Department for Employment and Learning
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SKILLS TO SUCCEED

Labour Market Bulletin 25

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Contents

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Minister for Employment and Learning

The economy of the future will be characterised by growth in high skill areas and a rebalancing of the economy towards more private sector growth. Middle skill and low skill occupations will continue to be needed but it is expected that elementary and middle level skills areas will be eroded as demand for high skills grows. The actions of my Department are designed to:

- Enhance the provision of learning and skills, including entrepreneurship, enterprise, management and leadership;
- Increase the level of research and development, creativity and innovation in the Northern Ireland economy;
- Help individuals to acquire jobs, including self employment and improving the linkages between employment programmes and skills development and
- development and maintenance of the framework of employment rights and responsibilities.

These actions cannot be implemented in isolation from the evidence base. Policy makers need to demonstrate and support the rationale for decision making. This requires evidence of impact and outcomes. The labour market bulletin, comprehensive as it is, reveals only a small proportion of the evidence base that is supported and utilised by my Department.

The information systems of the Department have improved greatly since the first labour market bulletin was published 25 years ago. Today it is the themes of data linkage and Big Data that characterise the analytical capability of the Department. People leaving the Department for Employment and Learning schemes can be tracked through DSD benefit systems to HMRC databases to establish whether they found employment and how much they earn. Information on annual intakes at university can be linked to the 2011 Census of Population to establish the characteristics, in terms of socio-economic background, of those attending higher education and those that do not, and whether there is widening participation from the most deprived areas. Legal gateways to enable this linkage to occur have been established in collaboration with research ethics committees, data protection and data disclosure experts. Statistics legislation has been enacted to preserve the independence of statisticians in terms of how data is defined, gathered and published free from any political interference. Through these mechanisms I am committed to informing the general public about the performance of my Department.

As Minister for the Department, my information needs are driven by policy, strategy and the operational requirements of the Department. However, the methods of collection and presentation are guided by the principles and protocols of the Official Statistics Code of Practice and monitored by the UK Statistics Authority.

This 25th edition of the Labour Market Bulletins shows that Northern Ireland has improved in many areas – literacy, numeracy, vocational skills and academic achievement, but as Northern Ireland has improved so has the international competition. The challenge therefore is not simply to progress but to progress faster than the competition. Under some scenarios, by 2030, in broad brush terms, it is expected that there will be an absolute increase in jobs requiring qualifications at NQF 4 and above of 100,000 and an absolute decrease in the share of jobs requiring no qualifications of 100,000. This is the type of management and policy relevant information provided by the LMB that is needed to plan for the future.

Having the right skills base, the right infrastructure, supportive and appropriate industry regulation, effective policy making and institutions working together is the essential mix for a more prosperous future for the people of Northern Ireland. I am happy to introduce this 25th edition of the Bulletin and commend its contribution to informed decision making.

Editorial

Stephen Donnelly, Editor

'The idea that the future is unpredictable is undermined every day by the ease with which the past is explained'. Daniel Kahneman (2011).

My first year in the Department has made me critically assess the wisdom of economic commentators in the media. Invariably they 'explain' why the economy is behaving in a particular way with reference to, for example, 'global forces', 'interest rate changes' or 'consumer confidence'.

The future is often difficult to predict but the need to plan ahead is very real. The targets contained in many government strategies are fundamentally based on two main factors: evidence, and the belief that certain trends will continue. But even if all strategies were perfect, there will be events in the future that could set them off course. That is why the Labour Market Bulletin is so important. The Bulletin is a repository of research, evidence and commentary. But it is also the role of the Bulletin to question the quality of the evidence and to promote the development of new forms of evidence; to stimulate public debate and to inform.

Psychologists have shown that messages that are simple tend to be believed and that repetition of a message encourages familiarity and that which is familiar tends to be believed. We all have our preconceptions and these are difficult to alter - even in the face of evidence.

Consider the following and ask yourself if each statement is true or false:

1. 'Northern Ireland's employment rate is less than the United Kingdom average';
2. 'Northern Ireland suffers a student brain drain with only about 40% returning after studying in Great Britain';
3. 'The skills shortages in the economy reduce our productivity';
4. 'The Northern Ireland workforce is highly qualified'.

The first is true (on average) but doesn't explain why our younger age groups (20-40) have rates very similar to the United Kingdom – and often exceed the United Kingdom average.

The second is partly true – because we only count those who return to a job in Northern Ireland. Others will return for reasons other than employment. We don't know what the figures are but we're working on it.

The third is partly true – skills shortages do reduce productivity but we also have an element of over-skilling in the workforce which could help offset the problem.

The fourth is (i) not true if based on certain common international standards (ii) true in respect of tertiary level educated young people (25-35) compared to many Organisation for Economic Co-Operation and Development (OCED) countries. However, in any event the statement fails to take into consideration the high proportion of the workforce with no qualifications. The point is that we need to consider evidence in the round. The Labour Market Bulletin tries to do just that.

The papers in this edition of the Labour Market Bulletin help question preconceptions that may be only partly true and, through the provision of evidence, supports consideration of alternative interpretations.

Melissa Wood's paper (Oxford Economics) and Laura Smyth's paper (The Department for Employment and Learning, Analytical Services), covering international skills and competency measures respectively, illustrate our need to accelerate our improving skills and literacy/numeracy base. Alan Ramsay's paper shows how the Department is responding to international (OECD) scrutiny of the Northern Ireland skills base and Alan's other contributions show which factors predict success in Further Education; provides an outline of the trends in key skills indicators and the results from the Employer Skills survey; and summarises the Department's performance report.

Strengthening the all-island research base programme is the topic of the article by Irwin and Henry (RSM McClure Waters) and Andrew Goodwin's article on labour mobility draws together a wealth of labour market information illustrating some of the issues around the increasing need for more geographic mobility. Some of the key points include the reducing need for low level skills and increasing need for high level skills - alongside our low use of public transport and geographic concentration of job opportunities. Collectively all of the articles are relevant to a better understanding of our economic future, especially during a time of rebalancing in the Northern Ireland economy.

Finally, I would like to thank all of the contributors to this bulletin and to the staff involved in its production. In particular I would like to thank the staff of Communications Branch, the Department for Employment and Learning, and members of the Analytical Services Team in the Department - Etta Wilson, Nicola McGarrigle, and Chris Lawless. A huge effort goes into the production of a publication such as this and I am privileged to have been part of the team effort in this 25th year of the production of the Labour Market Bulletin.

The economy, skills and the labour market in Northern Ireland – An Overview

Stephen Donnelly, Analytical Services, Department for Employment and Learning

This article gives a brief overview of labour market indicators with a focus on the measurement of skills gaps and university experience. The very wide range of research evidence cited illustrates the complexity of the problems faced, and reference is made to the key strategies of the Department that are implicated in addressing these problems.

This is my first article for the Labour Market Bulletin (LMB) and in preparation I read through a number of earlier Bulletins, including precursors to the current Bulletin going as far back as 1991. My predecessor, Dave Rogers, once began an LMB article with the quote from A Tale of Two Cities: 'It was the best of times, it was the worst of times'. It seems apt to revisit this sentiment given that virtually all of the high level economic indicators published in the department's monthly bulletins towards the end of 2014 were positive relative to the same time last year. Yet at the same time there are budgetary pressures faced by the public sector and worries about economic slowdown both in the United States of America and European Union.

The last economic and labour market indicators (January 2015) reported that employment had increased by 14,000 over the year; the Northern Ireland Composite Economic Index was up 1.2% over the year; United Kingdom Gross domestic product (GDP) growth was forecast to be 2.5% (HMT); Northern Ireland economic growth was forecast at 1.9% for 2015 (UUEPC); the employment rate had increased, the claimant count had fallen for 24 months in succession. However, the economic inactivity rate remains close to 28% and the number of confirmed redundancies at 2,347 had crept up from 2,129 the previous year. Reported vacancies to the Department for Employment and Learning job centres were running at just over 12,000 for quarter 3 2014.

Against this, departmental budgets are under severe pressure and there are signs of economic slowdown in Europe. Weekly gross wage rates showed signs of weakening in 2014; further pay restraint in the public and private sectors seems inevitable and interest rates are expected to increase at some point in 2015/16 thus putting greater strain on household spending power.

In 2011 Neil Gibson of the University of Ulster, Centre for Economic Policy (UUCEP) wrote in the Department for Employment and Learning's Labour Market Economic Bulletin of the same year that the promotion of economic growth could be summed up in the word 'skills' and that the 'prevailing economic mood is one of fear and uncertainty'. Three years later a lot has changed for the better but perhaps some of the fear and uncertainty remains. The logical corollary of reduced public and consumer spending is that much depends on the success of the private sector. In 2014/15 the prevailing economic mood is still one of uncertainty but it is against a backdrop of forecasts of modest growth in the United Kingdom and Northern Ireland economies and speculation about public sector reform and lower corporation tax.

Economic Overview

Towards the end of 2014, economic forecasters were revising their forecasts downwards. Nonetheless, growth rates (GVA) of just over 1% for Northern Ireland and rates approaching 2% for the United Kingdom were forecast over the next four years.

In January 2015, an economic overview covering the period September – November 2014 was published by the Department of Enterprise, Trade and Investment (DETI). The number of persons in employment had increased by around 14,000 over the year and the employment rate had increased 0.5% over the year to 67.8% but remains the lowest among all United Kingdom regions and the United Kingdom average of 73.0%. Unemployment was estimated at 5.8% or 50,000 people, down 3,000 over the year. The unemployment rate for 18-24 year olds at 19.2% was down 3.4 percentage points over the year. The economic inactivity rate for those aged 16-64 stood at 27.9%. This is significantly higher than the United Kingdom average of 22.4%. None of the annual changes in employment, unemployment or economic inactivity are large enough to suggest that the change is significant. However, taken collectively these are positive signs reflected by the fact that the claimant count has fallen across all 26 District Councils over the year and the Northern Ireland claimant count has fallen for 24 consecutive months.

In terms of hours worked, for full-time workers, in Northern Ireland, the average number of hours worked, at 38.2 was similar to that for the United Kingdom (37.6). However, Northern Ireland full-time employee gross weekly earnings at April 2014 were £457 which is about 88% of the United Kingdom figure of £518. This will reflect our lower productivity and relatively large proportion of unskilled and poorly qualified (particularly older) workers.

Skills

Having had the opportunity to review the economic indicators I am struck by how little this large amount of information tells us about the future. The November 1991 Labour Market and Skills Trends Bulletin reports that in the mid-1980's almost 20% of school leavers left with no formal qualifications. This had reduced to about 10% in the 1990's. Today the figure is under 2%. Clearly much progress has been made and indeed the authors of the 1991 report could only have dreamt of this quantum of progress. The 1991 report states that companies reported an 'inadequate supply of people with the appropriate skill levels'. Some of the skills required in the 1991 report included: 'spinners, doublers, twisters and weavers, darners and embroiderers' as well as 'computer analysts and programmers' – obviously this was a diverse economy and one in transition. It is difficult to predict future skills needs but it is perhaps dangerous to rely too much on employers' views given that they are not necessarily best placed to know what the future skills demands are likely to be (even though they may be confident in the views they hold). In the past, skills in the textile industry were in demand alongside computer programming. Today there is little demand for textile skills but we are still experiencing ICT related skills shortages nearly 25 years later! We need to listen to what employers are saying about skills shortages but we also need to triangulate our information sources on education and skills.

There is much talk of skills gaps in the economic literature but the Oxford Economics 2011 LMB article states that 'Northern Ireland's over-qualified and over-skilled rates are around one-third of the workforce'. This begs the question of how to match skills to demand and is one of the key research agenda items within the Department for Employment and Learning being taken forward by the University of Ulster, Centre for Economic Policy under the title of the 'Northern Ireland Skills Barometer'. The Barometer will be a tool for educators, parents and students to utilise when making educational and career-related decisions. Important elements of this are being supplied with data from the statisticians on the Further Education and Higher Education statistics side of the Department for Employment and Learning as well as improved job vacancy statistics and more robust youth unemployment estimates.

This edition of the LMB contains an article by Melissa Wood of Oxford Economics which benchmarks Northern Ireland's skills base from an international perspective. It argues that GDP per capita improves as a country's skills level increase and explains that Northern Ireland's international position in terms of skills ranking has hardly changed in ten years despite general improvement in skill levels.

The international benchmarking report card focuses on educational attainment, literacy, the reading, maths and science skills of 15 year olds, number of MSc and PhD graduates, participation rate in both education plus training etc. Our international ranking of 20th out of 26 countries doesn't look good but it is perhaps too big a leap to attribute this to our relatively low GDP per capita. After all the correlation between skills and GDP per capita is only 0.22 which suggests that there must be a raft of other factors at play. One of these, it has been suggested, is the 'brain drain' but that can't be the whole story. At any one time Northern Ireland has about 16,000 students studying in other jurisdictions (i.e. in broad terms we 'export' about 5,000 per year to do three year courses) but at any one time we have about 8,000 from other countries and half of the 8,000 come with postgraduate qualifications. It is also likely that we lose students from right across the ability spectrum. The surveys conducted on student return rates to Northern Ireland are based on (a) the numbers gaining employment in Northern Ireland six months after graduation and (b) the numbers gaining employment after three years – although the response rate for the latter is poor. The focus on returning to work ignores those who return to support families or continue studies and those who fail to respond to the survey. So the significance of the brain drain and the lack of skills reported by employers, while important factors, require more research and refinement of the measures. The Department is aware of the need to continually improve our evidence base and work is in hand to improve our understanding of these important areas.

It has long been known that the Northern Ireland workforce has historically suffered from a legacy of poor literacy and numeracy, but that as the workforce ages, and some of these people retire, the situation is changing.

Early in life measures of literacy and numeracy put us in quite a good position in terms of the international rankings and the Millennium Cohort Study (re-named Child of the New Century) research shows our primary school children do particularly well relative to Great Britain but we fall back at later stages of education. On international measures such as the studies known as Programme for International Student Assessment (PISA) and Programme for the International Assessment of Adult Competencies (PIAAC) we are only in the middle of the pack. At the same time we are sending more pupils to university – especially females. Indeed, one of our biggest challenges is to narrow the male/female educational attainment gap – which opens up very early in life and continues into adulthood. But there is perhaps a bigger issue that may contribute to inefficiency.

The Warwick University 'Futuretrack' project tracks students over their university career and beyond, it is a United Kingdom study but some specific Northern Ireland reports have been produced. About 85% of students at higher education establishments say their experience was positive, and there are around 15% who did not have a positive experience. Put another way, 'only' 60% of student graduates in the Futuretrack study said they would 'definitely or probably do the same course again'. This doesn't mean that for 40% of graduates their experience was wasted but it does suggest a possible mis-match between student aptitude and course attended. Coupled with the fact some 5-6% of first year university students drop out this represents a loss to the economy. Students who said they would change the course attended wanted to do courses that were more technical and vocational in nature and geared towards success in the labour market. The Futuretrack research is only one study and therefore should not be relied on too heavily, but it does suggest that there may be merit in improving how to ensure that students are best matched to subject choice. As mentioned above, the Department for Employment and Learning/UUEPC study of skills needs and educational options may contribute to the efficiency of matching students to courses.

The Department has three Ministerial Groups on Skills in the areas of Food and Drink; ICT; and Manufacturing and Engineering. These groups have been established in recognition of the important role that the universities and the colleges play in supplying future skills needs.

Social Mobility and Widening Participation

More work would be needed to find out if student drop outs referred to above return at some later stage (and we know a small number 'drop out' to go to a university outside Northern Ireland) but it is of concern that the most deprived areas have much higher drop out rates than the least deprived areas. Although it should be noted that the proportion of students in Northern Ireland from a 'routine/manual' background (41%) is higher than that in Great Britain (30%). This is another area where the Minister and the Department for Employment and Learning policy officials are taking action both with the universities and others to widen participation to higher education.

While Northern Ireland 's educational progress has been substantial, other countries have advanced also and Northern Ireland's comparison with Organisation for Economic Co-operation and Development (OECD) countries on various measures of science, reading and maths suggests that at best we are middle of the pack performers (PISA, 2006 and PIAAC, 2014). In international terms we also tend to have a relatively wide spread of educational performance suggesting that educational inequalities are wider here than in many other countries. Dr Jerrim and Dr Macmillan of the Institute of Education, London examined the data with a view to testing the theory that social mobility is most restricted in countries with the widest income gaps. They found that economically unequal countries such as the United Kingdom are the least socially mobile and United Kingdom as a whole, the effect of parental education had a substantial impact on the student's later earnings.

The Department for Employment and Learning is a department where the policy officials pay particular attention to the evidence base. However, as the preceeding text shows, the evidence base is complex. Northern Ireland 15 year olds perform at the OECD average in maths, reading and science (PISA, 2012) but we have a high proportion of low level performers. Yet at primary school level our pupils perform significantly above the international average in literacy and numeracy. Around 20% perform at the highest international benchmark possible. We send proportionately more students to university than England and about 50% of Northern Ireland female school leavers go to Higher Education compared to 35% of males. The Higher Education Age Partcipation Index for Northern Ireland (2012/13) is 46% compared to 43% in England and 55% in Scotland. In terms of forms of the Department for Employment and Learning provision, males consistently outnumber females on the Training for Success programme by a ratio of 2:1. Therefore educational outcomes for some are often of the highest quality but we are mid-range performers on an international stage and boys perform consistently less well than girls.

Future Skills Needs

University of Ulster Centre for Economic Policy forecasts suggest that there is a likely future demand for professional (law, accountancy, finance) skills as well as professional technical skills, pharmaceuticals, life sciences, green technology; tourism; in the caring professions, and also foreign language skills beyond the traditional European Union languages. This is not unlike the list produced by the Expert Group on Future Skills Needs (2007) report for the Department of Enterprise, Trade and Employment in the Republic of Ireland. The question is: how many people need to be skilled or up-skilled to meet future demand and should we plan for a pessimistic, middle road or optimistic scenario?

We know that for more than two decades employers have consistently pointed to skills gaps but evidence (LMB 23) suggests that the skills missing from the workforce are not primarily of a high level e.g. the most common are 'customer handling' and 'oral communication' and the occupations with the highest density of skills gaps are 'sales' and 'elementary occupations'. The most common forms of training provided by employers are 'job specific' (78%) and 'health and safety' (66%). Over a quarter of employers say there are skills gaps in 'Information Technology professional skills' yet only 1% provide off-the-job training in IT. Most of the 35,000 employees identified as not being fully proficient are recent starts in the job, i.e. have 'transient' skills gaps, and are located in the Hotels and

Restaurant and Social Community Caring sectors. In any event this is still only about 6% of employees and similar to the overall United Kingdom position.

The imperfect match between people and jobs means that there will always be employers who report skills shortages. The approach to vocational and apprenticeship jobs through 'Securing our Success'- the Northern Ireland strategy on apprenticeships, and the new Youth Training Strategy has the capability to produce flexible routes between education and employment. The economic dividend of getting the right strategies in place is huge. For example, the exclusion of a generation of young people across Europe from jobs has been estimated to cost about 1% of GDP. For the United Kingdom the annual cost was estimated to be around £13b annually (Eurofound, 2012).

The skills strategy and associated Ministerial working groups; the strategy for young people not in employment, education or training; the widening participation strategy; the youth training strategy and other work within the Department for Employment and Learning do not operate independently. It is within this framework of strategies that our future ability to respond to skills needs will depend. Because the demand for people with low or no qualifications is forecast to decrease by around 80% by 2030, up-skilling those who have no qualifications and increasing the numbers with degrees and post-graduate qualifications (by around 50%) will be essential over the economic period 2015-2030. The Department for Employment and Learning will be one of the key drivers in meeting these challenges.

The Northern Ireland labour market 'At a Glance'

Economic and Labour Market Statistics Branch, Department of Finance and Personnel

The Labour Force Survey (LFS) is a quarterly sample survey whereby some 4,000 individuals aged 16 and over are asked about their personal circumstances and work. It is the largest regular household survey in Northern Ireland (NI) and provides a rich source of information about the labour force using internationally agreed concepts and definitions. Similar surveys are conducted throughout the European Union (EU) allowing cross-country comparisons to be made.

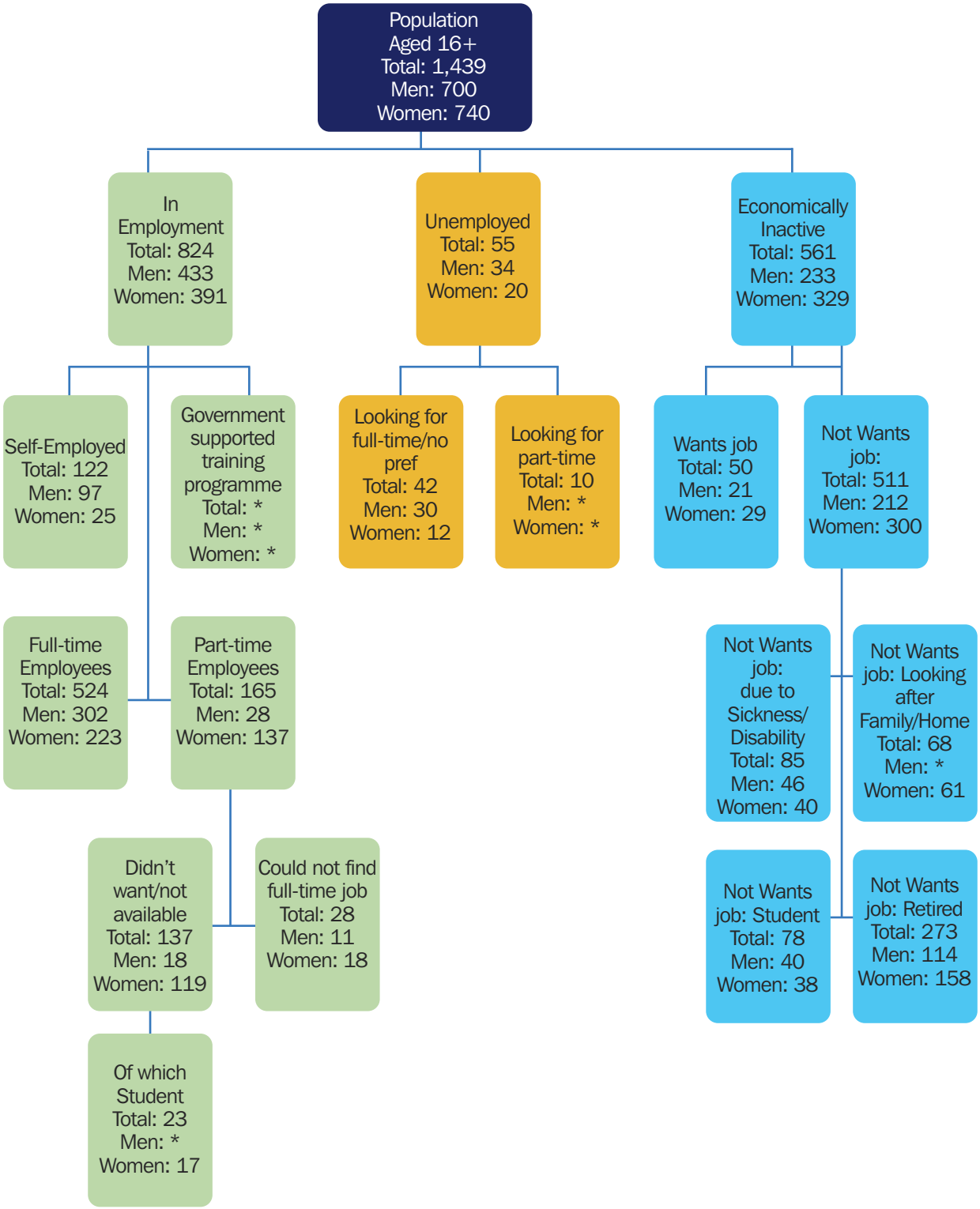
Results obtained from the sample are 'grossed-up' to provide an estimate of the levels within the population as a whole. Each individual participating in the survey is given a weight or 'grossing factor' which is related to that person's age and sex. In this way the final grossed results reflect the distribution by age and sex of the population.

Individuals are classified into one of the following categories: in employment, unemployed or economically inactive.

The following charts show how each of these three major categories may be further sub-divided to produce Labour Force Survey estimates for an entire spectrum of non-overlapping labour market groups ranging from full-time employee to economically inactive people who do not want a job. The results have been provided separately for the 16+ and working age populations and the data relates to Quarter three (July – September) 2014.

Please note that the definition of 'working age' used by the Labour Force Survey changed in August 2010 to include those aged from 16 to 64 for both men and women. Previously these rates were based on upper age limits of 59 for women and 64 for men, reflecting the state pension ages in the United Kingdom. However, between 2010 and 2018, the state pension age for women is increasing (by one month every two months) from 60 to 65, thereby making a change to the definition necessary.

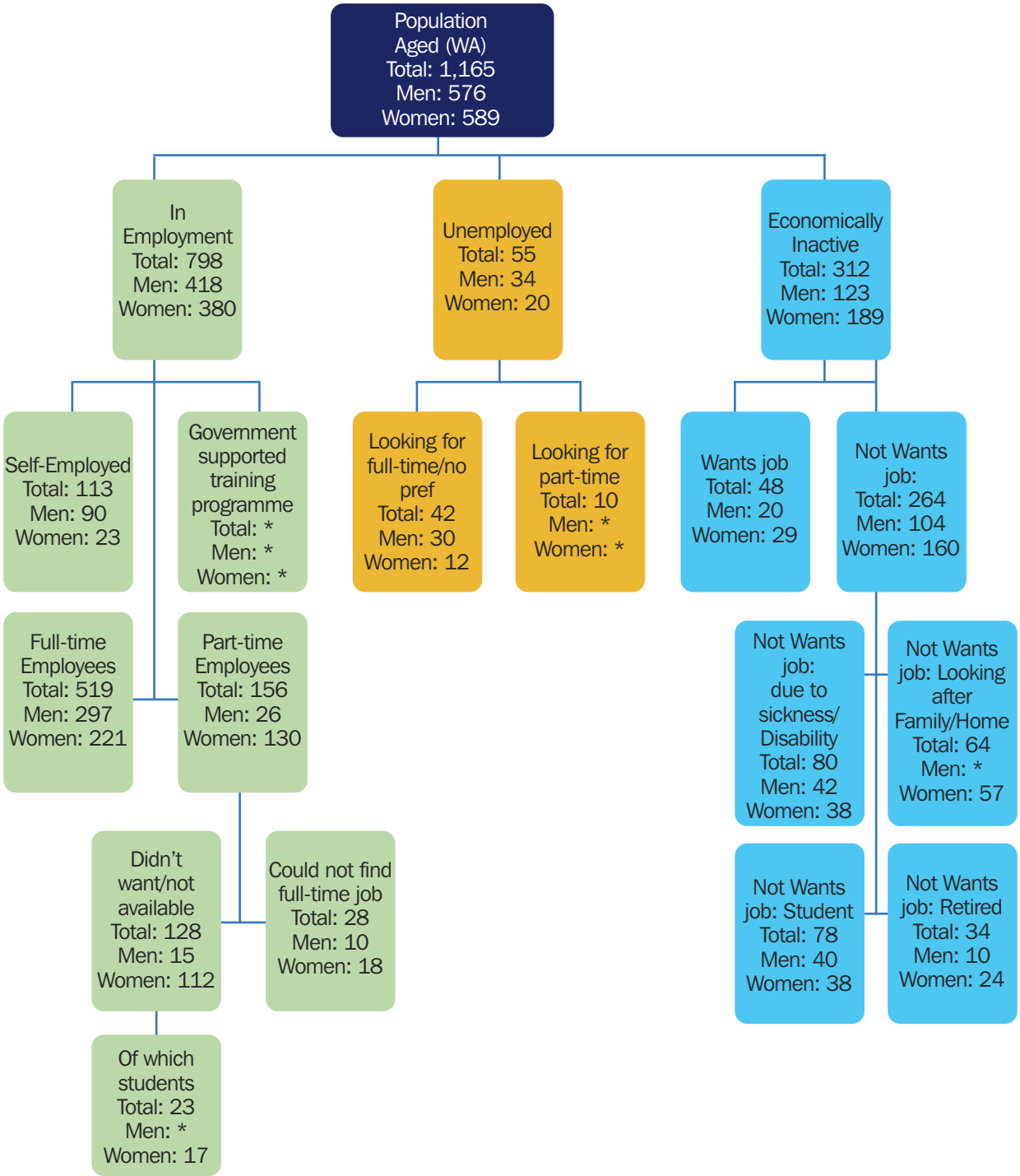
Figure 1: Overall Labour Market Structure (16+ Population, thousands), Quarter 3 2014



Notes:
This chart illustrates the structure of the private household population in relation to the key ILO defined categories of in employment, unemployed and economically inactive (see Technical Notes for definitions).

* Too small for a reliable estimate (this explains why a gender split for some categories is omitted) Figures may not sum due to rounding.

Figure 2: Overall Labour Market Structure (16-64 Population, thousands), Quarter 3 2014



Notes:
This chart illustrates the structure of the private household population aged 16-64 in relation to the key ILO defined categories of in employment, unemployed and economically inactive (see Technical Notes for definitions).

* Too small for a reliable estimate (this explains why a gender split for some categories is omitted) Figures may not sum due to rounding. The definition of 'working age' is now based on 16 to 64 for both men and women (see last paragraph of introduction to article for further details).

Further Information
More detailed labour market analysis is published in the monthly report "Labour Market Report". This can be obtained (free of charge) by;

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Telephoning: Belfast (028) 9052 9475
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Textphone: Belfast (028) 9052 9304

Visiting the web site www.statistics.detini.gov.uk

Labour Market Statistics

Economic and Labour Market Statistics, Department of Finance and Personnel

This article outlines current trends in the Northern Ireland labour market using data from the Labour Force Survey (LFS), Quarterly Employment Survey (QES) and Claimant Count. A major strength of the Labour Force Survey is that it is a self-contained integrated source of information on employment, unemployment, economic activity and many other labour marke topics. It is the largest regular household survey carried out in Northern Ireland and it uses concepts and definitions which are consistent with International Labour Organisation (ILO) guidelines. This article is based on data from the latest Labour Force Survey available at the time of writing - Quarter three 2014 (i.e. the three month period July-September 2014).

Table 1 provides a seasonally adjusted summary of the Northern Ireland labour market position at July - September 2014 and an indication of change over the previous year. The figures show that seasonally adjusted employment increased by an estimated 14,000 in the year to July-September 2014. Seasonally adjusted unemployment showed a decrease of 11,000, leading to a rise of 3,000 in the total number of economically active persons during the year.

Table 1: Summary of Labour Market Statistics July - September 2014 (seasonally adjusted)

	Level	Sampling Variability of level +/-#	Change over Year	Sampling Variability of change +/-#
ILO* employment	821,000	+/-25,000	14,000	+/-32,000
ILO* unemployment	52,000	+/-11,000	-11,000	+/-15,000
Economically active	874,000	+/-23,000	3,000	+/-29,000
Economically inactive	566,000	+/-23,000	5,000	+/-29,000
ILO* unemployment rate	6.0%	+/-1.3pp	-1.3pps	+/-1.8pp
Economic activity rate (ages 16-64)	73.0%	+/-1.8pp	0.4pps	+/-2.4pp

* Definition agreed by the International Labour Organisation - taken from the Labour Force Survey

#95% confidence interval pp = percentage points

3

Unadjusted Employment

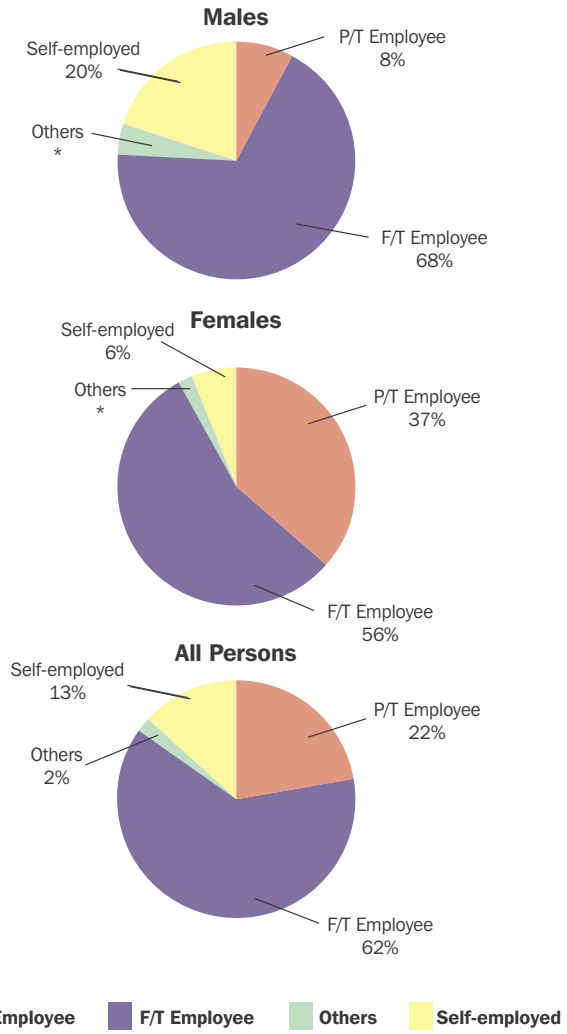
The total number of persons in employment at July-September 2014 was 824,000. Of these 524,000 (64%) were full-time employees, 165,000 (20%) were part-time employees, 122,000 (15%) were self-employed and 12,000 (1%) were on government employment and training programmes or were unpaid family workers.

Figure 1 shows how the relative size of these categories differs for men and women. While self-employment accounts for 22% of the total number of male jobs, it makes up just 6% of female employment. Another feature of the Northern Ireland labour market is the significant contribution which part-time work makes to female employment. 35% of all females in employment are part-time employees, compared with just 7% of males.

Reasons for Part-time Work

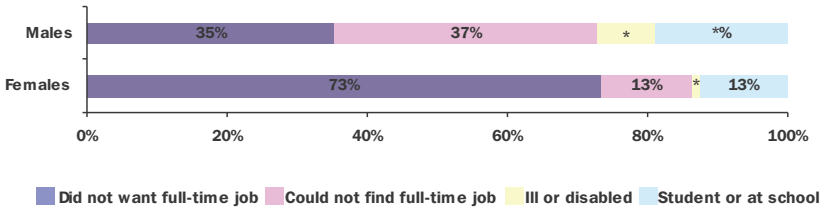
Figure 2 shows that the reasons for part-time working also differ for men and women. While three quarters of female employees (73%) worked part-time because they did not want a full-time job, the main reasons for males working part-time was more evenly spread across the categories.

Figure 1: Categories of Employment



"Others" comprise those on government training and employment schemes and unpaid family workers.
* Too small for a reliable estimate.

Figure 2: Reasons for Employees Working Part-time



Other reasons comprise being ill or disabled.
* Too small for a reliable estimate.

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Employee Jobs

The other major source of employment information is the Quarterly Employment Survey, which measures the number of employee jobs in Northern Ireland. **Table 2** shows the unadjusted breakdown of Northern Ireland employee jobs at September 2014. Substantially more male employees are working full-time (275,560) compared to part-time (72,930), whereas the female split in employee jobs is more evenly spread (185,640 working full-time compared to 183,690 working part-time). In September 2014 female employee jobs accounted for just over half (51.5%) of the Northern Ireland total.

Table 2: Employee Jobs, Full-time/Part-time split, September 2014 (unadjusted)

	Male		Female			% change in total	
	Full Time	Part Time	Full Time	Part Time	Total	Since Last Quarter	Since Last Year
Manufacturing	58,940	2,040	13,300	3,620	77,900	1.5%	3.8%
Construction	23,450	1,390	2,950	2,070	29,860	3.5%	1.6%
Services	183,330	61,520	167,880	176,570	589,300	0.5%	2.1%
Other[1]	9,840	7,980	1,510	1,440	20,760	0.3%	-4.8%
Total	**275,560**	**72,930**	**185,640**	**183,690**	**717,820**	**0.7%**	**2.0%**

[1] Covers Industry Sections A, B, C and E

Figure 3 shows the annual and quarterly changes in employee jobs. Between June 2014 and September 2014 the number of employee jobs in Northern Ireland rose by 0.7% (5,090 jobs). This consisted of increases across all sectors; in the Service Sector (2,830), in the Manufacturing Sector (1,190), in the Construction Sector (1,010) and in Other Industries (60).

Between September 2013 and September 2014 the number of employee jobs increased by 2.0% (14,200). This consisted of increases across the following sectors; the Service sector (11,910), the Manufacturing sector (2,870) and the Construction sector (480). The Other Industries sector experienced a decrease (1,050) over the year.

Figure 3: Annual and Quarterly Changes in Employee Jobs (unadjusted)

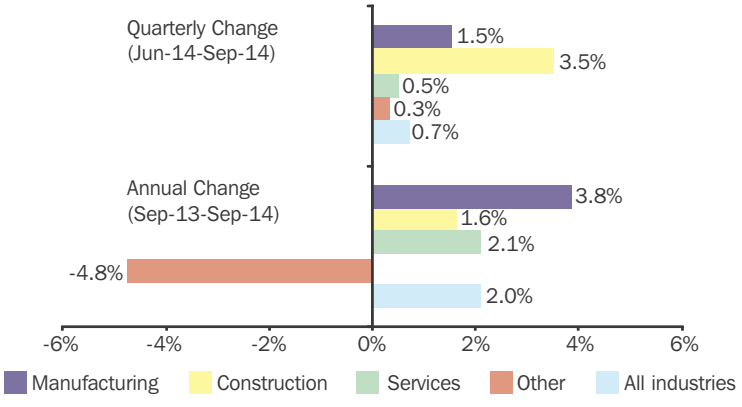

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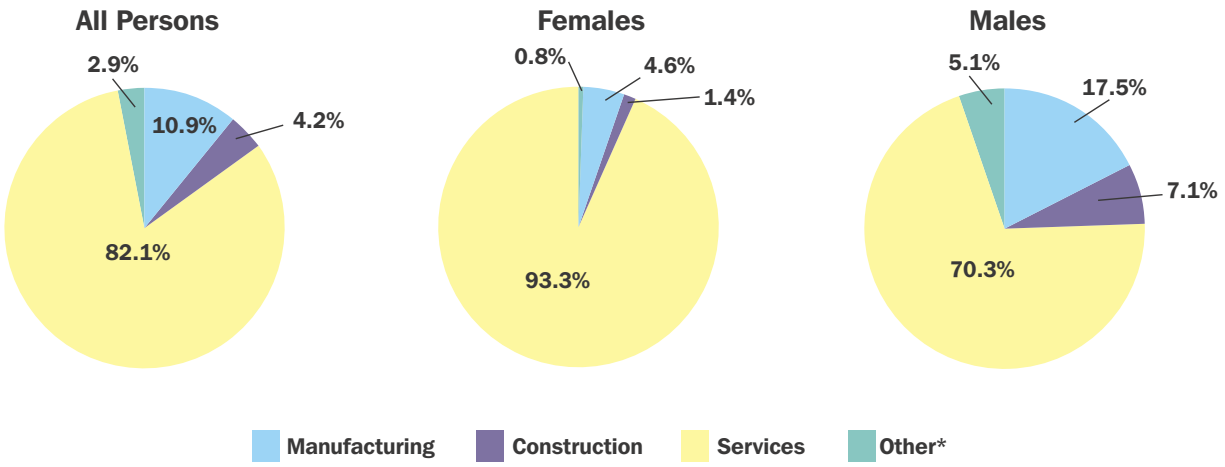
Figure 4: Northern Ireland Employee Jobs by Broad Industry Sector (unadjusted)



* Other industries include Agriculture, Hunting, Forestry & Fishing, Mining & Quarrying and Electricity, Gas & Water Supply.

Figure 4 shows the unadjusted breakdown of male and female employee jobs by Broad Industry Sector as at September 2014. There are notable differences in the distribution of male and female employees across the broad sectors. Whilst some 70.3% of male employee jobs are in the service sector, males are still well represented in Manufacturing (17.5%) and Construction (7.1%). Female employee jobs however are more concentrated in the Service sector (93.3%), with only 4.6% involved in Manufacturing and 1.4% in Construction.

Figure 5: Change in Northern Ireland Employee Jobs, September 2004 – September 2014

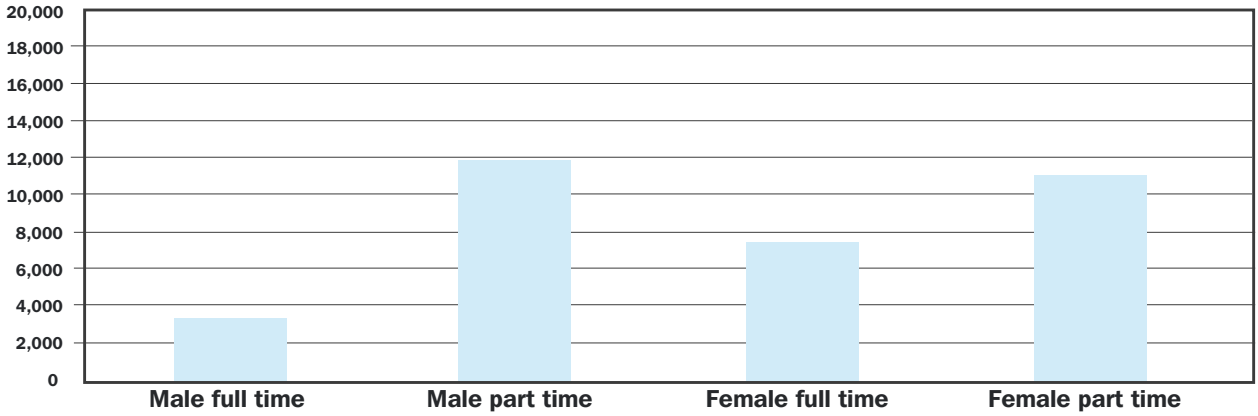


Figure 5 shows the rise in employee jobs between September 2004 and September 2014 for male and female, full-time and part-time jobs. The largest increase occurred in male part-time jobs, with an increase of 11,850. The second largest rise occurred in female part-time jobs (11,110).

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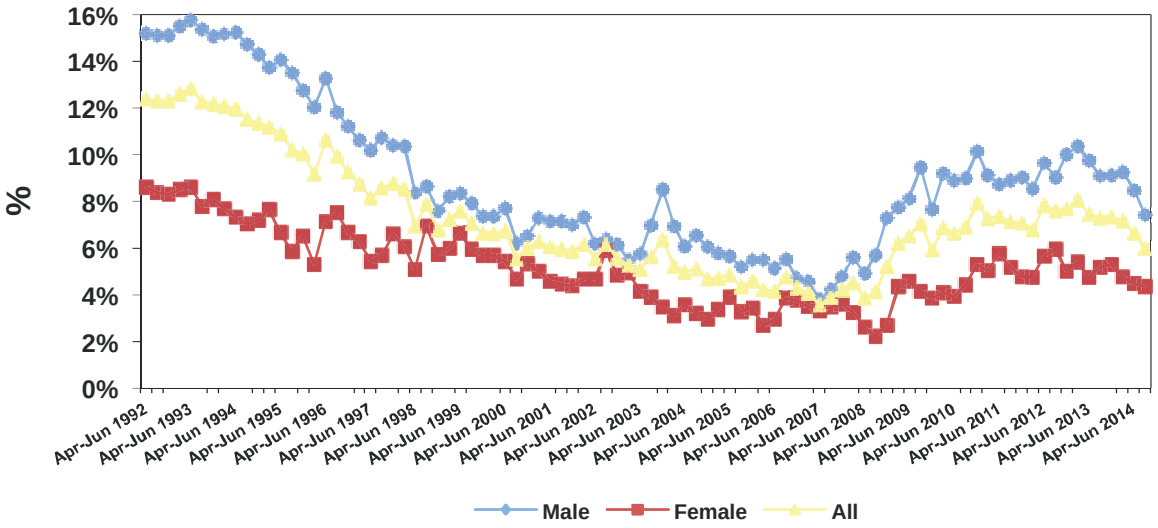
Unemployment

The unemployed, as defined by the International Labour Organisation, are those who are without a job, available to start work within the next fortnight and have actively looked for work at some time in the previous four weeks. In the period July-September 2014 seasonally adjusted figures estimate that there were 52,000 persons unemployed in Northern Ireland, which equates to an unemployment rate of 6.0%. **Figure 6** shows that unemployment rates in Northern Ireland had been on a downward trend for a number of years, falling from 10.0% in October-December 1995 to 3.3% in mid 2007. It is noticeable that the latest unemployment rate for males (7.4%) is considerably higher than the equivalent rate for females (4.4%).

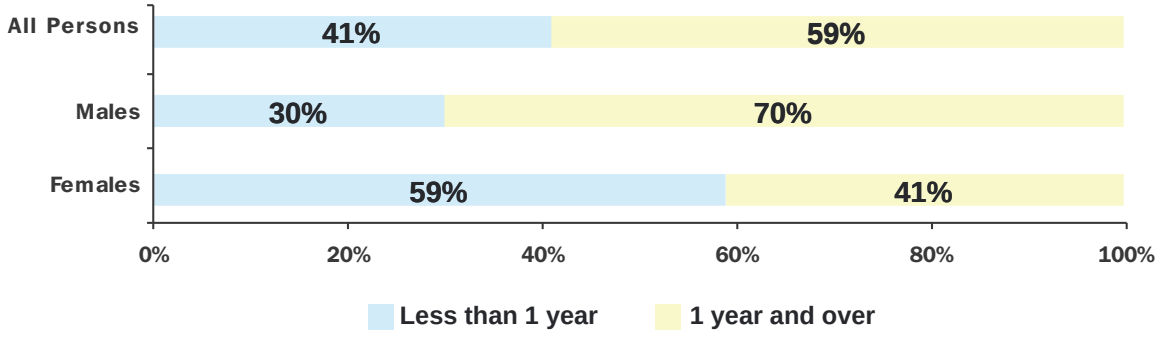
Figure 6: Seasonally Adjusted Unemployment Rates



Duration of Unemployment

Unadjusted data show that in the period July-September 2014, 32,000 (59%) of the unemployed had been out of work and seeking employment for one year or more. The proportion of unemployed males that had been unemployed for one year or more was higher at 70%. The proportion of unemployed females that had been unemployed for one year or more was too small to provide a reliable estimate.

Figure 7: Duration of Unemployment



Excludes those who did not state the length of time they had been unemployed.

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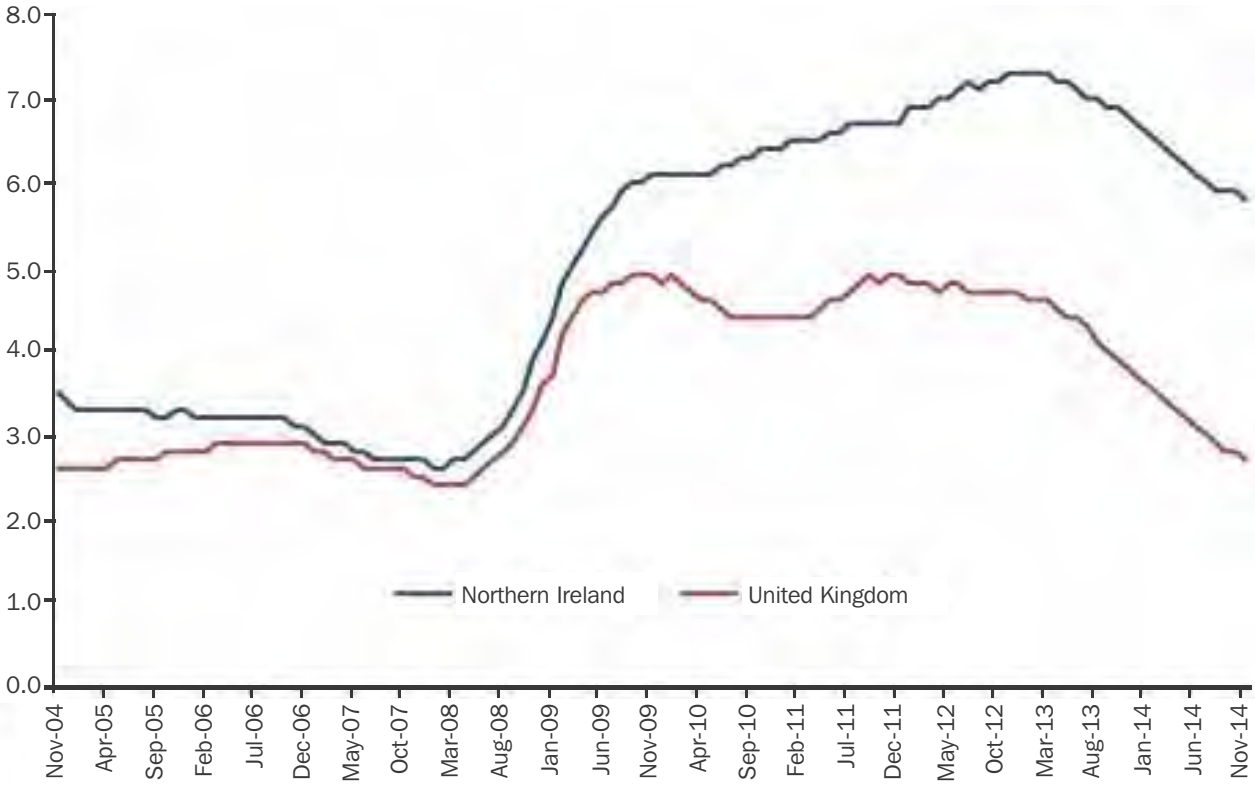
Claimant Count Unemployment

The seasonally adjusted claimant count rate as a percentage of the workforce for Northern Ireland in November 2014 (5.8%) has decreased by 1.0 percentage points since November 2013. The rate has been steadily decreasing over since March 2013. The claimant count rate for Northern Ireland has been consistently higher than the United Kingdom rate throughout the past ten years while maintaining a similar pattern. However, the gap between the United Kingdom rate and the Northern Ireland rate has started to widen over the last five years, after several years of closing. It currently stands at 3.1 percentage points (November 2014). The smallest differential occurred during 2007 when the difference was 0.1 percentage points over nine of the twelve months. (**Figure 8**).

Figure 8: Seasonally adjusted claimant count rates for Northern Ireland and the United Kingdom, November 2004 to November 2014[1]



[1] Data correct as of 21st January 2015

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Subregional analysis

An analysis at Travel-To-Work-Area (TTWA) level shows that claimant count rates as a percentage of working age population were generally highest in the north west of the region. The highest rates were 7.3% in Derry/Londonderry, and 7.1% in Strabane while the lowest rate was in Dungannon 2.9% at November 2014. Belfast Travel-To-Work_Area comprises just under one half of the working age population in Northern Ireland and has a rate of 4.2%. The rate for Northern Ireland as a whole was 4.3% (**Figure 9**).

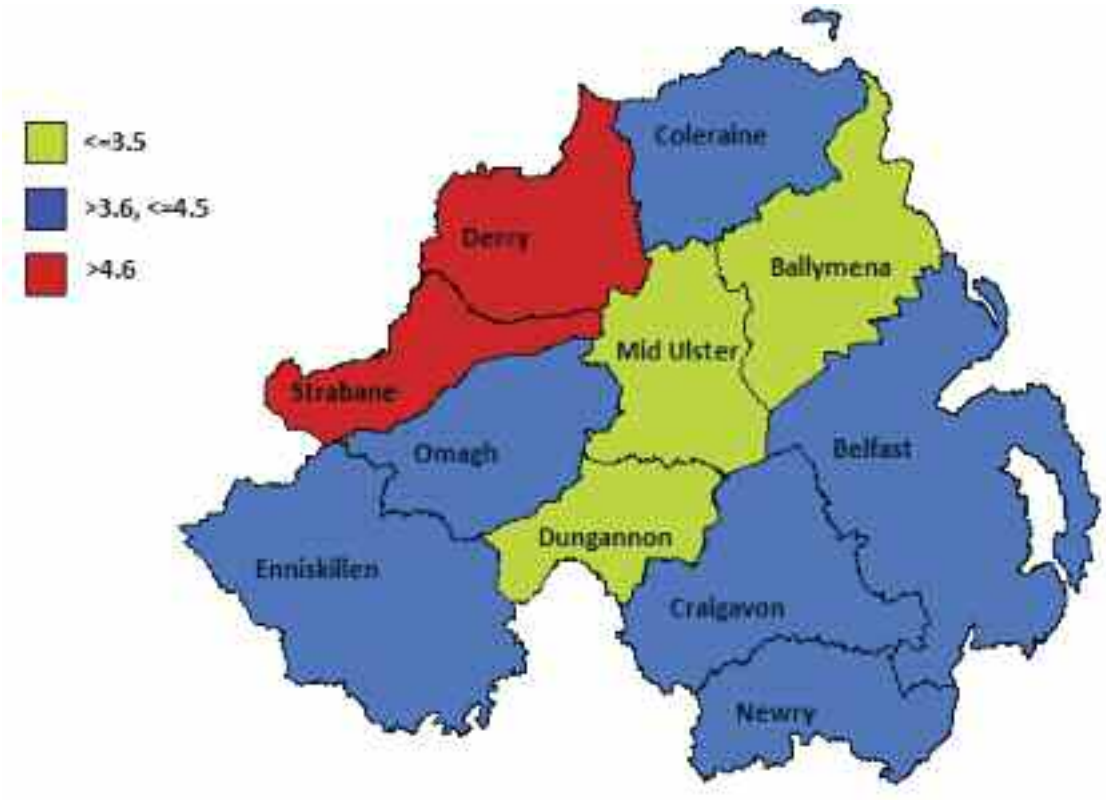
Analysis by duration

In November 2014, the structure of long-term claimants in Northern Ireland was similar to United Kingdom, however there were some notable differences. The proportion of claimants who were short-term unemployed (claiming unemployment-related benefits for less than one year) was lower in Northern Ireland (63.7% in Northern Ireland compared to 70.2% in the United Kingdom), Northern Ireland also had a smaller proportion of new claimants of duration four weeks or less than the United Kingdom (9.1% compared with 16.6% respectively). Northern Ireland had a lower proportion of claimants who had been claiming between three and five years, compared to the United Kingdom, 2.8% and 8.6% respectively (**Figure 10**).

