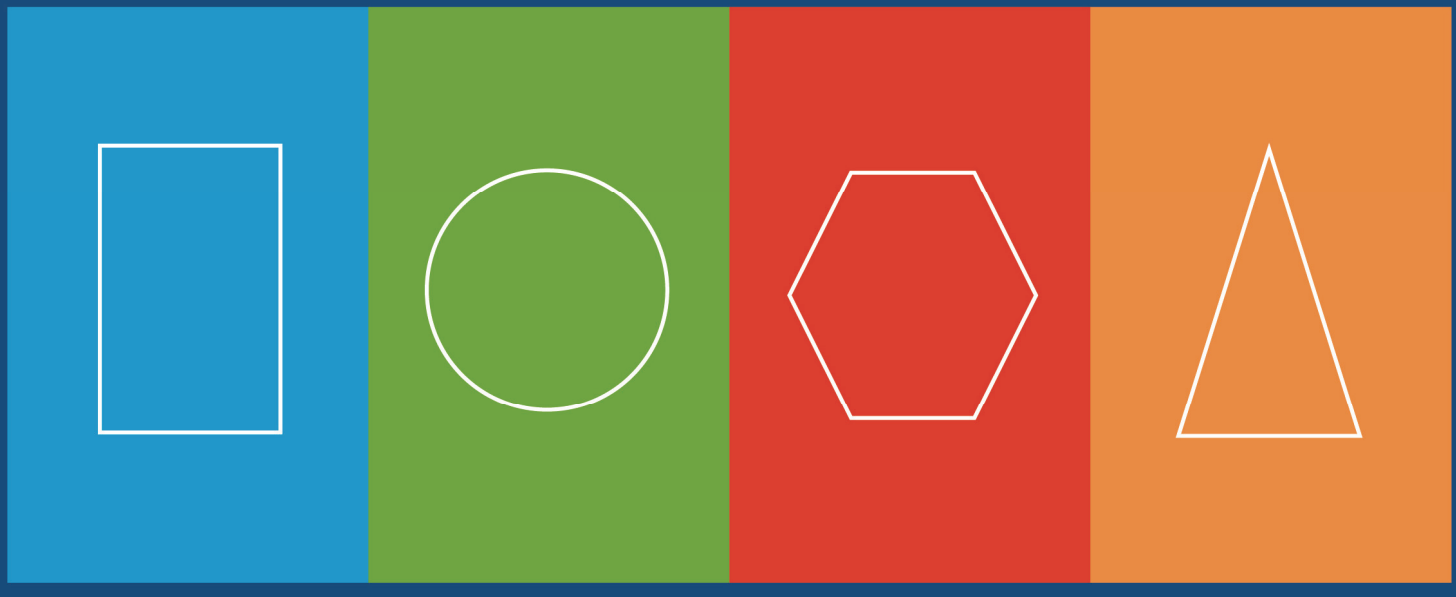

National Skills Bulletin 2013

July 2013

Foras Áiseanna Saothair
Training & Employment Authority

Expert Group on
Future Skills Needs

National Skills Bulletin 2013

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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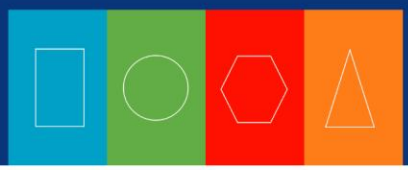

Foreword

The National Skills Bulletin 2013 is the ninth in an annual series of reports produced by the Skills and Labour Market Research Unit (SLMRU) in FÁS on behalf of the Expert Group on Future Skills Needs (EGFSN). The Bulletin draws from the information collected and maintained in the National Skills Database (NSD) and provides an overview of developments in the Irish labour market at occupational level.

Some labour market indicators for 2012 point towards improvements in the Irish labour market: tentative declines in the unemployment rate and an increase in employment. However, challenges continue to exist with further contractions of the labour force and participation and persistently high unemployment rates for certain segments of the labour market (e.g. persons previously employed in construction, younger age cohorts and persons with low education attainment).

An analysis of transitions, presented for the first time in this year's Bulletin, suggests a large volume of activity in the Irish labour market. It is estimated that during 2012 there were over a million transitions between employment, unemployment and economic inactivity, as well as between and within occupations. The analysis points to the flexibility of the Irish labour market, but also to the difficulties facing lower skilled persons in securing sustainable employment.

Although the shortages continue to be primarily confined to niche skill areas and in most instances remain of low magnitude, this year's Bulletin highlights the persistence of skills shortages in the areas of ICT, science, engineering, sales, marketing, business, finance and healthcare.

Together with its companion publication, Monitoring Ireland's Skills Supply 2013, the National Skills Bulletin continues to support policy formulation in the areas of education and training provision, labour market activation and immigration, and serves as a valuable career guidance tool for job seekers and students. In addition, this year's analysis of labour market transitions broadens the understanding of the labour market at occupational level, providing further insights into the estimation of replacement demand and turnover at occupation level, which will be of interest to policy makers and the research community alike.

Una Halligan,

Chairperson, Expert Group on Future Skills Needs

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Executive Summary

The National Skills Bulletin 2013 is the ninth in an annual series of reports produced by the Skills and Labour Market Research Unit (SLMRU) in FÁS on behalf of the Expert Group on Future Skills Needs (EGFSN). It provides an overview of the Irish labour market at occupational level. The Bulletin aims to assist policy formulation, in the areas of employment, education/training and immigration, and to inform career guidance advisors, students and other individuals making career and educational choices.

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

- the employment level for each occupation is expressed as an annual average (i.e. the average of four quarters)
- the trend analysis of occupations covers the five-year period 2007-2012, unless otherwise specified
- the employment composition (i.e. age, gender etc.) is based on the most recent data - quarter 4 2012
- unless otherwise specified, the annual change in employment is measured between quarter 4 2011 and quarter 4 2012
- the term 'shortage' in this report refers only to a situation where the supply of skills or labour from within the Irish labour force is insufficient to meet demand (which does not imply a shortage at the European Economic Area (EEA) level).

Irish Labour Market in 2012

Some indicators point towards a stabilisation, and even improvements, in the Irish labour market in 2012. Between quarter 4 2011 and quarter 4 2012,

- the unemployment rate decreased by 0.8 percentage points to 13.7%
- the long term unemployment rate decreased by almost one percentage point to 8.2%
- employment increased by 1,200
- the number of redundancies declined from 13,084 to 8,468.

However, there were also signs of further deterioration:

- between quarter 4 2011 and quarter 4 2012, the labour force contracted by a further 0.8%
- between quarter 4 2011 and quarter 4 2012, the labour force participation rate declined by 0.5 percentage points to 59.6%
- between quarter 4 2011 and quarter 4 2012, part-time employment grew by 3.2% (14,000)
- between quarter 4 2011 and quarter 4 2012, the number of direct employees and self-employed with paid employees decreased by 0.5% and 3.5% respectively; the number of self-employed without employees, as well as those assisting relatives, increased by 3.2% and 54.5% respectively
- in quarter 4 2012, the broad unemployment rate, which includes part-time underemployed, discouraged workers, passive job seekers, and other marginally attached, remained high at 23%
- in quarter 4 2012, the unemployment rate continued to be very high for

- persons previously employed in the construction sector (38%)
- persons previously employed in elementary occupations and skilled trades (38% and 20% respectively)
- the under 25 age category (27%)
- persons holding at most Junior Certificate (or equivalent) qualification – at 23%, the unemployment rate for this group was three times greater than that of third level graduates.

- between 2011 and 2012, net outward migration increased by 7,000 to almost 35,000
- between quarter 4 2011 and quarter 4 2012, the total age dependency ratio increased by 1.5 percentage points to 51.5%.

Employment and Unemployment by Broad Occupation

In quarter 4 2012, the share of 'white collar' occupations (managers, professionals, associate professionals and clerks) accounted for one in every two jobs.

Over the period quarter 4 2011 - quarter 4 2012, the occupational distribution of employment remained relatively unchanged. The share of skilled tradesmen and operatives continued to decline (by less than one percentage point each), while the share of 'white collar' employment increased.

In quarter 4 2012, 'white collar' and services occupations had an unemployment rate of 6% or less while the highest unemployment rate was in elementary and skilled trades occupations.

Sectoral Employment and Unemployment

Over the period quarter 4 2011 - quarter 4 2012, employment increased in agriculture, information and communication (ICT), and the professional, scientific & technical sector. Employment declined in public administration and defence, construction, transportation and storage, administrative services, and industry (including manufacturing).

Over the period 2007-2012, the ICT sector recorded the strongest growth, adding 11,000 net jobs.

In quarter 4 2012, the unemployment rate of persons previously employed in the construction industry remained the highest of all sectors.

Regional Employment and Unemployment

Between quarter 4 2011 and quarter 4 2012, employment increased in Dublin, the South-West, Midland and West, reversing the direction of employment change in these regions compared to the previous year. However, employment declined in all other regions, which was a reverse for the Mid-East and Mid-West regions, where employment had increased the previous year.

In quarter 4 2012, the unemployment rate remained in double digits in all regions. The South-East continued to have the highest unemployment rate, at almost 19%. The unemployment rate was also higher than the national average in the Border, Midland, Mid-West and West regions. The risk of unemployment was lowest in Dublin, the Mid-East and South-West.

Labour Market Transitions

The National Skills Bulletin 2013 presented, for the first time, an analysis of labour market transitions between employment, unemployment and inactivity. The results point to the following:

- there is a large volume activity in the Irish labour market: in 2012, there were almost a quarter of a million transitions between employment and unemployment (130,000 from unemployment to employment and 120,000 from employment to unemployment) and another 300,000 between employment and inactivity (150,000 each way); in addition, there were almost a quarter of a million transitions within employment, either due to change of employer or change of occupation
- on the positive side, the volume of transitions indicates the flexibility of the Irish labour market
- however, as a significant share of transitions to and from employment, as well as within employment, are associated with relatively lower skilled jobs, the analysis suggests that the challenge for many job seekers appears to be not just in securing any employment, but in securing sustainable jobs; individuals' efforts to migrate from lower quality jobs is illustrated by some inter-occupational movements upwards along the skill scale, as well as by a large share of transitions from lower skilled occupations to education
- transitions to inactivity were mostly due to retirement, education or home duties; for some occupations, the share exiting due to retirement was large (e.g. farmers, nurses, teachers and managers in general), while for other occupations it was small (e.g. sales occupations); the share of exits to education was greater for lower skilled occupations (e.g. sales and elementary occupations), while the share of exits to home duties was the highest for clerical and personal services occupations
- while the inter-occupational movements cancelled each other out overall, at occupational group level, there were net gainers (where transitions in exceeded transitions out) and net losers: the greatest net gains were for personal services occupations, operatives and professionals; the greatest net losses for sales occupations and skilled trades
- frequent changes of employers were found at both ends of the skills scale: amongst high skilled occupations, the highest level of intra-occupational movements were found in ICT (particularly for programmers and software developers) and in the public sector (nurses and teachers); amongst lower skilled occupations, the highest level of intra-occupational transitions were found amongst sales assistants, waiters, construction labourers, clerks, child-minders, kitchen assistants and chefs.

Educational and Training Output

Table A1 summaries the number of awards made in the further and higher education and training system in 2011. There were approximately 102,000 awards made in 2011; of these 59,000 were higher education awards and approximately 43,000 were further education and training (FET) major awards.

Table A1. Summary of Further & Higher Education and Training Awards by Field and Level, 2012[1]

	National Framework of Qualifications (NFQ) Level						
Field	1-4	5	6	7	8	9/10	Total
General	3,490	110	150	-	-	40	3,790
Education	0	10	30	30	1,810	3,010	4,890
Humanities & Arts	10	2970	760	930	5,350	2,250	12,270
Bus. & Law*	530	5470	2,220	2,480	7,900	5,940	24,540
Science	0	900	690	1,000	3,580	2,160	8,330
Eng. & Const.	40	580	4040	2,320	3,100	1,120	11,200
Ag.& Vet.	110	1560	1470	300	300	50	3,790
Health etc.	20	12570	5270	1,370	4,600	2,740	26,570
Services	120	2500	1,600	1,030	730	330	6,310
Total	4,310	26,670	16,210	9,450	27,370	17,650	101,660

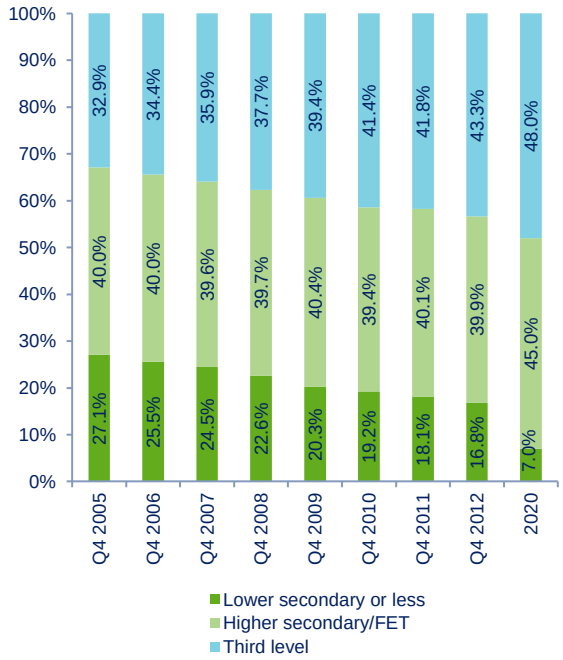
*also includes social sciences

Source: Quality & Qualifications Ireland (QQI); HEA

Progress achieved towards the targets set out in the National Skills Strategy is presented in Figure A1. There has been a continuous improvement in the educational composition of the labour force: over the period quarter 4 2006 – quarter 4 2012, the share of third level graduates increased by nine percentage points to 43%, compared to the 2020 target of 48%; the share of those holding at most a Junior Certificate (or equivalent) dropped to below 17%, compared to a target of 7% for 2020.

[1] Awards data for universities and institutes of technology is for 2011; QQI-FETAC awards data is from 2013 and is provisional. Data does not include all awards made in the independent, private third level sector.

Figure A 1. Educational Attainment of the Labour Force and the NSS Vision for 2020



Source: SLMRU (FÁS) analysis of CSO data[2]

Vacancies

Despite the recession, job vacancies, as advertised through the DSP/FÁS Jobs Ireland databank and IrishJobs.ie, have continued to arise across all occupational groups, although at a lower level than at the peak recorded in 2007.

In 2012, vacancies advertised through IrishJobs.ie were mostly concentrated in professional and associate professional occupations, while the newly advertised vacancies through DSP/FÁS Jobs Ireland were concentrated in associate professional and personal services occupations, as well as sales/customer service and skilled trades occupations.

The most recent survey of recruitment agencies, points to an increase in the

[2] Based on those in labour force (15-64) stating their highest level of education attained

mentions of difficult-to-fill vacancies. Difficult-to-fill vacancies were most frequently mentioned for professionals in the ICT, high-tech manufacturing (especially biopharma and medical devices), agri-food, financial services and healthcare sectors. Cross-disciplinary skills remain difficult to source (e.g. ICT combined with business intelligence and financial applications expertise; engineering combined with science skills).

Sourcing of Skills from Outside the European Economic Area (EEA)

During 2012, employers continued to source skills from outside the EEA area. There were approximately 3,000 new employment permits issued, which is a 10% decline compared to 2011. Work permits issued to ICT experts accounted for over a third of all work permits; while almost 300 work permits were issued to healthcare professionals.

Shortages

Science Occupations

Shortages have been identified for chemical, pharmaceutical and biopharmaceutical scientists. The sectors with shortages of science skills include:

- the biopharma sector, particularly for roles in clinical co-vigilance (clinical trials, drug safety, and drug discovery and development)
- food and beverages (R&D, product development)
- biotechnology and medical device sectors.

The demand is confined to those with advanced skills, including

- scientific research skills relevant to product development
- skills that combine scientific expertise with an understanding of the manufacturing processes (data analytic skills)
- skills that combine scientific expertise with the generic skills (communication, planning, project management etc.) necessary for interaction with customers, suppliers, regulatory and funding bodies.

There are also indications of a shortage of laboratory technicians, although these are confined to niche areas within the biopharma, food and medical devices.

Strong demand for chemical, pharmaceutical and biopharmaceutical scientists and certain types of laboratory technicians is illustrated in recent job announcements in the agri-food sector (e.g. Glanbia), and the pharma & biotechnology sectors (e.g. Whitehouse Analytical Labs, Algae Health, IMSTec, AbbVie Ireland).

Engineering Occupations

The data points to a shortage for a number of engineering occupations.

There is a significant shortage of precision engineering skills; these skills include

- tool design (technician level)
- polymer technology (technician level)
- process engineering skills (professional level).

The supply of these skills from the education and training system has declined in recent years due partly to the discontinuation of third level courses in polymer technology and tool design[3]. While the cessation of these

[3] The new level 7 course at IT Sligo and initiatives such as Springboard-funded courses for job seekers may begin to address some of the shortages arising in this area once graduates emerge from education and training.

courses coincided with the outsourcing of much of this type of engineering work to low cost countries, technological developments in high precision tool design and manufacture has shifted to a highly computerised process, and tools are increasingly multi-functional and complex, and subject to very low fault tolerance levels; this is particularly, although not exclusively, the case for tools for the medical devices industry, which has developed a strong presence in Ireland.

The increasing sophistication of the tools means that the quality of the product has become a key consideration in the awarding of contracts, and Irish companies are to an increasing extent successfully tendering for such contracts. The current shortage of precision engineering skills is adversely impacting on Irish based companies' capacity to continue to tender and deliver on such contracts.

At professional level, other engineering skills in demand include,

- quality control, validation & regulation engineers (high tech industry; food and beverages)
- mechanical engineers (machining industry agriculture equipment, ventilation systems (green economy), process automation (various sectors) and medical devices/pharmaceuticals (e.g. the research interface between materials and pharmaceutical products/medical devices))
- electrical and electronic engineers (e.g. telecommunications)
- production and process engineers
- chemical process engineers
- project management engineers

At technician level, shortages of other engineering skills were mostly for

- electrical and electronic technicians with skills that combine mechanical, electrical and electronic technologies
- quality control
- production
- process and design engineering to control and design automated processes
- food technologists.

In addition, there is a demand for engineering expertise combined with the skills in necessary for interaction with customers, suppliers, regulatory and funding bodies (e.g. people, communication and planning skills, cross discipline knowledge, etc.).

Strong demand for engineering skills, at both professional and technician level, is illustrated in recent job announcements in medical devices and pharmaceuticals manufacturing (e.g. Vistacon, Sangart, IMSTec GmbH); food manufacturing (e.g. Glanbia) and energy, especially renewable energy, generation (Element Power; Natural Power, ESB International).

IT Occupations

Shortages of IT skills have continued to arise: almost 1,300 new work permits were issued to IT workers in 2012 and IT posts made up approximately one third of all difficult to fill mentions. ICT skills difficult to source include:

Software developers and designers:

- Web developers with high level skills and experience in
  - Java and related applications (eg. .Net, C++); java knowledge combined with experience in Spring and Grails Frameworks; PHP knowledge
  - other web page development skills (HTML, CSS, XHHTML, Ruby on rails)
  - enhancing end user experience and usability (UX, UI, Tibco, Messagebroker), which are becoming increasingly important as businesses migrate to online platforms
- Cloud computing specialists (spanning a range of skills levels, including entry level)
  - cloud infrastructure skills (e.g. Python and open source technologies)
  - VMWare and other virtualisation technologies know-how
  - expert support engineers (Windows, Linux, Redhat, Debian, Ubuntu)
- Mobile technology applications developers (e.g. Apple iOS; Android (e.g. Honeycomb, Icecream, Sandwich); Windows Phone; Linux; Unix; open source tools; Software Development Life Cycle); the demand spans a range of levels but is particularly strong for high level skills
- Senior programmers with expertise in relational databases (esp. SQL Server), .Net, ASP.NET, Java, C+ and C++
- Games developers with skills (both entry and advanced level) in web based architecture and technologies, Java, and game state management (GSM), as well as high level skills in 3D animation
- Computing architects and administrators, with skills and expertise in
  - Big Data analytics infrastructure and technologies (for big data developers: NoSQL, Java, JavaScript, MySQL and Linux combined with TDD, CSS and Agile; for big data architects: Oracle, Java, SQL, Hadoop, SQL Server and Data Modelling ETL)
  - customer relationship management applications (Salesforce, Dynamics, Oracle, SAP, Advanced Excel)
  - SQL Server database administration.

IT project managers with technical skills combined with program management, business analytics, or Agile/Scrum/Kanban and Prince II skill sets.

IT user support: Networking and PC maintenance experts with skills in Cisco CCNA and MS MCITP; there is also a demand for skills, even those with less experience, in Oracle, Comptia Linux+, Comptia A+, wireless networks and IP networking, especially, although not restricted to, the telecommunications and security industries

IT security experts: demand is growing, in part, due to the increased use of tablet computers and handheld devices; skills in demand include those with high level expertise in security, malware, digital forensics, web security, etc.

IT testing and troubleshooting: performance testers; automation and manual testers (especially in the financial and telecommunications industries).

The demand for IT skills is forecast to be strong as organisations introduce new or migrate existing systems to increasingly sophisticated online and/or cloud platforms.

Strong demand is confirmed in recent job announcements over the last year, particularly in the areas of

- cloud computing (e.g. Feed Henry, Zendesk)
- R&D (Huawei, McAfee)
- industry specific software applications development (e.g. food manufacturing (Opensky); insurance (Fineos, Unum, Guidewire), banking & brokering (PE Lynch); IT security (e.g. FireEye, Zurich IT & Security Services); Big Data (e.g. Quantcast) and technical writing (Bard na nGleann).
- IT user support (e.g. OnePage, Yahoo)

Business & Financial Occupations

Business

The shortages arising for business skills are typically confined to niche and specialist roles; these include

- purchasing managers, especially in relation to global supply chains
- business sales executives, mostly in technical products sales, B2B sales in IT, and the medical/pharmaceutical sectors
- product and marketing managers and executives, including some shortages of these skills combined with language skills, especially German, and digital marketing expertise
- Sales accounts executives (in some cases combined with language skills)
- Business analysts and statisticians, including big data analysts with proficiency in IT skills (e.g. Oracle, SQL) as well as data mining, data modelling, mathematics/statistics, as well as industry specific knowledge (e.g. biopharma sector).

Finance

- Finance professionals, including
  - accountants and auditors with skills in tax, compliance, solvency, and financial management, as well as specific industry experience, including banking, manufacturing, etc.
  - risk analysts
  - regulatory professionals
  - actuaries
- Finance and investment analysts (niche areas, financial securities)
- Financial advisors (banking sector)
- Fraud analysts
- Credit control associate professionals
- Multilingual financial accounting technicians
- Clerical administrators in credit control and global supply chain with multilingual skills.

Job creation for business and financial occupations is confirmed in the media with announcements for financial services roles (e.g. Capita) and posts in niche business areas such as digital marketing (e.g. Hubspot) and technical sales in high tech manufacturing (e.g. Novartis).

Healthcare Occupations

Despite limited employment opportunities in the public healthcare sector, skill shortages persist for a limited number of occupations including:

- Medical practitioners
- Specialist nurses, confined to older people care, cardio care, intensive and critical care, oncology, and theatre nursing.

Non-Construction Craft Occupations

There is a significant shortage of precision engineering skills in tool making and CNC machining; while the demand for these skills has grown, supply from the education and training system has been affected by the legacy of the construction boom during which school leaver preferences were for construction craft education and training (e.g. carpentry, plumber, electrical, etc.) rather than engineering.

There are also indications of issues relating to the retention of deboners in industry.

Transport and Logistics Occupations

There are indications of difficulty in sourcing experienced global supply chain managers, with specific industry expertise (e.g. medical devices), foreign language skills, and/or an ability to manage international customer relations. There is also some demand for administration staff, often with language skills, in supply chain roles (e.g. freight forwarding clerks, logistics co-ordinators, documentation clerks).

Administrative and Secretarial Occupations

There is currently no shortage of administrative and secretarial skills in Ireland. Nonetheless, there are indications that some roles, limited to certain niche areas, are proving difficult to fill:

- multilingual accounts payable clerks,
- specialist admin staff in transport/logistics (especially with German language skills)
- credit control clerks.

Sales and Customer Service Occupations

The data points to a shortage of

- multilingual contact centre staff for customer service and sales roles; the demand is for fluency in European languages (in particular German, French and Dutch), as well as relevant product knowledge and/or experience of working in a contact centre
- Specialist sales staff for:
  - online digital marketing and sales roles (e.g. online gambling)
  - senior roles in IT B2B sales
  - technical sales roles (confined to high end industry sales) combining commercial ability with other skills, such as engineering or industry experience and product knowledge.

Demand for contact centre roles is illustrated in recent job announcements (e.g. eBay, Loop1, 10Gen, Asidua, Ominipay).

Introduction

The National Skills Bulletin 2013 is the ninth in an annual series of reports produced by the Skills and Labour Market Research Unit (SLMRU) in FÁS on behalf of the Expert Group on Future Skills Needs (EGFSN). It provides an overview of the Irish labour market at occupational level. The Bulletin aims to assist policy formulation in the areas of employment, education/training and immigration, as well as to inform career advisors, students and other individuals making career and educational choices.

The analysis presented in the Bulletin is based on the data held in the National Skills Database. The data is classified using the Standard Occupational Classification System (SOC 2010). In cases where the number of persons employed in an occupation is too small to allow for meaningful statistical analysis, two or more occupations were merged to form an occupational group. The analysis covers over 130 occupations.

Each occupation is examined in terms of:

- a detailed profile on employment (e.g. age, gender, nationality etc.), employment change[4] and recent employment trends using the data from the Central Statistics Office (CSO) Quarterly National Household Survey (QNHS); in 2012, the CSO revised the QNHS sample weights, going back to 2006, in line with the 2011 Census of Population; the weights were adjusted upwards meaning that employment and unemployment estimates were higher than those previously used; as a result the figures presented in this report are not directly comparable with those published in last year's Bulletin; when interpreting the employment data, the following should be borne in mind:
  - the employment level for each occupation is expressed as an annual average (i.e. the average of four quarters in a calendar year)
  - the trend analysis covers the five-year period: 2007-2012, unless otherwise specified; growth over this period is calculated in terms of the annualised growth rate, sometimes referred to as 'average annual growth rate' for the ease of reading (although the two terms are not technically identical)
  - the employment composition (i.e. age, gender etc.) is based on the most recent data, which is quarter 4 2012
  - unless otherwise stated, annual changes year-on-year cover the period quarter 4 2011 - quarter 4 2012
- the number of employment permits issued to non-EEA nationals by the Department of Jobs, Enterprise and Innovation (DJEI)
- the level of difficulty in filling vacancies reported in the six-monthly survey(s) of recruitment agencies conducted by the SLMRU
- an analysis of vacancies advertised through public employment offices (Department of Social Protection (DSP/FÁS Jobs Ireland) and the private recruitment agency (IrishJobs.ie)
- announcements of job creation and job losses in the media (national

[4] By examining the change in the level of employment one can assess the net result of total job creation and job losses. If an increase in the employment level was observed between two time points, it implies that more jobs were created than lost over that period – this is referred to as 'net job creation'; conversely, if a decrease in the employment level was observed, it implies that more jobs were lost than created.

newspapers), as well as job creation expected to arise from foreign direct investment supported by the IDA

- 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), Quality and Qualifications Ireland (QQI - FETAC & HETAC), Department of Education and Skills (DES), the State Examinations Commission (SEC), the Central Applications Office (CAO) and selected private sector education providers
- any other relevant findings from the EGFSN's sectoral studies and other relevant research.

This year's Bulletin presents for the first time an analysis which uses the QNHS data to track the movements of individuals in the Irish labour market for four successive quarter pairs for 2012[5] and it provides estimates of their transitions between employment, unemployment and inactivity, as well as inter and intra-occupational movements.

The Bulletin synthesises all available data on the above indicators in order to:

- provide a statistical record of the labour market situation at occupational level
- draw on this data, and other qualitative information, to identify any shortages.

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). While the aim is to identify occupations for which shortages exist, further research is necessary to identify the cause and magnitude of these shortages and to recommend 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 but does not provide forecasts of skill shortages, unless it is implicit from the existing data.

The Irish labour market continues to be characterised by an excess supply of labour. Nonetheless, skills shortages continue to exist, albeit confined to a relatively small number of posts, mostly requiring persons with specialist skills.

The National Skills Bulletin 2013 is structured as follows:

- Section 1: presents an overview of general labour market trends, which includes employment, unemployment and participation rates, and the composition of the labour force
- Section 2: examines employment trends by economic sector, with an economic outlook provided for different sectors
- Section 3: presents employment by broad occupational group
- Section 4: examines employment trends and the composition of employment by region
- Section 5: focuses on the supply of skills from the education and training system by level and field

[5] The four quarter pairs are: quarter 4 2011 to quarter 1 2012; quarter 1 2012 to q2 2012; quarter 2 2012 to quarter 3 2012; and quarter 3 2012 to quarter 4 2012.

- Section 6: examines the inflow of labour from non-EEA countries through the various employment permit schemes
- Section 7: provides an overview of vacancies advertised through DSP/FÁS (DSP/FÁS Jobs Ireland) and Irishjobs.ie. It also provides the results of the latest SLMRU recruitment agency survey on difficult to fill vacancies
- Section 8: presents an analysis of employment for over 130 occupations across 17 occupational groups and highlights areas of shortage
- Section 9: focuses on unemployment, particularly in terms of gender, occupation, nationality, education and age
- Section 10: analyses the movements of individuals in the Irish labour market with the aim of estimating the transitions between unemployment, employment and inactivity.

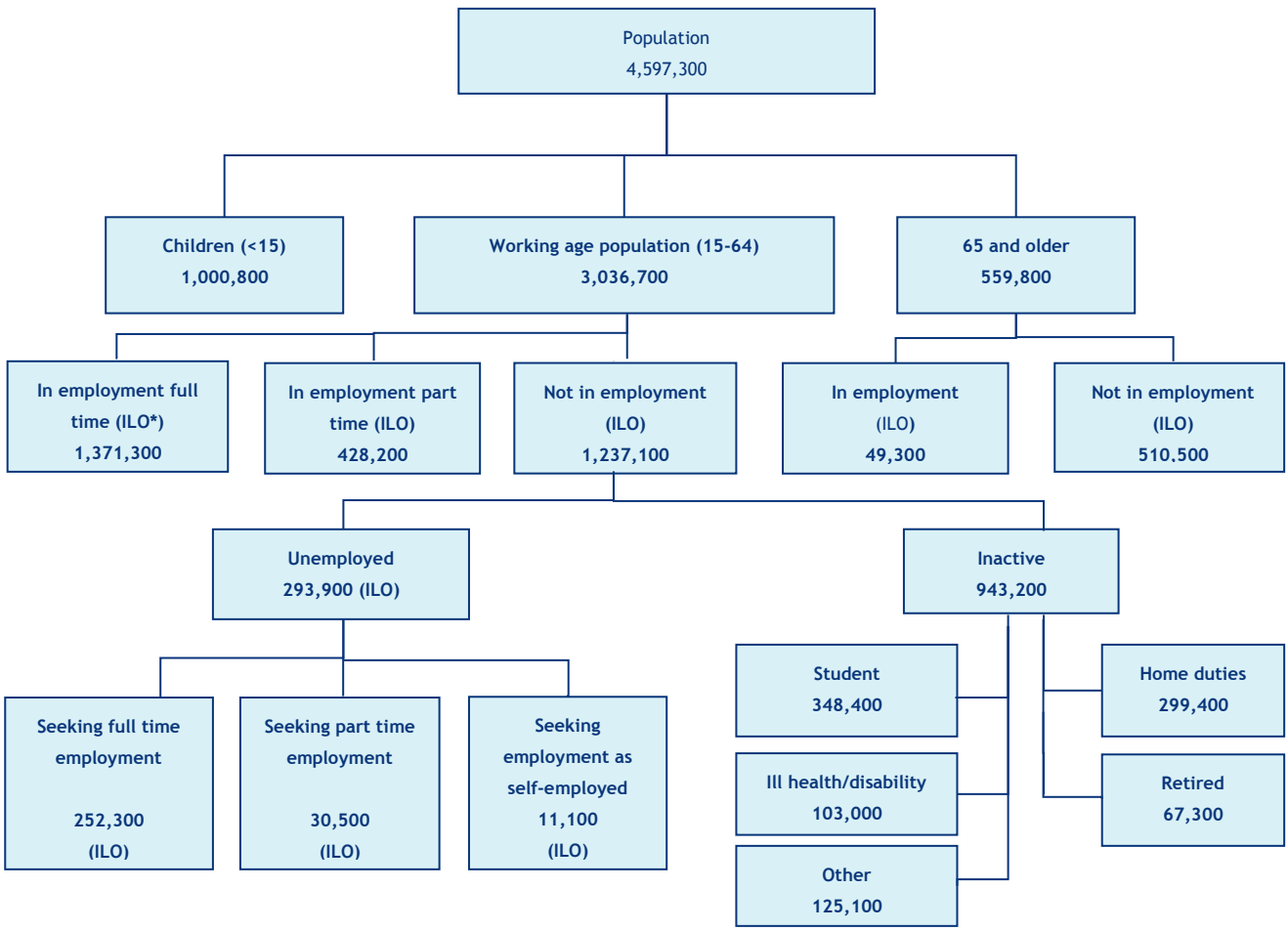
Section 1 General Labour Market Trends

1.1 Labour Market Status of General Population

This section focuses on the distribution of Ireland's population in terms of economic status. It is estimated that the total population reached almost 4.6 million persons in quarter 4 2012 (Figure 1.1).

When compared to quarter 4 2011, the working age population (aged 15-64 years) decreased by 17,000 to just over 3,000,000, while the number of those aged under 15 years and those aged 65 and above increased (by 14,000 and 18,500 respectively).

Figure 1.1 Population by Age and Labour Status, Quarter 4 2012



Source: SLMRU (FÁS) Analysis of CSO QNHS data

Note: Any observed discrepancies in the summations are due to the rounding of numbers
* International Labour Organisation (ILO) definition of employment and unemployment.

As a result of these changes, the total age dependency ratio increased by 1.5 percentage points to 51.5%. Within this, the youth age dependency ratio was 33%, while the older age dependency ratio was 18.5%, each having increased by 0.7 percentage points.[6]

In quarter 4 2012, while almost 1.8 million persons of working age were in employment, over 1.2 million were not. Those not in employment comprised almost 295,000 unemployed and almost 950,000 economically inactive.[7]

Within the economically inactive group, there were

- almost 350,000 students
- 300,000 engaged in home duties
- just over 67,000 retired
- 103,000 inactive due to ill health or disability
- almost 30,000 discouraged workers (compared to 3,000 in 2007)
- 95,000 inactive for other reasons.[8]

When compared to quarter 4 2011, the number of retired persons and students increased by 9% and 5% respectively, while the number of those engaged in home duties and those inactive due to ill health or disability decreased (by 5% each). On balance, the inactivity rate of the working age group increased slightly to 31%[9], and the economic dependency ratio[10] to 1.49.

1.2 Labour Market and Related Indicators

In 2012, the labour force averaged 2.15 million, which is a decrease of 12,000 (-0.6%) when compared to 2011 (Figure 1.2). This decline was brought about by a negative demographic effect (net outward migration) and withdrawals from the labour force. The participation rate dropped to 59.9%, reverting to the level observed in 2003 (Table 1.1).

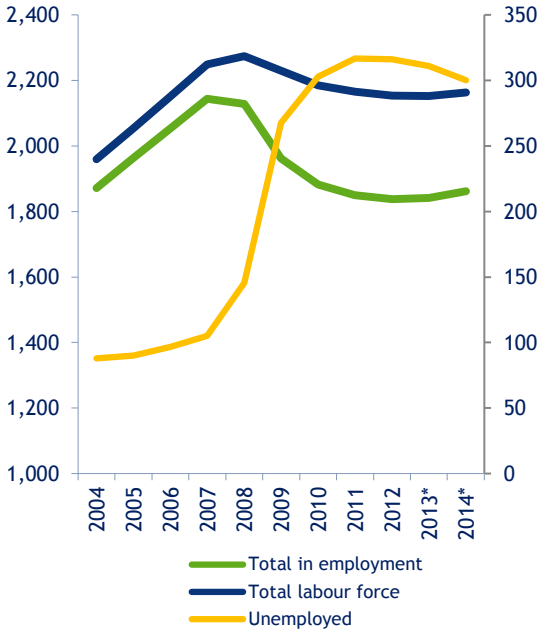
The successive contractions in the size of the labour force translated into a decline of almost 95,000 persons over period 2007-2012. Over the same period, the number of persons not in the labour force (aged 15+) increased by 180,000[11], suggesting that in addition to those withdrawing from the labour force, significant numbers were delaying (re-)entry to the labour force (e.g. remaining in education[12], home duties etc.).

In 2012, there were 1.84 million in employment. Compared to 2011, there were 11,000 fewer persons in employment, although the employment rate remained almost unchanged at 58.8%. However, between quarter 4 2011 and quarter 4 2012, employment increased by 1,200, which was

[6] The age dependency ratios compare the non-working age population to those of working age in any given population. It is derived by expressing the non-working age population groups - young (aged 0 to 14 years) and old (aged 65 years and over) - as a proportion of the working age (15 to 64 years) population.
[7] The economically inactive are defined as persons who are not in employment or unemployed, i.e. not part of the labour force. These people do not meet the internationally adopted definition of unemployment because, for example, they have not been actively seeking work and/or they are not available for work.
[8] Refers to IlO Inactive; this figure includes some who were looking for first regular job.
[9] The inactivity rate is the proportion of the population that is not in the labour force. Here we focus on the inactivity rate for the 15-64 age group (headline inactivity rate) which is lower than the general inactivity rate.
[10] The ratio of the number of inactive persons to every active person.
[11] The comparable figure for the period 2002-2007 was almost 18,000
[12] Between quarter 4 2007 and quarter 4 2012, the number of 18-24 year-olds who remained outside labour force and in full-time education increased by 26,000.

the first quarterly year-on-year increase since quarter 2 2008.

Figure 1.2 Labour Force, Employment & Unemployment (000s), Annualised Data



Source: SLMRU (FAS) analysis of CSO data (historical); Central Bank of Ireland, Quarterly Bulletin January 2012 (forecasts for 2013* and 2014*)

In 2012, the number of unemployed persons was 316,000. Although compared to 2011 the unemployment level remained almost unchanged, between quarter 4 2011 and quarter 4 2012, the number of unemployed actually decreased by 19,000. Given the modest increase in employment, this decline was primarily the result of withdrawals from the labour force or emigration.

In 2012, the unemployment rate averaged 14.7%, which is almost unchanged when compared to 2011. However, between quarter 4 2011 and quarter 4 2012, the unemployment rate actually decreased by almost one percentage point to 13.7%.[13] Despite this positive development, the broad unemployment measure, which combines unemployed, part-time underemployed and the marginally attached, remained high by international standards, at 23%.

Table 1.1 Participation, Employment and Unemployment Rates

Year	Participation rate (%) (15+)	Employment rate (%) (15-64)	Unemployment rate (%) (15+)
2007	64.1	69.2	4.7
2008	63.6	67.4	6.4
2009	61.9	61.9	12.0
2010	60.7	59.6	13.9
2011	60.2	58.9	14.6
2012	59.9	58.8	14.7

Source: SLMRU (FÁS) analysis of CSO data; data refers to annual average values

In quarter 4 2012, three in five unemployed persons had been seeking work for at least 12 months, of which 128,000, for at least two years. The long term unemployment rate was 8.2%, almost one percentage point lower when compared with quarter 4 2011. Two thirds of unemployed males were long term unemployed, compared to less than a half of females.

[13] Refers to unadjusted unemployment rate; when seasonally adjusted unemployment rates are considered, the decline in unemployment is half of that observed for unadjusted, or 0.4 percentage point (declining from 14.6% to 14.2%).

Table 1.2 shows migration estimates for the period 2007-2012. In 2012, net outward migration was almost 35,000, of which 75% were Irish nationals.

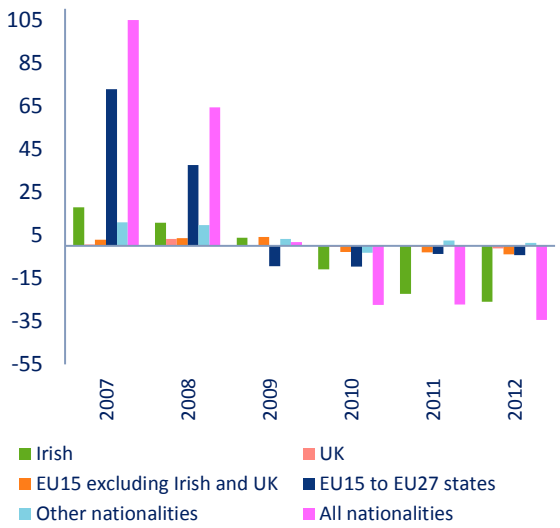
Table 1.2 Migration Estimates (000s), 2007-2012

	Migration		
Year	Inward	Outward	Net migration
2007	151.1	46.3	104.8
2008	113.5	49.2	64.3
2009	73.7	72	1.7
2010	41.8	69.2	-27.4
2011	53.3	80.6	-27.3
2012	52.7	87.1	-34.4

Source: CSO, Data Direct & Population and Migration Estimates

Figure 1.3 presents migration estimates by nationality. While net migration was negative for EU nationals in 2012, it was positive for those from outside the EU, although small at 1,300 (Figure 1.3).

Figure 1.3 Migration Estimates 2007-2012 by Nationality (000s)



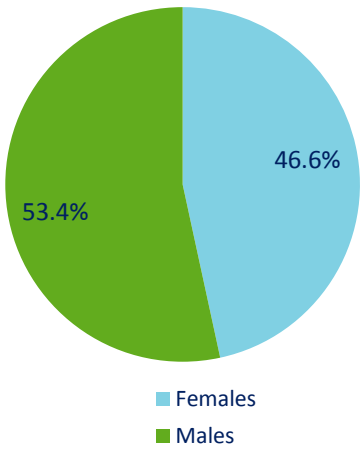
Source: SLMRU (FÁS) analysis of CSO data

Note: Data for 2012 is preliminary

1.3 Employment Composition

Figure 1.4 presents employment by gender. In quarter 4 2012, there were 988,000 males in employment, accounting for 53.4% of national employment. The gender distribution of employment remained unchanged compared to quarter 4 2011.

Figure 1.4 Employment by Gender (%), Quarter 4 2012



Source: Source: SLMRU (FÁS) analysis of CSO data

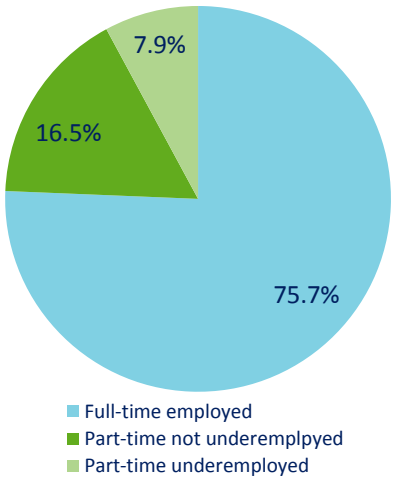
The distribution of employment between full-time and part-time is shown in Figure 1.5. In quarter 4 2012, almost a quarter of employment was part-time; 16.5% of the total employment was part-time not underemployed and 7.9% part-time underemployed.

Compared to quarter 4 2011, the share of part-time employment increased by one percentage point. While the share of part-time not underemployed increased, the share of part-time underemployed remained unchanged.

The increase in the share of part-time employment was due to the decrease in full-time employment (13,000) and the increase in

part-time employment (14,000). This implies that the employment growth observed between quarter 4 2011 and quarter 4 2012 (Figure 1.2) was due to the increase in part-time employment.

Figure 1.5 Employment by Employment Type (%), Quarter 4 2012



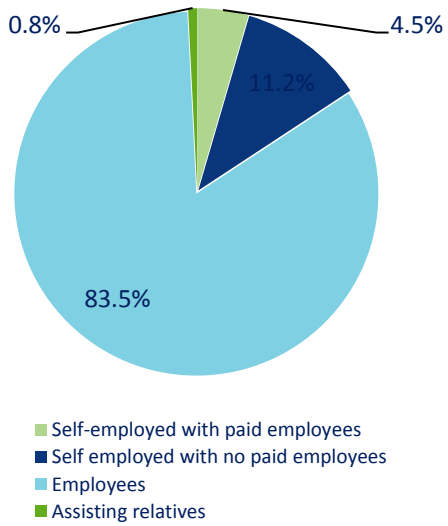
Source: SLMRU (FÁS) analysis of CSO data

Figure 1.6 shows the distribution of employment by employment status. In quarter 4 2012, self-employment accounted for almost 16% of total employment: 4.5% with paid employees and 11.2% without paid employees. The share of direct employees was 83.5%, of which 2.3% were employees on government supported employment schemes.

Between quarter 4 2011 and quarter 4 2012, the composition by employment status remained largely unchanged; in all cases the changes were of a magnitude of less than one percentage point and included a decrease in the share of employees, an increase in the share of those assisting relatives, a decline in the share of self-employed with employees, and an increase in the share of self-employed without employees.

In absolute terms the changes included a decrease in the number of direct employees by 7,500 (-0.5%), a decrease in the number self-employed with paid employees of 3,000 (-3.4%), an increase in the number of self-employed without employees of 6,500 (3.3%), and an increase in the number of those assisting relatives of 5,200 (55%). This suggests that the employment growth observed between quarter 4 2011 and quarter 4 2012 (Figure 1.2) was due to an increase in the number of self-employed without employees and those assisting relatives.

Figure 1.6 Employment by Employment Status (%), Quarter 4 2012



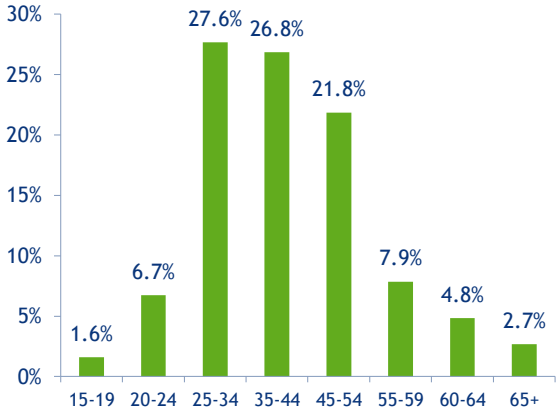
Source: SLMRU (FÁS) analysis of CSO data

Figure 1.7 depicts the age distribution of employment. In quarter 4 2012, just over three quarters of employment was in the 25-54 age category; those aged under 25 accounted for just over 8% and those aged 55+ made up just over 15%.