36.2% of all claimants in Northern Ireland were long term claimants (those individuals who have been claiming unemployment related benefits for over a year).

The District Council area with the highest concentration of long term claimants occurred in southern and western parts of Northern Ireland – 46.8% of

Figure 9: Northern Ireland claimant count Travel-To-Work-Area rates – November 2014



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claimants in Strabane were long term claimants at November 2014, followed by Newry and Mourne with 42.2% of claimants. Magherafelt and Coleraine had the lowest incidence of long term unemployment with 27.7% and 28.6% respectively claiming for one year or more. Twenty-one of the 26 District Council Areas had a long term percentage of claimants greater than 30% (**Figure 11**).

Figure 10: Proportion of claimants by duration; November 2014

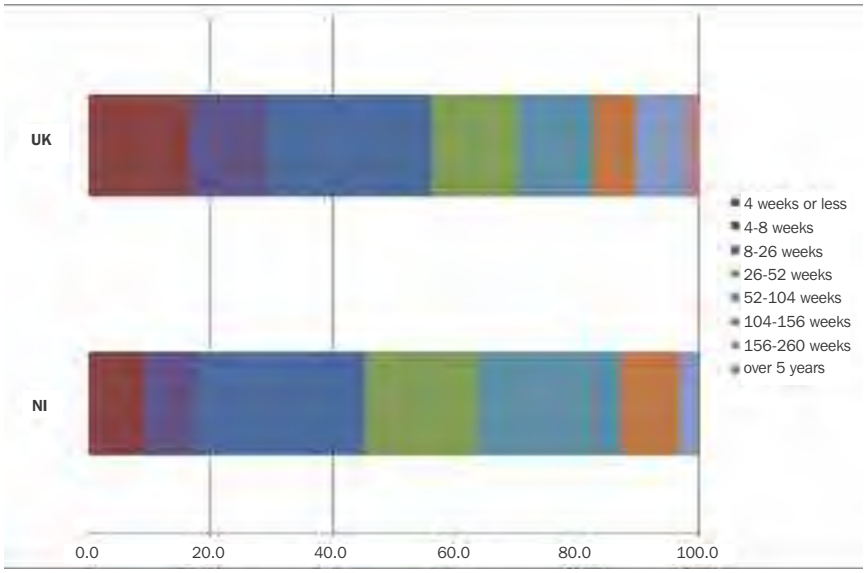

Figure 11: Concentration of long-term claimants by District Council Area; November 2014

Jobs Density Indicator

The Jobs density measure is equal to the total number of filled jobs in an area divided by the resident population of working age in that area. It provides an indication of the relationship between the supply of jobs in an area and the population from that area e.g. if the jobs density estimate equals 1.0, the number of jobs in the area would equal the working age population from that area.

The total number of jobs is a workplace-based measure of jobs and comprises employees, self-employment jobs, government-supported trainees and HM Forces (see **Box 1** for details of sources). The number of jobs in an area is composed of jobs done by residents (of any age) and jobs done by workers (of any age) who commute into the area.

The working-age population comprises residents of working age who work in the area plus workers of working age who commute out of the area to work in other areas and those who are unemployed or economically inactive of working age.

Box 1

Employee jobs (excluding Agricultural employees)

By far the largest component, employee jobs accounts for 82.5 per cent of the total number of jobs at a Northern Ireland level. Estimates were obtained from the Quarterly Employment Survey, at December each year.

Agricultural employees

Estimates are obtained separately from the Agricultural Census, which is carried out by the Department of Agriculture and Rural Development. Data are for June of each year. Agricultural employees account for 1.5 per cent of the total number of jobs.

Self-employed jobs (including Agriculture)

The second largest component accounting for 12.9 per cent of the Northern Ireland total is self-employment data from the annual local area Labour Force Survey.

Government-supported trainees

The Department for Employment and Learning provides this data, at June of each year. Government-supported trainees account for just over 2.4 per cent of the total number of jobs.

HM Forces

Estimates of armed forces personnel are produced by the Defence Analytical Services Agency as at 1 July of each year. Adjustments are made for military personnel serving overseas or whose location is unknown. They account for under 0.6 per cent of the Northern Ireland total.

Population estimates

Latest official mid-year population estimates, for persons of working age (16-64), produced by the Northern Ireland Statistics & Research Agency are used as the denominator. 2012 Job density indicators are based on 2012 mid-year population estimates.

Key Points

In 2012 job density estimates show there are 0.71 jobs per person of working age in Northern Ireland, compared to a figure of 0.78 for Great Britain.

Of the 12 United Kingdom regions, Northern Ireland (0.71) has the joint second lowest Jobs Density. The United Kingdom average at 2012 was 0.78 jobs per person.

Table 3: Jobs Density Indicator (JDI) by Government Office Region 2007-2012

Government Office Region	2007	2008	2009	2010	2011	2012
North East	0.69	0.69	0.67	0.66	0.67	0.67
North West	0.76	0.75	0.74	0.73	0.74	0.75
Yorkshire and The Humber	0.76	0.76	0.74	0.74	0.74	0.73
East Midlands	0.77	0.75	0.73	0.74	0.75	0.75
West Midlands	0.77	0.76	0.73	0.73	0.74	0.75
East	0.78	0.77	0.76	0.75	0.76	0.77
London	0.89	0.89	0.86	0.86	0.89	0.92
South East	0.82	0.81	0.79	0.80	0.81	0.81
South West	0.82	0.81	0.82	0.82	0.82	0.81
England	0.80	0.79	0.77	0.77	0.78	0.79
Wales	0.71	0.70	0.70	0.69	0.70	0.71
Scotland	0.80	0.80	0.78	0.76	0.76	0.76
Great Britain	0.79	0.79	0.77	0.77	0.78	0.78
Northern Ireland	0.74	0.75	0.72	0.74	0.72	0.71
United Kingdom	0.79	0.79	0.77	0.76	0.78	0.78

Table 4: Jobs Density Indicator by District Council Area (DCA) 2007 – 2012

District Count Area	2007	2008	2009	2010	2011	2012
Antrim	0.90	0.89	0.90	1.03	0.97	0.94
Ards	0.42	0.43	0.42	0.42	0.42	0.41
Armagh	0.68	0.68	0.66	0.61	0.66	0.67
Ballymena	0.94	0.95	0.88	0.71	0.78	0.78
Ballymoney	0.49	0.50	0.46	0.48	0.46	0.49
Banbridge	0.49	0.50	0.46	0.48	0.44	0.45
Belfast	1.25	1.27	1.23	1.27	1.25	1.18
Carrickfergus	0.38	0.39	0.39	0.35	0.41	0.39
Castlereagh	0.70	0.72	0.73	0.75	0.69	0.65
Coleraine	0.74	0.75	0.67	0.71	0.68	0.69
Cookstown	0.64	0.64	0.62	0.66	0.63	0.66
Craigavon	0.77	0.77	0.74	0.71	0.74	0.71
Derry	0.70	0.71	0.70	0.76	0.71	0.68
Down	0.53	0.53	0.52	0.55	0.54	0.53
Dungannon	0.76	0.76	0.71	0.70	0.72	0.71
Fermanagh	0.72	0.72	0.70	0.72	0.70	0.74
Larne	0.51	0.52	0.50	0.56	0.52	0.53
Limavady	0.56	0.54	0.45	0.46	0.45	0.46
Lisburn	0.65	0.65	0.64	0.66	0.61	0.57
Magherafelt	0.65	0.65	0.61	0.61	0.60	0.61
Moyle	0.45	0.45	0.44	0.43	0.43	0.49
Newry & Mourne	0.67	0.67	0.63	0.63	0.62	0.62
Newtownabbey	0.66	0.67	0.64	0.63	0.62	0.60
North Down	0.51	0.51	0.53	0.51	0.52	0.48
Omagh	0.72	0.73	0.70	0.68	0.70	0.71
Strabane	0.46	0.47	0.47	0.49	0.51	0.58
Northern Ireland	**0.74**	**0.75**	**0.72**	**0.74**	**0.72**	**0.71**

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The District Council Area that had the highest Job Density Indicator in 2012 was Belfast District Council Area (1.18). This indicates that a considerable amount of the workforce commutes into Belfast from surrounding District Council Areas. Carrickfergus District Council Area had the lowest Job Density Indicator (0.39) in 2012 suggesting that residents in Carrickfergus travel out of the District Council Area to work.

The two District Council Areas (Carrickfergus, 0.39 and Ards, 0.41) with the lowest Job Density Indicator are within commuting distance of the Belfast District Council Area.

The Job Density Indicator in Northern Ireland has remained relatively unchanged from 2007 to 2012. The largest yearly change occurred from 2008 to 2009 when it decreased by 0.03 percentage points. In 2012, half of the 26 District Council Areas showed a decrease in Job Density Indicator from the previous year.

Figure 12: Jobs Density Indicator by District Council Area 2014

Ward Claimant Count Rates

All current Jobseekers' Allowance claimant datasets contain information at Census Area Statistics (CAS) ward level. In Northern Ireland there are 582 wards. These figures express the claimant count as a proportion of the resident working-age (ages 16-64) population in the ward.

Table 6: The Wards in Northern Ireland with the Highest Proportion of Claimants in November 2014

Ward	District Council Area	Number of Claimants			% of Working Age		
		Male	Female	Total	Male	Female	Total
The Diamond	Derry	222	80	302	24.2	10.9	18.3
East	Strabane	127	59	186	25.0	11.1	17.9
Strand	Derry	365	97	462	22.4	7.6	15.9
Creggan South	Derry	142	83	225	21.1	10.9	15.7
Greystone	Limavady	89	34	123	23.1	7.9	15.0
Rosemount	Derry	189	69	258	19.5	8.1	14.1
Brandywell	Derry	142	75	217	18.8	9.4	14.0
Water Works	Belfast	394	150	544	19.0	8.2	14.0
Westland	Derry	128	54	182	19.0	8.0	13.5
Creggan Central	Derry	149	89	238	18.6	8.7	13.1
New Lodge	Belfast	305	95	400	20.2	6.2	13.1

The ten highest ward claimant count rates occurred in either Derry/Londonderry, Strabane, Belfast or Limavady District Council Area. This is not surprising, as these four District Counsil Area's had the four highest District Council Area claimant count rates in November 2014. In these wards the claimant count rates for males were much higher than the rates for females. In the East ward around 1 in 4 males of working age were claimants compared with 1 in 13 males in Northern Ireland as a whole.

Table 7: The Wards in Northern Ireland with the Lowest Proportion of Claimants in November 2014

Ward	District Council Area	Number of Claimants			% of Working Age		
		Male	Female	Total	Male	Female	Total
Cultra	North Down	6	4	10	0.9	0.5	0.7
Galgorm	Ballymena	18	*	19	1.7	*	0.9
Stranmillis	Belfast	39	19	58	1.2	0.6	0.9
Ballymacbrennan	Lisburn	12	7	19	1.1	0.7	0.9
Aldergrove	Antrim	19	11	30	1.1	0.8	1.0
Cairnshill	Castlereagh	17	9	26	1.4	0.7	1.0
Collinbridge	Newtownabbey	18	*	20	1.9	*	1.0
Hamiltonsbawn	Armagh	13	12	25	1.1	1.1	1.1
Moira	Lisburn	20	15	35	1.2	0.9	1.1
Crawfordsburn	Northdown	14	3	17	1.9	0.4	1.1

** These figures are suppressed as a value of 1 or 2.*

The lowest ward claimant count rates occurred mainly in District Council Area's situated in the east of Northern Ireland. One of the top ten occurred in Castlereagh District Council Area, which has the lowest rate of all 26 District Council Area's (2.6%) at November 2014. The ward with the lowest rate was Cultra (0.7%) in **Table 7**, only 1 in 143 persons of working age were claiming. In all these wards, male and female claimant rates were closer than in the previous wards with the highest overall rates.

Rural – Urban Comparisons

For this report, rural areas were defined as all parts of Northern Ireland excluding (i) the Belfast Metropolitan Area, (ii) the city of Derry/Londonderry and (iii) towns with populations of more than 5,000 people.

Of the 582 census frozen wards in Northern Ireland, 239 are defined as rural and the remaining 343 are defined as urban. At November 2014, the rural wards had an average claimant count rate of 3.1%[1], while the 343 urban Census Area Statistics wards had a claimant count rate of 5.0%. This would compare with an overall claimant count rate of 4.3% for Northern Ireland using the resident working age population as well. All ten wards listed earlier with the highest proportion of claimants are classified as urban wards.

Further Information

Claimant Count data at ward level is available via the Department of Enterprise, Trade and Investment's website **www.detini.gov.uk/deti-stats-index.htm and the NOMIS website www.nomisweb.co.uk.**

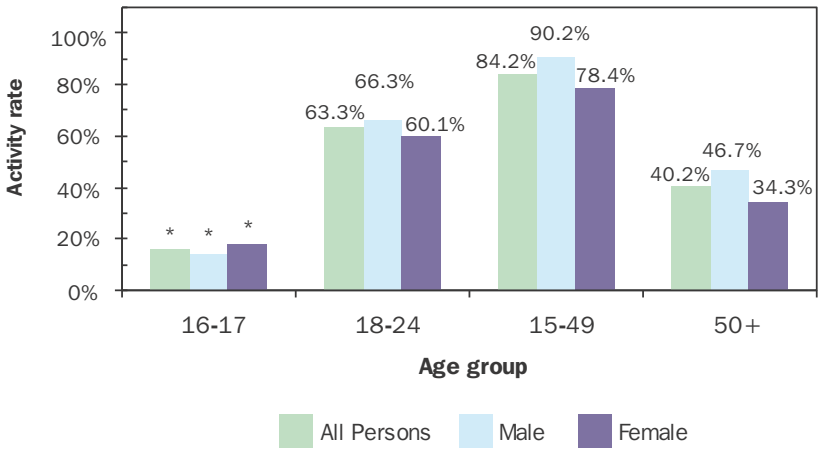
Economic Activity

The economically active (International Labour Organisation employed + unemployed) are those participating in the labour market either by working or looking for work. Economic activity rates express the number economically active as a percentage of the population aged 16 and over. In the period July-September 2014, there were 878,000 economically active people in Northern Ireland – equating to an overall activity rate of 61.0%.

Activity rates

Figure 14 shows how economic activity rates are relatively low during the ages associated with full-time education, rise during the 'prime' working years (18-49 years of age) and begin to drop again near retirement age. For women this trend is slightly more mute, largely because many females of working age have family commitments which make it difficult for them to actively participate in the labour market.

Figure 14: Economic Activity Rates by Age



* Too small to provide a reliable estimate

1 The average claimant count rate for rural CAS wards was calculated by expressing the summation of all claimants in rural CAS wards as a percentage of the summation of the working age in all rural CAS wards. The same procedure was applied to calculate the urban CAS ward claimant count rate.

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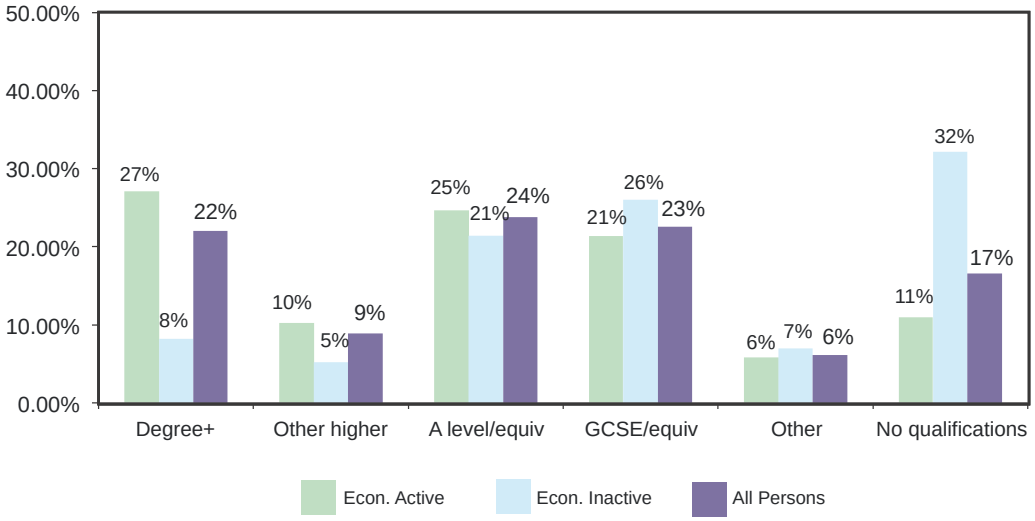
Qualification Levels

Figure 15 shows the qualification levels of the 16-64 population at July-September 2014, with separate estimates for the economically active and inactive populations. Overall 22% of the working age population were qualified to at least 'degree' level, while 17% had no formal qualifications. However, there were stark differences in these figures for the economically active and inactive populations. While 27% of the economically active population held a degree or equivalent qualification, the figure for the inactive population was much lower at 8%. Likewise, while 11% of the economically active population had no formal qualifications, the equivalent figure for the inactive population was much higher at 32%.

Figure 15: Qualification Levels of the 16-64 population by Labour Market status

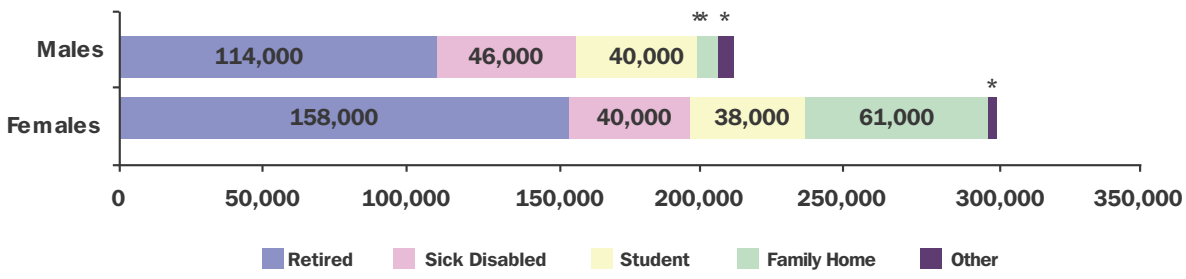


Economic Inactivity

People aged 16 and over who are not in employment and are not unemployed according to the International Labour Organisation definition are classified as economically inactive. In the period July-September 2014 there were 561,000 economically inactive persons in Northern Ireland – an increase of 4,000 from one year earlier.

The economically inactive can be divided into two main groups; those who do not want a job (91%) and those who do want a job but fail to satisfy the International Labour Organisation unemployment requirement for active job-search (9%). A breakdown of the former category is shown at **Figure 16**. Overall, the main reason for not wanting work was retirement; 54% of men and 53% of women who did not want a job were retired. The other reasons for not wanting work varied according to the gender of the respondent, with men more likely to cite sickness or disability (22%) as their reason and women family/home commitments. Indeed, 20% of women gave 'looking after family home' as their reason.

Figure 16: Reason for not Wanting Work



* Too small to provide a reliable estimate.

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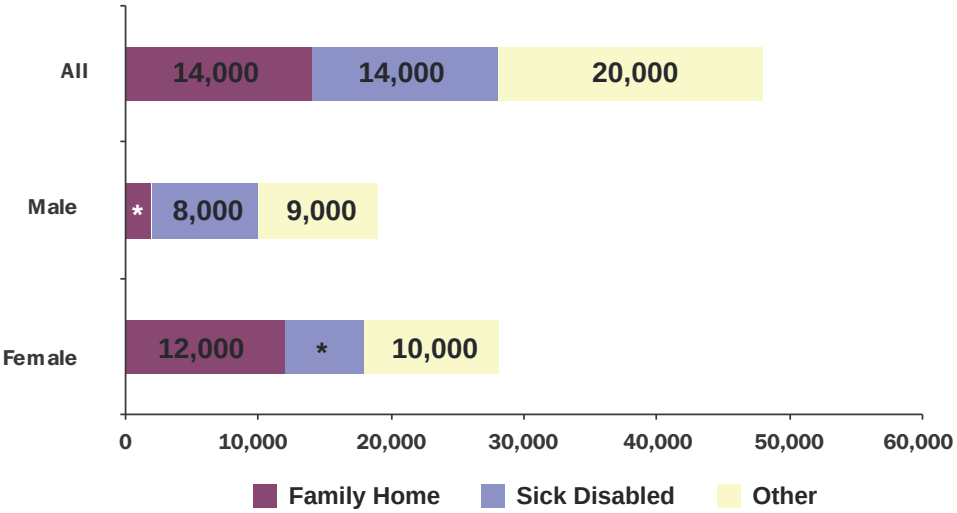
At July-September 2014 there were 50,000 economically inactive who did want a job, but for a variety of reasons were not actively seeking work. The main reason given by these people for not seeking or being available for work was sickness or disability (31%).

Figure 17: Wanting a Job, reason for not looking for work



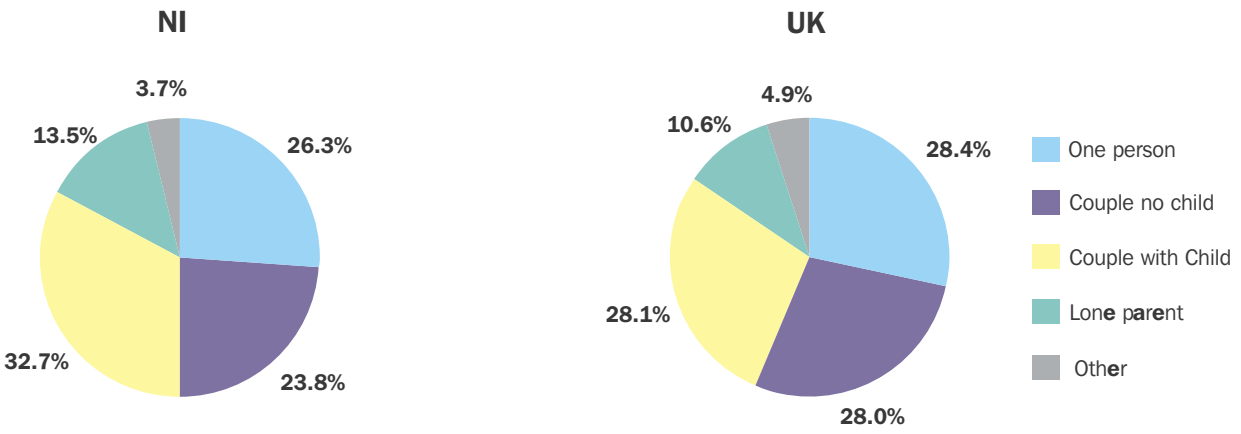
* Too small to provide a reliable estimate

Households

Separate datasets specifically designed for analyses at the household level are also available from the Labour Force Survey. At April-June 2014 there were 728,000 private households in Northern Ireland. There were 1,820,000 persons living in these households, giving an average of 2.50 persons per household. This compared with a United Kingdom average of 2.38 as a whole. Indeed, Northern Ireland (2.50) and London (2.62) were the regions with the highest number of persons per household.

Figure 18 looks at household types according to the relationships between the persons living in them, for both Northern Ireland and the United Kingdom. The most common type of household in Northern Ireland consisted of a couple with children, which accounted for 32.7% of all households. The other two main household types were one person households (26.3%), followed by couples with no children (23.8%). Lone parents amounted to 13.5% (99,000) of all households. The main difference between the distribution of household types in Northern Ireland and the United Kingdom is the higher proportion of households composed of couples with children in Northern Ireland (32.7% compared with 28.1% in the United Kingdom). This is partly balanced by a lower proportion of households in Northern Ireland composed of couples with no children than in the United Kingdom (23.8% compared with 28.0%).

Figure 18: Household Types, Northern Ireland and United Kingdom, April-June 2014



"Others" comprise households with two or more people in all different family units, two or more family units and same sex couples.

Table 8 shows the proportions of working age households according to the economic activity of their members. (A **working age household** is defined as a household with at least one person aged 16 to 64 in it). The most common type of household in Northern Ireland was one where all persons were employed (referred to as a workrich household), accounting for 49.0% of all working age households. Note these households may contain only one person who is employed, or several persons, all of whom are employed. There is a 6 percentage point difference between the proportion of workrich working age households in Northern Ireland and the United Kingdom. In fact, Northern Ireland has the lowest proportion of working age households of all United Kingdom regions in this category (the United Kingdom average was 55.3%). The other two main categories of households were those containing employed and economically inactive persons (24.6%) and those where all persons were economically inactive (17.3%). Both of these proportions were higher than the equivalent figures for the United Kingdom as a whole.

A workless household is defined as a household where no one of working age is in employment and comprises types three, five and six from **Table 8**. In April-June 2014, there were 122,000 workless working age households, or 20.9% of all working age households in Northern Ireland. This compared with 15.9% in the United Kingdom as a whole and was the second highest proportion among the United Kingdom regions (the North-East being the highest at 21.2%).

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Table 8: Working age Households by Combined Economic Activity, April-June 2014

Type of Economic Activity	Northern Ireland	United Kingdom
1) All Employed	49.0%	55.3%
2) Employed and Economically Inactive	24.6%	23.3%
3) All Economically Inactive	17.3%	12.4%
4) Employed, Unemployed and Econ. Inactive	2.7%	3.7%
5) Employed and Unemployed	1.9%	2.1%
6) All Unemployed	1.7%	1.4%
7) Unemployed and Economically Inactive	2.6%	1.7%
All households (100%)	49.0%	55.3%

Note that the proportions in these household categories are affected by the number of persons in a household. Consequently the fact that Northern Ireland has a larger average number of persons per household and a smaller proportion of one person households than the United Kingdom, means that there is more likely to be a combination of economic activity states within households than all persons of one activity state.

Regional and International Comparisons

One of the strengths of the Labour Force Survey is the availability of comparable socio-economic data for other United Kingdom regions and European Union member states. **Table 9** provides a Labour market profile of each region of the United Kingdom at July-September 2014.

Table 9: Regional Summary (seasonally adjusted) July-September 2014

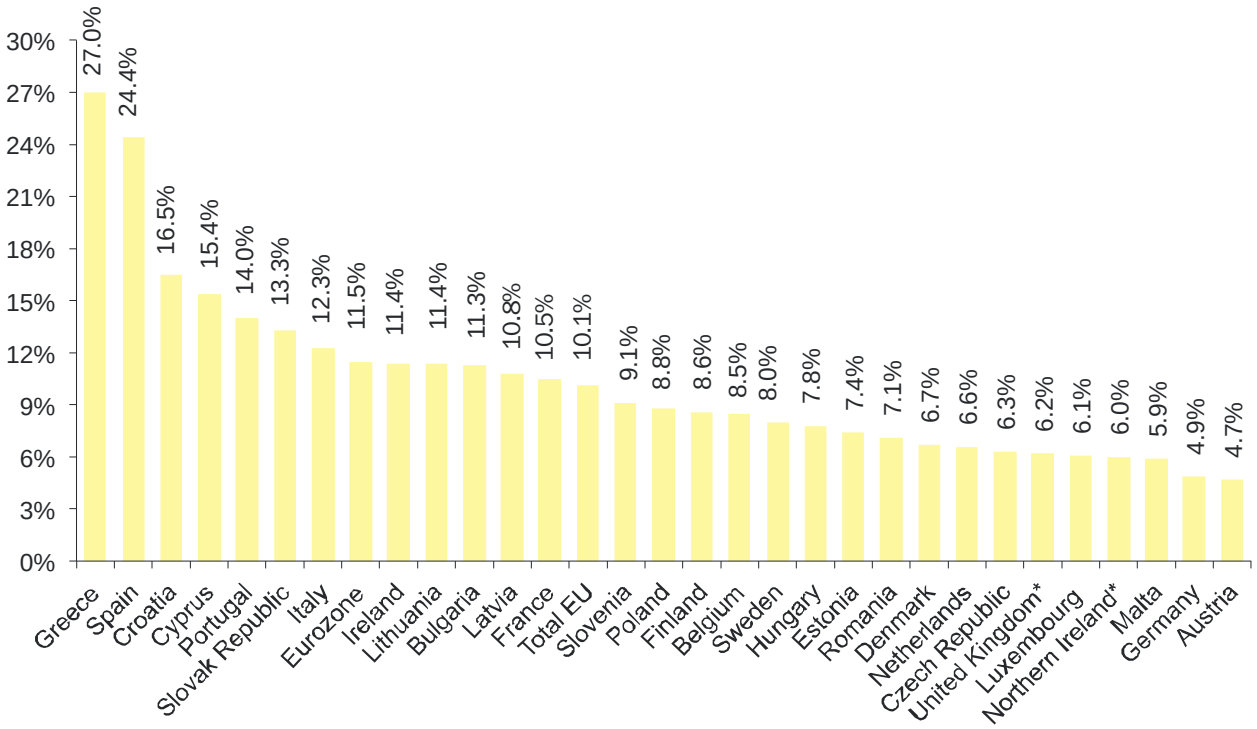
	Total aged 16 and over (000's)	Activity rate (%) 16-64	Unemployed (000's)	Unemployment rate (%)	LTU as % of total unemployed*	Employment Rate (%) 16-64
North East	2,121	*76.1%*	118	*9.2%*	*38.6%*	*69.0%*
North West (inc Merseyside)	5,722	*75.4%*	219	*6.3%*	*34.9%*	*70.6%*
Yorkshire and Humberside	4,297	*77.9%*	194	*7.2%*	*35.7%*	*72.2%*
East Midlands	3,715	*78.6%*	132	*5.6%*	*25.9%*	*74.0%*
West Midlands	4,537	*75.4%*	200	*7.2%*	*42.8%*	*69.8%*
Eastern	4,797	*80.6%*	154	*4.9%*	*27.5%*	*76.5%*
London	6,749	*77.2%*	287	*6.3%*	*33.6%*	*72.3%*
South East	7,055	*80.3%*	212	*4.6%*	*26.6%*	*76.5%*
South West	4,383	*80.1%*	129	*4.7%*	*27.5%*	*76.3%*
Wales	2,508	*74.2%*	98	*6.6%*	*32.8%*	*69.1%*
Scotland	4,369	*78.6%*	164	*5.9%*	*33.4%*	*73.8%*
Northern Ireland	1,439	*73.0%*	52	*6.0%*	*58.8%*	*68.5%*
United Kingdom	51,691	*77.8%*	1,959	*6.0%*	*33.6%*	*73.0%*

LTU = Long-term unemployed (1 year or more). * Not seasonally adjusted.

This shows that the Northern Ireland economic activity rate for those of working age (73.0%) is lower than any of the other United Kingdom regions. The unemployment rate in Northern Ireland (6.0%) is the sixth lowest among the United Kingdom regions, with the highest rate (9.2%) occurring in the North East.

Figure 19 shows how the unemployment rate in Northern Ireland compares to others in the European Union. For the period July-September 2014, the Northern Ireland rate (6.0%) was 4.1 percentage points lower than the European Union average (10.1%). It was also 5.4 percentage points below the rate in the Republic of Ireland (11.4%).

Figure 19: International Unemployment Rates (seasonally adjusted)



Source: Eurostat

Further Information
More detailed labour market analysis is published in the monthly report "Labour Market Report". This can be obtained (free of charge) by;

Writing to:
Economic and Labour Market Statistics Branch, Room 110, Netherleigh, Massey Avenue, BELFAST BT4 2JP

Telephoning:
Belfast (028) 9052 9475
Fax: (028) 9052 9658

Textphone:
Belfast (028) 9052 9304

Visiting the web site
www.statistics.detini.gov.uk

Labour Mobility in Northern Ireland

Andrew Goodwin, Oxford Economics

Labour mobility is a crucial contributor to Northern Ireland's efforts to reduce poverty and social exclusion, and to enhance its economic competitiveness. This study reviews the factors that determine labour mobility; presents evidence on current levels of geographic and labour market status mobility in Northern Ireland; and identifies barriers to mobility that may inhibit the efficient functioning of the Northern Ireland labour market.

Introduction

The Department for Employment and Learning commissioned Oxford Economics to compile a comprehensive and up-to-date overview of labour mobility in Northern Ireland.

The study considers two types of labour mobility:

- **geographic mobility**, which normally refers to commuting or migration; and
- **labour market status mobility**, which involves moves into or towards employment. The main emphasis is on moves from unemployment or economic inactivity into employment.

Some other studies also discuss *occupational mobility* – the ability of workers to move between occupations and sectors, both between and within generations. This type of labour mobility is beyond the scope of this work.

The Oxford Economics study is based on a number of sources of information:

- a **literature review** by Dr Ian Shuttleworth of Queen's University Belfast and Professor Anne Green of the University of Warwick, two leading experts in labour mobility;
- **consultations with a range of stakeholders** with knowledge and experience of issues pertaining to labour mobility in Northern Ireland, including Jobs and Benefits Offices and Job Centre staff, and employers amongst others;
- **focus groups with the non-employed**; and
- **a telephone survey of over 1,000 non-employed individuals**.

The study also includes **quantitative analysis of official datasets**, including the Labour Force Survey and results from the 2011 Census. However, at the time of writing local-level origin-destination commuting flow information from the 2011 Census had not been released.

Labour mobility benefits individuals and firms, and is a crucial contributor to Northern Ireland's long-term economic competitiveness

Higher levels of mobility benefit individuals by allowing them to improve their personal economic circumstances through moving into work. Increased mobility enables firms to draw from a larger pool of potential workers, helping them to fill vacancies more quickly, find workers with skills and experience that are more closely matched to their needs, and keep wage inflation down. Taken together, such benefits mean that greater mobility allows Northern Ireland to make the best possible use of its workforce, and ultimately reduce poverty and social exclusion.

Northern Ireland is only just emerging from recession and has the highest claimant count unemployment rate of all United Kingdom regions. There is

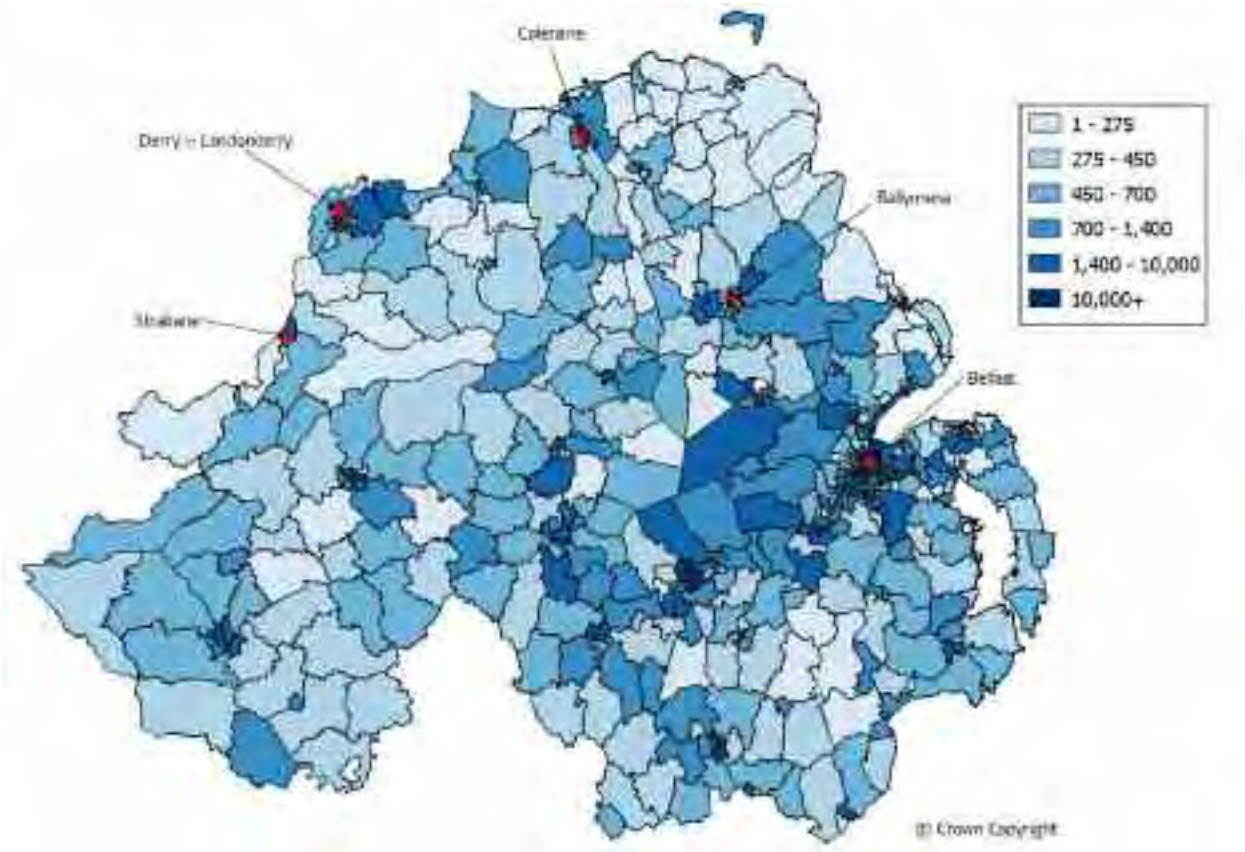
therefore a short-term need to get people back into work. But in an increasingly globalised and competitive world there is also a need to consider how Northern Ireland can increase its competitiveness for the longer term, quickly adapt to technological advances and exploit new commercial opportunities.

Geographical mobility in Northern Ireland

The distribution of employment in Northern Ireland is characterised by an East-West divide, with employment concentrated in and around Belfast, and fewer opportunities in the west and south.

Figure 1 shows the number of jobs in each ward in Northern Ireland. Employment is clearly concentrated in and around Belfast, with smaller employment centres in other towns and cities, notably Derry~Londonderry. Despite policies attempting to decentralise employment, a clear east/west divide remains. There are fewer employment opportunities in the west and south of Northern Ireland.

Figure 1: Employee jobs, workplace-based, 2011 *Darker areas indicate employment centres*



Source: Northern Ireland Census of Employment 2011

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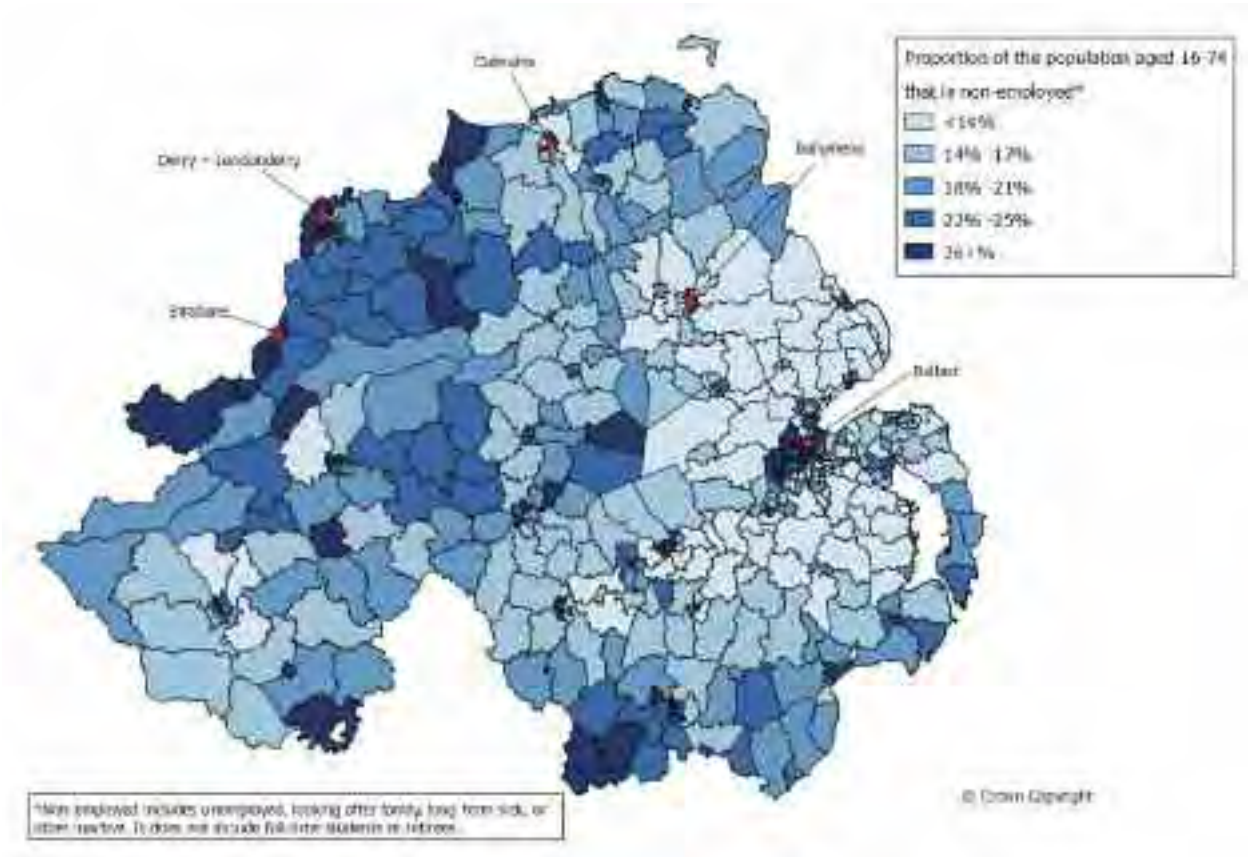
It is also useful to identify where there are concentrations of people not currently in work who could potentially move into jobs - the supply of available labour (**Figure 2**). In total, there were 222,000 non-employed people in Northern Ireland in 2011. 146,000 of these were in the east of Northern Ireland and 76,000 were in the west.[1] This means that 21 per cent of the working age population is non-employed in the west, compared to 18 per cent in the east.

Figure 2 shows that many rural areas in the west of Northern Ireland have high non-employment rates and we know from **Figure 1** that many such areas are remote from employment centres. Distance is likely to represent a significant barrier to employment in these parts of Northern Ireland.

Previous research has shown that policies to bring work to areas with few opportunities are unlikely to be effective. **Figure 2** also shows that there are concentrations of non-employment in Belfast. In such areas, distance is unlikely to be the main barrier to employment and perceptions or other non-spatial barriers may be more significant.

Figure 2: Proportion of the population aged 16-74 that is non-employed, 2011 *Darker areas indicate higher rate of non-employment*



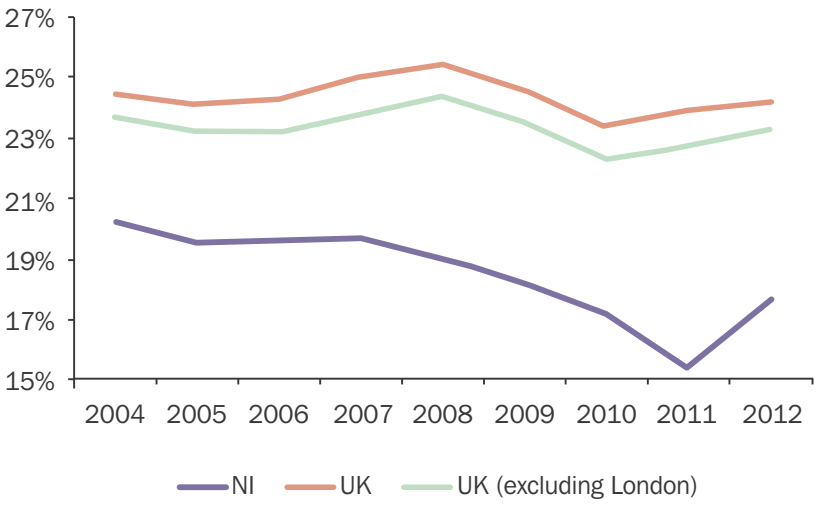
Source: 2011 Census

1 The west of Northern Ireland figure is taken to include the following local government districts: Armagh, Coleraine, Cookstown, Derry, Dungannon, Fermanagh, Limavady, Magherafelt, Omagh and Strabane. All other local government districts are included in the east of Northern Ireland figure.

Fewer people move house in Northern Ireland than in other United Kingdom regions and public transport provision means there is a reliance on the car for daily commuting

Migration within Northern Ireland is not an effective mechanism for addressing spatial disparities: most house moves are relatively local and throughout the last decade relatively fewer people have moved house than in other parts of the United Kingdom (**Figure 3**).

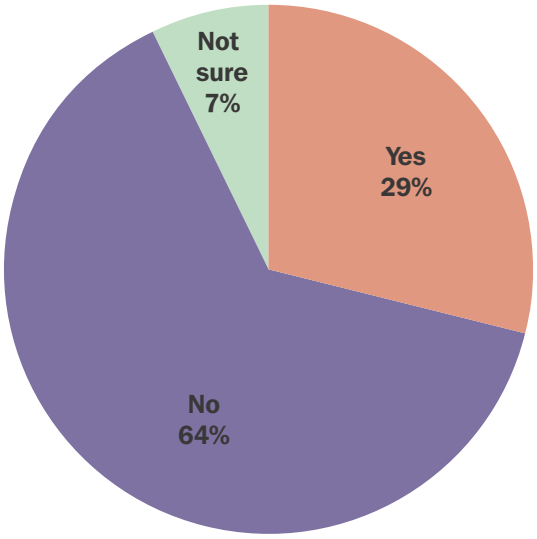
Figure 3: Proportion of the population aged 16+ who have moved house during the last three years, 2004 to 2012



Source: Labour Force Survey, Oxford Economics

In the telephone survey carried out for this research, only 29 per cent of non-employed individuals said they would be willing to move to another part of Northern Ireland to obtain employment (**Figure 4**).

Figure 4: Would you be prepared to move to another part of Northern Ireland to obtain employment?

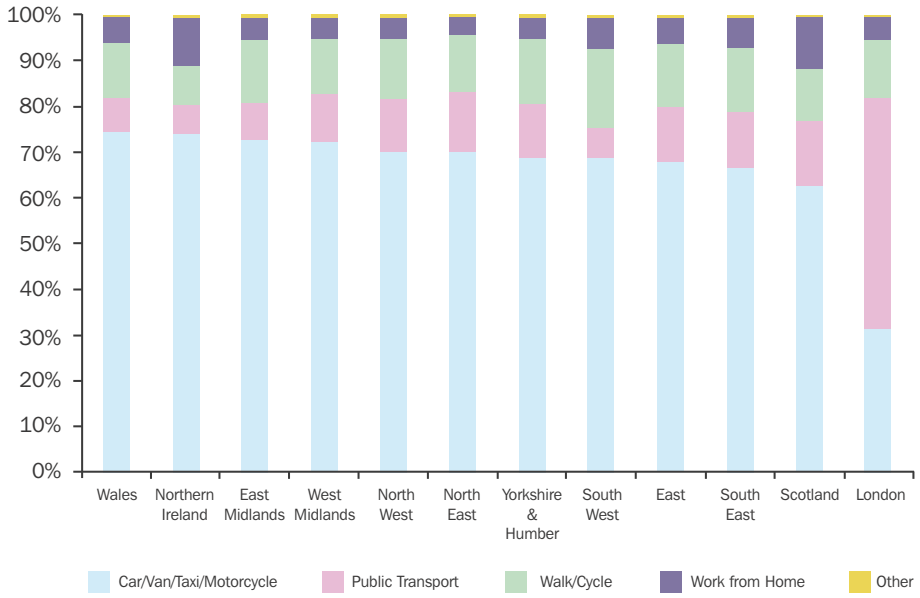


Source:
PIMR Telephone Survey

4

The average commuting time in Northern Ireland is around 23 minutes, similar to other United Kingdom regions outside London. However, Northern Ireland is extremely dependent on the car: just six per cent of people travel to work on public transport, the lowest amongst United Kingdom regions (**Figure 5**).

Figure 5: Mode of transport to work, 2011

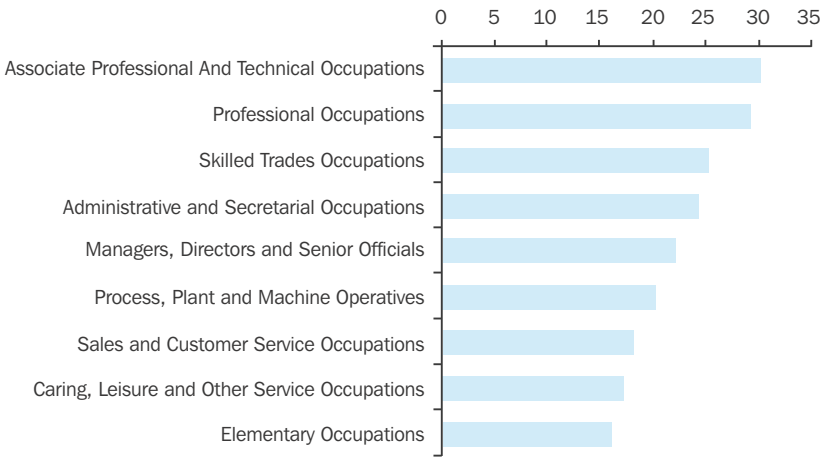


Source: Census 2011

Barriers to geographical labour mobility in Northern Ireland are similar to other parts of the United Kingdom, although a lack of transport provision for those without cars is a particular challenge

Many of the drivers of geographical mobility in Northern Ireland are in line with those identified in the broader literature. Younger people, males and the more highly skilled tend to be more mobile (**Figure 6**).

Figure 6: Average travel to work time by occupation in minutes, Northern Ireland, 2012



Source: Labour Force Survey, Oxford Economics

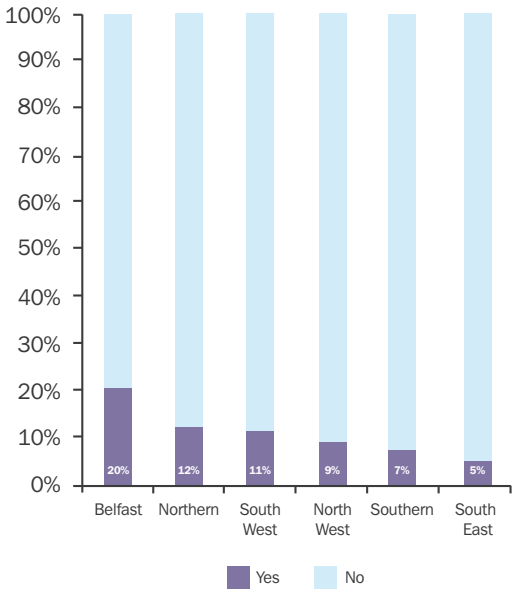
For the non-employed, the main barriers to geographical mobility are travel costs relative to salary; an unwillingness to move away from the local area; a lack of car access; and the availability, reliability and affordability of public transport. Transport barriers to employment are greater in rural areas, although they can also discourage individuals from taking jobs in certain areas of Belfast where there is no direct transport route.

Although not a concern for the majority of the population, consultations suggested the 'chill factor' can still be an issue for parts of the community in Belfast and, to a lesser extent, in Derry~Londonderry

Previous research has identified that the functioning of the Northern Ireland labour market can be inhibited by a 'chill factor', whereby some individuals are reluctant to travel through certain areas or work at a workplace dominated by individuals from a particular religious background due to a real or perceived threat of violence.

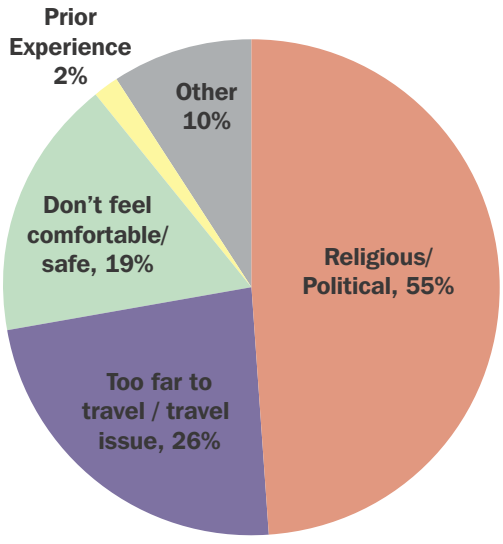
For the majority of the population chill is not a concern. The 2012 Northern Ireland Life and Times Survey suggests that over 70 per cent of people would 'probably' or 'definitely' not be concerned about applying for a job in an area dominated by people from the opposite religious background.[2] Across Northern Ireland as a whole, 89 per cent of non-employed respondents to the telephone survey said there were no areas within a reasonable distance of their home where they would not be willing to work (**Figure 7**). Those who reported that they would be unwilling to work in certain areas were asked about the reasons for this. There were 55 per cent of respondents who quoted religious or political reasons, 26 per cent suggested it was too far or not easy to travel there (**Figure 8**) and 19 per cent said it was because they would not feel comfortable or safe. Only two per cent (one person) said their reluctance was linked to prior experience.

Figure 7: Are there any areas within a reasonable distance of your home, but where you are not willing to take up employment? By workforce development area



Source: PIMR Telephone Survey

Figure 8: Please identify why you would not be willing to take up employment in these areas



Source: PIMR Telephone Survey

2 Source: Northern Ireland Life and Times Survey, 2012

Stakeholder consultations revealed that the chill factor does continue to affect some individuals in Belfast and, to a lesser extent, Derry~Londonderry. Within Belfast, some of the non-employed identified certain parts of the city they would feel unsafe working in. Other stakeholders reported that chill remains a real issue amongst young men from certain working class areas who are unwilling to work outside their 'comfort zone'. Anecdotally there was a sense that the situation had improved in recent years, but has regressed over the last year due to flag protests and associated events. One stakeholder suggested a link between chill and the wider economic climate. Jobs and Benefits Office (JBO) staff in Ballymena reported that while individuals in the town were not reluctant to travel to any particular areas, some might still refuse to take a job in a workplace dominated by workers from the opposite religious background.

This evidence should be treated with caution: previous research has shown that chill-type factors are often confounded with other considerations, such as a general unwillingness to travel far from one's own neighbourhood, or a general sense that an area is unsafe (perhaps due to general criminality rather than sectarianism). Fears may also sometimes be based on perceptions that are outdated and/or incorrect.

The need for geographical mobility in Northern ireland is likely to increase going forward.

Based on Oxford Economics' forecasts, very few areas in Northern Ireland are expected to see employment growth in excess of working age population growth between 2008 and 2024 (see **Figure 9**).[3]

Nonetheless, Belfast, Antrim and Derry~Londonderry will need to 'import' workers from elsewhere in Northern Ireland (although in Derry~Londonderry employment is simply falling less quickly than the working age population). Job prospects in many rural areas are unlikely to improve and may actually worsen in many cases. The concentration of projected employment growth in and around Belfast suggests geographical mobility within Northern Ireland will need to increase.

Figure 9: Difference between growth in employment and growth in population aged 16-64, 2008-2024

Darker areas are projected to see employment growth in excess of working age population growth Lighter areas are projected to see working age population growth in excess of employment growth

Source: Oxford Economics

3 Source: Oxford Economics Local Model

Labour market status mobility in Northern Ireland

Compared to other parts of the United Kingdom, it is relatively difficult in Northern Ireland to quickly re-enter employment after becoming unemployed

Northern Ireland has a relatively large proportion of unemployment benefit claimants who have been out of work for between six and 24 months, suggesting it is relatively difficult to re-enter employment quickly after becoming unemployed (**Figure 10**).

Figure 10: Proportion of unemployed claimants by duration, average of August to October 2013

Source: Nomis, Oxford Economics

Compared to other United Kingdom regions there is a greater reliance on the state to move people out of unemployment in Northern Ireland: a large proportion of people who stop claiming unemployment benefit in Northern Ireland enter "*government supported training*" or "*education or approved training*".

The drivers of labour market status mobility in Northern Ireland are broadly similar to those suggested by wider research

Similar to geographical mobility, the research for this project identified that many of the drivers of labour market status mobility in Northern Ireland are consistent with previous research. Those who are older and male are likely to be unemployed for longer. Persons with a disability face additional challenges in entering employment: fewer jobs may be suitable for them and they may face negative perceptions from employers. A lack of experience, qualifications, or references was identified as a barrier to employment. Attitudes are also

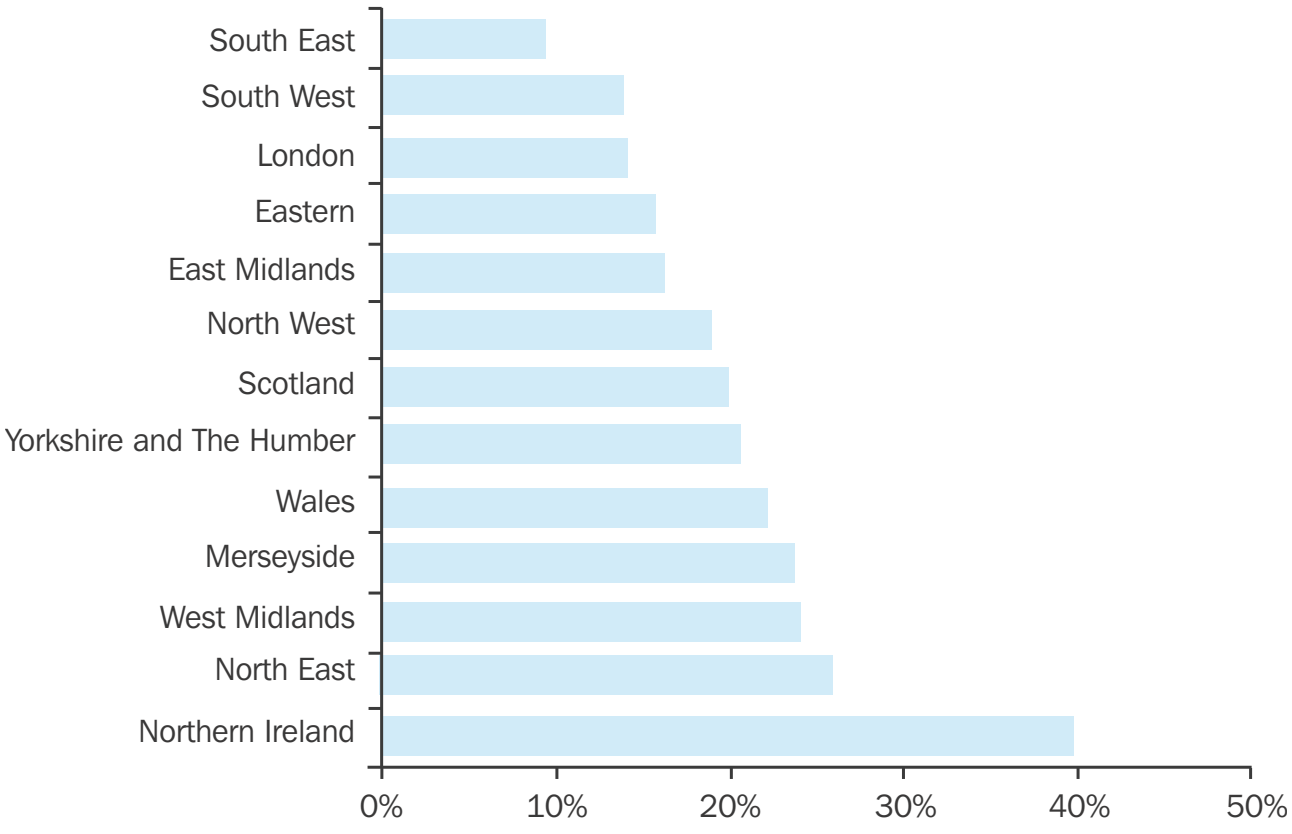
important: some job seekers prefer the security of benefits to a potentially small and uncertain increase in income from working. A lack of motivation or confidence, or coming from a family with a history of worklessness can also inhibit a move into employment.

The research found mixed evidence on the impact of having children on labour mobility. On the one hand, a lack of access to affordable childcare can be a barrier to employment and having children limits the flexibility of parents to take work with non-standard hours. On the other hand, children may act as a motivating factor in seeking work: a larger proportion of those without dependent children have been unemployed for more than a year.

Access to information may be a barrier to employment for certain sub-groups

A relatively large share of jobseekers in Northern Ireland rely on Jobs and Benefits offices (JBOs) and Job Centres (JCs) as their main means to search for a job (**Figure 11**).

Figure 11: Proportion of unemployed persons who use Job Centres as main method of seeking work



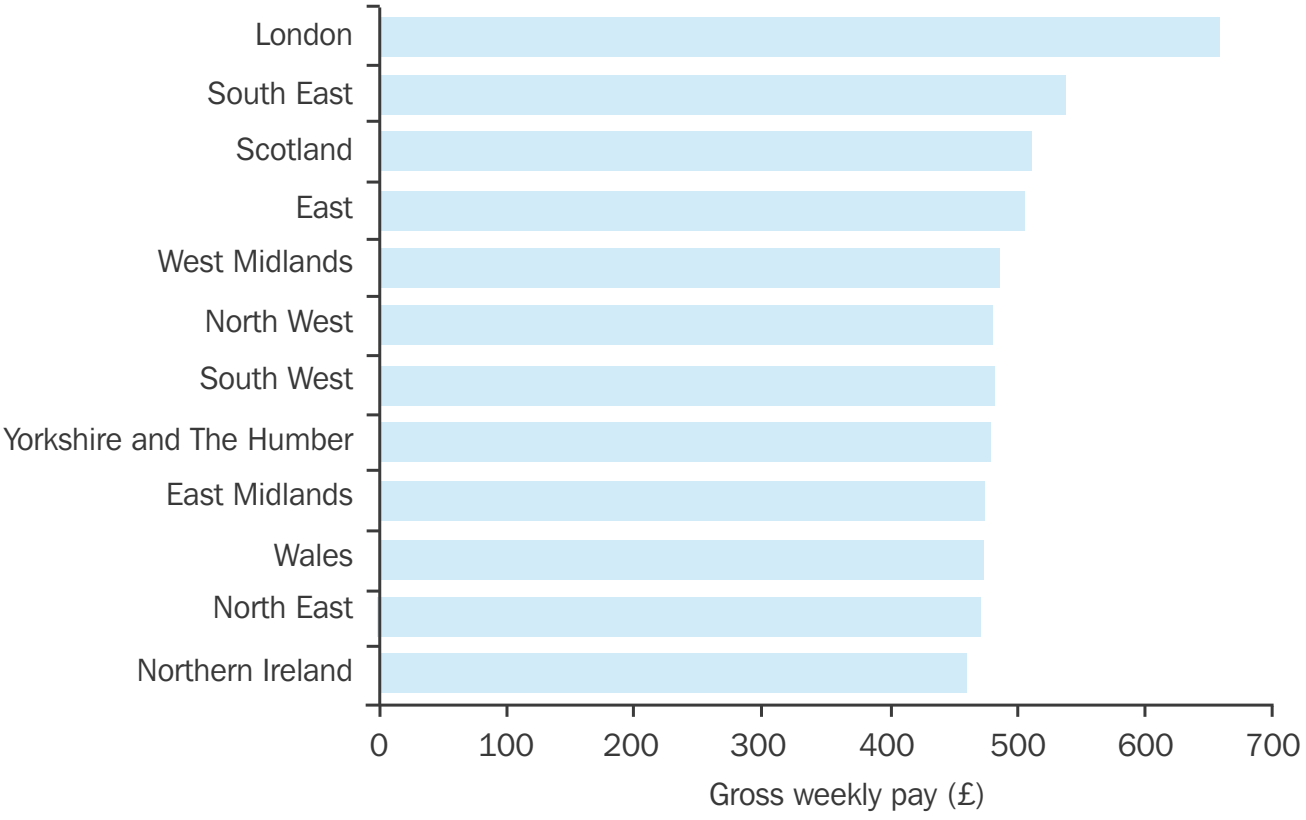
Source: Labour Force Survey, Oxford Economics

There was no strong evidence that a lack of access to information is a barrier to employment, although this may be a factor for certain groups, such as young people without the skills or confidence to engage with the support available at Jobs and Benefits Offices or Job Centres, or persons with a disability.

The research has identified clear evidence of the 'benefits trap' and a 'labour market queue'.

Consistent with previous research, this project found clear evidence of the 'benefits trap' whereby some non-employed individuals prefer the security of benefits income to uncertain income from a job that may not last. Focus group participants explained that when deciding whether to apply for a job they looked at the number of contracted hours and pay to assess whether it would provide enough income to withdraw from benefits. Some believed their income would fall if they entered employment. This issue may be particularly acute within Northern Ireland, which has the lowest average wages amongst United Kingdom regions (**Figure 12**).

Figure 12: Median gross weekly pay, full-time workers, workplace based, 2013



Source: Nomis, Oxford Economics

Most non-employed focus group attendees were seeking a permanent, full-time position to make it financially attractive to come off benefits. Some were reluctant to take short-term temporary positions because of the difficulty of signing on and off benefits. Some of those claiming benefits may be unwilling to work at evenings and weekends, or have unrealistic salary expectations. Almost one quarter of survey respondents suggested they would need a wage of at least £300 per week to enter work.

Zero hours contracts were identified as problematic because they create uncertainty about income and benefit entitlements. Nonetheless, zero hours contracts can provide useful flexibility for some groups of workers, such as students returning home for the holidays.

The research supported the literature review finding that there is a 'labour market queue' and that an individual's place in the queue is determined by the interaction of a range of personal factors. Older, sicker and less skilled claimants may have particular difficulties finding work in the current economic climate. Graduates are currently taking jobs that would previously have been taken by unskilled or low-skilled workers.

Key words

Barriers to employment
Chill factor
Commuting
Economic activity
Employment
Geographic mobility
House moves
Labour market
Labour market status mobility
Migration
Mobility
Northern Ireland
Unemployment

Figure 13: What is the minimum wage level required to make it worthwhile to come off benefits?

Source: PIMR Telephone Survey

Northern Ireland's Skills Base: International Benchmarking Report Card

Melissa Wood, Oxford Economics

The Northern Ireland Skills Strategy 'Success through Skills – Transforming Futures' contained a commitment for Northern Ireland to benchmark our skills performance against other regions and to assess the Department's performance against other small, open, developed, knowledge based, and export focused economies. This article reviews the evidence relating to Northern Ireland's relative international skills performance.

Why skills matter

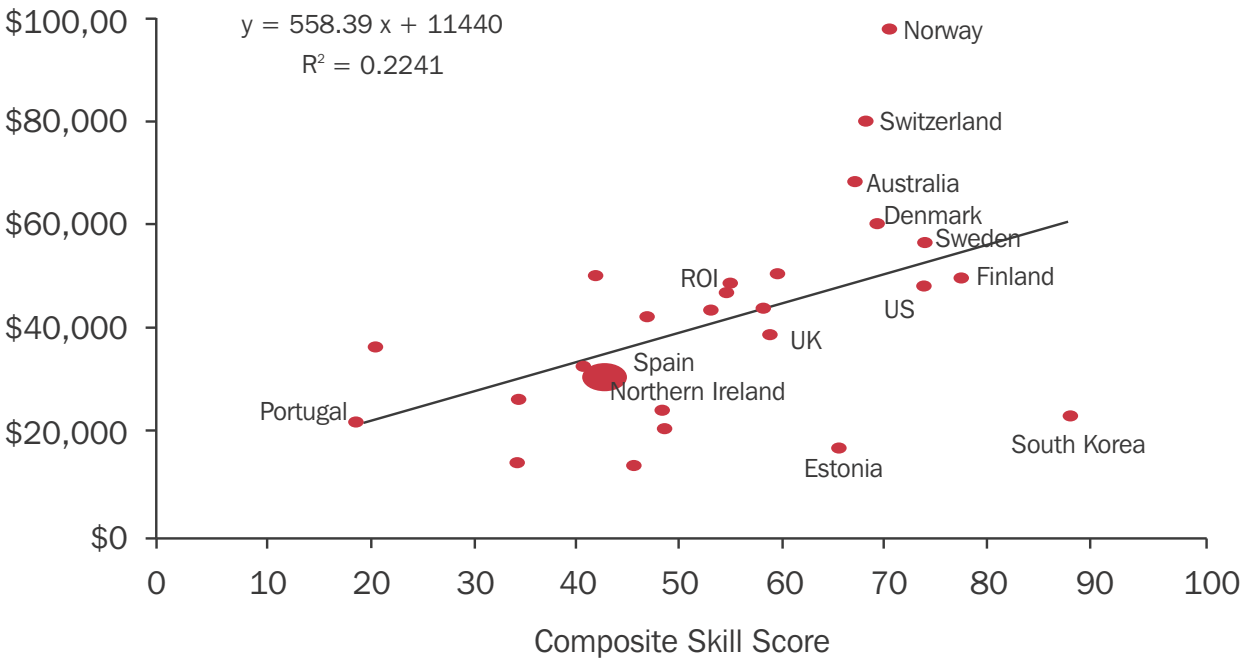
It is widely recognised that skills are positively correlated with Gross Domestic Product (GDP) per capita and this research provides further evidence to support this relationship. The report finds that Northern Ireland is 'located' close to the line of best fit, indicating that the level of its GDP per capita, which is around 20% below the United Kingdom average, is 'as expected' given its composite skill score.

Skills are not only correlated with final economic outcomes but are also an important driver of the growth performance and rising prosperity of economies.

Economies such as Estonia and South Korea have grown faster than the Northern Ireland economy and are favourably positioned to grow strongly in future given their improving skills base. It is anticipated that these emerging economies are likely to close the wealth gap with advanced economies and eventually overtake them resulting in a new 'world order' of prosperity.

At the individual level, and across countries, skills are also positively correlated with employment rates and earnings. It is widely accepted that more highly skilled individuals earn higher wages and are more likely to be in employment, resulting in better social outcomes.

Figure 1: International Skills Benchmarking Report Card: Composite Skill Score (most recent year) versus GDP per Capita (2011)



Source: Harver Analytics, Oxford Economics

Why benchmarking matters

As Northern Ireland's economic strategy prioritises export-led growth, it has become increasingly important that Northern Ireland benchmarks itself internationally across a range of competitiveness indicators, including skills.

While it is important for Northern Ireland to look domestically at its skills record, as it is doing by monitoring progress against the 'Success Through Skills' skill targets, we must also look externally by assessing our skills base in an international context.

Northern Ireland can no longer assess its own skills base in terms of its historic position (or relative to the United Kingdom) but instead it must compare itself to those countries which it aspires to become like economically. Increasingly over time, skills will be one of, if not the main, driver of Northern Ireland's economy and competitiveness and in this context Northern Ireland needs to strive to move up the global skill ranking tables.

A closer look at comparator countries

Twenty six countries, inlcuding Northern Ireland were selected for detailed analysis (from an initial list of over 200 countries analysed). Twenty three skill indiciators were included for the following countries:

Northern Ireland	Finland	Italy	Spain
Australia	France	Netherlands	Sweden
Austria	Germany	Norway	Switzerland
Belgium	Greece	Poland	United Kingdom
Czech Republic	Hungary	Portugal	United States
Denmark	Iceland	Slovenia	
Estonia	Ireland (RoI)	South Korea	

The list of benchmark countries is predominantly made up of advanced economies, however, several "emerging" economies, such as Estonia and South Korea are also included as they are approaching advanced status. The comparator country list therefore includes:

- a mix of countries Northern Ireland might aspire to in economic and skill terms;
- countries which are comparable to Northern Ireland today economically; and
- countries which currently lag Northern Ireland economically but are catching up quickly and could overtake Northern Ireland economically in the near future and become key competitors for trade, jobs and investment.

Current Northern Ireland skill ranking

The report found that out of the 26 international countries Northern Ireland was ranked in 20th place when assessed against the 23 skill indicators. On an equivalent grading system, where skills performance was graded A-D whereby 'A' represents the best skills performance and 'D' the worst, Northern Ireland was graded 'C'. Top ranked countries in terms of skills attainment include South Korea, Finland and Sweden. Neighbouring countries such as the United Kingdom and Republic of Ireland and emerging economies such Estonia and Czech Republic also all rank above Northern Ireland. A synopsis of the composite rank, score and grade of each country is highlighted opposite.

Northern Ireland's international composite skill ranking has been unchanged over the last decade with a rank of 20th from 26 countries. This evidence suggests that absolute improvements in our skills

International Skills Benchmarking Report Card: Composite Rank and Grade						
Country	Rank			Grade		
	Earlier period	Previous period	Most recent year	Earlier period	Previous period	Most recent year
South Korea	5	1	1	A	A	A
Finland	1	2	2	A	A	A
Sweden	4	4	3	A	A	A
United States	2	3	4	A	A	A
Norway	3	5	5	A	A	A
Denmark	6	6	6	A	A	B
Switzerland	7	7	7	A	A	B
Australia	8	8	8	B	B	B
Estonia	17	9	9	C	B	B
Netherlands	10	10	10	B	B	B
United Kingdom	9	11	11	B	B	B
Iceland	11	12	12	B	B	B
Ireland	18	14	13	C	B	B
Belgium	13	13	14	B	B	B
Germany	12	15	15	B	B	B
Czech Republic	15	18	16	B	C	C
Slovenia	21	16	17	C	C	C
France	14	17	18	B	C	C
Poland	19	19	19	C	C	C
Northern Ireland	20	20	20	C	C	C
Austria	16	21	21	C	C	C
Spain	22	22	22	C	C	C
Greece	24	24	23	C	C	D
Hungary	23	23	24	C	C	D
Italy	25	25	25	D	D	D
Portugal	26	26	26	D	D	D

Source: Oxford Economics

Note: The 'earlier period' refers to the third previous period of the data, which ranges from 3 to 10 years prior depending on availability back as far as possible. Further details are included within the report.

performance over time have not translated into relative international improvements as other countries are improving their skills base as fast or faster. The key result from this is that Northern Ireland's position within the league table has remained static. By contrast, Estonia and the Republic of Ireland are prime examples of countries which have made sufficiently large absolute gains to improve their relative international skill rankings and grades over time.

Individual skill rankings

Skill areas where Northern Ireland ranks high internationally include 'tertiary net entry rate' and 'tertiary enrolments at doctorate level', with Northern Ireland achieving a grade B (and a rank of 6th) under the 'tertiary net entry rate'[1] criteria and a grade 'B' (and a rank of 4th) under the 'tertiary enrolments at doctorate level'[2].

1 The tertiary net entry rate is the number of first-time entrants to tertiary education in an age group divided by the total population in that age group, and has been adjusted for student migration patterns. This indicator provides a proxy for the probability of a person entering tertiary education within their lifetime

2 NI domiciled and non-NI domiciled total enrolments at NI Higher Education Institutions (HEIs) in doctorate level courses, divided by total NI domiciled and non-NI domiciled enrolments at NI HEIs.

5

Northern Ireland International Skills Benchmarking Report
Individual Skill Indicator
(Most recent year)

	Year	Value	Rank	Score	Grade
PISA					
PISA 15-year old - reading - mean score	2009	493	19	33	C
PISA 15-year old - maths - mean score	2009	492	19	32	C
PISA 15-year old - science - mean score	2009	511	10	49	C
PISA 15-year old - reading - 25th percentile mean score	2009	432	17	36	C
PISA 15-year old - maths - 25th percentile mean score	2009	429	18	29	C
PISA 15-year old - science - 25th percentile mean score	2009	440	14	36	C
Tertiary enrolment, entry and graduation					
Tertiary gross enrolment ratio - level 5 and 6	2010	52.3%	23	0	D
Tertiary net entry rate - level 5A - adjusted for international students	2010	69.3%	6	72	B
Tertiary degree structure and subjects					
Tertiary education - main programme blocks - masters	2010	15%	16	30	C
Tertiary education - main programme blocks - doctorate	2010	3%	4	57	B
Tertiary 5A/6 graduates - field of education - STEM proxy (excluding health)	2008	20%	18	27	C
Education attainment					
Education attainment - below upper secondary - % 25-64 population	2010	35.4%	23	54	B
Education attainment - tertiary - % 25-64 population	2010	30.9%	15	60	B
Education attainment - tertiary - % 25-34 population	2010	39.1%	14	41	C
Literacy & numeracy					
IALS literacy - prose - level 1 - % 16-65 population	1996	23.7%	12	57	B
IALS literacy - document - level 1 - % 16-65 population	1996	25.4%	11	53	B
IALS quantitative - quantitative - level 1 - % 16-65 population	1996	22.9%	11	49	C
IALS literacy - prose - level 4/5 - % 16-65 population	1996	15.9%	7	51	B
IALS literacy - document - level 4/5 - % 16-65 population	1996	16.0%	10	40	C
IALS quantitative - quantitative - level 4/5 % - 16-65 population	1996	20.3%	8	50	C
Education & training					
Participation rate in education & training - 25-64 population	2011	3.5%	21	4	D
Participation rate in education & training - 18-24 population	2011	36.2%	23	0	D
Participation rate in education & training - 25-34 population	2011	5.0%	23	0	D
Total	-	-	**20**	**43**	**C**

Source: Oxford Economics

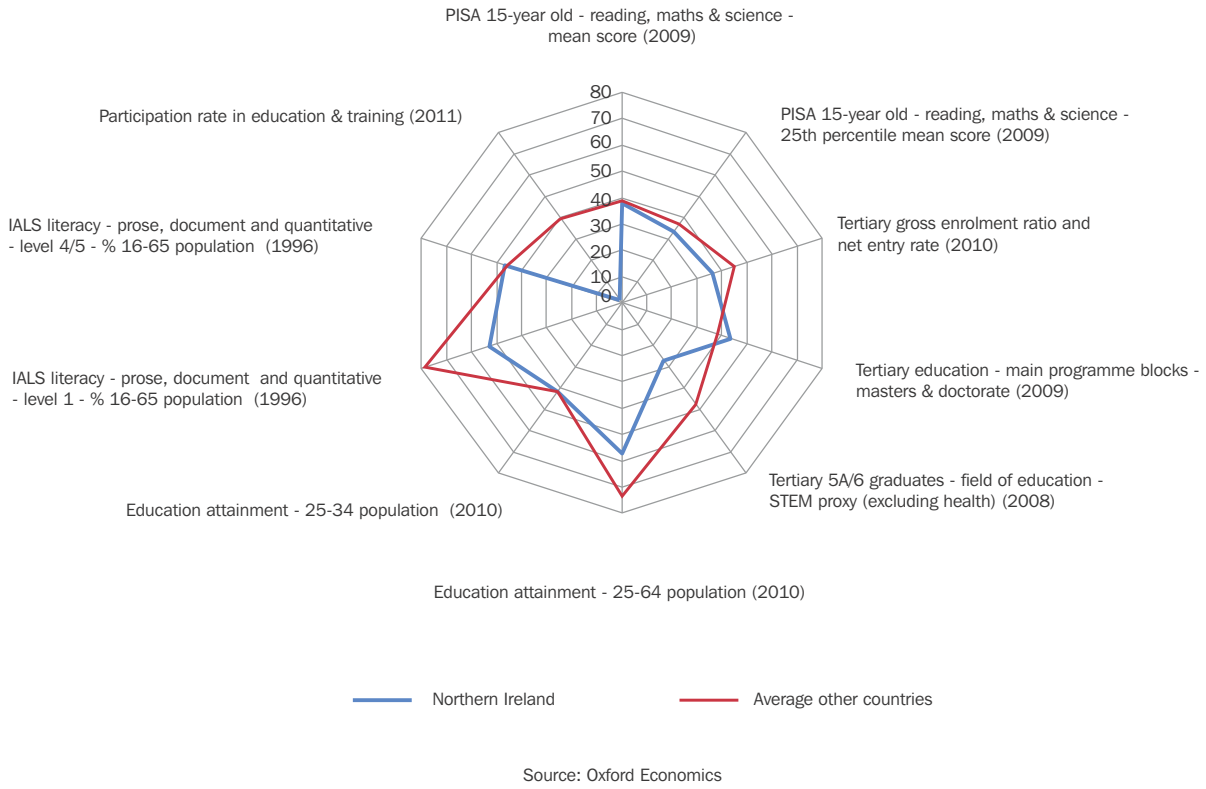
Note: A score of 0 indicates the weakest performance across the 26 benchmark economies; a score of 100 the strongest performance. Scores are calculated and normalised using a min-max formula

However, there are a number of individual skill areas where Northern Ireland ranks low internationally, namely:

- a high share of the working age population with low skills / qualifications and a high share of working age adult population with low literacy & numeracy skills;
- Low domestic tertiary gross enrolment ratio[3] after adjusting for net outward migration of school leavers (the 'brain drain');
- Programme for International Student Assessment (PISA) 15-year old scores[4]; and
- Low participation in education & training across the working age population.

The diagram below shows that Northern Ireland's skills performance currently lags behind that of 19 of the selected comparator countries. In fact, in only one of the key individual skill indicators ('tertiary education – main programme blocks – masters & doctorate') does Northern Ireland perform better than average (as compared to the average of comparator countries).

Figure 2:
Northern Ireland International Skills Benchmarking Report Card: Individual Skill Indicator Score (most recent year)



Source: Oxford Economics

Note: Max score = 100

3 Tertiary gross enrolment ratio: The number of pupils or students enrolled in tertiary education, regardless of age, expressed as a percentage of the official tertiary-age population.
4 PISA is an international study that was launched by the OECD in 1997. It aims to evaluate education systems worldwide every three years by assessing 15 year-olds' competencies in the key subjects: reading, mathematics and science.

Why are Northern Ireland skills lagging behind?

There are numerous factors which have all played a significant role in explaining Northern Ireland 's international skills position today, and relative performance over the last decade including the impact of the 'Troubles', the demand for skills, the long-term 'brain drain' outward migration of skills, and the difficult economic environment since 2008/2009. A key area of concern for Northern Ireland remains the brain drain. With job losses across the region in the wake of the recession, combined with an uncertain economic environment, and weak outlook, highly talented young people are looking elsewhere for employment opportunities.

There is widespread consensus that improving the skills base of the Northern Ireland economy has the potential to boost productivity, the employment rate and ultimately our international competitiveness. Improving our skills base has the potential to combat the challenges currently faced in the region as skills support the exploitation of other key drivers of economic success; they help economies make the most of new opportunities; they encourage greater investment and innovation; they help firms compete successfully in export markets; and ultimately they support economic growth and enhanced productivity.

The importance of skills as a gateway to growth is reflected in the Northern Ireland Economic Strategy which clearly identifies skills as a crucial ingredient in both rebalancing and rebuilding the Northern Ireland economy. The Economic Strategy also recognises that it will be Northern Ireland's skills base that will provide the platform for successful innovation, exports, and productivity growth.

How does Northern Ireland's skills performance compare to targets?

It is of great importance to the Department for Employment and Learning that Northern Ireland remains on track to achieve its skills targets as set out within its Skills Strategy, 'Success through Skills – Transforming Futures'. The Department's Skills Strategy outlines four strategic goals which are designed to provide a strategic, long-term, direction of travel for the Department and its key stakeholders. They are:

- **Strategic Goal 1** – increase the proportion of those in employment with Level 2 skills and above to 84-90%, from a baseline of 71.2% in 2008;
- **Strategic Goal 2** – increase the proportion of those people in employment with Level 3 skills and above to 68-76% by 2020, from a baseline of 55.6% in 2008;
- **Strategic Goal 3** – increase the proportion of those people in employment with Level 4-8 skills and above to 44-52% by 2020, from a baseline of 33.2% in 2008.
- **Strategic Goal 4** – increase the number of students qualifying from local Higher Education Institutions with graduate and post graduate level courses in Science, Technology, Engineering and Mathematics (STEM) subjects (with an emphasis on physical and biological sciences, mathematical and computer science, engineering and technology) by 25-30% in 2020 (equivalent to shares rising to 24% to 25%), from a baseline level of 2,705 or share of 18% in 2008.

The baseline for the skill targets was 2008 and the Department is striving to achieve these goals by 2020. The table opposite provides an update on recent performance versus the four high level strategic goals.

According to the latest data, Northern Ireland has registered enhanced performance across the four Skills Strategy strategic goals up to 2012. Strategic goal one has improved by 4.7 percentage points over the last four years, strategic goal 2 by 5.6 percentage points, strategic goal 3 by 4.3 percentage points and strategic goal 4 by 10 percentage points in level growth terms.

On current performance, and trend, Northern Ireland has made strong progress in the attainment of its 2020 Skill Strategy targets, however much

NI Skills Strategy: Progress versus Target							
		2008	2009	2010	2011	2012	2020 target
SG 1	% people in employment with Level 2 skills and above	71.2%	71.6%	74.0%	71.9%	75.9%	84%-90%
SG 2	% people in employment with Level 3 skills and above	55.6%	55.9%	57.5%	55.9%	61.2%	68%-76%
SG 3	% people in employment with Level 4-8 skills and above	33.2%	33.2%	34.5%	33.6%	37.5%	44%-52%
SG 4	Growth in HB qualifiers in STEM*	2,705	2,610	2,635	2,705	2,975	25%-30% growth
	% STEM HEI qualifiers*	18.8%	18.0%	18.1%	18.1%	18.5%	23.6%-24.6%

Source: DEL, LFS, HESA
Note: * STEM includes biological & physical sciences, mathematical & computer sciences and engineering & technology

more work is required if were to realise our 2020 targets. In terms of our comparative international skills performance and league position, our domestic improvements are likely to be modest on the international stage as other countries will continue to improve their skills base.

Looking ahead

Northern Ireland ranks highly for its tertiary net entry rate and doctorate share of tertiary enrolments. However, the low ranks in areas such as 'low skills/qualifications in adult population', 'domestic gross enrolment ratio' and 'participation in education & training across the working age population' suggest that there is much room for improvement.

Going forward, there are various skill indicators which have the potential to boost Northern Ireland's overall skills ranking position. These include:

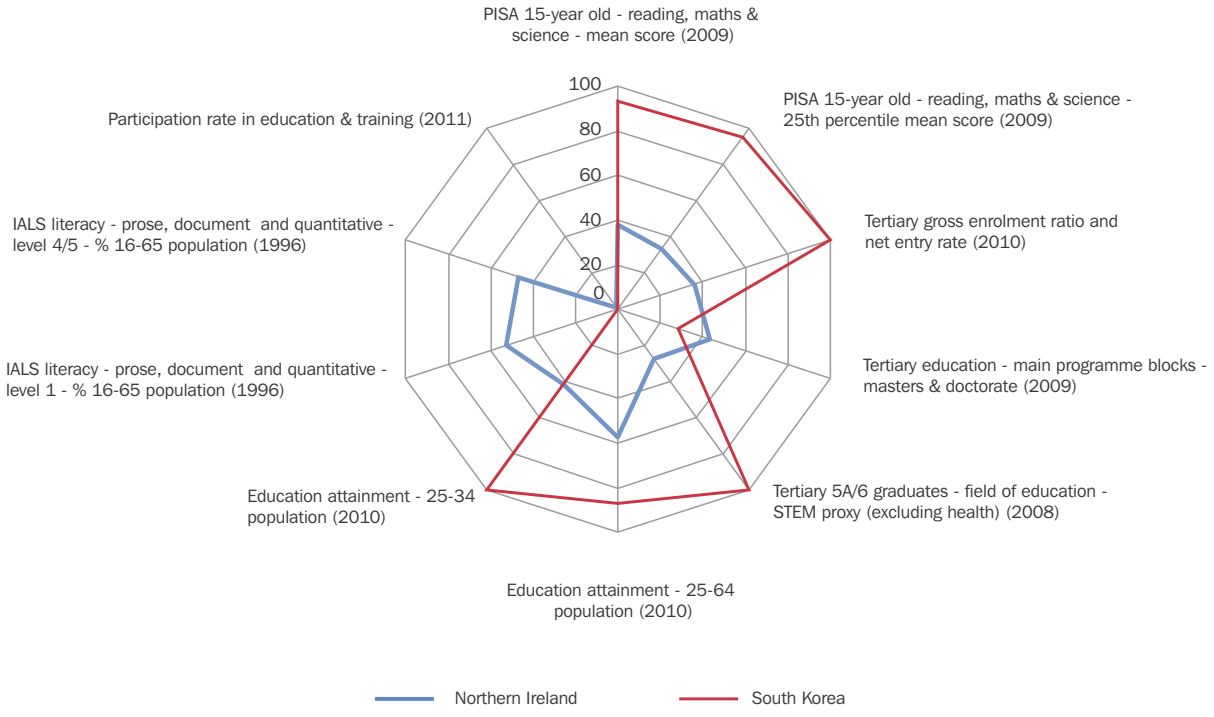
- reducing the high share of working age adult population with low qualifications;
- addressing the high share of the working age adult population with low literacy & numeracy skills; and
- tacking the 'brain-drain' to ensure that highly talented young people are not looking elsewhere for employment opportunities.

Without actions to reverse these influences, Northern Ireland is unlikely to make much improvement to its current international skills ranking. Ranking 20th out of 26 countries, it is clear that Northern Ireland skills 'could and needs to do a lot better'.

Best practice examples – from where can Northern Ireland learn?

If Northern Ireland wishes to improve its international skills ranking, then the Department for Employment and Learning should take note of those countries which are deemed best practice in terms of their skills performance score. The report found that best practice countries include South Korea, Finland and Sweden.

Figure 3:
Northern Ireland International Skills Benchmarking Report Card: Individual Skill Indicator Score (most recent year)



Source: Oxford Economics

South Korea scores particularly highly across core skill areas including science, technology, engineering and mathematics (STEM) graduates, Programme for International Student Assessment (PISA), tertiary enrolments and education attainment. One of its standout performance areas is its high tertiary enrolment ratio.

South Korea is a prime example of an emerging economy, where faster than average economic growth has correlated closely with skills development. South Korea is also favourably positioned to grow strongly in future and to close the wealth gap with advanced economies. This focus on economic growth and prosperity is likely to advance skills performance further.

Scandinavian countries invest heavily in their education systems and have cohesive cultures with relatively small gaps between the highest and lowest achievers, helped by a much smaller tail of education under-performance compared to Northern Ireland. Investment and funding for individual schools is on a 'per child' basis which in turn creates competition and a climate that allows schools and students to flourish. A key standout area of Scandinavian education performance is that 'few are left behind'. This is evident in the skills profile of both Finland and Sweden.

As evidenced in **Figure 1** the Finnish skills profile outperforms that of Northern Ireland across all individual skill indicators which is indicative of their educational investment and strategic focus on skills development.

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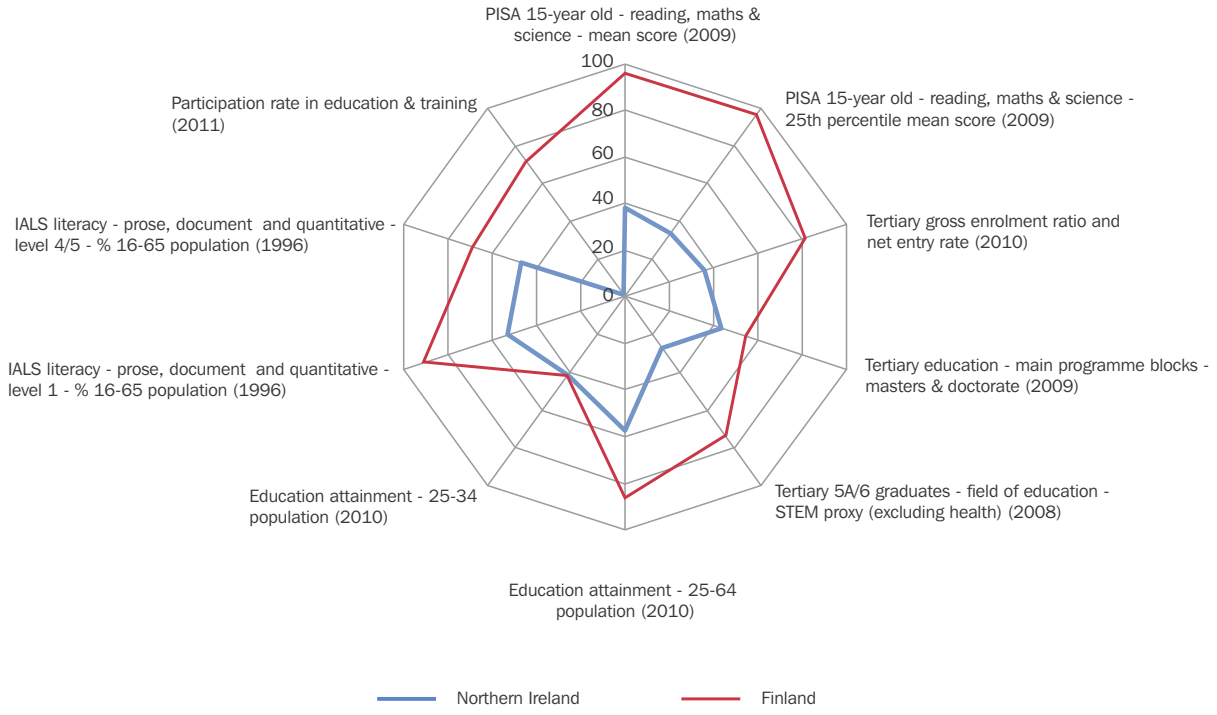
Figure 4:
Northern Ireland International Skills Benchmarking Report Card: Individual Skill Indicator Score (most recent year)



Source: Oxford Economics

Northern Ireland has much to learn from these examples of best practice, although it may take a generation or longer for Northern Ireland to raise its skills base to the level of the 'best practice countries' and achieve a grade 'A'. It is not enough for Northern Ireland to improve its skills base in absolute terms compared to the past or compared to other United Kingdom regions. If other countries are improving faster (especially economies Northern Ireland is competing directly against), Northern Ireland must improve its skill base relative to its international competitors.

On the basis of Northern Ireland's relative international skills benchmarking performance (and scope for improving its international position), the key message is Northern Ireland 'could and needs to do a lot better', particularly in an increasingly competitive global economy where skills are a crucial economic success factor.

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International Survey of Adult Skills (ISAS)

Laura Smyth, Analytical Services, Department for Employment and Learning

The International Survey of Adult Skills is a product of the Programme for the International Assessment of Adult Competencies (PIAAC) led by the Organisation for Economic Co-operation and Development (OECD). The overall aim of the programme is to:

- **identify and measure differences between individuals and countries in competencies believed to underlie personal and societal success;**
- **assess the impact of these competencies on social and economic outcomes at individual and aggregate levels;**
- **assess the performance of education and training systems in generating the required competencies; and**
- **clarify policy that could contribute to enhancing competencies.**

Detail of the Survey

The survey assessed the proficiency of adults, aged 16-65, in three information processing skills, which the OECD regards as essential for full participation in the knowledge-based economies and societies of the 21st century. The three areas of proficiency assessed were:

- literacy – the ability to understand and respond appropriately to written texts;
- numeracy – the ability to use numerical and mathematical concepts; and
- problem solving in technology-rich environments – the capacity to access, interpret and analyse information found, transformed and communicated in digital environments.

Proficiency is described in terms of a scale of 500 points divided into levels. Each level summarises what a person with a particular score can do. Six proficiency levels are defined for both literacy and numeracy (Below Level 1 and Levels 1 through 5) and four for problem solving in technology-rich environments (Below Level 1 and Levels 1 through 3).

Northern Ireland, Republic of Ireland and England participated in the study alongside 21 other participating countries and sub-national regions. In Northern Ireland, data was collected between August 2011 and April 2012. A total of 3,761 adults (aged 16-65) participated, resulting in a response rate of 65% (a rate that compares well with other participating countries). The interviews and assessments were carried out in adults' homes.

Comparisons of proficiency of the working age population results in ISAS, with previous research in Northern Ireland which was conducted via the OECD International Adult Literacy Survey (IALS, 1996), is only available in the skill domain of literacy. Direct comparisons over time for the numeracy and problem solving in a technology-rich environment domains are not possible.

Results

Literacy

Northern Ireland's proficiency in literacy (269) was below the OECD average (273), the difference being statistically significant. Literacy levels in the region were better than those in France, Spain and Italy. A number of countries including England, the Republic of Ireland, Denmark and Germany had literacy levels which were broadly the same as in Northern Ireland. However, the top performing countries of Japan, Finland and the Netherlands were some way ahead (**Table 1**).

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Table 1: Literacy scores in participating countries, ISAS 2012

	Country	Average score	
Countries significantly above Northern Ireland in literacy	Japan	296	(0.7)
	Finland	288	(0.7)
	The Netherlands	284	(0.7)
	Australia	280	(0.9)
	Sweden	279	(0.7)
	Norway	278	(0.6)
	Estonia	276	(0.7)
	Flanders (Belgium)	275	(0.8)
	Czech Republic	274	(1.0)
	Slovak Republic	274	(0.6)
	Canada	273	(0.6)
	OECD Average	273	(0.2)
Countries not significantly different from Northern Ireland in literacy	England	273	(1.1)
	Korea	273	(0.6)
	Denmark	271	(0.6)
	United States	270	(0.9)
	Germany	270	(1.0)
	Austria	269	(0.7)
	Cyprus	269	(0.8)
	Northern Ireland	**269**	(1.9)
	Poland	267	(0.6)
	Republic of Ireland	267	(0.9)
Countries significantly below Northern Ireland in literacy	France	262	(0.6)
	Spain	252	(0.7)
	Italy	250	(1.1)

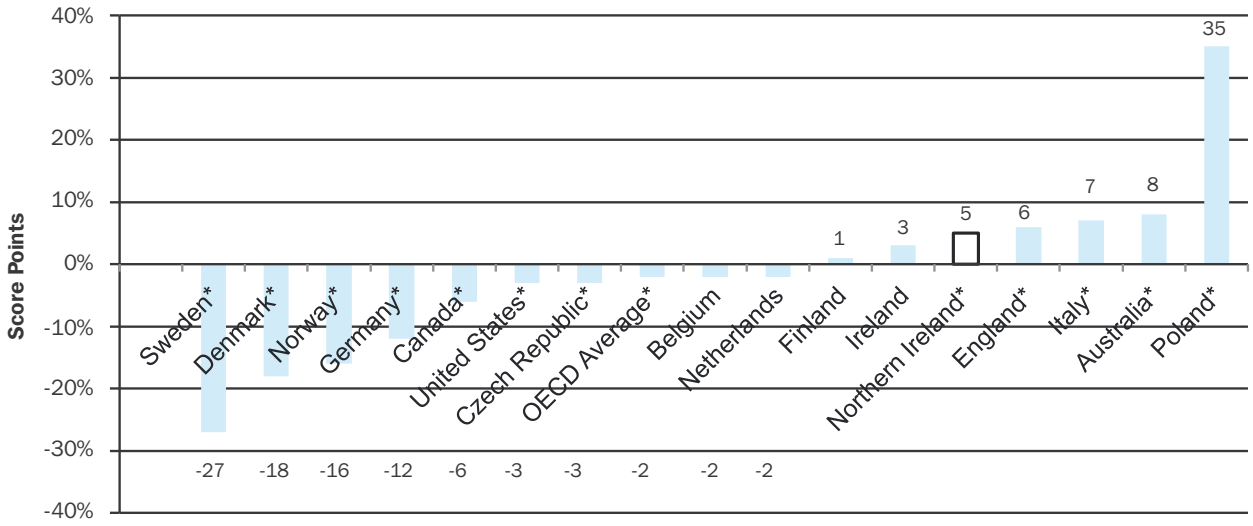
Source: PIAAC (2012)
Differences are significant at 5 per cent level. () Standard errors appear in parentheses.

6

For Northern Ireland, the average literacy score has increased significantly over time, from 264 in IALS (1996) to 269 in International Survey Audit Skills (2012). While Northern Ireland remains behind the OECD average, this positive performance has resulted in a closing of the literacy gap - from 11 points in 1996 to four points in 2012.

Overall, the trend between the two surveys is more positive for Northern Ireland than for many other countries that participated in both IALS and ISAS. Only Poland, Italy, Australia and England also showed significant increases in literacy scores **Figure 1.**

Figure 1: Change in average score for Literacy from IALS (1996) to ISAS (2012)



* Statistically Significant at 5% level
Countries are ordered in terms of the change on the average Literacy score between IALS and ISAS

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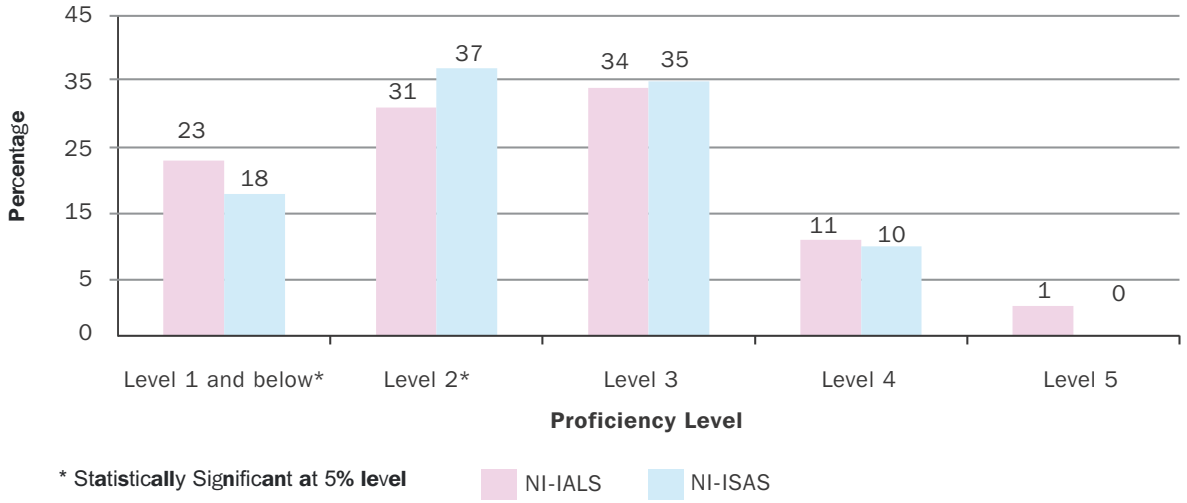
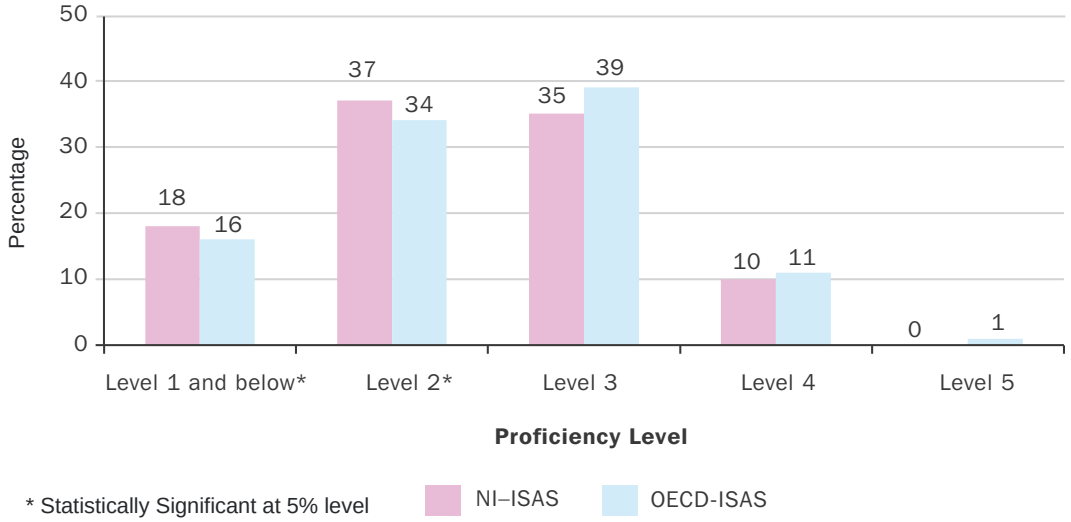
It is evident that significantly fewer adults are performing at the lowest levels of literacy and significantly more are performing at level 2. Eighteen per cent of adults were assessed as being proficient at the lowest level in International Survey of Audit Skills compared to 23% in International Audit Literacy Skills. Conversely, 37% of adults were assessed as proficient at Level 2 in International Survey of Audit Skills, significantly higher than the 31% reported in International Audit Literacy Survey **Figure 2**.

Figure 2: Proportion of 'working age' population in Northern Ireland by level and Survey - IALS vs ISAS



Despite this improvement, Northern Ireland still has significantly more adults performing at the lowest levels compared to the Organisation for Economic Co-operation and Development average. Northern Ireland had more performing at Level 1 and below (18%) and Level 2 (37%) compared to the Organisation for Economic C-operation and Development average (16% and 34% respectively) and had significantly less performing at Level 3 (35%) than the Organisation for Economic Co-operation and Development average (39%) (**Figure 3**).