Between quarter 4 2011 and quarter 4 2012, the age distribution remained relatively unchanged. In absolute terms, employment increased in all age cohorts except for those

aged 20-24 and 25-34, which declined by 9,000 and 13,000 respectively.

Figure 1.7 Employment by Age (%), Quarter 4 2012

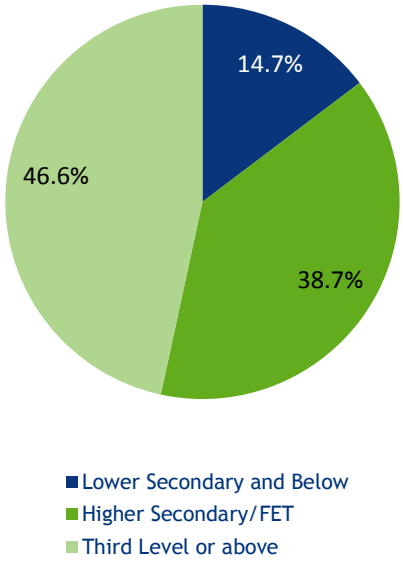


Source: SLMRU (FÁS) analysis of CSO data

Figure 1.8 depicts the education profile of those in employment.[14] In quarter 4 2012, almost 15% held at most lower secondary qualifications; almost 39% held higher secondary/further education and training (FET) qualifications, while almost 47% were third level graduates.

Between quarter 4 2011 and quarter 4 2012, the share of those holding at most lower secondary qualifications declined by more than one percentage point, while the share of third level graduates increased by a similar magnitude.

Figure 1.8 Employment by Education (Highest Level Achieved) (%), Quarter 4 2012



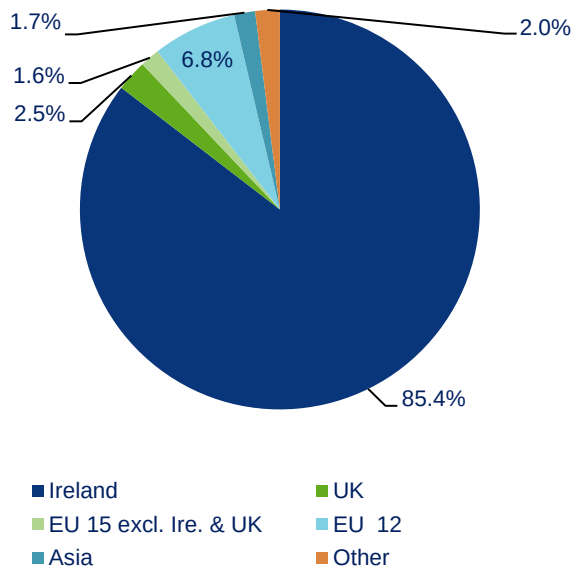
Source: Source: SLMRU (FÁS) analysis of CSO data

Figure 1.9 shows employment by nationality. In quarter 4 2012, 14.6% of total employment were non-Irish nationals, accounting for almost 270,000 persons. The greatest share of non-Irish was from the EU, amounting to approximately 11% of total employment.

Between quarter 4 2011 and quarter 4 2012, there was very little change in the distribution of employment by nationality, with just a marginal decline in the share of non-Irish nationals.

[14] Note: Data relates to the 15-64 age group in employment; observations that were not classifiable in terms of the highest level of education were excluded from analysis.

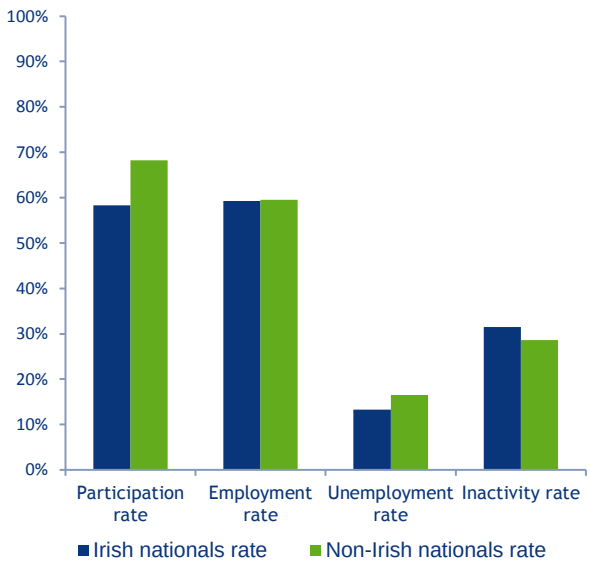
Figure 1.9 Employment by Nationality (%), Quarter 4 2012



Source: SLMRU (FÁS) analysis of CSO data.

In quarter 4 2012, non-Irish nationals had higher participation and unemployment rates, a broadly similar employment rate and a lower inactivity rate compared to Irish nationals (Figure 1.10).

Figure 1.10 Participation, Employment, Unemployment and Inactivity Rates by Nationality, Quarter 4 2012



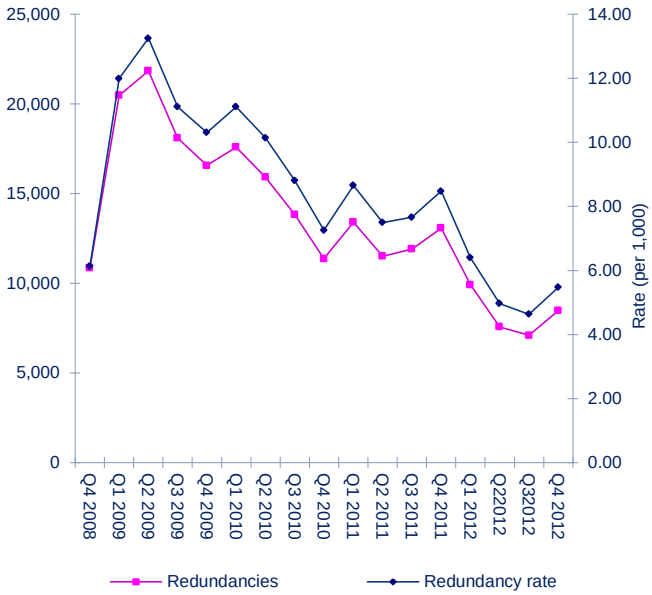
Source: SLMRU (FÁS) analysis of CSO data

1.2.2 Redundancies

Figure 1.11 shows the number of redundancies and redundancy rates for the period quarter 4 2008 – quarter 4 2012. The number of redundancies occurring in each quarter in 2012 was below 10,000. The total number of redundancies in 2012 was 33,000, which was less than a half what it was in 2009.

The redundancy rate for quarter 4 2012 was 5.5 per 1,000 employees, the lowest recorded since 2009.

Figure 1.11 Redundancy Rates and Absolute Numbers



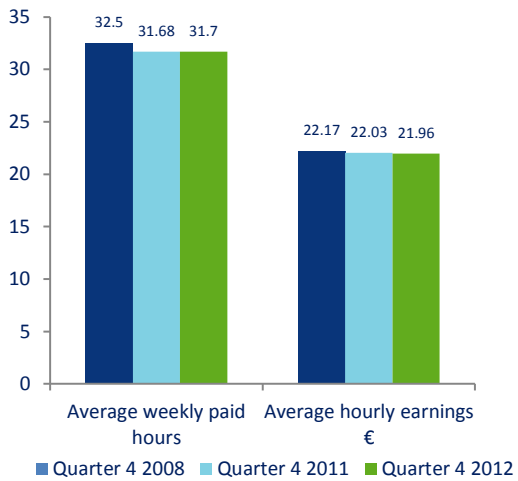
Source: SLMRU (FÁS) analysis of CSO data; SLMRU (FÁS) analysis of DJEI/DSP data

1.2.3 Earnings, Hours Worked and Labour Costs

Figure 1.12 shows the average weekly paid hours and the average hourly earnings. In quarter 4 2012, the number of average weekly paid hours was 31.7[15], which was almost the same as in quarter 4 2011, although almost one hour less than in quarter 4 2008.

In quarter 4 2012, the average hourly earnings[16] were €21.96, which was 7 cent less than in quarter 4 2011 and 21 cent less than in quarter 4 2008.

Figure 1.12 Average Weekly Paid Hours & Average hourly earnings



Source: SLMRU (FÁS) analysis of CSO data[17]

In quarter 4 2012, the average weekly earnings were €696, which was almost the same as in quarter 4 2011 (€698), although down from €721 in quarter 4 2008.

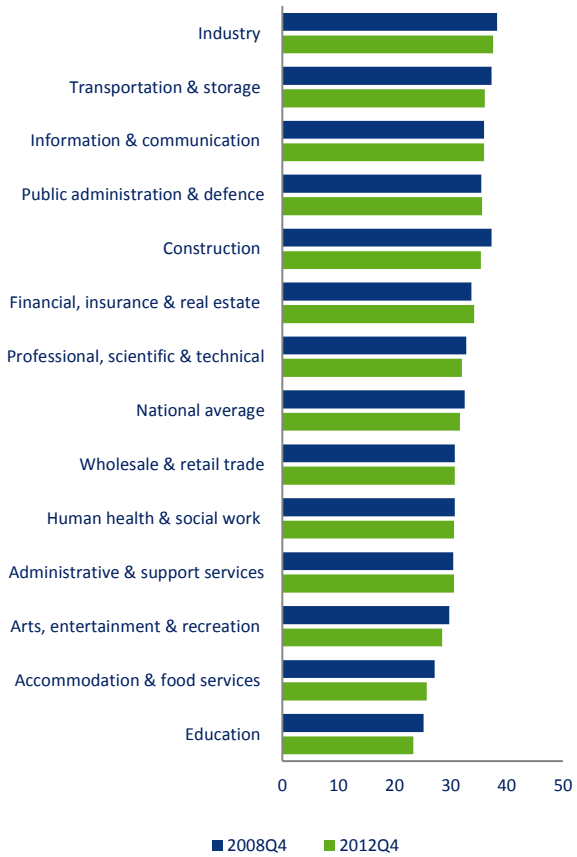
In quarter 4 2012, the average hourly labour costs, which comprise average hourly earnings and other labour costs (e.g. benefit in kind, redundancy, employer contributions to social security, etc.) was €25.49. Between quarter 4 2011 and quarter 4 2012, it increased by 20 cent, although remaining below the level observed in quarter 4 2008.

Figure 1.13 depicts average weekly paid hours by broad economic sector. In quarter 4 2012, the average number of weekly paid hours worked was highest for industry (38) and lowest for the education sector (23).

Between quarter 4 2008 and quarter 4 2012, the average number of weekly paid hours either remained broadly the same or declined in all sectors, except financial activities. The largest declines were in education and construction, where a reduction of two hours was recorded in each.

[15] The number of hours usually worked was 35.
[16] Average hourly earnings are obtained by dividing the sum of regular earnings, irregular earnings and overtime earnings for the quarter by total paid hours for the quarter. All wages and salaries payments are gross (i.e. before deduction of income tax and employees' PRSI contributions and levies such as the public sector pension levy).
[17] New CSO survey on Earnings Hours and Employment Costs (EHECS) covering all sectors of the economy other than Agriculture, forestry and fishing introduced from quarter 1 2008.

Figure 1.13 Average Weekly Paid Hours by Sector (Q4 2008 and Q4 2012)



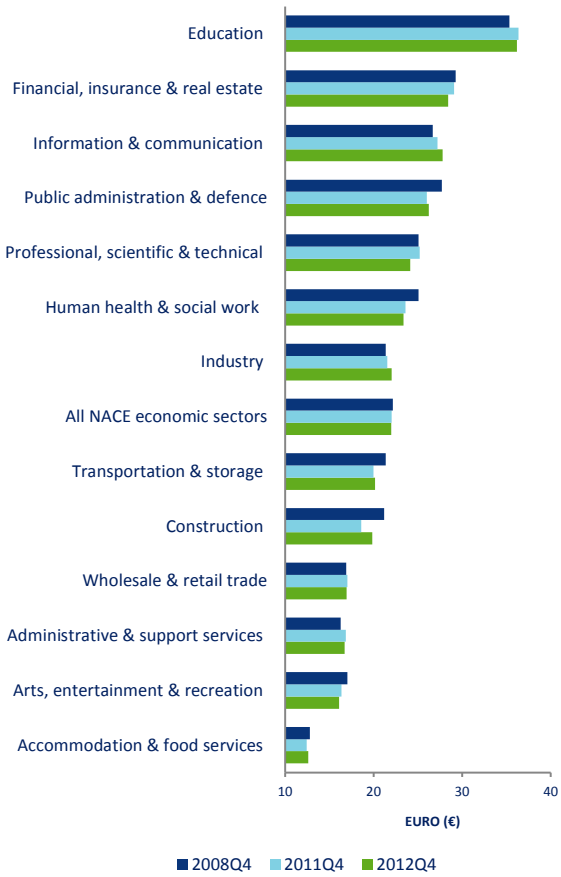
Source: SLMRU (FÁS) analysis of CSO data

Figure 1.14 shows the average hourly earnings by sector. In quarter 4 2012, the highest average hourly earnings were in the education sector (€36), while the lowest were in the accommodation and food sector (€12).

Between quarter 4 2011 and quarter 4 2012, average hourly earnings increased in six sectors, with the largest increase observed in the construction sector (6.7%), industry (2.2%), and ICT (2.1%); the largest decrease was recorded in the professional, scientific & technical activities sector (4.2%).

Between quarter 4 2008 and quarter 4 2012, the average hourly earnings declined in nine sectors, with the greatest declines in health, construction, transport, and arts and entertainment. In contrast, the average hourly earnings in the ICT sector increased by 4%.

Figure 1.14 Average Hourly Earnings by Sector (Q4 2008, Q4 2011 and Q4 2012)



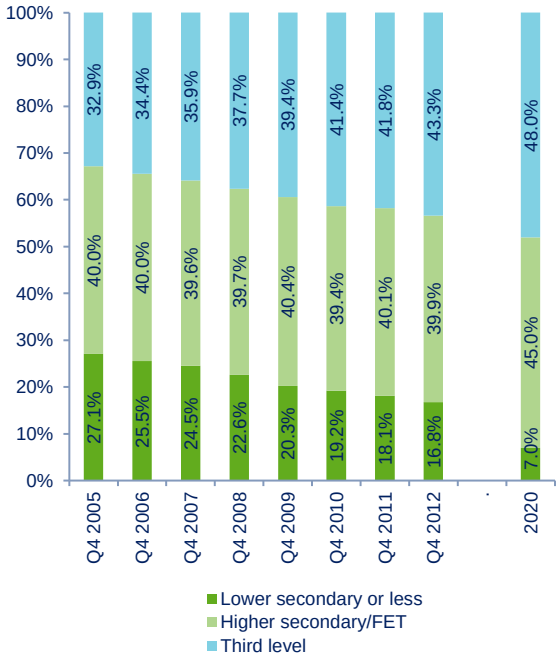
Source: SLMRU (FÁS) analysis of CSO data

1.3 National Skills Strategy: Progress to Date

Figure 1.15 shows the educational attainment of the labour force and the targets set out in The National Skills Strategy (NSS). Ireland continues to make progress towards reaching the NSS targets. In quarter 4 2012, the share of third level graduates was 43%, which is an increase of a further 1.6 percentage points when compared to quarter 4 2011, and just

4.4 percentage points below the 2020 target. The share of those with at most lower secondary qualifications was 17%, which was a further percentage point lower than in quarter 4 2011, while almost ten percentage points higher than the 2020 target.

Figure 1.15 Labour Force (15-64) by Education and the NSS Target



Source: SLMRU (FÁS) analysis of CSO data

Section 2 Employment by Economic Sector

2.1 Employment by Broad Economic Sector

Figure 2.1 shows the distribution of employment by economic sector. In quarter 4 2012, the wholesale and retail sector was the largest, with almost 273,500 persons employed. The health care sector, which includes social work and related activities, was the second largest, with 245,700 persons engaged. Industry, comprising all manufacturing activities, as well as utilities and extraction, was the third largest sector, employing just above 237,000.

Figure 2.1 Employment by Sector (000s), Quarter 4 2012

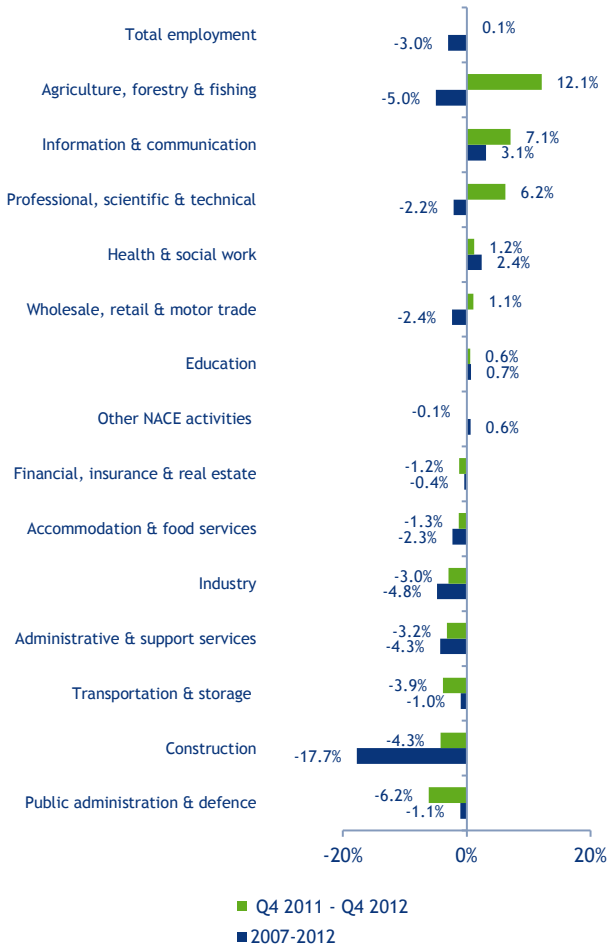
Source: Analysis by FÁS (SLMRU) based on CSO data

*Notes: The ICT sector includes computer programming, telecommunications, information services, publishing and broadcasting; it does not include ICT equipment manufacturing or the wholesale of computers, computer peripheral equipment and software.
Other NACE sectors include activities such as comprise entertainment, repair of goods, a range of personal service activities, etc.

2.1.1 Employment Change

Figure 2.2 presents employment change by sector. Between quarter 4 2011 and quarter 4 2012, employment grew strongly in the agriculture, ICT, and professional, scientific & technical sectors, each growing by over 5%. In contrast, the largest declines in employment were in public administration & defence (PAD) and construction, followed by transportation and storage, administrative services, and industry, each contracting by 3% or more.

Figure 2.2 Employment Growth by Sector



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

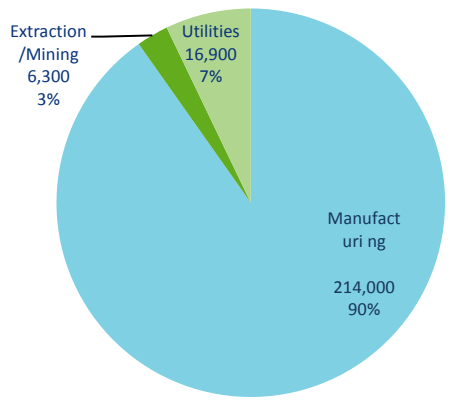
Over the period 2007 to 2012, only the ICT, health, and education sectors recorded growth; the ICT sector grew strongest at 3.1%[18], adding a net 11,000 jobs. Over the same period, the construction sector contracted by an annualised rate of almost 18%, with a net loss of almost 170,000 jobs.

Industry

In quarter 4 2012, industry employed 237,200 persons and was the third largest sector in the economy. Between quarter 4 2011 and quarter 4 2012, industrial employment contracted by 3%; between 2007 and 2012, it contracted by an annualised rate of 4.8%, translating into a net loss of 65,000 jobs.

Figure 2.3 shows the distribution of industrial employment by sub-sector. In quarter 4 2012, manufacturing accounted for 90% of industrial employment, with 214,000; utilities accounted for 7%, employing almost 17,000, while extraction and mining made up the remaining 3%, with 6,300 employed.

Figure 2.3 Industrial Employment by Sector, Quarter 4 2012



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

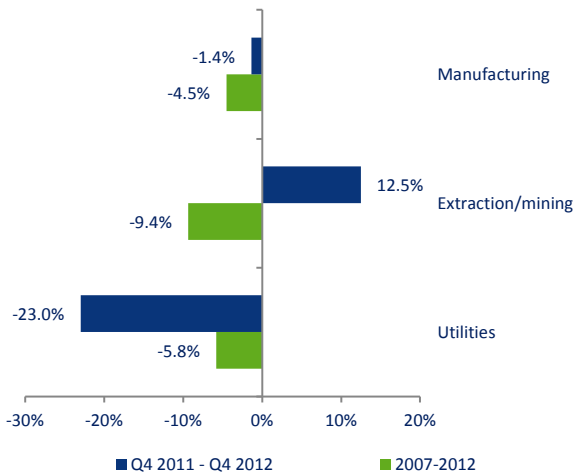
[18] Annualised growth rate i.e. compounded annual growth rate(CAGR).

Figure 2.4 presents industrial employment growth by sub-sector. Between quarter 4 2011 and quarter 4 2012, employment grew in extraction/mining[19], while it declined in manufacturing and utilities.

Within utilities, employment declined in air conditioning, electricity, gas, steam and water supply activities, while it remained unchanged in waste collection, treatment and disposal.

Between 2007 and 2012, employment declined in all sub-sectors: manufacturing contracted by 4.5%, translating into 54,000 fewer persons engaged; utilities by 6%, with 6,500 fewer persons engaged, and extraction/mining by 9.4%.

Figure 2.4 Industrial Employment Growth by Sub-Sector



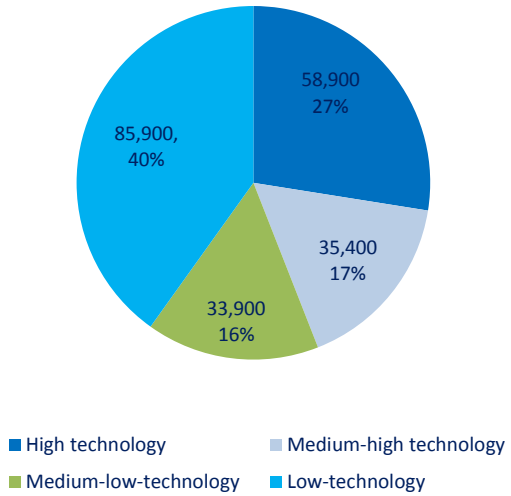
Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 2.5 shows manufacturing employment by technological intensity. In quarter 4 2012, the high technology segment accounted for over a quarter (half of which was in the

[19] Employment numbers in mining/extraction are small and therefore more volatile. However, the sub-sector declined markedly from its peak in 2008, when employment exceeded 11,000.

pharmaceutical industry), low technology for 40% (of which three fifths were in the food and beverages industry), while medium-high and medium-low segments were almost identical in size accounting for 17% and 16% respectively.[20]

Figure 2.5 Manufacturing Employment by Technological Intensity, Quarter 4 2012

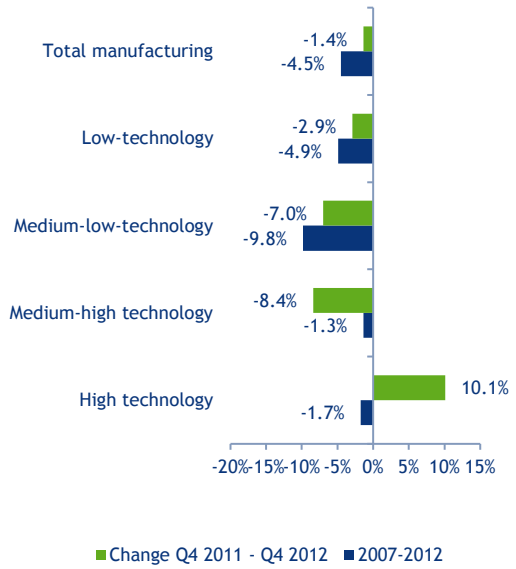


Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 2.6 presents manufacturing employment growth by technological intensity. Between quarter 4 2011 and quarter 4 2012, employment in high technology manufacturing grew by 10%, while it decreased in all other segments.

Between 2007 and 2012, employment declined in all manufacturing segments. The greatest declines were for the medium-low and low technology segments (10% and 5% respectively), translating into a net loss of 23,000 each.

Figure 2.6 Manufacturing Employment Growth by Technological Intensity

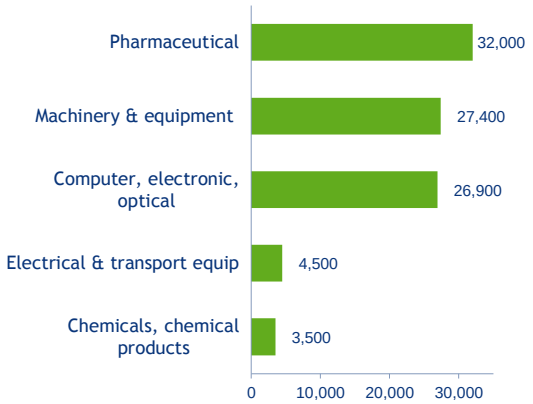


Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 2.7 shows employment in high and medium-high technology manufacturing. In quarter 4 2012, higher end manufacturing activities provided employment for approximately 94,500 persons, of which 32,000 were in pharmaceuticals and 27,000 each were in electronics and machinery & equipment.

[20] **High technology**: pharmaceuticals, computers, etc. **low technology**: food, beverages, textiles, leather, wood, paper, printing, etc. **medium high**: chemicals, electrical equipment, machinery, medical instruments, etc.; **medium-low**: petroleum products, rubber and plastic, other non-metallic mineral products, fabricated metal products etc. Note: based on NACE Rev.2 two digit classification.

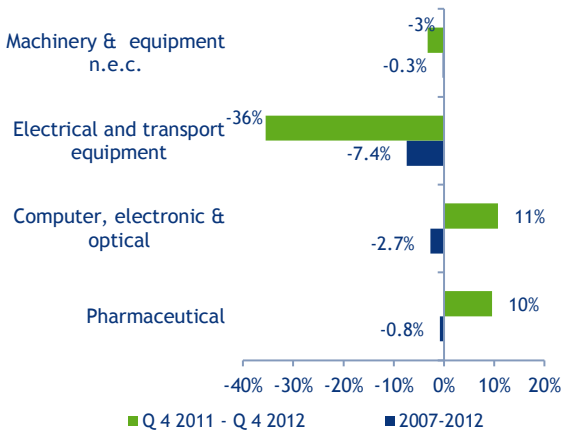
Figure 2.7 High & Medium-High Tech Manufacturing Employment, Quarter 4 2012



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

Figure 2.8 shows employment growth in high and medium-high technology manufacturing. Between quarter 4 2011 and quarter 4 2012, employment increased in the computer/electronics and pharmaceutical industries by 11% and 10% respectively. The largest decline was in electrical/transport equipment (36%), although the numbers involved were small. Over the period 2007-2012, employment in all high end manufacturing activities declined.

Figure 2.8 High and Medium-High Technology Intensive Manufacturing Employment



Source: Analysis by FÁS (SLMRU) based on CSO data[21]

[21] The chemical sector was not depicted due to relatively low numbers employed in this segment and being a subject to sampling errors - the estimates based on relatively low numbers may be useful but they should be interpreted carefully taking into account the likely standard errors associated with them.

Construction

In quarter 4 2012, the construction sector employed 103,000 persons, accounting for 5.5% of national employment. Between quarter 4 2011 and quarter 4 2012, employment contracted by 4.3%, which is significantly lower than in preceding years. Over this period, there were 4,500 net jobs lost, with employment in civil engineering contracting most (by almost 25%).

Between 2007 and 2012, the sector contracted at an annualised rate of almost 18%, mostly due to the dramatic decline in the construction of buildings.

Agriculture

There were approximately 90,000 persons engaged in agriculture in quarter 4 2012, accounting for 4.5 % of total national employment. Most employment was concentrated in crop and animal production.

Between quarter 4 2011 and quarter 4 2012, agricultural employment expanded by 12%. This is a reversal of the trend observed during the period 2007-2012, during which the sector lost 25,000 net jobs.

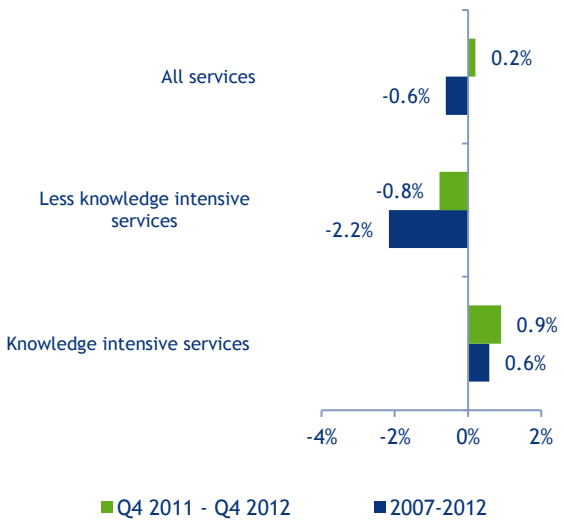
Services

In quarter 4 2012, there were 1.4 million persons engaged in the services sector. In knowledge intensive services (ICT, financial, legal, accounting, engineering, R&D, education, health, and arts), there were 835,500 persons employed; in less knowledge intensive services (wholesale & retail, warehousing & transport, accommodation & food, office administration, real estate, travel, etc), there were 580,000 persons engaged.

Between quarter 4 2011 and quarter 4 2012, employment in knowledge intensive services increased by just below 1%, translating into an additional 7,500 net jobs. Over the same period, the less knowledge intensive services contracted by almost 1%.

Between 2007 and 2012, employment in knowledge intensive services increased by an annualised rate of 0.6% (adding a net 24,000 jobs), while the less knowledge intensive services contracted by 2.2% (67,000).

Figure 2.9 Services Sector Employment Growth by Knowledge Intensity



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

Wholesale and Retail Trade

There were approximately 273,500 persons engaged in the wholesale and retail sector in quarter 4 2012. Of these, 181,800 persons were in the retail trade, 57,000 in wholesale, and 34,500 in the motor trade. In total, the sector accounted for 15% of total national employment.

Over the period quarter 4 2011 – quarter 4 2012, employment expanded by 1%, owing to the expansion in the wholesale trade, although both the motor and retail trades contracted.

Over the period 2007-2012, total employment in the sector contracted by an annualised rate of 2.4%, with 35,500 fewer persons employed. The highest rate of decline (4% per annum) occurred in motor trade.

Accommodation and Food Services

In quarter 4 2012, there were 118,300 persons employed in accommodation and food services.

Between quarter 4 2011 and quarter 4 2012, employment contracted by 1.3%; there was a 2.9% decline in food services but a 1.4% increase in accommodation services.

Between 2007 and 2012, employment declined by an annualised rate of 2.3%, translating into 15,000 fewer persons engaged.

Professional, Scientific and Technical Activities

In quarter 4 2012, there were 102,200 persons employed in professional, scientific and technical activities.

Between quarter 4 2011 and quarter 4 2012, the sector expanded by just above 6% (6,000 net jobs). With the exception of advertising & marketing research, all segments of the sector expanded. The expansion was relatively strong in legal & accounting services, scientific R&D, activities of head offices & management consultancy activities, and veterinary services.

Financial, Insurance and Real Estate Services

In quarter 4 2012, there were 102,800 persons employed in financial, insurance and real estate services. The financial services segment was the largest with 67,000 persons engaged.

Between quarter 4 2011 and quarter 4 2012, overall employment contracted by 1.3%, although it remained almost unchanged for financial services.

There was very little change in the numbers employed over the period 2007-2012.

Transportation and Storage

Employment in transportation and storage related activities was 89,000 in quarter 4 2012. There were approximately 46,500 persons in land transport, about 9,700 in air transport, 13,800 in warehousing and support activities, and 17,400 in postal and courier activities.

Between quarter 4 2011 and quarter 4 2012, employment contracted by 4%, translating into 3,700 fewer persons engaged. With the exception of air transport, employment contracted in all segments.

Over the period 2007-2012 the sector contracted at an annualised rate of 1%.

Information and Communications (ICT)

In quarter 4 2012, there were 83,200 persons employed in the ICT sector.

Between quarter 4 2011 and quarter 4 2012, employment increased by 7%. Computer programming, consulting and related activities and information service activities expanded by 18%; in contrast employment declined in telecommunications (5%) and in broadcasting activities and motion pictures, video & television programme production, and sound recording & music publishing.

Over the period 2007-2012, the ICT sector expanded at an annualised rate of 3.1%, adding in excess of 11,000 jobs.

Administrative and Support Service Activities

In quarter 4 2012, there were 63,200 persons employed in administrative and support services.

Between quarter 4 2011 and quarter 4 2012, employment contracted by just above 3% (2,000), owing largely to the decline (7.5%) in services to buildings and landscape activities. In contrast, there was a marginal increase in employment in travel agency, tour operated and other reservation services and in security and investigation activities.

Over the period 2007 – 2012, employment in this sector contracted by an annualised rate of 4.3%, which resulted in 15,700 fewer jobs.

During this period, all segments of the sector declined, with other property related activities (such as renting and leasing) decreasing at an annualised rate of 12%.

Other NACE activities

In quarter 4 2012, employment in other NACE activities (e.g. personal services, sport, and recreation activities) was 96,200, which is almost unchanged when compared to quarter 4 2011, as well as compared to the levels recorded five years previously.

Health

In quarter 4 2012, there were almost a quarter of a million persons employed in the health sector.

Between quarter 4 2011 and quarter 4 2012, employment increased by 1.2%. Employment in human health related activities remained unchanged; it declined in residential care activities, and increased in social work related activities.

Over the period 2007-2012, employment expanded by an annualised rate of 2.4%, adding approximately 27,500 jobs.

Education

In quarter 4 2012, there were 145,300 persons employed in the education sector.

Between quarter 4 2011 and quarter 4 2012, employment grew by 0.6%, which is in line with the five-year annualised growth rate for this sector (2007-2012).

Public Administration and Defence (PAD)

In quarter 4 2012, there were 96,000 employed in PAD. Between quarter 4 2011 and quarter 4 2012, employment contracted by 6.2%, translating into 6,500 net job losses. Over the period 2007-2012, employment declined by annualised rate of just over 1%.

2.1.2 Economic outlook by sector

Wider Context and Economic Outlook

During 2012, there was a slowdown in economic growth internationally. The Euro Area GDP contracted by 0.5%, with declines of a similar magnitude expected for 2013.[22] [23] World trade growth also slowed sharply, falling from 5.2% in 2011 to 2.0% in 2012. While the rate of growth is expected to increase to 3.3% in 2013, this is still considered to be relatively low.[24]

Domestic Context and Outlook

In 2012, GNP and GDP increased by 3.4% and 0.9% respectively.[25] The forecasts for 2013 are for GNP growth of 0.6% and GDP growth of 1.2%, with further improvements forecast for 2014 (Figure 2.10).

[22] The Euro area economy is expected to decline by 0.3% (IMF World Economic Outlook Update (January, 2012 and April, 2012).

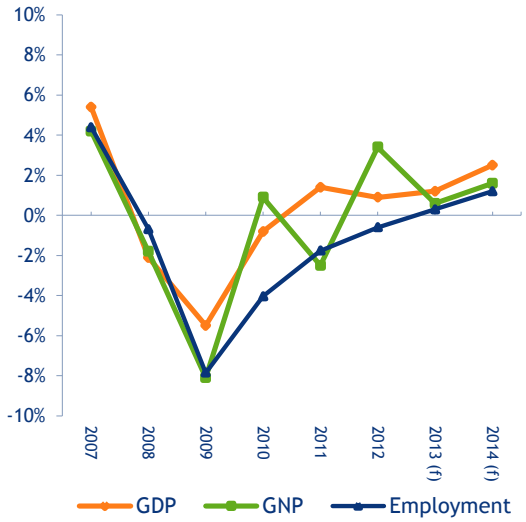
[23] Economic Assessment of the Euro Area: Winter 2012/2013. February 2013; URL: http://www.euroframe.org

[24] The WTO anticipates that the trade growth this year will remain well below the average growth rate of 5.3% observed over the last two decades. The sharp slow-down in global trade in 2012 was attributed to slow growth in developed economies. Source: World Trade Organisation (WTO) Secretariat).

[25] While Gross Domestic Product (GDP) does represent the output (goods and services) of the country, it does not account for the Net Factor Income from the rest of the world - NFI is the difference between investment income (interest, profits etc.,) and labour income earned abroad by Irish resident persons and companies (inflows) and similar incomes earned in Ireland by non-residents (outflows). The difference between the two measures arises in the main because NFI is negative; income flows to non-residents, especially profits and dividends of foreign direct investment enterprises based in Ireland have become increasingly volatile.

Planned fiscal adjustments pose a risk to short-medium term growth. It is estimated that the negative impact of fiscal consolidation over the period 2012-2014 will be of the order of 6.2% of GDP.[26]

Figure 2.10 Economic Growth and Employment, Annual Change, 2007-2014



Source: CSO Quarterly National Accounts; Central Bank of Ireland, Quarterly Bulletin April 2012(for 2013 and 2014 estimates); SLMRU (FÁS) analysis of CSO data[27]

The main issues of relevance for the domestic outlook of a small open economy such as that of Ireland's continue to be foreign direct investment (FDI) and competitiveness. Ireland has attracted a significant amount of high value FDI in the last decade, and continues to do so.[28] In 2012, Ireland performed better than other European countries and increased its market share of FDI in Europe, thanks to strong growth in repeat investments by existing investors, especially from the US, as well as a considerable number of new to Ireland companies.[29] The net job creation by IDA clients of 6,570 was better than in 2011 and represents the highest level in a decade.

Labour cost competitiveness, a key factor for export led growth and return to strong growth in general, improved over the period 2009-2012. In addition, further declines in labour costs are expected in the short term, not least because wage growth remains at a lower level than elsewhere in the Euro area, meaning that labour cost competitiveness will continue to improve.[30]

However, it is estimated that over half of the recent improvement in Ireland's cost competitiveness is accounted for by favourable exchange rate movements. The relative decline of labour intensive sectors, such as construction, also overstates the improvement in competitiveness.[31]

Whereas so far the main focus tended to be on improving cost competitiveness in manufacturing, broader competitiveness is set to be more relevant given the increasing importance of services sector (especially tradable services) for returning to economic growth.

[26] Refers to a cumulative impact of a fiscal consolidation programme, as a percentage of ex-ante GDP. Source: Economic assessment of the Euro Area, Euroframe.org

[27] CSO Quarterly National Accounts Quarter 4 2012 and Year 2012 (Preliminary) March 2013; Based on Gross Value Added at Constant Factor Cost by Sector of Origin and Gross National Income at Constant Market Prices (Chain linked annually and referenced to year 2010); Note: data refers to year-on-year percentage change; GDP & GNP figures are based on constant market prices;2012-2013 is forecasted change (Source: Central Bank of Ireland).

[28] The fDi report 2013: Global greenfield investment trends. fDI intelligence, The Financial Times. April 2013.

[29] It is estimated that 40% of investments in 2012 were made by companies coming to Ireland for the first time. Source: IDA Ireland (End of year Statement 2012) and Department of Jobs, Enterprise and Innovations.

[30] Refers to both economy wide unit labour cost and real unit labour costs; Source: European Commission, Spring Forecast. URL: http://ec.europa.eu/economy_finance/eu/forecasts/2013_spring/ie_en.pdf.

[31] Forfas. 2013. The Costs of Doing Business in Ireland 2012.

In 2012, there was a reversal in improvements in cost competitiveness of professional and business services, as measured by the Services Producer Price Index (SPPI). While in 2011 the cost of most of these services dropped back to the 2006 level, in quarter 3 2012 they were on average 2.0% higher when compared with quarter 3 2011.[32] In addition, some service costs, such as legal service, remain high.

Industry: Manufacturing

After a relatively strong performance in 2010, the sector slowed considerably in 2011, and the sectoral output growth turned negative in 2012. The most recent indicators suggest that, after growing in quarter 1 2013, manufacturing activity contracted in April and May. This decline is attributed to the weakening demand domestically, as well as to declining new export orders, despite some signs of the industry securing new clients in Asian markets.[33]

Given the considerable presence of multi-national companies (MNCs) in the sector, issues such as global positioning, restructuring and productivity enhancements are likely to be prioritised. The sector has opportunities to expand, most notably in food, medical devices, and some segments of the machining & engineering industry. There are also opportunities in biopharma-pharmachem, despite the challenges facing this sector (e.g. expiry of patents, considerable front-loaded R&D costs that need to be recuperated over the increasingly shorter product life-span, and global over-capacity).

It is estimated that, under favourable global conditions and subject to other factors such as competitiveness, access to finance, support for indigenous start-ups, uptake and diffusion of ICTs and implementation of lean production methods, the sector can create up to 20,000 additional jobs in the medium term (to 2016) and possibly double that in the long term (to 2020).[34]

Industry: Utilities and Extraction

Within the utility and extraction segment, most relevant issues continue to be on-going and planned developments of a range of large infrastructure projects necessary for meeting policy targets set for renewable energy (e.g. renewable energy generation, especially expansion of wind-based energy, and electrical grid expansion & modernisation), and other general infrastructure improvements.[35,36]

[32] The [experimental] Services Producer Price Index (SPPI) captures transaction costs from business to business, measuring changes in the average prices charged by domestic service producers to other businesses for a selected range of services; CSO 2013.

[33] Purchasing Managers' Index (PMI) - The seasonally adjusted NCB Purchasing Managers' Index (PMI) - an indicator providing a single-measure of the health of the manufacturing industry - fell to 48.0 in April, down from 48.6 in March indicating successive worsening of business conditions in the Irish manufacturing sector.

[34] Forfas (2013). Making it in Ireland: Manufacturing 2020; Forfas (2013). Future Skills Requirements in manufacturing; Government of Ireland (2013) Action Plan for Jobs 2012.

[35] Forfás (2010) Future Skills Needs of Enterprise within the Green Economy; Government of Ireland (2008) Building Ireland's Smart Economy: A Framework to Sustainable Economic Renewal ; The EU Directive 2009/28/EC

[36] IWEA (2012) Export Policy: A renewables development policy framework for Ireland.

Construction

The construction sector remained weak, although the pace of output decline slowed in 2012 and at just under -4.9% in value terms and -7.8% in volume terms, it was in single digits for the first time since 2008.[37]

The most recent figures point towards further deterioration, especially with regard to new business.[38] The short and medium term outlook for the sector is set to remain challenging since the main indicators point towards an absence of recovery in the short to medium term, despite some investment in social infrastructure (school buildings and refurbishment) and the grants-based Retrofit programme for private homes and forthcoming initiatives such as the Energy Efficiency Fund.[39]

Agriculture

Following a relatively good performance in 2011, the sectoral output declined by 10% in 2012.[40] However, the agricultural output price index increased by 2.3% in March 2013,[41] consistent with recent upward movements globally, indicating that international prices of food commodities are only 9% below the peak level, which was reached in 2011.

The targets for the sector under the Food Harvest 2020 strategy remain relevant, although issues, such as inclement weather, demonstrated the constraints it faces in its plans to reach exports of €12 billion by 2020.[42, 43]

Wholesale and Retail

The retail sector continued to decline into 2013. Between January 2012 and January 2013, the volume of retail sales decreased by 1.2%.[44] Given that household incomes will continue to remain adversely affected by the further austerity measures, the outlook for the retail sector is set to remain challenging, as reflected by consumer sentiment.[45]

The rise of the digital consumer remains a relevant issue for the sector. It is estimated that 2.6 million Irish online shoppers spent €3.7bn in 2012 (this amount is expected to reach almost 6 billion by 2016) with the items sold by the retail sector accounting for a considerable proportion of the online spending.[46]

Healthcare

Employment prospects will continue to be limited in the short-to-medium term given the financial constrains affecting public funded healthcare. Collaboration with the enterprise

[37] Based on the CSO Seasonally Adjusted Indices of Production in all Building and Construction; Production in Building and Construction.
Quarter 4 2012 (Provisional) Quarter 3 2012 (Final). The Production in Building and Construction Index monitors trends in the value and volume of production, based on a sample survey of approximately 2,000 private firms operating in the building, construction and civil engineering sector.

[38] Based on Construction Purchasing Managers' Indexes (PMI) Report (RoI, January, February, March, and April, 2013); PMIs are monthly surveys of selected companies which provide an indication of activity in the private sector economy by tracking variables such as output, new orders, employment and prices, across different sectors.

[39] The Government has committed €35 million to set up the National Energy Efficiency Fund, aiming to augment it with matched investments from the private sector and to ultimately finance energy efficiency projects in public and commercial sectors. Source: Sustainable Energy Authority of Ireland, URL: http://www.seai.ie.

[40] CSO, National Accounts 2012.

[41] CSO Agricultural Price Indices, Statbank.

[42] Department of Agriculture and Fisheries, Food Harvest 2020: A vision for Irish agri-food and fisheries.

[43] Food and Agriculture Organisation of the United Nations (FAO) Food Price Index is a measure of the monthly change in international prices of a basket of food commodities. (http://www.fao.org)

[44] CSO, Retail Sales Index, February 2013

[45] Consumer sentiment (as measured / tracked by the KBC Ireland/ESRI Consumer Sentiment Index fell from 64.2 in January to 59.4 in February 2013) consumer spending is likely to contract in 2013 as the impact of the Budget 2013 tax rises and spending cuts hit household disposable incomes.