Figure 3: Proportion of 'working age' population in Northern Ireland and OECD by Literacy Level (ISAS, 2012)



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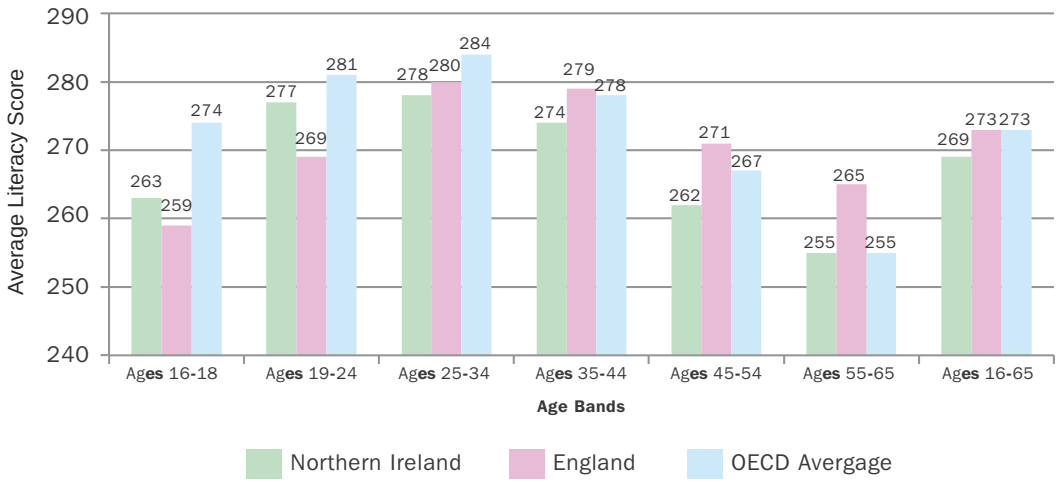
The literacy performance by age in Northern Ireland followed the same general pattern of OECD countries, with young people (16-24) achieving a higher average score than those in the oldest age group (55-64). However, our youngest cohort of adults i.e. those aged 16-18 years, have literacy levels (263) that are well below the OECD average (274) **Figure 4.**

Figure 4: Age bands - Average Literacy scores by age band and country (ISAS 2012)



Average literacy scores for men were statistically significantly higher than those for women, in common with the majority of other countries. The gender difference in Northern Ireland was higher than the OECD and Development average.

Numeracy

Northern Ireland's performance in numeracy (259) was statistically significantly below the OECD average (269) but better than France, United States, Italy and Spain. Northern Ireland performed at broadly the same numeracy level as England, the Republic of Ireland, Poland and Korea. The top performing countries of Japan, Finland, Belgium (Flanders) and The Netherlands were some way ahead (**Table 2**).

Table 2: Numeracy scores in participating countries, ISAS 2012

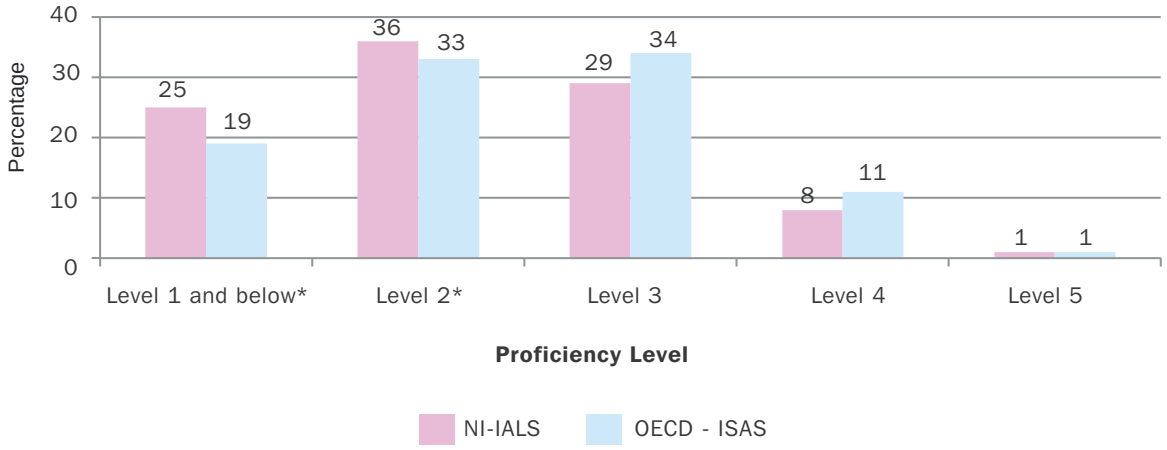
	Country	Average score	
Countries significantly above Northern Ireland in numeracy	Japan	288	(0.7)
	Finland	282	(0.7)
	Flanders (Belgium)	280	(0.8)
	The Netherlands	280	(0.7)
	Sweden	279	(0.8)
	Norway	278	(0.8)
	Denmark	278	(0.7)
	Slovak Republic	276	(0.8)
	Czech Republic	276	(0.9)
	Austria	275	(0.9)
	Estonia	273	(0.5)
	Germany	272	(1.0)
	OECD Average	269	(0.2)
	Australia	268	(0.9)
	Canada	265	(0.7)
	Cyprus	265	(0.8)
Countries not significantly different from Northern Ireland in numeracy	Korea	263	(0.7)
	England	262	(1.1)
	Poland	260	(0.8)
	Northern Ireland	**259**	(1.8)
	Republic of Ireland	256	(1.0)
Countries significantly below Northern Ireland in numeracy	France	254	(0.6)
	United States	253	(1.2)
	Italy	247	(1.1)
	Spain	246	(0.6)

Source: PIAAC (2012)

Differences are significant at 5 per cent level. () Standard errors appear in parentheses.

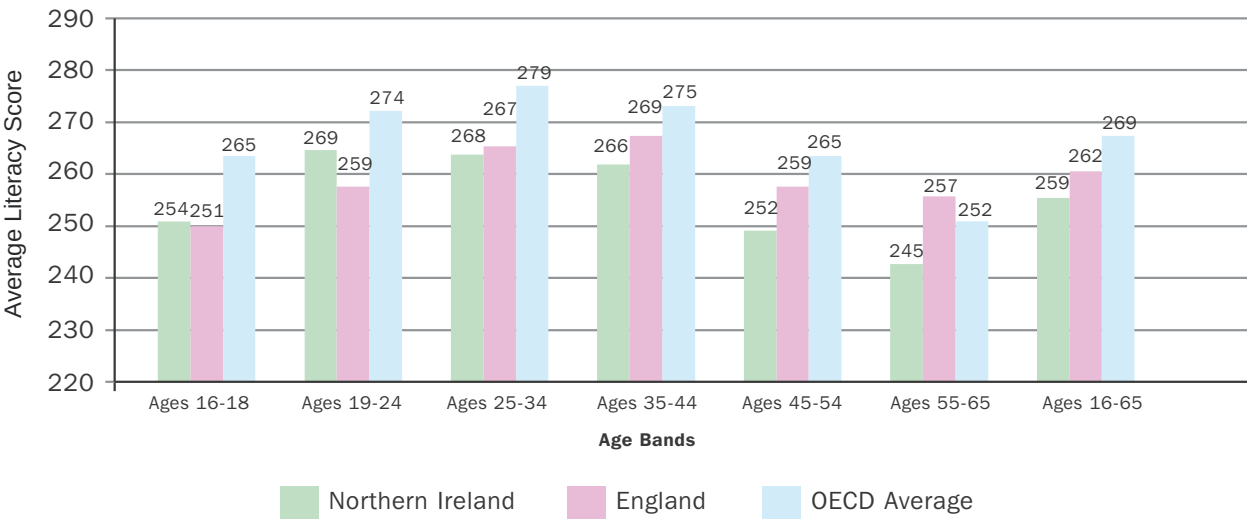
Similar to literacy, Northern Ireland has more adults performing at the lowest levels of numeracy compared to the OECD average. Northern Ireland had significantly more performing at Level 1 and below (25%) and Level 2 (36%) compared to the OECD average (19% and 33% respectively) and had significantly less performing at Level 3 (29%) than the OECD average (34%) (**Figure 5**).

Figure 5: Proportion of 'Working Age' population in Northern Ireland and OECD by Numeracy level (ISAS, 2012)



Again, numeracy performance by age in Northern Ireland followed the same general pattern as other Organisation for Economic Co-operation and Development countries, with young people in Northern Ireland (16-24) achieving a higher average score than those in the oldest age group (55-64). However, differences between Northern Ireland and the Organisation for Economic Co-operation and Development average for numeracy were more noticeable for each age group than for literacy (**Figure 6**).

Figure 6: Age bands - Average Numeracy scores by age band and country (ISAS 2012)



Men scored significantly higher than women, the same pattern as in all other participating countries. The gender difference in Northern Ireland was higher than the OECD average.

Problem solving in technology-rich environments

Northern Ireland's performance in the "problem solving in technology-rich environments" competency was significantly below the OECD average although inter-country comparisons on this measure need to be treated with caution due to the degree to which respondents participated in this domain.

Characteristics of low proficiency

In Northern Ireland, low proficiency in each domain (literacy, numeracy and problem solving in a technology-rich environment) was significantly associated with a range of characteristics that are either within the individual's power to change (e.g. own level of education, occupation) or that are beyond the individual's control (e.g. ethnicity).

The characteristics most likely to be associated with low proficiency are: having lower levels of education, having parents who have lower levels of education, not having computer experience in everyday life, or working in particular industries and occupations (e.g. services and shop and market sales).

Table 3: Characteristics significantly associated with low proficiency

	Literacy	Numeracy	Problem solving
1	Lower levels of education	Lower levels of education	Lower levels of education
2	Lower parental level of education	Lower parental level of education	Lower parental level of education
3	No computer experience in everyday life	No computer experience in everyday life	No computer experience in everyday life
4	Job industry (i.e. human health and social work)	Job industry (i.e. human health and social work)	Job industry (i.e. human health and social work)
5	Occupation (i.e. services and shop and market sales)	Occupation (i.e. services and shop and market sales)	Occupation (i.e. services and shop and market sales)
6	Ethnicity (i.e. 'Mixed')	Ethnicity (i.e. 'Mixed')	
7		Employment status (i.e. not employed and looking for work)	Employment status (i.e. not employed and looking for work)
8		Gender (i.e. being female)	Gender (i.e. being female)
9			Age (i.e. being 45-65 years old)
10		English as an additional language	

Numeracy had the highest number of socio-demographic characteristics that were significantly associated with low proficiency, while literacy had the fewest. Many of the characteristics that were significant in only one or two of the domains, were characteristics that are beyond the individual's control, such as age, gender, ethnicity and first language.

Summary

The results demonstrate that Northern Ireland's literacy performance has improved over the last decade and a half and that the gap between Northern Ireland and the Organisation for Economic Co-operation and Development average has reduced. It shows that fewer Northern Ireland adults are performing at the lowest literacy levels and more are performing at level 2. Nevertheless, despite these improvements, working age adult competencies have some way to go to match the best performing countries in literacy, numeracy and problem solving.

Further information and results from the International Survey of Adult Skills 2012 can be found on the Department for Employment & Learning website: www.delni.gov.uk/index/publications/r-and-s-stats/research-reports-2/international-survey-of-adult-skills.htm

Another article within the Labour Market Bulletin 25, 'Northern Ireland's Skills Base: International Benchmarking Report Card' written by Melissa Wood, provides useful context to this paper, in terms of benchmarking skills performance.

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United Kingdom Commission's Employer Skills Survey 2013

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The United Kingdom Commission for Employment and Skills (UKCES) published recently its Employer Skill Survey 2013. The Employer Skills Survey is based on over 91,000 interviews with employers in every sector across the United Kingdom (including around 4,000 in Northern Ireland); providing a valuable insight into the skills issues being faced by employers and the action they are taking to address these. This paper sets out the background to the Employer Skills Survey 2013, signposts the Employer Skills Survey Northern Ireland Toolkit, and provides an overview of its findings, as they relate to Northern Ireland.

Background

The United Kingdom Commission for Employment and Skills currently runs two large-scale employer surveys in alternate years: the United Kingdom Commission's Employer Skills Survey (UKCESS), and the United Kingdom Commission's Employer Perspectives Survey (UKCEPS). The overall aim of the two surveys is to provide robust and reliable information from United Kingdom employers on skills issues and workforce development activities. This information provides a strong base for the development of evidence-based skills policy.

The United Kingdom Commission's Employer Skills Survey is designed to complement and supplement the United Kingdom Commission's Employer Perspectives Survey. The two surveys cover complementary topics. The United Kingdom Commission's Employer Skills Survey is the larger of the two surveys, based on over 90,000 interviews with employers in every sector across the United Kingdom (4,000 interviews in Northern Ireland, with a response rate of 47 per cent). It seeks to understand changing skills requirements and the degree to which they are shaped internally by different employment practices and investment approaches within the workplace. The United Kingdom Commission's Employer Perspectives Survey by contrast focuses more on the external interface between employers and the skills system and on how employers go about meeting their skills needs. The Department's Analytical Services is engaging constructively with the United Kingdom Commission on the design and implementation of both flagship surveys.

On June 6 the United Kingdom Commission formally launched its Employer Skills Survey 2013 Northern Ireland Toolkit. The Employer Skills Survey 2013 Northern Ireland toolkit includes:

- Northern Ireland findings slide pack;
- Northern Ireland summary infographics;
- Northern Ireland data tables 2013; and
- Northern Ireland data tables 2011 (comparable to 2013)

The toolkit is a user-friendly resource that is available from the United Kingdom Commission website[1] (UKCES Employer Skills Survey 2013 Northern Ireland - Publications - GOV.UK). This paper presents an overview of the key findings from the Employer Skills Survey 2013 report, as they relate to Northern Ireland.

1 https://www.gov.uk/government/publications/ukces-employer-skills-survey-2013-northern-ireland

7

Key findings

Key findings compare the position in 2011 with that in 2013, and across the countries of the United Kingdom, where appropriate.

Employers' Experience of Skill Shortages:

This aspect of the survey examines skill shortages encountered when recruiting.

Vacancies

- The proportion of Northern Ireland employers reporting vacancies has remained consistently behind the United Kingdom average (and unchanged at ten per cent of employers in both 2011 and 2013);
- vacancies decreased from 2.4 per cent to 2.1 per cent of total employment, between 2011 and 2013 (vacancies increased in every other country of the United Kingdom, reflecting the nature of the economic recovery).

Skill-shortage vacancies

- The proportion of all vacancies that Northern Ireland employers found hard-to-fill at least in part due to a shortage of skills in the labour market has decreased from 21 per cent to 18 per cent (skill-shortage vacancies increased in every other country of the United Kingdom). This could be a reflection of both the positive impact of skills interventions and/or the fact that employers have a wider choice of recruits during a downturn;
- using 'skill-shortage vacancy (SSV) density' as the indicator, then skill-shortage vacancies are most prominent in the 'Hotels and Restaurants' 'Education', and 'Community, Social and Other' sectors;
- 44 per cent of vacancies for 'Skilled Trades' occupations are considered by employers to be skill-shortage vacancies;
- in total, 98 per cent of employers in Northern Ireland that had skill-shortage vacancies reported that these were having an impact on the business (primarily in the form of 'increased workload for other staff').

Skills Gaps with current employees

This aspect of the survey examines skills gaps among the existing workforce.

Prevalence of Skills gaps

- The vast majority of employers surveyed in Northern Ireland (86 per cent) consider their entire workforce to be fully proficient. The remaining 14 per cent of employers identify at least some skills gaps amongst their employees: a total of 38,000 employees are deemed *not* to be fully proficient in their job roles, equating to 5.2 per cent of the total Northern Ireland workforce (this is broadly in line with the United Kingdom average and not significantly different from the position in 2011);
- the highest incidence of skills gaps amongst employees is recorded in 'Public Administration' (19%) and 'Hotels and Restaurants' (19%) sectors – equivalent to around 4.2 per cent and 8 per cent of the workforce respectively. In terms of occupations, 'sales' occupations have the highest recorded incidence of skills gaps; around 10 per cent of all sales staff are considered to be not fully proficient.

The causes, impact and response to skills gaps

- Almost four-fifths (78 per cent) of all skills gaps in Northern Ireland are attributed, at least partially, to staff being new to a role and/or their training being partially complete – these are essentially considered to be 'transient' factors, that is, it would be expected that skills gaps resulting from these causes will be eliminated once staff have settled into their new roles and/or existing training has been completed;
- employers in Northern Ireland identify the soft skill of 'team working' (65 per cent) to be one of the main skills lacking among staff coupled with 'technical, practical or job-specific' skills (64 per cent). This trend is reflected at United Kingdom level also;
- overall, 69 per cent of local employers with skills gaps report these impacting (either a 'major' or 'minor' impact) upon performance, the equivalent United Kingdom figure is lower at 63 per cent;

- the majority of local employers (77 per cent) identifying skills gaps amongst their workforce have taken measures to improve the proficiency of these employees, however; the United Kingdom average is significantly higher at 86 per cent;

- in Northern Ireland employers are also considerably less likely to have increased training-related activities more specifically, in response to a skill gap (58 per cent in contrast with the United Kingdom average of 68 per cent).

Under-use of skills

- About half of all business establishments in Northern Ireland (49 per cent) report having some employees with *both* qualifications and skills that are more advanced than required for their current job role. This is broadly in line with the United Kingdom trend (48 per cent) but represents an increase from 44 per cent in 2011;

- in volume terms, employers report that 18 per cent of the local workforce has under-utilised skills.

Upskilling

- Seven in ten employers in Northern Ireland (72 per cent) expect that at least some of their staff will need to acquire new skills or knowledge over the next 12 months, this is broadly consistent across the United Kingdom;

- at the United Kingdom level, the larger the establishment the more likely they are to anticipate an upskilling need over the next 12 months;

- employers anticipated 'professional occupations' and 'caring, leisure and other' occupations as a priority in terms of the need to acquire new skills in the next 12 months. In contrast, just 13 per cent of businesses employing Caring, Leisure and Other and 15 per cent employing Elementary staff foresee a priority need for these staff to acquire new skills or knowledge in the coming 12 months.

Training and Workforce Development

This aspect of the survey examines trends in employer training activity since 2011.

The incidence of training and workforce development

- 63 per cent of employers in Northern Ireland had arranged or funded off- or on-the-job training or development for any of their staff in the previous 12 months. This is the lowest proportion in the United Kingdom (with Scotland) and down from 65 per cent in 2011;

- similar proportions had provided off-the-job as on-the-job training (49 per cent and 47 per cent respectively);

- The vast majority of employers in Northern Ireland (81 per cent) had provided wider development opportunities (not formal training) for their staff in the last 12 months – the United Kingdom average was 85 per cent.

Barriers and limits on training

- By far the main reason for employers in Northern Ireland (and across the United Kingdom) not providing any training over the previous 12 months is low perceived demand, particularly the view that their staff are fully proficient (64 per cent);

- employers in Northern Ireland that trained were more likely than average to have felt limited in the training they could provide (52 per cent compared to United Kingdom average of 47 per cent);

- the reasons these employers gave for being unable to deliver the amount of training they would have liked generally relate to internal issues, in particular *not having the funds* to provide more training (mentioned by 64 per cent of these employers, compared to United Kingdom average of 60 per cent) or *not being able to spare the time* for staff to have more time training (50 per cent).

Numbers trained

- at the United Kingdom level, the number of staff receiving training has increased significantly, reflecting increases across each country, though to a much lesser extent in Northern Ireland. Between 2011 and 2013 the proportion of staff trained in Northern Ireland increased from 56 per cent to 59 per cent, compared to 62 per cent (from 55 per cent) in the United Kingdom overall.

Investment in Training

- Employer expenditure on training and development in 2013 is broadly unchanged from 2011 - over the previous 12 months £1.1bn was spent, equivalent to around £2,540 per person trained and just under £1,500 per employee (this expenditure includes the wages of staff while being trained, and of staff delivering training);

- employers in Northern Ireland reported that they paid around £10m in external fees to Further Education colleges or Higher Education Institutions for training in 2013 (2011 comparison is not available).

Recruitment of Young People

Recruitment of young people into their first job as they leave education at specific points: at 16, at 17 or 18 – whether from a school or a Further Education college – and at the end of Higher Education.

Recruitment of education leavers

- Employers in Northern Ireland were less likely to recruit education leavers compared to elsewhere in the United Kingdom (22 per cent in Northern Ireland compared with 27 per cent in England and Wales and 29 per cent in Scotland);

- across the United Kingdom employers are least likely to recruit 16 year olds from school, and most likely to recruit graduates. Employers in Northern Ireland are less likely than their counterparts in England and Wales to recruit any of these groups of education leaver.

Perceived work readiness of education leavers in Northern Ireland

- Northern Ireland employers that did recruit young education leavers found the majority of those new recruits to be well prepared, particularly leavers from Further Education and university/Higher Education. The level of satisfaction recorded in Northern Ireland with Further Education and university/Higher Education leavers was amongst the highest in the United Kingdom;

- across the United Kingdom, the most commonly cited reason for education leavers of all types being poorly prepared for work was that new recruits lacked experience of the working world or experience of life in general.

Recruitment of young people

- Employers in England, Scotland and Wales were equally likely to have recruited young people under the age of 25 in the previous two to three years (45 per cent, 46 per cent and 45 per cent respectively); employers in Northern Ireland were considerably less likely to have done so (35 per cent);

- across the United Kingdom the main obstacle to (more) young people getting new jobs is competition in the market place rather than perceptions that young applicants do not have the capability to perform in the job role.

7

Using the Employer Skills Survey to influence policy development

It is clear that employer responses to this 2013 survey have been influenced heavily by the extent and duration of the economic downturn in Northern Ireland vis-a-vis other parts of the United Kingdom. Northern Ireland employers are less likely to report vacancies and have been slower to recruit young people for example. As a consequence, the skill needs presented in this survey are likely to understate the longer term needs of the local economy. Nevertheless, this and previous Employer Skills Surveys do provide a rich source of labour market intelligence with the potential to strengthen the evidence base around skills and employment in Northern Ireland. The information is being used to provide an underpinning evidence base to support the work of the three Ministerial Future Skill Action Groups:

- Food and Drink Manufacturing and Processing Group;
- Information and Communication Technology Group;
- Advanced Manufacturing and Engineering Services Group.

Moreover, the information contained in the Employer Skills Survey is being exploited by the Careers Service to produce industry factsheets that highlight current and future career opportunities across a wide range of sectors. The information has also been used by the Department to help identify priority skills areas for Northern Ireland.

Looking ahead, the Department is engaging with the United Kingdom Commission on further research opportunities, based on secondary analysis of the Employer Skills Survey.

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Review of Youth Training in Northern Ireland: Employer Survey Results

Lynda Kennedy, Analytical Services, Department for Employment and Learning

The Review of Youth Training in Northern Ireland was launched by the Minister for Employment and Learning, Dr Stephen Farry, in February 2013. To help inform the review, the Department for Employment and Learning administered a survey to employers in Northern Ireland. This article presents the main findings of the survey.

Background

The Review of Youth Training aims to ensure that youth training reflects the changing needs of the Northern Ireland economy and offers a progression pathway for young people into an apprenticeship at Level 3, a further education programme at Level 3, or a sustainable job.

The review's focus is on training provision at Level 2 for young people aged between 16 and 24 years old. This includes training currently delivered for young people who are not in employment through work placements as part of Training for Success, and government-funded training for employees in this age group as part of ApprenticeshipsNI. The review will also seek to simplify the range of options currently available at Level 2.

The Employer Survey was administered in August 2014 and sought to explore structured work-based learning to find out what the experience of employers has been in engaging with the Department for Employment and Learning to date, and what the Department can do to improve its provision going forward. The survey reflected the focus of current training programmes, such as Training for Success on young people who have left school and are aged between 16 and 18. As such, the survey was intended for:

- Employers offering work placements to school leavers aged between 16 and 18;
- Employers offering government funded training to employees in this age group; and
- Employers who do not currently offer either work placements or government funded training for employees in this age group.

Methodology

The survey utilised an online methodology and was distributed to employers through the following channels:

- Mailshot to Youth Training Expert Panel for distribution to their contacts;
- Mailshot to a spreadsheet of employers provided by the Employment Service's Employer Engagement Team;
- DEL website, NI Direct, NI Business info, Linkedin;
- CBI e-zine;
- NI Chamber of Commerce website;
- Colleges NI website; and
- Belfast Skills group (training providers in Belfast, circulating to their contacts).

Attempts to boost response were made by issuing reminder emails via the Youth Training Expert Panel, the Employment Service's Employer Engagement Team and the Belfast Skills group. The survey was also extended for a week to boost responses.

A total of 139 employers responded to the survey. Due to the convenience sampling method utilised in this survey (whereby the researcher uses subjects that are readily available to participate in the research study, e.g. via passing web traffic), the sample is not representative of the entire population of employers in Northern Ireland and therefore

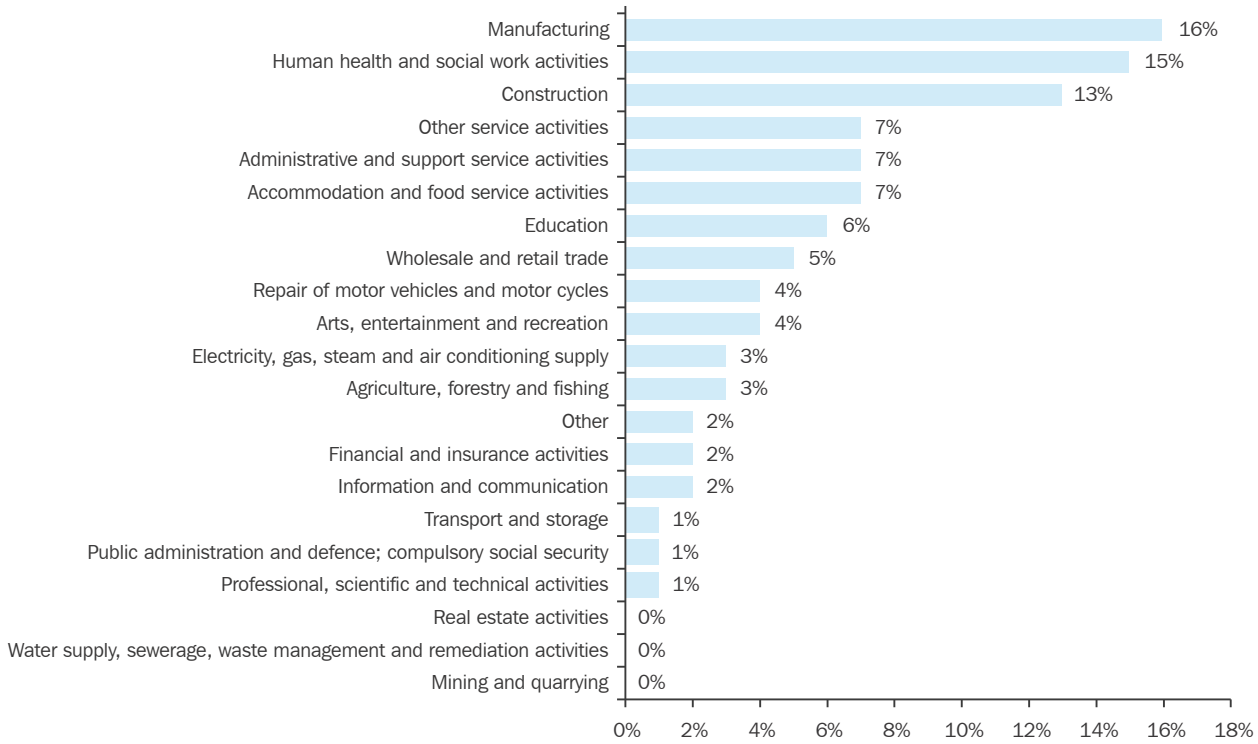
the results of this study may differ significantly with the results from the entire population. Readers should therefore avoid making generalisations and inferences about the entire population of employers.

Not all questions within the survey were mandatory. As respondents could skip questions the number of responses (or the 'base' size) for some questions may fluctuate. The base size for each question is presented alongside the data and readers should exercise caution when interpreting the results.

Profile of respondents

The highest proportion of responses came from employers in the Manufacturing industry (16%). No responses were received from employers in the real estates activities; water supply, sewerage, waste management and remediation activities or mining and quarrying industries. (See **Figure 1**).

Figure 1: Nature of employers' businesses

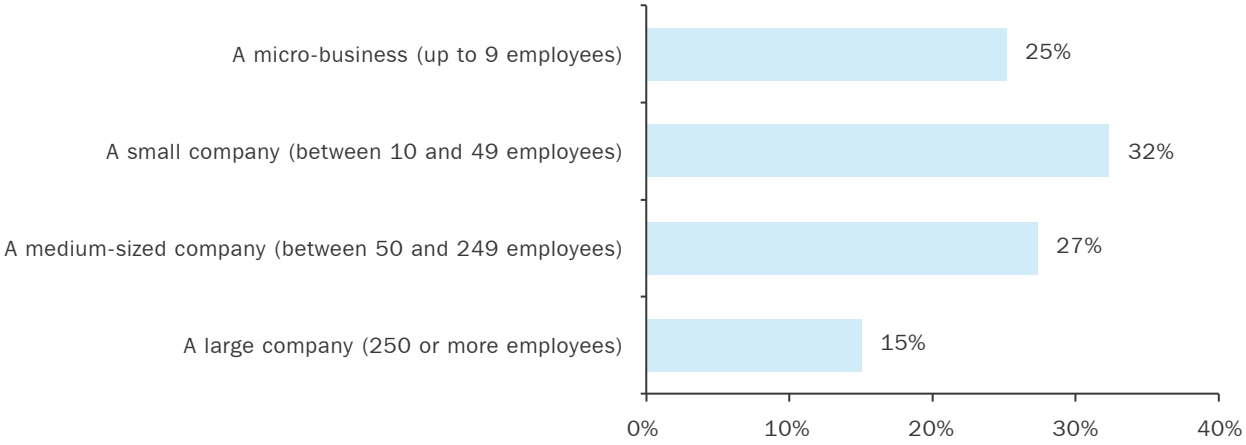


Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 139

The highest proportion of responses came from employers in small companies (32%). Large companies accounted for 15% of the total responses. (See **Figure 2**).

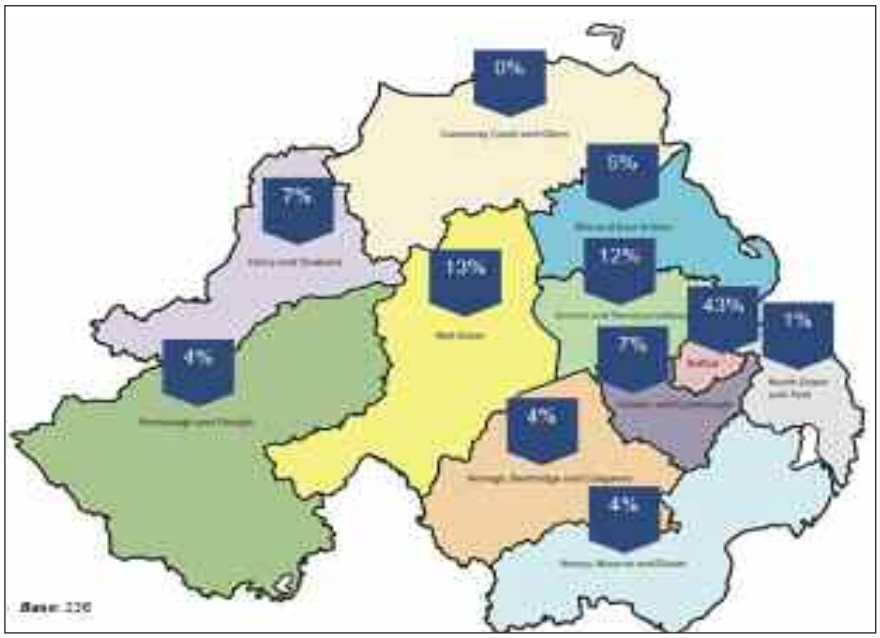
The highest proportion of responses was received from employers in the Belfast district (43%). Responses were received from employers in all districts in Northern Ireland with the exception of the Causeway Coast and Glens district. (See **Figure 3**).

Figure 2: Size of employers' businesses



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 139

Figure 3: Primary location of employers' businesses

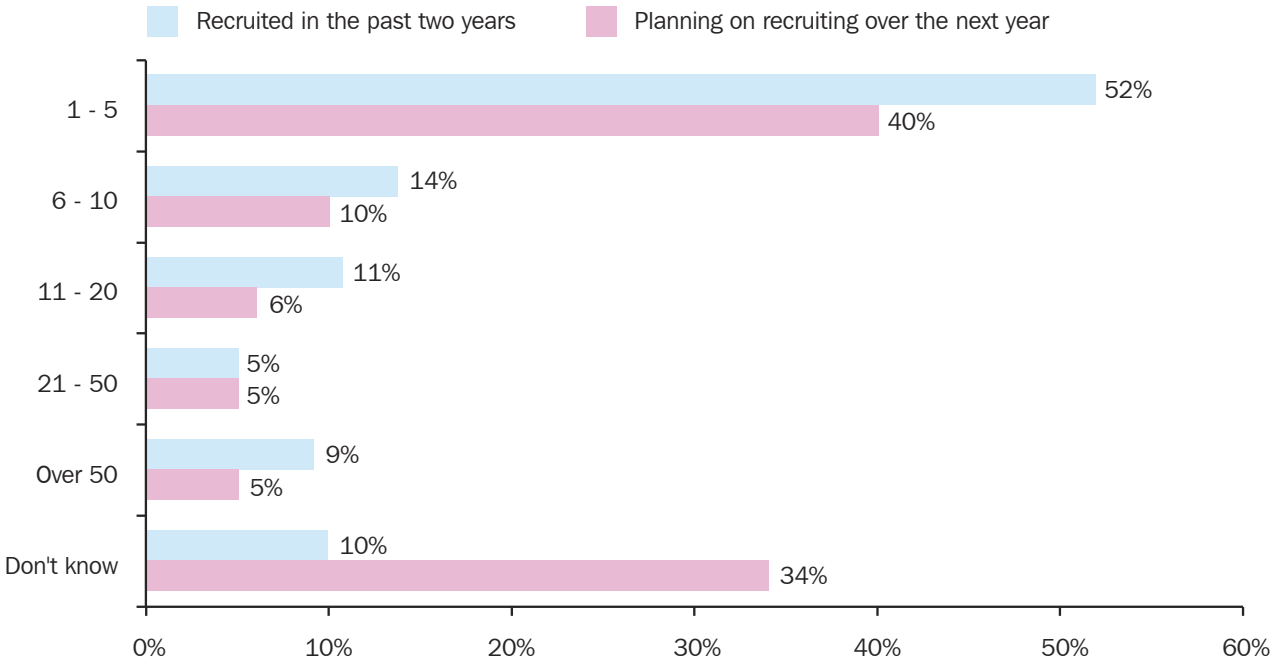


Survey Results

Level 2 roles

Over three quarters (77%) of employers who responded to the survey have recruited between 1 and 20 employees in the past two years for roles for which the highest qualification required is at Level 2. Over a third of employers (34%) did not yet know how many employees they plan to recruit over the next year for Level 2 roles; whilst only 10% plan on recruiting more than 20 employees over the next year for such roles. (See **Figure 4**).

Figure 4: How many employees have you recruited for Level 2 roles in the past two years/how many do you plan to recruit over the next year?



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 131

In terms of the relevance of vocational qualifications to the business needs of employers, NVQs were deemed the most relevant qualification, with almost three quarters (72%) of employers stating that NVQs are somewhat relevant or very relevant to their business needs. City and Guilds qualifications were rated as somewhat relevant or very relevant by 57% of employers, whilst BTEC qualifications were rated as somewhat or very important by 54% of employers.

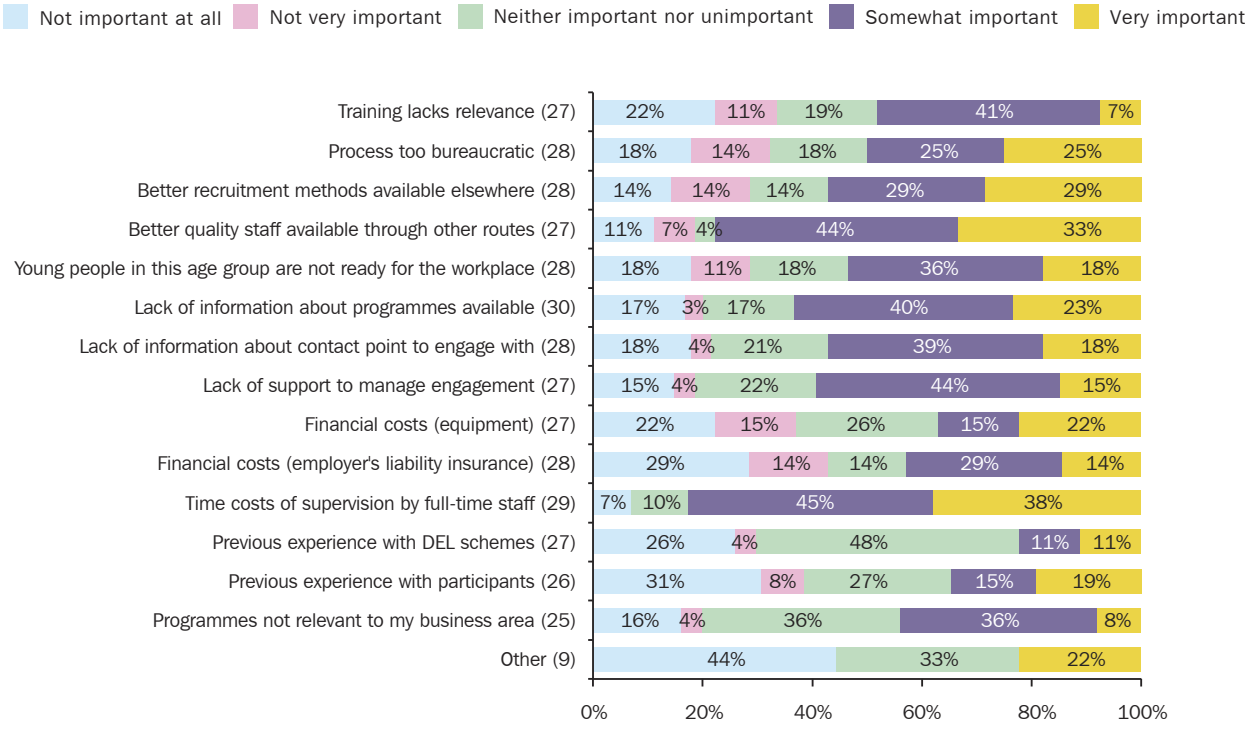
8

Engagement with the Department for Employment and Learning services

A third (**33%**) of employers who responded to the survey have offered both work placements and government funded training within the last two years for young people aged 16-18; **29%** have offered only work placements; **4%** have offered only government funded training and **32%** have offered neither provision in the last two years.

The main factors influencing employers' decisions not to offer work placements or government funded training were identified as the time costs of supervision by full-time staff and the view that better quality staff are available through other routes, with 83% and 77% respectively stating that these factors were either somewhat or very important. (See **Figure 5**).

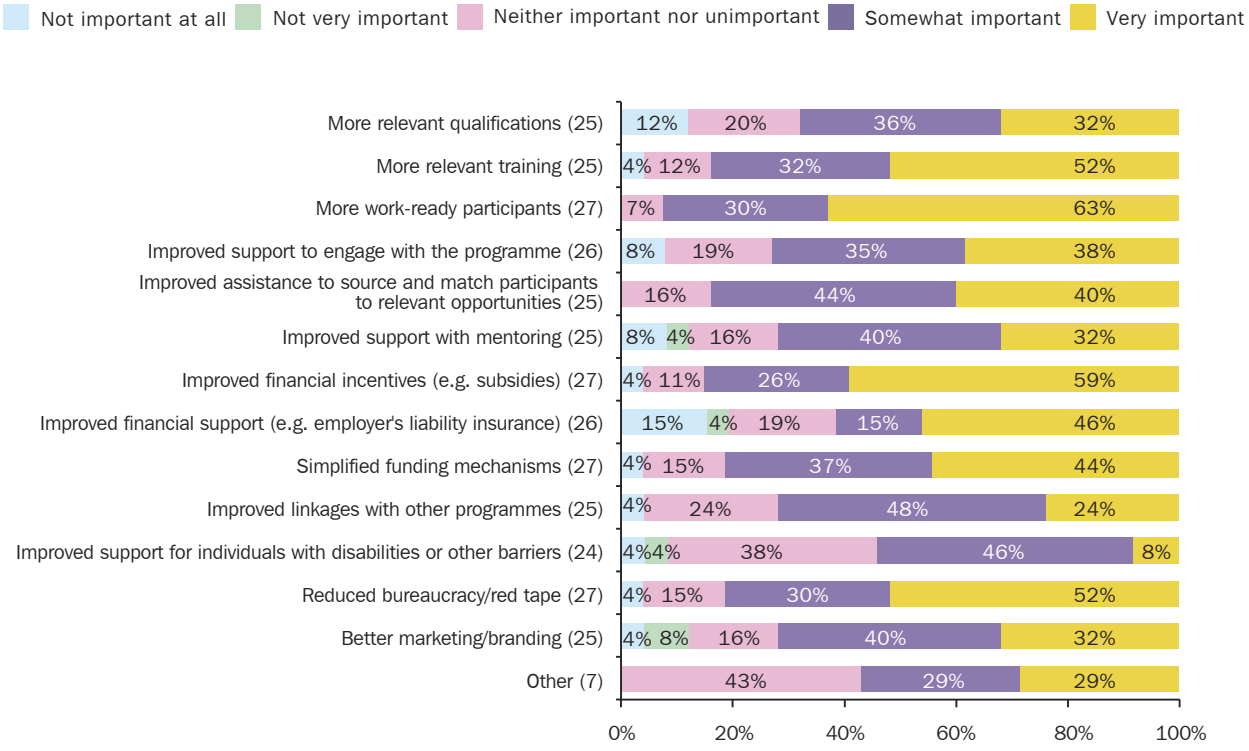
Figure 5: How important were the following factors in influencing your decision not to offer work placements or government funded training for employees aged 16-18?



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Note: The numbers in brackets in the chart above indicate the number of employers who provided a response to each of the factors.

More work-ready participants emerged as the most important factor in encouraging employers who do not currently offer either provision to engage with the Department for Employment and Learning funded programmes, with 93% of employers stating that this would be a somewhat or very important improvement in encouraging their engagement. (See **Figure 6**).

Figure 6: How important would the following improvements be in encouraging you to engage with DEL-funded programmes to offer work placements or government funded training for employees?



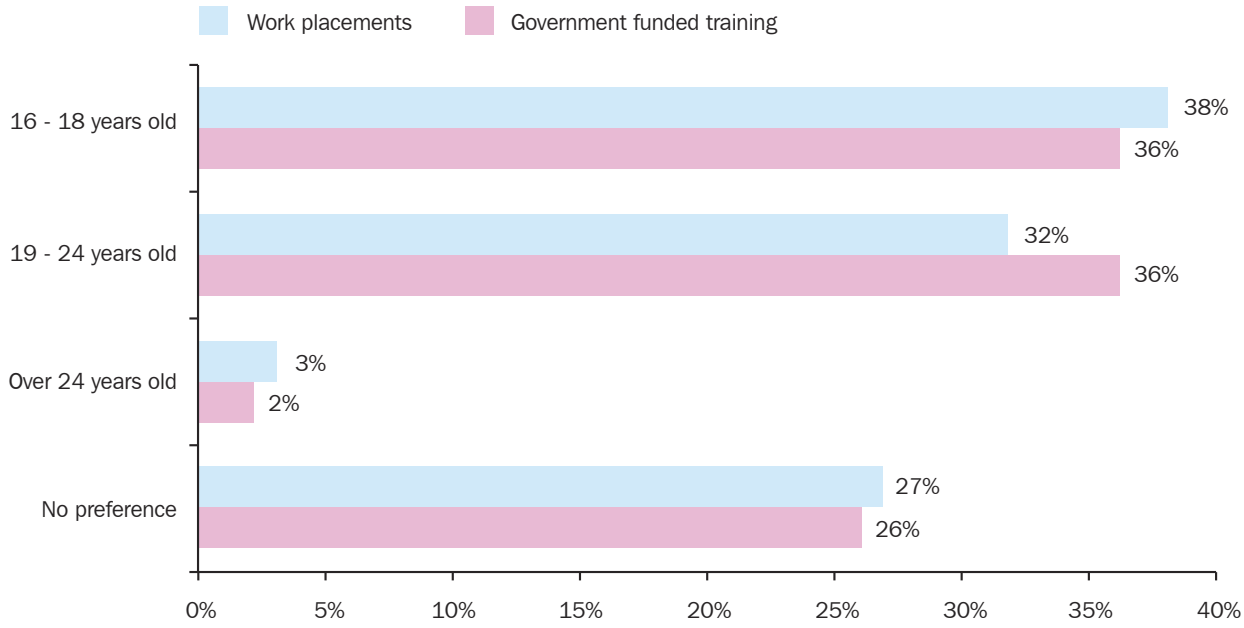
Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Note: The numbers in brackets in the chart above indicate the number of employers who provided a response to each of the factors.

8

Age of participants

Over a quarter (27%) of employers do not have a preference with regards to the age of a work placement participant; however of those who do have a preference, the largest proportion would prefer participants to be 16-18 years old when they start a work placement. For those employers who currently offer government funded training, there was equal preference between the 16-18 and 19-24 age groups. (See **Figure 7**).

Figure 7: What age would you prefer participants to be when they start a work placement/government funded training with your business?

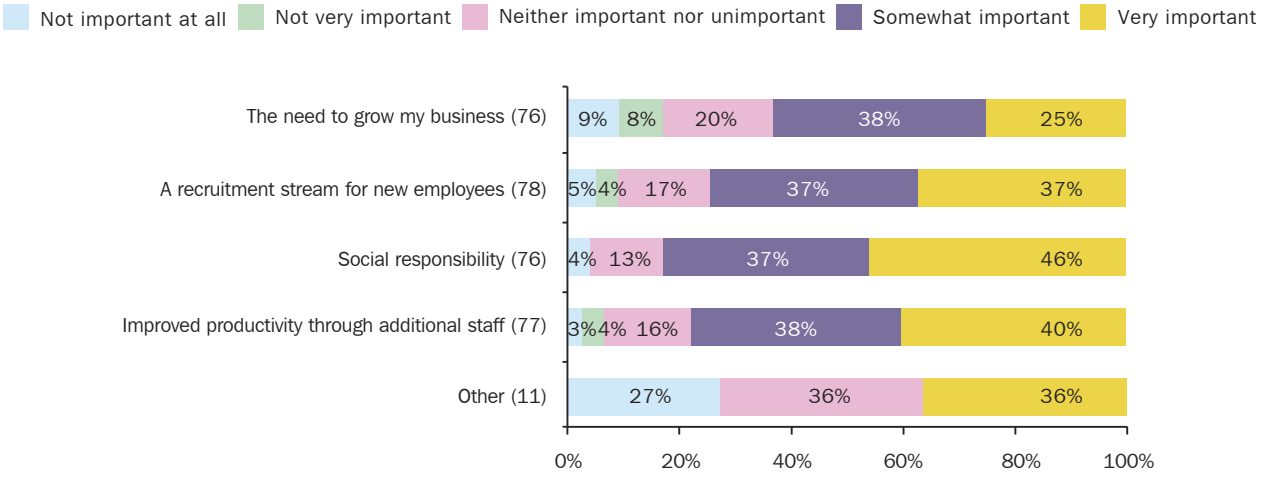


Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 77 (work placements), 47 (government funded training)

Factors encouraging employers' participation

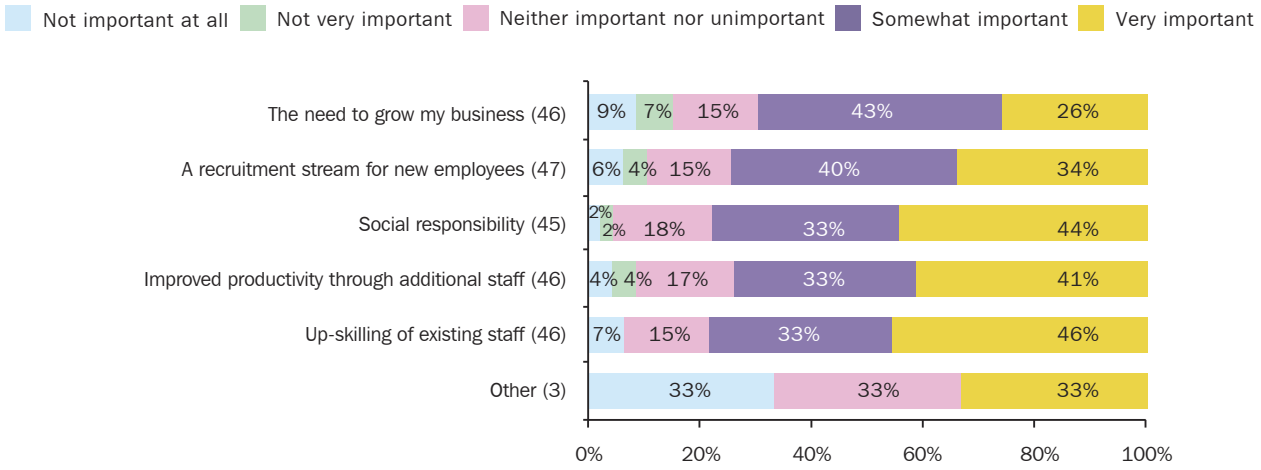
For employers currently offering work placements, the most important factor in encouraging their participation was social responsibility, with 83% of employers stating that this factor was somewhat or very important in encouraging their participation (see **Figure 8**). For employers currently offering government funded training, the most important factor in encouraging their participation was the up-skilling of existing staff, with social responsibility identified as the second most important factor (see **Figure 9**).

Figure 8: How important were the following factors in encouraging you to offer a work placement?



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Note: The numbers in brackets in the chart above indicate the number of employers who provided a response to each of the factors.

Figure 9: How important were the following factors in encouraging you to offer government funded training for employees?



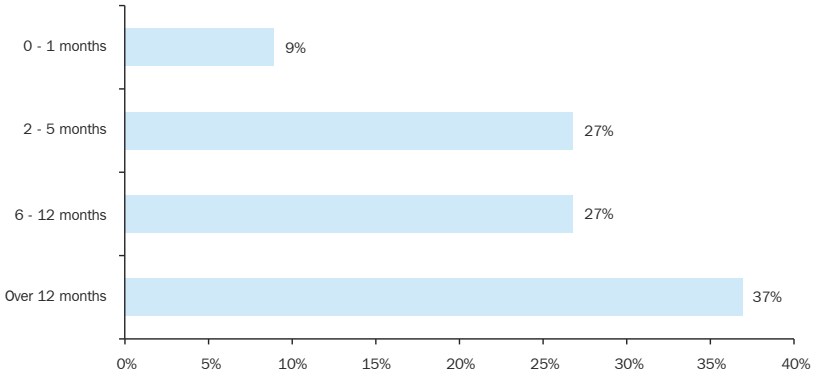
Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Note: The numbers in brackets in the chart above indicate the number of employers who provided a response to each of the factors.

8

Duration of training

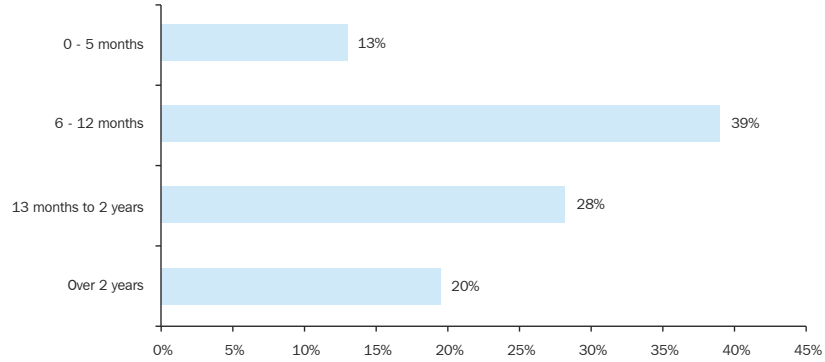
Participants are more likely to be engaged for more than one year on government funded training than on work placements. The majority of employers rated the duration of work placements and government funded training as 'about right'. (see **Figures 10, 11** and **12**).

Figure 10: In general, how long is a young person engaged on a work placement with your business?