[46] Assuming that Ireland approximates the UK in terms of online spending pattern development - forecasts by the Economist Intelligence Unit suggesting that a third of retail sales could be online in the UK by 2022 - EIU Retail 2022: http://www.eiu.com.

sector in the development of new healthcare technologies, products, and services remains relevant in term of employment opportunities in the medium term.[47]

Accommodation and Food Services

The sector has been identified as important in terms of employment potential given its relatively high labour intensity and its use of domestically produced goods and services.[48]

There are indications that the accommodation sector made some improvements in terms of visitor volumes and capacity usage. In addition, the industry sentiment is turning positive for 2013, with an expectation of increased visitor numbers on the back of the 'The Gathering' initiative.

A number of policy initiatives have already been introduced to support the sector. These include a reduction in VAT on tourism related goods and services, the removal of air travel tax, a reduction of employers' PRSI for low paid workers, and an easing of some travel restrictions for short stay visitors.[49]

Professional, scientific and technical activities

The employment outlook for the sector remains uneven. While the opportunities are set to remain relatively poor for architectural and related services, they remain favourable in segments such as accounting services and scientific R&D. Albeit still relatively a small segment of the sector in terms of the number in employment, scientific R&D is estimated to have expanded considerably in 2012.

Financial, Insurance and Real Estate

The banking sector has continued to experience job losses, as many as 10,000 over the last four years, partly as a result of on-going retail bank branch closures.[50] Further contraction is likely as, by international standards, the Irish banking system remains large for the size of the domestic economy.[51, 52]

The insurance segment is undergoing a similar consolidation and restructuring pattern, albeit, until very recently, with relatively lower adverse impact on employment.

Employment prospects in real estate activities are expected to remain severely curtailed.

Ireland's ability to attract labour intensive financial services through FDI, such as those in 2012 (e.g. PayPal), will play an important role in employment growth in this sector.

Information and Communication Technology

The sectoral prospects remain favourable. Globally, while the most recent indicators suggest that IT spending was somewhat below expectations in the second half of 2012 and first quarter of 2013[53] it is nevertheless set to grow by almost 5% above the level recorded in 2012. Domestically, the technology sector continues to attract investments from venture

[47] The Health Innovation Hub initiative, as envisaged by the 2012 Action Plan for Jobs.
[48] The sector has a high gross multiplier and a high wages multiplier (CSO (2009), 2005 Supply and Use and Input-Output Tables).
[49] The measure took effect from 1st July 2011; Job Initiative, May 2011, Department of Finance

[50] Irish Bank Officials Association estimates
[51] Central bank of Ireland, 2013
[52] Financial Measures Programme ('FMP') – the Central Bank of Ireland's obligation under the agreement between the European Commission, European Central Bank and the International Monetary Fund
[53] International Data Corporation (IDC)

capital projects and to benefit from Government's support for high-tech start-ups.

Opportunities are set to continue to emerge in computer programming, consultancy and related activities and information service activities. Expansion is expected to occur in the following:

- services associated with cloud computing, cloud services, and cloud brokerage[54]
- Customer service management (CSM)/customer relationship management (CRM) services.

In addition, the area of "big data" and data analytics is set to become important in the short to medium term. For many organisations, the sheer quantity of data generated exceeds their capacity to analyse and store it. The Irish Government is making an initial €1m investment in CeADAR (the Centre for Applied Data Analytics Research) to leverage the high-growth area that is data analytics and its potential to create jobs. In addition DIT, UCD and UCC have collaborated to establish the Technology Centre in Data Analytics.

Employment opportunities in other segments of the sector, especially in publishing, programming and broadcasting activities are set to be limited in the short term.

Opportunities in the telecommunications sub-sector will depend on investment in advanced broadband infrastructure and services such as next generation networks (NGN).[55]

The 'internet economy' accounted for approximately 3% of Irish GDP in 2012, with projections for this share to double to 6% over the period 2012-2016. The associated job creation potential is estimated to be in the region of 18,000, assuming the digitisation of the economy and society proceeds along the lines of the digitisation occurring in the UK and Scandinavian countries.[56]

[54] While cloud services might have some "cannibalising" effect on some commercial IT software services, the net impact is set to be positive.

[55] Forfás and the National Competitiveness Council have identified the roll out of high speed broadband as the top infrastructure priority for enterprise. The National Competitiveness Council (NCC), Ireland's Competitiveness Challenge 2011

[56] Amorach, based on Boston Consulting Group's analysis of and forecasts for the Internet Economy; URL: BCG: https://www.bcgperspectives.com

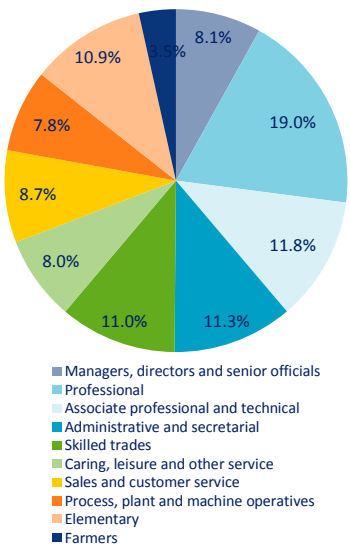
Section 3 Employment by Broad Occupation

3.1 Employment

Employment by broad occupational group is presented in Figure 3.1. In 2012, the share of 'white collar' occupations (managers, professionals, associate professionals and clerks) accounted for one in every two jobs. Over three per cent of employed persons were farmers. Skilled trades and elementary occupations accounted for 11% each, with the rest of employment distributed almost equally between caring, sales and operative occupations (each accounting approximately 8%).

Between quarter 4 2011 and quarter 4 2012, the occupational distribution of employment remained relatively unchanged. The share of skilled tradesmen and operatives continued to decline (by less than one percentage point each). The share of elementary occupations remained almost stagnant, while the share of 'white collar' employment increased marginally.

Figure 3.1 Employment by Broad Occupational Group (%), 2012



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

Figure 3.2 presents employment levels by occupational group. In quarter 4 2012, at almost 350,000, the highest level of employment was in professional occupations. Associate professional, administrative, skilled trades and elementary occupations accounted for approximately 200,000 each. There were approximately 150,000 salespersons, services workers, operatives and managers.

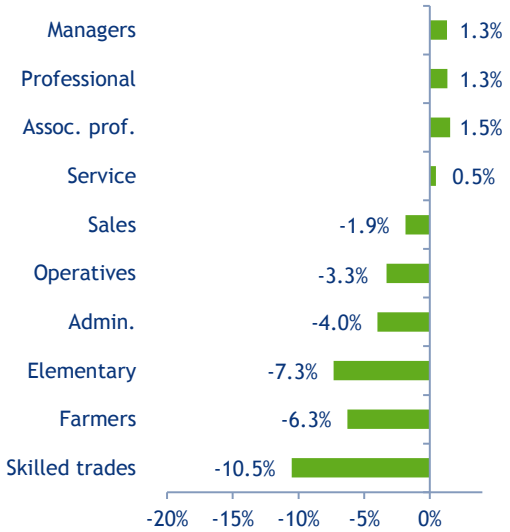
Figure 3.2 Employment by Broad Occupational Group (000s), 2012

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

3.2 Employment Growth

The employment growth in broad occupational groups is presented in Figure 3.3. Between 2007 and 2012, employment increased for managers, associate professionals and professionals; it remained almost unchanged for caring and other service occupations, while it declined for all other occupations.

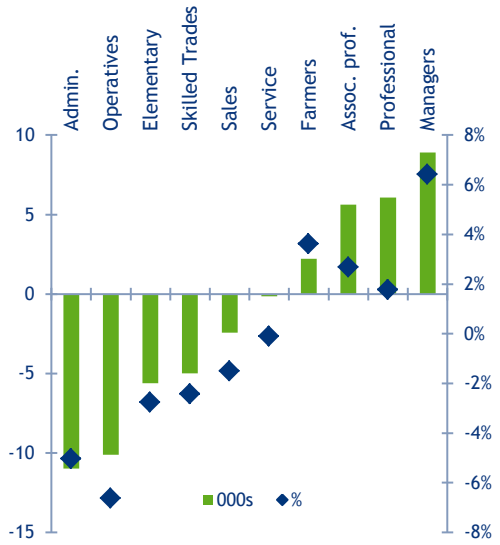
Figure 3.3 Annualised Employment Growth by Broad Occupational Group, 2007-2012



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

Figure 3.4 presents the employment growth by broad occupational group in both absolute and relative terms. Between 2011 and 2012, employment in the higher skilled occupations increased, with the number of managers growing by 6%, followed by associate professionals (3%) and professionals (2%). The greatest decline, in absolute and relative terms, was recorded for administrative occupations and operatives. Contrary to the decline in the previous year, the number of farmers grew by 4%.

Figure 3.4 Employment Growth by Broad Occupational Group, Annualised Data, 2011-2012



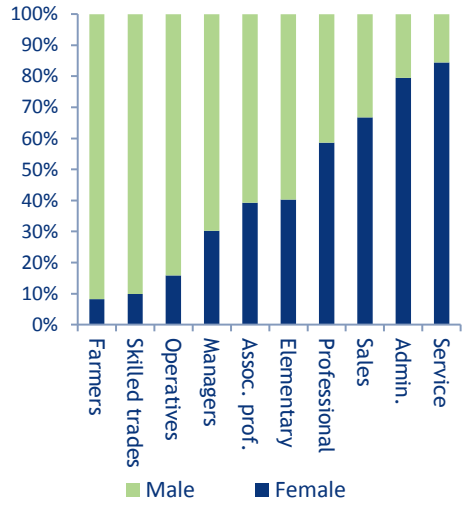
Source: Analysis by FÁS (SLMRU) based on CSO data

3.3 Employment by Gender

The distribution of employment by gender in broad occupational groups is presented in Figure 3.5. Males outnumbered females in the skilled trades and operative occupations, with less than 16% of women working in these occupations. The services and administrative occupations had the highest concentration of women, where three out of every four employees were female. Broadly in line with previous years, the share of male managers (70%) was higher than that of female managers (30%). Farming remained predominantly a male occupation.

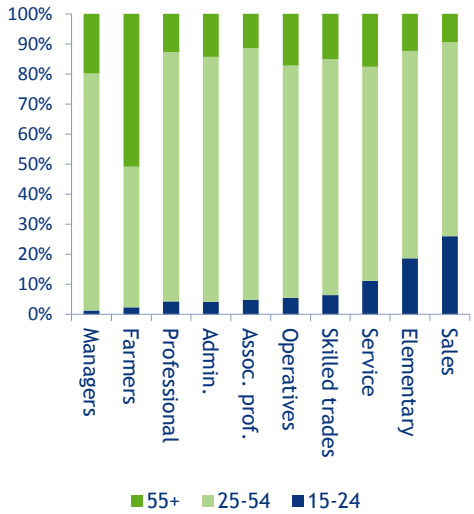
Between quarter 4 2011 and quarter 4 2012, female managers gained three percentage points, while the share of female professionals continued to grow (by one percentage point).

Figure 3.5 Employment by Gender and Broad Occupational Group (%), Quarter 4 2012



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

Figure 3.6 Employment by Age and Broad Occupational Group (%), Quarter 4 2012



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

3.4 Employment by Age

Figure 3.6 presents the distribution of employment by age and broad occupation. In quarter 4 2012, with the exception of farmers, the majority of employment in all occupational groups was in the 25-54 age cohort. The share of younger persons (aged 15-24) was the highest for sales and elementary occupations. Less than 1% of managers were aged 24 or younger.

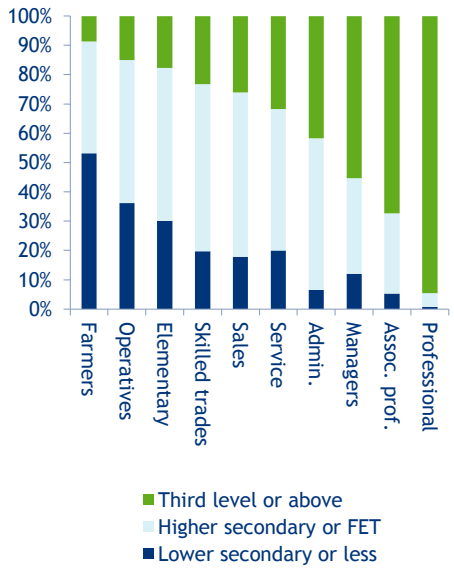
Between quarter 4 2011 and quarter 4 2012, the share of employment in the 15-24 age cohort continued to decline for almost all occupational groups. The greatest decline was experienced for sales occupations (4%), while there were marginal increases for both elementary and operative occupations. The continued decline in the share of employment for the 15-24 age category suggest that young people have been disproportionately affected by the economic crisis.

3.5 Employment by Education

The education distribution of employment by broad occupational group is presented in Figure 3.7. In quarter 4 2012, the highest share of third level graduates was observed for professional occupations (95%), followed by associate professionals (67%) and managerial occupations (55%). The greatest share of persons with lower secondary education or less qualifications, was for occupations with high unemployment rates i.e. operative (36%) and elementary (30%) occupations. Farmers had the highest share of early school leavers.

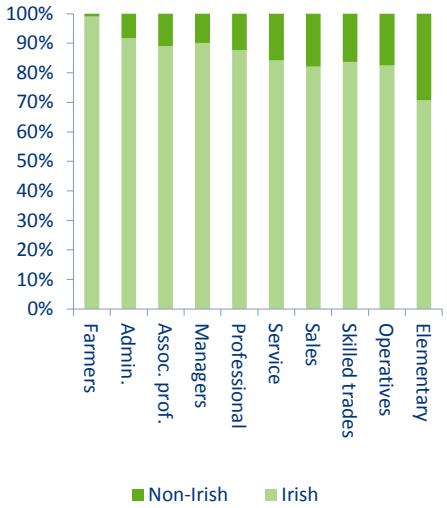
Between quarter 4 2011 and quarter 4 2012, the share of third level graduates increased in half of the occupational groups; elementary occupations observed the greatest increase (two percentage points). The share of early school leavers in elementary and operative occupations observed the greatest decline (three and five percentage points respectively).

Figure 3.7 Employment by Education and Broad Occupational Group (%), Quarter 4 2012



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

Figure 3.8 Employment by Nationality and Broad Occupational Group (%), Quarter 4 2012



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

3.6 Employment by Nationality

Figure 3.8 presents the distribution of employment by nationality in broad occupational groups. In quarter 4 2012, farmers had the lowest share of non-Irish nationals, at just 1%. There was a higher concentration of non-Irish nationals in the lower skilled occupations such as elementary (29%), operatives (17%) and sales occupations (18%). The occupations with the lowest share of non-Irish nationals continued to be in the managerial, administrative and associate professional occupations.

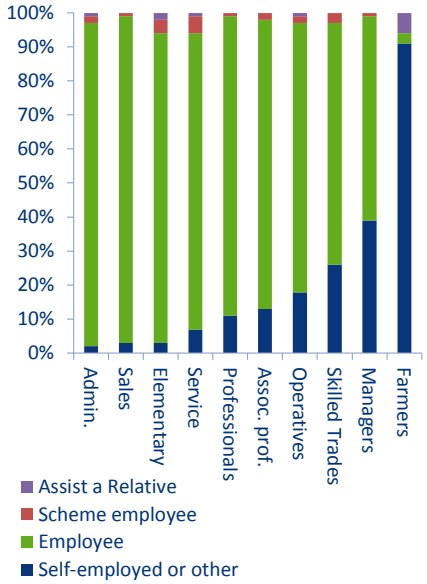
Between quarter 4 2011 and quarter 4 2012, the share of Irish nationals and non-Irish nationals remained relatively unchanged for almost all occupations. The greatest decline in the share of non-Irish nationals was for operatives (four percentage points), while the share increased for administrative and sales occupations (two percentage points each).

3.7 Employment Status

Employment in broad occupational groups by employment status is presented in Figure 3.9. In quarter 4 2012, the greatest share of persons in employment across all occupational groups were employees. The administrative and sales occupations had the highest share of employees (95% and 96% respectively). Farmers were predominantly self-employed followed by managers (39%) and skilled trades (26%). The highest share of self-employed amongst managers is due to the inclusion of proprietors (e.g. shop owners, publicans etc.) in this category. Farmers also had the greatest number of those assisting a relative.

Between quarter 4 2011 and quarter 4 2012, the share of self-employed declined or remained stagnant in almost all occupations, with the exception of managers and operatives where it increased (three and one percentage point respectively). Contrary to last year's decline, the share of self-employed skilled trades remained stagnant.

Figure 3.9 Employment by Employment Status and Broad Occupational Group (%), Quarter 4 2012



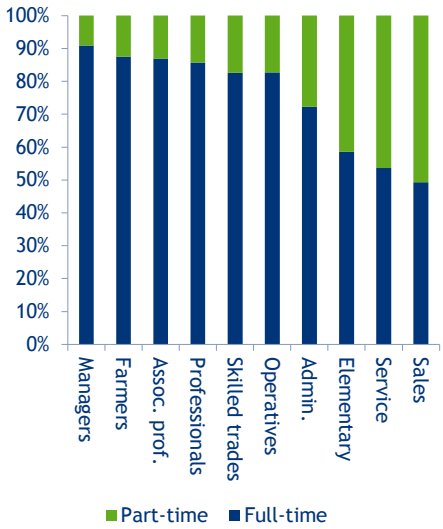
Source: Analysis by FÁS (SLMRU) based on CSO data

Note: The scheme employee refers to employees on community employment schemes (CES) and other employment schemes (e.g. Job Bridge and Work Placement) based on the CSO's standard employment status classification.

Figure 3.10 presents employment in broad occupational groups by full time and part time work. In quarter 4 2012, the majority of persons in employment in all occupations worked full time. The prevalence of part time work was the highest for sales and service occupations. In contrast the majority of managers worked full time.

Between quarter 4 2011 and quarter 4 2012, the share of part-time workers increased for half of all the occupations. The largest decline in the share of full time workers was for the service occupations (four percentage points), operatives and skilled trades (three percentage points each) and sales occupations (two percentage points). In contrast the share of full time administrative workers and farmers increased by less than two percentage points respectively.

Figure 3.10 Full-Time and Part-Time Employment by Broad Occupational Group (%), Quarter 4 2012



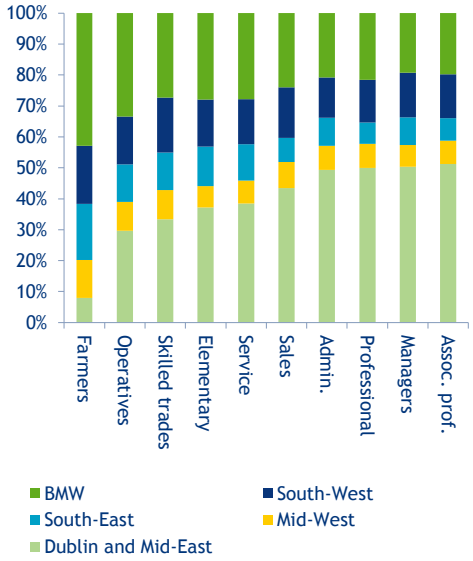
Source: Analysis by FÁS (SLMRU) based on CSO data

3.8 Employment by Region[57]

Presented in Figure 3.11 is the regional distribution of employment in broad occupational groups. In quarter 4 2012, the Dublin and Mid-East region accounted for approximately 50% of employment in the professional, managerial and associate professional occupations. The share of administration and sales jobs were also concentrated in the same region. As in quarter 4 2011, the Border, Midland and West Region continued to have the highest share of farmers (43%), by far the highest share of famers relative to any other region.

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

Figure 3.11 Employment by Region and Broad Occupational Group (%), Quarter 4 2012



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

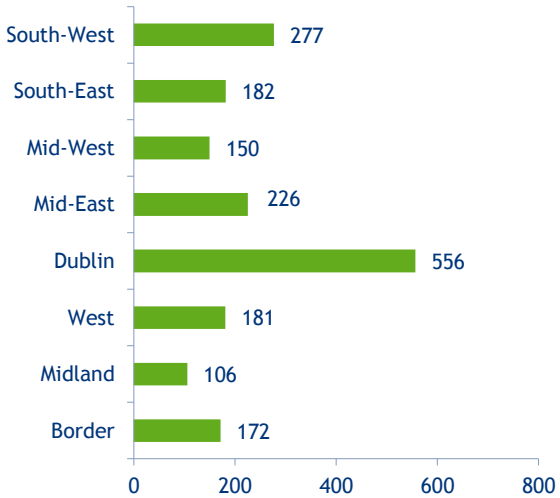
Between quarter 4 2011 and quarter 4 2012, the distribution of employment across the regions remained broadly similar. The greatest decrease in the share of regional employment share was observed for the elementary occupations (three percentage points) in Dublin and the Mid-East, while the greatest increase was in the South-East (three percentage points). The share of managers in the BMW region and the Dublin and Mid-East region increased (one percentage point respectively). The share of skilled tradesmen in Dublin and the Mid- East declined by two percentage points, however it increased by two percentage points in the South-West.

Section 4 Regional Skills Profiles

4.1 Employment Growth

Employment levels in Ireland's eight NUTS3 regions are presented in Figure 4.1. In quarter 4 2012, approximately 556,000 employed persons were located in the Dublin region, accounting for 30% of total national employment. Combined, Dublin and the Mid-East made up 42% of total employment. In absolute terms, the employment level was lowest in the Midland region (just over 100,000).

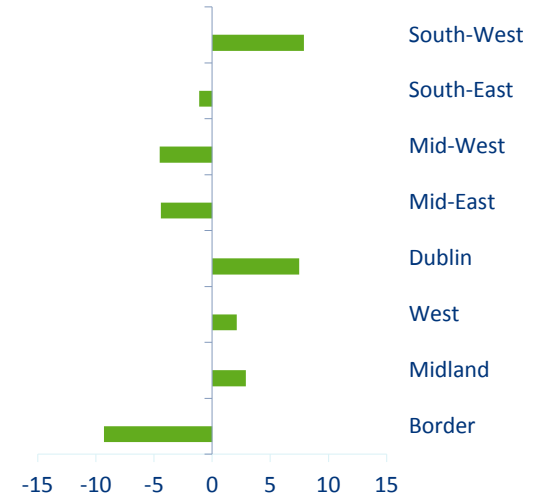
Figure 4.1 Employment by Region (000s), Quarter 4 2012



Source: CSO

Between quarter 4 2011 and quarter 4 2012, employment increased in Dublin, the South-West, Midlands and West, reversing the direction of employment change in these regions compared to the previous year (Figure 4.2). However, employment declined in all other regions, which was a reverse for the Mid-East and Mid-West regions, where employment had increased the previous year. The greatest absolute decline in employment was recorded in the Border region, while the greatest increases were in Dublin and the South-West.

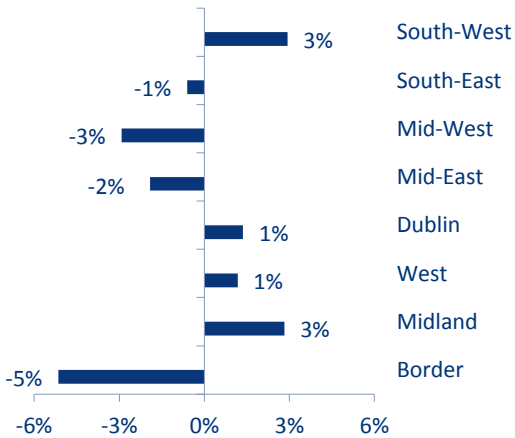
Figure 4.2 Employment Change by Region (000s), Quarter 4 2011 - Quarter 4 2012



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

In relative terms, the greatest decline was also recorded in the Border region, where employment contracted by 5% (Figure 4.3). The greatest employment growth was in the South-West and Midland regions.

Figure 4.3 Employment Change by Region (%), Quarter 4 2011 - Quarter 4 2012



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

Table 4.1 presents the unemployment level, unemployment change and the unemployment rate for eight regions. Between quarter 4 2011 and quarter 4 2012, unemployment declined in all regions except the Border region. In absolute terms, the greatest decrease in unemployment was recorded in the Dublin region (-12,000).

In quarter 4 2012, the unemployment rate remained in double digits in all regions. The South-East continued to have the highest unemployment rate, at almost 19%. The unemployment rate was also higher than the national average in the Border, Midland, Mid-West and West regions. The risk of unemployment was the lowest in Dublin, the Mid-East and South-West.

Table 4.1 Unemployment (000s), Change in Unemployment (000s) and Unemployment Rates (%) by Region, Quarter 4 2012

	Q4 2012	Q4 2011-Q4 2012	UE rate	Change in UE rate Q4 2011-Q4 2012
Border	29.1	4.8	16.5	2.6
Midland	23.6	-2.1	16.9	-1.8
West	32.4	-2.0	14.4	-1.0
Dublin	81.7	-11.9	11.1	-1.9
Mid-East	32.7	-(<1)	12.4	0.0
Mid-West	29.1	-1.7	15.4	-0.5
South-East	43.4	-1.3	18.8	-0.4
South-West	41.8	-4.2	11.9	-1.6
Total	313.8	-19.1	13.7	-0.8

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

Compared to quarter 4 2011, the unemployment rate decreased in almost all regions, while it increased by 2.6 percentage points in the Border region.

In quarter 4 2012, the lowest participation rate in the labour market was in the Border region (Table 4.2). With the exceptions of the West and South-West, withdrawal from the labour force continued in most regions during 2012. Between quarter 4 2011 and quarter 4 2012, the greatest decrease in labour market participation was observed in the Mid-West, followed by the Mid-East region.

Table 4.2 Participation Rates by Region, Quarter 4 2011 and Quarter 4 2012

	Q4 2011	Q 4 2012	Percentage point change
Border	52.9	52.4	-0.5
Midland	58.0	57.8	-0.2
West	61.0	61.2	0.2
Dublin	62.2	61.9	-0.3
Mid-East	64.6	62.8	-1.8
Mid-West	61.6	59.6	-2.0
South-East	58.0	57.2	-0.8
South-West	59.2	59.5	0.3
Total	60.1	59.6	-0.5

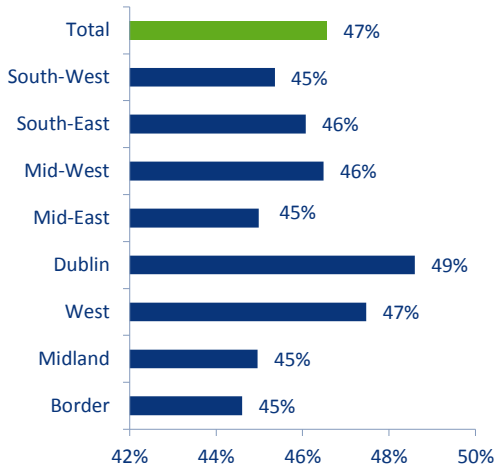
Source: Analysis by FÁS (SLMRU) based on CSO data

4.2 Employment by Gender

Figure 4.4 presents the share of females employed in Ireland and the eight regions. Compared to previous years, the gender distribution remained relatively unchanged, with males accounting for over 50% of employment in each region.

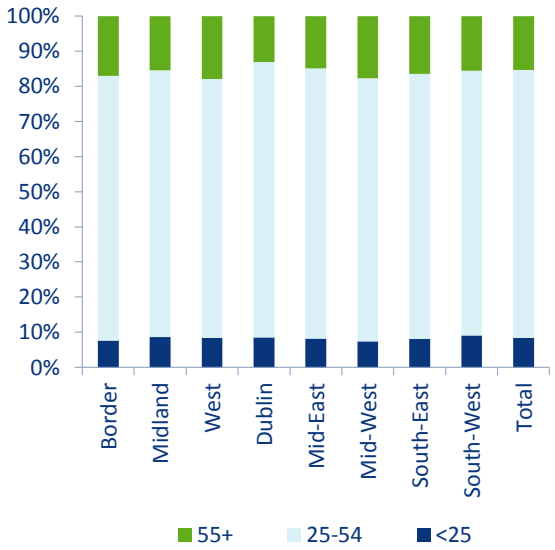
The highest share of females was found in the Dublin region. Moreover, a one percentage point increase between quarter 4 2011 and quarter 4 2012 brought the female share to 49%, almost balancing the gender composition of employment in Dublin.

Figure 4.4 Share of Females in Employment by Region, Quarter 4 2012



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

Figure 4.5 Regional Employment by Age, Quarter 4 2012



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

4.3 Employment by Age

Figure 4.5 presents the age profile of regional employment for quarter 4 2012. As in the preceding year, all regions had similar age distributions, with approximately three quarters of employment in the 25-54 year-old age bracket.

At 18%, the West and Mid-West regions had the highest share of employment in the 55+ age cohort, while Dublin had the lowest, at 13%. At just above 9%, the share of under-25s was highest in the South-West region.

Between quarter 4 2011 and quarter 4 2012, the greatest change in the age composition of employment occurred in the Border region, where the share of under 25s declined by two percentage points.

4.4 Employment by Education

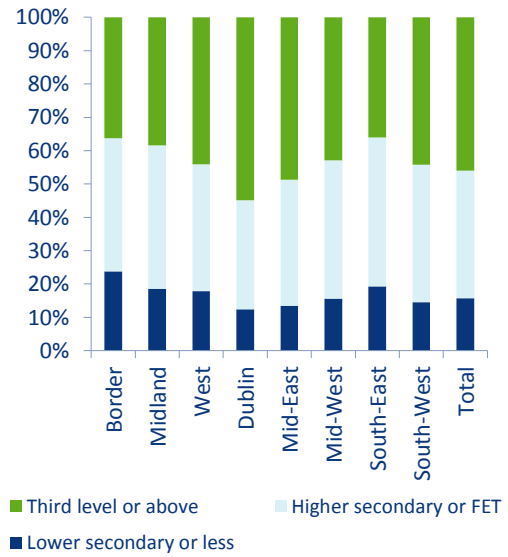
Figure 4.6 presents regional employment by the highest level of education attained. In quarter 4 2012, the highest level of education attainment was recorded for Dublin, where the share of third level graduates was over 50%, while the share of persons holding less than higher secondary level qualifications was the lowest at 12%.

Between quarter 4 2011 and quarter 4 2012, the share of persons holding less than higher secondary qualifications decreased in all regions, except the Border and Mid-East. The share of third level graduates increased in the Midlands, Dublin, Mid-West and South-West, while it declined in all other regions. The largest increase was in the Dublin region (almost five percentage points).

The share of persons holding higher secondary or further education and training (FET) qualifications increased most in South-East

(four percentage points), while it decreased most in Dublin (three percentage points).

Figure 4.6 Regional Employment by Education, Quarter 4 2012



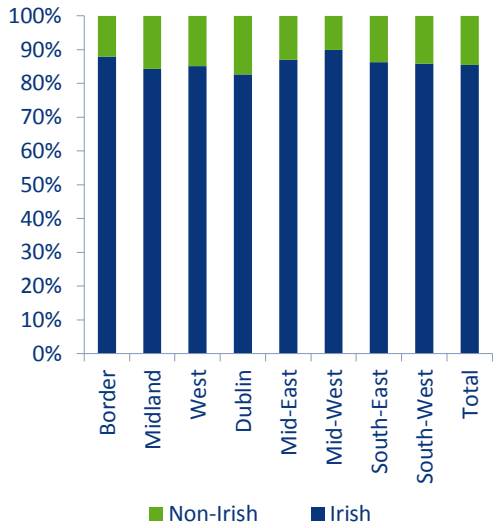
Source: Analysis by FÁS (SLMRU) based on CSO data

4.5 Employment by Nationality

Figure 4.7 presents regional employment by nationality. In quarter 4 2012, the highest share of non-Irish workers was recorded in Dublin (17%); the lowest in the Mid-West (10%).

Between quarter 4 2011 and quarter 4 2012, the share of non-Irish workers declined in the Midland, West, Dublin and South-East regions, while it increased in all others.

Figure 4.7 Regional Employment by Nationality, Quarter 4 2012



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

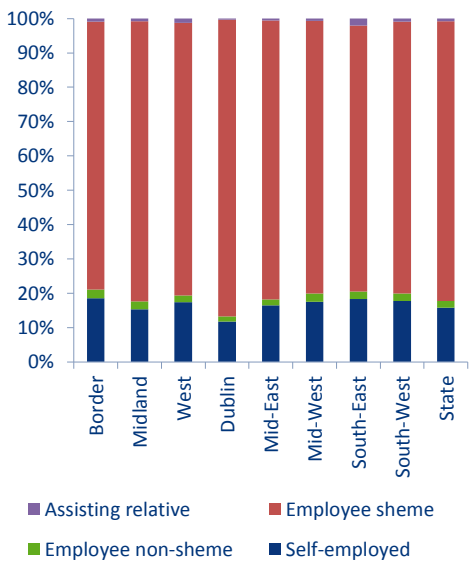
4.6 Employment by Employment Type

Figure 4.8 presents regional employment by employment status. In quarter 4 2012, self-employment accounted for between 10% and 20% of total employment across regions. The highest share of self-employed was in the Border region (19%); the lowest in Dublin (12%). Employment provided through employment schemes accounted for 2% in each region, except the Border where it was 3%. Dublin had the highest share of employees (86%), while the lowest share was in the South-East. However, the share assisting relatives was highest in the South-East region (2%) but almost zero in Dublin.

The employment profile remained very close to that observed a year previously. Between quarter 4 2011 and quarter 4 2012, the share assisting relatives increased in all regions, albeit by a small margin (less than 0.5 percentage points), with the exception of the

South-East, where it increased by one percentage point.

Figure 4.8 Regional Employment by Employment Status, Quarter 4 2012

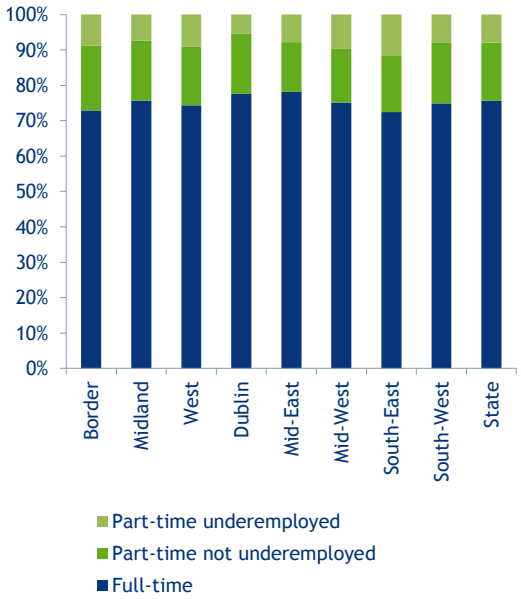


Source: Analysis by FÁS (SLMRU) based on CSO data

Figure 4.9 presents regional employment by employment type. In quarter 4 2012, approximately three quarters of employed persons in each region were working full-time. The highest share of part-time employment was recorded in the South-East, Border and West regions, where over 25% of employment was part-time. The share of part-time workers who were underemployed was highest in the South-East and Mid-West (12% and 10% respectively), while lowest in Dublin (5%).

Between quarter 4 2011 and quarter 4 2012, the employment composition changed very little in each region. The largest shift occurred in the South-East region where the share of full-time employment declined by three percentage points. The largest increase in the share of part-time underemployed persons was recorded for the Mid-East (2.5 percentage points).

Figure 4.9 Regional Employment by Employment Type, Quarter 4 2012



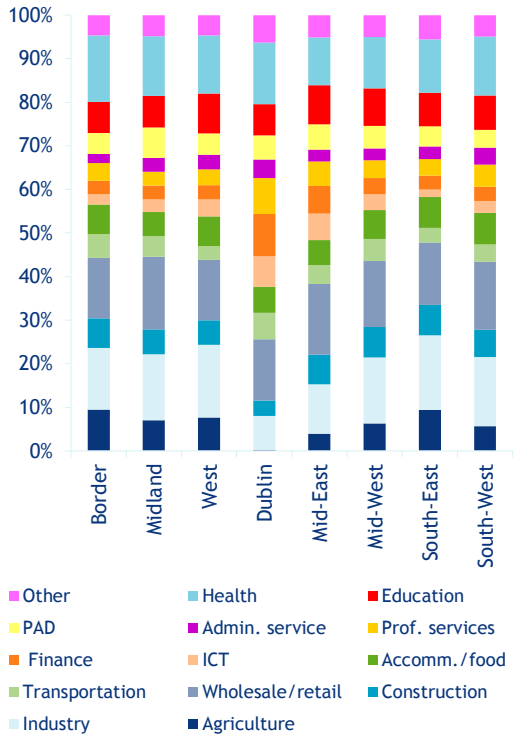
Source: Analysis by FÁS (SLMRU) based on CSO data

4.7 Employment by Sector

Regional employment by sector is presented in Figure 4.10. In quarter 4 2012, public sector employment (Public Administration and Defence (PAD), health and education) accounted for a quarter of employment in each region. Wholesale and retail accounted for approximately 15% of employment in each region, while in all regions outside Dublin and the Mid-East, industry accounted for another 15%+ of employment. High value added activities (ICT, professional services and finance) accounted for a quarter of employment in Dublin, compared to 9% in the Midland and South-East regions. Construction accounted for 6-7% of employment in each region, except Dublin where it had a share of 4%.

Between quarter 4 2011 and quarter 4 2012, the share of employment in high value added activities increased by one percentage point in Dublin, the Mid-East and Border, while it remained relatively unchanged in other regions.

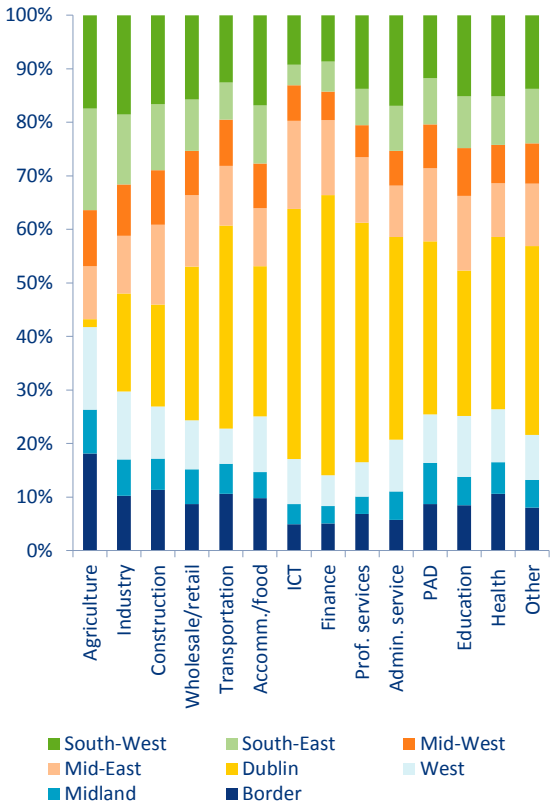
Figure 4.10 Regional Employment by Sector, Quarter 4 2012



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

Figure 4.11 presents sectoral employment by region. In quarter 4 2012, just over 50% of employment in financial services and just under 50% in ICT and professional services was located in Dublin. By contrast, only 1% of agricultural employment was located in Dublin. Almost one in five persons employed in agriculture were located in the South-East, while almost one in five employed in industry were located in the South-West.

Figure 4.11 Sectoral Employment by Regions, Quarter 4 2012



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

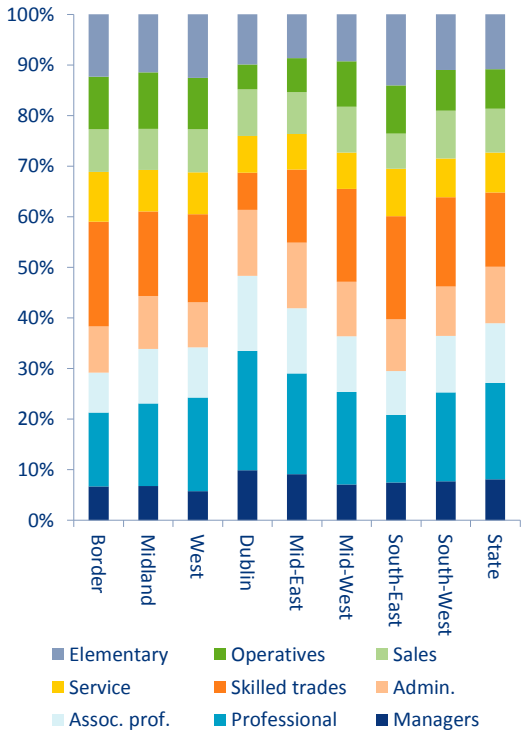
4.8 Employment by Occupation

Figure 4.12 presents regional employment by broad occupational group. In quarter 4 2012, 'white collar' jobs (professional, associate professional, managerial and clerical) accounted for 61% of employment in Dublin, compared to 38% in the Border region. Lower skilled employment (operatives and labourers) accounted for just under a quarter in the South-East, compared to 15% in Dublin and the Mid-East.

Between quarter 4 2011 and quarter 4 2012, the share of 'white collar' employment increased by three percentage points in Dublin and the Mid-West. In the West and South-East, the share of 'white collar' employment decreased by two percentage

points, while the share of operatives and labourers combined increased by the same magnitude.

Figure 4.12 Regional Employment by Occupation, Quarter 4 2012



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

Table 4.3 presents, for each region, the list of occupations that recorded the largest net increase/decline in employment (1,000+) between quarter 4 2011 and quarter 4 2012. For most regions, the number of occupations with net job gains of over 1,000 was greater than the number with net job losses (of over 1,000). Most of the job gains and losses were in lower skilled occupations. Not surprisingly, given the size of its labour market, Dublin recorded the greatest number of occupations with gains and losses of at least 1,000.

Unlike in the years of the downturn when most of the net job losses were in construction related occupations, these occupations do not appear as frequently on list of net losses of over 1,000. On the contrary, net gains for construction labourers were over 1,000 in most regions.

Table 4.3 Occupations with Net Job Gains/Losses Greater than 1,000 by Region, Q4 2011 - Q4 2012

Region	Net job gains >1,000	Net job losses >1,000
Border	Farmers	Storage labourers
	Construction labour.	Personal assistants
		Gov. admin
		Sales assistants
Midland	Construction labour.	
West	Farmers	Admin occupations
	Secondary teachers	
	Construction labour.	
	Storage labourers	
	Kitchen assistants	
	Sales assistants	
Dublin	Nurses	Audio-visual oper.
	Functional managers	Taxi drivers
	Book-keepers	Sales assistants
	Accountants	Packers
	Software developers	Sales related occup.
	Managers in services	Bank clerks
	Human Resources	Personal assistants
	Waiters	Plumbers
	Routine inspectors	Admin occupations
	Sales Executives	
Mid-East	Sales assistants	Sales related occup.
	Educational assistants	Gardí
	Sales Executives	Bank clerks
	Admin occupations	Nurses
	Gov. admin	
	Book-keepers	
Mid-West	Admin occupations	Gov. admin
		Food operatives
South-East	Farmers	Routine operatives
	Construction labour.	Nursing assistants
	Functional managers	LGV Drivers
South-	Construction labour.	Kitchen assistants
	Farmers	
	Admin occupations	
	IT technicians	
	Metal fitters	
	Primary teachers	
	Taxi drivers	

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

Section 5 Education and Training

This section provides an overview of the supply of skills from the education and training system in Ireland across all levels of the National Framework of Qualifications (Appendix A provides details of the awards and level on the Framework). Table 5.1 shows the estimated number of awards made at each NFQ level in 2012 by provider type; Table 5.2 provides the field of learning for each award type. Further education and training awards data in Tables 5.1 and 5.2 refer to major awards only.

Table 5.1 Summary of Education and Training Awards by NFQ Level, 2012[58]

	NFQ 1-2	NFQ 3	NFQ 4	NFQ 5	NFQ 6	NFQ 7	NFQ 8	NFQ 9/10	Total
Junior Certificate	-	59,000	-	-	-	-	-	-	59,000
Leaving Certificate	-	-	56,000		-	-	-	-	56,000
QQI-FETAC (Major awards)*	980	1,080	2,250	26,670	11,620	-	-	-	42,600
Institutes of Technology	-	-	-	-	2,940	7,700	9,660	2,320	22,620
Universities	-	-	-	-	1,650	1,750	17,710	15,330	36,440
Total	980	60,080	84,920		16,210	9,450	27,370	17,650	216,660

Source: SEC; QQI; HEA

Table 5.2 Summary of Further and Higher Education and Training Awards by Field of Education, 2012[68]

Field	NFQ 1-2	NFQ 3	NFQ 4	NFQ 5	NFQ 6	NFQ 7	NFQ 8	NFQ 9/10	Total
General	980	830	1,680	110	150	-	-	40	3,790
Education	-	-	-	10	30	30	1,810	3,010	4,890
Humanities & Arts	-	-	10	2,970	760	930	5,350	2,250	12,270
Social Science/Bus/Law	-	250	280	5,470	2,220	2,480	7,900	5,940	24,540
Science	-	-	-	900	690	1,000	3,580	2,160	8,330
Engineering/Construction	-	-	40	580	4,040	2,320	3,100	1,120	11,200
Agriculture & Veterinary	-	-	110	1,560	1,470	300	300	50	3,790
Health & Welfare	-	-	20	12,570	5,270	1,370	4,600	2,740	26,570
Services	-	-	120	2,500	1,600	1,030	730	330	6,310
Total	980	1,080	2,250	26,670	16,210	9,450	27,370	17,650	101,660

Source: QQI; HEA

*There are four award types on the NFQ (major, minor, special purpose and supplemental). QQI data on further education and training awards data refers to major awards and is provisional only. Other award types in the further education and training sector are discussed in Section 5.2. Appendix A details the award types and levels on the NFQ.

[58] Graduation data for universities and institutes of technology is for 2011 – the most recent available data. All data presented in Tables 5.1 and 5.2 has been rounded and therefore the figures do not add to the totals in each respective table. The data in the above tables does not include all private education provision from private, independent third level colleges and professional institutes (included in section 5.3.2).

5.1 Junior and Leaving Certificate

In 2012, the combined number of Junior and Leaving Certificate candidates was approximately 115,000. Of these, the Junior Certificate, placed at level 3 on the NFQ, accounted for almost 59,000 sits and the Leaving Certificate, which spans levels 4 and 5 on the NFQ, made up approximately 56,000 sits; Leaving Certificate numbers are made up of candidates who followed one of three types of Leaving Certificate programme:

- the Leaving Certificate Established (38,000 sits, or 66% of all Leaving Certificate sits)
- Leaving Certificate Vocational Programme (16,400 sits, or 28%)
- Leaving Certificate Applied Programme (3,200 sits, or 6%).

There was a 3% rise in the number of Junior Certificate sits but a 3% decline in the number of Leaving Certificate sits relative to 2011. However, demographic data, and increases in enrolments in at both primary and lower secondary levels indicate that the decline in Leaving Certificate sits will be reversed in the short-medium term, while the number of Junior Certificate sits will continue to grow.

As in the preceding year, approximately 2% of Leaving and Junior Certificate candidates in 2011 were re-entrants to education, sitting the examinations through schemes such as the Vocational Training Opportunities Scheme (VTOS).

5.2 Further Education and Training

Awards made to learners following programmes in the further education and training (FET) sector span levels 1-6 on the NFQ. Quality and Qualifications Ireland (QQI) was established in 2012 and assumed the functions of, among others, the Further Education and Training Awards Council (FETAC), the main awarding body in the FET in Ireland.

Programmes leading to QQI-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.

In terms of award type, there were increases in the number of major awards and special purpose awards, but declines in the number of minor awards and supplemental awards:

- the number of major awards grew by almost 13% (more than 4,700 additional awards), reaching their highest level to date at almost 42,600
- having already declined by 6% between 2010 and 2011, the number of minor awards fell by a further 16% to 285,000 awards in 2012; this amounted to 44,500 fewer minor awards when compared to 2011; on average, minor award holders received two minor awards each
- the number of special purpose awards reached more than 15,100 in 2012, a 40% increase (or 4,300 additional awards) when compared to the previous year
- at 730, the number of supplemental awards decreased by almost a quarter (or 216 fewer awards) when compared to 2011.

Major Awards: the vast majority of major awards were made at either level 5 (63% of

the total) or level 6 (27%); most of the remaining awards were made at levels 3 and 4, accounting for 3% and 5% of the total respectively; combined, the share of level 1 and 2 awards amounted to 2% (or 980 awards) of the total.

In terms of field of learning[59], education, health and welfare had the largest number of awards at 17,000, representing 40% of the total; of these, the majority were either at level 5 (e.g. childcare, healthcare support) or, to a lesser extent, level 6 (e.g. supervision in childcare); the second largest field of learning was business and administration, which accounted for more than 7,000 awards (mostly at level 5).

Minor awards: more than one half of minor awards were made at level 5 (138,000 awards) and a further fifth were made at level 4 (47,000 awards); this was followed by awards at levels 3 and 6 which made up 11% and 10% of the total (26,000 and 25,000 awards) respectively; the combined number of awards at levels 1 and 2 accounted for less than 2%.

Awards in the services field of learning (e.g. occupational first aid, health and safety) accounted for the largest number of minor awards which, at 58,600, made up almost a quarter of the total; the business and administration field had the second highest number of minor awards, with 46,500 awards (mostly at either level 5 or level 4) and almost a fifth of the total.

Special purpose awards: special purpose awards were made at levels 4-6 only; three quarters of all special purpose awards were made at level 5, with a further 22% at level 6; the remaining 380 awards made up just over 2% of the total.

More than three quarters of special purpose awards were distributed almost equally across two fields of learning: construction/ built environment and services[60]; these awards related in part to best practice training (three-day courses) for private and public sector employees working in the construction industry, e.g. roads construction.

Supplemental awards: all awards were made at level 6, of which three quarters were for courses in either domestic gas installation or installing domestic solar water systems.

Table 5.3 QQI-FETAC Awards by Type and Award Holders, 2011 and 2012**

Award Type	2011		2012	
	Awards	Award Holders	Awards	Award Holders
Certificates (Major)	37,857	37,857	42,593	42,593
Component (Minor)[61]	284,597	140,870	240,094	122,876
Special Purpose	10,785	10,785	15,134	15,134
Supplemental	946	946	730	730
Total	**334,185**	**180,690***	**298,551**	**170,136***

Source: QQI

* Note: the **total** number of candidates is not equivalent to the number of candidates for each award type as some candidates gained more than one award type
** Awards data for 2013 is provisional

[59] Field of learning refers to QQI-FETAC internal classifications (and not ISCED (International Standard Classification of Education) as has been used elsewhere in this report); the QQI-FETAC data in Tables 5.1 and 5.2, which refers to major awards only, was classified by the SLMRU according to ISCED field of learning codes.

[60] The specific purpose awards categorised in the services field are comprised of awards that are related to the construction field, such as articulated dumper operations, telescopic handler operations, and excavator operations awards.

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

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 provides an indication of the supply of skills entering the labour market, while CAO data provides an indication of future trends. The latest data available for graduate numbers relates to 2011; CAO acceptance data is for 2012.

Level 7/6

Between 2010 and 2011, the number of level 7/6 graduates increased by 6% to reach almost 14,000, primarily due to increases at level 6. CAO acceptance data indicates, however, that output may not continue to increase as declines occurred in the number of acceptances across most subject choices between 2011 and 2012. Nonetheless, participants on higher education labour market activation initiatives may counteract any potential decreases.

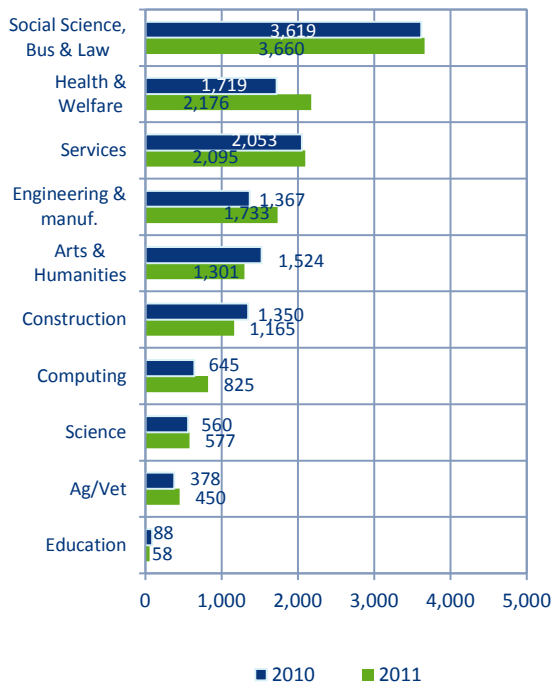
Table 5.1 provides a breakdown of CAO acceptances by discipline for 2012 while Figure 5.1 shows the number of graduates in 2010 and 2011. The most notable changes in both CAO acceptance numbers and graduate output over the period 2010-2011 by subject are outlined below.

Table 5.1 Level 7/6 CAO Acceptances, 2012

Level 7/6	Acceptances 2012	% Change 11-12
Engineering	1,942	-4%
Construction	765	-2%
Computing	1,555	11%
Science	1,094	-3%
Health & Welfare	371	-4%
Agriculture & Veterinary	473	-10%
Arts & Humanities	819	-10%
Social Sciences, Business & Law	3,677	-3%
Education	183	24%
Services	2,198	-5%
TOTAL	13,077	-2%

Source: CAO

Figure 5.1 Level 7/6 Graduates, 2010-2011



Source: HEA

- **Engineering and manufacturing:** while graduate output increased over the period examined, CAO acceptances declined suggesting any increase in output at this level will not be sustained

- **Construction:** the number of persons accepting places on construction courses at this level has dropped significantly in recent years, with a further reduction in output expected to continue in the short to medium term
- **Computing:** this subject has seen an increase in graduate output between 2010 and 2011 and this is expected to continue, particularly at level 7 due an increase in the number of persons accepting places on computing courses at this level
- **Science:** the number of acceptors and output levels has remained relatively static over the period examined
- **Health and Welfare:** output has been growing in recent years with a 27% increase between 2010 and 2011; level 7/6 CAO acceptances were low for this subject suggesting that entry to these courses may also be from outside the CAO system and therefore CAO trends will not impact significantly on output levels
- **Agriculture/Veterinary:** while output continued to increase, CAO acceptance numbers declined in 2012 with a levelling off of output expected in the short term
- **Social science, business and law:** there was no change in output levels between 2010 and 2011; increases are not expected in the short to medium term due to a fall in the number of students accepting places on courses in this discipline
- **Services:** following significant increases in the number of CAO acceptors in recent years, a levelling off of both output and acceptors has occurred for this subject.

Level 8

The number of level 8 graduates increased by 2% since 2010 reaching 27,400 in 2011. Growth in output is expected to continue in the short term, albeit at low levels as CAO acceptance numbers have shown only minimum levels of growth in recent years with a 3% increase between 2011 and 2012.

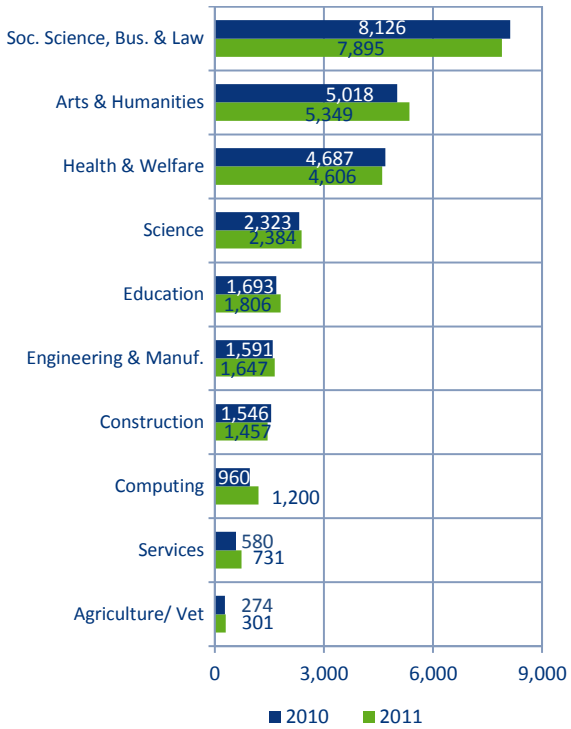
Table 5.2 provides a breakdown of CAO acceptances by discipline for 2012 while Figure 5.2 compares graduate numbers by broad discipline for 2010 and 2011.

Table 5.2 Level 8 CAO Acceptances, 2012

Level 8	Acceptances 2012	% Change 2011-2012
Engineering	1,782	14%
Construction	765	-2%
Computing	2,282	10%
Science	3,865	4%
Health & Welfare	3,919	4%
Agriculture & Veterinary	463	8%
Arts & Humanities	9,991	-2%
Social Sciences, Business & Law	6,895	3%
Education	2,513	7%
Services	739	-1%
TOTAL	33,214	3%

Source: CAO

Figure 5.2 Level 8 Graduates, 2010-2011



Source: HEA

Trends emerging from the data include:

- **Engineering & manufacturing:** output increased by 4%; due to sustained growth in CAO acceptance numbers a continuation of this trend is expected in the medium term
- **Construction:** a decline in output at this level occurred for the first time in 2011; while CAO acceptance levels remained relatively unchanged between 2011 and 2012, this masks a decline of 25% since 2009 indicating further declines in output are to be expected in the short to medium term
- **Computing:** encouraging signs of continued growth are evident from both an increase in graduate output and sustained growth in the number of persons accepting places on computing courses
- **Science:** graduate output has remained relatively unchanged in recent years; a small rise in CAO acceptances since 2010 suggests that output will remain steady or indeed grow in the short to medium term
- **Social science, business and law:** stable enrolment and CAO acceptance numbers suggest little change is expected in overall output levels in the short to medium term.

Level 9/10

Level 9/10 qualifications include postgraduate certificates and diplomas, master degrees and PhDs. A total of 17,641 students graduated with a postgraduate qualification in 2011, a decline of 3% on 2010 but an increase of 20% since 2007.

In 2011, 32% of level 9/10 awards were postgraduate certs/diplomas, 60% were masters and 8% were PhDs. While postgraduate cert/diploma output declined between 2010 and 2011 increases occurred for both masters and PhD programmes. The discipline breakdown of postgraduate awards for 2010 and 2011 is shown in Figure 5.3.

Trends emerging from the data include:

- **Engineering & manufacturing:** following a surge in output in 2010 graduate numbers returned to 2011 levels, although they still remained at a higher level than in 2009
- **Science:** this subject experienced the largest increase in output across all programme types at postgraduate level; a sharp decline in masters' enrolments in 2011 suggests that increases in output may be short lived
- **Computing:** a decline in output of 6% occurred, due to a drop in output from masters programmes; enrolments have fluctuated in recent years which will lead

to an unpredictable level of output in the short term

- **Health and welfare:** while increases occurred at masters and PhD levels, a decline of 17% at postgraduate cert/diploma level led to an overall decline in graduate output for this subject; further declines in postgraduate cert/diploma enrolments may be offset by increases in enrolments for masters and PhD programmes
- **Social science, business and law:** represents the largest group of level 9/10 graduates, primarily for masters programmes; a slight decline in both enrolments and graduate output occurred between 2010 and 2011, although numbers remain higher than previous years
- **Education:** a drop in the number of postgraduate certs/diplomas for this discipline has led to an overall decline in level 9/10 output; a decline in enrolments suggests no significant increases in output are expected in the short term
- **Arts and humanities:** one of only two subjects that experienced an increase in output; a steady level of enrolments in recent years would suggest little change in output in the short to medium term.

5.3.2 Other Education Provision

Education and training in Ireland also takes place outside the public system. Private schools, colleges, organisations and a range of professional institutes offer various types of education within the further education and training sector, the higher education sector and professional level training. This section first examines the number of higher education awards made to learners taking courses outside the Irish university and institute of technology (IoT) sectors (e.g. Hibernia College, IBEC, etc.). This is followed by an overview of the qualifications gained by learners through some of the professional institutes in Ireland[62]. Courses offered by private providers leading to QQI-FETAC awards are not included as they are in the awards data outlined in section 5.2.

The number of higher education awards made to learners outside the university and IoT sector in 2011 is detailed in Table 5.4. The data refers to awards made by QQI-HETAC, the Irish Management Institute (IMI) and the Open University; all awards are either on or aligned to the NFQ[63].

Table 5.4 Awards for Private, Independent 3rd Level Colleges, by Field & NFQ Level, 2011

Field	NFQ 6/7	NFQ 8	NFQ 9/10	Total
Education	211	803	40	1,054
Humanities & Arts	95	180	72	347
Soc sciences/ Business/ Law	399	906	166	1471
Science/Maths & Computing	142	36	62	240
Eng/Manuf & Construction	65	33	3	101
Health & Welfare	349	171	83	603
Services	1	0	0	1
General	82	6	0	88
Total	**1,344**	**2,135**	**426**	**3,905**

Source: QQI; IMI (refers to 2010)

[62] Appendix B details the private providers and professional institutes whose data is included in this section.

[63] Aligned awards were made by UK universities for qualifications that have been aligned to the NFQ by level; these qualifications include diplomas, graduate diplomas, honours bachelor degrees, master degrees etc.

There were approximately 3,900 higher education awards made by education and training providers outside the university and IoT sectors in 2011. Of these,

- almost 2,200 (or 55%) were level 8 awards, made mostly in either the fields of social science, business and law or education
- a further 1,300 were made a t level 6/7, making up a third of the total
- postgraduate awards (almost all at level 9) accounted for an 11% share also mostly in social science, business & law.

In addition, there were almost 700 minor and partial awards, made mostly in one of three fields: social science, business and law (in excess of 40%); engineering, manufacturing & construction (22%) and education (19%)

The data in Table 5.5 details the number of qualifications made to those studying through professional institutes (e.g. Irish Tax Institute).

Table 5.5 Qualifications from professional institutes, 2011/2012 by broad field and NFQ level

Subjects	Under-graduate	Post-graduate	Total
Other business & law	152	152	304
Accountancy & Finance	63	1,906	1,969
Total	**215**	**2,058**	**2,273**

Source: Irish Auditing and Accounting Supervisory Authority (IAASA), Irish Tax Institute, Kings Inns, IPAV

Almost 2,300 learners gained a qualification in 2011/2012 through professional institutes. Of these, almost 2,000 (or 87%) were in accountancy and finance, predominantly at postgraduate level; the remaining 300 (or 13%) were in the other business and law category; these qualifications were spread equally between undergraduate and postgraduate levels.

5.3.3 Irish Students Abroad

Every year a number of Irish students opt to pursue all or part of their higher education in countries outside of Ireland. This section examines (a) those enrolled in higher education programmes abroad and (b) Irish ERASMUS students who went to a foreign university as part of the third level study in which they were enrolled in Ireland.

The OECD Education online database holds data on the distribution of international students by, *inter alia*, country of origin and level of education. Levels of education are classified according to ISCED[64] levels with education levels comparable to Irish higher level corresponding to the ISCED categories of: Tertiary Type A (honours bachelor degree/master degree); Tertiary Type B (higher certificate/ordinary degree) or advanced research (PhD level).

Almost 19,000 Irish domiciled students enrolled in higher education programmes in other OECD countries in 2010 (Table 5.6), an 8% increase relative to 2009. The majority (87%) studied in the UK, with the United States making up a 6% share and other Anglophone countries comprising a further 2% of the total.

In 2010, more than three quarters of Irish students abroad were enrolled on Tertiary Type A programmes; 12% were in Tertiary Type B programmes and 6% were in advanced research degree programmes.

[64] International Standard Classification of Education (ISCED)

Table 5.6 Irish Students' Enrolments Abroad, 2010

Country	Tertiary A	Tertiary B	Advanced Research	Un-known	Total
UK	13,229	2,216	1,024	-	**16,469**
USA	-	-	-	1,201	**1,201**
Germany	296	-	-	-	**296**
Australia	210	3	31	-	**244**
Hungary	181	-	-	-	**181**
Canada	87	9	18	-	**114**
Spain	55	10	5	-	**70**
Netherlands	60	-	-	-	**60**
N.Zealand	33	5	17	-	**55**
Others**	142	8	35	-	**185**
Total	**14,293**	**2,251**	**1,130**	**1,201**	**18,875**

Source: OECD online database

*The 'Others' category includes Sweden, Belgium, Switzerland, Denmark, Slovak Republic, Portugal, Iceland, Luxembourg

The European region action scheme for the mobility of university students (ERASMUS) is a programme that enables higher education students to study or undertake a work placement for three to 12 months in one of 30 other European countries as part of their studies[65]. Students on ERASMUS programmes are usually registered students in their home universities. The numbers included in this section are therefore a subset of the numbers outlined in section 5.3.1 of this report.

Table 5.7 shows the numbers of outgoing Irish students in 2009/10 and 2010/11. The number of outgoing ERSAMUS students from Irish higher education institutions reached their highest number to date in 2010/11: 2,500 students went abroad that year, of which three quarters were for study purposes, with the remainder participating in work placements. The number of participating students increased by almost a fifth year-on-year, amounting to an additional 383 students.

In 2010/11, over a quarter of all students went to France; almost a fifth went to Spain and 14% went to the UK; students going to either Germany or Austria made up a further 13%.

Table 5.7 ERASMUS Students from Ireland, 2009/10 and 2010/11

Destination Country	2009/10	2010/11
France	514	649
Spain	391	451
UK	238	349
Germany & Austria	251	329
Netherlands	121	144
Sweden	97	115
Italy	99	74
Others*	514	400
Total	**2,128**	**2,511**

Source: European Commission

*Includes: other EU countries, as well as Iceland, Liechtenstein, Norway and Turkey

[65] ERASMUS participating institutions are located in the EU as well as Norway, Iceland and Turkey.

Section 6 Employment Permits

6.1 Introduction

In order to work in Ireland a non-EEA National must hold a valid Employment Permit or have immigration permission from the Department of Justice and Equality which allows them to work without the requirement of an employment permit. Taking into account Ireland's obligations under the EU Accession Treaties to afford preference to EEA nationals, new employment permit applications are now primarily considered for highly skilled persons in occupations where there is a significant shortage in the labour market and for non-EEA nationals already legally resident in the State on valid employment permits. An analysis of the occupations for which employment permits are issued allows policymakers to ascertain the areas where employers are having difficulty sourcing suitably qualified candidates from the Irish and EEA labour markets.

There are a number of employment permit categories which a person can avail of:

- **Work Permit employment permits** are the primary vehicle used by the State to attract non-EEA nationals for occupations which are experiencing a labour or skills shortage. They are issued for occupations which have been identified as being difficult to source in the Irish or EEA labour market and for which the annual salary on offer is above €30,000.
- **Green Card employment permits** are designed to attract highly skilled persons into the labour market. Eligible occupations under this category of employment permit are deemed to be critically important to growing Ireland's economy, are in high demand and highly skilled, and in significant shortage of supply in our labour market. They are issued for all occupations with an annual salary of €60,000 or more; they are also issued for a restricted list of occupations with an annual gross salary of between €30,000 and €59,999.
- **Intra Company Transfer (ICT) and Training employment permits** are issued to facilitate the transfer of senior management, key personnel or trainees who are foreign nationals from an overseas branch of a multinational corporation to its Irish branch. Typically, these employment permits support foreign direct investment (FDI) and are particularly useful in the initial establishment of FDI companies.
- **Spousal/Dependant employment permits** are primarily used to support the attractiveness of Ireland as a location of employment for potential and current Green Card employment permit holders and researchers and other employment permit holders who received their first employment permit prior to the 1st June 2009. Spouses, recognised partners and eligible dependent unmarried children who have been admitted to the State as family members of holders of these categories of employment permits may apply.

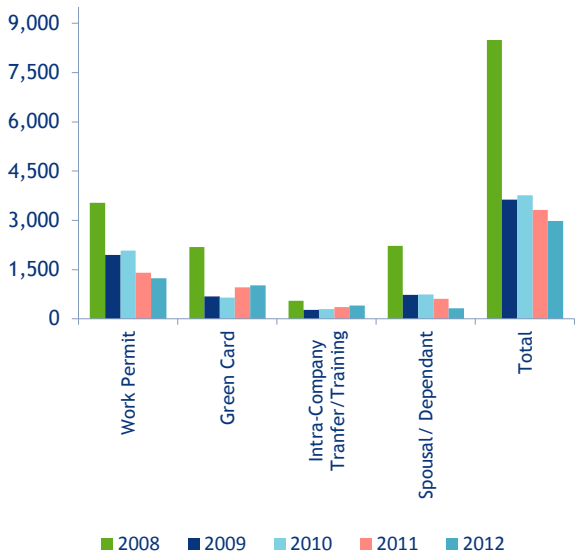
6.2 Overall Trends

There were approximately 3,000 new employment permits issued in 2012 (Figure 6.1). The overall number of new employment permits has been in decline in recent years, with a year on year decline of 10% between 2011 and 2012 and a 65% decline since 2008. While the number of work permits declined

between 2011 and 2012, the number of green cards increased by 7% and intra-company transfer/training permits increased by 16%.

Spousal/dependant permits almost halved in this time period, primarily related to a change in the eligibility criteria for this permit type.

Figure 6.1 New Permits by Type, 2008-2012



Source: DJEI

In 2012, the restrictions on labour market access for Romanian and Bulgarian nationals ceased. Romanian and Bulgarian nationals accounted for over 350 new permits issued in 2011, declining to over 200 for the first six months of 2012 prior to the legislation taking effect. This change will most likely lead to a further decline in the overall number of permits issued.

6.3 Employment Permits by Sector

A breakdown of employment permits by sector[66] and permit type in 2012 is detailed in Table 6.1.

Table 6.1 New Employment Permits by Sector and Permit Type, 2012

Sector*	Work Permit	Green Card	ICT/ Training	Spousal	Total
Agriculture	47	2	1	14	64
Catering	141	-	-	32	173
Construction	7	3	9	1	20
Domestic	32	-	-	11	43
Education	35	13	-	11	59
Entertainment	15	2	1	2	20
Financial	41	87	75	15	218
Healthcare	179	108		101	388
IT	419	648	162	33	1,262
Legal Services	1	1	-	1	3
Manufacturing	30	32	101	11	174
Research	6	4	1	2	13
Retail	5	5	5	16	31
Services	215	108	53	55	431
Sport	41	2	-	1	44
Tourism	6	1	1	10	18
Transport	16	4	-	1	21
Total	1,236	1,020	409	317	2,982

Source: DJEI

The IT sector accounted for over 40% of all new employment permits issued in 2012. While the number of permits issued declined for almost all sectors over the period between 2011 and 2012, the number of permits issued to the IT sector increased by almost 200. In the same period the number of permits issued to the healthcare sector almost halved; this is primarily related to a change in the channels available for doctors to avail of employment in Ireland. Small increases in the number of new permits issued also occurred for the financial, services and transport sectors.

6.4 Permits by Occupation

Table 6.2 below details all new employment permits issued by occupation and permit type for 2012.

[66] Sectors are defined by the DJEI

Table 6.2 New Employment Permits by Broad Occupation and Permit Type, 2012

Occupation	Work Permit	Green Card	ICT/ Training	Spousal	Total
Managers	18%	31%	48%	3%	211
Professionals	36%	49%	12%	3%	1,753
Associate Professionals	51%	22%	19%	8%	412
Admin	44%	8%	16%	33%	64
Skilled Trades	83%	4%	1%	13%	166
Personal Services	28%	0%	0%	72%	130
Sales	51%	2%	6%	41%	51
Operatives	85%	2%	6%	6%	48
Elementary occupations	60%	0%	0%	40%	143
Other	0%	25%	50%	25%	4
Total	**41%**	**34%**	**13%**	**11%**	**2,982**

Source: DJEI

Managers

- In 2012 approximately 200 new permits were issued for managerial occupations accounting for 7% of all employment permits issued (a similar share to that of 2011)
- Almost a half of permits issued to managers were for intra-company transfers in sectors including manufacturing, IT and services; a further third were green cards, primarily in services and financial services
- Occupations most often cited include:
  - Chief executives/vice presidents
  - Financial managers/directors
  - Marketing and sales directors.

Professionals

- With over 1,700 new permits issued, professional occupations had the highest number of permits for all occupational groups; in 2012, professionals accounted for a 59% share of all permits issued, an increase of 12 percentage points on 2011
- Of all new permits issued for professional occupations in 2012, 49% were for green cards, primarily in the IT sector; indeed professional occupations accounted for over four fifths of all green cards issued
- Those from India accounted for over half of new permits issued to professionals in 2012 (up nine percentage points on 2011)
- Occupations most often cited include:
  - Programmers and software developers (e.g. analyst, application developer, software/systems engineer)
  - IT computer systems analysts/architects
  - Network engineer
  - Doctors and nurses.

Associate Professionals & Technical

- In 2012 approximately 400 new permits were issued for associate professional/ technical occupations, a 20% decline on the preceding year; permits issued to this occupational group accounted for 14% of all employment permits issued
- Permits issued to the IT sector accounted for over a third of associate professional permits issued; services, financial services and the sports sector accounted for a further 46% combined
- Of all associate professional new permits issued in 2012, 22% were for green cards, while 51% were employment permits
- Those issued with employment permits for associate professional positions were most likely to come from the USA and India

(combined accounting for 42% of all permits issued in this category)

- Occupations most often cited include:
  - IT technicians
  - Business/finance associate professionals (e.g. account strategist, finance/tax analysts)
  - Sales and marketing (e.g. business development, online sales/media)

Administrative and Secretarial

- Administrative occupations did not feature strongly in the employment permit statistics in 2012, accounting for 2% of all permits issued
- Job titles included:
  - Accounting and valuation positions
  - General accountant/administrator
  - Finance assistant
- Almost a half of all permits issued were for spousal/dependant permits or intra-company transfers.

Skilled Trades

- In 2012 over 150 employment permits were issued for skilled trades occupations; this is a decline of almost 80 on 2011 (primarily related to a falloff in the number of permits issued in the catering sector)
- The catering sector accounted for almost two thirds of permits issued in this occupational group; a further fifth were in agriculture and fisheries
- Chefs accounted for over 60% of permits issued for this occupational group in 2012; while the share increased, the overall number of permits issued for chefs declined slightly since 2011
- Occupations include:
  - Chefs
  - Butchers.

Caring, Leisure and Other Services

- In 2012, 130 employment permits were issued for caring, leisure and other services occupations; this is a decline of approximately 60% on 2011
- This decline is primarily related to both an overall drop in the number of permits issued to the healthcare sector for this occupational group and to a decline in the number of permits issued to spouses/dependants; permits issued to spousal/dependants accounted for 72% of all permits issued in 2012 for this occupational group
- Permits were most often issued to persons from India and the Philippines
- Occupations include:
  - Care assistants
  - Childcare workers.

Sales and Customer Services

- With 50 new employment permits issued, sales and customer service occupations accounted for less than 2% of all new permits issued in 2012; this is a decline of approximately 50% on 2011
- This decline is primarily related to a drop in the number of spousal/dependent permits issued due to changes in the eligibility process for this category of permit
- Almost a half of all permits issued for this occupational group were for persons from Romania/Bulgaria
- Occupations include:
  - Sales assistants
  - Deli assistants.

Operatives

- Operatives accounted for only a 2% share in the employment permits issued in 2012 with the number of permits halving since 2011
- The transport and the services sectors combined accounted for over a half of the permits issued for this occupational group
- Occupations include:
  - HGV driver
  - Operatives.

Elementary Occupations

- Elementary occupations accounted for a 5% share of the employment permits issued in 2012; this represents a three percentage point decline on 2011
- Employment permits for this occupational group were primarily in services and catering
- Although the number of permits issued to spousal/dependents has shown a marked decline on 2011, they still represent two fifths of all new permits issued for this occupational group
- Over a half of new permits issued were for persons from Romania/Bulgaria
- Occupations include:
  - Cleaners
  - Kitchen and catering assistants
  - Waiters.

Section 7 Vacancies

This chapter provides an analysis of vacancies which have appeared in 2012 through public employment offices (Department of Social Protection (DSP)/FÁS Jobs Ireland) and a private recruitment agency (IrishJobs.ie). There is also an analysis of the Recruitment Agency Survey conducted by the SLMRU in April 2013 which identifies any difficult to fill vacancies that are occurring.

As employment contracted between 2011 and 2012 (based on quarter 3, CSO data) for all occupations except for managers, professionals and associate professionals, it is thought that vacancies occurring in 2012 were primarily related to turnover and/or replacement rather than to expansion demand.

A detailed analysis of vacancy activity in Ireland can be found in the Vacancy Overview Report 2012[67]. This chapter reports on the main findings of the report.

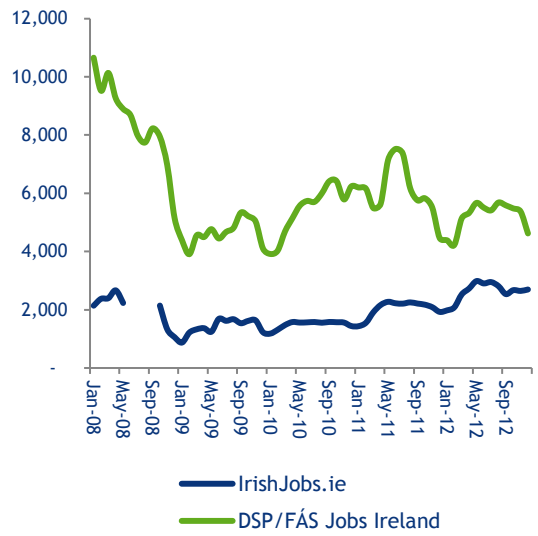
7.1 Notified Vacancies[68]

It should be borne in mind that 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 arise due to expansion demand (the creation of a new position by an employer), replacement demand (a person leaving an existing position) or for other reasons is unclear.

Despite the recession, job vacancies, as advertised through the DSP/FÁS Jobs Ireland databank and IrishJobs.ie, have continued to arise in the Irish labour market, although at a much lower level than at the peak (Figure 7.1). While the average monthly number of DSP/FÁS Jobs Ireland vacancies advertised in 2012 declined when compared to 2011, the monthly average for IrishJobs.ie vacancies showed signs of growth over the same time period.

Figure 7.1 New Notified Job Vacancies (three-month moving average)[69]



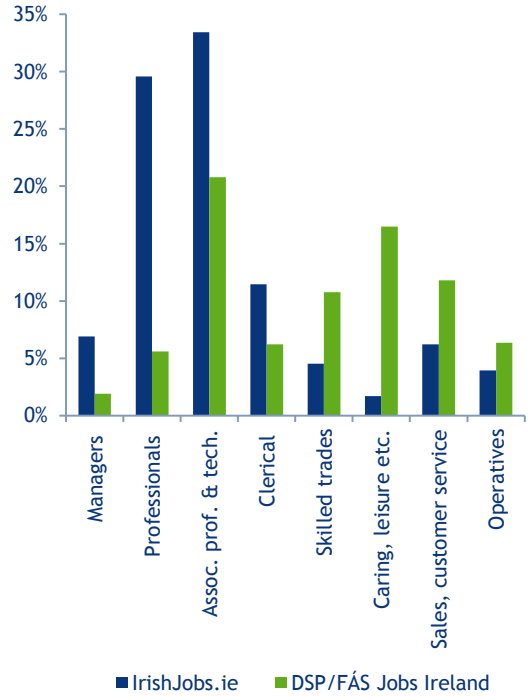
In 2012, vacancies advertised through IrishJobs.ie were mostly concentrated in

[67] Vacancy Overview 2012, FÁS/EGFSN 2013

[69] A break occurred in the IrishJobs.ie data between June 2008 and July 2008 and is therefore excluded from the trend analysis reported here.

professional and associate professional occupations. Newly advertised vacancies through DSP/FÁS Jobs Ireland were concentrated in associate professional and personal services occupations (e.g. caring and leisure) as well as sales/customer service and skilled trades' occupations (Figure 7.2).

Figure 7.2 Vacancies by Occupational Group (%), 2012



Managers

- Vacancies for managers in 2012 were most common in the IT sector, retail and sales; these sectors combined accounted for almost a third of all notified managerial vacancies to IrishJobs.ie
- In 2012, vacancies were most frequent for operations managers across all sectors; services managers in banking, retail and hotel and catering, HR managers, financial managers and in sales and marketing
- A high level of experience was a key requirement for many posts advertised while a minimum level of education was not specified for the majority of vacancies.

Professionals

- IrishJobs.ie accounted for the largest share of professional vacancies; these were primarily in the IT sector, followed by business and financial services and science and engineering
- Professional job titles most often cited were:
  - ICT (e.g. software developers, network experts, and IT business analysts)
  - engineers and scientists (e.g. process engineers in manufacturing, food, chemical and validations, product development and design engineers, technologists, chemical and biological scientists)
  - business and finance professionals (e.g. chartered accountants, management consultants, business analysts and regulatory professionals)
  - health professionals (e.g. nurses, doctors, pharmacists, therapists and radiographers)
- Foreign language skills, particularly German and French, were a feature of many professional vacancies in ICT, engineering and finance
- Almost two thirds of professional vacancies stated a third level honours degree qualification as a requirement, while the majority also required a minimum of at least two years' experience.

Associate Professionals

- Associate professional occupations accounted for the largest share of

notified vacancies in 2012 with 21% of all DSP/FÁS Jobs Ireland vacancies and 33% of IrishJobs.ie vacancies

- Vacancies were primarily in sales, IT, science, pharmaceuticals and food, marketing and financial services
- Associate professional vacancies were most frequent for:
  - business associate professionals (with language skills a requirement for the majority of vacancies) e.g. sales representatives, multilingual customer account managers, marketing managers, financial analysts
  - Science, engineering and technology technicians in IT (e.g. technical support, systems/network administration), laboratory technicians (e.g. microbiology, metrology, medical, chemistry, quality control, pharmaceutical), engineering technicians (electrical, electronic, manufacturing, mechanical, process, quality control)
  - Vocational trainers (healthcare, social science, career guidance, health and safety, IT etc.)
  - Interpreters
- Language skill requirements were predominant in vacancies for associate professionals (particularly German, French and Nordic languages). Business-to-business sales skills were in demand for some sales related roles
- Over a third of the jobs advertised for associate professionals required a minimum of a third level degree qualification, while almost two thirds required 2-6 years' experience.

Administrative/Secretarial

- Vacancies for administrative/secretarial positions were primarily in the finance, banking, accountancy, and secretarial/admin sectors
- Occupations most frequently occurring included:
  - Finance (e.g. accounts payable/receivable clerks, payroll clerks, multilingual credit controllers, cost/fund accountants, claims administrators)
  - Receptionists
  - Property management admin
  - Personal assistants
  - Logistics admin (e.g. freight clerks, purchasing admin, logistics co-ordinators)
- Language skills including German, French, Spanish and Dutch were frequently cited as a requirement for accounts payable, credit analysts, payroll, credit control, financial accounts assistants and sales support roles; part professional or professional qualifications were required for a significant number of jobs in the areas of accountancy and finance
- More than 40% of administrative vacancies stated a minimum of a third level qualification while 30% required no minimum level of education; this occupational group had the highest share of vacancies requiring a part/professional qualification at 13% (for accounting related positions)
- The majority (58%) of administrative/secretarial vacancies required at least two years' experience.

Skilled Trades Occupations

- Since the recession, advertised vacancies for skilled trades occupations have shifted

away from the construction sector towards other sectors of employment. In 2012, vacancies for these occupations were in

  - Hotel and catering (chefs accounted for over 40% of DSP/FÁS Jobs Ireland vacancies for this occupational group)
  - Engineering and utilities (e.g. electricians, mechanics, fitters, welders)
  - ICT (computerised system validation, IT security)
  - Food processing (butchers/deboners).
- Over half of the vacancies advertised through DSP/FÁS Jobs Ireland required candidates to be fully experienced with a further third specifying that some level of experience was required.

Caring Leisure and other Service Occupations

- Vacancies for caring, leisure and other service occupations were concentrated in:
  - Healthcare (care workers and home carers accounted for almost 10% of total DSP/FÁS Jobs Ireland vacancies in 2012; three quarters of care workers vacancies were for part-time positions)
  - Personal services (e.g. barbers/ hairdressers, beauticians, nail technicians, spa therapists)
  - Hotel and catering (e.g. housekeepers and accommodation assistants)
- Almost two thirds of vacancies advertised through DSP/FÁS Jobs Ireland required candidates to have some experience with less than a quarter requiring persons to be fully experienced.

Sales and Customer Service Occupations

- Vacancies for sales and customer service occupations in 2012 were most frequent for:
  - Field sales agents (5% of total vacancies for DSP/FÁS Jobs Ireland)
  - Sales and retail assistants (e.g. in bookmakers, deli, fashion, pharmacies, off licences); over half of these positions were part-time posts
  - Customer services (primarily multilingual contact centre agents)
- Of the sales related vacancies advertised through DSP/FÁS Jobs Ireland, 44% required no minimum level of experience, which is the highest level for all occupational groups; a further 41% required some level of experience while this occupational group had the lowest share of positions requiring fully experienced candidates at 12%.

Operatives

- Vacancies for operatives were most frequent for:
  - Process operatives (e.g. in meat industry, manufacturing, electrical, waste sorting)
  - Drivers (large goods vehicles, delivery, mobile machine drivers, fork-lift truck drivers, bus and coach drivers)
- Experience was required for the majority of vacancies advertised through DSP/FÁS Jobs Ireland for operative positions with 42% requiring some experience and a further 42% requiring candidates to be fully experienced.

Elementary Occupations

- Vacancies for elementary occupations accounted for 20% of all vacancies advertised through DSP/FÁS Jobs Ireland in 2012
- Vacancies were most frequent for:
  - Kitchen and catering assistants; approximately half of these vacancies are for part time positions
  - Security guards (in retail, car parks etc.)
  - Cleaners (two thirds of vacancies were for part-time positions)
  - Waiters and waitresses.
- Of the vacancies advertised through DSP/FÁS Jobs Ireland 13% required no minimum experience, while 84% required some or fully experienced candidates.

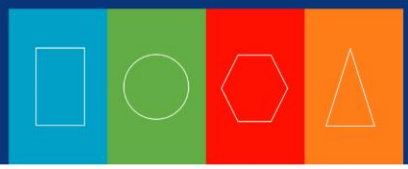
7.2 FÁS (SLMRU) Recruitment Agency Survey

The SLMRU conducts a survey of recruitment agencies in Ireland every six months in order to identify the occupations for which recruitment agencies report they have difficulty in filling. To this end, recruiters' experiences regarding difficult-to-fill (DTF) vacancies are elicited. In general, the difficulty in filling a vacancy may arise as result of insufficient number of skilled candidates, but may also stem from their unwillingness to take up employment in a particular occupation.

The most recent survey of recruitment agencies was conducted in April 2013. All recruitment agencies that are members of the National Recruitment Federation of Ireland [70] were contacted, and out of approximately 130 of them, 40 agencies reported that they had experienced difficulties in sourcing suitable candidates for their clients. The key findings are summarised below.

- DTF mentions continue to arise; more than half of DTFs were deemed to be at least very difficult to fill, with a small proportion of DTFs being impossible to fill
- When compared to one year ago, there was an increase in the aggregate number of DTF mentions; it is also estimated that the demand for skills associated with almost one half of DTF mentions increased when compared with the situation a year ago
- The vast majority of DTFs (over 90%) were attributed to a lack of suitable candidates, as opposed to the perceived lack of attractiveness of the jobs on offer
- As might be expected, DTF mentions were dominated by professionals, accounting for approximately two thirds of all mentions; associate professionals amounted to a further 12%, and managers accounted for approximately 7%.
- Almost one third of all DTFs were for positions in the ICT sector; other sectors where DTFs occurred included: high tech manufacturing; agri-food manufacturing (niche areas); financial services; and health
- It is estimated that more than half of vacancies associated with DTF mentions were filled by the Irish candidates, while more than a quarter were filled by EU candidates.
- While it would appear that like last year employers were prepared to accept candidates with relatively less experience than previously, more than a quarter of vacancies associated with DTF mentions

[70] The National Recruitment Federation is a voluntary organisation set up to establish and maintain standards and codes of practice for the Recruitment Industry in Ireland.



were for those possessing at least 5 years' relevant experience

- It is estimated that almost 60% of DTFs were for permanent posts, a relatively higher proportion than a year ago (when the share was approximately 50%)
- Consistent with the increase in demand for difficult to source candidates, there was an increase in remuneration these candidates were being offered; approximately 40% of DTF posts were being offered remuneration that was higher than it would have been a year ago; this is particularly the case in the ICT sector with highly sought after candidates, often possessing niche skills, commanding premium salaries (if hired as employees) or daily rates (if engaged on a contract basis)
- The majority of recruitment agencies (60% of those that responded) were satisfied with both the quantity and quality of Irish graduates, although some agencies reported an insufficient number of ICT graduates
- Cross-disciplinary skills remain highly valued; particularly sought after were: ICT skills when combined with business and financial applications skills; engineering and science skills combined with relevant supply chain expertise (mostly in Biopharma); ICT and project management skills needed for migration to cloud platforms.

The occupations most frequently mentioned as being difficult to source included:

- Software designers and developers with specific skill sets:
  - Web development (e.g. HTML/XHTML, JavaScript, and CSS); client computing (ASP.NET, JSP, Ruby on Rails, Django, and PHP[71]); web design and publishing using OS (e.g. Drupal, Joomla, etc.); SEO (Search Engine Optimisation) specialist roles
  - Promoting and enhancing user online experience (UX) and user interaction (UI);Java based applications relevant skills (especially C# , C++, Summit); Animation 3D (gaming industry)
  - Cloud computing skills (e.g. Shell, Pearl, Python and Virtualisation Technologies, namely FlexNetwork and Microsoft Application Virtualization)[72]
  - CRM/CSM (customer relationship management/customer service management) software packages, databases and applications (e.g. Oracle, SAP, Dynamics (Microsoft Dynamics CRM, KANA CSM (customer service management system) and Salesforce)
  - Database architecture, maintenance and operations (e.g. SQL, MySQL, Transact-SQL, Oracle)
  - Networking (confined to IP networking and specialist roles such as Software Quality Assurance Engineer, especially security, malware, digital forensics, incident response, etc.)
  - Mobile technology applications development (Apple iOS and android platforms); smartphone mobile apps (Objective-C 2.0, Objective C J2ME/Java ME -Java platform

[71] Client computing refers to computer hardware or software that accesses a service made available by a server. The server is often (but not always) on another computer system, in which case the client accesses the service by way of a network; hence client computing applies to programs or devices that are part of a client-server model.

[72] In addition, cloud computing, that it to say movement onto cloud (e.g. movement onto cloud by CRM applications) generates additional demand—particularly in areas such as quality assurance and legacy applications

designed for embedded systems such as mobile devices)

- Open source software related, relevant for many of the above areas (e.g. Linux, UNIX, Sun's Java, My SQL, Python, Magento etc.).[73]

- Engineers (other than software engineers) were the second most frequently cited DTF occupation:
  - production and process engineers, especially process automation & system control engineers
  - design and validation engineers
  - quality control engineers
  - chemical and product formulation engineers
  - electrical engineers for roles associated with power generation, transmission and distribution (although these were reportedly less difficult to source compared to a year ago)
- Scientists (biologists, chemists and biotechnologists) remain relatively difficult to source, especially niche skills for the roles in BioPharma such as co-vigilance (specific skill sets relevant for drug discovery & development, mainly clinical trials and drug safety) and product formulation and analytical development, in the main API[74] related skills
- Managers, mainly for
  - specialist and niche area managerial roles (operation managers; business and financial project management; HRM rationalisation)
  - IT operations and IT specialist managers including DB/ERP[75] and associated functional roles
  - sales managers: senior managers with industry specific knowledge and experience; procurement and purchasing managers (supply chain management and integration); marketing managers (niche areas such as product strategy management and marketing roles)
- Financial services and associated roles, mainly:
  - finance professionals specialising in credit and risk management (e.g. risk analysts and actuaries) and regulatory compliance
  - accountants with experience in solvency and financial restructuring and financial management accountants
  - taxation experts
  - business analysts specialising in financial markets (especially financial securities or capital markets)
  - business intelligence and data analyst professionals, especially those with a skill mix of business applications and data systems (SAP System Analysts), and other ERP systems analysts
  - financial advisors (banking)
- Healthcare occupations:
  - medical practitioners (e.g. consultant radiologists)
  - radiographers – clinical specialists
  - veterinarians
  - nurses (senior roles - clinical nursing managers, advanced nursing practitioners in intensive care and theatre nursing, and general nurses

[73] Open-source software (OSS) is computer software with its source code made widely available by the copyright holders; most are increasingly utilised for e-commerce applications – thus Magento is an open source e-commerce web application.

[74] API stands for Active Pharmaceutical Ingredient - the substance in a pharmaceutical drug (or a pesticide) that is biologically active.