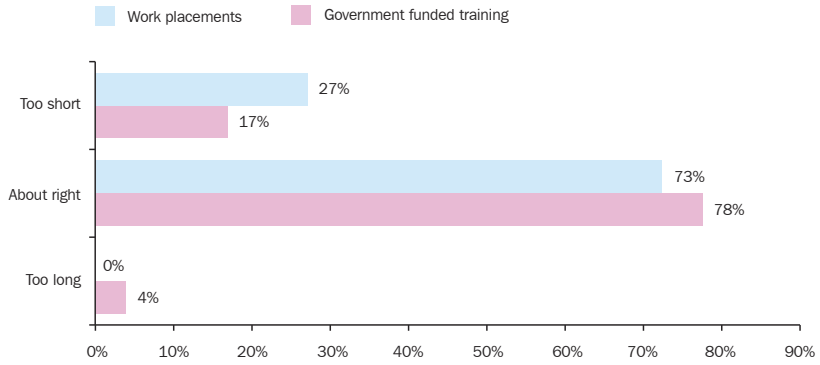
Source: the Department for Employment and Learning Review, of Youth Training: Employer Survey, September 2014
Base size: 78

Figure 11: In general, how long is an employee engaged on government funded training with your business?



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 46

Figure 12: How would you rate the duration of work placements/ government funded training?



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 77 (work placements), 46 (government funded training)

8

Making structured work-based learning more attractive to employers

The following factors were identified as the most important to employers in either encouraging their participation or making work placements and government funded training more attractive:

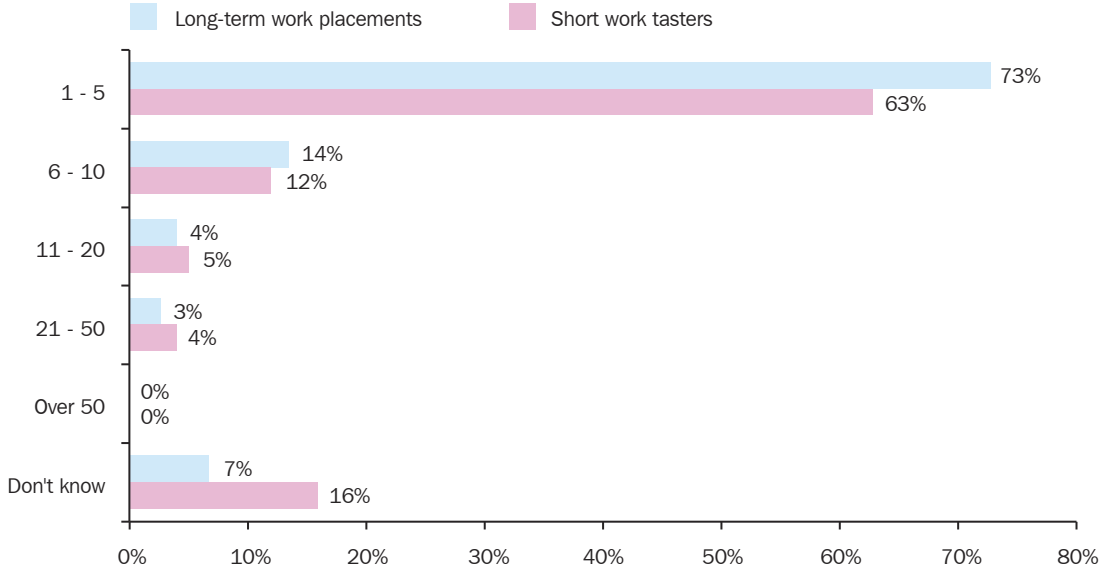
- Improved financial incentives (e.g. subsidies)
- More work-ready participants
- Improved assistance to source and match participants to relevant opportunities
- More relevant training
- Simplified funding mechanisms
- Reduced bureaucracy/red tape

Employers' capacity for work placements and government funded training

The majority (73%) of employers who currently offer work placements could accommodate 1-5 long-term work placements in a given year. Only 7% of employers could accommodate more than 10 long-term work placements in a given year. The majority (63%) of employers who currently offer work placements could accommodate 1-5 short work tasters in a given year, while only 9% could accommodate more than 10 short work tasters in a given year. (See **Figure 13**).

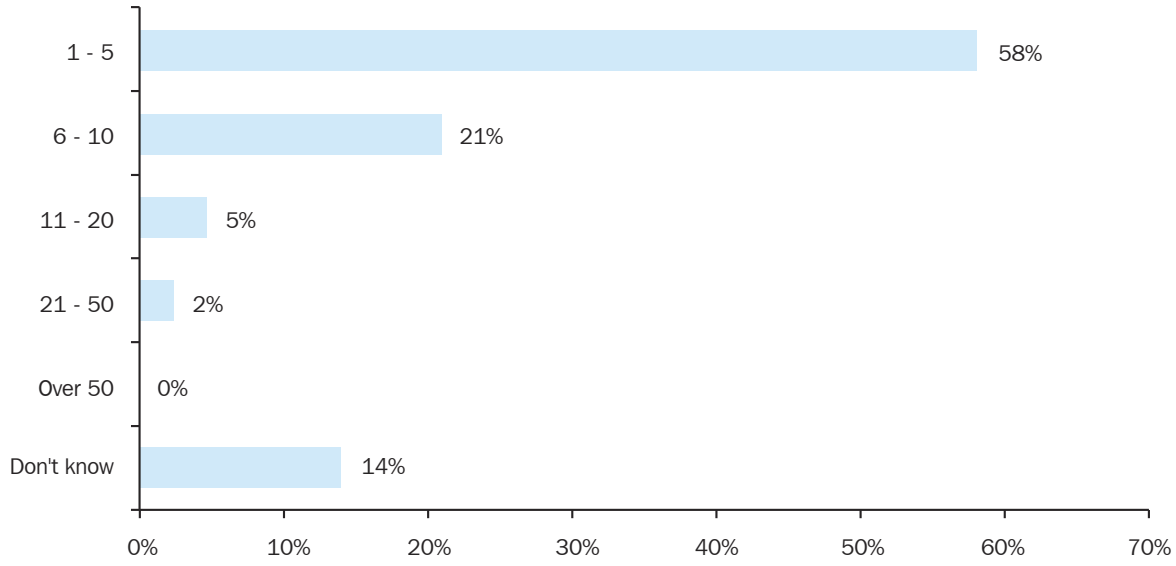
The majority (58%) of employers who currently offer government funded training could accommodate 1-5 employees in government funded training in a given year, whilst only 7% could accommodate more than 10 employees in government funded training in a given year. (See **Figure 14**).

Figure 13: How many long-term work placements (e.g. 3-6 months)/short work tasters (e.g. 1-2 weeks) could your business accommodate in a given year?



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 74 (long-term work placements), 75 (short work tasters)

Figure 14: How many employees aged 16-18 in government funded training could your business accommodate in a given year?

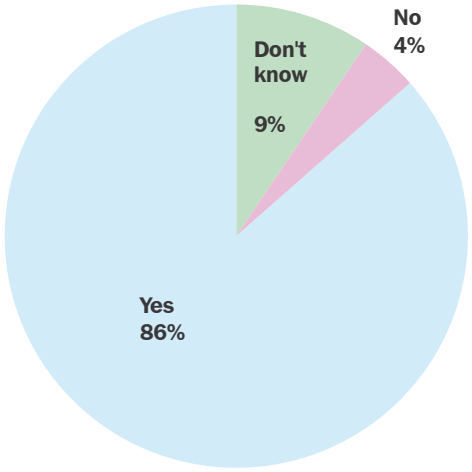


Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Base size: 43

Work placements and employment opportunities

The majority (86%) of employers who responded to this question would consider offering a permanent role to a young person aged 16-18 on a work placement if they were suitable. Only 4% (3 employers) said they would not consider offering a permanent role to a young person aged 16-18 on a work placement, even if they were suitable. (See **Figure 15**).

Figure 15: If a young person aged 16-18 on a work placement was suitable, would you consider offering them a permanent role within your business?

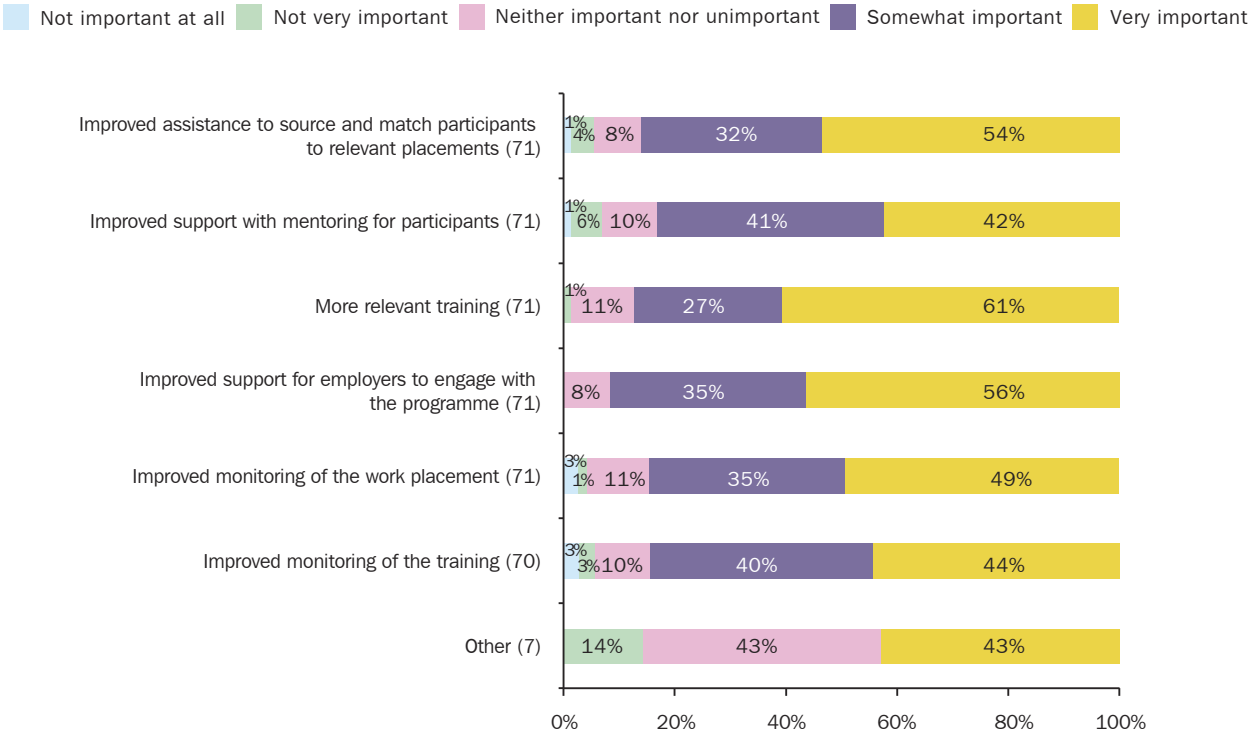


Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014. Base size: 74

8 Improving the quality of work placements and government funded training

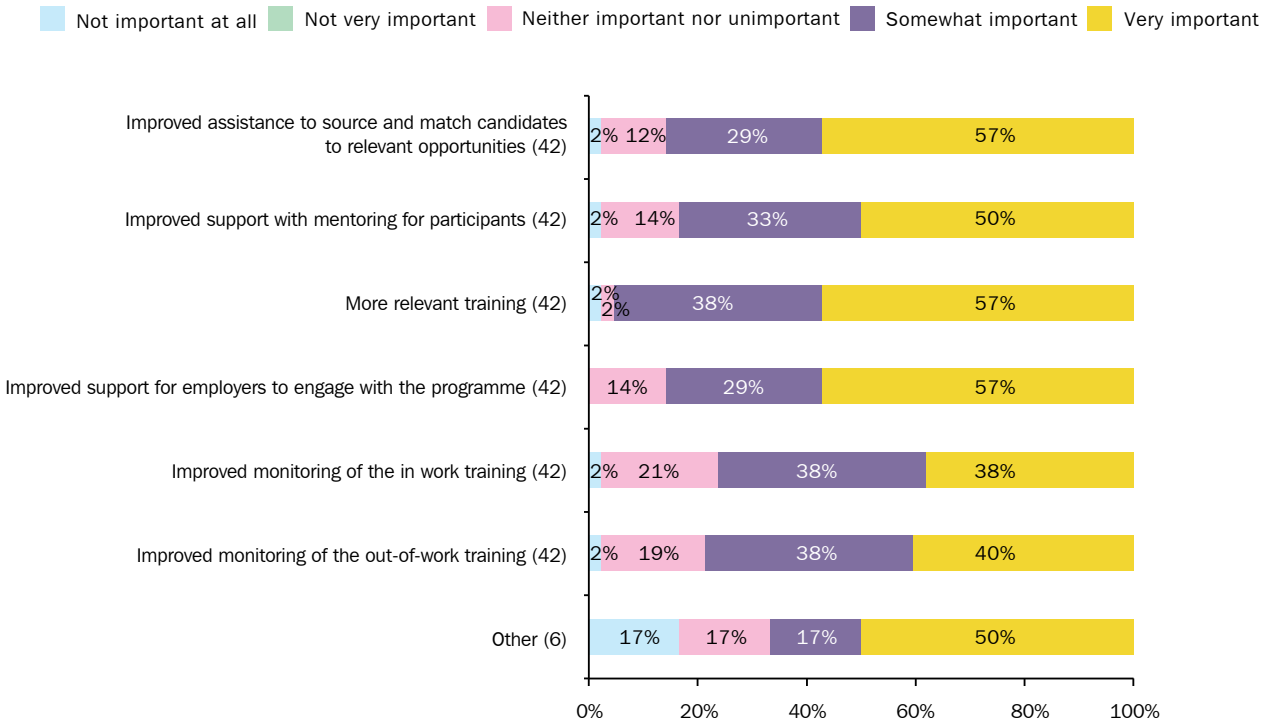
The most important factors in improving the quality of a work placement were improved support for employers to engage with the programme and more relevant training, with 91% and 88% respectively stating these factors as somewhat or very important (see **Figure 16**). More relevant training was also highlighted as the most important factor in improving the quality of government funded training in work, with 95% of employers stating this as a somewhat or very important factor (see **Figure 17**).

Figure 16: In your view, how important would the following factors be in improving the quality of a work placement?



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Note: The numbers in brackets in the chart above indicate the number of employers who provided a response to each of the factors.

Figure 17: In your view, how important would the following factors be in improving the quality of government funded training in work? Please rate the following factors in terms of importance.



Source: the Department for Employment and Learning, Review of Youth Training: Employer Survey, September 2014
Note: The numbers in brackets in the chart above indicate the number of employers who provided a response to each of the factors.

Post-Survey Developments

The views expressed by employers through this survey made a key contribution to the development of proposals for a new youth training system in Northern Ireland. The Interim Report and Consultation Document was published in November 2014 and can be found here: www.delni.gov.uk/del-youth-training-report.pdf. A final strategy for youth training will be published in Spring 2015.

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Wider national and international research into skills, employment, innovation and wider labour market issues 2012/13.

Joseph Meagher and Lauren Heenan, Department for Employment and Learning

The Department for Employment and Learning (DEL) monitors a number of Government organisations and research bodies to keep abreast of related research in the field(s) of skills, employment, innovation and wider labour market issues. The aim is to ensure that relevant outcomes from this wider body of research are built into the policy development cycle. Therefore, when commissioning its own research the Department avoids any unnecessary duplication and can build on the work carried out elsewhere. The results of this research review (QRR) are published by the Department on a quarterly basis. The most recent updates can be found at: www.delni.gov.uk/quarterly-research-review.

Introduction

The following article contains a research reports which are reviewed as part of the Department's Quarterly Research Review, these articles were published in the period April 2012 to March 2013, although in some cases more recent information has been included especially where reports have been updated. The articles are listed under the four areas that are seen as key in delivering the Department's strategic objectives; enhancing the provision of learning and skills, increasing the level of research and development, helping individuals acquire jobs and developing and maintaining the framework of employment rights and responsibilities. All of the research summarised here is available on the internet and the relevant web address links embedded in each article.
It should be noted that the research summarised within the article is largely focused at the national level or on other regions of the United Kingdom and with some international focus but many of the findings remain relevant to Northern Ireland.

Note:
The research referred to in this Review presents the views of various researchers and organisations and do not represent the views or policy of the Department for Employment and Learning.

(a) Skills

OECD Skills Strategy – Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies, OECD

- The Organisation for Economic Co-operation and Development (OECD) published a Skills Strategy designed to help countries build better skills policies and turn them into jobs, growth, and better lives. The authors state that skills have become the global currency of the 21st century and that without proper investment in skills, people may languish on the margins of society, technological progress may not translate into economic growth, and countries can no longer compete in an increasingly knowledge-based global society.

9

Learning to grow: what employers need from education and skills, CBI

- The Confederation of British Industry's (CBI) has carried out research into what employers need from education and skills. This includes the actions businesses believe need to be taken in order to boost the skills of existing employees and future entrants to the workplace. The report examines business opinions on the level of education and skills in the workplace, using findings from the Confederation of British Industry's/Pearson education and skills survey, which gathered responses from employers from different business sizes, sectors and regions of the United Kingdom. The authors measure the scale of employers' activity on training and development, their involvement in the education system and the actions businesses believe need to be taken in order to boost the skills of existing employees and future entrants to the workplace.

Can improving UK skills levels reduce poverty and income inequality by 2020?, Joseph Rowntree Foundation

- This paper presents the findings of research which investigated how projected improvements in skills levels in the United Kingdom economy between now and 2020 will affect rates of poverty and income inequality. It draws on data from the British Household Panel Survey. It finds that, all other things remaining constant, the changing distribution of skills by 2020 is likely to reduce poverty using both a fixed and relative poverty measure. However, skill changes will have the greatest effect on levels of fixed poverty. It also considers the policy implications of the research findings.

Skills, employment, income inequality and poverty: theory, evidence and estimation framework, Joseph Rowntree Foundation

- This paper explains the meaning of 'skills' and some of the theories about the relationships between skills, employment and earnings. It then investigates the likely impact on income inequality and poverty of improving the skills of the population in the United Kingdom. It presents a new framework to assess the impact on income inequality and poverty of future changes to the distribution of skills and qualifications. It suggests that enhancing skills and educational attainment among those in poor households will improve access to stable employment, breaking a cycle of generational unemployment and reducing poverty.

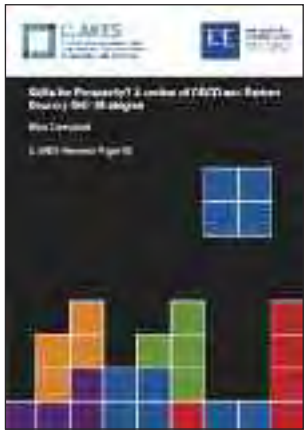
Simply the best? Highly-skilled migrants and the UK's knowledge economy, The Work Foundation

- This paper discusses the importance of the United Kingdom's immigration policy in meeting high-level skill needs, and driving innovation and entrepreneurship in innovation. It provides an overview of the shift towards the knowledge economy and the increase in demand for high-level skills. The paper argues that the government needs to operate a migration policy that facilitates rather than restricts the ability of businesses to meet their skills needs, and argues that a country cannot plan and produce the exact skills required by the economy because skill needs are unpredictable.

Trends in Job Skill Demands in OECD Countries, OECD

- The report, "Trends in Job Skill Demands in OECD Countries," examines skill trends in 24 Organisation for Economic Co-operation and Development countries over the past several decades. The skill measures used include broad occupation groups, country-specific direct measures of skill requirements from international surveys, and direct skill measures from the Occupational Information Network database applied to both United States and European labour force surveys. Each kind of data has its own strengths and limitations but they tell a consistent story, in that economically advanced economies have experienced a generally steady, continuous process of skills upgrading over the time period concerned.

Skills for Prosperity: A Review of OECD and Partner Country Skill Strategies, LLAKES



- This paper provides a high level overview of the skills strategies being pursued by the Organisation for Economic Co-operation and Development and partner countries. It discusses their rationale and imperatives before reviewing their coverage in terms of approach, scope and focus. It examines the range of policy levers utilised to raise skill levels, improve supply and demand matching, and enhance skills demand and use. It identifies some lessons learned from the review, for the development of more effective skills strategies in the future.

(b) Further Education & Training

9

Closing the Gap: Altering Perceptions of Apprenticeships, Price Waterhouse Coopers

- The authors of this report suggest that there is an information gap between what young people understand about apprenticeships and what employers actually want from them, and looks at ways in which employers can address this. It briefly reviews the business case for apprenticeships, focusing on growth and diversification opportunities. The report concludes that the best apprenticeship systems are those which routinely connect employers with young people while they are still in full-time education.

Research into Training for Young Adults aged 19 to 24 who are not in Education, Employment or Training (NEET), BIS

- This report examines training for young people aged 19 to 24 who are not in education, employment or training. The authors focus on the nature of the recruitment strategies and provision as well as the perceived impact of the training programmes and the learners' attitudes to learning. It highlights the need for ring-fenced funding, and for flexibility of this funding. The report contends that flexible provision related to the world of work as well as personalised one-to-one support, are essential to engage young adults. This will help to raise their levels of self-confidence and prepare them for further education, training and employment.

The Impact of Further Education Learning, BIS

- This report analyses the financial and non-financial benefits of further education and training – including health and wellbeing, social cohesion, social mobility, reduced crime, communication and independence. The analysis suggests the non-financial benefits are significant and greater than the financial benefits. The report supports government investment in further education and skills as a way to generate long term economic growth and better social interaction.

(c) Higher Education

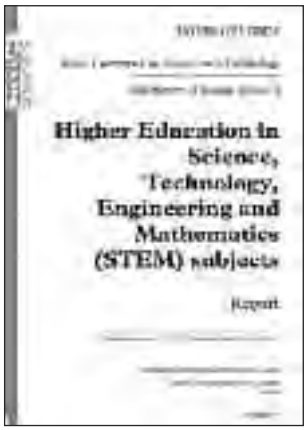
Never Too Late To Learn – Mature Students in Higher Education, Million+

- This report challenges long-standing myths about who participates in higher education in the United Kingdom. Contrary to the assumptions of many, nearly one in three undergraduates at United Kingdom universities are over the age of 21 when they start their first degree. This report explores whether funding regimes and social mobility strategies assume that university is only for younger people with A-level grades.

Widening Participation in Higher Education, BIS

- This report provides information on the estimated number of 15 year olds in receipt of free school meals who progressed to higher education by age 19 in 2009/10. It gives data on the number of young people taking A levels or equivalent qualifications who progress to the most selective institutions by school type. It also estimates proportions of 2010/11 graduates in different occupation classifications by social background on entry to Higher Education. These measures aim to contribute to the understanding of widening participation and social mobility issues.

Higher Education in Science, Technology, Engineering and Mathematics (STEM) Subjects, House of Lords



- This paper presents the findings of an inquiry into the supply of and demand for Science, Technology, Engineering and Mathematics skills in the United Kingdom. It examines how quality is assessed in Science, Technology, Engineering and Mathematics subjects in higher education and the mechanisms for improving quality. It discusses a range of definitions of Science, Technology, Engineering and Mathematics, suggesting it's too broad and therefore encapsulates courses with little science content, thus obscuring the 'true' number of Science, Technology, Engineering and Mathematics students. The report considers whether the United Kingdom is producing enough Science, Technology, Engineering and Mathematics graduates and postgraduates to meet demand, and whether those graduates are of sufficient quality and have the right skills to meet the needs of employers. The authors found that there is a lack of reliable data on the supply and demand of Science, Technology, Engineering and Mathematics graduates and suggests that a single body be established to provide such data.

9

Tracking the Decision-making of High Achieving Higher Education Applicants, BIS

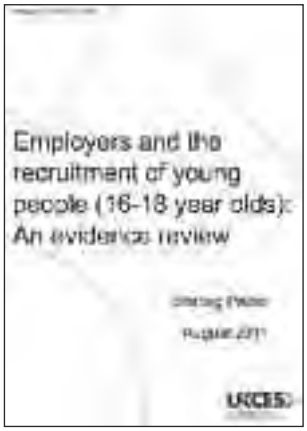
- This report explores the decision-making of higher education applicants with similar qualifications, and finds that the consistent deciding factors are the course and course content. It finds that the differences in decision-making are affected more by the type of higher education institution to which individuals are applying than their educational background, in that those applying to the most selective universities tended to base their decisions on social indications of prestige and academic excellence while those who applied to other universities were more concerned with practicalities such as employment prospects, cost of living and distance from home.

Access all Areas? The Impact of Fees and Background on Student Demand for Postgraduate HE in the UK, Spatial Economics Research Centre

- This paper analyses participation in postgraduate higher education in the United Kingdom at the micro-level. The report describes trends in postgraduate participation in the United Kingdom, and, introduces a hitherto unavailable dataset of postgraduate tuition fees by institution and subject: the first of its kind. The report also attempts to assess the extent to which tuition fees affect demand. The results suggest that there is substantial variation in tuition fees across and within institutions and that tuition fees may reduce demand for postgraduate places. In their model a 10% increase in tuition fees reduces the probability of progression by 1.7%.

(d) Routes to Employment

Employers and the recruitment of young people: an evidence review, UKCES



- This paper collates and assesses recent evidence on employers' attitudes and recruitment practices in regard to young people. Specifically, the review examines evidence relating to the recruitment of young people (with a focus wherever possible on 16–18 year olds), what employers are looking for from young recruits and the extent to which young people meet those requirements.

Lost in transition? The changing labour market and young people not in employment, education or training, The Work Foundation

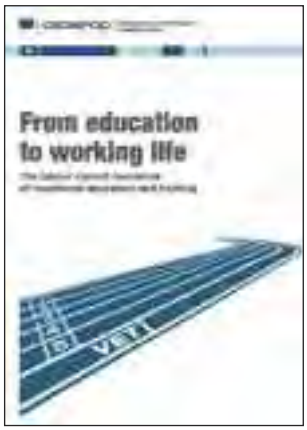
- The number of young people who are not in employment, education or training (NEET) has been rising for the last decade. This report examines how the characteristics of not in employment, education of training have changed over this period, and how longer-term labour market change has affected the transition for young people from education into employment.

A Demanding Job: Finding Sustainable Employment for Britain's Youth, CentreForum

- This study considers action which the government could take to reverse the long-term rise in youth unemployment, and discusses its impact on society. It looks at the characteristics of the unemployed, including the introduction of the national minimum wage and a lack of high-quality work experience. The author also reviews Labour and Coalition government welfare to work initiatives and makes recommendations the government should undertake.

From Education to Working Life, CEDEFOP

- This report looks at labour market outcomes for young people in Europe. Using data from the European Union Labour Force Survey (2009), it examines how the various levels and orientations of education affect employment prospects, the transition to work, job quality and wages.



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Localised Approaches to Tackling Youth Unemployment, CLES

- This report explores the policy context around youth unemployment and puts forward the idea of a more localised approach to tackling the issue. It looks at past policy responses to youth unemployment and discusses the impact of the recession on youth unemployment and the coalition government's approach to tackling youth unemployment which focuses on demand side intervention. It highlights examples of localised approaches involving: local authorities working in partnership with the private and voluntary and community sector as prime contractors and sub-contractors; integrated services to tackle youth unemployment through informal youth employment support services, such as job searches and CV clinics.

Youth Employment Challenge, UK Commission for Employment and Skills

- This report is a follow up to the 2012 Youth Inquiry. It uses the latest evidence from the United Kingdom Commission's comprehensive survey of employers to highlight how the labour market and recruitment practices have changed over the last decade. The authors have looked at these changes focussing on the effects they have had on youth employment; including putting young people in a Catch-22 situation and making it harder for them to transition from education to work.

(e) Other Labour Market Research

Saving the Swedish Model: Learning from Sweden's Return to Full Employment in the late 1990's, Institute for Public Policy Research

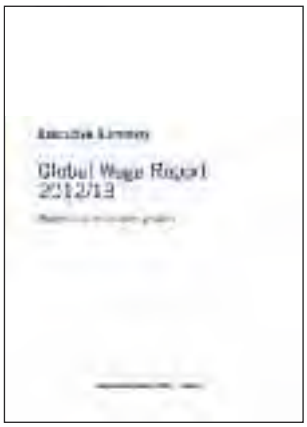
- This report considers the financial crisis in Sweden in the 1990s and explains the steps taken by the Social Democrat government at that time to cut the budget deficit and reduce unemployment. It explains the Rehn-Meider model of economics developed in Sweden in the 1950s which was used in part in the 1990s to control inflation and help people manage changes caused by the financial situation. It contends that much of the approach is still relevant to the current situation although the crisis is global rather than domestic. The report asserts that the Swedish approach was based on: lifelong learning; protecting people rather than jobs; an active labour market policy; the importance of childcare and education; and the importance of strong public finances. It also describes that the approach was based on an analysis of what the economy would look like after the recession.

Scaling the Youth Employment Challenge, UK Commission for Employment and Skills

- This United Kingdom Commission for Employment and Skills (UKCES) report examines the extent to which United Kingdom employers are engaging with "youth policy" and some of the barriers to making policies more widespread. By taking some concerted steps towards greater and more ambitious employer ownership United Kingdom Commission for Employment and Skills believe a great deal could be achieved. They believe that from the current baseline the aim should be to double the engagement of youth policy activity among United Kingdom employers, in particular with work experience and apprenticeships, where untapped and future demand has been discovered. If the needle can be moved from one employer in four offering work experience to one in two, and boost apprenticeship participation from 15% of employers to 30% this would make a significant contribution to scaling the youth employment challenge.

(f) Developing and Maintaining the Framework of Employment Rights & Responsibilities

Global Wage Report 2012/13: Wages and Equitable Growth, International Labour Organisation



- This edition looks at the macroeconomic effects of wages, and in particular at how current trends are linked to equitable growth. The gap between wage growth and labour productivity growth is widening, the difference between the top and bottom earners is increasing, and the labour income share is declining. These worrying changes affect the key components of aggregate demand – particularly consumption, investment and net exports – that are necessary for recovery and growth. The report looks at the reasons for these trends, which range from the increasing financial and trade globalization to advances in technology and the decline in union density.

The Impact of the Economic Crisis on the Situation of Women and Men and on Gender Equality Policies, European Commission

- The authors of this report suggest that there has been a levelling down of gender gaps in employment, unemployment, wages, and poverty. They find that the labour market behaviour of women has been similar to that of men. The authors argue that although there is evidence of contained but uneven retrenchment in welfare provision in the first years of the crisis, there is a threat that fiscal consolidation might ultimately reduce both welfare provision and related employment – with associated gender equality impacts. The report finds that in the vast majority of countries gender mainstreaming (a globally accepted strategy for promoting gender equality) has not been implemented in policy design and policy implementation over the crisis.

(g) Research and Development / Innovation

Annual Innovation Report 2012: Innovation, Research and Growth, BIS

- The fourth annual innovation report gives the latest available evidence on United Kingdom innovation performance and the contribution of business, government, higher education and research organisations to United Kingdom innovation activities. It presents key measures of innovation and research performance, and provides a benchmark to track performance measures for the Innovation and research strategy for growth.

Investing for Prosperity: Skills, Infrastructure and Innovation, CEP

- The authors of this report project that in order to invest for prosperity the United Kingdom should build on the strengths, including strong rule of law, generally competitive product markets, flexible labour markets, and a world-class university system. The authors also note a number of issues that need addressed in the United Kingdom including the inadequate institutional structures that have deterred long-term investment to support future prosperity. This report proposes improving investments in human capital to foster inclusive growth, to develop a new institutional architecture to address the poor quality of the national infrastructure, and to improve the provision of finance for private investment and innovation through: increasing competition in retail banking, having the proposed Business Bank make young and innovative firms its top priority and encouraging a long-term investment perspective through regulatory changes and tax reforms.

Wider national and international research into skills, employment, innovation and wider labour market issues 2013/14.

Matthew Deakin and Conor McClelland, Department for Employment and Learning

The Department for Employment and Learning (DEL) monitors a number of Government organisations and research bodies to keep abreast of related research in the field(s) of skills, employment, innovation and wider labour market issues. The aim is to ensure that relevant outcomes from this wider body of research are built into the policy development cycle. Therefore, when commissioning its own research the Department avoids any unnecessary duplication and can build on the work carried out elsewhere. The results of this research review (QRR) are published by the Department on a quarterly basis.
The most recent updates can be found at: www.delni.gov.uk/quarterly-research-review.

Introduction

The following article contains a research reports which are reviewed as part of the Department's Quarterly Research Review, these articles were published in the period April 2013 to March 2014, although in some cases more recent information has been included especially where reports have been updated. The articles are listed under the four areas that are seen as key in delivering the Department's strategic objectives; enhancing the provision of learning and skills, increasing the level of research and development, helping individuals acquire jobs and developing and maintaining the framework of employment rights and responsibilities.
All of the research summarised here is available on the internet and the relevant web address links embedded in each article. It should be noted that the research summarised within the article is largely focused at the national level or on other regions of the United Kingdom and with some international focus but many of the findings remain relevant to Northern Ireland.

Note:
The research referred to in this Review presents the views of various researchers and organisations and do not represent the views or policy of the Department for Employment and Learning.

(a) Skills

Skills at work in Britain: first findings from the Skills and Employment Survey, 2012, LLAKES

- This report presents initial findings from the 2012 Skills and Employment Survey and investigates whether employers are making best use of skills provision in Britain, and whether jobs are being up-skilled. The paper finds that the qualification requirements of jobs in Britain have moved upwards since 1986, and that this upward movement became more pronounced between 2006 and 2012. The report also looks at trends in under-employment, the supply and demand of graduate jobs, and skills gaps in terms of gender and sector.

Wider national and international research into skills, employment, innovation and wider labour market issues 2013/14.

Matthew Deakin and Conor McClelland, Department for Employment and Learning

10

Improving Progression in Low-paid, Low-skilled Retail, Catering and Care Jobs, The Joseph Rowntree Foundation

- The report highlights how workers in lower-level occupations and on part-time or temporary contracts are less likely to receive work-related training or opportunities to progress. The authors note that policy-makers must encourage peer-to-peer learning among employers, and evaluate how interventions such as high performance working practices and Investors in People can better support this agenda. The authors note that promoting progression at work can only ever be a partial response to the problem of in-work poverty, but it could help to turn 'dead-end' jobs into stepping stones.

Future of the UK Labour Market, The Joseph Rowntree Foundation

- The report looks at the links currently within the United Kingdom between jobs, skills and poverty. The authors find that tax and benefit reforms will fail to tackle poverty unless the lower end of the United Kingdom labour market is addressed. The report notes that the United Kingdom has a higher number of low-paid, low-skilled jobs than most developed countries and companies must be encouraged to compete more on quality and less on cost. Therefore there must be greater demand for skilled workers from employers, as well as more focus on staff progression and putting existing skills to use.

The Future of Work: Jobs and Skills in 2030, UKCES

- This report analyses the future of work - looking at the trends that will shape United Kingdom jobs and skills, together with possible disruptions to these trends. The findings of the report indicate that as digitalisation grows, we can expect a significant impact on employment and skills in the decades ahead, at all levels and in all sectors. Work in the future will be increasingly interconnected and network oriented, this will require employees (and employers) to have the competencies to work across different disciplines, to collaborate virtually, and to demonstrate cultural sensitivity.

Engineering Our Future: Stepping up the Urgency on STEM, CBI

- The report makes the case for action to ensure careers in science, technology; engineering and maths (STEM) are more attractive and easier to access. The authors highlight the importance of science, technology; engineering and maths skills for growth and jobs, whilst also noting that Britain's advanced manufacturing, creative and environmental industries are already facing skills shortages, particularly in the field of skilled technicians. They suggest a number of solutions to tackle science, technology; engineering and maths skills shortages, including: a cut in tuition fees for some science, technology; engineering and maths courses; developing new training routes to progress apprenticeships and setting gender diversity targets in schools, colleges and universities to boost women's participation in key subjects such as physics and maths.

(b) Further Education & Training

Training in Britain: first findings from the Skills and Employment Survey, LLAKES

- This report presents initial findings from the 2012 Skills and Employment Survey (SES), and examines trends in the provision of workplace training opportunities across Britain. It finds that the proportion of British workers engaged annually in more than ten hours' training declined from 38 per cent in 2006 to 34 per cent in 2012, and that the decline was especially concentrated among women. The report highlights that quality of training, like its volume, was greater for those workers with more prior education, although it also suggests that there is a rising demand by workers at all levels of education to receive workplace training.

2013 National Institute for Adult Continuing Education (NIACE): Adult Participation in Learning Survey: headline findings, NICAE

- This report provides an overview of the headline findings from the 2013 National Institute for Adult Continuing Education (NIACE) Adult Participation in Learning Survey. It reports that the survey found that around one in five adults say that they are currently learning, with just under two-fifths saying they have taken part in some form of learning in the previous three years. It highlights that: just over half of those in the highest social classes reported taking part in learning over the last three years, compared with 31 per cent of skilled manual workers and 24 per cent of unskilled workers. It also found that 17 to 19 year olds are the group most likely to take part in learning; and that at 44 per cent, adults in Wales are the most likely to be learning.

10

Vocational Education and Training Systems in the Netherlands, UKCES

- This Briefing Paper explores the Vocational education and training (VET) system and employers' role within it. Vocational education and training is the most popular option for young people to pursue in the Netherlands. Dutch Vocational education and training provides a well-established, flexible and clearly structured route into employment, enjoying very high completion rates and good prospects for employment. Employers are central to this, their interests are established in legislation and represented via sectoral organisations to ensure their skill needs are met.

Macroeconomic Benefits of Vocational Education and Training, CEDFOP

- The authors of this report find that improvements in workforce skills are essential for European countries to achieve higher economic growth rates and compete effectively against other advanced industrial nations. Their analysis shows considerable evidence of a positive relationship between upper-intermediate vocational skills and relative average labour productivity performance, especially in the production sectors. This positive relationship is found to occur primarily in countries, e.g. Germany and Holland, where apprenticeship is common and is stronger when vocational skills are broadly defined to include uncertified skills acquired through employer-provided training.

Supporting Young People to Participate in Education and Training, OFSTED

- This report examines how seven London colleges are attempting to re-engage young people in education and training. The report finds that all the colleges visited had a wide range of courses that focused strongly on young people's vocational aspirations. The authors noted that good links with employers played an important role in enriching students' vocational experience and that a lack of effective information sharing between agencies was commonly cited as hindering the identification and successful engagement of young people. The authors conclude by making recommendations for central and local government and for colleges to improve the engagement of young people in education and training.

Attractiveness of Initial Vocational Education and Training: Identifying what matters, CEDEFOP

- This study investigates wider issues that may be crucial to understanding what makes initial Vocational education and training an attractive option to potential students. It shows that the composition and respective strengths of the labour market, expenditure on vocational education, as well as wider factors such as views of family members, perceptions about the quality of Vocational education and training and the wider educational context all play a role. The study concludes with several insights on how to influence perceptions of Vocational education and training.

(c) Higher Education

A Question of Degree: The Effects of Degree Class on Labour Market Outcomes, CEP

- In this paper the author estimates the sorting effects of university degree class on initial labour market outcomes using a regression discontinuity design that exploits institutional rules governing the award of degrees. Consistent with anecdotal evidence, this report finds sizeable and significant effects for Upper Second Class degrees and positive but smaller effects for First Class degrees on wages. In additional results, the author explores differences across groups finding evidence that is consistent with a simple model of statistical discrimination on the basis of gender and types of degree programmes.

The impact of university degrees on the lifecycle of earnings, BIS

- This report provides evidence on lifetime net earnings, it considers both the relationship between higher education and earnings, and with employment. The return of a degree relative to 2+ A levels but no degree, in terms of earnings is calculated. The authors find that estimates for a good first degree (first or upper second) are significantly larger than for lower degree classes suggesting a large return on student effort.

Wider national and international research into skills, employment, innovation and wider labour market issues 2013/14.

Matthew Deakin and Conor McClelland, Department for Employment and Learning

Graduates and economic growth across countries, BIS

- This paper considers the evidence on the impact of Higher Education on economic growth and productivity, drawing conclusions on the longer-term benefits of current investment in degree-level education. Individuals with a university degree tend to have a significantly higher wage rate than those without. Within the sample, graduates are paid 70-180% more than workers without formal educational qualifications, while the accumulation of graduate skills contributed on average 0.1-0.7 percentage points per annum to average labour productivity growth over the period 1994-2005.

The Benefits of Higher Education for Individuals and Society, BIS

- This document presents information about the benefits of Higher Education participation for the individual and society. The core of the report is a table showing a two-way taxonomy of benefits, with individual/society as one dimension and market/non-market (or wider) benefits as the other. The findings of this research show that direct effects from higher education might be achieved through a number of channels including the development of personal characteristics and skills, social interactions and accreditation and signalling benefits.

Research Report: Smarter Regions Smarter Britain: Boosting regional growth through universities, Million Plus

- This report provides new statistics highlighting the percentage of graduates who study and work in the same region and uses new modelling from London Economics to assess the economic benefits of these graduates to the regions and the Treasury. The report concludes that there are clear links between participation in higher education and regional growth. The authors suggest that the Government should address the sharp regional differentials in the number of people with degree qualifications.

Learning from Futuretrack: Dropout from Higher Education, BIS

- In this research the author investigates the characteristics of students who did not complete Higher Education. The authors make key findings including that students with parents who had not been to university were more likely to have dropped out than those with parents who had a university education, students who were older when they entered Higher Education were more likely to have dropped out, and students with parents who worked in either routine or semi-routine occupations were more likely to have dropped out than those with parents who worked in professional and managerial occupations.

(d) Routes to Employment

The journey to employment: a guide to understanding and measuring what matters for young people, New Philanthropy Capital

- This publication sets out the Journey to Employment (JET) framework, which presents the key factors that influence young people's journey to employment, in order that organisations which work with young people can understand and measure the impact of their work on young people's employability. The paper suggests that transitions to adulthood for young people have become increasingly difficult as a result of the economic outlook and the breakdown of traditional pathways to work, and concludes that the Journey to Employment framework can be used as a starting point to help organisations think about impact, map the outcomes to be achieved, and decide how to structure an evaluation.

Drivers of female labour force participation in the OECD, OECD

- This publication analyses the response of female labour force participation to the evolution of labour markets and policies supporting the reconciliation of work and family life. The report highlights how the increase in female educational attainment, the expansion of the service sector and the increase in part-time employment opportunities have all boosted women's participation in the labour force. The authors indicate that, while employment rates react to changes in tax rates and leave policies, the rising provision of formal childcare services to working parents with children under the age of three is a key policy driver of female labour force participation. The report suggests that the effect of childcare services on female employment is stronger in the presence of other measures supporting working mothers, while the presence of such support appears to reduce the effectiveness of financial incentives to work for second earners.

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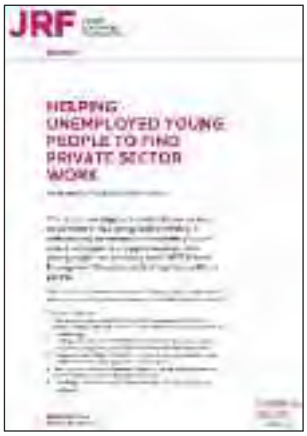
Identifying Young People at Risk of Becoming "not in Employment, Education or Training," Welsh Government

- This paper presents the findings of analysis which assessed the extent to which demographic characteristics and school-based indicators were effective in predicting young people at risk of becoming 'Not in Employment, Education or Training' in Wales. It notes that pupils living in the most deprived areas were more than five times more likely to become Not in Employment, Education or Training than pupils living in the least deprived areas, and that pupils identified as having special educational needs, pupils in care, and pupils eligible for free school meals were also more likely than other pupils to become Not in Employment, Education or Training. Overall, school-based indicators were more strongly associated with Not in Employment, Education or Training than demographic characteristics, with low attendance or attainment being significantly associated with higher levels of Not in Employment, Education or Training.

Helping Young People into Private Sector Work, The Joseph Rowntree Foundation



- The following report presents findings from research into the initial labour market experiences of two young people who had recently been Not in Employment, Education or Training for significant periods, and the practices of multinational companies in which they worked. The study concludes that employer practices play an important role in shaping the experiences of young people entering the workplace. The authors also note that poverty can increase the chances that young people will encounter practical difficulties when seeking work. Furthermore, there is a need for provisions to ensure that young people are equipped with the 'soft' skills sought by many employers.

(e) Other Labour Market Research

Women in the Labour Market, ONS

- This report looks at the role of women in the United Kingdom labour market and the impact of their increased presence over the past 40 years on the employment of men. The document suggests that while employment rates for women have increased, those of men have fallen from 92 per cent to 76 per cent in the period 1971 to 2013. The paper compares employment rates by age group and by geographical location in the United Kingdom. The authors consider the type of employment that women have and the skill levels, and looks the figures related to top earnings in the United Kingdom, comparing men and women and the different age groups. Whilst there are many findings in this report, it is interesting to note that the lowest employment rates of women occur in Northern Ireland and London.

Gender Differences in Job and Occupational Mobility, University of Oxford

- This work investigates the effects of changing labour market conditions on job and occupational mobility over the life-course, and whether there are gender differences in the effects of labour market fluctuations. It finds that the probabilities of job and occupational mobility are substantially lower in economically depressed conditions than in more prosperous times. This is particularly evident for individuals in lower level jobs. The authors also note that the gender gap in occupational mobility is widening as labour market conditions are deteriorating, with women more greatly affected by weak labour markets than men.

The implications for employment of the shift to high-value manufacturing, Sheffield Hallam University

- The authors examine the effects of the shift to high-value manufacturing in the United Kingdom on the manufacturing workforce and on the labour market more generally. They explain that, since the mid-1960s, most low-value, low-productivity manufacturing has disappeared from the United Kingdom, and that, in the face of competition from low-wage economies such as China, for the vast majority of United Kingdom manufacturing there has been no alternative to going down the high-value route. The report examines the places most at risk from future manufacturing job losses, particularly the Midlands and the north of England. The research suggests that the economy may be at an historic break point and that the manufacturing sector will in future have to make a bigger contribution to economic growth.

Multinational Employer Perceptions of the UK Workforce

- The report explores how the skills of the United Kingdom workforce are perceived by multinational employers, both with and without a United Kingdom presence. The authors focus on multinational employers in the following countries: France, Germany, Denmark, Netherlands, United States, Brazil, India and China. The report finds that: the United Kingdom is rated second out of the countries examined in the report, for the overall skills of its workforce, just behind Germany and just ahead of the United States; in terms of specific skills, multinational employers hold relatively positive perceptions of the United Kingdom workforce's team working and motivational skills, and communication skills; and the most-mentioned desired improvement to United Kingdom workforce skills, for employers both with and without a United Kingdom presence, is that of improved training or education opportunities.

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(f) Developing and Maintaining the Framework of Employment Rights & Responsibilities

Employing older workers: an employers' guide to today's multi-generational workforce, DWP

- This paper highlights the business benefits of effectively managing an ageing multi-generational workforce. The report addresses misconceptions about employing older workers concerning productivity, up-skilling, health, and 'blocking' opportunities for younger workers. The authors also outline the risks to employers of failing to improve practices in relation to recruiting, retaining, and supporting older workers.

Fear at work in Britain: first findings from the Skills and Employment Survey 2012, LLAKES

- This report presents findings from the 2012 skills and employment survey on the presence of fear in British workplaces over the last decade. The authors find that fear of job loss has increased sharply, that men are consistently more worried about job loss than women, that the increase in concern about job loss has been greater amongst female employees, that over half of all employees (52 per cent) reported anxiety about loss of job status and that the fear of job loss was higher in the public than in the private sector.

Zero hours Contracts: Myth and Reality, CIPD

- This report addresses some of the concerns surrounding zero hours contracts, and provides recommendations for employers and policymakers on addressing instances where zero hours contract employees feel they are being discriminated against. The paper suggests that zero hours contracts, when managed correctly, can be beneficial for both employers and employees, and that zero hours workers report slightly higher levels of overall job satisfaction than the average employee. The report identifies examples of poor practice in terms of zero hours contracts, including some employers' failure to provide written terms and conditions for zero hours employees, some workers having pre-arranged shifts cancelled without notice, and confusion over employment rights. The authors recommend that employers should only use zero hours contracts where it suits both the organisation and the individual, and that the government should develop a code of practice on zero hours contract working.

Women Deserve Better: a Better Deal for Women Aged 50 and Over in Employment, UNISON

- This report presents the findings of a survey which examined the position of women aged 50 and over in the workplace in the United Kingdom, including their employment experience, the extent to which they feel discriminated against, and the difficulties they face in achieving a suitable work-life balance. The authors argue that despite a significant proportion of older women wanting to move to a higher-graded position, many are facing a distinct lack of opportunity for career progression, with only 5.5 per cent reporting that they have good promotion opportunities at their current stage in life. The authors report that 7 in 10 women were still interested in receiving training, however, fewer than half suggested that they currently have good training opportunities.

(g) Research and Development/Innovation

Sparking Innovation in STEM Education with Technology and Collaboration, OECD

- This report highlights innovative technology-supported pedagogic models in science, technology, engineering and mathematics education and explores what to expect from collaboration in a designed network. The authors find that technology-supported learning can help to move beyond content delivery and truly enhance science, technology, engineering and mathematics education. Furthermore they note that policy makers could help raise awareness of effective educational models among practitioners, this being due to the fact that technology is more effective and in the future will play a larger role within science, technology, engineering and mathematics education.

Boosting Foreign Direct Investment in the Information and Communication Technologies Sector: What Works?, ESRI

- This paper aims to provide empirical evidence on determinants of the location choice of foreign affiliates in Information and Communication technologies manufacturing and Information and Communication Technologies services. Specifically, this research analysed the location decision of newly established foreign affiliates of multinational enterprises in the Information and Communication Technologies sector in regions within European Union countries over the period 1998-2008. The research results indicate that in Information and Communication Technologies manufacturing as well as in Information and Communication Technologies services, the location probability of foreign affiliates increased with demand-side determinants such as market size and market potential as well as supply-side factors such as human capital intensity. In addition, positive externalities from the presence in the region of other foreign-owned enterprises in the Information and Communication Technologies sector, the availability of public goods in the host country and the size of the services sector in the neighbouring regions increased the attractiveness of regions to foreign direct investment in the Information and Communication Technologies sector.

10

Human Capital and Growth of Information and Communication Technology-Intensive Industries: Empirical Evidence from Open Economies, ESRI

- This paper examines the effect of human capital on the growth of Information and Communication Technology-intensive industries using data from a sample of open economies over the period 1980-1999. The econometric analysis suggest that value added and employment in Information and Communication Technology-intensive industries grew relatively faster in countries with a higher *ex-ante* human capital stock and in countries with a fast improvement in human capital. Further, in countries with fast human capital accumulation, labour productivity in Information and Communication Technology-intensive industries grew faster.

Enhancing Europe's Competitiveness: Fostering innovation Driven Entrepreneurship, World Economic Forum

- This intermediate report presents draft analysis and a high-level agenda designed to contribute to Europe's future competitiveness and growth by encouraging new, innovation-driven ventures to be envisaged, created and scaled. The authors note that at first, fostering innovation-driven entrepreneurship in Europe requires a comprehensive view on the entire entrepreneurial life cycle. Second, recognizing the myriad positive efforts, but also the challenge of geographical fragmentation to current entrepreneurship initiatives across Europe, the authors propose a European agenda for effectively promoting innovation driven entrepreneurship. This report highlights these emerging ideas and is designed to spur debate about the most effective ways to improve the conditions for innovation-driven entrepreneurship across Europe.

Advanced manufacturing and engineering services skill needs

Jenny Irwin, RSM McClure Watters

This article contains a summary of findings from research carried out by RSM McClure Watters which asked companies in the manufacturing and engineering sector in Northern Ireland about the current skills profile of their workforce and provides a modelling/forecasting of future skills requirements. It also defines the size of the advanced manufacturing and engineering services sector and provides an analysis of regional salary information across the advanced manufacturing/engineering services footprint in United Kingdom and Ireland. The findings from this report have been used to inform the development of an Action Plan for the Advanced Manufacturing and Engineering sector through the ministerially-led Advanced Manufacturing and Engineering Services Working Group. The Action Plan is designed to enhance the quality of the workforce, maximise employment opportunities and give the Northern Ireland Advanced Manufacturing and Engineering Services industry a competitive edge in the global market.

Introduction

RSM McClure Watters were appointed by the Department for Employment and Learning to complete research into the supply of skills required for advanced manufacturing and engineering sectors, both at present and forecasting the future requirement for these skills.

Strategic Context

The Northern Ireland Economic Strategy sets out a vision to both rebuild and rebalance the local economy to ensure it is modern, knowledge intensive and export driven. In February 2012, the Minister for Employment and Learning classified advanced manufacturing and engineering as priority sectors in achieving this.

The advanced manufacturing sector employs 10% of the total Northern Ireland workforce[1]. It also invests in research and development and exports and therefore has a significant role to play in delivering on the economic strategy. Specific targets are set to increase manufacturing exports by 20% by 2014/15 and to increase the level of investment in business research and development. The sector is therefore central to the delivery of the Innovation Strategy[2] and to meeting export targets.

To do this there is a recognition that firms need to invest in the skills of their employees. The Skills Strategy – Success through Skills[3] highlights that as 75% of the 2020 workforce are already in employment, there needs to be a strong focus on up skilling existing employees. In addition the Higher Education Strategy[4] recognises the need to place greater emphasis on STEM related subjects to rebalance the academic profile with economically relevant subjects.