[75] Database / Enterprise Resource Planning

for roles associated with elderly people care)
    - cardiac technicians
    - speech and language therapists
    - care assistants/home carers, i.e. elderly care in nursing home settings or in their own homes
- Sales and customer service support:
    - customer service: there continue to be some difficulties in sourcing candidates for certain contact centre roles (telesales and customer support) with many posts requiring fluency in European languages (especially German and Dutch) and/or relevant product knowledge
    - sales: online digital marketing and sales roles (e.g. sales specialist for online gambling); senior roles for IT B2B sales; sales representatives and technical sales representatives for the pharmaceutical and medical device industries
- Administrative occupations:
    - roles within procurement and supply chain, usually requiring language skills
    - roles in niche areas (e.g. credit control, accounts payable)
- Science, engineering and production technicians:
    - laboratory technicians (BioPharma)
    - ICT technical user support, IT testing and troubleshooting positions
    - instrumentation and quality control roles in manufacturing (e.g. electronic technicians)
- Skilled trades: the DTFs were limited to niche areas:
    - metal and machining, fitting and instrument making, and electrical and electronic segments of manufacturing (e.g. CNC operators, PCBA[76]), and the food and accommodation sector (e.g. New Product Development chefs)
- Operatives: DTF mentions were limited to BioPharma, SMT/PTH Rework operators, supply chain roles and transport and mobile machine drivers and operatives (fork lift drivers with VNA skills, and HGV drivers)

[76] Printed Circuit Board Assembly

Section 8 Occupational Employment Profiles

This section examines employment trends by occupation. The statistical analysis covers the period 2007-2012 and, for selected indicators for quarter 4 2012.

Most of the data used in the analysis is presented in Table 8.1. This is followed by employment profiles for over 130 selected occupations, which are broken down into 17 broad groups.

Table 8.1 shows the demand and shortage indicators for the selected occupations and broad occupational groups which were used in the analysis of skills shortages.

Column 1 contains occupational titles; the list of occupations is based on the Standard Occupational Classification (SOC) 2010. In cases where the number of observations in an occupation generated employment figures of less than 3,000, two or more occupations were merged to form an occupational group. This was done in order to generate a sufficiently large number of observations to allow for statistical inference.

It should be noted that the occupational groups presented in this year's report are not directly comparable with those presented in previous bulletins. This is because the data has been re-classified and re-grouped to reflect the new SOC 2010.

Column 2 presents the employment stock figure for each occupation. Employment figures are reported as the annual average figures for 2012. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), quarter 1 to quarter 4 2012.

Column 3 shows the percentage of females in an occupation. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), quarter 4 2012.

Column 4 shows the percentage of persons who work part-time in an occupation. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), quarter 4 2012.

Column 5 provides an indication of the unemployment level in an occupation. The unemployment rate is calculated by dividing the number of unemployed persons aged 15 and over in an occupation by the sum of the number of employed and unemployed persons aged 15 and over in an occupation. As only persons who stated previous occupation are included in calculations, estimates may underestimate the true unemployment rate in an occupation.

The unemployment rate is indicated as follows:

- 'below average' for unemployment rates less than 13.7% (i.e. the national unemployment rate for quarter 4 2012)
- 'above average' for unemployment rates exceeding 13.7%.

To avoid issues with small sample size at this level of disaggregation, the unemployment rate could only be reported for occupations in which least 4,000 persons are employed. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), quarter 4 2012.

Column 6 shows the percentage of persons aged 55 and over in an occupation. This

indicator was used to estimate the replacement demand for an occupation. The age distribution of the workforce of an occupation skewed towards older age cohorts indicates likely higher retirement rates in the short to medium-term. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), quarter 4 2012.

Column 7 shows the percentage of non-Irish persons in an occupation. A higher than average proportion of non-Irish nationals in an occupation suggests that Irish employers had to recruit suitable candidates from abroad to fill vacancies. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), quarter 4 2012.

Column 8 shows the percentage of persons who have attained a third level qualification in an occupation. Third level qualifications span NFQ levels 6-10. See Appendix A for the award types placed at these levels. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), quarter 4 2012.

Column 9 shows the annualised rate of employment growth for an occupation for the period 2007-2012 (inclusive). These rates were used to assess employment growth trends. Source: Analysis by FÁS (SLMRU) based on data provided by the CSO (QNHS), 2007-2012.

Column 10 shows the annual number of new employment permits that were issued for an occupation in 2012. This information was used as an indicator of the demand for labour that could not be met from domestic or EEA sources. Source: Department of Jobs, Enterprise and Innovation.

Column 11 presents the results of the FÁS (SLMRU) Recruitment Agency Survey conducted in April 2013. The occupations with mentions of difficult-to-fill vacancies reported by recruitment agencies are indicated by an 'X'. Source: FÁS (SLMRU) Recruitment Agency Survey.

Column 12 provides an indication of shortage for each occupation. The indicator was derived by considering all indicators as well as using additional information on vacancies, education and relevant qualitative information including recent and on-going EGFSN's sectoral studies. The following provides an explanation of the indicator of shortage:

- 'no shortage' is reported 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 required labour market demand; it should be noted that the difficulty in filling vacancies may be due to a lack of skilled candidates, but also due to the unwillingness of skilled candidates to take up employment in a particular post (e.g. conditions of employment)
- 'labour shortage' refers to a situation whereby there is an insufficient number of individuals available 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 reported 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' within 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 13 provides some further elaboration on the shortages identified in Column 12.

Using data from Table 8.1, individual occupations were examined in detail. The analysis covers the following:

- Science occupations
- Engineering occupations
- IT occupations
- Business and financial occupations
- Healthcare occupations
- Education occupations
- Social and care occupations
- Legal and security occupations
- Construction professional and associate professional occupations
- Construction craft occupations
- Other craft occupations
- Arts, sports and tourism occupations
- Transport and logistics occupations
- Administrative and secretarial occupations
- Sales and customer service occupations
- Operatives
- Elementary occupations (labourers).

In general, occupations that are associated with the same sector of employment or occupations with similar duties were grouped together. The following information is provided for each occupational group:

- The level of employment (expressed as an annual average figure)
  - Employment growth trends for the period 2007-2012
  - Age profile — employment is grouped into the following age categories: persons aged 15-24, 25-54, and 55 years and older
  - Educational attainment — employment is grouped into the following educational categories: persons with lower secondary education or less; higher secondary or further education and training (FET); and third level education.

Each section on the 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. Replacement demand was based on using the replacement rates calculated in Section 10 – Labour Market Transitions. In the short-term, most of the recruitment requirement for most occupations is expected to arise from replacement demand.

The supply of skills was approximated using the expected output from the formal education and training system[77]. The expected output was derived using third level enrolment and graduation data, as well as data from FÁS and other education providers.

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

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 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 the 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. employment 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 (EGFSN) and other qualitative information. The objective was to identify areas of shortages, without quantifying them.

Identified shortages are classified as skill or labour shortages. In some cases, 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 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.

The purpose of this bulletin is solely to identify occupations for which shortages exist. The 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 Indicators for Selected Occupations

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Functional managers & directors	47.8	23.6%	9.5%	Below Average	25.6%	10.0%	55.6%	2.2%	49		No shortage	
Production managers in manufacturing, mining & energy	11.8	17.9%	5.2%	Below Average	11.0%	10.0%	73.0%	2.6%	24		No shortage	
Financial managers & directors	4.0	37.6%	2.0%	Below Average	5.6%	5.0%	80.4%	-3.0%	41		No Shortage	
Advertising, marketing & sales directors	5.6	21.7%	2.4%	Below Average	17.5%	8.0%	67.5%	7.8%	31		No shortage	
Human resource managers	5.3	70.6%	7.7%	Below Average	9.9%	2.1%	92.8%	13.6%	3		No shortage	
ICT specialist & project managers	13.9	26.3%	2.9%	Below Average	5.9%	12.2%	88.2%	4.9%	110	X	Skill shortage	
Financial institution managers & directors	5.9	37.0%	3.9%	Below Average	12.1%	10.3%	82.0%	0.1%	11		No shortage	
Managers & directors in transport & logistics	7.2	11.3%	2.5%	Below Average	10.8%	5.1%	35.4%	-2.0%	3		No shortage	
Managers & directors in retail & wholesale	15.0	42.9%	7.0%	Below Average	9.4%	17.7%	50.6%	0.0%	12		No shortage	
Hotel & accommodation managers	5.7	48.0%	26.8%	Below Average	23.3%	17.6%	46.9%	0.4%	2		No shortage	
Restaurant managers	5.7	40.7%	10.5%	Below Average	11.2%	31.3%	49.9%	-0.5%	5		No shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Publicans	3.4	19.3%	7.4%		38.5%	0.0%	8.5%	-8.1%	0		No shortage	
Leisure & sports managers	2.7	39.1%	24.4%		0.0%	14.3%	71.8%	9.4%	4		No shortage	
Managers & proprietors in other services	25.8	28.2%	11.5%	Below Average	29.9%	4.7%	39.9%	0.5%	14		No shortage	
Chemical, biological & physical scientists	6.6	63.8%	3.6%	Below Average	13.9%	11.3%	96.3%	-1.0%	8	X	Skill shortage	Niche areas
Other natural & social scientists; R&D managers	6.3	44.1%	7.9%	Below Average	8.6%	19.2%	97.7%	2.3%	22		No shortage	
Civil engineers	7.4	10.0%	5.6%	Below Average	9.4%	15.8%	97.9%	-6.6%	5		No shortage	
Electrical & electronic engineers	4.5	3.5%	2.2%	Below Average	16.1%	14.8%	83.7%	13.2%	4	X	Skill shortage	Niche areas
Production, process, design & development engineers	4.0	12.9%	2.2%	Below Average	14.7%	17.7%	86.5%	7.0%	41	X	Skill shortage	
Quality control engineers; other regulatory professionals	3.6	41.6%	2.7%		4.7%	14.0%	88.7%	9.1%	13	X	Skill shortage	
Engineering professionals n.e.c.	4.6	28.2%	10.5%		14.7%	12.7%	88.3%	0.7%	30	X	Skill shortage	Niche areas
IT Business analysts & systems designers	2.6	27.0%	8.9%		10.3%	12.2%	81.8%	-2.2%	250	X	Skill shortage	
Programmers & software developers	17.3	21.2%	4.2%	Below Average	1.1%	27.2%	95.0%	9.2%	548	X	Skill shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Web designers & developers	1.9	31.8%	12.1%		0.0%	16.5%	89.9%	-0.9%	12	X	Skill shortage	
ICT professionals n.e.c.	7.6	16.7%	6.9%	Below Average	7.4%	17.7%	94.7%	3.8%	185	X	Skill shortage	
Medical practitioners	12.0	39.8%	15.6%	Below Average	24.4%	25.1%	99.3%	4.1%	157	X	Skill shortage	
Pharmacists	4.3	72.6%	22.1%	Below Average	9.1%	9.8%	92.3%	5.1%	1		No shortage	
Physiotherapists	3.7	89.8%	34.1%		6.1%	5.9%	100.0%	12.3%	1		No shortage	
Occupational & other therapy professionals	4.7	84.8%	24.8%	Below Average	16.0%	22.4%	100.0%	3.1%	5		No shortage	
Nurses & midwives	58.0	91.3%	23.1%	Below Average	16.3%	19.1%	95.3%	0.5%	111	X	Skill shortage	
Other health professionals n.e.c.	10.8	71.0%	15.9%	Below Average	14.7%	12.5%	94.7%	3.2%	11	X	Skill shortage	Niche areas
Higher & further education teaching profs.	12.8	47.2%	18.6%	Below Average	17.4%	11.9%	99.4%	0.6%	35		No shortage	
Secondary teachers	29.7	67.5%	16.9%	Below Average	13.3%	3.6%	99.1%	4.0%	0		No shortage	
Primary & nursery teachers	38.2	88.8%	11.5%	Below Average	8.1%	3.1%	97.3%	-1.1%	1		No shortage	
Teaching & other educational professionals	14.1	76.0%	31.2%	Below Average	23.1%	7.4%	86.2%	3.7%	8		No shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Barristers, judges, solicitors & related professionals	12.1	48.9%	6.1%	Below Average	21.4%	3.2%	98.4%	4.2%	4		No shortage	
Accountants & tax experts	33.1	47.4%	9.5%	Below Average	7.5%	5.9%	94.9%	-1.4%	85	X	Skills shortage	
Mgt. consultants, business analysts & project managers	7.4	45.9%	11.5%	Below Average	11.2%	12.1%	83.2%	8.6%	85	X	Skills shortage	
Actuaries, economists & statisticians; other business professionals	7.5	52.1%	20.2%	Below Average	12.9%	20.3%	88.0%	2.3%	17	X	Skills shortage	
Architects & town planners	4.4	42.1%	24.5%	Below Average	14.9%	10.3%	100.0%	-8.1%	6		No shortage	
Architectural technologists, construction project managers & surveyors	5.8	10.7%	4.5%	Below Average	11.9%	15.8%	89.7%	-2.0%	10		No shortage	
Social workers & welfare professionals	6.5	60.8%	11.1%	Below Average	30.0%	11.1%	97.4%	0.1%	1		No shortage	
Media professionals	4.4	41.0%	19.6%	Below Average	11.5%	7.3%	86.5%	-11.8%	5		No shortage	
Laboratory technicians	7.4	51.6%	7.6%	Below Average	11.4%	9.3%	71.4%	-2.3%	1	X	Skills shortage	Niche areas
Electrical, electronic & engineering technicians	6.5	3.0%	6.0%	Below Average	13.5%	13.2%	59.6%	8.5%	17	X	Skills shortage	
Process & quality assurance technicians	4.7	41.5%	8.3%	Below Average	3.8%	15.6%	75.8%	2.5%	5	X	Skills shortage	
Other technicians n.e.c.	4.8	13.8%	3.0%	Above Average	12.8%	5.7%	81.9%	-1.5%	16	X	Skills shortage	Niche areas

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
IT operations technicians	8.3	30.4%	9.5%	Below Average	9.4%	24.6%	66.5%	3.5%	33	X	Skills shortage	Multilingual
IT user support technicians	3.8	33.7%	4.1%		6.7%	34.6%	78.0%	5.0%	45	X	Skills shortage	Multilingual
Health associate professionals	10.4	74.7%	28.1%	Below Average	10.1%	13.2%	69.1%	7.0%	17		No shortage	
Youth & community workers	5.6	72.0%	38.6%	Below Average	14.9%	3.9%	66.0%	0.4%	3		No shortage	
Welfare & housing associate professionals	4.4	70.9%	29.9%		21.1%	6.3%	80.7%	3.3%	1		No shortage	
Army personnel	7.1	10.0%	0.0%	Below Average	0.9%	0.0%	25.9%	0.3%	1		No shortage	
Gardaí	13.9	23.5%	0.0%	Below Average	2.1%	1.8%	78.1%	2.8%	0		No shortage	
Protective service occupations	6.7	15.8%	12.6%	Below Average	7.1%	4.5%	33.1%	-0.1%	1		No shortage	
Artistic, literary & media occupations	13.9	41.5%	32.8%	Below Average	19.8%	18.3%	70.2%	-1.1%	12		No shortage	
Design occupations	5.6	54.7%	16.6%	Below Average	10.3%	20.2%	88.5%	-6.1%	3		No shortage	
Sports & fitness occupations	7.5	46.7%	39.0%	Below Average	7.2%	6.8%	58.3%	6.0%	40		No shortage	
Aircraft pilots, ship officers, air traffic controllers	2.3	13.1%	4.2%		6.7%	0.0%	61.3%	3.9%	1		No shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Brokers & insurance underwriters	4.4	34.3%	1.9%	Below Average	9.6%	9.4%	71.3%	-0.6%	3		No shortage	
Finance & investment analysts	7.5	31.7%	8.8%	Below Average	14.0%	10.4%	90.0%	3.7%	37	X	Skill shortage	Niche areas
Financial & accounting technicians	3.6	63.5%	14.4%		9.4%	5.9%	89.0%	-1.6%	9	X	Skill shortage	Multilingual
Financial accounts managers	8.6	37.1%	11.1%	Below Average	9.8%	9.5%	72.0%	12.2%	11	X	Skill shortage	Multilingual
Other business associate profs.	6.5	56.1%	8.5%	Below Average	8.3%	15.8%	81.2%	5.9%	44		No shortage	
Buyers & procurement officers	4.0	53.1%	2.3%		6.0%	8.5%	72.6%	3.2%	2	X	Skill shortage	
Business sales executives	23.2	22.1%	8.1%	Below Average	12.8%	11.6%	47.8%	-1.6%	28	X	Skill shortage	Niche
Marketing associate professionals	4.7	68.3%	11.7%	Below Average	9.2%	15.7%	83.1%	-2.4%	22	X	Skill shortage	Niche Multilingual
Sales accounts & bus. dev. managers	16.8	37.5%	4.4%	Below Average	8.9%	12.1%	74.1%	4.4%	42	X	Skill shortage	Multilingual
Estate agents etc.; conference & exhibition managers	4.8	45.0%	26.6%	Below Average	25.8%	4.7%	61.9%	-0.2%	1		No shortage	
Environmental & other public services associate professionals	4.9	66.0%	20.0%	Below Average	30.4%	8.5%	61.4%	0.4%	3		No shortage	
Human resources & industrial relations officers	5.8	66.1%	13.4%	Below Average	3.4%	15.3%	76.1%	-1.5%	5		No shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Vocational & industrial trainers & instructors	7.5	51.8%	17.5%	Below Average	21.5%	5.6%	69.2%	-1.2%	3		No shortage	
Regulations inspectors; health & safety officers	3.6	24.0%	10.6%		28.1%	4.1%	69.9%	-1.6%	1		No shortage	
Government admin. occupations	40.8	76.6%	16.2%	Below Average	15.6%	1.8%	40.1%	-4.0%	0		No shortage	
Financial admin. occupations	56.0	78.2%	25.4%	Below Average	12.1%	9.9%	50.6%	-2.8%	31	X	Skill shortage	Multilingual
Records & library clerks etc.	3.4	75.0%	41.7%		26.6%	16.0%	41.8%	-0.8%	3		No shortage	
Stock control, transport & distribution admin. occupations	6.1	33.2%	15.0%	Below Average	9.6%	15.7%	28.1%	-1.1%	6	X	Skill shortage	Niche Multilingual
Other administrators n.e.c.	51.4	79.0%	32.6%	Below Average	11.1%	10.1%	42.0%	-4.3%	6		No shortage	
Office managers & supervisors admin. occupations	6.7	75.6%	22.8%	Below Average	13.1%	5.6%	60.3%	-2.8%	3		No shortage	
P.A.s & other secretaries, etc.	30.3	92.4%	35.2%	Below Average	21.1%	7.5%	28.6%	-6.8%	12		No shortage	
Receptionists	12.5	93.5%	42.0%	Below Average	18.7%	12.0%	28.7%	-3.3%	3		No shortage	
Farmers	63.7	8.2%	12.5%	Below Average	50.8%	1.3%	8.7%	-6.3%	0		No shortage	
Horticultural, agricultural & fishing trades n.e.c.	12.7	9.9%	35.7%	Above Average	26.0%	18.7%	26.7%	-4.4%	1		No shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Metal forming, welding & related trades	7.8	1.7%	8.1%	Above Average	10.5%	21.6%	9.7%	-9.5%	0		No shortage	
Metal machining, fitting & instrument making trades	23.0	1.8%	11.2%	Below Average	13.8%	7.3%	31.7%	-6.1%	3		Skill shortage	
Vehicle trades	18.6	0.0%	8.6%	Above Average	10.5%	19.1%	14.0%	-4.7%	1		No shortage	
Electrical & electronic trades, etc.	35.5	3.7%	5.7%	Below Average	15.1%	8.1%	39.4%	-9.6%	11		No shortage	
Bricklayers	3.7	0.0%	41.0%		12.2%	9.4%	6.1%	-25.5%	1		No shortage	
Plumbers	7.9	0.0%	10.3%	Above Average	16.6%	3.4%	10.2%	-13.8%	0		No shortage	
Carpenters & joiners	14.6	0.0%	27.0%	Above Average	14.5%	13.6%	4.4%	-19.7%	0		No shortage	
Plasterers	3.7	0.0%	32.5%		20.1%	12.3%	4.8%	-23.8%	0		No shortage	
Painters & decorators	4.7	4.7%	20.5%	Above Average	19.7%	11.8%	9.6%	-18.0%	0		No shortage	
Other construction trades	17.7	0.8%	19.2%	Above Average	17.5%	14.3%	12.7%	-17.6%	2		No shortage	
Printing trades	4.5	16.6%	6.7%	Below Average	19.6%	6.6%	11.2%	-4.6%	2		No shortage	
Butchers, fishmongers, etc.	7.9	4.3%	9.9%	Below Average	16.7%	35.2%	5.0%	0.1%	36		No shortage	Retention issues

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Bakers & flour confectioners	3.2	36.3%	21.6%		11.8%	27.7%	13.6%	2.4%	2		No shortage	
Chefs & cooks	23.1	39.2%	29.0%	Above Average	9.0%	37.4%	38.3%	-1.6%	104		No shortage	Retention issues
Catering & bar managers	5.1	34.6%	25.6%	Below Average	13.9%	6.9%	43.1%	-1.0%	1		No shortage	
Other skilled trades	8.8	38.2%	30.7%	Above Average	20.0%	21.3%	23.8%	-8.1%	2		No shortage	
Nursery nurses & assistants	5.4	98.3%	55.7%	Above Average	6.9%	12.0%	35.5%	5.0%	1		No shortage	
Childminders, etc.	18.4	97.8%	57.1%	Above Average	8.9%	27.0%	37.2%	0.4%	10		No shortage	
Educational support assistants	13.9	97.0%	25.5%	Below Average	17.6%	3.8%	46.0%	1.0%	0		No shortage	
Animal carers & pest controllers	1.9	62.4%	28.9%		14.8%	11.2%	52.6%	-3.6%	3		No shortage	
Caring personal service occupations	9.7	74.0%	32.1%	Below Average	23.1%	12.9%	40.1%	3.6%	77		Inconclusive	
Care workers, home carers, etc.	50.3	86.6%	48.2%	Below Average	23.7%	14.3%	28.0%	0.7%	19		Inconclusive	Retention issues
Leisure & travel service occupations	8.4	66.1%	40.0%	Average	10.5%	10.9%	50.9%	-3.1%	1		No shortage	
Hairdressers & beauticians, etc.	21.3	87.3%	51.8%	Below Average	3.6%	13.6%	21.4%	0.1%	5		No shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Housekeepers & caretakers, etc.	14.0	54.2%	51.0%	Below Average	31.7%	27.3%	16.2%	-0.4%	13		No shortage	
Sales assistants	127.9	70.8%	57.1%	Above Average	8.9%	17.4%	21.9%	-2.0%	34		No shortage	
Sales related occupations	10.3	28.2%	25.2%	Below Average	20.5%	7.8%	34.8%	-5.4%	3		No shortage	
Sales supervisors	3.8	44.0%	15.4%	Below Average	8.8%	19.8%	24.4%	-0.2%	4		No shortage	
Customer service occupations	17.3	65.2%	27.4%	Below Average	7.2%	26.6%	51.0%	1.5%	10		No shortage	
Food, drink & tobacco process operatives	14.3	24.6%	15.2%	Above Average	6.8%	38.6%	17.5%	20.4%	2		No shortage	
Chemical & related process operatives	4.3	29.0%	3.3%	Below Average	3.5%	8.8%	35.8%	-5.8%	2		No shortage	
Other process operatives	4.0	12.7%	12.0%		11.0%	25.3%	29.0%	-2.1%	2		No shortage	
Plant & machine operatives	6.8	15.8%	15.2%	Above Average	11.9%	20.3%	14.9%	-12.4%	6		No shortage	
Assemblers	6.8	45.2%	8.7%	Below Average	1.8%	28.7%	21.5%	5.1%	0		No shortage	
Routine operatives	24.0	45.2%	13.5%	Below Average	13.1%	18.8%	25.3%	3.7%	8		No shortage	
Construction operatives	10.2	3.4%	22.9%	Above Average	24.7%	9.2%	9.0%	-6.8%	5		No shortage	

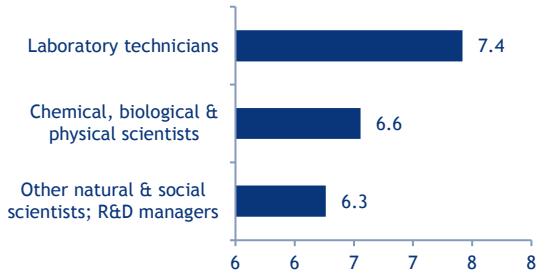
Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Road transport operatives	57.1	2.1%	22.7%	Below Average	24.8%	12.4%	9.1%	-5.0%	23		No shortage	
Mobile machine drivers & operatives	11.0	2.3%	13.3%	Above Average	15.8%	14.9%	9.7%	-13.0%	0		No shortage	
Other drivers & transport operatives	4.1	3.1%	7.8%	Below average	7.7%	15.5%	10.2%	-0.1%	0		No shortage	
Elementary agricultural occupations	11.8	26.3%	30.8%	Above Average	15.3%	27.0%	16.0%	-0.1%	14		No shortage	
Elementary construction occupations	29.0	10.8%	24.2%	Above Average	10.8%	22.4%	10.2%	-19.4%	0		No shortage	
Elementary process plant occupations	9.7	33.0%	19.0%	Above Average	9.7%	47.3%	14.0%	-16.8%	7		No shortage	
Elementary administration occupations	10.3	14.1%	13.5%	Below Average	21.0%	3.4%	11.8%	-2.1%	7		No shortage	
Elementary cleaning occupations	38.7	74.8%	62.4%	Below Average	17.6%	44.3%	14.5%	-0.7%	52		No shortage	
Elementary security occupations	14.2	11.9%	28.9%	Above Average	20.2%	19.8%	22.2%	-3.7%	11		No shortage	
Elementary sales & storage occupations	21.4	7.8%	20.8%	Below Average	11.5%	25.1%	21.2%	-3.8%	0		No shortage	
Kitchen & catering assistants	21.4	66.3%	44.5%	Below Average	10.2%	42.8%	28.1%	-2.3%	36		No shortage	
Waiters & waitresses	21.1	75.8%	68.6%	Below Average	3.1%	31.7%	23.6%	-3.6%	13		No shortage	

Occupation	Number Employed, 2012 (Annual Average - '000s)	% Female	% Part-Time	Unemployment Rate (%)	% Aged 55 years and over	% Non-Irish Nationals	% Third Level Graduates	Annualised Employment Growth Rate, 2007-2012 (%)	New Employment Permits Issued, 2012(Number)	SLMRU Recruitment Agency Survey	Shortage Indicator	Comment
Bar staff	17.1	32.3%	59.5%	Above Average	7.2%	6.4%	16.6%	-4.4%	1		No shortage	
Other elementary occupations	4.5	13.1%	32.9%	Above Average	9.5%	24.6%	21.8%	1.7%	2		No shortage	
Other/not stated	6.0	45.0%	19.9%	Above Average	14.1%	23.6%	31.9%	0.0%	4		No shortage	
Total	**1,838**	**46.6%**	**24.4%**	**13.7%**	**15.4%**	**14.6%**	**46.0%**	**-3.0%**	**2,982**			

8.1 Science Occupations

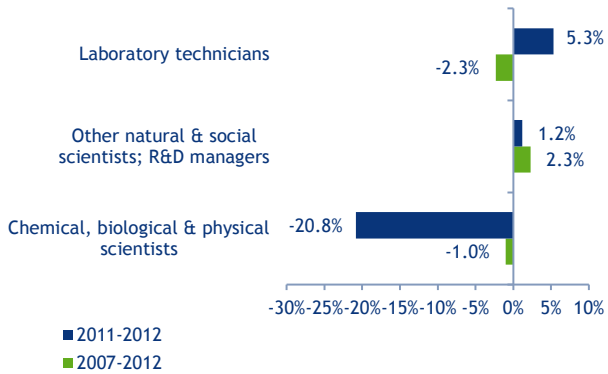
- Approximately 20,000 persons were employed in the selected science occupations, accounting for just over 1% of national employment
- Almost three quarters of employment was concentrated in three sectors: manufacturing (particularly pharmaceuticals), professional, scientific and technical activities (mostly scientific R&D) and human health activities
- Just over three fifths of overall employment in the selected occupations was at professional level; the remainder was at technician level
- Overall employment in the selected science occupations contracted very modestly over the period 2007-2012, at an annualised rate of 0.6%; this compares to the national average rate of -3%; employment for laboratory technicians and chemical, biological and physical scientists contracted by 2.3% and 1% respectively; in contrast, it expanded by 2.3% for other natural and social scientists and R&D managers
- Between 2011 and 2012, overall employment in the selected occupations contracted by 5.9% – exceeding the national average rate of -0.6%; just over 1,000 net job losses were recorded, reflecting the decline in employment for chemical, biological and physical scientists
- Over four fifths of the overall workforce of both science professionals and technicians was aged 25-54; chemical, biological and physical scientists had the most mature workforce while laboratory technicians had the youngest
  - Just over 95% and approximately 70% of the overall workforce of science professionals and technicians were third level graduates respectively
- The overall workforce of both science professionals and technicians was broadly gender balanced
- Almost one fifth of the overall workforce of other natural, social scientists and R&D managers was composed of non-Irish nationals
- The unemployment rate for both science professionals and technicians was considerably below the national average rate in quarter 4 2012

Figure 8.1.1 Numbers Employed (000s) in Selected Science Occupations, 2012



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

Figure 8.1.2 Average Annual Growth (%) in Selected Science Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.1.1 Age Profile of Selected Science Occupations, 2012

	15-24	25-54	55+	Total
Laboratory technicians	5%	84%	11%	100%
Chemical, biological & physical scientists	1%	85%	14%	100%
Other natural & social scientists; R&D managers	2%	89%	9%	100%

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

Table 8.1.2 Education Profile of Selected Science Occupations, 2012

	Lower Secondary or Less	Higher Secondary or FET	Third level	Total
Laboratory technicians	9%	20%	71%	100%
Chemical, biological & physical scientists	1%	3%	96%	100%
Other natural & social scientists; R&D managers	0%	2%	98%	100%

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

Shortage Indicators

Shortages have been identified for chemical, pharmaceutical and biopharmaceutical scientists. The sectors with shortages of science skills include:

- the biopharma sector, particularly for roles in clinical co-vigilance (clinical trials, drug safety, and drug discovery and development),
- food and beverages (R&D, product development),
- biotechnology and medical device sectors.

The demand is confined to those with advanced skills, including

- scientific research skills relevant to product development
- skills that combine scientific expertise with an understanding of the manufacturing processes (data analytic skills)
- skills that combine scientific expertise with the generic skills (communication, planning, project management etc.) necessary for interaction with customers, suppliers, regulatory and funding bodies.

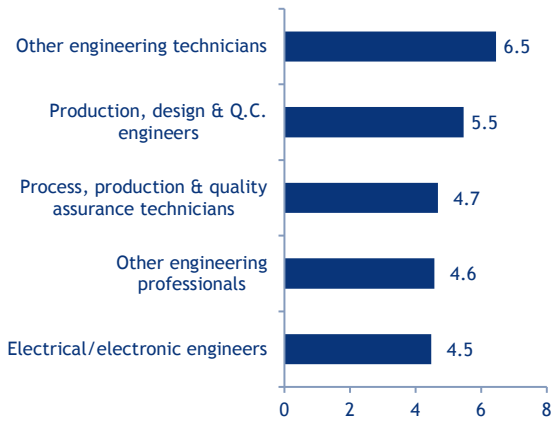
There are also indications of a shortage of laboratory technicians, although these are confined to niche areas within the biopharma, food and medical devices.

Strong demand for chemical, pharmaceutical and biopharmaceutical scientists and certain types of laboratory technicians is illustrated in recent job announcements in the agri-food sector (e.g. Glanbia), and the pharma & biotechnology sectors (e.g. Whitehouse Analytical Labs, Algae Health, IMSTec, AbbVie Ireland).

8.2 Engineering Occupations

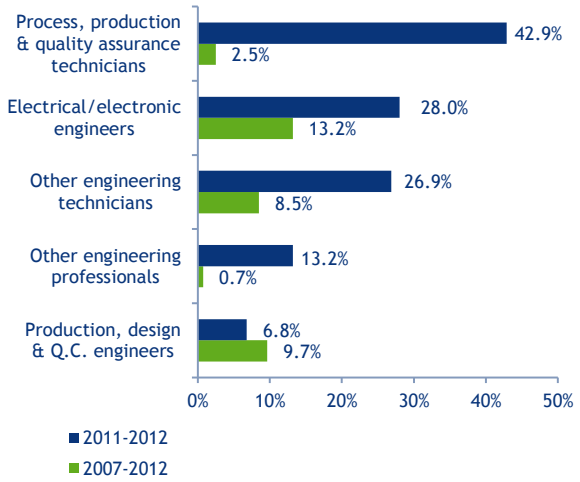
- There were approximately 26,000 persons employed in the selected engineering occupations, representing 1.4% of national employment
- Approximately one half of overall employment in the selected occupations was concentrated in manufacturing (mostly high tech and machinery/equipment manufacturing) while almost an additional one fifth was concentrated in professional, scientific and technical activities (mostly engineering, technical testing and analysis)
- Just under 60% of total employment in the selected engineering occupations was at professional level (i.e. engineers); the remainder was at technician level
- Of the 17 occupational groups examined in this report, engineering occupations overall had the highest employment growth rate over the period 2007-2012 (+6.5% on average annually); employment growth was the strongest for electrical/electronic engineers (+13.2% on average annually), followed by production, design and quality control engineers (+9.7% on average annually)
- Between 2007 and 2012, approximately 7,000 additional jobs were created; almost 60% of the job creation was for electrical/electronic engineers and production, design and quality control engineers
- Over the period 2011-2012, overall employment expanded by 22%, translating into an additional 4,600 jobs; the largest number of jobs was created at technician level
- Over three quarters of the workforce of each occupation was aged 25-54
- Almost 90% of the overall workforce of engineering professionals held third level qualifications; the share was just under 70% for technicians
- The share of females in the workforce of both engineering professionals (17%) and technicians (20%) was significantly below the national average share of 47%
- The unemployment rate for both engineers and technicians was well below the national average rate
- The majority of persons employed in engineering occupations worked full-time and were Irish-nationals

Figure 8.2.1 Numbers Employed (000s) in Selected Engineering Occupations, 2012



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

Figure 8.2.2 Average Annual Growth (%) in Selected Engineering Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.2.1 Age Profile of Selected Engineering Occupations, 2012

	15-24	25-54	55+	Total
Process, production & QA technicians	0%	96%	4%	100%
Electrical/electronic engineers	3%	81%	16%	100%
Other engineering technicians	5%	81%	14%	100%
Other engineering professionals	6%	79%	15%	100%
Production, design & Q.C. engineers	7%	82%	11%	100%

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

Table 8.2.2 Education Profile of Selected Engineering Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Process, production & QA technicians	3%	21%	76%	100%
Electrical/electronic engineers	5%	11%	84%	100%
Other engineering technicians	6%	34%	60%	100%
Other engineering professionals	0%	12%	88%	100%
Production, design & Q.C. engineers	5%	5%	90%	100%

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

Shortage Indicators

The data points to a shortage for a number of engineering occupations.

There is a significant shortage of precision engineering skills; these skills include

- tool design (technician level)
- polymer technology (technician level)
- process engineering skills (professional level).

The supply of these skills from the education and training system has declined in recent years due partly to the discontinuation of third level courses in polymer technology and tool design[78]. While the cessation of these courses coincided with the outsourcing of much of this type of engineering work to low cost countries, technological developments in high precision tool design and manufacture has shifted to a highly computerised process, and tools are increasingly multi-functional

[78] The new level 7 course at IT Sligo and initiatives such as Springboard-funded courses for job seekers may begin to address some of the shortages arising in this area once graduates emerge from education and training.

and complex, and subject to very low fault tolerance levels; this is particularly, although not exclusively, the case for tools for the medical devices industry, which has developed a strong presence in Ireland.

The increasing sophistication of the tools means that the quality of the product has become a key consideration in the awarding of contracts, and Irish companies are to an increasing extent successfully tendering for such contracts. The current shortage of precision engineering skills is adversely impacting on Irish based companies' capacity to continue to tender and deliver on such contracts.

At professional level, other engineering skills in demand include

- quality control, validation & regulation engineers (high tech industry; food and beverages)
- mechanical engineers (machining industry agriculture equipment, ventilation systems (green economy), process automation (various sectors) and medical devices/pharmaceuticals (e.g. the research interface between materials and pharmaceutical products/medical devices))
- electrical and electronic engineers (e.g. telecommunications)
- production and process engineers
- chemical process engineers
- project management engineers

At technician level, shortages of other engineering skills were mostly for

- electrical and electronic technicians with skills that combine mechanical, electrical and electronic technologies
- quality control
- production
- process and design engineering to control and design automated processes
- food technologists.

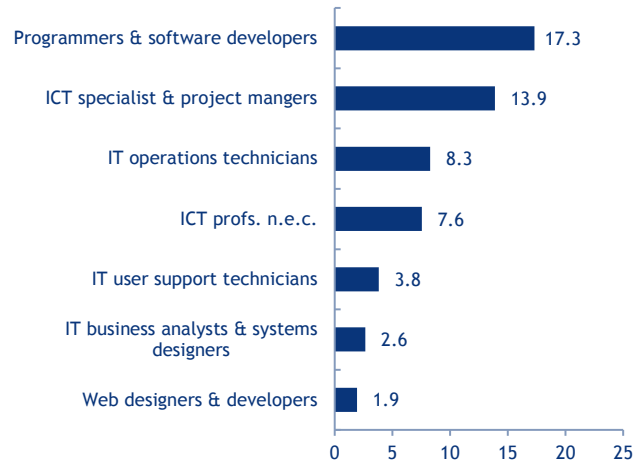
In addition, there is a demand for engineering expertise combined with the skills necessary for interaction with customers, suppliers, regulatory and funding bodies (e.g. people, communication and planning skills, cross discipline knowledge, etc.).

Strong demand for engineering skills, at both professional and technician level, is illustrated in recent job announcements in medical devices and pharmaceuticals manufacturing (e.g. Vistacon, Sangart, IMSTec GmbH); food manufacturing (e.g. Glanbia) and energy, especially renewable energy, generation (Element Power; Natural Power, ESB International).

8.3 IT Occupations

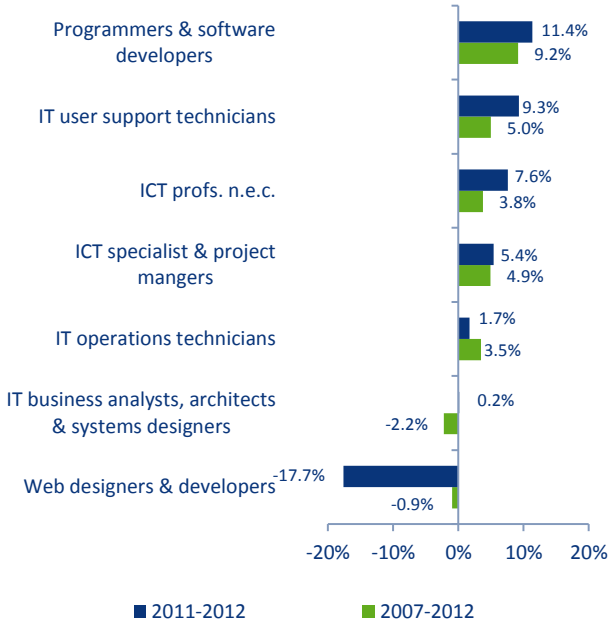
- There were approximately 55,000 persons employed in the selected IT occupations, accounting for 3% of Ireland's workforce
- Just over 50% of overall employment was concentrated in the IT sector (mostly in computer programming/consultancy and telecommunications) while an additional 16% was in industry (computer manufacturing etc.)
- Just over three quarters of employment was at professional level while over one fifth was at technician level
- Between 2007 and 2012, overall employment in IT occupations expanded by 5.1% on average annually – one of the very few occupational groups to experience employment growth in that period; with the exception of IT business analysts/systems designers and web designers and developers, employment in each occupation grew over the five-year period; the strongest growth (+ 9.2% on average annually) was for programmers and software developers
- Between 2011 and 2012, overall employment increased by 5.9% – adding a net 3,000 jobs
- With just 5% on average aged 55 or older, the age profile of those employed in IT occupations overall was amongst the youngest of the 17 occupational groups examined in this report; with 10% of those employed aged 55 or older, IT business analysts/systems designers and IT operations technicians had the most mature workforces, although they were still well below the national average of 15.4%
- The workforce of IT professionals was highly skilled – just over 90% were third level graduates
- One quarter of the overall workforce of IT occupations was female
- At 5.6%, the unemployment rate for IT occupations was well below the national average rate of 13.7% in quarter 4 2012
- The workforce of IT user support technicians had one of the highest shares of non-Irish nationals (at just over one third); at approximately one quarter each, the share of non-Irish nationals employed was also considerably above the national average (of 14.6%) for programmers and software developers and IT operations technicians

Figure 8.3.1 Numbers Employed (000s) in Selected IT Professional Occupations, 2012



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

Figure 8.3.2 Average Annual Growth (%) in Selected IT Professional Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.3.1 Age Profile of Selected IT Professional Occupations, 2012

	15-24	25-54	55+	Total
Programmers & software developers	3%	96%	1%	100%
ICT specialist & project managers	1%	93%	6%	100%
IT operations technicians	5%	85%	10%	100%
ICT profs. n.e.c.	5%	88%	7%	100%
IT user support technicians	8%	85%	7%	100%
IT business analysts & systems designers	3%	87%	10%	100%
Web designers & developers	12%	88%	0%	100%

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

Table 8.3.2 Education Profile of Selected IT Professional Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Programmers & software developers	2%	3%	95%	100%
ICT specialist & project managers	2%	10%	88%	100%
IT operations technicians	1%	33%	66%	100%
ICT profs. n.e.c.	1%	4%	95%	100%
IT user support technicians	2%	20%	78%	100%
IT business analysts & systems designers	0%	18%	82%	100%
Web designers & developers	0%	10%	90%	100%

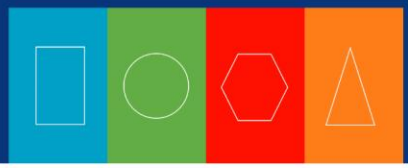
Source: Analysis by FÁS (SLMRU) based on CSO data

Shortage Indicators

Shortages of IT skills have continued to arise: almost 1,300 new work permits were issued to IT workers in 2012 and IT posts made up approximately one third of all difficult to fill mentions. ICT skills difficult to source include:

Software developers and designers:

- Web developers with high level skills and experience in
  - Java and related applications (e.g. .Net, C++); java knowledge combined with experience in Spring and Grails Frameworks; PHP knowledge,
  - other web page development skills (HTML, CSS, XHHTML, Ruby on rails)
  - enhancing end user experience and usability (UX, UI, Tibco, Messagebroker), which are becoming increasingly important as businesses migrate to online platforms
- Cloud computing specialists (spanning a range of skills levels, including entry level)



    - cloud infrastructure skills (e.g. Python and open source technologies)
    - VMWare and other virtualisation technologies know-how
    - expert support engineers (Windows, Linux, Redhat, Debian, Ubuntu)
- Mobile technology applications developers (e.g. Apple iOS; Android (e.g. Honeycomb, Icecream, Sandwich); Windows Phone; Linux; Unix; open source tools; Software Development Life Cycle); the demand spans a range of levels but is particularly strong for high level skills
- Senior programmers with expertise in relational databases (esp. SQL Server), .Net, ASP.NET, Java, C+ and C++
- Games developers with skills (both entry and advanced level) in web based architecture and technologies, Java, and game state management (GSM), as well as high level skills in 3D animation
- Computing architects and administrators, with skills and expertise in
    - Big Data analytics infrastructure and technologies (for big data developers: NoSQL, Java, JavaScript, MySQL and Linux combined with TDD, CSS and Agile; for big data architects: Oracle, Java, SQL, Hadoop, SQL Server and Data Modelling ETL)
    - customer relationship management applications (Salesforce, Dynamics, Oracle, SAP, Advanced Excel)
    - SQL Server database administration.

IT Project managers with technical skills combined with program management, business analytics, or Agile/Scrum/Kanban and Prince II skill sets.

IT user support: Networking and PC maintenance experts with skills in Cisco CCNA and MS MCITP; there is also a demand for skills, even those with less experience, in Oracle, Comptia Linux+, Comptia A+, wireless networks and IP networking, especially, although not restricted to, the telecommunications and security industries.

IT security experts: demand is growing, in part, due to the increased use in tablet computers and handheld devices; skills in demand include those with high level expertise in security, malware, digital forensics, web security, etc.

IT testing and troubleshooting: performance testers; automation and manual testers (especially in the financial and telecommunications industries).

The demand for IT skills is likely to continue to be strong as organisations introduce new or migrate existing systems to increasingly sophisticated online and/or cloud platforms.