Findings

Definition of the Advanced Manufacturing and Engineering Services Sector: throughout the report, the advanced manufacturing and engineering services sector has been defined by the SIC codes listed on the next page which were finalised with the assistance of SEMTA, Colleges NI and MATRIX[5]:

1 See section 5 of the main report (**table 5.3**)
2 Draft Innovation Strategy for Northern Ireland (2013 – 2025)
3 Success through Skills – Transforming Futures – Northern Ireland Skills Strategy 2011
4 Graduating to Success – Higher Education Strategy for Northern Ireland 2011
5 The use of Standard Industrial Classification (SIC 2007) codes are necessary to adequately assess the footprint of the advanced manufacturing and engineering sector. However, limitations do exist from using SIC codes as key contributing sectors to the Northern Ireland economy such as aerospace are categorised as '30.0 Manufacture of other transport equipment.' This has made it difficult to access specific data related to these sectors which leads to their importance being under-valued

10.0 Manufacture of food products;
11.0 Manufacture of beverages;
12.0 Manufacture of tobacco products;
13.0 Manufacture of textiles;
16.0 Manufacture of wood and of products of wood and cork, except furniture;
18.0 Printing and reproduction of recorded media;
20.0 Manufacture of chemicals and chemical products;
21.0 Manufacture of basic pharmaceutical products and pharmaceutical preparations;
22.0 Manufacture of rubber and plastic products;
23.0 Manufacture of other non-metallic mineral products;
24.0 Manufacture of basic metals;
25.0 Manufacture of fabricated metal products, except machinery and equipment;
26.0 Manufacture of computer, electronic and optical products;
27.0 Manufacture of electrical equipment;
28.0 Manufacture of machinery and equipment n.e.c.;
29.0 Manufacture of motor vehicles, trailers and semi-trailers;
30.0 Manufacture of other transport equipment;
35.0 Electricity, gas, steam and air conditioning supply;
36.0 Water collection, treatment and supply;
37.0 Sewerage;
38.0 Waste collection, treatment and disposal activities; materials recovered; and
39.0 Remediation activities and other waste management services.

Importance to the economy of the Advanced Manufacturing and Engineering Services sector and Areas of Growth Potential

The advanced manufacturing and engineering sector currently employs approximately 79,580 people in Northern Ireland. It makes a significant contribution to export levels and research/development in Northern Ireland, both of which are central to wealth generation. Evidence from Department of Enterprise, Trade and Investment's (DETI) Manufacturing Sales and Export survey[6] highlights the importance of the sector to the Northern Ireland economy. The survey shows that the total sales from manufacturing companies in Northern Ireland in 2011/12 were £15.95 billion which represented a 6.5% increase from the previous year. Exports from the advanced manufacturing and engineering sector totaled approximately £4.2 billion which represented a 7.7% increase from 2010/2011.

Forecasts show that the sector is expected to marginally contract up to 2020 with 78,624 jobs forecast (down from 79,580 in 2013). Although some sub-sectors will contract over this period, there are also areas within the sector that are expected to grow substantially over the next few years including aerospace, agri-food and sustainable energy. The other sub-sectors expected to contribute to the growth of the advanced manufacturing and engineering sector include

6 Northern Ireland Manufacturing Sales & Exports Survey 2011/12, DETI (2012)

manufacture of electrical equipment (SIC code 27.0), water, sewerage and waste management (SIC codes 36.0, 37.0 and 38.0) and manufacture of machinery and equipment n.e.c. (SIC code 28.0).

However, there are pressures on the advanced manufacturing and engineering sector to contract as result of, for example, an increasing emphasis on low cost production in overseas sites from global companies. Northern Ireland cannot compete with the labour rates in the Far East and the only way to be competitive is by adding value such as producing customised products and adding on services and/or developing new products. Managers within the sector need to be able to plan strategically and be able to take advantage of business opportunities as they develop. It is also critical that those managers faced with ensuring they have a strategy in place which will ensure the long term survival and growth of their companies, have access to information and market intelligence on where the long term opportunities lie for the sector within which they operate.

ICT is now playing a greater role in manufacturing due to the need to share information with customers and suppliers in the most efficient and secure way. This impacts on the skills required as engineers need to have ICT capabilities. Changes in consumer demand are also impacting on the demand for skilled employees. For example, the aerospace sector is expected to grow over the next few years due to increased demand for air travel. Northern Ireland's aerospace sector is well placed to take advantage of this global opportunity and will increase the demand for highly skilled employees. The growing demand for sustainable energy and environmentally-friendly products and processes will also affect the skill requirements of the advanced manufacturing and engineering workforce.

Another driver of demand is government policy. An example of this is the potential implementation of a lower corporation tax by 2020 which will stimulate foreign direct investment in high skilled sectors such as advanced manufacturing and engineering. This will promote faster economic growth as well as leading to higher demand for people with higher education qualifications. This is also likely to lead to a decline in the proportion of those in employment with "low" or no qualifications.

Projected demand for employment

The Working Futures[7] model projects **3,000** net additional jobs approximately **per annum for Northern Ireland over the next seven years for all industries** that use advanced manufacturing and engineering skill sets and **1,300 per annum for industries directly involved in advanced manufacturing and engineering**. The net requirement for workers is calculated by working out the total number of additional workers needed due to the expansion or contraction of the sector and added to this then the number needed to replace those leaving the sector.

The Working Futures Model projects a decline of 2,410 in the demand for new jobs, based on a projected contraction overall in the sector. However, when replacement demands are factored in, there will be a need for an additional 16,070 people up to 2020. Approximately a quarter of these roles (24.5%) are expected to be corporate managers and directors or other managers and proprietors which indicates an increase in the need for more skilled and experienced advanced manufacturing and engineering workers.

The net requirement will be particularly high for the following occupations:

- Corporate managers and directors (3,330);
- Science, research, engineering and technology professionals (2,400);
- Science, engineering and technology associate professionals (1,130);
- Skilled metal, electrical and electronic trades (3,610);
- Process, plant and machine operatives (2,240); and
- Transport and mobile machine drivers and operatives (2,480).

The sector therefore, whilst playing an important role in the local economy, faces a number of challenges in relation to the attraction, development and retention of skilled resources.

7 Working Futures 2010-2020 is fourth in a series of labour market assessments completed by the Institute for Employment Research and Cambridge econometrics, that provide detailed projections for the UK labour market. It focuses on a ten year horizon, giving a picture of the labour market for 2020; including employment prospects for industries, occupations, qualification levels, gender and employment status for the UK and for nations and English regions. Working Futures concentrates primarily on a quantitative, economic based approach. This focuses on sectoral and occupational employment structures, qualifications, and general workforce trends (including replacement demand). The projections for this report have been developed by the Institute for Employment Research at Warwick University.

11

Survey Findings on Demand

The survey of advanced manufacturing and engineering companies by RSM McClure Watters highlighted that almost half (47.8%) of respondents had experienced difficulties in filling skilled positions over the last two years.

The common themes arising from companies who provided details on the difficulties they had experienced were[8]:

- Systems design engineers and stress engineers;
- CNC programmers/engineers;
- R&D Engineers;
- Production managers/ engineers, Plant Engineers, Project Managers;
- Manufacturing Systems Engineers ;
- Electrical technicians;
- Fitters;
- Welders; and
- Skilled fabricators.

A number of companies felt that the quality of graduate engineers coming out of university did not meet their needs, given their lack of experience and lack of skills around problem solving; organisational skills and project management.

Respondents were asked what actions need to be taken by the government and others to ensure that the skilled resources in Northern Ireland meet the needs of the advanced manufacturing and engineering sector. Of the 53 responses, the majority of responses focused on:

- Increasing the quality of engineering training at Higher Education and apprenticeship training sites (with more practical training needed);
- Providing more financial support to make recruitment of apprentices more viable i.e. fund the salaries for apprentices and not just training;
- Providing more incentives to businesses to run properly funded graduate schemes;
- Promoting career opportunities in advanced manufacturing and engineering to children and young people at schools. Ensuring that careers teachers understand what opportunities exist in manufacturing; and
- Promoting the STEM subjects among females and promoting work experience to young people in schools and colleges.

Analysis of Supply

The analysis of the supply of young people into the sector shows mixed results[9]. The number of A-Level entries to Mathematics and Design and Technology has increased by 13.7% over the last three years. However the number of entries in STEM related GCSE subjects has decreased 2.5% over the same period.

The qualifications being achieved at Secondary Education level shows a difference at A- Level and GCSE. Students achieving grades A-C in STEM related A-Levels showed a positive trend between 2008/09 to 2010/11 – with a 12.3% increase. The number of GCSE entries achieving A-C in STEM related subjects over the 2008/09 to 2010/11 period for Northern Ireland has indicated a 1.5% decline.

The number of enrolments in Higher Education courses relevant to advanced manufacturing and engineering has remained relatively consistent over the last three years. There were **2,640 graduates[10]** in courses relevant to advanced manufacturing and engineering from Higher Education Institutions (HEIs) in Northern Ireland over the last three years equating to an average of **880 people graduating per year.**

Of the 815 engineering[11] and technology graduates from Higher Education Institutions in Northern Ireland in 2011/12, over a quarter (25.2%) were civil engineers. Moreover, 11.7% obtained qualifications in mechanical engineering, 6.1% in chemical engineering and only 3.7% in aerospace engineering.

The numbers enrolling in STEM related Further Education courses have declined by 15.5% over the last three years and now stand at 17,053 enrolments in 2011/12. Data on the number of Further Education students coming from STEM related courses going into advanced manufacturing and engineering occupations was not available.

The 2013 ApprenticeshipsNI figures show there were **996 participants[12]** in 2013 for STEM related apprenticeships, which indicates a 12.2% increase in total participants since 2009.

8 Only 36 respondents provided details on difficulties they had in filling advanced manufacturing and engineering vacancies.
9 See Section 9 of the main report
10 Department for Employment and Learning Statistical Bulletin: Enrolments at UK Higher Education Institutions: Northern Ireland Analysis 2009/10 - 2011/12
11 Department for Employment and Learning Statistical Bulletin: Enrolments at UK Higher Education Institutions: Northern Ireland Analysis 2009/10 - 2011/12
12 Department for Employment and Learning Statistical Bulletin: Professional and Technical Enrolments in the Northern Ireland Further Education Sector for 2012/13

Summary of Demand and Supply

An analysis of current trends in numbers being trained in advanced manufacturing and engineering areas[13], along with responses from the survey[14] indicate that there will be a need for more skilled and experienced employees over the next seven years. There are sufficient numbers of young people coming through the education/training systems but there is a mismatch between the skills and experience required by employers and what is being produced.

Overall, the projected supply of people with STEM related qualifications from Further Education (8,640)[15], Higher Education (880)[16] and Apprenticeships (1,006)[17] is 10,526 per year.

The demand for people entering the advanced manufacturing and engineering sector is projected at 3,000 per year. Therefore the overall projected demand for advanced manufacturing and engineering occupations in the next seven years is not likely to exceed the overall supply of people obtaining qualifications relevant to the sector.

Over a quarter (28.5%) of those gaining STEM related qualifications will be required to enter employment in the advanced manufacturing and engineering sector to meet the demand projected by the Working Futures Model.

The skills mismatch relates to insufficient numbers of people coming through with professional, associate professional, skilled trades and managerial skills.

Consultation Findings

Consultations were held with Invest NI, the Department for Employment and Learning Careers Service, the Sector Skills Councils, The Science, Technology, Engineering, Mathematics Network (STEMNET) and the Universities.

Attractiveness of the Sector

The meetings with the Department for Employment and Learning Careers Service, the Sector Skills Councils and STEMNET highlight that a lot of work has been delivered to promote the sector to young people in schools. The Department for Employment and Learning has over 100[18] Careers Advisers across Northern Ireland who visit schools and ensure all 14 year olds have at least one session with a Careers Adviser. The Careers Advisers also provide advice and guidance to the schools' Careers Teachers and promote practical support including web sites containing useful links and data on careers.

The Department for Employment and Learning Careers Service provided the opportunity for staff to spend a week in a company work placement during the summer of 2013 in order to build awareness of other roles and to build networks with private employers.

SEMTA highlighted that work is needed to ensure that careers teachers are providing pupils and their parents with information on the opportunities within apprenticeships as well as degrees and other courses.

Both SEMTA and Energy and Utility (EU) Skills felt that there is insufficient information available to set out the different career paths for young people. EU Skills are working closely with SEMTA on GreenSTEM which will be a new online platform of integrated career tools, specifically for Energy and Utility Skills industries. Both Sector Skills Councils feel that many parents/careers teachers are confused or unaware of the opportunities that exist for apprenticeships and are unaware where to access this information.

SEMTA questioned whether careers teachers are the best point of information dissemination for pupils and parents and suggested the use of subject knowledge experts such as the STEM teachers. They also highlighted that more work is needed to increase the attractiveness of the sector to young people and parents need to be provided with information to help them understand the opportunities.

The focus groups with young people at schools confirmed the feedback from the Sector Skills Councils and highlighted that:

- A great deal of work has gone into to raising the profile of engineering in schools with young people. All were aware that there were work

13 See Section 5 of the main report
14 See Section 6 of the main report. A questionnaire was designed and distributed in August 2013 via email to 550 companies who are members of SEMTA. Eighty-eight responses in total were received from relevant companies.
15 Department for Employment and Learning Statistical Bulletin: Professional and Technical Enrolments in the Northern Ireland Further Education Sector for 2012/13
16 Department for Employment and Learning Statistical Bulletin: Enrolments at UK Higher Education Institutions: Northern Ireland Analysis 2009/10 – 2011/12
17 Average number of Apprenticeships NI participants per year since 2009
18 Approximately 118 (Source: Careers Service Northern Ireland, Department for Employment and Learning)

opportunities and many had been at talks at which engineering companies presented on their opportunities;
- Many young people felt that their parents were not convinced that engineering was the best option for them. Engineering was perceived by many parents to be an unattractive profession for young people (it is often perceived to involve dirty work less than favourable working conditions/unsociable hours);
- Girls in particular equate engineering to needing to be very good at maths and if they feel at all weak at maths they do not consider it;
- Careers teachers and young people at focus groups were clearly aware that opportunities exist in the sector, however a number raised questions about what subjects they should study to get the best jobs in engineering i.e. should they take 'technology type GCSEs or keep to the traditional route of four sciences indicating that there is some confusion about the best pathway to take. Also questions were asked about apprenticeships and there was a lack of awareness/knowledge about the timings and exact opportunities in this area.

More recently universities have been working to promote the opportunities in engineering/advanced manufacturing to young people. For example, Queen's University hold an evening in November every year specifically aimed at promoting opportunities in engineering to parents. When the event started out five years ago, approx. 400 parents and young people attended and now over 1,200 parents and young people attend. This demonstrates the growing demand from parents for information. This also came out through the focus groups and interviews with young people and Careers teachers at schools -as they highlighted that many parents were not aware of the job/career opportunities that existed.

Apprenticeship Training and Upskilling Existing Employees

SEMTA highlighted a number of areas for action that were supported by company feedback through the survey findings. These were, the need for:

- Improved apprenticeship training which would deliver apprentices with the skills and experience needed by companies. Many companies complain to them that the training doesn't equip apprentices with the right skills and practical experience;
- Small firms need help to invest in apprenticeship training as they cannot afford the time and money needed to provide the infrastructure needed to implement the training;
- The apprenticeship training landscape needs to be simplified as at present there are programme led apprenticeships and Employer led apprenticeships. The 'apprenticeship' brand needs to be simplified as there have in the past been programme led apprenticeships (PLA) which have confused employers;
- Companies need to consider what more they can do to upskill those in employment and ensure that they are availing of government programmes such as Invest NI Skills Growth programme and the Department for Employment and Learning Customised Training support to do so;
- Larger companies should consider how they can help companies in their supply chains; develop the skills and expertise of their engineering employees. A strong collaborative network between Government and training providers, other key stakeholders to simplify support provision to employers.

It is recognised that the Minister for Employment and Learning is conducting a Review of Apprenticeships and that these issues are being looked at in more detail in this work.

Summary

In summary the main areas for development highlighted from the consultations were:

- Information on education/career pathways for advanced manufacturing jobs is needed so that parents/young people can be aware of the subjects to study and the different paths to be taken to increase chances of success in getting employment in the different specialisms across engineering. Salary information and progression data should also be available. This information should be provided before decisions are made on GCSEs;
- Further work is needed to promote the sector to females. This should continue to include female role models, but it should also include detail on female career options/pathways;

- Students and their parents should be provided with information on the route to apprenticeships and given information to how to apply/ relevant contacts;
- SMEs need help to invest in apprenticeship training and encouragement to get involved in joint initiatives with other companies to share the costs involved;
- Supply chains should be used by the larger companies to encourage the smaller companies to invest in training and get involved in shared training. Collaboration is needed between Government and training providers and other key stakeholders to simplify training support provision to employers.

Salary Issues

A key issue in the attractiveness of any sector to new entrants and a factor in retaining employees is the remuneration available and the comparison with other occupations and in other regions. The analysis of salary data for engineering jobs has identified a variance in salary levels between Northern Ireland, the United Kingdom and the Republic of Ireland for a number of roles.

The basic median pay of those in clerical and technical roles is £19,677[19] for Northern Ireland, which is 13% less than the average United Kingdom basic median pay. Manual workers in Northern Ireland are also earning salaries which are 7% less than their counterparts in the rest of the United Kingdom.

The salary levels for the operative, skilled trade, associate professional and technical roles in the advanced manufacturing and engineering sector are all lower than the general salary levels for similar occupations in Northern Ireland, with the exception of maintenance fitters[20]. Professional occupations within the advanced manufacturing and engineering sector including process, project, quality and maintenance engineers also receive lower salaries than the general salary levels for professional occupations in Northern Ireland. This increases the risk of Northern Ireland's advanced manufacturing and engineering sector losing potential employees who are at an operative, skilled trade, associate professional or professional level to other sectors that pay higher salaries.

Median pay was also lower in Northern Ireland than the Republic of Ireland for a number of advanced manufacturing and engineering occupations. Whilst it is expected that salaries in the Republic of Ireland are higher as the cost of living is higher, the differential in some cases was very significant. For some occupations, such as Process Engineers, the salary levels in the Republic of Ireland were 66% higher than those in Northern Ireland. Other occupations where Northern Ireland had significantly lower salaries included Project Engineers, Quality Engineers, Maintenance Engineers and Maintenance Managers. This will make it difficult for companies based in or close to the border areas to attract and retain engineers.

The salaries of graduates varied significantly depending on the area they are involved in. In the electronics, electrical engineering and computer sciences sector; software engineer graduates can earn between £18,000 and £25,000 per year. Supplier quality assurance engineer graduates salaries earn between £22,000 and £27,000. For civil engineer graduates there is a variance of £9,000 between the highest (£24,000) and lowest earners (£15,000). A similar margin (£15,000 - £22,000) is also evident for graduate civil design engineers in Northern Ireland. Design engineer graduates in the aerospace sector can earn between £15,000 and £24,000 per year.

A starting salary of £15,000 would appear to be relatively low for an occupation that is deemed high in demand and could possibly be a reason for the difficulties experienced in filling engineering positions as it is unlikely to attract potential entrants to the sector. Companies with graduate engineering vacancies and salaries of £15,000 per year based in the border areas will find it particularly difficult given that salaries in the Republic of Ireland are much higher generally than in Northern Ireland.

Action Plan

Actions are needed in a range of areas, including increasing attractiveness of the sector to young people, increasing the number and quality of apprentices, and investing in upskilling existing staff:

19 Workforce Pay Benchmark #08 – Manual, Clerical & Technical Employees, EEF: Manufacturers' Organisation
20 Results from the Northern Ireland Annual Survey of Hours and Earnings (Department of Finance and Personnel, 2012)

Actions Needed to Increase Attractiveness of the Sector to Potential Employees

There is evidence that the work of the Department for Employment and Learning Careers Advisers, School Careers Teachers, SEMTA, Sentinus, W5 (Provider of the STEMNET contract) and those businesses involved with schools is having an impact in raising the awareness of young people about opportunities in the sector.

The research has highlighted that there is a growing interest in STEM related careers, including engineering. This interest is evident through the feedback received from pupils in the focus groups. Many parents and guardians, however, are not aware of the opportunities and see a career in engineering involving working in 'dirty and non-family friendly environments'.

This is a view shared by some females at schools and needs to be addressed through the promotion of more female role models.

Whilst interest in STEM careers has grown, further work is needed at the stage prior to young people choosing their GCSEs as Northern Ireland has not seen the increase in young people studying STEM GCSEs that other parts of the United Kingdom has experienced.

There is also evidence from pupils and school careers teachers that short work placement type activities are a very effective way to allow young people the opportunity to experience the type of work involved and determine whether it is a career they would like to pursue.

Many careers teachers at schools in Northern Ireland are now much more aware of engineering job opportunities and have built relationships with local employers. However it is not practical to assume that schools careers teachers will be able to stay up to date with all the areas of engineering. Therefore it is essential that they continue to build their relationships with employers and that they use managers/staff in these businesses, who have already signed up with W5 to be STEM Ambassadors, to support/act as 'e-mentors' for young people. These people are already in place through the STEMNET contract. They should be working with teachers as well as pupils to ensure the whole system is connected.

Just over half of businesses from the RSM McClure Watters survey are involved in promoting their business through schools and colleges. Feedback from schools is that this work is welcomed and essential to building awareness of the opportunities, but that company involvement should include a range of activities, from one off annual events through to on-going regular contact (including both inviting students into their companies for site visits and completing talks at the schools). The ongoing personal contact between companies and students is viewed as essential to stimulating interest in the young people and this type of activity needs to be encouraged and supported.

Actions:

- The sector should work with primary schools to increase awareness and interest in engineering as part of the STEM activities. Primary Schools could be provided with kits/activities that teachers can use to excite children about engineering design and production.
- Sector Skills Councils, Further Education and Higher Education institutions with employers need to tackle the image of 'engineering' held by many parents/guardians by providing information to support existing career evenings with parents. These should inform them on the range of careers available within the sector and the opportunities that exist including information on the whole life time earnings that can be generated through an engineering career in comparison to other professions. Many parents of students with top GCSEs will be keen to see their children follow recognised pathways to professions such as medicine and they need information that shows a career in engineering can be equally rewarding as other 'professions'. These sessions should also include information on the education pathways needed to pursue the different type of careers in engineering and they should highlight the importance of gaining practical experience, as well as academic qualifications. Parents currently have questions on apprenticeships that Careers teachers do not have knowledge on; therefore these should be incorporated into the sessions.

- There is a need to ensure that the promotion of engineering starts with relevant activities from the first year of secondary school, rather than waiting until students are aged 14 or over. This can help ensure the continuity of support from primary schools through to second level education;
- A good example which stimulated interest in engineering in schools is the United Kingdom Aerospace Youth Rocketry Challenge. Consideration should be given to expanding the programme in Northern Ireland to ensure more schools and students are exposed to the programme and the principles of engineering and manufacturing;
- Consideration should be given by the business sector to regularly inviting and showcasing their industry/business to primary, secondary and grammar school pupils. This will provide businesses with an opportunity to promote their business/sector and to stimulate an early interest in engineering amongst students. See Inside Manufacturing (SIM) was highlighted as a useful example to consider. SIM is a partnership model between government (BIS) and industry which has been created to transform students' perception of manufacturing in strategic sectors. SIM is an effective initiative where manufacturers interact with students, teachers and career advisors by inviting them to visit their manufacturing facilities in order to change the sceptical perceptions of manufacturing and 'get behind the scenes' of success;
- Thought should be given to developing a promotional tool (film, advert, etc.) which could be utilised by key stakeholders to act as an early mechanism to attract and encourage interest in the manufacturing and engineering sector;
- Sentinus should consider expanding their short workplace engineering activities (e.g. Insight into Engineering programme[21]) but ideally a version of it should be available to pupils in the summer before they choose their GCSE subjects, in order to help young people decide on their potential career options and therefore help with their GCSE choices;
- Stakeholders should consider working together to promote careers in their business/sector with schools and colleges (particularly at KS3 and KS4). Industry fact sheets already provide the facts on whole life earnings; this needs to be used more in sessions with parents and young people to compare with other professions. The information that is important to young people includes: Nature of Work; Salary levels in comparison to other jobs; Hours of work; Travel; Conditions in which they are expected to work; the subjects to study/education pathways and different routes that exist to getting into engineering; and what they can do if they want to pursue a career in this sector;
- School Careers Teachers should have access through W5 to the STEM ambassadors from advanced manufacturing/engineering businesses that are available in their local area. These are people that they can contact and ask specific questions regarding their sector, so that the information they provide to pupils is up to date.

Actions Needed to Build Skills of Potential Entrants to the Sector to Meet Needs of Businesses

The projected supply of people with STEM related qualifications from Further Education, Higher Education and Apprenticeships in Northern Ireland is 10,088 per year[22]. The demand for people entering the advanced manufacturing and engineering sector is projected at 3,000 per year[23].

The projected demand for advanced manufacturing and engineering occupations can therefore be met by the projected supply of people obtaining qualifications relevant to the sector, assuming that at least a quarter of those gaining qualifications will enter employment in the sector.

However the focus should be on ensuring the sector can attract the top talent from Further Education and Higher Education colleges and that they have the skills needed for the advanced manufacturing and engineering sector. Whilst there is a lot of information available on the different education pathways, they are not all connected and there is no one overall source of this information.

The literature review and the RSM McClure Watters survey have shown that employers have concerns about the quality of graduates/apprentices coming out of Higher Education/Further Education Institutions and

21 This is a 5 day programme run for A level students to give them an insight into careers in engineering.
22 See Section 9.8 of the main report
23 See Section 7.4 of the main report (**table 7.7**)

training providers are now favouring those who have proven practical experience.

Employer feedback highlighted the need to ensure that potential applicants have already developed the ability to communicate with others, problem solve and work as part of a team. However they noted that many young people lack these specific basic skills.

Companies also highlighted concerns with the apprenticeship training provided by a number of external training providers, including Further Education colleges. They stated that this was not always responsive to their needs and that training providers needed to ensure it was business led. Many larger employers in particular support employer led apprenticeship schemes, and by developing their own provision they can tailor programmes to meet their needs.

The Foundation Degree has been set up to provide students with the opportunity to access qualifications and work based experience. The degree is being delivered by Further Education/Higher Education institutions and the test of its success will be in the extent to which it has produced graduates that meet employers' skills needs. It is currently being piloted and the results will be available in 2014.

Smaller employers find it particularly difficult to invest the time and money needed to manage and deliver apprenticeship training. The level of administration associated with delivering apprenticeships as well as the costs involved in management time being diverted from production is a burden many felt they could not cover.

Actions:

- A co-ordinated central source of information should be used to detail the different education/career pathways that can be taken by students pursuing engineering careers;
- Apprenticeship training needs to meet the requirements of business and this should be actioned through the implementation of the recommendations which will come out of the Ministerial Review of ApprenticeshipsNI;
- The Foundation Degree[24] should be evaluated at the end of its first year to assess whether it has addressed employers' needs;
- The business community and education providers (Further and Higher Education) should investigate the possibility of establishing a curriculum group (specifically for advanced manufacturing and engineering) which would meet regularly to ensure that courses and qualifications remain relevant to business needs;
- Consideration should be given to expediting the process taken to develop and fund specific courses relevant to growing the manufacturing and engineering sector.

Actions Needed to Ensure that Sufficient Skilled Resources are Retained in Northern Ireland to Support the Sector

A comparison of the salaries offered to engineers in Northern Ireland compared to the Republic of Ireland shows that Northern Ireland is paying below the levels that can be obtained from working south of the border. This is a particular problem for SMEs that operate close to the border and makes it difficult for them to attract and keep resources. In addition, organisations in Northern Ireland are paying £15,000 salaries for graduates which will create difficulties in attracting potential entrants to the sector.

Companies need to be able to pay market rates if they are going to attract the resource they need. It is particularly important that they attract resources with sufficient expertise to help Senior Managers consider product/market opportunities which will increase their potential of profit, meaning they can afford to pay market rates or above in the longer term. In the short term government support is needed to help these companies, particularly SMEs, afford the talented resource they need to grow and develop profitably.

There is a smaller but still significant salary difference between Northern Ireland and the rest of the United Kingdom. Therefore whilst it is projected that Northern Ireland will produce sufficient resource to meet the needs of the local

24 HLA Engineering pilot

sector, the rest of the United Kingdom market will most likely have a gap. In particular the Royal Academy of Engineering has estimated that there will be a shortfall of over 100,000 STEM graduates per annum (2010-2020) across the United Kingdom. If this situation arises, Northern Ireland could experience a brain drain with its engineering talent being attracted to better paid positions in the United Kingdom. This is an area that needs to be kept under review.

Actions:

- Invest NI to provide top up salary support to SMEs that are unable to pay market rates for engineers in key positions within companies that have the potential to contribute more to the economy. Key positions are those that require specialist technical skills to help the company develop new products/new markets and to increase their exporting levels;
- Northern Ireland companies should prepare for the potential risk of engineers being attracted to positions outside of Northern Ireland and develop plans for ensuring they have sufficient resources coming from Higher Education/Further Education to meet their needs;
- Companies should consider setting up scholarships, bursaries and summer placements to attract top talent from Higher Education/Further Education. The development of close working relationships between employers and Further Education and Higher Education institutions will allow the latter to promote the local opportunities to their students;
- Universities should provide companies seeking to employ graduates with information on graduate level salaries;
- Companies should use the market salary information for graduates to inform their pay strategies for these positions as it is important that companies seek to recruit the best talent for the local economy.

Apprenticeships

The survey and interview findings highlight a need for more apprentices to be trained in the skills and experience needed by companies. However SMEs in particular lack the time or resource to support apprenticeship programmes, therefore is a need to simplify these so they can be more easily understood/utilised by companies.

Actions:

- Larger companies should be encouraged to support SMEs in their supply chain and to take on apprenticeships;
- SMEs not involved in a supply chain with larger companies should be provided with more incentives to take on apprenticeships. The Department for Employment and Learning should consider providing support with apprenticeship costs.

Actions Needed to Upskill the Sector

The Working Futures Model shows that people in the professional, associate professional, skilled trades and managerial jobs with a large STEM content will be in highest demand across the sector. The supply of 10,526 individuals with STEM related qualifications is predominantly made up of those coming from Further Education Institutions (82.1%)[25]. The lower numbers of Higher Education qualifications is a concern; particularly for the annual demand for 394 director and managerial vacancies (including other managers and proprietors) projected by the Working Futures Model which is where demand is highest.

Managers are crucial to ensuring that the sector remains competitive and is up to date with new technologies/ developments. The response to remain competitive is to add more value to the product through, for example, producing customised products and adding on services and/or developing new products/technologies. ICT is playing a greater role in manufacturing as the sharing of information with customers and suppliers in the most efficient and secure way becomes essential. These changes will have an impact on the skill requirements of the local workforce as increasing global trade will put pressure on lower skill activities.

Invest NI through the Skills Growth programme and the Department for Employment and Learning through Customised Training and Management

25 See Section 9.4 of the main report g

Development programmes already have the support processes in place to provide funding to the sector. The RSM McClure Watters survey findings[26] show that there is a need to promote these interventions to the sector and to encourage further uptake and therefore investment in management development. The management programmes should include:

- Strategic Management;
- Cost Reduction/ Resource Efficiency;
- Project Management; and
- Business Development.

Given the opportunities through Horizon 2020, some managers may need development in putting together bids to the European Commission.

The RSM McClure Watters survey highlighted a number of immediate skills shortages within the sector, including CNC machining and welding. Work is underway with Northern Regional College (NRC) and South Eastern Regional College (SERC) to deliver a CNC academy, which will produce skilled resources within one year. If this joint industry/Further Education college approach is found to be effective in meeting identified needs, it is an approach which should also be taken to addressing the skills shortages in welding.

The Aerospace, Agri-Food, and Sustainable Energy sectors have identified specific skills issues and associated actions, which need to be implemented to deliver on strategic objectives[27]. The common requirement across all three sectors is that the training delivered should be employer/demand led and specific to each of the specialisms within each sector.

In terms of the skill requirements, there is a strong need for individuals with skills equivalent to levels four and five in science, technology and engineering qualifications[28]. The Aerospace Strategy states that the current skill levels of existing staff are below requirements and there is a major challenge in up-skilling a large percentage of the workforce. There is a need to increase the number of apprentices with higher levels skills to support this growth and higher skill levels are also required to support the Agri-Food and Sustainable Energy sectors.

Actions:

- The Department for Employment and Learning/Invest NI should increase awareness of their training supports to client companies in the advanced manufacturing and engineering services sector, highlighting the need to build capacity within both existing managers and those likely to take up management positions in the future;
- Management succession programmes should be encouraged within those companies with a cadre of junior managers. These programmes will require the identification of employees with the talent and ambition to be future leaders within the company. They should then be provided with the development needed to ensure possession of the required skills and competencies to manage and lead companies in the future;
- The Department for Employment and Learning/Invest NI should work with businesses/training providers to ensure the management training provided is tailored to the advanced manufacturing/engineering services sector. The training should develop future leaders with the ability to lead strategically and to ensure Northern Ireland companies develop a competitive edge. In addition, it should provide access to knowledge of business opportunities on a global scale;
- The Department for Employment and Learning/Invest NI should work with advanced manufacturing companies operating with low profit margins to provide access to strategic support that will help them identify value add opportunities which will allow the companies to grow profitably. This could be completed through the provision of international advanced manufacturing/ engineering mentors that working with local companies to help them develop strategically;
- The approach taken to CNC machining should be reviewed within a year and if it is has delivered on industry needs then this approach should be taken to dealing with shortages in skilled welders/design engineers;
- The skills actions set out in the strategies for Aerospace, Agri-Food and Sustainable Energy should be implemented. The delivery of these supports

26 See Section 6.4.4 of the main report (**table 6.7**)
27 See Section 5.6 of the main report
28 Research Study to Determine the Skills Required to Support Potential Economic Growth in the Northern Ireland Sustainable Energy Sector

should be business-led and employers should be incentivised to work with Further Education/Higher Education as required to deliver higher quality vocational learning;
- Larger employers should consider the opportunity to involve trainees from their SME supply chains in any training programmes they have established to provide apprenticeships, thereby reducing the time/cost to the SMEs.

Actions Needed to Retain Skills Within the Sector

The workforce in Science, Engineering and Technology occupations is ageing with 31% of skilled workers and 23% of associate professionals aged 50 or over (based on 2010 data)[29]. An older workforce could mean high replacement demand levels and therefore greater emphasis will need to be placed by employers on how they can attract new workers if they are to avoid skills shortages and/or how they retain an older workforce longer than might normally have been expected. The human resource policies and practices of companies with regard to training/development of new workers and flexible work patterns for existing workers will play a large role in attracting and retaining workers.

Action:

- Invest NI should provide advice and guidance to companies on how to retain talent through the development of relevant Human Resources policies and procedures.

Issues Specific to Small-Medium Enterprises (SMEs)

SMEs are much less likely to invest in training for their employees compared to medium-sized firms, with 38% of SMEs providing no training at all[30]. The main reason[31] cited by 66% of employers who had not provided any training in the previous 12 months was that there was no need, predominantly because their staff was "fully proficient". Other issues cited related to the expense of training, time issues and training supply issues (e.g. relating to the availability and quality of courses available locally).

Action:

- SMEs need external support to identify training needs within their companies. Given that a high proportion of SMEs do not feel they need training, it is important this assessment is carried out independently and by specialists who understand the sector.

Need for Sectoral Sub-Groups

Given the diverse nature of the advanced manufacturing and engineering sector there is a wide range of issues affecting each sub-sector.

Action:

- The Department for Employment and Learning should therefore consider establishing a range of sectoral sub groups to analyse and take forward specific work programmes unique to their sub sector. This will ensure tailored support can be developed to address specific issues facing each sub sector. From the analysis four potential sub-sectors could be considered: Aerospace/ Advanced Manufacturing; Energy & renewables; General Manufacturing; and Education.

Key Words:

Advanced Manufacturing and Engineering; Present and Future Skills; Supply and Demand Analysis; Action Plan

29 Working Futures Model 4 (Institute for Employment Research, University of Warwick)
30 See Section 4.12 of the main report (**table 4.2**)
31 Identified in NESS09 for not providing trainin

Zero Hour Contracts Literature Review

James Gordon, Analytical Services, Department for Employment and Learning

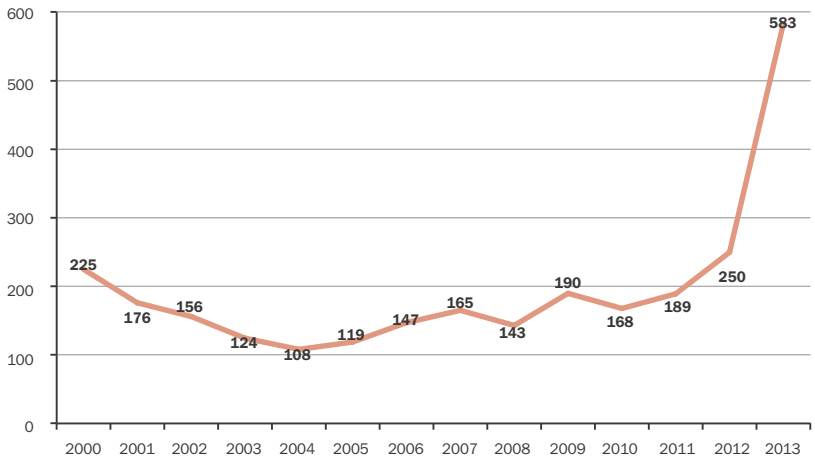
Background

This article presents key findings from the literature review that examined zero hour contracts and the impact they have on the United Kingdom economy as well as overseas.

A 'zero hours contract' is a type of employment contract under which an employer is not required to offer an employee any defined number of working hours and the employee is, in turn, neither guaranteed any set number of working hours nor obliged to take any offered. The individual therefore only receives pay for the working hours for which they are required; hours which may be subject to variation on a daily or weekly basis.

The available statistics on the numbers of people on zero-based contracts are quite limited. The Labour Force Survey (LFS), conducted by the Office for National Statistics, indicated that there were around 250,000 people on zero-hours contracts in the United Kingdom in the last quarter of 2012 (around 0.8% of the workforce), rising steadily since 2010[1]. This figure more than doubled in 2013 with 583,000 people being reported as being on zero hour contracts.

Figure 1: People in employment on a zero hour contract October to December, each year (thousands)



Source: ONS Labour Force Survey

However it is worth noting that there are methodological issues with the use of the Labour Force Survey to quantify these contracts, as the questions are not designed to elucidate an accurate response. As the Labour Force Survey is a self-reported household survey, the term 'zero-hours' contract is not well understood by individuals and many respondents will not know that they are employed under them.

Other recent research, conducted on behalf of the Chartered Institute of Personnel and Development, estimated that nearly one million United Kingdom workers are on zero

1 Office of National Statistics, zero hour contracts, April 2013

hours contracts.[2] The wide gap between the two United Kingdom-level sources suggests that there is much more to be learned about zero-hours contracts. It is in this context that the Department has committed to explore the number and nature of zero hour contracts that exist in Northern Ireland in further detail.

Literature review

Analytical Services conducted a desk based review which focused on a number of research papers on zero hour contracts. A summary of that review is provided below;
A 2013 report by The Work Foundation[3] examined zero hour contracts by using information from the household Labour Force Survey and the Workplace Employment Relations Survey (WERS), which is based on representative workplace surveys of both managers and employees. The research concluded that:

a) A significant share of zero hours contracts in the United Kingdom (43%) are filled by people in the top three occupational groups – managers, professionals and associate and technical staff;

b) 60% of care-workers were on zero hour contracts in 2011-2012 compared with about 50% in 2008-2009;

c) While just over 25% of people on zero hours contracts said they would like to work more hours, three quarters of zero hours contracts workers did not want more hours;

d) 75% of those on zero hours contracts say their hours vary each week, compared to 40% of employees not on zero hours contracts.

'The Resolution Foundation'[4] used the same methodology as that used by the Work Foundation but supplemented this with a tranche of interviews (conducted between April and June 2013) with individuals employed on zero hours contracts across a range of occupations and sectors.

The report found that:

a) Those employed on zero hours contracts receive lower gross-weekly pay (an average of £236 per week) than those who are not (an average of £482 per week);

b) Workplaces that utilise zero hours contracts have a higher proportion of staff on low pay (between the National Minimum Wage (NMW) of £6.19 per hour and £7.50 per hour) than those who do not;

c) those employed on zero hours contracts work fewer hours on average (21 hours per week) than those who are not (31 hours per work). The growing use of such contracts may therefore, the researchers suggest, be a contributory factor in rising rates of under-employment since 2008;

d) the prevalence of zero hours contracts is higher among young people than other age groups, with 37 per cent of those employed on such contracts aged between 16 and 24;

e) those employed on zero hours contracts are less likely to have a degree (21 per cent) than those who are not (31 per cent) and are more likely to have a GCSE as their highest level of education;

f) the employment of non-United Kingdom nationals is higher among workplaces utilising zero hours contracts (48 per cent) than those who do not (25 per cent);

g) an estimated 8 per cent of workplaces in the United Kingdom now use zero hours contracts. 20 per cent of those employed on zero hours contracts are to be found in health and social work, and 19 per cent in hospitality.

Perceptions of zero hour contracts

The report by 'The Resolution Foundation'[5] puts forward an argument that highlights the benefits of zero hour contracts. In it the authors note that increases in the number of people employed on low-pay zero hours contracts may partly explain the ability of the United Kingdom labour market in recent years to combine high employment levels with an unprecedented squeeze on real wages. If that is the case, it

2 CIPD Labour Market Outlook: Summer 2013
3 Flexibility or insecurity? Exploring the rise in zero hours contracts, Ian Brinkley, The Works Foundation, August 2013.
4 A Matter of Time, The rise of zero-hours contracts, Resolution Foundation, Matthew Pennycook, Giselle Cory, Vidhya Alakeson, June 2013
5 A Matter of Time, The rise of zero hours contracts, Resolution Foundation, Matthew Pennycook, Giselle Cory, Vidhya Alakeson, June 2013

could be argued that this flexibility may assist the United Kingdom in managing the longer term impacts of the economic downturn. The authors state that the availability of zero hour contracts has helped people stay in, or close to, the labour market when the alternative may have been periods of long term unemployment or inactivity.

As noted above research from the Chartered Institute of Personnel and Development[6] (CIPD) conducted in 2013, confirmed the Chartered Institute of Personnel and Development's previous estimates that around a million people are on zero hours contracts. In total, researchers spoke to 2,500 workers on both zero-hours and regular contracts. The report portrays a positive image of zero hour contracts, stating that zero hours contracts, which are widely used in fields including catering, leisure, retail and the public sector; help provide flexibility for both workers and employers.

This report found that United Kingdom workers on zero hours contracts are more likely to be happy with their work-life balance than other staff, while only 58% of United Kingdom employees said they were happy with their work-life balance, compared to 65% of those employed on zero hours contracts.

It is important to note that not all research portrays a positive image for zero hour contracts. This literature review also found research that looked at the disadvantages of zero hour contracts. Some of the negative issues are highlighted in a research paper published by 'The Scotland Institute'[7] in 2013, which reviewed trends in terms of youth employment and unemployment over the period 1992-2012.

The report showed that the nature of jobs available for young people have changed substantially over the last 20 years. In 1992 jobs were mostly full-time, permanent and paying what the authors considered was a 'decent' wage. By 2012, the researchers found that youth employment could now be characterised by a variety of temporary jobs, some zero hours, some casual and some fixed term. It highlights that the current state of the youth employment market is a cause for real concern, and this is bolstered via low levels of demand caused by the drop in real wages over the last 30 years.

Worldwide research on zero hour contracts/casual contracts

Our review of zero hour contracts also considered research beyond the United Kingdom. There are contracts which contain a number of similarities to zero hour contracts called 'casual contracts'. The proceeding analysis looks at the issue of both zero hour contracts and casual contracts on the labour market across a range of countries. When we examined the issue in Europe we found little research on the subject. However a key piece of European research[8] has shown that while zero hour contracts are most commonly used in the United Kingdom, they have also become part of a public debate in the Netherlands. In the Netherlands there are two types of on-call contracts that are used. On the one hand there are zero hour contracts similar to the ones in the United Kingdom and secondly so called min/max contracts that set minimum and maximum working hours albeit under highly flexible terms.

Data from the Dutch Office of Statistics (CBS) shows that, in 2012, there were 346,000 workers on on-call contracts, while up to 860,000 were working under contracts covering less than 12 hours of work per week. Similar to the United Kingdom many of these workers are concentrated in care services, where there are instances of workers coming in twice a day to work only a few hours during meal breaks.

The Federation of Dutch Trade Unions (FNV) published a report in 2012 that assessed the individual impact of zero hour contracts, stating that many people in this kind of employment don't know how many hours they will be working in the week ahead, they often feel desperate and exploited. The authors observed that this situation appears to be particularly hard for families

6 Zero hours contracts: myth and reality, Chartered Institute of Personnel and Development, Nov 2013
7 The Changing Face of Youth Unemployment and Employment in Scotland 1992-2012, Dr Roger Cook, The Scotland Institute, May 2013.
8 European Federation of Public Service Unions, 2014

with small children due to the unpredictability of working hours and pay.

A report by Eurofound[9] looked at the issues surrounding the use of 'Very atypical' contractual arrangements in Europe. This category encompasses the following contractual arrangements:

- 'very short' fixed-term work of less than six months (which may also include 'very short' temporary agency work);
- 'very short' part-time work of less than ten hours a week;
- non-contract work;
- zero hours or on-call work.

Evidence from the report show contrasting situations exists across Europe. Data on zero hours or on-call working tend to vary significantly between the countries. In ten countries examined, no data were available on this issue. In four countries – Belgium, Bulgaria, Lithuania and Luxembourg – zero hours working is not recognised by law and thus no data were available. For the countries where data was found, the incidence could be captured. The highest prevalence of zero hours working was found in the United Kingdom and Austria (about 5% of the workforce), followed by Estonia and the Czech Republic (around 2.6%), and finally Malta and Norway (approximately 1%). Some absolute figures were given for Denmark, the Netherlands and Sweden. In the latter country, one fifth of all temporary contracts are considered to consist of part-time or on-call work.

In Australia, evidence from the Australian Bureau of statistics[10], show that a fifth of the workforce are employed on 'Casual Contracts'. The statistics noted that the majority (62%) of employed people on casual contracts were employees with paid leave entitlements. Females were more likely than males not to have paid leave entitlements (23% compared with 16%). Over half (64%) of all employees in the Accommodation and food services industry did not have paid leave entitlements. Other industries where there was a high proportion of employees without paid leave entitlements included:

- Agriculture, forestry and fishing (48%);
- Retail trade (40%);
- Arts and recreation services (39%).

The report also focused on short term fixed contracts. In Spain, country where fixed-term contracts in general are frequently used, more than 9.1 million fixed-term contracts are less than six months in duration, while 2.4 million are between one and three months' long. In Hungary, only 5.9% of all employees work on fixed-term contracts – of these, however, a significant proportion are very short fixed-term contracts, with 62.2% being less than six months in duration and 42.3% lasting fewer than three months. On the other hand, in the Netherlands, while fixed-term contracts are widespread, only 2.3% of them are of less than six months in duration. In France, almost half (49.4%) of fixed-term contracts are less than six months' long, while a third (30.3%) last less than three months.

Conclusion

It is clear in the research that for some, zero hours contracts have come to symbolise a wider concern that the labour market is moving towards more contingent and less secure forms of employment, at a time when in many areas jobs are scarce and people have little choice over taking whatever work is available. On the other hand, some research identifies zero hour contracts as an important part of a flexible labour market and an important reason why unemployment has been lower and employment higher than might have been expected over the past five years given the severity of the downturn.

The evidence shown above indicates that the prevalence of zero hour contracts has increased in the United Kingdom over recent years. In terms of the United Kingdom analysis we can draw the following conclusions;

9 Flexible forms of work: 'very atypical' contractual arrangements, Eurofound, 2010
10 Australian Bureau of Statistics, Casual Employment, 2014.

Prevalence by sector and occupation

- Zero hours contracts are over-represented in the private sector;
- Larger companies are more likely to use zero hours contracts, while workplaces in the hotels and restaurants sector and the health sector were more likely to employ staff on zero hour contracts;
- The care sector seems to have a prevalence of zero hour contracts; some estimates suggest that as many as 60% of care-workers were on zero hours contracts in 2011-2012.

Impact on the individual

- Those employed on zero hours contracts tend to work fewer hours, on average (21 hours per week) than those who are not (31 hours per work);
- Those employed on zero hours contracts tend to receive lower gross-weekly pay, on average, (£236 per week) than those who are not (£482 per week);
- Only around one-quarter of people on zero hours contracts would like to work more hours.

There is a need for further research to understand better the exact number of zero hour contracts and where they are most prevalent. The Department of Finance & Personnel already carries out the Labour Force Survey in Northern Ireland, but the sample of those with zero hours contracts is statistically too small to provide reliable analysis.

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The Organisation for Economic Cooperation and Development (OECD) Skills Beyond School Initiative: Northern Ireland Background Report

Alan Ramsey, Analytical Services, Department for Employment and Learning

As part of its Research Agenda 2012-15 the Department for Employment and Learning participated in the Organisation for Economic Cooperation and Development (OECD) review of postsecondary vocational education and training (VET) – 'Skills beyond School' initiative. The review addressed a number of policy considerations on VET including those on funding and governance; supply and demand; quality; and access and equity. The study was funded by the United Kingdom Commission for Employment and Skills (UKCES). This article sets out the background to the review, its key findings and the actions being implemented to address challenges in VET.

Background

The Department for Employment and Learning (The Department) participated in the Organisation for Economic Cooperation and Development (OECD) review of postsecondary vocational education and training – '*Skills beyond School*' initiative. The project has been identified in the Department's Research Agenda 2012-2015 under the 'Improving the Quality and Relevance of Education' strand.[1] The review addresses a number of policy considerations around vocational education and training including those on funding and governance; supply and demand; quality; access and equity. It will provide further evidence to support the development of vocational education and training policy in Northern Ireland, against international best practice.

Around 20 other OECD countries are taking part in the review including England and Scotland. The Department has already established good links with the UKCES which is funding both the English and Scottish studies - so that we can maintain consistency in approach across the United Kingdom. The UKCES has also funded the Northern Ireland element of the study.

The publication of the Northern Ireland VET commentary report in January 2014 marks the culmination of a productive engagement with the internationally respected OECD.[2] The Department has increasingly developed a positive working relationship with the organisation via the Skills beyond Schools project, the International Survey of Adult Skills, and through a partnership agreement with the OECD's Local Economic and Employment Development (LEED) unit. This positive, outward looking engagement seeks to ensure that the Department has robust internationally-focussed evidence to inform policy development and service delivery.

As part of its participation in the OECD initiative, the Department also published in parallel a separate but related report, prepared by officials, setting out the background to VET in Northern Ireland.[3]

Based on its field trip to Northern Ireland (June 2013) which included a meeting with the Employment and Learning Minister, consultation with key VET stakeholders (employers, the further education sector, training providers, trainees, apprentices and the Education and Training Inspectorate) and a review of wider evidence / statistics, the OECD identified seven 'strengths' and seven 'challenges' for VET locally.

1. http://www.delni.gov.uk/research-agenda-2012-2015.pdf
2. http://www.oecd.org/edu/skills-beyond-school/ASkillsBeyondSchoolCommentaryOnNorthernIreland.pdf
3. http://www.delni.gov.uk/skills-beyond-school-background-report.pdf

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Strengths and Challenges for VET in Northern Ireland

It is encouraging that within an international setting the OECD has recognised many strengths within the vocational education and training system in Northern Ireland. The OECD report finds many positives associated with VET in Northern Ireland – our approach to quality, our lecturer development policy and our Further Education colleges' links with employers, for example. However, it also confirms what we already knew; challenges in a number of areas including qualification reform (although it should be noted that many of the issues in this area are cross-United Kingdom in dimension), progression pathways and in valuing further the vocational education and training route.

Strengths

a) "Substantial efforts have been made to sustain and develop employers' engagement with post-secondary VET. In particular, the six FE colleges aim to maintain a strong collaboration with regional employers."

b) "Successful mergers have led to an efficient regional structure of six further education colleges. This consolidation opens the possibility for stronger synergies and to take advantage of economies of scale."

c) "Foundation degrees are developed locally in partnership with employers. Proposals for new foundation degrees are expected to present evidence of involvement of employers in the design of the programme."

d) "A rigorous quality assurance scheme is in operation. A specialised quality and performance body undertakes monitoring visits to suppliers and participating employers."

e) "There is considerable attention to the development of the teaching workforce. There are specific efforts to both evaluate and respond to teacher training needs in the sector."

f) "Policy on VET is nested within a broader skills and economic development strategy. The local skills strategy establishes specific up-skilling goals for the workforce."

g) "Career and pastoral services are strong and allow students to have access to independent professional career advice."