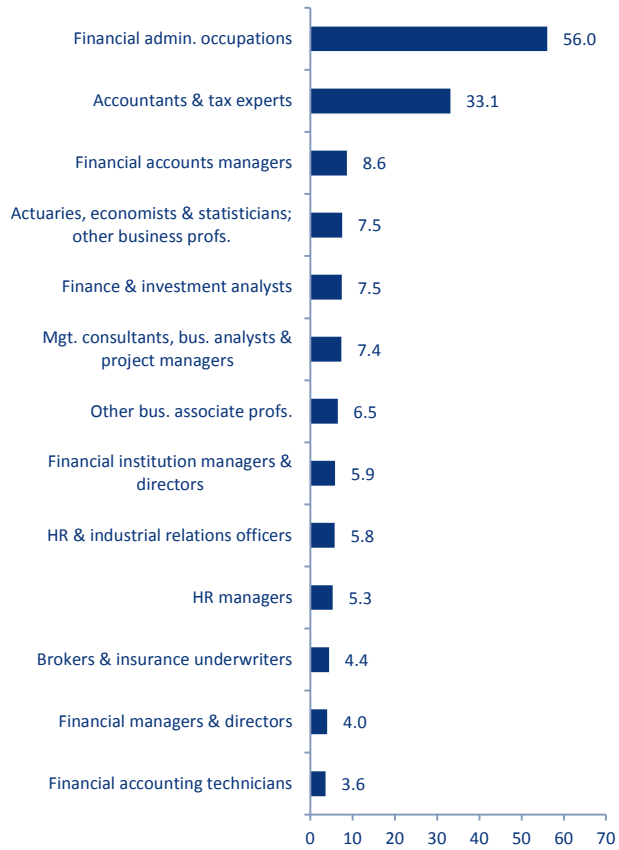
Strong demand is confirmed in recent job announcements over the last year, particularly in the areas of

- cloud computing (e.g. Feed Henry, Zendesk)
- R&D (Huawei, McAfee)
- industry specific software applications development (e.g. food manufacturing (Opensky); insurance (Fineos, Unum, Guidewire), banking & brokering (PE Lynch); IT security (e.g. FireEye, Zurich IT & Security Services); Big Data (e.g. Quantcast) and technical writing (Bárd na nGleann).
- IT user support (e.g. OnePage, Yahoo)

8.4 Business and Financial Occupations

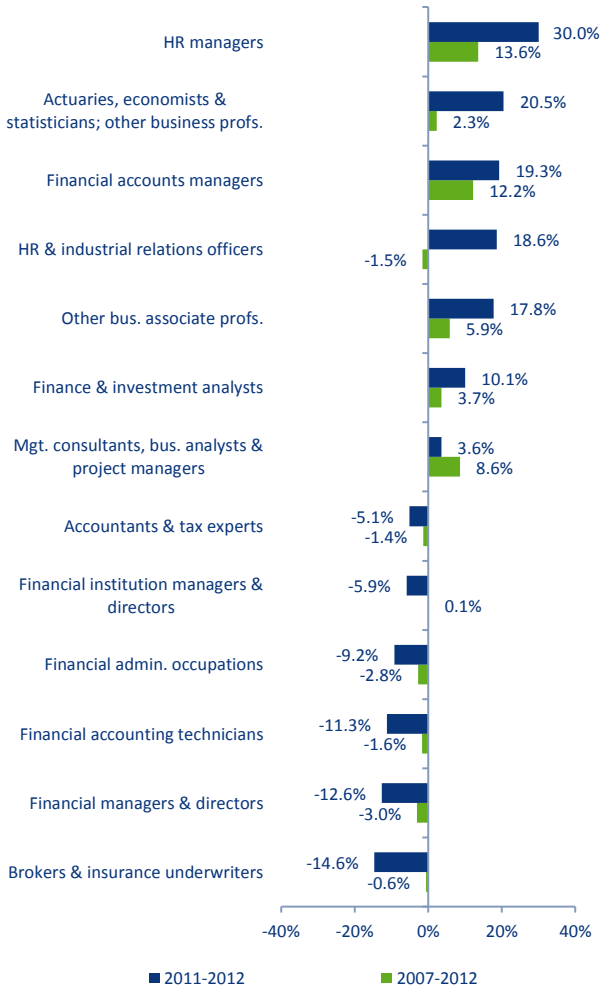
- There were approximately 156,000 persons employed in the selected business and financial occupations, accounting for 8.5% of Ireland's workforce
- Approximately 40% of overall employment was concentrated in financial, insurance and real estate activities while a further 17% was in professional, scientific and technical activities (mostly legal and accounting activities)
- Just over one third of overall employment in the selected occupations was at administrative level (primarily bank and post office clerks and book-keepers, payroll managers and wages clerks); almost an additional one third was at professional level (mostly accountants and tax experts); just over one fifth was at associate professional level
- Employment in business and financial occupations increased by 8.3% from 156,000 in 2007 to 169,000 in 2010, but decreased in the two subsequent years, reverting back to the 2007 level in 2012; the overall number of jobs created was similar to the number of jobs losses between 2007 and 2012
- Over that five year period, the strongest average annual employment growth was recorded for HR managers (13.6%) and financial accounts managers (12.2%); in contrast, the strongest negative growth was for financial managers and directors, and financial administrative occupations, contracting at average annual employment rates of -3% and -2.8% respectively
- Between 2011 and 2012, overall employment in the selected occupations contracted by 1.8%, resulting in approximately 3,000 net job losses
- Over four fifths of the overall workforce of business and financial occupations was aged 25-54
- The workforce of accountants/tax experts and HR managers had the highest educational attainment, with 95% and 93% holding third level qualifications respectively
- Approximately 70% and almost 80% of those working in financial admin occupations and as HR managers were female respectively

Figure 8.4.1 Numbers Employed (000s) in Selected Business and Financial Occupations, 2012



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

Figure 8.4.2 Average Annual Growth (%) in Selected Business and Financial Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.4.1 Age Profile of Selected Business and Financial Occupations, 2012

	15-24	25-54	55+	Total
Financial admin. occupations	5%	83%	12%	100%
Accountants & tax experts	6%	86%	8%	100%
Financial accounts managers	4%	86%	10%	100%
Actuaries, economists & statisticians; other bus. profs	13%	74%	13%	100%
Finance & investment analysts	5%	81%	14%	100%
Mgt. consultants, bus. analysts & project managers	0%	89%	11%	100%
Other bus. associate profs.	6%	86%	8%	100%
Financial institution managers & directors	0%	88%	12%	100%
HR & industrial relations officers	5%	92%	3%	100%
HR managers	0%	90%	10%	100%
Brokers & insurance underwriters	4%	86%	10%	100%
Financial managers & directors	0%	94%	6%	100%
Financial accounting technicians	2%	88%	10%	100%

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

Table 8.4.2 Education Profile of Selected Business and Financial Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Financial admin. occupations	4%	45%	51%	100%
Accountants & tax experts	1%	4%	95%	100%
Financial accounts managers	2%	26%	72%	100%
Actuaries, economists & statisticians	1%	11%	88%	100%
Finance & investment analysts	0%	10%	90%	100%
Mgt. consultants, bus. analysts & project mgrs.	1%	16%	83%	100%
Other bus. associate profs.	0%	19%	81%	100%
Financial institution managers	1%	17%	82%	100%
HR & industrial relations officers	0%	24%	76%	100%
HR managers	0%	7%	93%	100%
Brokers & insurance underwriters	2%	27%	71%	100%
Financial managers & directors	0%	20%	80%	100%
Financial accounting technicians	0%	11%	89%	100%

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

Shortage Indicators

The shortages arising for business skills are typically confined to niche and specialist roles; these include

- purchasing managers, especially in relation to global supply chains
- business sales executives, mostly in technical products sales, B2B sales in IT, and the medical/pharmaceutical sectors
- product and marketing managers and executives, including some shortages of these skills combined with language skills, especially German, and digital marketing expertise
- Sales accounts executives (in some cases combined with language skills)
- Business analysts and statisticians, including big data analysts with proficiency in IT skills (e.g. Oracle, SQL) as well as data mining, data modelling, mathematics/statistics, as well as industry specific knowledge (e.g. biopharma sector).

Finance

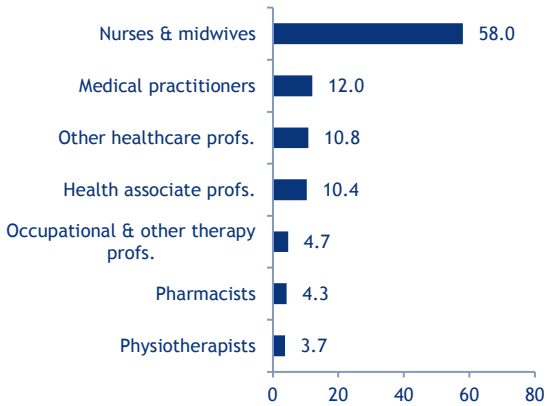
- Finance professionals, including
  - accountants and auditors with skills in tax, compliance, solvency, and financial management, as well as specific industry experience, including banking, manufacturing, etc.
  - risk analysts
  - regulatory professionals
  - actuaries
- Finance and investment analysts (niche areas, financial securities)
- Financial advisors (banking sector)
- Fraud analysts
- Credit control associate professionals
- Multilingual financial accounting technicians
- Clerical administrators in credit control and global supply chain with multilingual skills.

Job creation for business and financial occupations is confirmed in the media with announcements for financial services roles (e.g. Capita) and posts in niche business areas such as digital marketing (e.g. Hubspot) and technical sales in high tech manufacturing (e.g. Novartis).

8.5 Healthcare Occupations

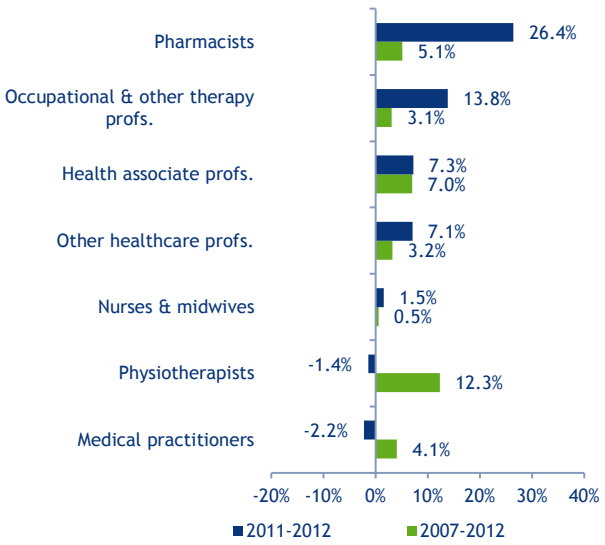
- There were approximately 104,000 persons employed in healthcare occupations, representing 5.7% of Ireland's workforce
- Almost 90% of total employment was in professional occupations (equivalent to approximately 92,000 persons)
- Nurses and midwives had by far the largest workforce – accounting for just over three fifths of total employment in professional occupations – the third largest workforce in the economy as a whole, after sales assistants and farmers
- Employment in the selected healthcare occupations increased by 2.4% on average annually over the period 2007-2012, resulting in a net 11,500 additional jobs
- Employment grew in each occupation over that five-year period; at 12.3%, the strongest average annual growth in employment was for physiotherapists (albeit from a relatively low level in 2007); other healthcare associate professionals and medical practitioners expanded, at average annual rates of 7% and 4.1% respectively
- Between 2011 and 2012, an additional 3,500 net jobs were created in healthcare occupations
- Approximately four fifths of persons employed in healthcare occupations were aged 25-54; medical practitioners had the most mature workforce, with almost one quarter at least 55 years old, exceeding the national average share of 15%
- The education profile of those working in healthcare occupations was skewed towards higher educational attainment: over 90% and approximately 70% of those employed at professional and associate professional level held third level qualifications respectively
- With the exception of medical practitioners, between 70% and 91% of those employed in healthcare occupations were female; in contrast, 60% of medical practitioners in employment were male
- One quarter of all employed medical practitioners were non-Irish nationals– one of the highest shares among all professional occupations economy-wide

Figure 8.5.1 Numbers Employed (000s) in Selected Healthcare Occupations, 2012



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

Figure 8.5.2 Average Annual Growth (%) in Selected Healthcare Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.5.1 Age Profile of Selected Healthcare Occupations, 2012

	15-24	25-54	55+	Total
Nurses & midwives	3%	81%	16%	100%
Medical practitioners	2%	74%	24%	100%
Other healthcare profs.	2%	83%	15%	100%
Health associate profs.	9%	81%	10%	100%
Therapy profs.	2%	82%	16%	100%
Pharmacists	9%	82%	9%	100%
Physiotherapists	5%	89%	6%	100%

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

Table 8.5.2 Education Profile of Selected Healthcare Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Nurses & midwives	0%	5%	95%	100%
Medical practitioners	0%	1%	99%	100%
Other healthcare profs.	0%	5%	95%	100%
Health associate profs.	2%	29%	69%	100%
Therapy profs.	0%	0%	100%	100%
Pharmacists	0%	8%	92%	100%
Physiotherapists	0%	0%	100%	100%

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

Shortage Indicators

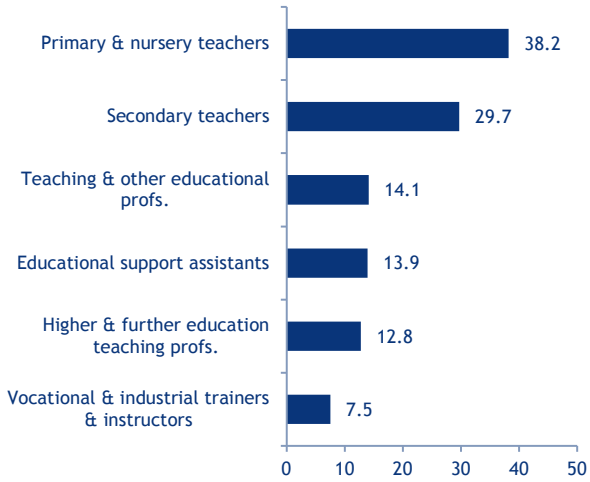
Despite limited employment opportunities in the public healthcare sector, skill shortages persist for a limited number of occupations including:

- Medical practitioners
- Specialist nurses, confined to older people care, cardio care, intensive and critical care, oncology, and theatre nursing.

8.6 Education Occupations

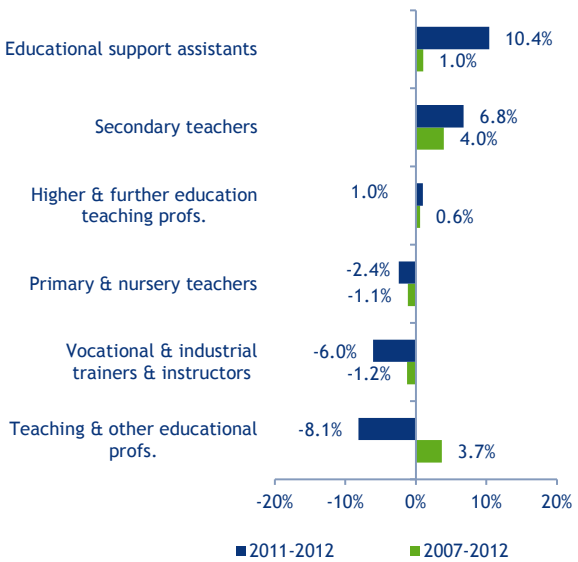
- There were approximately 116,000 persons employed in the selected education occupations, representing 6.3% of Ireland's workforce
- Just over 80% of overall employment was in professional occupations (mostly primary/nursery and secondary school teachers)
- Between 2007 and 2012, the strongest employment growth was for secondary teachers and other teaching and educational professionals, which grew by 4% and 3.7% on average annually respectively; in contrast, employment of primary/nursery teachers and vocational/industrial trainers contracted by just over 1% each on average annually
- There were almost a net 6,000 additional jobs created between 2007 and 2012; the largest number of jobs was created for secondary teachers and teaching and other educational professionals
- Overall employment grew very modestly between 2011 and 2012, by 0.6%
- The workforce of primary/nursery teachers was the youngest among the selected occupations, with almost 10% aged 15-24; in contrast, just over one fifth of the overall workforce of both vocational/industrial trainers and teaching and other educational professionals was aged 55 or older
- The majority of those employed at professional and associate professional level held third level qualifications; less than one half of those working as educational support assistants were third level graduates
- The workforce of most education occupations was predominantly female, the only exception was for higher and further education teaching professionals and vocational and industrial trainers/instructors – the workforce of both of these occupations was almost gender balanced

Figure 8.6.1 Numbers Employed (000s) in Selected Education Occupations, 2012



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

Figure 8.6.2 Average Annual Growth (%) in Selected Education Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.6.1 Age Profile of Selected Education Occupations, 2012

	15-24	25-54	55+	Total
Primary & nursery teachers	9%	83%	8%	100%
Secondary teachers	5%	82%	13%	100%
Teaching & other educational profs.	5%	72%	23%	100%
Educational support assistants	2%	80%	18%	100%
Higher & further education teaching profs.	1%	81%	18%	100%
Vocational & industrial trainers & instructors	5%	73%	22%	100%

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

Table 8.6.2 Education Profile of Selected Education Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Primary & nursery teachers	1%	2%	97%	100%
Secondary teachers	0%	1%	99%	100%
Teaching & other educational profs.	1%	13%	86%	100%
Educational support assistants	5%	49%	46%	100%
Higher & further education teaching profs.	0%	1%	99%	100%
Vocational & industrial trainers & instructors	8%	23%	69%	100%

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

Shortage Indicators

The data does not point to any evidence of shortages in education related occupations mainly due to the fact that job opportunities in the public sector remain limited.

However, the demand for education professionals is expected to be driven by

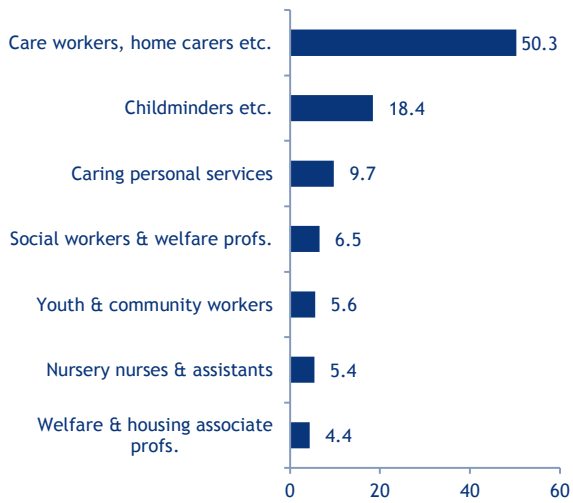
- significant increases in the size of school going age cohorts over the medium-long term; CSO (2013) population projections[79] estimate that the size of the primary school age cohort will expand by 17-20% between 2011 and 2021 and the size of the 13-18-year old population will grow by at least 31% between 2011 and 2026
- continued upskilling of the labour force, both unemployed and employed (e.g. Springboard, Momentum)
- initiatives to improve retention and progression rates for those already in the education and training system, particularly at 2nd and 3rd level.

[79] CSO (2013) Population and Labour Force Projections, 2016-2046.

8.7 Social and Care Occupations

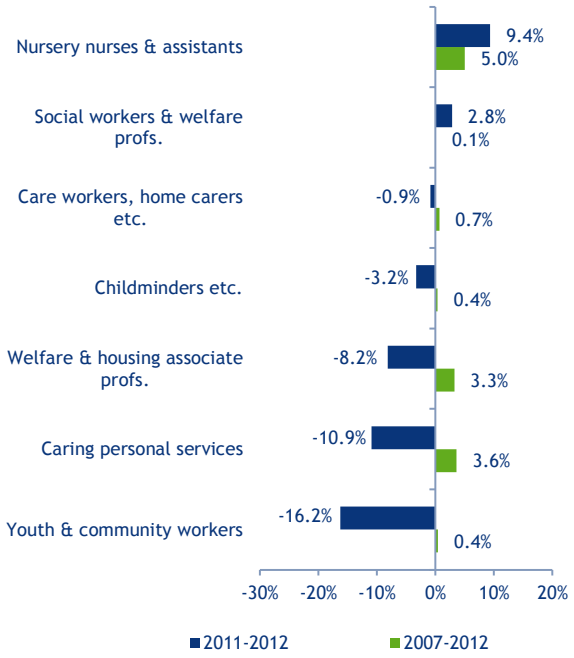
- There were approximately 100,000 persons employed in the selected social and care occupations, representing 5.5% of Ireland's workforce
- Approximately 50,000 persons were employed as care workers/home carers, accounting for 50% of overall employment in social and care occupations
- Four fifths of total employment was concentrated in human health and social work activities
- Overall employment in the selected occupations grew at an average annual rate of 1.1% over the period 2007-2012, in contrast to negative average annual growth of 3% for total national employment; employment growth was very modest for most occupations over that five-year period; the strongest growth was for nursery nurses/assistants and caring personal service occupations, expanding by 5% and 3.6% on average annually respectively
- There were approximately 5,600 additional jobs created between 2007 and 2012, mostly for care workers/home carers and caring personal service occupations (i.e. nursing auxiliaries)
- Between 2011 and 2012, overall employment contracted by 3%, resulting in a net 3,000 job losses; most of the job losses were for caring and personal service occupations and youth/community workers
- Childminders had the youngest age profile among the selected occupations, with approximately one fifth of those employed aged 15-24; in contrast, the workforces of both care workers/home carers and caring personal service occupations were the most mature – with almost one quarter each aged 55 years or older
- Social workers and welfare professionals had the highest educational attainment profile, with 97% of those employed holding third level qualifications; in contrast, almost 30% of all employed care workers/home carers held lower secondary qualifications
- The workforce of most social and care occupations was predominantly female; it was almost exclusively female for both nursery nurses and assistants and childminders
- The share of the workforce who worked part-time exceeded the national average of 24% for most occupations; at close to 60% each, the highest shares were for nursery nurses/assistants and childminders, reflecting the prevalence of women in part-time employment
- Just over one quarter of the workforce of childminders was composed of non-Irish nationals, exceeding the national average of 14.6%

Figure 8.7.1 Numbers Employed (000s) in Selected Social and Care Occupations, 2012



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

Figure 8.7.2 Average Annual Growth (%) in Selected Social and Care Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.7.1 Age Profile of Selected Social and Care Occupations, 2012

	15-24	25-54	55+	Total
Care workers, home carers etc.	7%	69%	24%	100%
Childminders etc.	21%	70%	9%	100%
Caring personal services	5%	72%	23%	100%
Social workers & welfare profs.	0%	70%	30%	100%
Youth & community workers	2%	83%	15%	100%
Nursery nurses & assistants	13%	80%	7%	100%
Welfare & housing associate profs.	0%	79%	21%	100%

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

Table 8.7.2 Education Profile of Selected Social and Care Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Care workers, home carers etc.	28%	44%	28%	100%
Childminders etc.	15%	48%	37%	100%
Caring personal services	20%	40%	40%	100%
Social workers & welfare profs.	0%	3%	97%	100%
Youth & community workers	10%	24%	66%	100%
Nursery nurses & assistants	3%	61%	36%	100%
Welfare & housing associate profs.	4%	16%	80%	100%

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

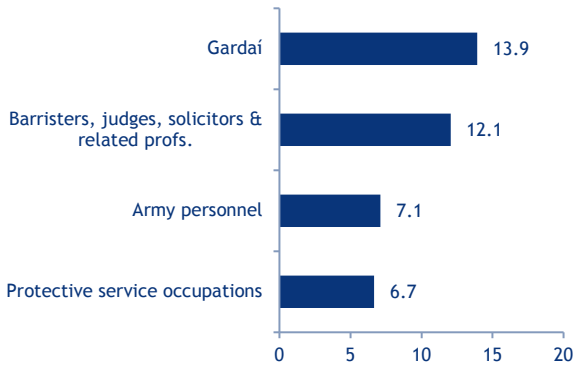
Shortage Indicators

There is some evidence of retention issues in relation to home carers in nursing homes and patients' own homes; the demand for carers is expected to continue to grow due to increased life expectancy and an anticipated increase in the size of the older age cohorts.

8.8 Legal and Security Occupations

- There were approximately 40,000 persons employed in legal and security occupations, representing just over 2% of Ireland's workforce
- Almost 70% of overall employment in the selected occupations was concentrated in public administration and defence while a further 26% was in professional, scientific and technical activities
- Overall employment in legal and security occupations grew by 2.2% on average annually between 2007 and 2012 – approximately 4,000 net additional jobs were created; while there was little change in employment for both army personnel and protective service occupations in both absolute and relative terms over that five-year period, it expanded for both barristers, judges, solicitors and related professionals and Gardaí – increasing at average annual rates of 4.2% and 2.8% respectively
- Between 2011 and 2012, overall employment contracted by 5.2% (the national average annual rate of contraction was 0.6%); there were just over 2,000 net job losses; with the exception of barristers, judges, solicitors and related professionals, employment in each occupation decreased
- Over four fifths of the overall workforce of legal and security occupations was aged 25-54; approximately one fifth of the overall workforce of barristers, judges, solicitors and related professionals was aged 55 or older; in contrast, army personnel had the youngest workforce, with 15% aged 15-24
- While almost all persons employed as legal professionals (i.e. barristers, judges, solicitors and related legal professionals) held third level qualifications, approximately one quarter of those employed in army personnel occupations held lower secondary qualifications
- The workforce of Gardaí, army personnel and protective service occupations was predominantly composed of Irish males who worked full-time

Figure 8.8.1 Numbers Employed (000s) in Selected Legal and Security Occupations, 2012



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

Figure 8.8.2 Average Annual Growth (%) in Selected Legal and Security Occupations

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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.8.1 Age Profile of Selected Legal and Security Occupations, 2012

	15-24	25-54	55+	Total
Gardaí	1%	97%	2%	100%
Barristers, judges, solicitors & related profs.	1%	78%	21%	100%
Army personnel	15%	84%	1%	100%
Protective service occupations	2%	91%	7%	100%

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

Table 8.8.2 Education Profile of Selected Legal and Security Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Gardaí	0%	22%	78%	100%
Barristers, judges, solicitors & related profs.	0%	2%	98%	100%
Army personnel	24%	50%	26%	100%
Protective service occupations	16%	51%	33%	100%

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

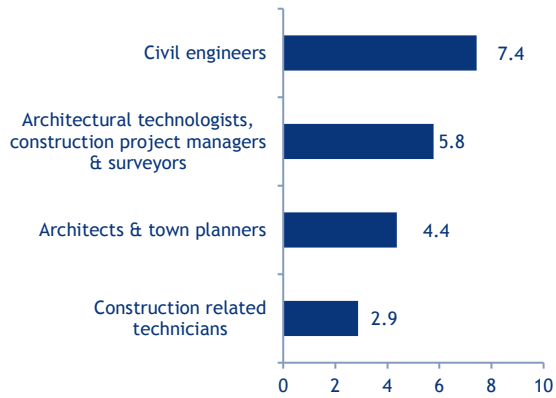
Shortage Indicators

There is currently no shortage of legal and security skills in Ireland.

8.9 Construction Professional and Associate Professional Occupations

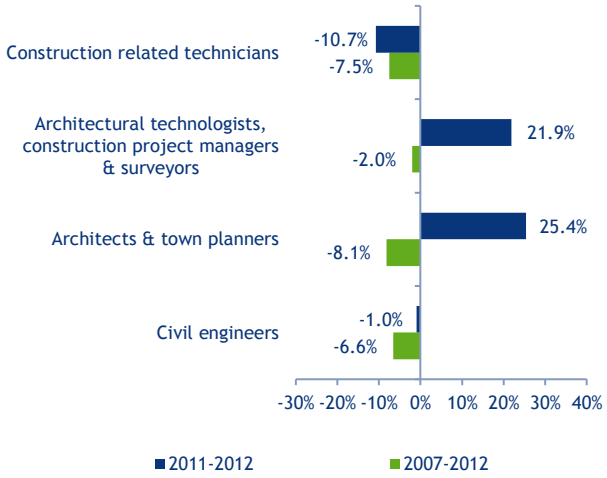
- There were approximately 20,000 persons employed in the selected construction professional and associate professional occupations, representing 1.1% of Ireland's workforce
- Approximately 86% of overall employment was at professional level; the remainder was at associate professional level
- Just over 80% of overall employment was concentrated in three sectors: almost 60% was in professional, scientific and technical activities (mostly in architectural and engineering activities) while a further 16% was in public administration and defence and an additional 8% was in construction
- Overall employment in the selected occupations contracted at an average annual rate of 5.9% over the period 2007-2012; with average annual rates of -8.1% and -7.5%, the sharpest rates of decline were for architects/town planners and construction related technicians respectively (architects and town planners experienced the most negative growth among all professional occupations in the national workforce)
- Between 2007 and 2012, there were approximately 7,000 net job losses – the majority were for professional occupations (particularly civil engineers and architects/town planners)
- In contrast, between 2011 and 2012, overall employment expanded – increasing by 7.9%; employment of architects/town planners and architectural technologists, construction project managers and surveyors increased in both absolute and relative terms
- Over four fifths of all employed persons in both construction professional and associate professional occupations were aged 25-54; the age profile of employed architects and town planners was the most mature, with 15% aged 55 and over
- The majority of persons employed in construction professional and associate professional occupations held third level qualifications
- At 83%, the overall workforce of the selected occupations was predominantly male; the share of females was the highest for architects/town planners which, at 42%, was nearly four times greater than the female share of all other occupations in this group
- The workforce of architects/town planners also had the highest share of persons in part-time employment, reflecting the relatively high representation of females

Figure 8.9.1 Numbers Employed (000s) in Selected Construction Professional and Associate Professional Occupations, 2012



Source: FÁS (SLMRU) Analysis of CSO data

Figure 8.9.2 Average Annual Growth (%) in Selected Construction Professional and Associate Professional Occupations



Source: FÁS (SLMRU) Analysis of CSO data

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.9.1 Age Profile of Selected Construction Professional and Associate Professional Occupations, 2012

	15-24	25-54	55+	Total
Architects & town planners	2%	83%	15%	100%
Architectural technologists, construction project mgrs. & surveyors	1%	87%	12%	100%
Civil engineers	5%	86%	9%	100%
Construction related technicians	0%	92%	8%	100%

Source: FÁS (SLMRU) Analysis of CSO data

Table 8.9.2 Education Profile of Selected Construction Professional and Associate Professional Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Architects & town planners	0%	0%	100%	100%
Architectural technologists, construction mgrs. & surveyors	2%	8%	90%	100%
Civil engineers	1%	1%	98%	100%
Construction related technicians	3%	14%	83%	100%

Source: FÁS (SLMRU) Analysis of CSO data

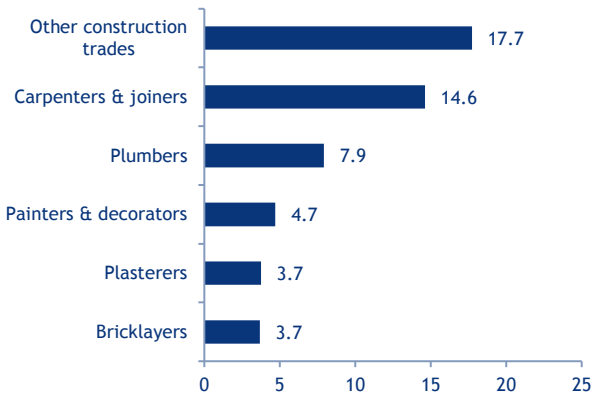
Shortage Indicators

There is currently no shortage of construction professional skills. Some job opportunities may arise in connection to a limited number of civil and social infrastructural projects (e.g. building of the new children's hospital, new schools) and anticipated construction in respect of the building of industrial plant for domestic and multi-national companies (e.g. Glanbia, HP, Acuvue, Intel, Sangart, etc.).

8.10 Construction Craft Occupations

- There were approximately 52,000 persons employed in construction craft occupations, representing almost 3% of total national employment
- Four fifths of overall employment in the selected occupations was concentrated in construction activities
- Employment in construction craft occupations contracted very strongly between 2007 and 2012 – at an average annual rate of 19% or by 98,000 persons – the strongest pace of decline recorded among the 17 occupational groups examined – over six times faster than the national average rate of -3%
- There were declines in employment for each occupation over the five-year period; the sharpest falls were observed for bricklayers and plasterers which, at 25.5% and 23.8% on average annually, had the most rapid rates of employment contraction economy-wide; the largest absolute decreases in employment were for carpenters and joiners; other construction trades; and bricklayers
- Between 2011 and 2012, overall employment decreased by 8.6%, resulting approximately 5,000 net job losses; employment in most occupations contracted
- At 75% and over, employment in each construction craft occupation was concentrated in the 25-54 age cohort; the age profile of all employed carpenters and joiners was the youngest, with 7% aged 15-24, while it was the most mature for both plasterers and painters and decorators, with one fifth each aged 55 or older
- Approximately 65% of all persons employed in the selected occupations held higher secondary/FET qualifications, while 25% held lower secondary or less qualifications and almost 10% held third level qualifications
- Employment in most occupations was exclusively male
- The prevalence of part-time work was the highest for bricklayers – approximately two fifths worked part-time; it was also relatively high for plasterers, at one third; both shares exceeding the national average of 24%
- At 41.7%, the overall unemployment rate for construction craft workers in quarter four 2012 was three times above the national average rate of 13.7%; the rate was 66% for plasterers – the highest among all occupations in the national labour force

Figure 8.10.1 Numbers Employed (000s) in Selected Construction Craft Occupations, 2012



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

Figure 8.10.2 Average Annual Growth (%) in Selected Construction Craft Occupations

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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.10.1 Age Profile of Selected Construction Craft Occupations, 2012

	15-24	25-54	55+	Total
Other cons. trades	1%	81%	18%	100%
Carpenters, joiners	7%	78%	15%	100%
Plumbers	5%	78%	17%	100%
Painters, decorators	4%	76%	20%	100%
Plasterers	0%	80%	20%	100%
Bricklayers	0%	88%	12%	100%

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

Table 8.10.2 Education Profile of Selected Construction Craft Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Other cons. trades	39%	48%	13%	100%
Carpenters, joiners	16%	80%	4%	100%
Plumbers	11%	79%	10%	100%
Painters, decorators	24%	66%	10%	100%
Plasterers	27%	68%	5%	100%
Bricklayers	35%	59%	6%	100%

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

Shortage Indicators

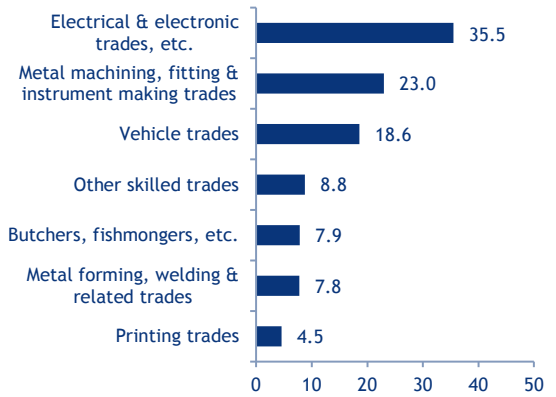
There are no shortages of construction craft skills. A limited number of job opportunities, many temporary, may arise in work related to

- residential maintenance and repair
- construction projects in social and, to a lesser extent, civil infrastructure (e.g. the building of a new children's hospital; building of new and refurbishment of existing schools; building of new DIT campus; two major new roads projects (N11 and, in the future, the upgrade of the N7/Newlands Cross junction) and the construction of the LUAS line link-up)
- anticipated construction of industrial plants for multi-national companies (e.g. Glanbia, HP, Acuvue, Intel, Sangart) locating in Ireland in the coming years
- energy (especially wind) infrastructure projects, to support energy export opportunities, expected to arise from other countries' efforts to meet renewable energy targets.

8.11 Other Craft Occupations

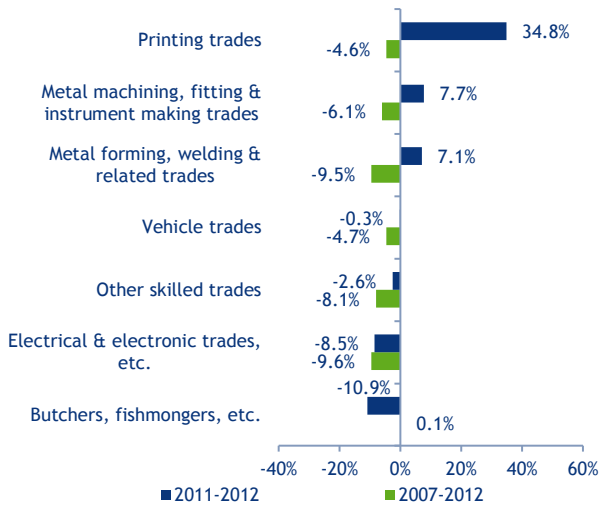
- There were approximately 106,000 persons employed in other craft occupations, representing 5.8% of Ireland's workforce
- Approximately 70% of overall employment was concentrated in three sectors: manufacturing (34%), wholesale and retail (21%) and construction (15%)
- Just over 70% of total employment in the selected trades was concentrated in three trades: electrical/electronic (34%); metal machining, fitting and instrument making (22%) and vehicle (18%)
- Over the period 2007-2012, employment in other craft occupations contracted at an average annual rate of 7.1%, which was just over twice as fast as the national average rate of -3% and amounted to approximately 47,000 net job losses (approximately half of which was for electrical and electronic trades)
- Overall employment contracted by 1.1% between 2011 and 2012, with just over 1,000 net job losses recorded; employment in most occupations did not change significantly during that period (in absolute terms)
- Approximately four fifths of all persons employed in the selected occupations was aged 25-54
- Approximately 57% of all persons employed in the selected occupations held higher secondary/FET qualifications, exceeding the national average of 38%; however, 26% held third level qualifications — considerably below the national average of 46%; the share of third level graduates varied across the occupations, almost 40% of those employed in electrical/electronic trades held third level qualifications
- Just over one third of overall employment for butchers, fishmongers and related trades was composed of non-Irish nationals — one of the highest shares among skilled trades in the national workforce; the share was also relatively high for welding trades, at just over one-third
- The overall workforce of other skilled craft trades was predominantly male

Figure 8.11.1 Numbers Employed (000s) in Selected Other Craft Occupations, 2012



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

Figure 8.11.2 Average Annual Growth (%) in Selected Other Craft Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.11.1 Age Profile of Selected Other Craft Occupations, 2012

	15-24	25-54	55+	Total
Electrical & electrical trades, etc.	7%	78%	15%	100%
Metal machining, fitting & instrument making trades	7%	79%	14%	100%
Vehicle trades	12%	78%	10%	100%
Other skilled trades	2%	78%	20%	100%
Butchers, fishmongers, etc.	14%	69%	17%	100%
Metal forming, welding etc.	9%	80%	11%	100%
Printing trades	5%	75%	20%	100%

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

Table 8.11.2 Education Profile of Selected Other Craft Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Electrical & electronic trades, etc.	6%	54%	40%	100%
Metal machining, fitting & instrument making	20%	48%	32%	100%
Vehicle trades	14%	72%	14%	100%
Other skilled trades	20%	56%	24%	100%
Butchers, fishmongers, etc.	39%	56%	5%	100%
Metal forming, welding etc.	18%	72%	10%	100%
Printing trades	37%	52%	11%	100%

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

Shortage Indicators

There is a significant shortage of precision engineering skills in tool making and CNC machining; while the demand for these skills has grown, supply from the education and training system has been affected by the legacy of the construction boom during which school leaver preferences were for construction craft education and training (e.g. carpentry, plumber, electrical, etc.) rather than engineering.

There are also indications of issues relating to the retention of deboners in industry.

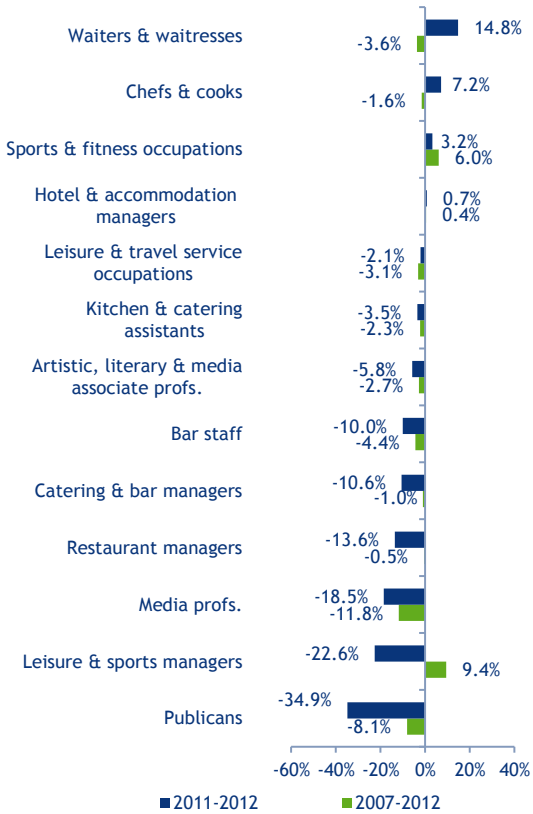
8.12 Arts, Sports and Tourism Occupations

- There were approximately 145,000 persons employed in the selected arts, sports and tourism occupations, representing 8% of Ireland's workforce
- The largest number of persons were employed in hotel, restaurant and publican related occupations (103,000), artistic, literary and media related occupations (24,000) and leisure, sports and travel related occupations (18,600)
- Employment in the selected occupations decreased at an average annual rate of 2.6% over the period 2007-2012, similar to the national average rate of -3%; there were approximately 21,000 net job losses
- Between 2007 and 2012, the strongest rate of contraction in employment was recorded for media professionals decreasing by 11.8% on average annually – the number employed in 2012 was 47% below the 2007 level; there were also relatively pronounced declines in employment for waiting and bar staff (in both absolute and relative terms)
- Between 2011 and 2012, overall employment contracted by 3.1%, with approximately 4,600 net jobs losses; the largest number of jobs losses was for publicans and bar staff
- The workforce of both waiting and bar staff was the youngest among the selected occupations – one half and just over two fifths of those employed were younger than 25 years respectively – among occupations with the youngest workforces in the economy; in contrast, publicans had the most mature workforce — almost two fifths were aged 55 and over
- Over four fifths of the overall workforce of media professionals were third level graduates; in contrast, only 9% of all employed publicans held third level qualifications
- The overall workforce of the selected occupations was gender balanced; however, three quarters of the workforce of waiting staff was female, while it was two thirds for both kitchen and catering assistants and leisure and travel service occupations; in contrast, it was mostly male for publicans, at four fifths
- Approximately 70% of the workforce of waiting staff worked part-time – one of the highest shares among all occupations in the national workforce; at almost 60%, the share was relatively high for bar staff
- At just over two fifths, the workforce of kitchen and catering assistants had the highest share of non-Irish nationals – one of the highest shares across all occupations in the national workforce; the share was also relatively high for chefs and cooks, at just under two fifths

Figure 8.12.1 Numbers Employed (000s) in Selected Arts, Sports and Tourism Occupations, 2012

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

Figure 8.12.2 Average Annual Growth (%) in Selected Arts, Sports and Tourism Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.12.1 Age Profile of Selected Arts, Sports and Tourism Occupations, 2012

	15-24	25-54	55+	Total
Chefs & cooks	10%	81%	9%	100%
Kitchen & catering assist.	19%	71%	10%	100%
Waiters & waitresses	51%	46%	3%	100%
Artistic. associate profs.	2%	81%	17%	100%
Bar staff	43%	50%	7%	100%
Leisure & travel occ.	17%	72%	11%	100%
Sports & fitness occ.	21%	72%	7%	100%
Hotel & accomm. manag.	2%	75%	23%	100%
Restaurant managers	9%	80%	11%	100%
Catering & bar managers	4%	82%	14%	100%
Media profs.	7%	82%	11%	100%
Publicans	0%	62%	38%	100%
Leisure & sports manag.	3%	97%	0%	100%

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

Table 8.12.2 Education Profile of Selected Arts, Sports and Tourism Occupations, 2012

	Lower secondary or less	Higher secondary or FET	3rd level	Total
Chefs & cooks	11%	51%	38%	100%
Kitchen & catering assist.	30%	42%	28%	100%
Waiters & waitresses	15%	61%	24%	100%
Artistic. associate profs.	5%	18%	77%	100%
Bar staff	18%	65%	17%	100%
Leisure & travel occ.	8%	41%	51%	100%
Sports & fitness occ.	4%	38%	58%	100%
Hotel & accomm. manag.	13%	40%	47%	100%
Restaurant managers	12%	38%	50%	100%
Catering & bar managers	14%	43%	43%	100%
Media profs.	2%	12%	86%	100%
Publicans	31%	60%	9%	100%
Leisure & sports manag.	10%	19%	71%	100%

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

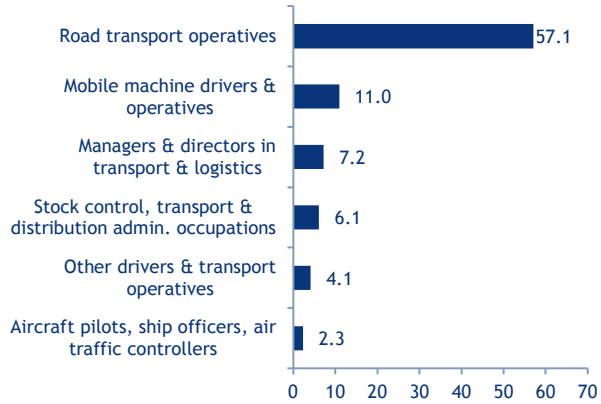
Shortage Indicators

While there are no shortages of chefs, the data points to potential retention issues; chefs accounted for 60% of the 150 work permits issued to those in skilled trades occupations in 2012.