Challenges - While the Department will consider the findings of the OECD report in detail, it published an initial response to the key challenges for VET,[4] which is set out below:

***OECD Challenge*:**

h) ***"Reflecting both international experience and local demand, the VET system needs to develop a substantial postsecondary segment above upper secondary level and below the level of a bachelor's degree."***

DEL Initial Response:

- The need to develop higher level competences in the workforce is established as a key strategic requirement to support growth and prosperity in Northern Ireland. Vocational education and training can help people realise their potential and will be a vital component in the mix of provision necessary to meet the future needs of the economy.

- Further education colleges are the main providers of postsecondary education below bachelor's degree level. Of the considerable budget available to the Further Education sector for provision up to and including Level 3, almost two-thirds (63%) is at Level 3.

- In addition, over 97% of FE provision leads to qualifications on regulated qualifications frameworks – primarily professional and technical qualifications on the Qualifications and Credit Framework (QCF), but also academic qualifications on the National Qualifications Framework (NQF).

4. http://www.delni.gov.uk/skills-beyond-school-initial-departmental-response.pdf

- Further Education colleges are also the sole providers of intermediate level (sub-degree) in Northern Ireland, and Further Education provision accounts for around 20% of all higher education enrolments in Northern Ireland.

- The Department's review of apprenticeships was published on 13 January 2014 and is currently being consulted upon. It proposes that in future apprenticeships should commence at professional and technical level 3 and above and support progression through a variety of pathways including higher level apprenticeships and to further and higher education.

***OECD Challenge*:**

i) ***"Reform of the apprenticeship system is necessary to enhance its level and broaden its range. The main challenge is to upgrade apprenticeships, while ensuring that structures remain in place to integrate young people at risk into the labour market."***

DEL Initial Response:

- The Department has commissioned a review of youth training to support the current review of apprenticeships to ensure that both apprenticeships and youth training support the growth and re-balancing of the Northern Ireland economy. The main aim of the youth training review is the development of a youth training offer of sufficient breadth and depth to enable young people to progress to an apprenticeship programme at level 3, to a level 3 further education programme, or into sustained employment.

- As an outworking of the review of apprenticeships, the Department is proposing to engage with employers, providers and potential participants to explore the actions required to build capacity of higher level apprenticeships across the Northern Ireland economy. Higher level apprenticeships respond to employers' higher-level skill needs, support business growth, meet the career aspirations of individuals and enhance opportunities for social mobility.

- The aim of higher level apprenticeships is to help provide a better educated and more highly skilled workforce that meets the needs of the economy. A mainstreamed higher level apprenticeship will provide a progression route to higher level skills (level 4, 5 and above) for those in work and those entering the workplace for the first time.

OECD Challenge:

j) ***"Outside apprenticeships, work-based learning is a limited element in programmes. Work-based learning, systematically integrated into vocational programmes as a mandatory, credit-bearing and quality assured component, is a key element in effective postsecondary provision."***

DEL Initial Response:

- The Department is also embarking on a review of Further Education Means Business, the current further education strategy for Northern Ireland. The OECD report is very timely, and the Review of Further Education will provide an opportunity to consider the issues raised by the report in the context of further education delivery in Northern Ireland.

OECD Challenge:

k) ***"Routes for further up-skilling vocational graduates, including avenues for apprentice graduates to progress to higher level technical and professional qualifications, need to be developed."***

- In line with the Department's review of apprenticeships, which proposes that an apprentice should commence at level 3 and include opportunities for entry between level 3 and level 8, with appropriate progression routes being developed.

OECD Challenge:

l) ***"The qualification system requires reform, in the face of proliferating qualifications and potential divergences between the approach of England and that of Northern Ireland."***

DEL Initial Response:

- Up until recently, the vocational qualifications used in Northern Ireland have been part of a UK-wide vocational qualifications system.
- While there has been some divergence recently Northern Ireland remains reliant on vocational qualifications that are on the Qualifications and Credit Framework (QCF) and which are regulated by Ofqual – the regulator for vocational qualifications in England.
- Adult vocational qualifications (in England) have been the subject of a recent review – led by Nigel Whitehead. While this is an England focused review, some of the recommendations have implications for Northern Ireland and the other Devolved Administrations.
- In addition, Ofqual is currently embarking on a review of the QCF.
- Northern Ireland will continue to be active participants in these reviews, to ensure that the interests of Northern Ireland are recognised, understood and taken into account and that they seek to address the issues raised by the OECD in this report.

OECD Challenge:

m) ***"Foundation degrees face a number of challenges if they are to become the predominant qualification in the mix of provision"***

DEL Initial Response:

- The Department has initiated a number of initiatives to address this challenge. The Department will continue to work with the higher education providers and other key stakeholders to review and improve the current structures. Enrolments on Foundation Degree courses are now in excess of 2,400 against a target of 2,500 by March 2015. Part-time Foundation Degree enrolments are up 150% over the last 4 years.

OECD Challenge:

n) ***"More robust data on labour market outcomes are needed, building on already planned measures designed to collect better data on vocational graduates, and encouraging institutions to make use of data for policy evaluation and development"***

DEL Initial Response:

- The Department uses data extensively to monitor and benchmark performance, and to enhance the quality of provision amongst its education and training providers.
- In terms of destinations of leavers from Further Education, a research pilot is underway to collect information on employment and other benefits of the Further Education experience six months after leaving. It is expected that this will become an annual survey similar to the one used in Higher Education. Also, current research into early leavers from Training for Success will allow an examination of why some people leave the programme before completing their training.

Conclusion

The OECD report is timely, in that it provides further evidence to underpin the proposals set out in the Review of Apprenticeships which was published for consultation in January 2014. Along with the views of consultees, the report will help to consolidate the Department's thinking, as we move forward in developing the proposals for a new revitalised apprenticeship model for Northern Ireland. Moreover, the OECD report will inform the Department's Review of Youth Training and its wider review of the Northern Ireland Further Education Strategy; Further Education Means Business.

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What Factors Contribute to Successful (Northern Ireland) Student Outcomes in Further Education? An Econometric Analysis

Alan Ramsey, Analytical Services, Department for Employment and Learning

The Department has developed an in-depth statistical model to examine the extent to which students in the Further Education (FE) sector complete their courses successfully. The model examines whether certain student characteristics are more likely to lead to successful outcomes. Using this model, the Department has published a research paper as part of its annual Performance Report (2013). This article sets out the background to the research, its methodology, and how the key findings are informing policy development.

Background

As part of its third annual quality and performance report (2012)[1] the Department committed to undertake research to investigate the observed variability in success rates across the Department's key programmes – beginning with the further education sector. The Department published a research paper called "*What Factors Contribute to Successful Student Outcomes in FE? An Econometric Analysis*"[2], as an annex to its fourth annual Performance Report (2013)[3], in December 2013. The objective of the research is to provide the Department and the FE sector with a quantitative insight into how a range of characteristics (e.g., gender, social background, college attended, level of study etc) impact on the chance of a student successfully gaining a (professional and technical) qualification through the FE sector.

Data and Methodology

The Department for Employment and Learning Analysts developed a statistical model (a logistic regression technique), with the assistance of academics from the University of Ulster, which enables a sophisticated analysis of the FE performance data. Specifically, it provides comparisons of college performance on a 'like for like' basis, that is, it isolates one factor (e.g., social background) and controls/adjusts for the potential influence of other factors such as; age, gender, employment status, subject studied, mode and level of study. Therefore it enables us to answer questions like;

- ***How does a student's gender affect their likelihood of success, after accounting for other potential influences (college attended, social background, level of study etc.)?***[4]

The analysis is based on the Further Education Leavers Survey (FELS) dataset for 2011/12, which provided information on professional and technical qualification outcomes in the FE sector – at individual enrolment level. The FELS data include final year enrolments on all accredited professional and technical FE courses, at all levels of study and on a full time and part time basis.

The variables included in the analysis are:

- Gender
- Age
- Adult dependents
- Child dependents
- Level of study
- Mode of study
- Ethnicity
- Marital status
- Disability
- Employment status
- Urban/rural domicile
- Social background
- Subject studied

1 http://www.delni.gov.uk/delivering_success_through_excellence_third_annual_report.pdf
2 http://www.delni.gov.uk/es/annex-2-what-factors-contribute-to-successful-student-outcomes-further-education-an-econometric-analysis.pdf
3 http://www.delni.gov.uk/es/del-performance-report-2013.docx
4 Success is defined as a function of retention and achievement i.e., retention*achievement.
[Retention is defined as the proportion of final year students who complete their course. The vast majority of FE enrolments are on courses of one-year or less.]
[Achievement - of those that complete their course, the proportion who achieve the qualification they were aiming for.]

It is important to note that for an individual final year enrolment to be included in the econometric analysis they must have a complete data profile against each variable i.e., a valid data entry for each variable being modelled. If an individual had a missing data entry for any of the variables included in the model, that enrolment was automatically removed from the analysis. As a consequence two variables were excluded from the analysis as they would have substantially reduced the sample size of the dataset used to estimate the model. The two variables are **'social class'** (98% non-response rate at sector level) and **'qualifications on entry'** (30% non-response rate at sector level). The Northern Ireland Multiple Deprivation Measure (NIMDM, 2010) score, which is based on super output areas, was used as a proxy to assess social background. In developing the model, the Department for Employment and Learning analysts have engaged with the FE sector to identify potential areas where the model could be strengthened going forward. For example, The Department is keen to work with the sector to improve data coverage around 'qualifications on entry', and to consider other measures of distance travelled to strengthen further the analysis.

A more detailed methodology is presented in the report, which is available on the Department's website (see footnote 2)

Key Findings

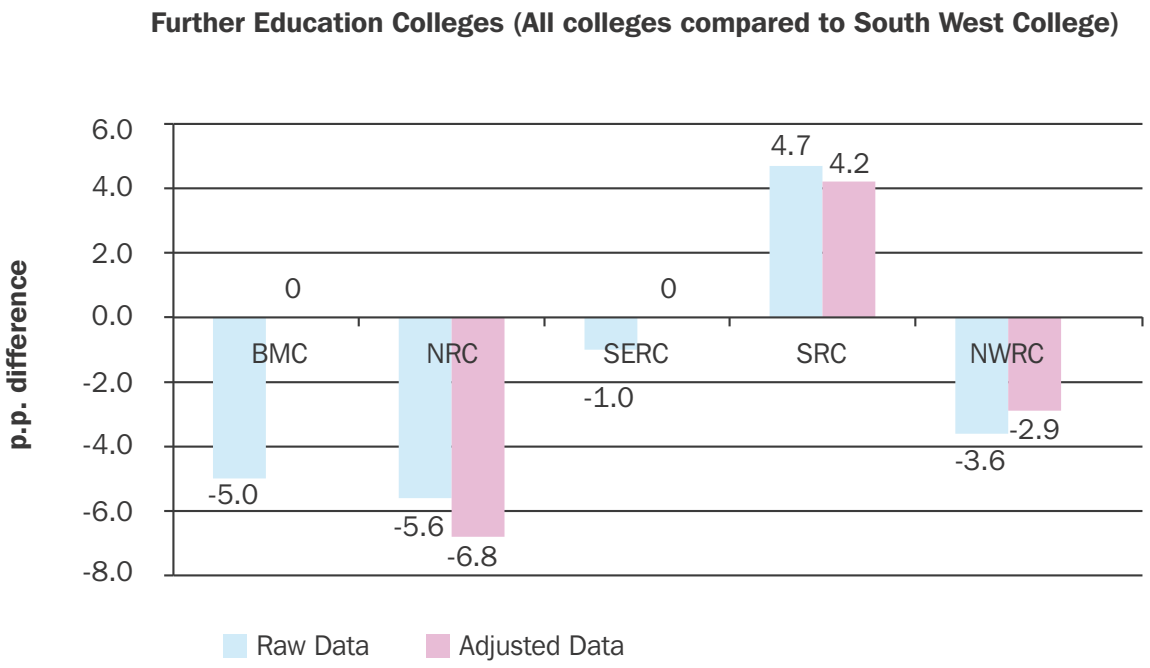
1. The model explains some of the gap in average Success Rates across Colleges – but not it all

The raw data represented by the blue bars in **Chart 1** demonstrates that there is variability in success outcomes across the FE sector by college, before any like for like adjustment is made through the logistic regression model. There is a 10.3 percentage point gap between the lowest performing college and the highest performing college, in terms of the rate at which students that had enrolled in those colleges remained on their course and achieved the intended qualification (the success rate). The chart shows that in terms of the raw data the Southern Regional College success rate is ranked first in the sector.

However, using the success rate figures alone to compare performance across the sector may be misleading. It may be, for instance, that some colleges would be expected to deliver better outcomes given the nature of the students that they are dealing with. For example, a college may draw a larger proportion of its students from more affluent backgrounds than other colleges. We know from other analysis that, typically, students from wealthier backgrounds are more likely to succeed. Likewise a college may specialise more in delivering provision in subject areas that typically have higher success rates. For example we know from other evidence that students studying health and care subject areas are more likely to gain a successful outcome (regardless of what college they go to) than those students studying science and mathematics subject areas. The question is; can all of the performance difference between colleges that we find in the raw data be explained by these issues? The logistic regression analysis outlined above allows us to gain an insight into that question by adjusting each college's performance so that it can be compared on a more like for like basis.

Chart 1 shows that even after adjusting for other characteristics (to ensure like for like comparison), some colleges still perform better than others (represented by the pink coloured bar). The modelling technique requires that a residual (reference) category is identified; in this instance South West College (SWC) is chosen. SWC is chosen as the reference point because it is a mid to high-performing college in the 2011/12 raw data, in terms of successful outcomes - although in reality any college could be used as the reference category. The pink bars in **Chart 1** show that applying the logistic regression technique to the final year enrolment raw data – to ensure a more like for like comparison – does explain much of the gap between college success rates. For example, the

Chart 1: Further Education Sector Success Outcomes (2011/12) – Raw Data v. Adjusted Data



BMC – Belfast Metropolitan College; NRC – Northern Regional College
SERC – South Eastern Regional College; SRC – Southern Regional College
NWRC – North West Regional College; SWC – South West College

results also show that following adjustment the gap in student success rates between Belfast Metropolitan College (BMC), SWC and South Eastern Regional College (SERC) is eliminated such that there is no (statistical) difference in the likelihood of observing a successful outcome between each of those colleges.

Overall **Chart 1** suggests that a final year enrolment's chance of gaining a successful outcome is affected somewhat by the college they attend although, in most cases, not as much as the raw data would suggest. In other words, even after accounting for subject studied, mode of study, student gender and age, employment status, social background, etc, a gap remains between the average success rates achieved by students across a number of colleges.

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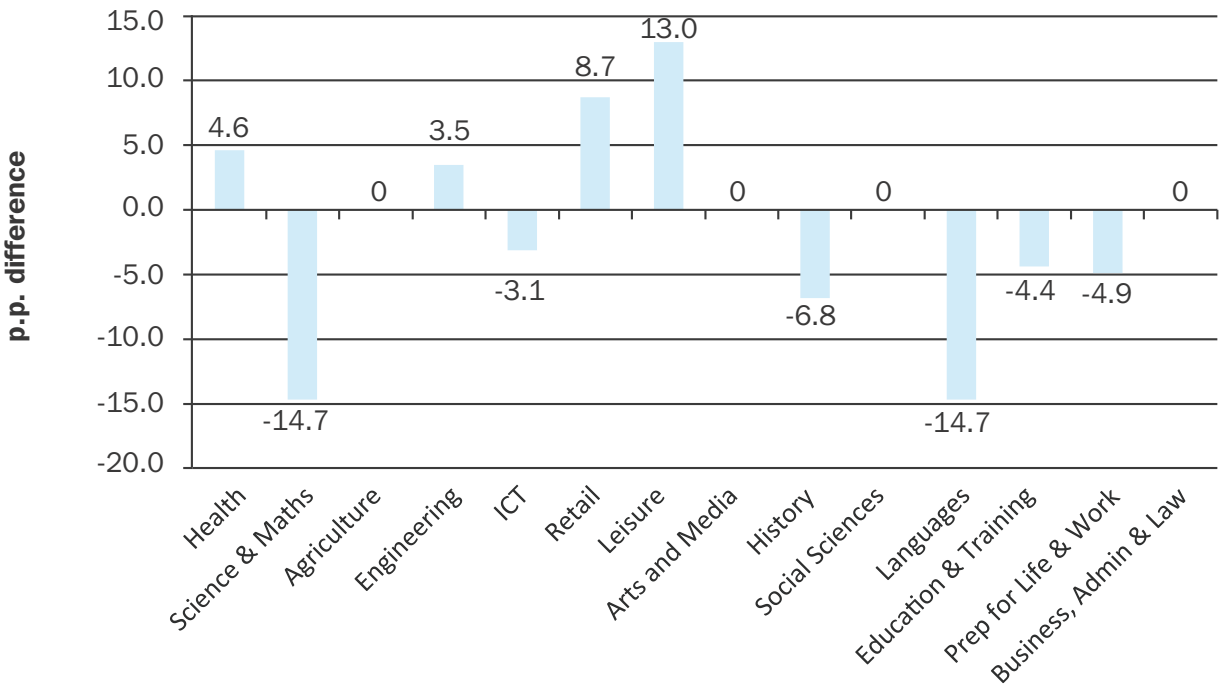
2. Subject studied matters for successful outcomes

Chart 2 illustrates the impact of subject studied on the likelihood of success, controlling for all other factors in the model.

Final year enrolments in Leisure, Travel and Tourism ('Leisure'), Retail and Commercial Enterprise ('*Retail*'), *Health, Public Services and Care ('Health') and Engineering and Manufacturing Technologies ('Engineering')* subjects are more likely to produce successful outcomes (+13.0pp, +8.7pp, +4.6pp and +3.5pp, respectively) compared to *Construction, Planning and the Built Environment* ('*Construction*') subjects, even after controlling for other measurable factors. On the other hand, final year enrolments in *Science and Mathematics ('Science')*, *Languages, Literature and Culture ('Languages')* and *Information and Communication Technology* ('*ICT*') subjects are significantly less likely to produce successful outcomes, compared to '*Construction*' subjects (-14.7pp, -14.7pp and -3.1pp, respectively). Subject areas identified with a '0' in **Chart 2** means that these subject areas are not (statistically) significant in the analysis. So, for example, the likelihood of observing a successful outcome for a final year enrolment in '*Social Sciences*' is no more (or less) likely than that of a final year enrolment in '*Construction*'.

Chart 2: Further Education Sector – Subject Area (Adjusted data)[5]



5 Compared to 'Construction Planning and the Built Environment'

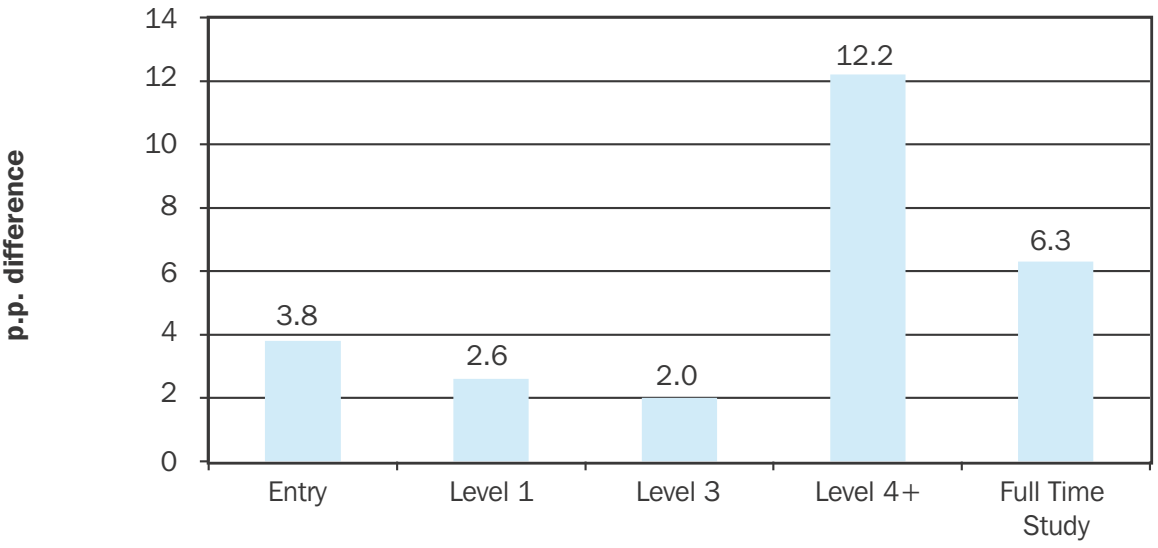
3. Level and Mode of Study

Chart 3 illustrates that level and mode of study (*i.e. full time v. part time*) are important factors behind successful outcomes, even after adjustment to allow more *like-for-like* comparison. Final year enrolments at *Entry* Level, *Level* 1, *Level 3* and *Level 4* are associated with a higher likelihood of success, compared to final year enrolments at *Level 2*. Final year enrolments at *Level 4* in particular are 12.2pp more likely to result in a successful outcome. Interestingly, *Entry* level final year enrolments are more likely to result in a successful outcome than *Level 3* final year enrolments.

While the duration of courses at entry level and level 1 is likely to be less than for courses at level 2 and above, the fact that these produce better success rates for 'like for like' students reflects well on the FE sector's potential to progress learners to higher level courses.

Full-time study is associated with an increased likelihood of success; some 6.3pp higher than the reference group – *part-time* study. Age, gender and disability were not (statistically) significant determinants of success outcomes in the FE sector in 2011/12.

Chart 3: Level[6] and mode[7] of study



6 Compared to Level 2
7 Compared to PT Study

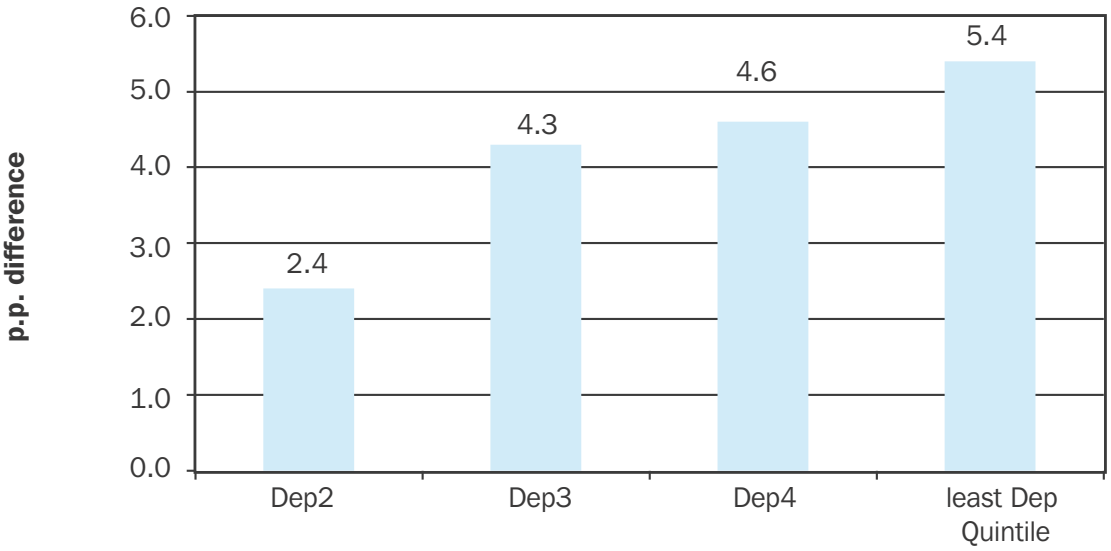
4. Social background

Based on the Northern Ireland Multiple Deprivation Measure (2010) final year enrolments are categorised - by home postcode - into deprivation quintiles [Dep1 – Dep5] such that Dep1 = most deprived areas and Dep5 = least deprived areas. On that basis, the analysis finds that the more affluent the area in which a final year enrolment lives, the better their chances of success, after controlling for other student and institutional characteristics.

Chart 4 illustrates the relationship between social background and success outcomes; the more affluent a final year enrolment's social background the more likely they will succeed. A final year enrolment from the *least deprived* area is 5.4pp more likely to succeed, compared to an otherwise similar final year enrolment from the *most deprived* area. This is by no means a surprising finding and is found in other areas of education and training.

However what is surprising, perhaps, is that the variability between the success rate achieved by students from the most affluent areas is only 5 percentage points greater than those students from the most deprived areas. While clearly there is room for further improvement, the access policies and pastoral care offered within the FE sector appear to be making an impact on keeping the gap between affluent and deprived student success rates at a relatively low level.

Chart 4: Social Background[8]



8 Compared to 'Most deprived' areas

5. Other characteristics affecting success

The econometric model predicts that a final year enrolment of '*white'* ethnicity is 2.4pp more likely to succeed, compared to an otherwise similar final year enrolment of '*non-white'* ethnicity, after adjusting for other factors. Similarly, final year enrolments of '*married'* and '*single'* marital status are more likely to succeed, compared to *divorced/widowed* final year enrolments.

The employment status of final year enrolments affects the likelihood of success. Compared to an otherwise similar final year enrolment who is unemployed, someone in employment is more likely to have a successful outcome – full time employment (+5.5pp), part time employment (+3.6pp).

Summary

The analysis finds that, even after adjusting for other characteristics (i.e., comparing colleges on a more like-for-like basis);

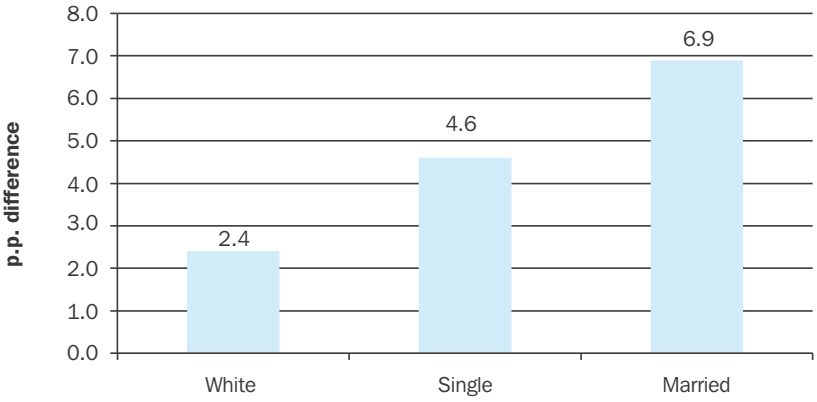
a) some colleges perform better than others, with Southern Regional College the strongest performer followed by South Eastern Regional College, South West College and Belfast Metropolitan College. (South West College is the base category);

b) '*subject studied*' matters for successful outcomes, with core Science, Technology, Engineering and Mathematics (STEM) subjects offering a significantly lower likelihood of success generally;

c) '*level*' and '*mode*' of study are important factors in explaining variance in successful outcomes in FE; and

d) the more affluent the area in which a student lives, the better their chances of success. This is by no means a surprising finding and is found in other areas of education and training

Chart 5: Ethnicity[9] and Marital Status[10]



The regression results are presented in full within the published report**,** which includes a detailed comparison between the FELS dataset (124,437 cases) and the reduced dataset (72,954 cases). The Department's response to the feedback already received from the FE sector and others is also presented within the research report.

Conclusion

It is intended that the analysis will assist colleges to: shape curriculum plans; identify and address weaknesses and "risk areas"; shape student support and pastoral care; and identify/learn from best practice across the sector. Further, the paper will contribute to the Department's evidence base, while sitting alongside and providing context (and focus) to other internal and external mechanisms in place to assess quality and performance, including the Department's Quality Improvement Branch and the Education and Training Inspectorate. The research findings are already being used to inform the annual College Development Planning process and to brief college Governors through the quarterly Health Check process.

The Department is committed to working with the FE sector to develop the analytical model, by strengthening the FE performance data, for example.

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9 Compared to 'non-white'
10 Compared to 'Divorced/Widowed

Higher Education Business and Community Interaction Survey 2014: Northern Ireland Summary

Orla Flanagan, Analytical Services, Department for Employment and Learning

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The annual Higher Education – Business and Community Interaction (HE-BCI) survey is carried out by the Higher Education Statistics Authority (HESA) in order to provide reliable and relevant information to support policy development and to inform funding decisions related to the Third Stream[1] activities of United Kingdom Higher Education Institutions.
The most recent United Kingdom Higher Education – Business and Community Interaction survey dataset was published in March 2014 and provided data on the continuing development of interaction between Business[2] and Higher Education Institutions (HEIs).

Background

This article presents some of the key findings of the latest Higher Education – Business and Community Interaction survey from a Northern Ireland perspective[3]; it draws on a Northern Ireland summary report published by the Department recently[4]. The Higher Education – Business and Community Interaction survey provides a wide range of data on the "Third Stream" (i.e. business and community facing) activities of all United Kingdom Higher Education Institutions which illustrate the wider contribution Higher Education Institutions make to the economy and society.
The survey is split into two sections; part A contains qualitative responses on the strategic aims of Higher Education Institutions and part B, the focus of this article, contains the more quantitative financial and numerical data on the performance of Higher Education Institutions in respect of their Third Stream funding activities.

Higher Education – Business and Community Interaction focuses exclusively on output data covering a range of activities, from the commercialisation of new knowledge, through the delivery of professional training, consultancy and services, to activities intended to have direct social benefits. It should be noted that this survey records the interactions between Northern Ireland Higher Education Institutions and businesses (small and large) located both within and outside the region – it is not possible to determine the share of these Northern Ireland interactions that are purely Northern Ireland based.

This article sets out the Northern Ireland position relative to the United Kingdom and should be read in context where the Northern Ireland economy represents **2.1%** of United Kingdom Gross Value Added (GVA)[5] and **2.0%** of Full Time Equivalent (FTE) academics in the United Kingdom.

The proceeding analysis covers a selection of results from the survey and where possible reflects change over time by comparing the findings of the 2012/13 survey against those of previous surveys, giving a span of eleven academic years from 2002/03 to 2012/13 across a range of key indicators.

Overview

In 2012/13, United Kingdom Higher Education Institutions received £3.6 billion (including Government funding) from business and community interaction, an increase of around 4% - in cash terms – since 2011/12. **In 2012/13 Northern Ireland Higher Education Institutions received £92 million from business and community interaction, which represents a 6% increase from 2011/12 income levels.** Over the longer term Northern Ireland Higher Education Institutions income from business and community interaction has more than doubled (+142%) since 2002/03.

1 Third Stream is used to describe HEIs activities in economic regeneration, regional engagement, relations with industry, intellectual property, the exploration of research outcomes and other matters related to the HEIs Business and Community function.
2 'Business' in this context refers to private, public and third-sector parties of all sizes, with which Higher Education Institutions interact in a broad range of ways.
3 All absolute figures for NI can be viewed in the latest HE-BCI survey which contains the full breakdown of survey results. This can be accessed at **www.hesa.ac.uk/.**
4 www.delni.gov.uk/he-bci-2014-ni-summary-report-final.pdf
5 GVA is a measure of economic activity, similar to but statistically distinct from GDP, that enables regional analysis.

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Income by partner

Figure 1: Northern Ireland Higher Education Institutions Total income by partner 2003/04 to 2012/13 (real terms)[6]

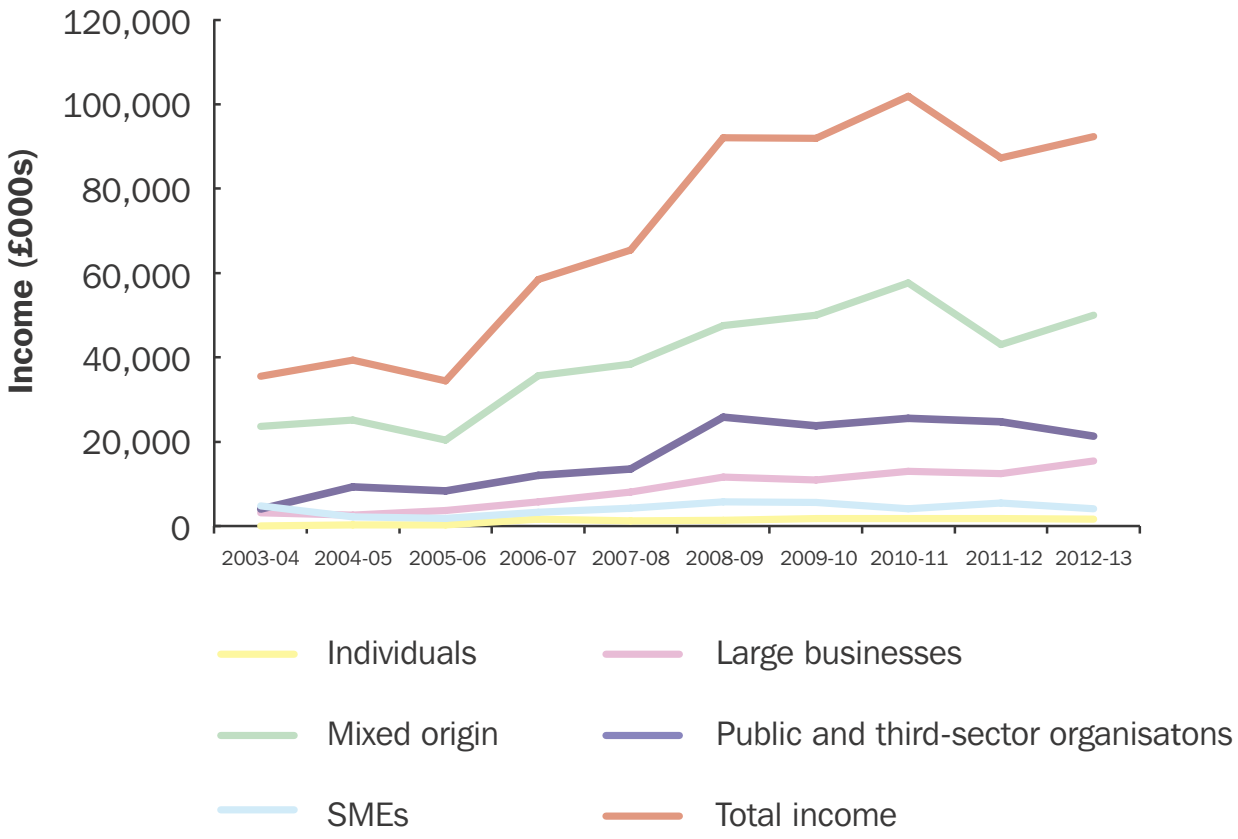

Figure 1 illustrates that spending by large businesses on interaction activities with Northern Ireland Higher Education Institutions increased by almost 25% from £12.4 million (in 2011/12) to £15.4 million (in 2012/13) while non-commercial partners in the public and third sectors, charities and social enterprises reduced their spending by 13.9% from £24.7 million to £21.3 million. There has also been a decrease of one-quarter (25.3%) in total spending by Small and Medium-Sized Enterprises (SMEs) on engagement with Northern Ireland Higher Education Institutions.

The Higher Education – Business and Community Interaction survey defines **collaborative research** as Research and Development undertaken collaboratively between a Higher Education Institution and an organisation/individual from business and community sectors. Higher Education – Business and Community Interaction data show that income from collaborative research in Northern Ireland fell by 15% from £35.4 million in 2011/12 to £30.1 million in 2012/13 (seen graphically in **Figure 2**). However, income from this source has increased by 9% since 2002/03. In relative terms, the performance of local Higher Education Interactions in gaining income from collaborative research remains strong, representing 3.2% of the United Kingdom total.

6 'Mixed origin' refers to income from activities such as collaborative research, regeneration and sale of spin-off shares where – for reasons of practicality and/or administrative burden – the source of income has not been requested by HESA.

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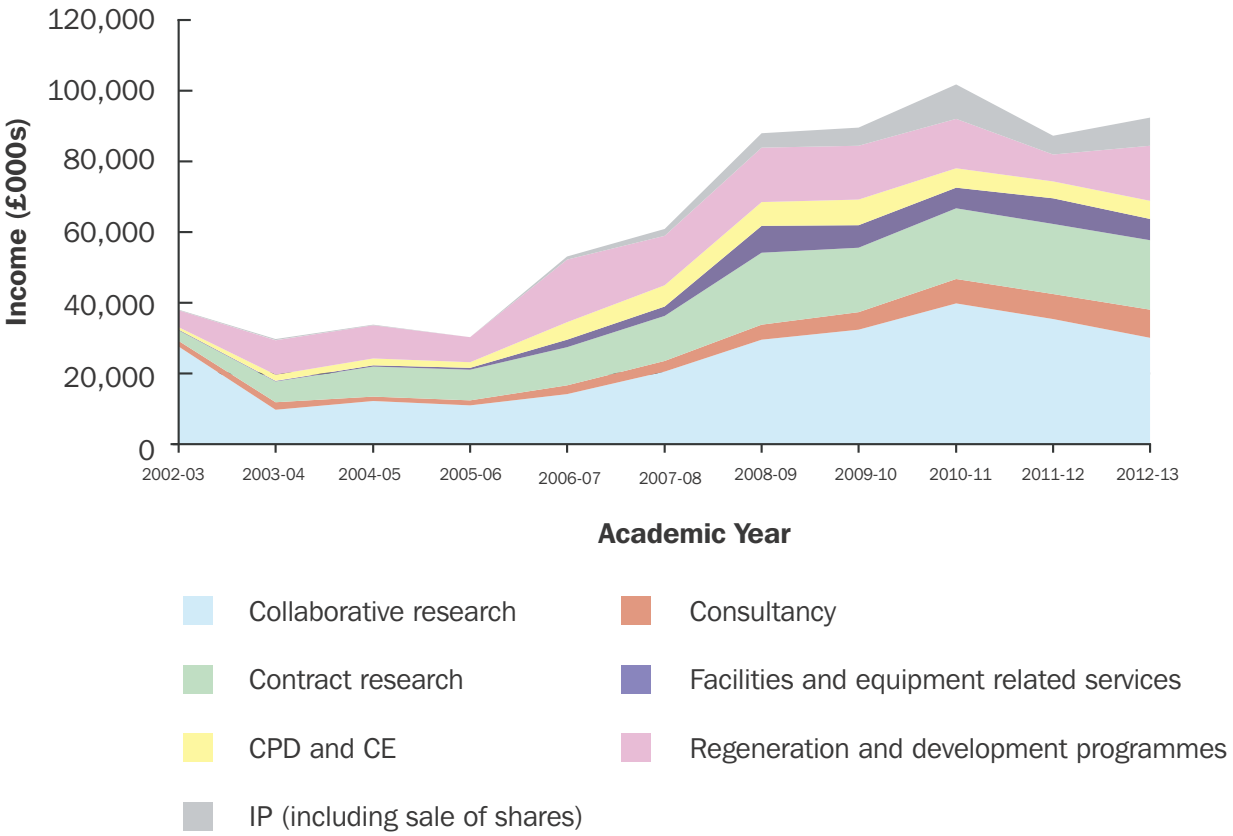
Research-based interactions

Figure 2: Selected Higher Education – Business and Community Interactions income streams 2002/03 to 2012/13 (real terms)



Contract research is when Government or commercial bodies arrange for specific research to be done, usually under a contractual agreement. The Higher Education – Business and Community Interaction shows that contract research income has remained broadly static over the last academic year. Income from this source has however increased fivefold since 2002/03. Contract research income of £19.7 million represented 1.7% of the United Kingdom total in 2012/13.

Consultancy contracts are a more direct form of knowledge exchange between Higher Education and the economy. Income from consultancy contracts grew by 12% to £8 million in 2012/13, up from £7.1 million in 2011/12. Income from this source has fourfold since 2002/03. Income from consultancy of £8 million in Northern Ireland represented 2% of the United Kingdom total in 2012/13.

Facilities and equipment related services relates to the use by an external party of physical academic resources of the Higher Education Interaction. Income from the use of facilities and equipment has declined over the last academic year by around 17%. This income has however increased exponentially over the longer term, growing from £174k in 2002/03 to £6 million in 2012/13. Income from facilities and equipment related services of £6 million represented a significant 4.3% of the United Kingdom total in 2012/13.

Continuing Professional Development (CPD) courses are defined as a range of short and long training programmes for learners already in work who are undertaking the course for up skilling, workforce development or professional development. Income from Continuing Professional Development activity has increased by around 2% from £4.9 million in 2011/12 to £5 million in 2012/13. Furthermore, Continuing Professional Development income has grown strongly (+574%), in real terms, since 2002/03. Income from Continuing Professional Development of £5 million in Northern Ireland represents a below average 0.8% of the United Kingdom total in 2012/13, suggesting there is further scope to leverage Continuing Professional Development income in overall United Kingdom terms.

Regeneration funding is an important way for Higher Education Institutions to invest intellectual assets in economic, physical and socially beneficial projects. Income from regeneration programmes has more than doubled, from £7.5 million in 2011/12 to £15.6 million in 2012/13. Over the longer term, income from this source has increased, growing by 225% over the period 2002/03 to 2012/13. Income from regeneration of £15.6 million now represents a sizable 9% of the United Kingdom total.

Intellectual Property (IP) is a vital indicator for the value added by the Higher Education Institutions when interacting with a range of external partners. Income from Intellectual Property (including sale of shares) increased by 48% between 2011/12 to 2012/13. Furthermore, income from this source has grown exponentially (+3812%) since 2002/03. Income from Intellectual Property (including sale of shares) of £8 million represented a substantial 9.3% of the United Kingdom total in 2012/13.

Commercialisation Activities

Spin-offs are companies set up to exploit Intellectual Property that has originated from within the Higher Education Institution. In 2012/13, the total number of spin-offs still active after three years in Northern Ireland was 45 – three fewer than the previous year. Over the longer term the number of spin-off companies still active after three years has increased by 45%. The 45 spin-offs represented 4.6% of the United Kingdom total in 2012/13.

Disclosures occur when research-active staff become aware of potentially exploitable research and work with others (often knowledge specialist staff) to develop those ideas. Disclosures have decreased by 33% to 62 in 2012/13, down from 93 in 2011/12.

The number of new **patent applications** have decreased by 7% (71 to 66) over the last year while the number of new **patents granted** have increased by 247% (30 to 104) over the same period. The cumulative patent portfolio of the Northern Ireland Higher Education sector increased by 28% to 551. The cumulative patent portfolio of 551 represented 3.2% of the United Kingdom total in 2012/13.

Conclusion

The latest Higher Education – Business and Community Interaction survey shows that United Kingdom universities have improved the contribution they make to the economy and society across a broad range of activities. These activities are to the most part responsive to business and public service needs ranging from the commercialisation of research, to the delivery of professional training and to activities intended to have direct social benefits. In 2012/13, United Kingdom Higher Education Interactions received £3.6 billion (including Government funding) from business and community interaction, an increase of around 4% - in cash terms – since 2011/12. **In 2012/13 Northern Ireland Higher Education Interactions received £92 million from business and community interaction, which represents a 6% increase from 2011/12 income levels.** It should also be

Table 1: Summary – Trends in Key Higher Education – Business and Community Interaction Indicators

Indicator	Recent change (since 2011-12)	Long-term trend (since 2002-03)	Northern Ireland as a percentage of the United Kingdom total[7]
Collaborative Research Income	-15%	9%	3.16%
Contract Research Income	0%	563%	1.69%
Consultancy	12%	430%	2.01%
Facilities & Equipment Related Services	-17%	3355%	4.25%
Education & Continuing Professional Development	2%	574%	0.77%
Regeneration	109%	225%	9.04%
Intellectual Property	48%	3812%	9.26%
Number of Spin-off Companies	-6%	45%	4.62%
Number of Disclosures	-33%	11%	1.44%
Patent Applications	-7%	50%	3.40%
Patents Granted	247%	5100%	10.89%

noted that Northern Ireland Higher Education Interaction income from business and community interaction has more than doubled (+142%) since 2002/03 (see **Figure 2**).

This article demonstrates that even during this difficult economic period, Northern Ireland universities are still punching above their weight in terms of Higher Education – Business and Community Interaction income when compared to their United Kingdom counterparts. Queen's University Belfast and University of Ulster's income from business and community interaction represents 2.6% of the United Kingdom total. This remains impressive in a context where Northern Ireland accounts for 2.1% of United Kingdom Gross Value Added and for 2.0% of Full Time Equivalent academics in the United Kingdom.

7 NI represents 2.1% of UK GVA
NI represents 2.0% of UK FTE Higher Education Academics

Evaluation of the Connected 2 Programme

Jenny Irwin & Rosalind Henry, RSM McClure Watters

The Department for Employment & Learning Higher Education Research Policy Branch delivers numerous programmes including "Connected Programme." This is an initiative funded by the Department and delivered by Queen's University Belfast, the University of Ulster and the six Further Education Colleges, to help businesses improve their performance by providing "one-stop-shop" access to a broad portfolio of knowledge and technology support services, taking them right through the whole process from problem definition through to solution identification and implementation.

This article presents details of a recent evaluation of the Programme by RSM McClure Watters.

Introduction

The current (second) round of the programme, entitled "Connected 2", commenced in April 2010 with a nominal budget of £4 million over four years (i.e. £1 million per annum).

The overall aim of the programme is to enable the Higher Education and Further Education sectors to identify and meet, in a coordinated and holistic fashion, the Knowledge Transfer needs of businesses in particular, and also of the wider community.

The three main areas of activity within the programme are:

- Enhancing the engagement of business and the wider community in Knowledge Transfer – Project Generation, Management and Development;
- Knowledge Transfer project delivery; and
- Internal Knowledge Transfer.

The key objectives are supplemented by a number of "Anticipated Outcomes":

- Universities and Further Education Colleges continue to develop together their Knowledge Transfer missions for the benefit of business and the wider community;
- A strengthening of the holistic approach between the universities and Further Education Colleges to address the needs of business and the wider community;
- Enhanced engagements between business and the wider community and Northern Ireland's research base, strengthening current partnerships and opening pathways to new collaborations;
- A contribution to Northern Ireland's research base supporting a two-way flow of knowledge and ideas between researchers, academics, public and private enterprises that will work towards ensuring a vibrant research base and wealth creation for Northern Ireland;
- Enhanced capacity of the Further Education sector, through effective links with the Higher Education sector, to provide timely and appropriate advice and support to Small and Medium Enterprises on the adoption of new technology and innovative business practices;
- Greater facilitation of Knowledge Transfer activities by providing business and the wider community with increased opportunities to meet and network with the Higher Education and Further Education sectors;
- Improved industrial performance through innovations and new collaborations by driving the flow of people, knowledge and experience across business and academia;

- The development of a broader range of sectoral initiatives seeking to address the future needs of business and the wider community and utilising the distinctive provision of the Connected partners;
- An enhanced provision of Connected services to the Social Economy sector by exploring new and innovative ways of embracing the socio-economic benefits of collaborating with this sector;
- The introduction of initiatives and development of networks and contacts aimed specifically at creating increased links to the Agri-Food and Biosciences Institute (AFBI) and the College of Agriculture, Food and Rural Enterprise (CAFRE);
- Greater awareness of Knowledge Transfer successes across internal and external stakeholders through increased marketing and promotional activity. The further development of enterprising and stimulating environments for Knowledge Transfer;
- The development of best practice in building Higher Education/Further Education collaboration;
- A reduction in the perceived barriers to Knowledge Transfer by Northern Ireland's Small and Medium Enterprise sector;
- An enhanced range of professional and working relationships between Higher Education and Further Education Knowledge Transfer staff resulting in increased learning and capability;
- Enhanced international linkages across Higher Education and Further Education and greater sharing of linkages and networks;
- An enhancement of the current monitoring and recording system to allow for better monitoring and reporting of progress against Connected targets.

The Wider Context of Knowledge Transfer

A number of key United Kingdom documents highlight the importance of knowledge transfer to the United Kingdom innovation ecosystem and economic prosperity. It is noted in the Sainsbury Review of Science and Innovation[1] that although research is of great importance to any innovation ecosystem, little is to be gained from research in universities, research institutes and Further Education Colleges if there are not strong links between the researchers and industry. This is why knowledge transfer, and incentives for it, is so important. The need for collaborative working to stimulate innovation, and thereby productivity and competitiveness is emphasised in Standing Together: Universities Helping Businesses through the Downturn[2].

In Northern Ireland, the Varney review[3] states that in 2008 the number of Knowledge Transfer Partnerships was higher than in many other United Kingdom regions. It suggests that high levels of economic support have contributed to the level of interaction between business and universities; however it acknowledges that there may be potential to do more to improve these relationships even further. Additionally, the Regional Innovation Strategy for Northern Ireland[4] highlights that Northern Ireland's businesses need to become more innovative and creative in order to compete in the global market and that there needs to be a championing and exploitation of innovation and Research & Development.

A number of priority sectors for the Northern Ireland economy were outlined by MATRIX (the Northern Ireland Science/Industry Panel):

- Advanced Engineering;
- Advanced Materials;
- Agri Food;
- Information Communication Technology; and
- Life and Health Sciences.

Connected has been acknowledged by MATRIX as playing a key role in linking the Higher Education and Further Education sectors with Small and Medium Enterprises. Indeed, Connected focuses on the five priority sectors for Northern Ireland as identified by MATRIX.

1. Sainsbury, *Review of Science and Innovation* (2007)
2. Universities UK, *Standing Together: Universities Helping Businesses Through the Downturn* (2008)
3. Sir David Varney for HM Treasury, *Review of the Competitiveness of Northern Ireland* (April 2008)
4. Department of Enterprise, Trade and Investment, Regional Innovation Strategy for Northern Ireland Action Plan (2008 – 2011) (2008)

Furthermore, a number of European Union strategic and policy documents also emphasise the importance of knowledge and innovation and its links to industry. One of the three core principles of the Europe 2020 strategy[5] is Smart Growth; to develop an economy based on knowledge and innovation. It is stated that these are the drivers of future growth and so there is a need to ensure that innovative ideas are turned into new products and services. The Europe 2020 flagship initiative Innovation Union also highlights the need for cooperation between business and education institutions. It states that cooperation between the world of science and the world of business must be enhanced, obstacles removed and incentives put in place. The importance of research and innovation is the underpinning thesis of Horizon 2020. One of the three main strands of activity under this programme is Competitive Industries that aims to help innovative Small and Medium Enterprises grow into world leading companies.

Conclusions

The effectiveness of the "Connected 2" programme in addressing its stated aim and objectives

Effectiveness of the programme in relation to its aim and objectives have been assessed from Progress Reports and feedback from consultees (including survey respondents). **Table 1: Effectiveness of the Programme in meeting its aim and objectives** displays this information below.

Table 1: Effectiveness of the Programme in meeting its aim and objectives

Aim/Objectives	Evidence
Aim: to enable the Higher Education and Further Education sectors to identify and meet, in a coordinated and holistic fashion, the Knowledge Transfer needs of businesses in particular, and also of the wider community	In terms of the extent to which the programme has met its objectives and outcomes below – the Progress Reports and feedback from consultees/survey respondents provides clear evidence that the programme is meeting its aim.
Objective 1: Enhancing the engagement of business and the wider community in Knowledge Transfer – Project Generation, Management and Development	Of the 12 targets per annum, most have been met or exceeded each year: • In Year 1, 7 were met/exceeded, 4 were close to target and 1 was not met. • In Year 2, 10 were met/exceeded and 2 were close to target; • In Year 3, 10 were met/exceeded and 1 was close to target and 1 was not met; and • In Year 4 Quarter 1, 4 were met/exceeded, 7 were close to target and 1 was not met. By Year 4 Quarter 1 six of the twelve targets under Objective 1 had been met or exceeded. Considering a key target of particular interest to Department for Employment & Learning: • Development of Clusters – the full four year target of 4 has already been met.

5. European Commission, *Europe 2020 Strategy: A Strategy for Smart, Sustainable, and Inclusive Growth* (2010)

Table 1: *Continued*

Aim/Objectives	Evidence
Objective 2: Knowledge Transfer project delivery	Of the 15 targets per annum most have been met or exceeded each year: • In Year 1, 10 were met/exceeded, 2 were close to target and 3 were not met; • In Year 2, 12 were met/exceeded, 1 was close to target and 2 were not met; • In Year 3, 10 were met/exceeded and 5 were not met; • In Year 4 Quarter 1, 5 were met/exceeded, 2 were close to being met and 8 were not met. By Year 4 Quarter 1 12 of the 15 targets under Objective 2 had been met or exceeded. Considering three key targets of particular interest to Department for Employment & Learning: • Sector Specific Projects – the targets in each year have been exceeded and there are 50 unique Sector Specific Projects against an overall four year target of 30; • Total number of projects – the full four year target has already been exceeded by more than a factor of 2 (541 vs 267); • Total value of projects (i.e. income/fees paid to Higher Education/Further Education) – the full four year target has already been exceeded by more than a factor of 1.5 (£1.2m vs £0.8m).
Objective 3: Internal Knowledge Transfer	Of the 4 targets per annum most have been met or exceeded each year: • In Year 1, all 4 were met/exceeded; • In Year 2, 2 were met/exceeded, 1 was close to target and 1 was not met; • In Year 3, 2 were met/exceeded, 1 was close to target and 1 was not met; and • In Year 4 Quarter 1, 3 were met/exceeded and 1 was not met. • By Year 4 Quarter 1, three of the four targets under Objective 3 had been met or exceeded.