8.13 Transport and Logistics Occupations

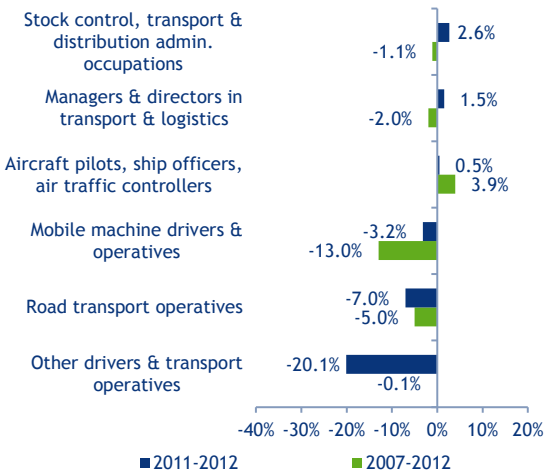
- There were approximately 88,000 persons employed in transport and logistics occupations, representing 4.8% of Ireland's workforce
- At 57,000, by far the largest number of persons were employed as road transport operatives (primarily as taxi drivers and large goods vehicle drivers), accounting for almost two thirds of total employment in the selected occupations
- Overall employment in the selected occupations contracted by 5.4% on average annually over the period 2007-2012, translating into approximately 28,000 net job losses
- Between 2007 and 2012, the most rapid pace of deterioration in employment was for mobile machine drivers and operatives and road transport operatives, decreasing by 13% and 5% on average annually respectively – the largest number of job losses was for those occupations during that period
- Between 2011 and 2012, overall employment contracted by 5.8%; this resulted in almost 5,500 net job losses, with most job losses for road transport operatives
- The workforce of road transport operatives was the most mature, with one quarter of those employed aged 55 or older; within this category, the highest share of workers aged 55 or older was for bus and coach drivers – at just over one third – one of the highest shares among operative occupations in the national workforce
- The education profile of the overall workforce of transport and logistics occupations was skewed towards the lower end of the educational attainment spectrum; only 14% of all employed persons held third level qualifications, while 40% held lower secondary or less qualifications and 46% held higher secondary/FET qualifications
- With the exception of those employed in administrative occupations in stock control, transport and distribution, the workforce of each selected occupation was predominantly male

Figure 8.13.1 Numbers Employed (000s) in Selected Transport and Logistics Occupations, 2012



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

Figure 8.13.2 Average Annual Growth (%) in Selected Transport and Logistics Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.13.1 Age Profile of Selected Transport and Logistics Occupations, 2012

	15-24	25-54	55+	Total
Road transport operatives	2%	73%	25%	100%
Mobile machine drivers & operatives	5%	79%	16%	100%
Managers & directors in transport & logistics	1%	88%	11%	100%
Stock control, transport & distribution admin.	4%	86%	10%	100%
Other drivers & transport operatives	4%	88%	8%	100%
Aircraft pilots, ship officers, air traffic controllers	0%	93%	7%	100%

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

Table 8.13.2 Education Profile of Selected Transport and Logistics Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Road transport operatives	48%	43%	9%	100%
Mobile machine drivers & operatives	41%	49%	10%	100%
Managers & directors in transport & logistics	18%	47%	35%	100%
Stock control, transport & distribution admin.	15%	57%	28%	100%
Other drivers & transport operatives	20%	70%	10%	100%
Aircraft pilots, ship officers, air traffic controllers	4%	35%	61%	100%

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

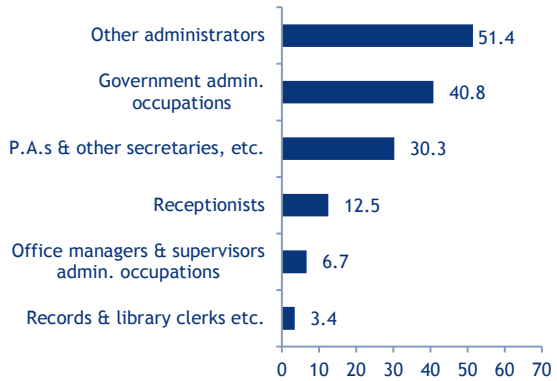
Shortage Indicators

There are indications of difficulty in sourcing experienced global supply chain managers, with specific industry expertise (e.g. medical devices), foreign language skills, and/or an ability to manage international customer relations. There is also some demand for administration staff, often with language skills, in supply chain roles (e.g. freight forwarding clerks, logistics co-ordinators, documentation clerks).

8.14 Administrative and Secretarial Occupations

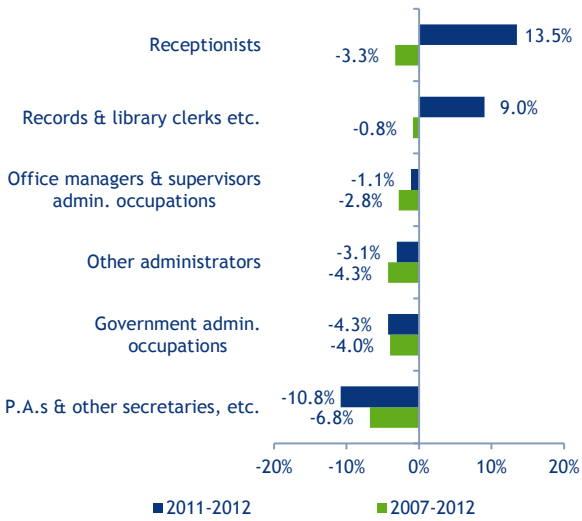
- There were approximately 145,000 persons employed in administrative and secretarial occupations, accounting for almost 8% of Ireland's workforce
- Employment was distributed across all sectors of the economy; at 25%, the highest share was in public administration and defence (approximately 80% of employment in government administrative occupations was in this sector)
- Employment in the selected occupations declined by 4.5% on average annually over the period 2007-2012, translating into approximately 38,000 net job losses; the strongest decline was recorded for P.A.s, which decreased by 6.8% on average annually; in contrast, the slowest pace of contraction was for records and library clerks (-0.8% on average annually, employment levels remained virtually static)
- Between 2011 and 2012, overall employment contracted by 3.6% on average annually, with 5,500 net job losses recorded
- At least 66% of all persons employed in each occupation was aged 25-54; the age profile of the workforce of receptionists was the youngest, with 14% aged 15-24; in contrast, it was the most mature for records and library clerks, with just over 25% of all employed persons aged 55 or older
- Just over one half of all persons employed in administrative and secretarial occupations held higher secondary/FET qualifications, exceeding the national average of 38%; the share with third level qualifications – at almost 40% – was below the national average of 46%; receptionists had the lowest level of educational attainment, with 15% of those employed holding lower secondary or less qualifications
- Employment in each occupation was predominantly female
- The prevalence of part-time work was the highest for receptionists and records and library clerks – approximately two fifths of all persons employed in each of these occupations worked part-time

Figure 8.14.1 Numbers Employed (000s) in Selected Administrative and Secretarial Occupations, 2012



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

Figure 8.14.2 Average Annual Growth (%) in Selected Administrative & Secretarial Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.14.1 Age Profile of Selected Administrative and Secretarial Occupations, 2012

	15-24	25-54	55+	Total
Other administrators	5%	84%	11%	100%
Government admin. occupations	1%	83%	16%	100%
P.A.s & other secretaries etc.	3%	76%	21%	100%
Receptionists	14%	67%	19%	100%
Office managers & supervisors	1%	86%	13%	100%
Records & library clerks etc.	0%	73%	27%	100%

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

Table 8.14.2 Education Profile of Selected Administrative and Secretarial Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Other administrators	7%	51%	42%	100%
Government admin. occ.	4%	56%	40%	100%
P.A.s & other secretaries etc.	9%	62%	29%	100%
Receptionists	15%	56%	29%	100%
Office managers & supervisors	5%	35%	60%	100%
Records & library clerks etc.	5%	53%	42%	100%

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

Shortage Indicators

There is currently no shortage of administrative and secretarial skills in Ireland. Nonetheless, there are indications that some roles, limited to certain niche areas, are proving difficult to fill:

- multilingual accounts payable clerks
- specialist admin staff in transport/logistics (especially with German language skills)
- credit control clerks.

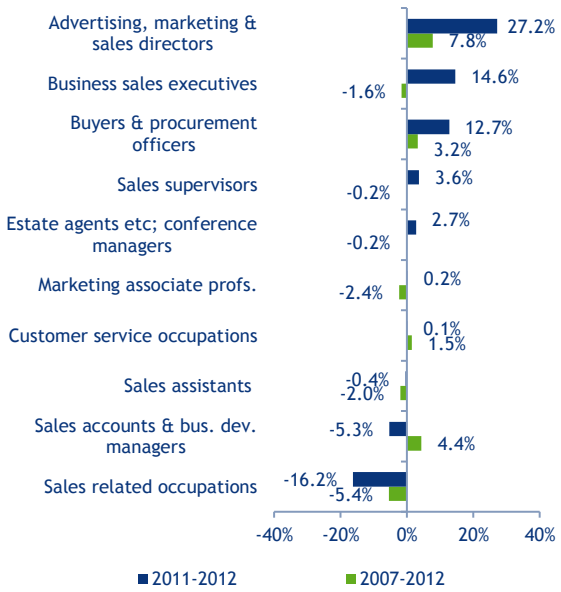
8.15 Sales and Customer Service Occupations

- There were approximately 218,000 persons employed in sales and customer services occupations, representing 11.9% of total national employment
- Approximately three fifths of total employment was concentrated in the wholesale and retail sector
- With 128,000 persons employed, sales assistants was the largest occupation – equivalent to almost three fifths of total employment in the selected occupations – the largest occupation in the national workforce
- Overall employment in the selected occupations decreased by 1.1% on average annually between 2007 and 2012 – this compares to an average annual decline of 3% for total national employment
- Between 2007 and 2012, the number of job losses by far exceeded the number of job gains, resulting in a net 12,600 job losses; almost 70% of the total number of job losses was for sales assistants alone; there was also job losses for other sales related occupations and business sales executives; in contrast, the largest number of jobs was created for sales accounts and business development managers and advertising, marketing and sales directors
- Overall employment increased very modestly between 2011 and 2012, increasing by 0.6%, with almost 1,500 net job gains; the largest number of jobs was created for business sales executives while the largest number of job losses was for other sales related occupations
- The age profile of the workforce of sales assistants was skewed towards younger age cohorts – just under one third of those employed was younger than 25 years – one of the youngest workforces in the economy
- Almost one half of all persons employed in the selected occupations held higher secondary/FET qualifications, while just over one third were third level graduates
- Almost 60% of the overall workforce of sales and customer service occupations was female; at 65% and over, the highest share was for sales assistants; customer service occupations; and marketing associate professionals
- Almost three fifths of all employed sales assistants worked part-time, just over twice the national average share
- At just under 30%, the workforce of customer service occupations had the highest share of non-Irish nationals, exceeding the national average

Figure 8.15.1 Numbers Employed (000s) in Selected Sales and Customer Service Occupations, 2012

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

Figure 8.15.2 Average Annual Growth (%) in Selected Sales and Customer Service Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.15.1 Age Profile of Selected Sales and Customer Service Occupations, 2012

	15-24	25-54	55+	Total
Sales assistants	30%	61%	9%	100%
Business sales executives	7%	80%	13%	100%
Customer service occupations	15%	78%	7%	100%
Sales accounts & bus. dev. managers	0%	91%	9%	100%
Sales related occupations	4%	75%	21%	100%
Advert., marketing, sales directors	0%	82%	18%	100%
Estate agents etc. & conference managers	6%	68%	26%	100%
Marketing associate profs.	7%	84%	9%	100%
Buyers & procurement officers	7%	87%	6%	100%
Sales supervisors	18%	73%	9%	100%

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

Table 8.15.2 Education Profile of Selected Sales and Customer Service Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Sales assistants	19%	59%	22%	100%
Business sales executives	8%	44%	48%	100%
Customer service occupations	8%	41%	51%	100%
Sales accounts & bus. dev. managers	2%	24%	74%	100%
Sales related occupations	24%	41%	35%	100%
Advertising, marketing, sales directors	10%	23%	67%	100%
Estate agents etc.; conference mgrs.	11%	27%	62%	100%
Marketing associate profs.	5%	12%	83%	100%
Buyers & procurement officers	4%	23%	73%	100%
Sales supervisors	13%	63%	24%	100%

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

Shortage Indicators

The data points to a shortage of

- multilingual contact centre staff for customer service and sales roles; the demand is for fluency in European languages (in particular German, French and Dutch), as well as relevant product knowledge and/or experience of working in a contact centre
- Specialist sales staff for:
  - online digital marketing and sales roles (e.g. online gambling)
  - senior roles in IT B2B sales
  - technical sales roles (confined to high end industry sales) combining commercial ability with other skills,

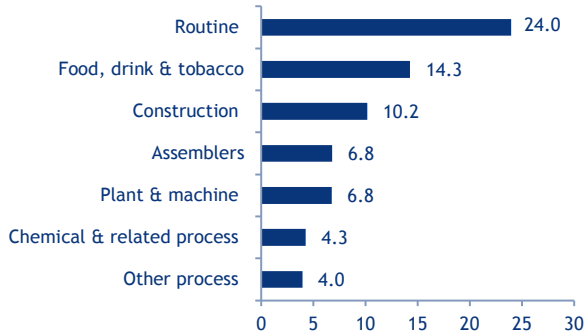
such as engineering or industry experience and product knowledge.

Demand for contact centre roles is illustrated in recent job announcements (e.g. eBay, Loop1, 10Gen, Asidua, Ominipay).

8.16 Operatives

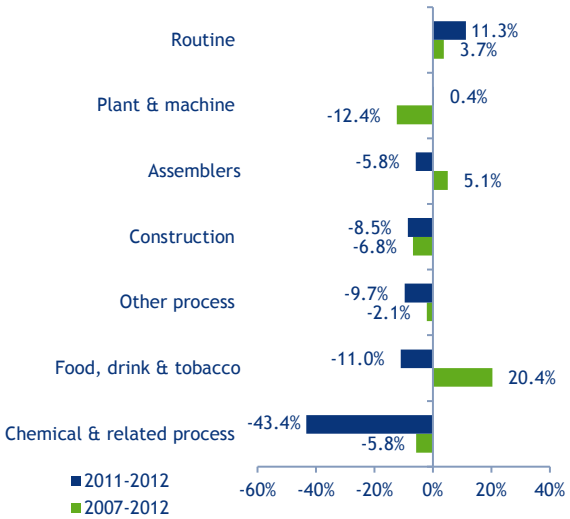
- There were approximately 70,000 persons employed in operative occupations, accounting for 3.8% of Ireland's workforce
- Employment of operatives was concentrated in manufacturing (mainly food and beverages; machinery and equipment; and high-tech manufacturing (e.g. pharmaceuticals))
- In contrast to an average annual fall of 3% in national employment between 2007 and 2012, overall employment of operatives grew very modestly (by 0.5% on average annually); the number of jobs created exceeded the number of job losses, resulting in a net 1,600 additional jobs; the strongest growth was for food, drink & tobacco operatives, increasing by 20.4% on average annually (+8,600 jobs); in contrast, the strongest negative growth was for plant and machine operatives (-12.4% on average annually (6,400 fewer jobs)
- Between 2011 and 2012, overall employment of operatives contracted by almost 6%, resulting in just over 4,000 fewer net jobs; most of the job losses were for chemical and related process operatives
- With approximately one quarter of those employed aged 55 or over, construction operatives had the most mature workforce among operative occupations
- The overall education profile of operatives was skewed towards lower educational attainment: with the exception of food, drink & tobacco operatives and assemblers, at least one fifth (and, in the case of construction operatives, almost a half) of all employed operatives had not competed higher secondary education
- The share of non-Irish nationals in employment in each operative occupation (except for chemical and construction operatives) exceeded the national average; at 39%, the highest share was for food, drink and tobacco operatives
- With the exception of assemblers and routine operatives, the workforce of each occupation was predominantly male; for assemblers and routine operatives, it was almost gender balanced

Figure 8.16.1 Numbers Employed (000s) in Selected Operatives and Related Occupations, 2012



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

Figure 8.16.2 Average Annual Growth (%) in Selected Operatives and Related Occupations



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.16.1 Age Profile of Selected Operatives and Related Occupations, 2012

	15-24	25-54	55+	Total
Routine	7%	80%	13%	100%
Food, drink & tobacco	19%	74%	7%	100%
Construction	5%	70%	25%	100%
Assemblers	6%	92%	2%	100%
Plant & machine	8%	80%	12%	100%
Chemical & related process	0%	97%	3%	100%
Other process	9%	80%	11%	100%

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

Table 8.16.2 Education Profile of Selected Operatives and Related Occupations, 2012

	Lower secondary or less	Higher secondary or FET	Third level	Total
Routine	25%	50%	25%	100%
Food, drink & tobacco	19%	63%	18%	100%
Construction	49%	42%	9%	100%
Assemblers	18%	60%	22%	100%
Plant & machine	32%	53%	15%	100%
Chemical & related process	21%	43%	36%	100%
Other process	21%	50%	29%	100%

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

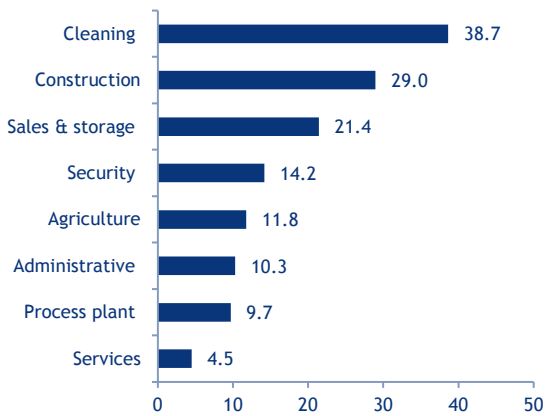
Shortage Indicators

There is currently no shortage of operative skills in Ireland.

8.17 Elementary occupations[80]

- There were approximately 140,000 persons employed in elementary occupations, representing 7.6% of Ireland's workforce
- Almost two thirds (approximately 89,000 persons) of all those employed in elementary occupations were working in cleaning services, construction, and sales and storage services
- Employment in the selected occupations contracted by 8.7% on average annually over the period 2007-2012; this was one of the sharpest average annual rates of decline among the 17 occupational groups examined in this report; this overall decline translated into approximately 81,000 net job losses over that period, most of the job losses were construction labourers
- Between 2011 and 2012, there were approximately 5,700 net job losses across elementary occupations; the only occupation in this group to record any employment growth between 2011 and 2012 was construction labourers which grew by almost 25%, translating into an additional 5,700 jobs
- With approximately one fifth of those employed aged 55 years or over, the age profile of those working in elementary administrative, security and cleaning occupations was older than the national average of 15%; in contrast, the age profile of all persons employed in elementary agricultural occupations was the youngest, with one quarter younger than 25 years
- The overall education profile of labourers was skewed towards lower educational attainment; with the exception of those employed in elementary process plant occupations, at least a quarter at most had attained a Junior Certificate (or equivalent); similarly, the share of third level graduates for each of the selected occupations was at most half the national average share of 46%
- Just over two thirds of all persons employed as labourers were male; in contrast, three quarters of those employed as cleaners were female
- The share of non-Irish nationals in overall employment of elementary occupations was double the national average share of 15%; with 47% and 44% of all persons employed, the share was the highest for process plant and cleaning occupations respectively
- At 36%, the unemployment rate for construction labourers was amongst the highest economy wide and well above the national average of 13.7%
- At 62%, the prevalence of part-time work among those employed in cleaning services was the second highest economy-wide, after waiters/waitresses (69%).

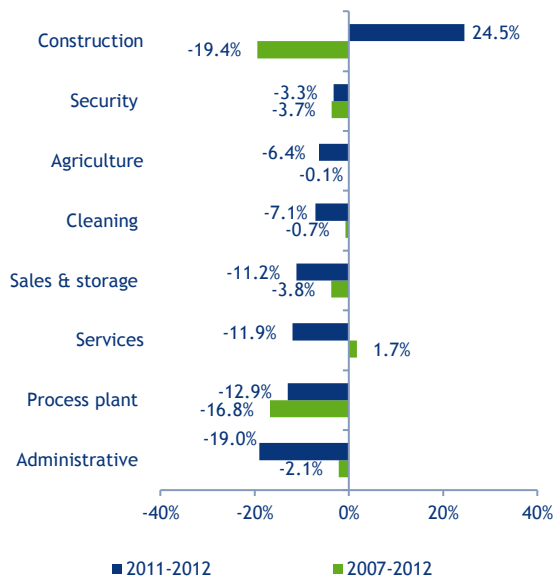
Figure 8.17.1 Numbers Employed (000s) as Labourers, 2012



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

[80] 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 and other occupations not elsewhere classified.

Figure 8.17.2 Average Annual Growth (%) of Labourers



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

Note: Growth rates associated with occupations where employment is comparatively small are less reliable due to a greater risk of sampling error.

Table 8.17.1 Age Profile of Labourers, 2012

	15-24	25-54	55+	Total
Cleaning	8%	74%	18%	100%
Construction	12%	77%	11%	100%
Sales & storage	11%	78%	11%	100%
Security	4%	76%	20%	100%
Agriculture	26%	59%	15%	100%
Administrative	1%	78%	21%	100%
Process plant	16%	74%	10%	100%
Services	14%	76%	10%	100%

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

Table 8.17.2 Education Profile of Labourers, 2012

	Lower secondary or less	Higher secondary /FET	Third level	Total
Cleaning	38%	47%	15%	100%
Construction	38%	52%	10%	100%
Sales & storage	26%	53%	21%	100%
Security	26%	52%	22%	100%
Agriculture	40%	44%	16%	100%
Administrative	33%	55%	12%	100%
Process plant	23%	63%	14%	100%
Service	31%	47%	22%	100%

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

Shortage Indicators

There is currently no shortage of elementary skills in Ireland.

Section 9 Unemployment

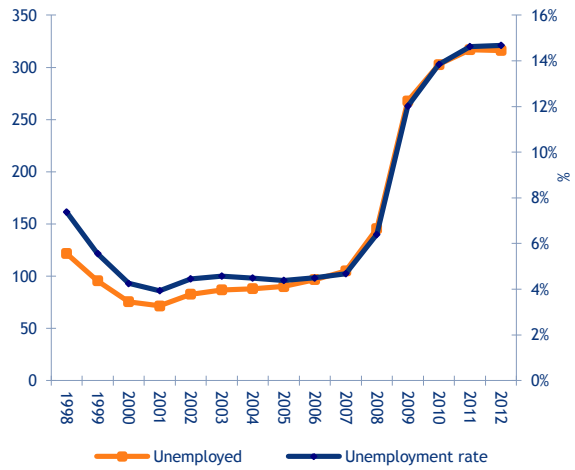
9.1 Unemployment and Unemployment Rate

Figure 9.1 presents the annual average unemployment level and unemployment rate for the period 1998-2012.

In 2012, the number of persons unemployed was 316,000, a marginal decrease on the average for 2011. This was the first annual decrease in employment since 2008. The number of people seeking work declined in the last quarter of 2012, decreasing by approximately 19,000.

The average unemployment rate in 2012 was 14.7%. This was a decrease of less than 0.2 percentage points on the average rate in 2011.The unemployment rate only decreased in the last quarter of 2012, while it remained static in the previous three quarters. As a result, the unemployment rate in quarter 4 2012 was 13.7%, which is 0.8 percentage points lower than in quarter 4 2011.

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



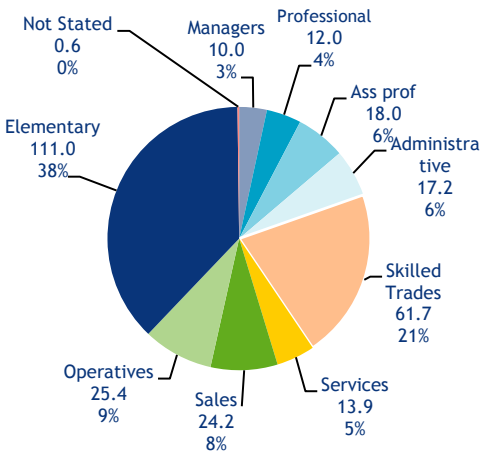
Source: Analysis by FÁS (SLMRU) based on CSO data

9.2 Unemployment by Occupation

The occupational distribution of unemployment is presented in Figure 9.2. In quarter 4 2012, the greatest share of all unemployed persons had previously worked in elementary occupations (38%) followed by skilled trades (21%). Managers (3%) continued to have the lowest share of unemployment followed by professional occupations (4%).

Between quarter 4 2011 and quarter 4 2012, the share of unemployed elementary workers decreased by almost four percentage points, while the share of unemployed skilled tradespersons decreased by less than one percentage point. Managers observed a one percentage point increase in unemployment.

Figure 9.2 Unemployment by Occupation* (000s; %), Quarter 4 2012



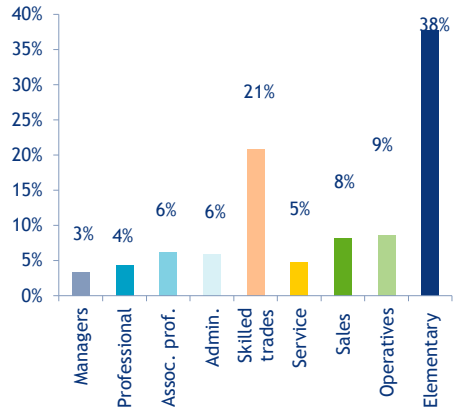
Source: Analysis by FÁS (SLMRU) based on CSO data

* Includes those with previous occupation

Figure 9.3 presents the unemployment rate by occupation. In quarter 4 2012, the lowest unemployment rates was recorded for high skilled occupations. The largest unemployment rate was observed for

elementary occupations (38%) followed by skilled trades (21%).

Figure 9.3 Unemployment Rate by Occupation, Quarter 4 2012

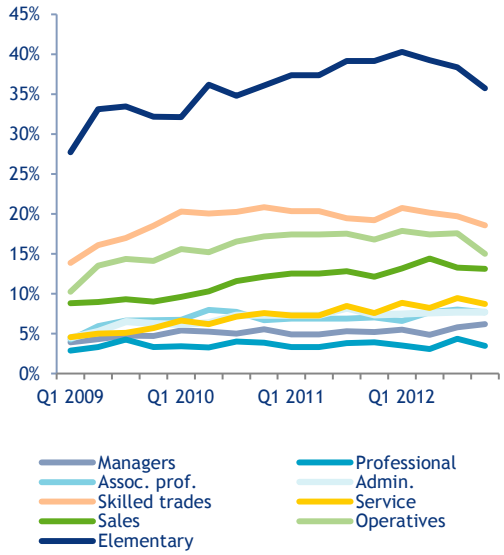


Source: Analysis by FÁS (SLMRU) based on CSO data

Note: Persons whose occupation was not stated are not included

Figure 9.4 presents the unemployment rate between 2009 and 2012.While the unemployment rate increased for all occupations between quarter 4 2009 and quarter 4 2010. There was a small decline in the rate in quarter 4 2011 and quarter 4 2012 for elementary, operatives and skilled trade occupations.

Figure 9.4 Unemployment Rate by Occupation



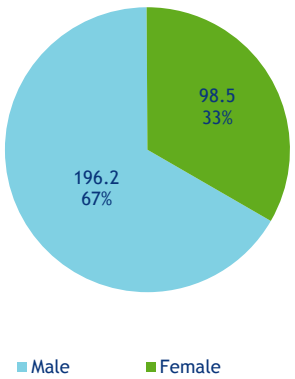
Source: Analysis by FÁS (SLMRU) based on CSO data

Although the greatest decrease in unemployment rate was observed for elementary occupations (four percentage points) between quarter 1 and quarter 4 2012; this rate continues to be almost double that of skilled trades persons. The unemployment rate for managers and associate professionals observed a marginal increase in 2012 while the rate for professionals decreased toward the end of 2012.

9.3 Unemployment by Gender

Figure 9.5 presents the gender distribution of unemployed persons. Of the 295,000 persons unemployed in quarter 4 2012, 67% were males. Between quarter 4 2011 and quarter 4 2012 the share of males remained unchanged.

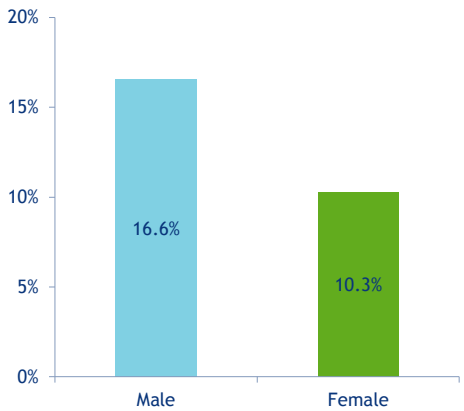
Figure 9.5 Unemployment by Gender, Quarter 4 2012



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

In quarter 4 2012, females continued to be at a lower risk of unemployment than males with an unemployment rate of 10.3% compared to 16.6% for males. Between quarter 4 2011 and quarter 4 2012 the unemployment rate for both males and females observed a decrease of one and 0.3 percentage points respectively.

Figure 9.6 Unemployment Rate by Gender, Quarter 4 2012

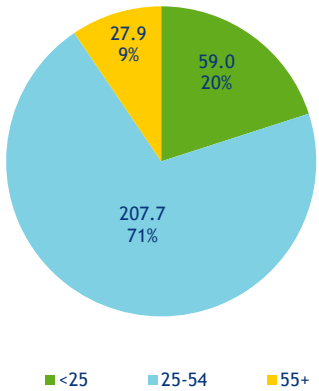


Source: Analysis by FÁS (SLMRU) based on CSO data

9.4 Unemployment by Age

The age distribution of unemployed persons is presented in Figure 9.7. In quarter 4 2012, one in five unemployed persons was under 25 years, while less than 10% were aged over 55. The share of unemployed persons aged 25-54 was 71%, an increase of 0.8% on quarter 4 2011.

Figure 9.7 Unemployment by Age (000s), Quarter 4 2012



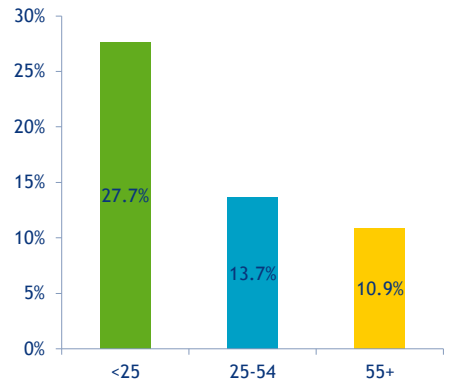
Source: Analysis by FÁS (SLMRU) based on CSO data

The under 25 category continues to be at the greatest risk of unemployment, with a rate of 27%[81]. Within this category, 20-24 year-olds had an unemployment rate of 26.2%, and those aged 15-19 years, 33.2%. This compares to an unemployment rate of 13.7% for those aged 25-54 and 10.9% for those over 55.

Between quarter 4 2011 and quarter 4 2012, the unemployment rate for the under 25 and over 55 age cohorts decreased by 1.4 and two percentage points respectively. For those aged 25-54 the rate remained unchanged.

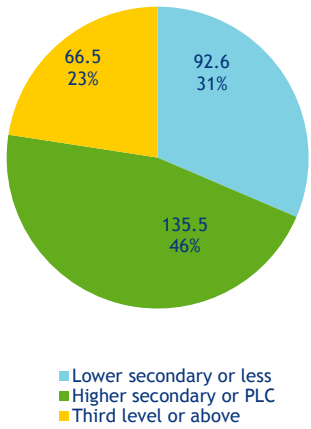
[81] The issue of high youth unemployment has become the focus of policy makers nationally and internationally (e.g. the EU Youth on the Move initiative 2010, European Commission; Employment Social Affairs and Inclusion).

Figure 9.8 Unemployment Rate by Age, Quarter 4 2012



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

Figure 9.9 Unemployment by Education, Quarter 4 2012



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

9.5 Unemployment by Education

Figure 9.9 presents the unemployment by educational attainment. In quarter 4 2012, nearly half of all unemployed persons held a higher secondary or FET qualifications, one third held at most a Junior Certificate (or equivalent) and 23% had a third level qualification.

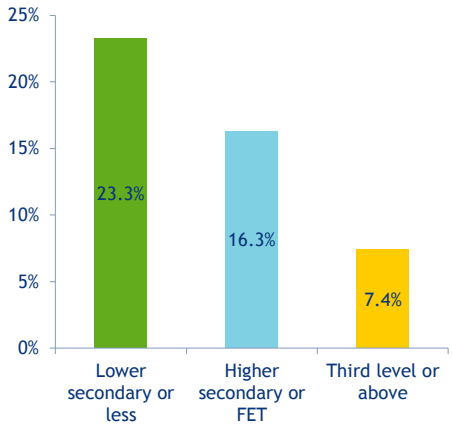
Between quarter 4 2011 and quarter 4 2012 the share of unemployed third level graduates and those with at most a Junior Certificate (or equivalent) decreased by less than one per cent; the share of those with a higher secondary or FET qualification increased by one percentage point.

Figure 9.10 presents the unemployment rate by education. In quarter 4 2012, those with at most a Junior Certificate (or equivalent) continued to be at greatest risk of unemployment. The unemployment rate for this cohort remained three times greater than third level graduates and considerably higher than those with upper secondary qualifications. Early school leavers[82] had particularly poor labour market outcomes, with the unemployment rate reaching 56%, more than double that in quarter 4 2007.

Between quarter 4 2011 and quarter 4 2012 the unemployment rate for persons with a Leaving Certificate or a PLC qualification marginally decreased (by almost one percentage point) while the rate for early school leavers and third level graduates remained relatively unchanged.

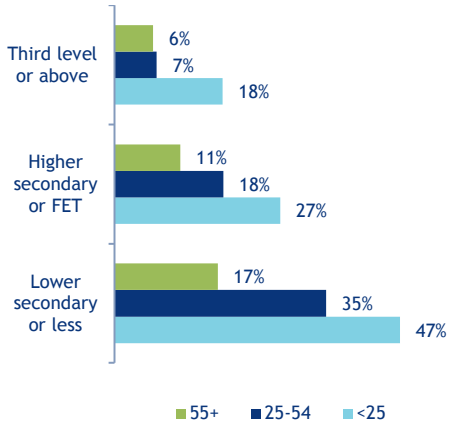
[82] Early leavers from education and training are defined as persons aged 18-24 whose highest level of education attained is lower secondary or below and who have not received education (either formal or non-formal) in the four weeks prior to the survey. The definition applied corresponds to that applied by the European statistical office (Eurostat).

Figure 9.10 Unemployment Rate by Education, Quarter 4 2012



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

Figure 9.11 Unemployment Rate by Education and Age, Quarter 4 2012



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

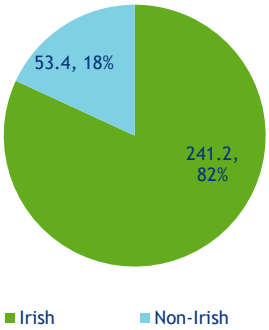
Figure 9.11 presents the unemployment rate by education attainment and age and the negative relationship between variables. In quarter 4 2012, early school leavers aged under 25 were at the greatest risk of unemployment. Third level graduates aged over 55 were the least likely to be unemployed. Persons under 25 in all education categories had the highest unemployment rates.

Between quarter 4 2011 and quarter 4 2012 there was a decrease of three percentage points in the unemployment rate of early school leavers under 25; while third level graduates under 25 observed an increase of 1.3 percentage points. The unemployment rate for the over 55 category increased for all education attainment levels.

9.6 Unemployment by Nationality

The distribution of unemployed persons by nationality is presented in figure 9.12. In quarter 4 2012, just under one quarter of a million Irish nationals were seeking work. Of the unemployed population in Ireland, 81.9% were Irish nationals, a decrease of 3% percentage points on the same quarter of 2011. Between quarter 4 2011 and quarter 4 2012, the number of unemployed non-Irish nationals increased by almost 2,000 persons.

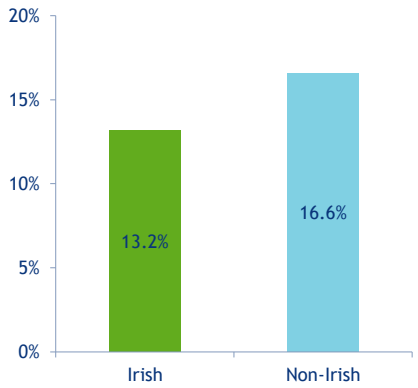
Figure 9.12 Unemployed by Nationality (%), Quarter 4 2012



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

The unemployment rate for Irish nationals continues to be lower than non-Irish nationals by three percentage points. Between quarter 4 2011 and quarter 4 2012 the unemployment rate for both Irish and non-Irish nationals observed a decrease of less than one percentage point.

Figure 9.13 Unemployment Rate by Nationality, Quarter 4 2012



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

9.7 Unemployment by Sector

The distribution of unemployment and unemployment rates by sector are presented in Table 9.1. In quarter 4 2012, the construction industry sector had the largest number of unemployed persons followed by the wholesale and retail sector.

In quarter 4 2012, the unemployment rate for the construction sector remained the highest (38.7%), almost three times the unemployment rate for the accommodation and food sector which had the second highest unemployment rate at 13.5%. Administration, wholesale and retail and Industry sectors also had unemployment rates in double digits, while agriculture, education, financial, and public administration/defence had the lowest rates of unemployment at less than 5% each respectively.

Between quarter 4 2011 and quarter 4 2012, there were no significant changes in unemployment rates. There was less than one percentage point decrease in the construction sector while the transport and administration sector decreased by 1.5 percentage points. The wholesale and retail trade and accommodation and food services presented a less than one percentage point increase.

Table 9.1 Unemployment by Sector, Quarter 4 2012

Sector	Unemployed	Unemployment rate
Agriculture	3.7	3.9%
Industry	30.8	11.5%
Construction	65.0	38.7%
Wholesale/retail	37.6	12.1%
Transportation	8.2	8.5%
Accomm./food	18.5	13.5%
ICT	4.9	5.5%
Finance	5.0	4.6%
Prof. services	9.7	8.6%
Admin. service	9.5	13.1%
PAD	2.5	2.6%
Education	6.6	4.3%
Health	14.0	5.4%
Other	11.3	10.5%
Total	**294.6**	**13.7%**

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

Section 10 Labour Market Transitions

Jasmina Behan, Skills and Labour Market Research Unit, FÁS

10.1 Introduction

This section aims to track the movements of individuals in the Irish labour market and estimate their transitions between employment, unemployment and inactivity. Following an outline of the methodology used, an analysis of overall labour market transitions is first presented, followed by a closer look at these transitions at occupational level. The implications of the data are also discussed.

10.2 Methodology

In the Quarterly National Household Survey (QNHS), every respondent is assigned a unique identifier. This allows for tracking of individuals and analysis of changes in their labour market status (transitions) between successive quarters.

The sample of individuals surveyed changes over time. However, as each respondent is surveyed for five successive quarters, a share of each sample remains unchanged for a period of time. In practice, because some respondents drop out of the panel prior to the completion of five assigned sessions (e.g. for personal reasons), the share of repeats present in the sample will vary over time. Therefore, on average, approximately two thirds of respondents reappear from one quarter to another. Table 10.1 shows the share of repeats for selected quarters.

Table 10.1 Repeats in QNHS

Count	q42010-q12011	q12011-q22011	q22011-q32011	q32011-q42011	q42011-q12012	q12012-q22012	q22012-q32012	q32012-q42012
Sample size (start q)	59,509	57,162	59,361	56,262	55,420	55,094	62,424	58,765
Repeats (subsequent q)	37,936	39,355	38,707	36,226	36,528	39,412	41,288	40,025
% repeated	64%	69%	65%	64%	66%	72%	66%	68%

Source: SLMRU analysis of CSO data

In the QNHS, each respondent is assigned a grossing factor which represents a weight that the respondent carries relative to the overall population. In other words, the sum of the grossing factors for all respondents in a sample gives the approximation of the total population in Ireland.

Given that only two thirds of a sample is repeated in a subsequent quarter, making inferences about the total population requires a reweighting of each repeat respondent. In this way,

each repeat is assigned a higher weight so that the sub-sample of repeats can be grossed up to the total population.

In this analysis, the reweighting was done by distributing the residual (non-repeated) population across repeats using the distribution of weights within the repeats sub-sample. In other words, each repeat is inflated proportionately to its own share in the repeats sub-sample.

Given that all repeats are recalibrated to gross up to the total population of the start quarter, the following is implicitly assumed:

- The overall population between two observed quarters is unchanged
- The natural increase in population is zero i.e. deaths and births are zero
- The net migration is zero.

While in reality, the population between two quarters changes, the assumptions regarding natural increase in population are reasonable in the context of labour market analysis, because births are irrelevant for the short term labour market analysis and over three quarters of deaths occur beyond retirement age. While in recent times, migration has been an important factor in population and labour force growth, the data on migration at the level of granularity used in this analysis is not available.

As a result of the above assumptions and weighting adaptation, employment, unemployment and inactivity levels derived from transitions analysis do not equate to the actual levels reported by the CSO QNHS. The transitions analysis is therefore not intended, nor suitable, for estimations of employment, unemployment and inactivity rates, nor the growth rates in each of these variables. Rather, the analysis focuses on the estimation of transitions from one labour market status to another (e.g. the movements into and out of employment, unemployment and inactivity).

In addition to transitions regarding the labour market status, there are also movements within and between occupations. By isolating persons who remained in employment between the two quarters, but changed occupation, inter-occupational movements are derived. By isolating persons who remained employed in the same occupation between the two quarters, but who changed employer during the months of the starting quarter (in this case Jan-Mar), intra-occupational movements are derived.

Because one person can change labour market status several times in a year, we refer to findings as transitions to imply that the duration of the new state is not known. For instance, a transition from unemployment to employment may represent only a short episode of employment in a case of a long term unemployed person.

In most cases, quarters are aggregated to obtain annual estimates; although in some cases an average of four quarters are used. Annual estimates are based on the following quarter pairs: quarter 4 2011 to quarter 1 2012, quarter 1 2012 to quarter 2 2012, quarter 2 2012 to quarter 3 2012, quarter 3 2012 to quarter 4 2012. Note: an asterisk denotes instances where the number of observations is too small to report (instances of less than 1,500); values between 1,500 and 3,000 should be interpreted with caution as such small numbers may be open to sampling error.

10.3 Transitions

Table 10.2 presents transition probabilities, calculated as an average of four quarter pairs, for 2012. Probabilities are calculated by tracing individuals between quarters and their labour market status as defined by the ILO. There are three broad labour market status categories: employed, unemployed and not in the labour force (economically inactive).

The majority of persons remained in the same labour market status category between quarters: 96% of those who were in employment in the starting quarter were also in employment in the subsequent quarter; three quarters of those who were unemployed, remained unemployed, while 94% of those who were outside the labour force, remained inactive.

There were some transitions to employment from both unemployment and inactivity (10.4% and 2.6% respectively), some transitions to inactivity from unemployment and employment (15.1% and 2% respectively), as well as some transitions to unemployment from employment and inactivity (1.6% and 3.6% respectively).

Table 10.2 Quarter to quarter transitions, average for 2012 (persons aged 15+)

	ILO status in subsequent quarter			
ILO status starting quarter	Employed	Unemployed	Not in labour force	Total
Employed	96.4%	1.6%	2%	100%
Unemployed	10.4%	74.5%	15.1%	100%
Not in labour force	2.6%	3.6%	93.8%	100%

Source: SLMRU analysis of CSO data

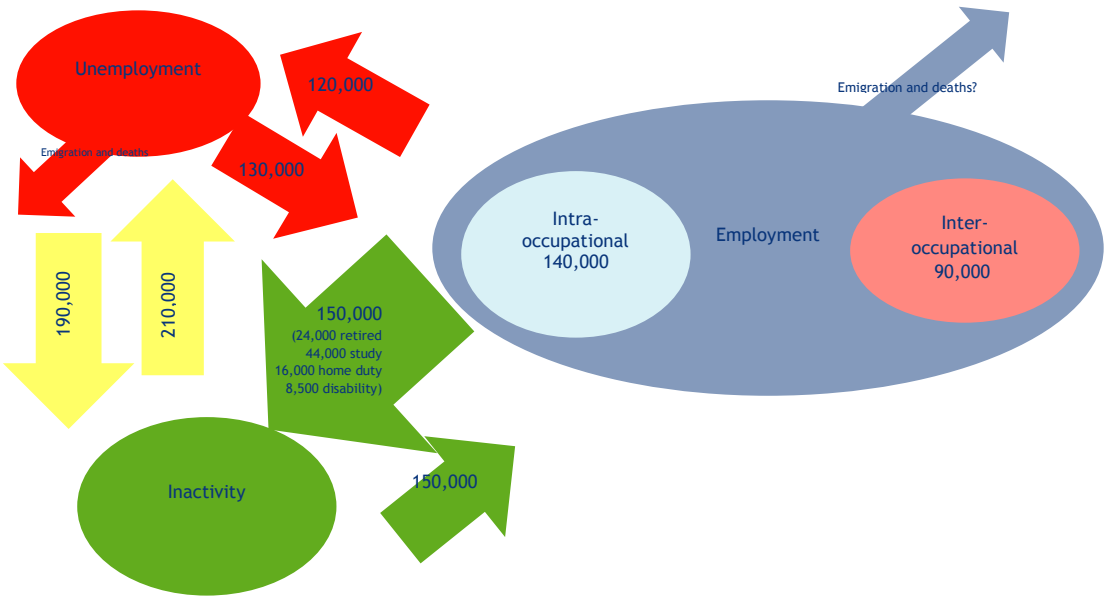
These estimates are broadly in line with the Eurostat estimates for EU24.[83] Ireland, however, has a lower probability of transition from unemployment to employment compared to EU24 (17%).

[83] Eurostat covers EU24 (EU27 without Germany, Luxembourg and Belgium for which the data is not comparable) and 15-74 age cohort. Eurostat, Working Group Labour Market Statistics, *Eurostat/F3/LAMAS/43/12*, December 2012

Figure 10.1 shows transition estimates for 2012. Here, transitions for four quarter pairs (quarter 4 2011 to quarter 1 2012, quarter 1 2012 to quarter 2 2012, quarter 2 2012 to quarter 3 2012, quarter 3 2012 to quarter 4 2012) are summed to provide an estimate for the year 2012.

Estimates on transitions between different labour market status categories suggest significant activity of the Irish labour market. In 2012, there were almost a quarter of a million transitions between employment and unemployment and another 300,000 between employment and inactivity; almost a quarter of a million transitions occurred within employment, either due to a change of employer or change of occupation. In addition, there were 400,000 transitions between unemployment and inactivity.

Figure 10.1 Labour market transitions, 2012 (sum of four quarters)



Notes: c. 30,000 of transitions from unemployment to employment had no previous occupation assigned; c. 100,000 transitions from inactivity to employment had no previous occupation assigned, with many associated with students and first time job seekers.

Source: SLMRU analysis of CSO data

There were 10,000 more transitions into employment from unemployment than the other way around. Overall, the transitions from employment to inactivity were balanced by the transitions from inactivity to employment (red arrows). Retirements accounted for over 15% of all exits from employment to inactivity.[84]

[84] Total transitions to retirements were estimated at 40,000, however, not all retired became inactive (some continued to be employed, other were still actively looking for work (unemployed)).

There were 90,000 transitions between occupations (inter-occupational movements), while 140,000 transitions between different employers within the same occupation (intra-occupational movements.)

Of the 120,000 transitions from employment to unemployment:

- 10% were from self-employment
- 49% were from permanent employment
- 31% of transitions were associated with third level graduates who represent 47% the employment stock (15-64); 18% with holders of FET qualifications.

Of the 150,000 transitions from employment to inactivity:

- 11% were from self-employment
- 50% were from permanent employment
- 29% of transitions were associated with third level graduates; 12% with holders of FET qualifications
- Almost 30% were to study, 16% to retirement, 10% to home duties, 5% due to permanent illness or disability; the remainder was due to other reasons.

Of the 130,000 transitions from unemployment to employment:

- 9% were to self-employment, while the remainder were to the 'employee' status; of transitions to employee status, 8% were into employment schemes
- 39% were to permanent employment
- 39% were transitions from long term unemployment (12 months or more)
- One third of transitions were associated with third level graduates; 19% with holders of FET qualifications
- Almost 30,000 transitions did not have a previous occupation attached (these are not included in the occupational analysis below); of these, 10,000 were not stated; just under 8,000 had a 'looking for the first regular job' status; 6,500 had a 'student' status.

Of the 150,000 transitions from inactivity to employment:

- 9% were to self-employment, while the remainder were to 'employee' status; of transitions to employee status, 4% were into employment schemes
- 34% were to permanent employment
- 27% of transitions were associated with third level graduates; 8% with holders of FET qualifications
- 100,000 transitions were associated with individuals who did not have a previous occupation (these are not included in the occupational analysis below); two thirds of them from the 'student' status; 10% from the 'home duty' status.

Of the 210,000 transitions from inactivity to unemployment:

- 42% were from the 'unemployed, having lost or given up previous job' category i.e. those not actively looking for work
- 27% were from the 'student' category
- 20% were from home duties.

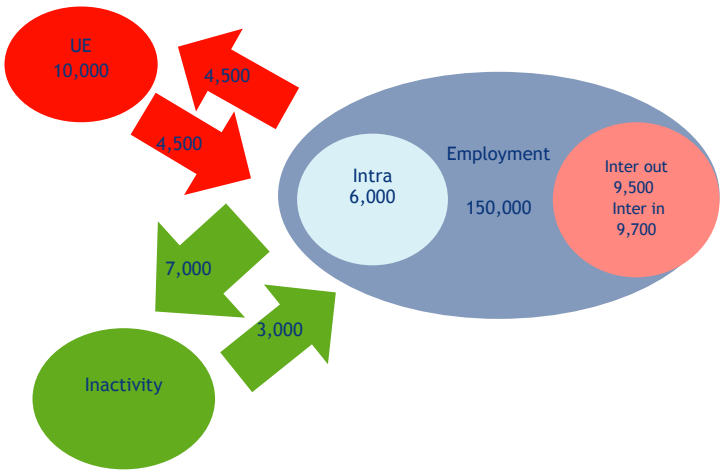
Of the 190,000 transitions from unemployment to inactivity:

- 46% were to the 'unemployed having lost or given up previous job' category i.e. those not actively looking for work
- 19% were to the 'student' category
- 22% were to home duties.

10.4 Transitions by occupational group

10.4.1 Managers

Figure 10.2 Labour market transitions - managers, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For managers, transitions between employment and unemployment were of a similar magnitude, although for non-specified functional managers, entries from unemployment exceeded exits to unemployment.
- Overall, transitions from employment to inactivity exceeded those from inactivity to employment, with most exits by shopkeepers; a quarter of exits to inactivity were to retirement.
- Non-specified functional managers transitioned more out of this occupation than into this occupation, while the opposite was true for restaurant and retail managers.

- Intra-occupational transitions suggest most frequent change of employers for non-specified functional managers and restaurant managers.

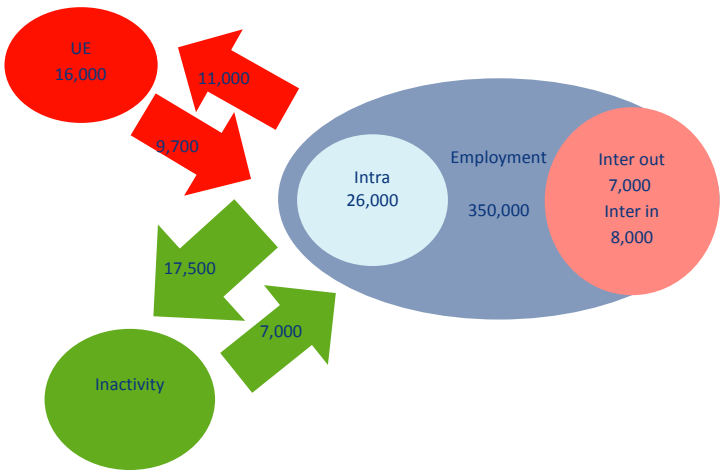
Table 10.3 Labour market transitions - managers, 2012

	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Corporate managers	109,000	6,200	3,100	4,100	3,400	*	4,300	7,900	5,800
Other managers and proprietors	40,500	2,700	1,500	3,100	*	*	2,000	1,700	3,900
Total	149,400	9,000	4,600	7,200	4,600	2,800	6,400	9,500	9,700

Source: SLMRU analysis of CSO data

10.4.2 Professional occupations

Figure 10.3 Labour market transitions - professionals, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For professionals, the number of exits from employment to unemployment exceeded the number of entries to employment; most of the transitions between unemployment and employment occurred for teaching professionals, largely in the area of primary and secondary school teaching; while for most occupations exits and entries were of similar magnitude, there was a somewhat greater number of transitions to unemployment than the other way around for accountants.

Table 10.4 Labour market transitions - professionals, 2012

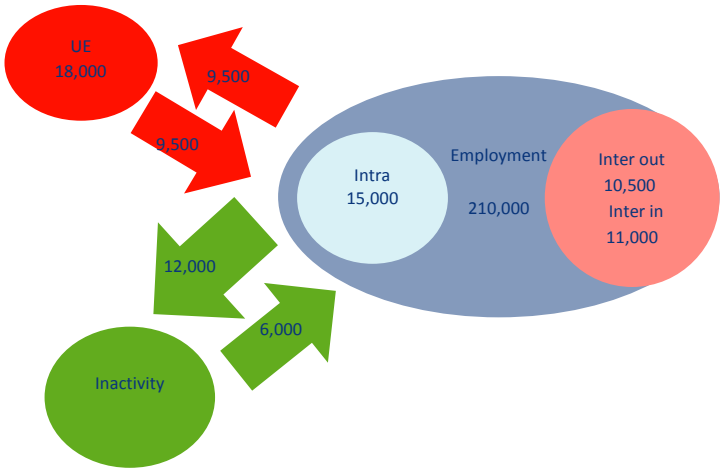
	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Science, eng. and technology prof.	75,100	3,500	2,800	2,900	1,900	1,600	7,600	3,200	3,100
Health professionals	91,000	*	*	3,900	*	1,600	6,500	*	*
Teaching professionals	94,500	6,700	4,300	6,900	3,500	2,200	5,800	*	*
Business professionals	84,900	4,700	3,000	3,800	3,100	1,600	5,800	*	3,100
Total	345,500	15,700	11,100	17,600	9,700	6,900	25,700	6,800	7,900

Source: SLMRU analysis of CSO data

- Transitions to inactivity were more than twice as numerous as those from inactivity to employment; 42% of exits were to retirement, while 17% were to study; the highest number of transitions into retirement was found among teachers and nurses; together these occupational groups accounted for over 80% of exits to retirement and almost 30% of all exits to inactivity amongst professionals; by contrast, there were very few transitions to inactivity due to retirement from science, engineering and technology professional occupations.
- In terms of inter-occupational transitions, a higher number of people entering professional occupations (from other occupational groups) than exiting professional occupations (to other groups) indicates a degree of up-skilling in the workforce; the greatest difference between exits from an occupation and entries to an occupation were for IT specialist managers and accountants (where inter-occupational transitions exceeded those out of these occupations).
- The highest number of intra-occupational transitions occurred for science and technology professionals (7,600), over two thirds of which was in the IT category, with almost 3,000 transitions associated with programmers and software developers; there is also a significant number of intra-occupational movement amongst accountants (over 2,000).

10.4.3 Associate professional and technical occupations

Figure 10.4 Labour market transitions – associate professionals, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For associate professional occupations, transitions between employment and unemployment were of a similar magnitude; most of the transitions between unemployment and employment occurred in the business associate professional category, with business sales executives engaged in most transitions into (2,500) and out of employment (2,500).
- There were more than twice as many transitions from employment to inactivity than the other way around, with 27% of exits to study, 17% to retirements and 11% to home duties; the largest transitions to inactivity were for business sales executives and IT operations technicians.

Table 10.5 Labour market transitions – associate professionals, 2012

	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Science, eng. and technology	33,700	3,600	1,500	1,500	1,800	*	3,200	2,300	3,000
Health and social care associate prof.	16,200	*	*	*	*	*	*	*	*
Protective services occupations	27,000	*	*	*	*	*	*	*	*
Culture, media and sports occupations	26,800	3,700	1,700	3,700	1,500	*	3,200	*	1,500
Business associate prof.	105,100	9,000	5,700	5,200	5,800	3,500	8,100	6,500	6,200
Total	209,000	18,200	9,500	12,300	9,700	6,200	15,100	10,500	11,100

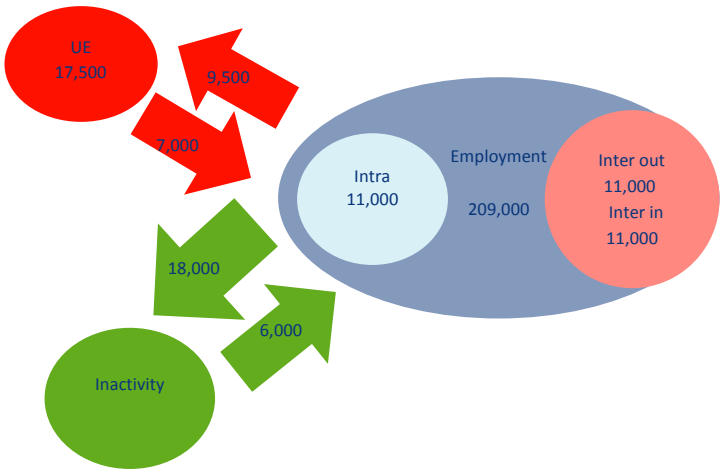
Source: SLMRU analysis of CSO data

- Inter occupational transitions suggest a greater number of exits than entries for business sales executives, while the opposite occurred for human resources officers and conference organisers.

- 15,000 intra-occupational transitions suggest significant churn within this occupational group; business sales executives recorded most intra-occupational transitions (over 2,000), suggesting frequent changes of employers within this occupation.

10.4.4 Administrative and secretarial occupations

Figure 10.5 Labour market transitions – administrative occupations, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For administrative occupations, there were more transitions from employment to unemployment than the other way around; most of the transitions to unemployment were for non-specified clerks, bank clerks and receptionists.
- There were three times as many transitions from employment to inactivity as the other way around; the largest number of transitions to inactivity were for non-specific clerks (6,000), personal assistants (PAs) (2,800), payroll clerks (2,000) and receptionists (1,500); 22% of exits were due to home duties (not surprisingly given the gender composition of this occupational category, which is dominated by females), 18% to retirement and 17% to study.

Table 10.6 Labour market transitions – administrative occupations, 2012

	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Administrative occupations	165,200	11,700	6,900	13,300	4,800	4,500	8,200	8,000	9,600
Secretarial occupations	44,100	5,800	2,800	4,600	2,400	1,600	3,100	3,100	*
Total	209,300	17,400	9,700	17,900	7,200	6,100	11,300	11,100	10,900

Source: SLMRU analysis of CSO data

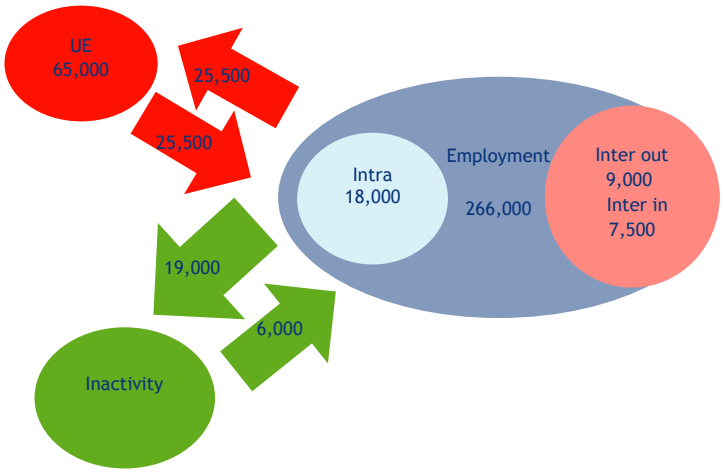
- Inter-occupational movements suggest greater transitions out of personal assistant and receptionists posts than the other way around; on the other hand there seem to be more

transitions into human resources administrative occupations and non-specific clerical occupations than out.

- As evidenced by the intra-occupational transitions, changes of employer occurred most frequently for non-specific clerks, payroll clerks, PAs and receptionists.

10.4.5 Skilled trades

Figure 10.6 Labour market transitions – skilled trades, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For skilled trades, transitions from employment to unemployment and vice versa were of the same magnitude; more than half of the transitions to unemployment were for construction and building trades; however, the same share of transitions from unemployment to employment were in this occupational group; while carpenters accounted for one third (4,500) of transitions to unemployment in building trades, there was a greater number of transitions to employment for this trade; this was also the case for metal working production and maintenance fitters and electricians; the magnitude of transitions between unemployment and employment was similar for most other trades, except non-specific building trades, painters, chefs and farmers and greenkeepers, for which exits to unemployment exceeded entries.
- There were three times as many transitions from employment to inactivity as the other way around; 18% of exits to inactivity were due to retirement, while 14% were due to study; the largest number of transitions to inactivity were for farmers (over 4,000), almost half all of which were to retirement; this is in line with the age distribution of farmers, which is skewed towards older age cohorts; importantly, for all other skilled trades retirement represented a negligible share of all exits into inactivity.
- Inter-occupational movements suggest a greater number of transitions out of building trades, as well as amongst metal working production and maintenance fitters, than the other way around; on the other hand there seem to be some transitions into IT engineer trade and cook posts with no exits from these occupation to other occupations.

Table 10.7 Labour market transitions – skilled trades, 2012

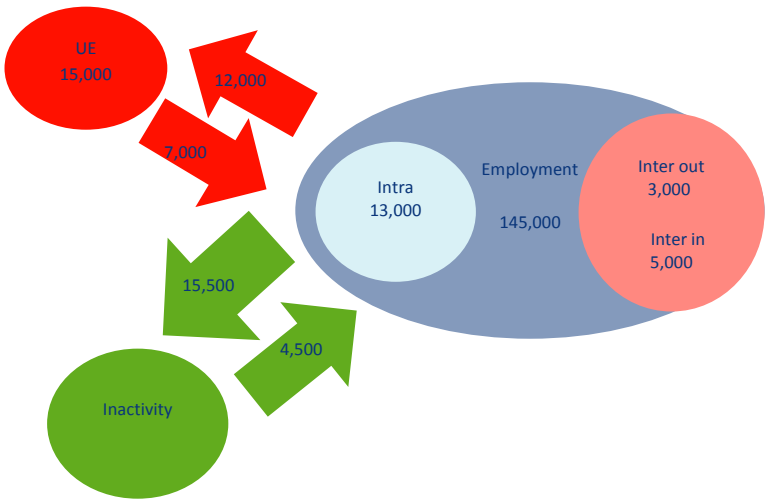
	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Agricultural trades	74,500	2,800	2,200	5,700	*	1,500	1,800	*	1,500
Metal, electrical and electronic	85,000	14,900	6,500	3,700	7,500	*	6,400	2,800	3,400
Construction and building trades	52,600	40,800	13,600	6,200	14,000	2,700	5,600	2,600	*
Textile, printing and other trades	53,600	6,700	3,300	3,700	2,800	*	4,000	1,900	1,900
Total	265,800	65,300	25,700	19,200	25,300	6,300	17,800	8,700	7,600

Source: SLMRU analysis of CSO data

- As evidenced by the intra-occupational transitions, changes of employer occurred most frequently for chefs, electricians, metal working production and maintenance fitters, carpenters and plumbers.

10.4.6 Caring, leisure and other service occupations

Figure 10.7 Labour market transitions – caring, leisure and service occupations, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For caring, leisure and service occupations, there were more transitions from employment to unemployment than the other way around; the most frequent exits to unemployment were for child-minders, care workers, hairdressers and educational assistants; however, for educational assistants, entries from and exists to unemployment were of a similar magnitude, while exits to unemployment exceeded entries for all other occupations.

- There were three times as many transitions from employment to inactivity as the other way around; over one quarter of exits to inactivity were into study, 18% were due to home duties and 16% due to retirement; the largest number of transitions to inactivity were for care workers (almost 5,500), 27% of which was to retirement; this was followed by child-minders, for which almost none of the exits to inactivity were due to retirement; for hairdressers exits to inactivity were of the same magnitude as the entries from inactivity, while for all other occupations exits to inactivity exceeded entries.

Table 10.8 Labour market transitions – caring, leisure and services occupations, 2012

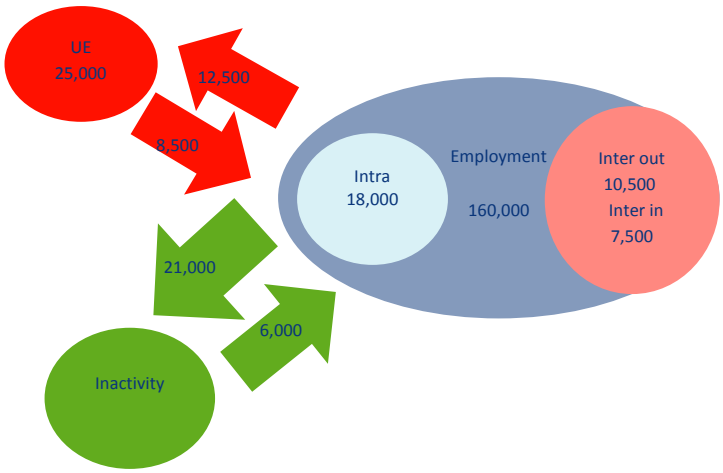
	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Caring personal service occupations	99,900	9,200	8,200	11,800	4,400	2,800	8,500	1,800	3,400
Leisure, travel and personal service occupations	45,000	5,900	4,100	3,800	2,600	1,500	4,400	*	1,600
Total	144,900	15,100	12,300	15,600	7,000	4,300	12,900	3,000	5,000

Source: SLMRU analysis of CSO data

- Inter-occupational movements suggest a greater number of transitions into care, leisure and other services occupations than out; most of the inward transitions were for care workers, which were multiple times greater than exits from this occupation.
- Intra-occupational transitions suggest that changes of employer occurred most frequently for care workers and hairdressers.

10.4.7 Sales and customer service occupations

Figure 10.8 Labour market transitions – sales and customer service occupations, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For sales and customer service occupations, there were more transitions from employment to unemployment than the other way around; the highest number of exits from employment to unemployment were for sales and retail assistants (9,500), as were the entries from unemployment to employment (6,500); this was followed by customer service occupations for which exits and entries were over 1,000.
- There were more than three times as many transitions from employment to inactivity as the other way around, with over half of the exits to inactivity due to study and a negligible number due to retirement; the largest number of transitions to inactivity was for sales and retail assistants (almost 18,000), of which less than 5% was to retirement.

Table 10.9 Labour market transitions – sales and customer service occupations, 2012

	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Sales occupations	143,500	22,200	11,100	19,800	7,800	5,600	16,000	8,300	5,900
Customer service occ.	19,900	2,700	*	*	*	*	2,100	2,300	1,700
Total	163,400	25,000	12,500	20,900	8,600	6,000	18,000	10,500	7,500

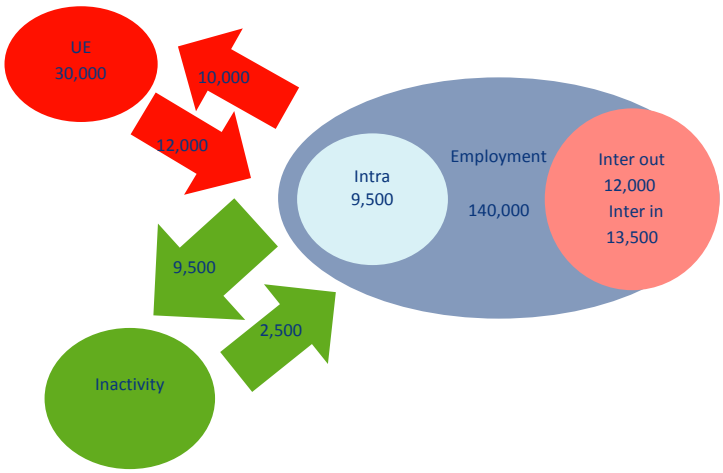
Source: SLMRU analysis of CSO data

- Inter-occupational movements suggest a greater number of outward transitions from sales and customer care occupations than inward transitions; most of the inward transitions were for sales and retail assistants for which there were 6,500 transitions out of the occupation but 4,700 in; similarly there were almost 2,000 out, but less than 1,500 in for customer service occupations.

- There were 15,000 intra-occupational transitions within the sales and retail assistant category alone, suggesting frequent changes of employers for this occupation.

10.4.8 Process, plant and machine operatives

Figure10.9 Labour market transitions – process, plant and machine operatives, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For process, plant and machine operatives, there were more transitions from unemployment to employment than the other way around, with entries to employment exceeding exits to unemployment for transport and mobile machine drivers and operatives; in the process, plant and machine operative category, transitions to unemployment exceeded entries from unemployment for food operatives and construction operatives, while the opposite was the case for assemblers and routine operatives; in the transport and mobile machine drivers and operatives category, transitions into employment exceeded transitions into unemployment for truck drivers, taxi drivers and mobile machine drivers and operatives.
- There were almost four times as many transitions from employment to inactivity as the other way around; almost 20% of exits to inactivity were due to study, while retirement accounted for 13% of exits to retirements; the largest number of transitions to inactivity was for food operatives and assemblers.
- Inter-occupational movements suggest a greater number of transitions into operative occupations than out; most of the transitions were for routine testers (4,500 in and out); transitions into food operative posts somewhat exceeded exits from this occupation, as did those for taxi drivers.
- There were almost 10,000 intra-occupational transitions within operative occupations, with changes of employer estimated to be most frequent for food operatives and assemblers.

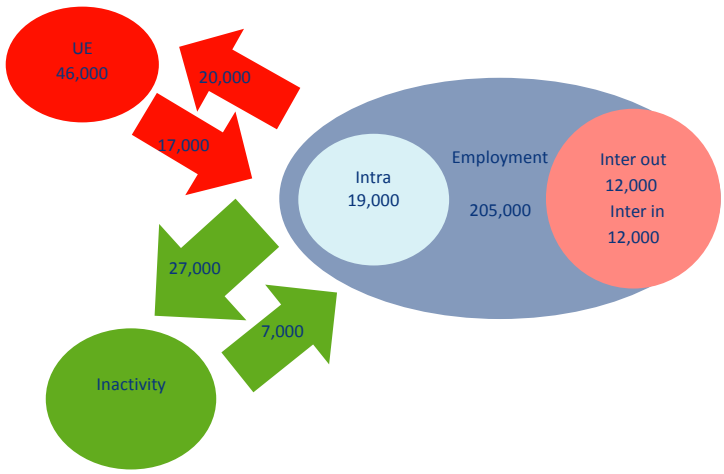
Table 10.10 Labour market transitions – process, plant and machine operatives, 2012

	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Process, plant and machine operatives	69,400	14,800	5,800	6,000	5,800	1,600	5,800	9,800	11,900
Transport and mobile machine operatives	71,900	14,900	4,400	3,500	6,100	*	3,800	2,200	1,700
Total	141,300	29,800	10,300	9,500	11,900	2,500	9,600	12,000	13,600

Source: SLMRU analysis of CSO data

10.4.9 Elementary occupations

Figure 10.10 Labour market transitions – elementary occupations, 2012 (sum of four quarters)



Source: SLMRU analysis of CSO data

- For elementary occupations, there were more transitions from employment to unemployment than the other way around; transitions to unemployment exceeded transitions to employment for packers, cleaners, elementary storage occupations, waiters and bar staff; transitions to employment exceeded transitions to unemployment for elementary construction occupations and kitchen assistants.
- There were almost four times as many transitions from employment to inactivity than the other way around; almost half (46%) of exits to inactivity were to education; retirement accounted for 7% of transitions to inactivity; the largest number of transitions to inactivity was for cleaners, waiters and bar staff (over 4,000 each), followed by construction labourers, farm labourers, kitchen porters and storage labourers; most transitions from inactivity were for construction labourers and waiters, although the number of transitions to employment fell significantly short of the transitions into inactivity for these occupations.

Table 10.11 Labour market transitions – elementary occupations, 2012

	E	UE	Exits to UE	Exits to inactivity	Entry from UE	Entry from inactivity	Intra-occupational	Inter-occ. out	Inter-occ. in
Elementary trade occupations	53,400	22,700	7,300	7,100	7,600	2,700	4,900	5,600	5,600
Elementary services occupations	152,400	23,700	12,800	20,200	9,200	4,200	14,400	6,700	6,500
Total	205,800	46,400	20,100	27,400	16,700	6,900	19,300	12,300	12,100

Source: SLMRU analysis of CSO data

- There were over 12,000 inter-occupational transitions into and out of elementary occupations; for cleaners, inward transitions exceeded outward transitions; while for construction labourers, kitchen assistants, waiter and bar staff there were more transitions out of these occupations.
- There were almost 20,000 intra-occupational transitions within operative occupations, with changes of employer estimated to be most frequent for construction labourers, cleaners, kitchen assistants, waiters and bar staff.

10.5 Using labour market transitions to estimate replacement and turnover

Table 10.12 presents the results of the analysis which uses labour market transitions to produce various estimates of replacement and turnover. Here, the replacement demand is estimated by looking at exits, either to various forms of inactivity or as net losses to other occupations (through inter-occupational transitions). It is recognised that this approach has its limitations, not least because it overestimates replacement demand in cases where there is no intention to replace those who leave. Also, as mentioned earlier, by ignoring emigration and deaths, these replacement estimates could represent an underestimation of the true replacement demand. Transitions to unemployment are excluded from the replacement estimates as it is assumed that exits to unemployment arise due to job closures, rather than dismissals. In reality, some dismissals occur, as do voluntary exits to unemployment, implying that the measurement of replacement used here may underestimate true demand. Nevertheless, despite its limitations, the analysis of labour market transitions provides a useful contribution to the debate on the size of replacement demand at occupational level.

In the second and third columns of Table 10.12, replacement is estimated by using only exits to inactivity due to retirement. Exits from employment due to economically inactive retirements are estimated to be low for a significant majority of occupations, suggesting that retirements alone make a small contribution to the total demand for labour. Nevertheless, exists due to retirements are sizable for teachers, nurses, care workers and farmers, with the replacement rate estimated between 3% and 5%. Even for these occupations, replacement demand arising from retirements is likely to be limited:

- Many teachers, nurses and carers are employed in the public sector, which is operating under a recruitment control, suggesting that many of those who leave will not be replaced

- The long observed trend of decline in the number of farmers, arising from the structural and technological changes affecting farming, is likely to continue, suggesting that many of those who leave may not be replaced.

In the fourth and fifth column of Table 10.12, replacement demand is estimated by looking at all exits to inactivity, including exits to retirement, education, disability, home duties and other. When all exits to inactivity are considered, estimates of replacement demand are higher for a number of occupations, reaching 27% of the total employment for bar staff. Replacement demand arising from exits to inactivity tends to be higher for lower skilled occupations. As the retirement component is small, as are the exits due to disability, a significant share of exits is either due to home duties or study, with the latter representing a larger share of exits for many lower skilled occupations. This is an encouraging finding, suggesting the presence of self-directed up-skilling of lower skilled workers as a strategy to move to higher quality employment.

The sixth and seventh column of Table 12, presents replacement demand and replacement rates based on exits to inactivity adjusted for net losses from inter-occupational movements. In other words, it is assumed here that not only those who leave to inactivity need to be replaced, but also those who leave to other occupations, net of those who enter from other occupations. While for some occupations, the inclusion of net losses from inter-occupational transitions increases replacement demand, for others it decreases replacement demand. The analysis suggests that, with the exception of teachers and nurses, replacement demand is lower for professional and managerial occupations than for other occupational groups. The highest replacement rates are found amongst elementary occupations.

Columns eight and nine present estimates of the turnover and turnover rates measured as intra-occupational transitions. Amongst professionals, programmers and doctors have the highest turnover rate within their own occupations. When estimates are adjusted to also account for neutral inter-occupational transitions (transitions between occupations where exits from an occupation are compensated in full by entries to that occupation), the turnover rates are higher. For some occupations it is approaching 30% (e.g. restaurant managers and routine operatives).

Table 10.12 Various estimates of replacement and turnover for occupations with a sufficiently large sample of transitions, 2012

	Replacement estimates						Turnover estimates			
	Exit to inactivity due to retirement		Exit to inactivity		Exit to inactivity and net exits due to inter-occupational movement		Intra-occupational churn		Intra-occupational churn and neutral inter-occupational movements	
Occupational group	No.	% of emp	No.	% of emp	No.	% of emp	No.	% of emp	No.	% of emp
1	2	3	4	5	6	7	8	9	10	11
Functional managers	*	*	1700	4%	3800	8%	*	*	3500	7%
ICT specialist & project managers	*	*	*	*	*	*	*	*	1500	11%
Managers in retail & wholesale	*	*	*	*	*	*	*	*	2400	16%
Restaurant managers	*	*	*	*	*	*	*	*	1600	28%
Managers & proprietors in services	*	*	2000	8%	*	*	*	*	1400	5%
Programmers & software developers	*	*	*	*	*	*	2800	16%	3200	18%
ICT professionals n.e.c.	*	*	*	*	*	*	*	*	1400	18%
Medical practitioners	*	*	*	*	*	*	1800	15%	1900	16%
Nurses & midwives	2000	3%	3100	5%	3300	6%	3600	6%	3900	7%
Secondary teachers	1400	5%	2600	9%	2800	9%	2000	7%	2400	8%
Primary & nursery teachers	*	*	1800	5%	1900	5%	2800	7%	2800	7%
Other educational professionals	*	*	1600	11%	1400	10%	*	*	*	*
Accountants & tax experts	*	*	*	*	*	*	2100	6%	2600	8%
IT operations technicians	*	*	*	*	*	*	*	*	1600	19%
Artistic, literary & media occupations	*	*	2500	18%	2200	16%	1400	10%	1800	13%
Other business associate prof.	*	*	*	*	*	*	*	*	1500	23%
Business sales executives	*	*	1600	7%	2100	9%	2200	9%	3000	13%
Sales accounts managers	*	*	*	*	*	*	1800	11%	2300	14%
Government admin. occupations	*	*	1600	4%	1500	4%	*	*	1500	4%
Financial administrative occupations	*	*	4000	7%	4000	7%	3900	7%	7200	13%
Other administrators			6900	13%	4900	10%	3300	6%	6000	12%
Personal assistants	*	*	3100	10%	4300	14%	1700	6%	2400	8%
Receptionists	*	*	1600	13%	2200	18%	*	*	1900	15%
Farmers	2000	3%	4300	7%	4400	7%	*	*	1400	2%
Horticultural, agricultural trades n.e.c.	*	*	1400	11%	*	*	*	*	1700	13%
Metal machining, fitting trades	*	*	*	*	*	*	2500	11%	3400	15%
Electrical & electronic trades etc.	*	*	1500	4%	*	*	2600	7%	3800	11%
Carpenters & joiners	*	*	1800	12%	2200	15%	1800	12%	1900	13%
Other construction trades	*	*	2300	13%	2400	14%	*	*	1800	10%
Chefs & cooks	*	*	2300	10%	1900	8%	2900	13%	3400	15%
Other skilled trades	*	*	*	*	*	*	*	*	1500	17%
Childminders	*	*	3700	20%	3200	17%	3100	17%	3400	18%
Care workers, home workers, etc.	1500	3%	5400	11%	3900	8%	2700	5%	3000	6%
Leisure & travel service occupations	*	*	*	*	*	*	*	*	1800	21%
Hairdressers & beauticians, etc.	*	*	1400	7%	*	*	2400	11%	2800	13%
Housekeepers & caretakers, etc.	*	*	1400	10%			*	*	*	*
Sales assistants	*	*	19000	15%	20600	16%	15200	12%	20400	16%
Sales related occupations	*	*	*	*	1600	16%	*	*	*	*
Customer service occupations	*	*	*	*	1700	10%	2100	12%	3700	21%
Food operatives	*	*	*	*	*	*	*	*	3100	22%
Routine operatives	*	*	2000	8%	*	*	2000	8%	7000	29%
Construction operatives	*	*	*	*	*	*	*	*	1700	17%
Road transport drivers	*	*	2900	5%	2800	5%	2700	5%	3800	7%
Mobile machine drivers & operatives	*	*	*	*	*	*	*	*	1400	13%
Elementary agricultural occupations	*	*	2600	22%	2400	20%	*	*	*	*
Elementary construction occupations	*	*	3700	13%	4200	14%	3200	11%	6800	23%
Elementary process plant occupations	*	*	*	*	*	*	*	*	2000	21%
Elementary cleaning occupations	*	*	4700	12%	3000	8%	2800	7%	3200	8%
Elementary sales & storage	*	*	2100	10%	2100	10%	1800	8%	2500	12%
Kitchen & catering assistants	*	*	2100	10%	2600	12%	2800	13%	3500	16%
Waiters & waitresses	*	*	4800	23%	5500	26%	3600	17%	4700	22%
Bar staff	*	*	4600	27%	5600	33%	1800	11%	2000	12%

Source: SLMRU analysis of CSO data

Note: Occupations listed here are the same as those presented in Table 8.1 however, those occupations for which the number of transitions derived from the sample was too small was excluded for presentation purposes.

10.6 Key points

- There were over a quarter of a million transitions to employment for four quarter pairs of 2012, although there were just as many transitions out of employment; the positive side of the large volume of movement in and out of employment indicates flexibility of the Irish labour market, with fewer impediments to staff hiring and layoffs; the analysis suggests that, in Ireland, access to work in general, which is particularly important for new entrants into the labour market, is not as difficult as in most other EU countries where labour markets are characterised with more restrictive employment protection practices[85]; this proximity to the labour market has a positive impact on basic generic workplace skills (e.g. personal presentation skills (speaking and appearance), time management/punctuality, ability to follow instructions, understanding how organisations work from an internal perspective, etc.)
- However, the analysis suggests that a significant share of transitions to and from employment, as well as within employment, are associated with lower skilled jobs; this indicates that many job finds are temporary, short contracts, suggesting that many individuals might experience periods of work interrupted with periods of unemployment or inactivity, which is not conducive for occupation specific skill development; the challenge for many job seekers appears to be not just in securing any employment, but in securing sustainable jobs, which have relatively secure tenure and good work conditions; this is recognised by some individuals as illustrated by inter-occupational movements upwards along the skill scale (e.g. out of lower skilled occupations (e.g. sales occupations), into higher skilled occupations (e.g. IT occupations)), as well as a large share of transitions to study (e.g. over half of the exits to inactivity for sales occupations was to study);
- In terms of the occupational analysis of transitions:
  - most transitions to employment (from both unemployment and inactivity) occurred at the lower end of the skill scale: sales (sales assistants and business sales executives), administration (clerks), construction labouring and hospitality (waiters)
  - most transitions from employment to unemployment occurred at the lower end of the skill scale: sales (sales assistants and business sales executives), care (childminders and care workers), administration (clerks), construction (labourers) and hospitality (waiters);
  - transitions to inactivity were mostly due to retirement, education or home duties; for some occupations, the share exiting due to retirement was large (e.g. farmers, nurses, teachers and managers in general), while it was small for other occupations (e.g. sales occupations); the share of exits to education was greater for lower skilled occupations (e.g. sales and elementary occupations); while the share of exits to home duties was the highest for clerical and personal services occupations;
  - while the inter-occupational movements cancelled each other out overall, there were net gainers (where transitions in exceeded transitions out) and net losers across occupational groups: the greatest net gains were for personal services occupations, operatives and professionals; greatest net losses were for sales occupations and skilled trades; at occupational level, most transitions out were for sales assistants and

[85] This is in line with the OECD ranking, where Ireland had the lowest restrictive practices in the EU, except the UK. http://www.oecd.org/employment/emp/oecdindicatorsofemploymentprotection.htm

retail managers, routine testers, food operatives, construction labourers, clerks, customer service, personal assistants and waiters; most transitions in were for sales assistants and retail managers, routine testers, food operatives, construction labourers, clerks, cleaners, carers and waiters.

- frequent changes of employers (which could indicate instability of tenure and/or issues with work conditions (e.g. salary), but also a personal choice) were found at both ends of the skills scale:
  - amongst high skilled occupations, high intra-occupational movements were found in ICT (particularly for programmers and software developers) and in the public sector (nurses and teachers); the latter is likely due to recruitment controls in relation to permanent contracts
  - amongst lower skilled occupations, high intra-occupational transitions were found amongst sales assistants, waiters, construction labourers, clerks, child-minders, kitchen assistants and chefs.
- Of all occupations, sales assistants, construction labourers and non-specific clerks were the occupations with the largest number of transitions in each direction (i.e. between employment and unemployment, employment and inactivity, intra-occupational movements and inter-occupational movements).

- The analysis of labour market transitions is useful in estimating replacement demand and turnover, as well as contextualising the vacancy data: it gives an order of magnitude of movements for occupations and allows for better estimates to be made of the volume of vacancies and difficult to fill vacancies; for instance, a finding from vacancy sources that there are numerous vacancies for an occupation, when combined with transitions, may be altered from that of indicating expansion demand (or shortage) to that of indicating high turnover and retention issues.

Table 10.13 Occupations with largest number of transitions, 2012

Occupation	Exit from employment to unemployment	Occupation	Entry from unemployment to employment
Sales assistants	9600	Sales assistants	6500
Construction labourers	4900	Construction labourers	6300
Carpenters	4600	Non-specified construction trades	5300
Non-specified clerks	3600	Business sales executives	2600
Waiters	2600	Electricians	2500
Child-minders	2500	Primary teachers	2300
Care workers	2400	Metal working fitters	2000
Business sales executives	2400	Non-specified clerks	2000
Primary teachers	2400	Waiters	1900
Non-specified construction trades	2200	Truck drivers	1800

Occupation	Exit from employment to inactivity	Occupation	Of which exits to retirements 2012	Occupation	Entry from inactivity to employment
Sales assistants	18300	Nurses	2000	Sales assistants	5100
Non-specified clerks	6700	Farmers	2000	Non-specified clerks	2000
Care workers	5400	Care workers	1500	Construction labourers	1600
Waiters	4800	Secondary teachers	1400	Hairdressers	1400
Bar staff	4600				
Farmers	4300				
Cleaners	4200				
Child-minders	3700				
Construction labourers	3700				
Nurses	3100				

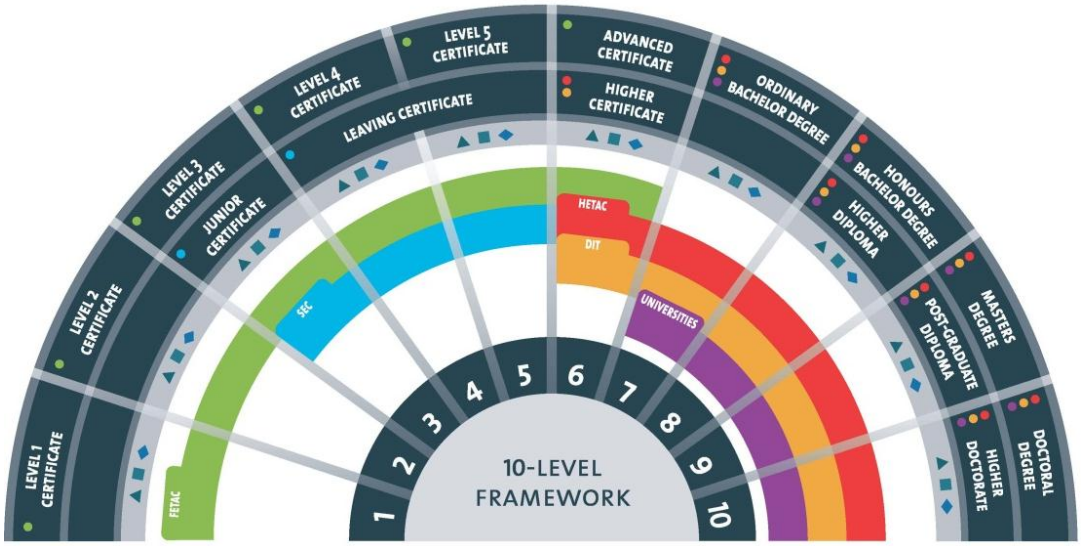
Occupation	Inter-occupational movements from	Occupation	Inter-occupational movements to
Sales assistants	6400	Sales assistants	4700
Routine testers	4700	Routine testers	4600
Non-specified functional managers	4100	Construction labourers	3600
Construction labourers	4000	Non-specified clerks	3500
Non-specified clerks	2200	Food operatives	2200
Customer service occupations	1900	Cleaners	1800
Food operatives	1800	Care workers	1700
Personal assistants	1800	Non-specified functional managers	1600
Waiters	1800	Retail managers	1400
Retail managers	1400		

Occupation	Intra-occupational movements
Sales assistants	14800
Waiters	3600
Nurses	3600
Construction labourers	3200
Childminders	3100
Non-specified clerks	3000
Primary teachers	2800
Kitchen assistants	2800
Programmers	2800
Chefs	2700

Source: SLMRU analysis of CSO data

APPENDIX A

Figure A: National Framework of Qualifications



Source: QQI

The structure of the Framework is based on levels and award types, which are outlined in Figure A above. There are ten award levels, which indicate the standard of learning (ranging from the most basic to doctoral awards). The learning outcomes associated with each NFQ level are provided in Appendix A. There are also four award-type categories, which serve as an indicator of the purpose, volume and progression opportunities associated with a particular award.

- **A major award** is the main class of award made at any given level; examples of major awards include the Leaving Certificate, a QQI-FETAC major certificate or an honours bachelor degree.
- **A minor award** provides recognition for learners who achieve a range of learning outcomes but not the specific combination of learning outcomes required for a major award. A minor award is linked to a major award.
- **A Special Purpose award** is made for very specific purposes; an example of a special-purpose award is site suitability for wastewater treatment.
- **A Supplemental Award** is for learning which is additional to a previous award; it could, for example, relate to updating and refreshing knowledge or skills, or to continuing professional development.

APPENDIX B Other Higher and Professional Education Providers

Appendix B1. Training providers whose main activities are focused on the provision of education and training

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

Appendix B2. Professional Bodies

Association of Chartered Certified Accountants
Association of International Accountants
Chartered Institute of Management Accountants
Chartered Institute of Public Finance and Accountancy
Kings Inns
Institute of Chartered Accountants in England & Wales
Institute of Chartered Accountants in Ireland
Institute of Chartered Accountants of Scotland
Institute of Certified Public Accountants in Ireland
Institute of Incorporated Public Accountants
Institute Professional Auctioneers and Valuers
Irish Tax Institute

APPENDIX C Members of the Expert Group on Future Skills Needs

Una Halligan	**Chairperson**
Marie Bourke	Head of Secretariat and Department Manager, Education, Skills and Labour Market Policy, Forfás
Inez Bailey	Director, National Adult Literacy Agency
Peter Baldwin	Assistant Secretary, Department of Education and Skills
Ray Bowe	IDA Ireland
Liz Carroll	Training and Development Manager, ISME
Ned Costello	Chief Executive, Irish Universities Association
Margaret Cox	Managing Director, I.C.E. Group
Bill Doherty	Executive Vice President, EMEA, Cook Medical
Tony Donohoe	Head of Education, Social and Innovation Policy, IBEC
Dr. Bryan Fields	Director, Curriculum Development / Programme Innovation, FÁS
Sonia Flynn	EMEA Director for User Operations, Facebook
Anne Forde	Principal Officer, Department of Education and Skills
Joanna Gardiner	Managing Director, Ovelle Pharmaceuticals
Joe Hogan	Founder, Chief Technology Officer and Vice President Openet Labs & IP Management
Jerry Moloney	Director of Skills, Enterprise Ireland
Frank Mulvihill	Former President of the Institute of Guidance Counsellors
Dr Brendan Murphy	President, Cork Institute of Technology
Dermot Nolan	Department of Public Expenditure and Reform
Alan Nuzum	CEO, Skillnets
Muiris O'Connor	Higher Education Authority
Peter Rigney	Industrial Officer, ICTU
Martin Shanagher	Assistant Secretary, Department of Jobs, Enterprise and Innovation
Martin D. Shanahan	Chief Executive, Forfás
Jacinta Stewart	Chief Executive, City of Dublin VEC

APPENDIX D Recent Publications by the Expert Group on Future Skills Needs

Report	Date of Publication
Future Skills Requirements of the Manufacturing Sector to 2020	April 2013
The Expert Group on Future Skills Needs Statement of Activity 2012	April 2013
Guidance for Higher Education Providers on Current and Future Skills Needs of Enterprise: Springboard 2013	February 2013
Vacancy Overview 2012	February 2013
Regional Labour Markets Bulletin 2012	January 2013
Monitoring Ireland's Skills Supply: Trends in Education and Training Outputs 2012	July 2012
National Skills Bulletin 2012	July 2012
Key Skills for Enterprise to Trade Internationally	June 2012
EGFSN Statement of Activity 2011	April 2012
Vacancy Overview 2011	February 2012
Guidance for Higher Education Providers on Current and Future Skills Needs of Enterprise *(Forfás report based on EGFSN identified future skills needs)*	February 2012
Addressing High-Level ICT Skills Recruitment Needs: Research Findings	January 2012
Monitoring Ireland's Skills Supply: Trends in Education and Training Outputs	July 2011
National Skills Bulletin 2011	July 2011
EGFSN Statement of Activity 2010	May 2011
Developing Recognition of Prior Learning: The Role of RPL In the Context of the National Skills Strategy Upskilling Objectives	April 2011
Vacancy Overview 2010	March 2011
Future Skills Needs of Enterprise within the Green Economy in Ireland	November 2010
Future Skills Requirements of the Biopharma-Pharmachem Sector	November 2010
Monitoring Ireland's Skills Supply - Trends in Education and Training Outputs 2010	July 2010
National Skills Bulletin 2010	July 2010
Future Skills Needs of the Wholesale and Retail Sector	May 2010
EGFSN 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 Skill 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
EGFSN 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
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

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