Source: RSM McClure Watters December 2013

The extent to which each of the anticipated outcomes has been achieved, or is likely to be achieved by the end of the programme (March 2014).

Table 2: Effectiveness of the Programme in meeting anticipated outcomes, provides an assessment of the extent to which each of the anticipated outcomes has been achieved, or is likely to be achieved by the programmes closure (March 2014).

Table 2: Effectiveness of the Programme in meeting anticipated outcomes

Anticipated Programme Outcomes	Evidence
1. Universities and Further Education Colleges continue to develop together their Knowledge Transfer missions for the benefit of business and the wider community.	The synergy between the universities Knowledge Transfer Strategies (as required under Northern Ireland Higher Education Innovation Fund) and the Connected 2 Programme is clear.
2. A strengthening of the holistic approach between the universities and Further Education Colleges to address the needs of business and the wider community.	The ethos of the Connected 2 programme is collaborative working to address identified business needs. The scale of activity under Connected 2 and the number of targets that are met or exceeded to date provide evidence that Connected 2 strengthens this holistic approach.
3. Enhanced engagements between business and the wider community and Northern Ireland's research base, strengthening current partnerships and opening pathways to new collaborations.	The number of completed projects (541 to date against a four year target of 267) indicates the extent of engagement between business and the wider community and Northern Ireland's research base. These include completed projects with current clients (249), with new clients (229), with re-engaged clients (14), and with current/previous Connected 1 clients in new business areas (49). Furthermore, the high levels of satisfaction recorded by participating companies and Further Education/Higher Education staff provide evidence of the positive way in which these relationships are viewed. From the Further Education/Higher Education staff survey, there is evidence that between 50% and 60% of staff had not previously been involved in the Connected 1 pilot programme – again demonstrating the new collaborations that have been developed under Connected 2.

Table 2: *Continued*

Anticipated Programme Outcomes	Evidence
4. A contribution to Northern Ireland's research base supporting a two-way flow of knowledge and ideas between researchers, academics, public and private enterprises that will work towards ensuring a vibrant research base and wealth creation for Northern Ireland.	See 1–3 above
5. Enhanced capacity of the Further Education sector, through effective links with the Higher Education sector, to provide timely and appropriate advice and support to Small and Medium Enterprises on the adoption of new technology and innovative business practices.	Under Objective 3, the Programme has sought to develop Internal Knowledge Transfer. By the end of Year 4 Quarter 1, 3 of the 4 targets in this area had been met or exceeded – relating to training and development engagements, staff exchange visits and international visits. Feedback from the Further Education/Higher Education staff survey shows that the most common form of activity under this strand was staff training and development (tailored training programmes) followed by company visits and provision of technology awareness/discipline specific training to Further Education staff. The aspects of Further Education/Higher Education internal transfer that respondents stated worked best was building relationships, the sharing of knowledge and good practice, and cooperation and collaboration (12 respondents).
6. Greater facilitation of Knowledge Transfer activities by providing business and the wider community with increased opportunities to meet and network with the Higher Education and Further Education sectors.	A range of activities were planned and developed under Objective 1 of the programme: Project Generation, Management and Development. Some of these seek to provide increased opportunities to meet and network with the Higher Education and Further Education sectors and include: stakeholder meetings, newsletters, events, editorial and press articles, and case studies.

Table 2: *Continued*

Anticipated Programme Outcomes	Evidence
7. Improved industrial performance through innovations and new collaborations by driving the flow of people, knowledge and experience across business and academia.	The Connected 2 programme has delivered a wide range of outputs and impacts for participating companies through a range of initiatives that it has supported including individual projects with companies as well as broader initiatives such as Sector Specific Projects.
8. The development of a broader range of sectoral initiatives seeking to address the future needs of business and the wider community and utilising the distinctive provision of the Connected partners.	Sector Specific Projects are potentially long-term, strategically focused projects. A strength of the Sector Specific Project model is that, while strategically focused, such projects can also respond to one-off, quick turnaround enquiries and embrace initiatives such as Invest Northern Ireland Innovation Vouchers and Knowledge Transfer Partnerships. The Sector Specific Project model demonstrates the effectiveness of the catalytic nature of Higher Education/Further Education collaboration. These Sector Specific Projects developed naturally from the increase in Higher Education/Further Education collaborative activities i.e. staff exchange visits, internal Knowledge Transfer activities, Knowledge Transfer team meetings in the pilot Connected programme. This model of collaboration was brought to the next stage of development in Connected 2. Sector Specific Projects have been a success in Connected 2 with the overall four year target of 30 being exceeded substantially by 20 to date. These cover a wide range of sectors and partners.
9. An enhanced provision of Connected services to the Social Economy sector by exploring new and innovative ways of embracing the socio-economic benefits of collaborating with this sector.	Connected 2 has provided services to the social economy sector – this is evident in that: • 16 of the 469 completed projects to date (around 3%) involved the social economy sector; and • 3 of the 50 Sector Specific Projects to date involve the social economy sector.

Table 2: *Continued*

Anticipated Programme Outcomes	Evidence
10. The introduction of initiatives and development of networks and contacts aimed specifically at creating increased links to the Agri-Food and Biosciences Institute and the College of Agriculture, Food and Rural Enterprise.	There have been a number of engagements with Agri-Food and Biosciences Institute and College of Agriculture, Food and Rural Enterprise including meetings, collaborative workshops and a number of Sector Specific Projects in which Agriculture, Food and Rural Enterprise and/or College of Agriculture, Food and Rural Enterprise are involved. However, in the absence of dedicated funding from Department of Agriculture and Rural Development for project staff in Agriculture, Food and Rural Enterprise or College of Agriculture, Food and Rural Enterprise to lead on building collaborative working with Further Education/Higher Education through Connected, the contacts/engagement have tended to be ad hoc rather than strategic.
11. Greater awareness of Knowledge Transfer successes across internal and external stakeholders through increased marketing and promotional activity. The further development of enterprising and stimulating environments for Knowledge Transfer.	A range of activities were planned and developed under Objective 1 of the programme: Project Generation, Management and Development. Some of these seek to raise awareness of Knowledge Transfer successes (e.g.: stakeholder meetings, newsletters, events, editorial and press articles, and case studies). However, a key issue raised in consultation with external stakeholders was a lack of awareness of "Connected" as a brand, though there was familiarity with the types of activity it delivered.
12. The development of best practice in building Higher Education/Further Education collaboration.	Under Objective 3, the Programme has sought to develop Internal Knowledge Transfer. By the end of Year 4 Quarter 1, 3 of the 4 targets in this area had been met or exceeded – relating to training and development engagements, staff exchange visits and international visits. Under Objective 3 of the Programme, there have also been internal Higher Education/Further Education events. These included events such as meetings between project partners and Invest Northern Ireland which provided the opportunity for institutions to showcase their expertise, develop contacts and receive guidance on potential opportunities for serving individual businesses, as well as business more widely.

Table 2: *Continued*

Anticipated Programme Outcomes	Evidence
13. A reduction in the perceived barriers to Knowledge Transfer by Northern Ireland's Small and Medium Enterprise sector.	Feedback from the company survey suggests that there are still barriers (either real or perceived) to Knowledge Transfer within the Small and Medium Enterprise sector. The most critical barrier to companies engaging with Higher Education/Further Education institutes was lack of awareness of the opportunities available (75% respondents found this significant or very significant). Lack of awareness of Higher Education/Further Education partners and lack of time and resources to pursue collaborations were also considered as significant or very significant barriers (by more than half of respondents). The Further Education – Higher Education staff survey also indicated that limited awareness amongst Small and Medium Enterprise's and Micro-Businesses that universities can offer problem solving expertise and industry support was a barrier (37.7% of 53 respondents). Whilst these perceptions prevail, it is clear that Connected 2 has had a positive impact on addressing the barriers given the level of engagement in Knowledge Transfer by Small and Medium Enterprises. For example the number of projects completed to date (with 9 months of the project left to run) is 541 against a 4-year target of 267.
14. An enhanced range of professional and working relationships between Higher Education and Further Education Knowledge Transfer staff resulting in increased learning and capability.	The scale of activity being delivered through Connected 2 (including project generation, project delivery, Sector Specific Projects and internal knowledge transfer) provides many opportunities for Higher Education and Further Education staff to develop and build professional working relationships. The three most common outputs (with at least 94% of Further Education/Higher Education staff citing these) relate to longer term benefits: • Enhanced networks and relationships; • Opportunity for participation in rewarding & on-going collaboration with innovative businesses; and • Development of staff expertise – income generation/ technical skills. The first and last of these provide evidence that this outcome is being met. The aspects of Further Education/Higher Education internal transfer that respondents stated worked best were building relationships, the sharing of knowledge and good practice, and cooperation and collaboration. The most common aspects respondents highlighted that did not work as well was the need for closer cooperation, better communication/identification of contacts and having more time to develop links/Knowledge Transfer.

Table 2: *Continued*

Anticipated Programme Outcomes	Evidence
15. Enhanced international linkages across Higher Education and Further Education and greater sharing of linkages and networks.	Under Objective 1, a target was set in relation to International Innovation Recce Visits (4) and to date 3 have been completed (with 9 months of Connected 2 still to run). Under Objective 3, a further complementary target was set in relation to International Visits (target to Year 4 Quarter 1 was 34 and that has already been exceeded by 4). These involved very targeted visits from the partner institutions involved in Connected to establish new relationships and strengthen existing links with other, specific international institutions with the aim of developing future strategic projects and transferring any knowledge gained to other Connected partners.
16. An enhancement of the current monitoring and recording system to allow for better monitoring and reporting of progress against Connected targets.	The implementation of a new Customer Relationship Management system was a key target for Connected 2. This has been met.

Source: RSM McClure Watters December 2013

The justification for and benefits of the programme in terms of the need which it was intended to address

The justification for the Connected 2 programme arose from evidence of need as follows:

- The success of the pilot Connected programme;
- The United Kingdom and Northern Ireland strategic contexts in relation to the need for increased research, innovation and Knowledge Transfer and the important link between innovation and economic competitiveness;
- The relatively low levels of innovation in Northern Ireland (particularly the marked reduction in "innovation active" companies: from 38% (2006-08) to 27% (2008-10);
- The crucial role that Knowledge Transfer plays in relation to innovation and hence the role for Universities and Further Education Colleges (in the transfer of knowledge);
- The fit with Universities' Knowledge Transfer Strategies and Colleges' increasing focus on engaging with business;
- The support for the initiative from Further Education, Higher Education and businesses;
- The importance of "joined up" Knowledge Transfer from the Higher Education/Further Education sectors to business in particular;
- The anticipated benefits of Knowledge Transfer including its contribution to an innovative and knowledge-based economy; and
- The recognition of key barriers to innovation in Northern Ireland including financial and market barriers.
    - Includes the direct cost of innovation and availability of finance.
    - Also, due to established companies already operating in the market, there is less motivation for Small and Medium Enterprises to pursue Research & Development while uncertainty over demand for innovative goods or services is also detrimental.

The net additionality of the programme through determining the base case of what would have happened to university/Further Education College liaison with business and the community in the absence of the programme, generating estimates of deadweight

Additionality, displacement and deadweight have been assessed from the surveys of companies participating in Connected 2. **Table 3: Additionality of the Programme** below shows the full and partial additionality of the programme for these companies.

Table 3: Additionality of the Programme

	Company Survey
Full Additionality[6]	35% (14 probably, 4 definitely) would not have gone ahead with project.
Partial Additionality[7]	50% (n=26) would have gone ahead (longer timescales and/or smaller scale).
Deadweight[8]	14% (n=7) would have gone ahead with the project with the same result.
Displacement[9]	The companies who indicated partial addtionality provided some further explanation of other supports that they might have accessed. However the work completed would have been of a lesser scale and/or over a longer timescale; in addition it is not clear to what extent collaboration might have featured.

Source: RSM McClure Watters November 2013

6. Full additionality - benefits are wholly attributable to the programme, i.e. deadweight and displacement are zero
7. Partial additionality - activity would have been carried out earlier, or on a larger scale or to a higher specification or has displaced existing activity.
8. Deadweight - activity that would have occurred regardless of the policy
9. Displacement of activity within a local area (taking market share from other local firms producing the same or similar goods or services)

This represents an improvement compared to the evaluation of the pilot Connected 1 programme for which, the level of full additionality was 22.2%, partial additionality was 22.2% and deadweight was 56%. It suggests that the Connected 2 programme has been more effective at targeting support to focus on those companies which are unaware of, or who have previously not engaged with, the Higher Education/Further Education sector. This direction of travel is a very positive feature of Connected 2 and should be continued.

The wider "spill-over" benefits of the funding, including additional Knowledge Transfer projects and other collaborations

A summary of the Connected Programme's performance against targets provides a wide range of information on what the programme has achieved. This includes 541 completed projects, 50 Sector Specific Projects and income generated by Higher Education/Further Education of around £1.26m all after just three and a quarter years of the four year programme. A range of direct outputs and impacts delivered by the programme are discussed in Section 2.3.10. Apart from these:

- Companies also reported other benefits as a result of engagement with Connected 2: the most frequently reported were increased industry knowledge (n=8) and stronger links with Further Education College/university (n=7); and
- Higher Education/Further Education staff reported benefits that were not anticipated including: marketing opportunities and training and access to equipment.

A detailed consideration of the strategic context in which the programme is operating including its contribution to the local, national and European Union policies

There is evidence of a good fit between the programme and Northern Ireland, United Kingdom and European contexts both at the time the programme was launched and also looking ahead.

At the time that the programme was launched, there was a clear emphasis on the importance of Knowledge Transfer to the United Kingdom innovation ecosystem and economic prosperity (as stated previously under the heading - **The Wider Context of Knowledge Transfer**).

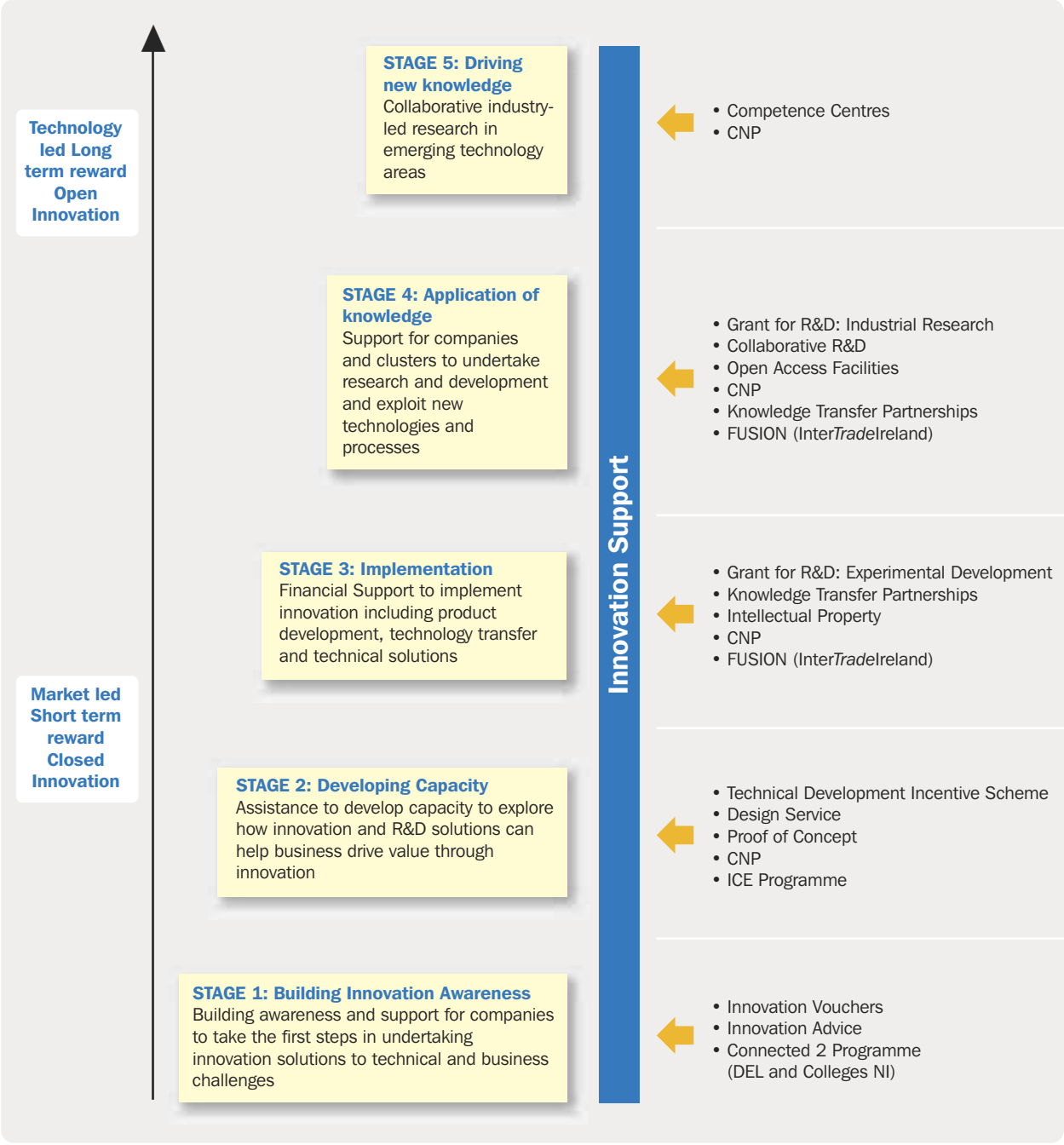
Looking ahead, there is also a good potential fit between a further (third) round of Connected going forwards and the broader European Union, United Kingdom and Northern Ireland contexts. There is a strong emphasis on the importance of knowledge and innovation and its links to industry. One of the three core principles of the Europe 2020 strategy is Smart Growth; to develop an economy based on knowledge and innovation. This is supported by the Witty Review (2013) which indicates that universities can support growth by working with organisations responsible for setting strategies to drive economic growth (such as the Local Enterprise Partnerships in England). At a Northern Ireland level, the Northern Ireland Economic Strategy (2012) emphasises the concept of stimulating Innovation, Research & Development and Creativity through Knowledge Transfer activity; and the Innovation Strategy for Northern Ireland 2013-2025 (Draft for Consultation, September 2013) highlights a need for more companies across all sectors to be engaged in innovation.

The logical and operational fit of the programme within the wider context of Department for Employment & Learning's research and Knowledge Transfer funding portfolio and also that of Department of Enterprise, Trade & Investment//Invest Northern Ireland

There are a wide range of interventions supporting research and knowledge transfer and these are located at different stages of the "innovation escalator". The "niche" for Connected is at the "entry" level – acting very much as a catalyst and introducing companies to the notion of innovation. Looking ahead, however, there is scope for

Connected to consider a role in pushing those companies that are already on the innovation escalator on to the next level. This is detailed in **Figure 1** below:

Figure 1: Innovation Escalator



Source: Invest NI

16

The effectiveness of the programme in advancing the universities' and Further Education colleges' Knowledge Transfer strategies

Both Queen's University Belfast and University of Ulster are required to produce a Knowledge Transfer Strategy as a condition of Northern Ireland Higher Education Innovation Fund funding. Knowledge Transfer Strategies were produced under Northern Ireland Higher Innovation Fund 3 to cover the period from Academic Year 2010/11 to Academic Year 2012/13, reflecting the context around the time Connected 2 was launched. Department for Employment & Learning has recently approved Knowledge Transfer Strategies from Queen's University Belfast and University of Ulster under Northern Ireland Higher Education Innovation Fund 4, covering the period from Academic Year 2013/14 to Academic Year 2015/16, and which reflect the context looking ahead. The Further Education Colleges are not required to produce Knowledge Transfer Strategies.

The new Queen's University Belfast Knowledge Transfer Strategy under Northern Ireland Higher Education Innovation Fund 4 contains six key aims, one of which is to stimulate increased business investment in research and development, particularly amongst Small and Medium Enterprises. It also outlines key areas of Knowledge Transfer activity going forward which are:

- Research commercialisation and spin-outs;
- Consultancy and technical services;
- Knowledge Transfer Partnerships and FUSION;
- Business alliance;
- Business networking;
- Impact management;
- The Science Shop; and
- Support for Student Enterprise.

The new University of Ulster Knowledge Transfer Strategy under Northern Ireland Higher Education Innovation Fund 4 includes the following aims:

- To establish the University of Ulster as the knowledge provider of choice for Small and Medium Enterprises across the island of Ireland;
- To be a sector leader in support of creative, digital and social enterprises;
- To be the lead provider of academic consultancy services across Ireland;
- To be a United Kingdom top 3 provider of Knowledge Transfer Partnership programmes;
- To establish University of Ulster's leadership in **academic Open Innovation**;
- To partner with business to increase and expedite the **commercialisation of University of Ulster's Intellectual Assets**;
- To extend University of Ulster's innovation functions to support student and graduate entrepreneurship; and
- Through its innovation activities to support the research impact agenda of the University of Ulster.

There are synergies evident between the universities' Knowledge Transfer Strategies and the aims and objectives of the Connected Programme. It is evident that in achieving the aims, objectives and outcomes of the programme, there has been a corresponding contribution to the universities' Knowledge Transfer Strategies.

An analysis of the overall impact of the programme, identifying the costs and benefits of the support, both quantifiable and unquantifiable, taking into account the monitoring frameworks operated by Department for Employment & Learning

The overall programme costs amount to just over £4m funding over four years from Financial Year 2010/11 to Financial Year 2013/14. Although nine months of the programme have still to run, it has already delivered a wide range of benefits (including outputs, outcomes and impacts **as previously described in ToR1, ToR2 and ToR5**. Some of these are expressed in monetary terms, others cannot be monetised.

The summary of performance against targets provides a wide range of information on what the programme has achieved. This includes 541 completed projects, 50 Sector Specific Projects and income generated by Higher Education/Further EducationE of around £1.26m.

From the company survey, there are a wide range of outputs and impacts reported:

- **Main impacts of the programme**: a wide range of impacts was reported. At least 46% of companies mentioned the following impacts: increase in innovation, increase in Research & Development capability, increase in productivity as a result of up-skilling and new business generated through the project. Around one third also indicated impacts in the following areas: leveraged other funding or support as a result of the collaboration and new exports generated as a result of the collaboration.

- **Outputs of the programme**: a number of outputs were recorded. The most significant, as stated by at least 80% of companies, were: transfer of knowledge from partner(s) to companies and an improvement in existing skill and expertise levels or a development of new skills and expertise. Other important outputs that were reported by at least 45% of companies were: direct (positive) effect on company turnover, positive impact on the profitability of the company, company developed or invested in a new technology as a result of collaboration with Higher Education/Further Education partner, and company adopted a new business practice as a result of collaboration with Higher Education/Further Education partner.

- **In terms of future impacts and other benefits arising from engagement with Connected 2**: at least 57% of companies recorded the following: improved existing skill & expertise levels or development of new skills & expertise, transfer of knowledge from partner(s) to company, impact on profitability of company and company turnover. Around 40% mentioned other positive future impacts that included: company survival, employment, jobs maintained, development or investment in a new technology as a result of collaboration with Higher Education/Further Education partner, adoption of new business practices as a result of collaboration with Higher Education/Further Education partner.

- **Companies also reported other benefits as a result of engagement with Connected 2**: the most frequently reported were increased industry knowledge (n=8) and stronger links with Further Education college/university (n=7).

- In terms of engagement with the programme, at least 66% of respondents found it to be very beneficial as all benefits were achieved and 31% felt it was somewhat beneficial as some benefits were achieved.

- Significantly, 52% of companies noted an increase in turnover in the last 18 months (of these, 21% by <5%, 12% by 6-10%).

From the Further Education/ Higher Education staff survey, there are a wide range of **outputs and impacts reported**.

The three most common outputs (with at least 94% of Further Education/Higher Education staff citing these) relate to longer term benefits:

- Enhanced networks and relationships;

- Opportunity for participation in rewarding & on-going collaboration with innovative businesses; and

- Development of staff expertise – income generation/technical skills.

Each of these were cited by staff as drivers for participating in the Programme, showing that the Programme is meeting the expectations and needs of the Further Education/Higher Education staff involved.

The three most common impacts (with at least 86% of Further Education/Higher Education staff citing these) were:

- Reputation Strengthened with Business and the Community;

- Positive feedback from industry on the skills/expertise of Further Education & Higher Education and suitability of courses to meet business needs; and

- Increased linkages with Business regarding Further Education/Higher Education training/Increased participation of employees on courses/Up-skilling employees.

These all refer to the improved relationships between the Further Education/Higher Education institution and the business community and the capacity development of staff. Benefits that were not anticipated were marketing opportunities and training and access to equipment.

An independent assessment of value for money in terms of effectiveness, efficiency and economy focusing on input and output indicators, as well as outcomes

In order to assess value for money RSM McClure Watters considered:

- **Effectiveness**: There is clear evidence of the effectiveness of the programme given the feedback from survey respondents in terms of meeting programme and project aims, objectives and outcomes achieved. In addition, there is positive feedback from Colleges Northern Ireland, Queen's University Belfast and University of Ulster with regard to Department for employment & Learning's effective management of the programme.

- **Efficiency**: The ratio of funding leveraged (i.e. income generated by Further Education/Higher Education which is £1.26m) to programme costs (around £4m) is around 0.3:1.0 to date. It is also worth highlighting that this is likely to be an underestimate of the impact of the programme as there are many other outcomes and impacts, also wider economic benefits that cannot easily be monetised for example. There are also three further quarters of the programme to be completed as well as allowing for a lag between current interventions and impacts being realised; and

- **Economy**: The cost to deliver the programme has been estimated from Department for Employment & Learning staff time allocated to programme management activities as £36k (i.e. £9k per annum). This represents a very small proportion of overall programme costs (£4m); the ratio being 0.09%.

Taking account of these three key criteria, it would be reasonable to conclude that the programme has offered considerable evidence of Value for Money over the period under evaluation.

A benchmarking of the programme with any similar Higher Education/Further Education collaborative initiatives in other regions

Knowledge Transfer initiatives were considered in several countries across Europe and the United Kingdom. These are:

- Switzerland;

- Sweden;

- Finland;

- Scotland;

- Wales;

- Republic of Ireland;

- Joint Information Systems Committee (United Kingdom); and

- National Centre for Universities and Business (United Kingdom).

However, reflecting the high degree of novelty and uniqueness of Department for Employment & Learning's Connected programme, most of the initiatives considered are not directly comparable to Connected 2, with the one possible exception of the Interface Programme (Scotland). Established in August 2005, Interface was designed to address market failure in respect of difficulties companies face in identifying and accessing support. The aim of Interface is, 'to develop interaction and stimulate innovation to benefit Scottish companies and the Scottish economy'.

The Interface Programme shares many features with Connected 2. Drawing on the experience of Interface (and in common with Connected 2), there are a number of potential lessons for Connected looking ahead:

- A continued focus on Small and Medium Enterprises as its primary target market and particular attention to any key sectors that are under-represented in uptake of the service;
- Consideration of introducing a charge for repeat customers, but services to new customers should remain free;
- Efficiency gains that may be realised through use of Information Communication Technology/online tools – for example for Connected, this could be further enhancement of the Customer Relationship Management system;
- Ensuring that monitoring and evaluation is streamlined to provide reporting on essential issues in line with the main objectives of the service;
- Importance of Further Education/Higher Education to ensure that the outputs and impacts of all projects are maximised so that businesses realise all of the benefits;
- Maintaining an on-going relationship with clients after a project has been initiated is an important part of the Interface service offering that is likely to become increasingly important as the number of clients assisted increases.

An independent assessment of how effectively the programme has been managed by Department for Employment & Learning

In order to assess the effectiveness of Department for Employment & Learning in managing the programme, RSM McClure Watters considered:

- **Department for Employment & Learning programme management costs:** These have been estimated as £36K over the duration of the programme (four years). This represents 0.09% of the value of the funding under management by Department for Employment & Learning (£4m) and is clearly a relatively low resource cost to deliver the programme in its current format.
- **Stakeholder feedback on the Programme:** Overall feedback in relation to the management of the programme by Department for Employment & Learning has been positive. The stakeholders' comments can be summarised as follows:
  - The programme was generally well regarded;
  - There are good working relationships between the partners and Department for Employment & Learning;
  - The reporting processes and claims draw down processes put in place by Department for Employment & Learning are clear and provide a useful means of managing the programme.

There was one main area for improvement identified within Department for Employment & Learning – that relates to the involvement of Further Education Division, as well as Higher Education Division, in the monitoring and management of the programme. This will help to ensure information is shared and exchanged within Department for Employment & Learning with regards to programme performance and to avoid any potential duplication by Connected of other initiatives being developed by Further Education Division.

A consideration of the appropriateness of the mechanisms/structures within Northern Ireland's universities and Further Education colleges to manage the "Connected 2" funds

In order to assess the appropriateness of the mechanisms/structures within the universities and colleges to manage the Connected 2 funds, RSM McClure Watters considered:

- The mechanisms/structures in place to manage the Programme. These are largely unchanged from the pilot Connected programme and continue to work well;

- Feedback from Further Education/Higher Education staff and companies involved in Connected 2. Amongst those directly involved in the programme, their feedback provides an endorsement of the work to date of all of the partners. For example:

  - A generally high level of satisfaction was reported. From the company survey, the majority of respondents were mostly satisfied with all aspects of the Connected 2 Programme (all areas considered had at least 75% of respondents stating that they were satisfied or very satisfied);
  - Positive feedback was obtained from Queen's University Belfast, University of Ulster and Colleges Northern Ireland on working relationships. From the survey of Higher Education – Further Education staff, over 80% of Higher Education – Further Education staff were satisfied or very satisfied with every aspect of the Business Development Unit within Connected;
  - An overwhelming majority of respondents to the company survey (96.4%) would collaborate with Higher Education/Further Education again in the future and all Higher Education/Further Education staff would take part in a similar Programme again; and
  - A large proportion of respondents to the company survey (88.9%) would recommend the service to others. Furthermore, the Programme received a positive endorsement from Higher Education/Further Education staff, as 100% of 50 respondents stated they would recommend it to peers/colleagues in Higher Education/Further Education Institutions. Moreover, 100% of 52 respondents stated they would recommend it to Small and Medium Enterprises.

Section 75 requirements should be taken into account. In respect of any recommendations made consultants will be required to consider whether there are any likely impacts on anti-poverty social inclusion, equality of opportunity or good relations. In doing so consultants may recommend measures to mitigate against any adverse impacts

Considering equality issues in the current Connected 2 programme, RSM McClure Watters note that Queen's University Belfast, University of Ulster and the six Further Education Colleges are designated as Public Authorities, for the purposes of Section 75 of the Northern Ireland Act in 2001; all of which have had their most recent Equality Schemes approved by the Equality Commission for Northern Ireland (the Commission) in 2012. Both universities have on-going activities to ensure compliance through various policies and action plans which include policy screening, equal pay audit (Queen's University Belfast), gender action plan and good relations audit (University of Ulster). The Further Education colleges also have a range of on-going activities to ensure compliance with their equality schemes.

Recommendations

This section presents recommendations and in particular addresses the following from the Terms of Reference:

- Evidenced-based recommendations on future delivery mechanisms for the joint Higher Education/Further Education Knowledge Transfer activities currently delivered under the programme);

- Evidenced-based recommendations on the appropriate level of funding going forward; and

- Evidenced-based recommendations on the appropriate funding mechanism. This element of the exercise should include an examination of future options, including the status quo (i.e. single joint bid from the two universities and Colleges Northern Ireland), competitive bids or the feasibility of formula allocations through the Department's annual grant letter to the Universities.

Recommendation 1: Need for Future Programme

There is significant justification for a future round of the programme and much of this reflects the rationale for Connected 2 as well as taking into account the success of Connected 2 and lessons learnt from its implementation. Clearly therefore, there is significant justification for a further (third) round of Connected – 'Connected 3'.

RSM McClure Watters recommend that Department for Employment & Learning continues to fund the Connected initiative.

Recommendation 2: Additionality

The level of additionality is 35% (full) and 50% (partial). It is important that the current levels of additionality are at least maintained if not improved further. Therefore supports should be targeted, where feasible, on those Small and Medium Enterprises who would not otherwise engage in Knowledge Transfer and on those with the potential to move up the 'innovation escalator' i.e. companies which, for the most part, are not yet Invest Northern Ireland client companies.

RSM McClure Watters recommend that in any future programme, that support continues to be targeted to those areas where additionality can be maximised; not only on Small and Medium Enterprises which are not innovation active, but also on those companies which are innovation active with the potential to be moved to the next level on the 'innovation escalator'.

Recommendation 3: Appropriate Funding Mechanism

Having established the need to support a future programme, we have considered funding mechanism options to achieve this. These are briefly summarised in section 6.2.1. Based on this analysis, the current funding mechanism is clearly the most appropriate.

RSM McClure Watters recommend that Department for Employment & Learning continues to fund the Connected initiative using the same funding mechanism as is used in Connected 2 – a single joint bid from Queen's University Belfast, the University of Ulster and the six Further Education Colleges as represented by Colleges Northern Ireland.

Recommendation 4: Delivery Mechanism – New/Expanded Management Committee

The Steering Committee under the Connected 1 pilot programme had been a sub-committee of the Business Alliance/Higher Education/Further Education Forum. However, as the Forum has now ceased to operate, the Business Development Unit has put forward a proposal to strengthen the strategic focus of Connected by inviting new representatives from industry, and also from Department for Employment & LEearning, to sit on the Programme's Management Committee.

This is considered an important proposal to ensure that addressing Small and Medium Enterprise/client needs remains the key focus of the programme. It will also provide a means of ensuring that both Higher Education and Further Education Divisions within Department for Employment & Learning are kept informed and up-to-date with respect to the ongoing activities within the Connected programme. At present, the Further Education Division has little direct involvement in the programme, which is managed by Higher Education Division.

RSM McClure Watters recommend that Department for Employment & Learning ensures that a new management structure is adopted within Connected 3 to ensure sharing of information across all relevant stakeholders, and that Terms of Reference are drawn up for the proposed, new Management Committee and adopted by members.

Recommendation 5: Delivery Mechanism – New Competitive Call for Higher Education/Further Education Collaborative Projects

In order to encourage and facilitate the movement of Small and Medium Enterprises, with limited experience of Knowledge

Transfer, up the innovation escalator, it is proposed to introduce a new, competitive call element within the next Connected programme to support high quality, bespoke Higher Education/Further Education collaborative projects.

The fund, which will be administered centrally by the Business Development Unit, will seek to address an identified gap in support for Small and Medium Enterprises which are not (yet) Invest Northern Ireland clients and which have difficulty in accessing funds (beyond the most basic 'Innovation Voucher' stage) while also potentially reaching out to Small and Medium Enterprises with no prior Knowledge Transfer experience.

Priority would be given under this new fund to support Higher Education/Further Education projects that are focused on engaging with Small and Medium Enterprises who have had limited Knowledge Transfer experience, but have the potential to move further along the innovation escalator, i.e. transitioning from Innovation Vouchers to other more substantive innovation support mechanisms (such as Knowledge Transfer Partnerships etc.).

RSM McClure Watters recommend that Department for Employment & Learning supports an additional central fund, within the next (third) round of Connected, to address identified gaps in Knowledge Transfer activity, particularly focused on Small and Medium Enterprises with no or limited prior experience of Knowledge Transfer, but which have the potential and willingness to be moved further along the innovation escalator.

Recommendation 6: Delivery Mechanism - Project Management/ Support

Over the course of the Connected 1 pilot and Connected 2 programme, there have been changes to the role and remit of the various partners involved in the delivery of the programme. In particular, the Business Development Unit which forms a core, central role has a wide range of functions to fulfil in serving the needs of all partners in the programme. Given the successful development of the programme over the period of Connected 2 in particular, a number of additional areas have been identified which could be fulfilled within the Business Development Unit, by upgrading one of the existing posts, namely that of Project Administrator to Project Support Officer. However, it is important that appropriate targets are attached to the additional responsibilities of the upgraded post.

RSM McClure Watters recommend that Department for Employment & Learning supports an upgrading of the Project Administrator post within the Business Development Unit to that of Project Support Officer; and that appropriate targets are attached to the additional responsibilities.

Recommendation 7 and 8: Funding – Duration and Level

Duration

The pilot Connected programme ran for three years, whilst Connected 2 will run for four years. A four-year programme provides greater scope to evaluate activity and reach an informed conclusion on the future of an initiative with sufficient data (at least three years' worth) and with enough time to make plans for the future (depending on the outcome of the evaluation). Furthermore, with a duration of only three years, there is a tension between having enough data available for a robust evaluation (therefore seeking to leave the evaluation as late as possible) and ensuring there is no funding gap between the end of one programme and the beginning of the next (therefore seeking to evaluate earlier rather than later). Such a funding gap would have serious consequences for the Department. Firstly, it would result in a suspension of ongoing Higher Education/Further Education services to industry currently supported under Connected. This would undermine the credibility of the programme across the wider business community. Secondly, any funding hiatus would also put at risk the retention of the experienced and highly skilled Knowledge Transfer practitioners

employed across the two universities and six colleges under this programme.

RSM McClure Watters recommend that Department for Employment & Learning continues to fund the Connected initiative and to do so on the basis of a four-year Programme.

Level of funding

The level of funding for a future Connected programme should take as its baseline the level of funding for the current programme given the evident demand for the programme (approximately £4.09 million over four years/£1.02 million per annum). In addition, there are two other factors to consider:

- The inclusion of additional finance of £410k over four years to support a new "competitive" pot of funding to be administered by the Business Development Unit – see **Recommendation 5**; and

- The upgrading of the Project Administrator post within the Business Development Unit to Project Support Officer (at an additional cost of around £39k over four years) – see **Recommendation 6**.

RSM McClure Watters recommend that Department for Employment & Learning increases the funding for the next (third) round of Connected from the current baseline of approximately £4.09 million over four years to £4.54 million over four years (an increase of approximately 11%) to allow for the introduction of a new competitive call for Higher Education/Further Education collaborative projects (to be administered by the Business Development Unit and focused on moving Small and Medium Enterprises with limited experience of Knowledge Transfer further along the innovation escalator) and also for an upgrading of one administrative post within the Business Development Unit to facilitate a more appropriate level of support for the Business Development Manager.

Youth Unemployment and Young People Categorised as Not in Employment, Education or Training

Dr Stephen Donnelly, Analytical Services, Department for Employment and Learning

The medium and long-term economic future of Northern Ireland depends upon the 220,000 or so young people aged 16-24. This generation will have to cope with the challenges the future holds: an ageing population; a period of economic uncertainty and increasing global competition. It is therefore important to avoid the disengagement of a large group of young people from the labour market that may, as a consequence, face increased risks across a wide range of health and well-being indicators.

It has long been recognised that youth unemployment is a serious problem within the United Kingdom and across Europe. In Northern Ireland there is good data available but it needs to be assembled from various sources - each of which have strengths and limitations. Across Europe, unemployment amongst those aged 15-24 has risen from around 16% in 2007 to over 23% in 2013.

Young people are often said to be more exposed to the risk of unemployment than older adults but in recent years in Northern Ireland there has been a greater proportionate rise in unemployment among the 45-59 age group. Nevertheless, youth unemployment can have a long term impact not just on employability but in terms of health and social exclusion.

Governments across Europe have used a range of measures to ameliorate the effects of youth unemployment including active labour market programmes, employment creation and revisions to social welfare systems. A common research finding is that governments need to take account of the very varied characteristics of unemployed youth, invest in building positive relationships with young people and flexibility in programme implementation.

Key Youth Unemployment *rate* Statistics – European Union, United Kingdom and Republic of Ireland

The latest figures (August – October 2014) show that Northern Ireland has about 24,000 young people unemployed; Wales has 45,000; Scotland 67,000; England has approximately 700,000 and the Republic of Ireland has around 47,500[1] (as at May 2014).

In percentage terms this equates to a youth unemployment *rate* of 16% in Scotland[2]; 20% in Wales; 21% in Northern Ireland and in England it ranges from 23% in the North to 15% in the South West. The Republic of Ireland's youth unemployment rate has fallen from a high of 30% in 2012 to 23% (Quarter 3, 2014). The EU average for 2013 was just over 23%.

A note of caution

The unemployment rate is influenced by flows of young people into education. The different educational systems across the European Union combined with different social welfare systems and demographic trends all combine to make international comparisons difficult.

Taking the number of young people unemployed as a proportion of the young economically active population, the growth in the youth unemployment *rate* since 2007 can be described as dramatic. In Northern Ireland it has been reported that one in four young people are unemployed (and at

1 15-24 year olds
2 Scottish Parliamentary Information Centre Labour Market Update January 2015

certain times this has been true - if one is using the unemployment rate) however the *ratio* of young people unemployed to the total youth population is closer to one in ten.

Getting a more detailed picture

The youth unemployment figures from the Labour Force Survey give a reasonable picture of the extent of the problem. But to get a deeper understanding of the figures one also needs to use the claimant count (which allows an accurate picture of geographic spread) or the Census (2011) to get detailed information on family circumstances, education and disability.

For this reason this briefing paper will touch on both youth unemployment and persons not in education, employment or training (NEETs). As slightly more than half of the NEETs group are defined as unemployed and because there is policy interest in reducing the number of young people who are economically inactive, the remainder of this paper will describe some of the key characteristics of the NEETs group.

A person is defined as NEETs if they are aged 16 to 24 and not in employment, education or training (full-time or part-time). Within the estimate, a person is considered to be in education or training (full-time or part-time) if they:

- are completing an apprenticeship;
- are engaged on a Government employment or training programme;
- are working or studying towards a qualification;
- have had job-related training or education in the last four weeks; or
- are enrolled on an education course and are still attending or waiting for term to (re)start.

Therefore, anybody aged 16 to 24 who is not in the above forms of education or training (part-time or full-time) and who is not in employment, is considered to be in NEETs. The definition of "in employment", as recommended by the International Labour Organisation (ILO) is anyone (aged 16 or over) who has done at least one hour's paid work in the week prior to interview, or has a job they are temporarily away from (e.g. on holiday).

This definition is that used by the Office for National Statistics (ONS), which is outlined in detail in the following methodology paper: *'UK Estimate of Young People Not in Education, Employment or Training'.* Previous not in employment, education or training figures produced in relation to Northern Ireland included those aged 16 to 24 who were in part-time education. However, Office of National Statistics first published quarterly not in employment, education or training figures for the United Kingdom in May 2013, based on the above definition.

According to the latest (October to December 2014) Labour Force Survey Quarterly Supplement there are 91,000 young people aged 16-24 in employment; 18,000 unemployed and 85,000 in education (mainly students).

There are also 18,000 inactive people. In total, there are just over 210,000 young people aged 16-24. Within this total there are 37,000 young people classified as NEETs, 18,000 of which are unemployed and another 18,000 economically inactive, none of which are in education (either full or part-time). This 37,000 figure is up 8,000 on the year, reflecting perhaps the recent slowdown in the recovery. This is 17% of the 16-24 population.

This group has been particularly problematic for European and United Kingdom policy makers but within Northern Ireland the overall number has not changed a great deal over the 2012 to 2014 period. There is some fluctuation in overall numbers and the proportion male or female but these fluctuations tend to be short-lived.

The NEET issue involves roughly equivalent numbers of both males and females depending on the period chosen. About half of NEETs are unemployed and looking for work whereas the remainder are economically inactive (typically this involves 'looking after the home'; 'sick/disabled'). Young people in either part or full-time education are excluded from these figures.

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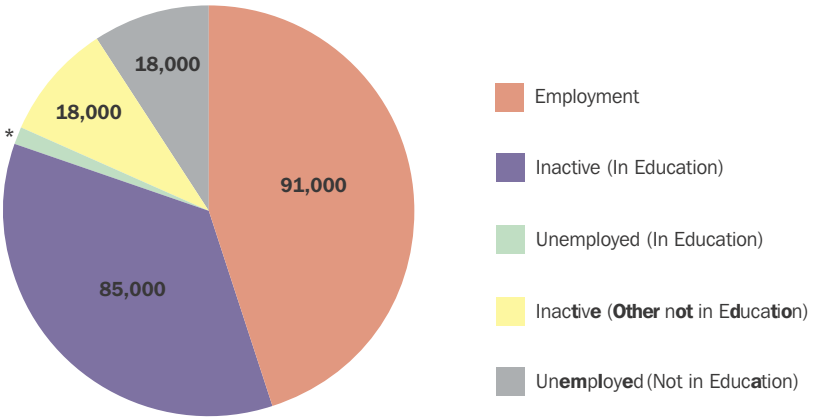
Key statistics

Figure 1: Economic Overview 16-24 Oct - Dec 2014



Source: LFS Quarterly Supplement

Figure 2: Inactivity & Unemployed NEETs (October – December 2014)

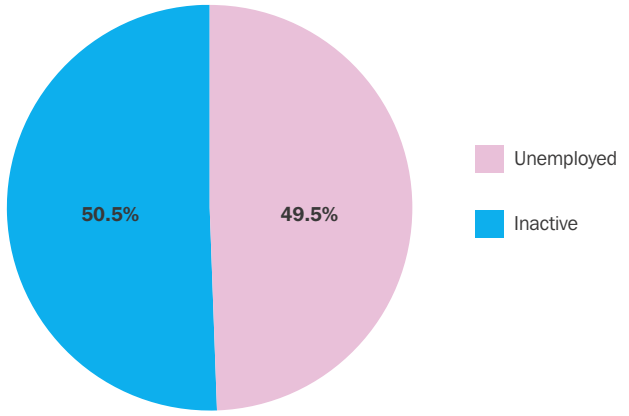
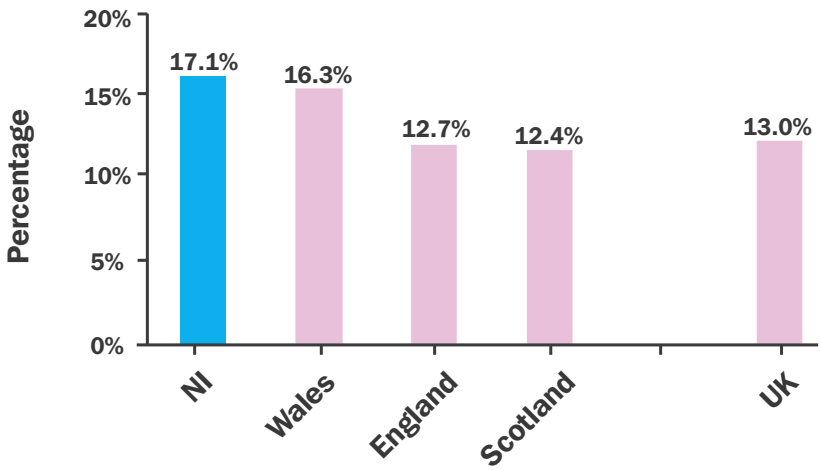


Figure 3: NEETs Rates (16-24) by UK Country (October – December 2014)



Favourable employment rates for young, but not the youngest adults

The Northern Ireland employment rate for persons aged 16-64 is about 68% compared to the United Kingdom level of 73%. But this disguises the fact that while the younger age groups 16-19 in Northern Ireland fare poorly relative to the United Kingdom average (see **Figure 3**), and the older age groups (over 40) also compare poorly, there is evidence that those in the 25-40 age groups compare quite well and in some cases exceed the age comparable United Kingdom average. The reasons why young adults in Northern Ireland often have similar or higher *employment* rates than the United Kingdom requires further investigation. The historically lower employment rate in Northern Ireland relative to the United Kingdom is largely driven by the under-performance of the over 40 age groups. In summary, in terms of employment rates NEETs fare poorly and the over 40s fare poorly but the age groups in between perform quite well.

Characteristics of young people categorised as NEET (Census 2011)

The Labour Force Survey sample size is not large enough to allow detailed analysis of the characteristics of the young unemployed. It does however provide the most up to date headline statistics on NEETs. The Census can provide much more detailed information on the location and characteristics of NEETs, half of whom are defined

as unemployed. What follows is a census-based analysis of NEETs from the perspective of location; disability and qualifications. There is also a section on the young person's family structure which illustrates the varied home circumstances in which NEETs live and as such their different needs in terms of policy responses.

Work is on-going between the Department for Employment and Learning and the Northern Ireland Statistics and Research Agency to develop better information on, amongst other things, the young unemployed. This involves combining four flagship government surveys together – a general household survey, a health and well-being survey, a family income survey and the labour force survey. Results should be available before the end of the 2014/15 financial year.

The two main NEET age groups (16-19 and 20-24)

The 16-19 and the 20-24 age group face substantial barriers to employment. The Census recorded a total NEET population of around 33,000, which at that time was 15% of all those aged 16-24. The older NEET group is larger, and at 25,000 makes up 20% of that age cohort. The smaller group aged 16-19 contains 8,000 young people and make up 8% of that age cohort.

NEET family structure

NEET family structure is particularly important because it influences their circumstances and therefore the labour market and education decisions they may take, for example in their role as: young people in households with one or two parents; in their role as parents themselves or in their role as living as a married or cohabiting couple; or a single person living independently or in a communal establishment.

Only about 12,000 out of 33,000 NEETs live in a couple family i.e. as a child of one or both members of the couple.

The next largest category of NEETs (8,000) are young people being looked after by a lone parent. The next largest category of NEETs are themselves lone parents (5,000) with caring responsibilities for their own child/children.

Almost 5,000 are living as single people 'not in a family' and just over 3,000 are living as a married/cohabiting couple. 500 are living in communal establishments.

These findings are provisional and represent the first census-based family type analysis of NEETs that has been published. They shed important light on the diverse family circumstances of NEETs which in turn will have implications for policy and policy interventions.

Table 1: Family Type (NEETs aged 16-24) Census 2011

1. Not in a family	4,800	Living independently (single)
2. Member of a couple	3,200	Cohabiting / Married
3. In a couple family	12,000	NEET plus 2 parents (includes step-parents)
4. Parent in a lone parent family	5,000	NEET is a lone parent themselves
5. Child in lone parent family	8,200	NEET is a child in a lone parent family
6. Communal establishment	500	NEET living in a communal establishment

Figures rounded to the nearest 100

NEETs: over-representation within a disadvantaged group

No Qualifications Group

Not surprisingly, NEETs are over-represented within disadvantaged groups. For example, for every 100 young people (16-19) with no qualifications, 12% will be NEET (whereas their population 'share' is only 8%). On the other hand for every 100 young people (20-24) who have no qualifications, 57 of them will be NEET (whereas their population 'share' is 20%). Almost 10,000 NEETs have no qualifications. This is close to one third of the 16-19 group and one quarter of the 20-24 group.

Persons with a Disability

The picture is even more pronounced when considering disability. The Census asked if a person's day to day activities were limited 'a lot'; 'a little'; or 'not limited'. For every 100 people aged 20-24 whose activities were limited 'a lot', 67% of them were classified as NEET – i.e., more than three times their population share. In terms of numbers there are over 3,000 NEETs whose day to day activities are limited a lot. This is 7% of the 16-19 year old NEETs and 10% of the older NEETs.

Geographic Location

NEETs are spread across Northern Ireland and with some notable exceptions their representation is close to the census 15% average. The notable exceptions are Belfast and Foyle – particularly for the older NEET group in West Belfast, North Belfast and Foyle where the percentage is between 28% and 31%.

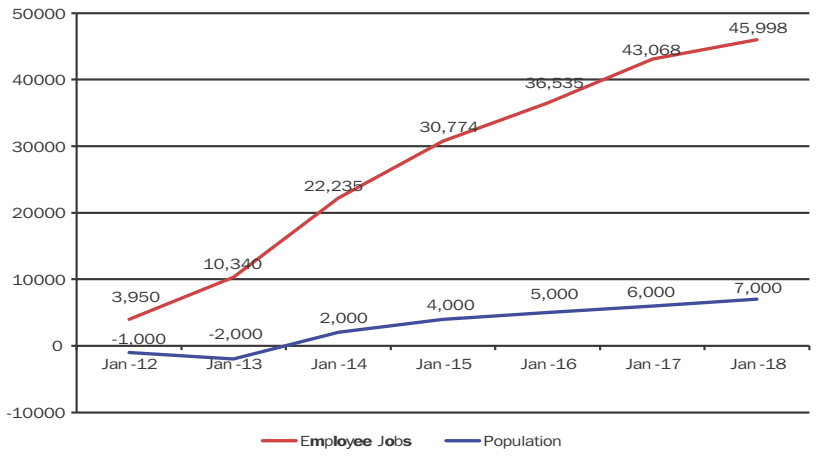
Areas of multiple deprivation

Grouping areas of multiple deprivation (see the Northern Ireland Neighbourhood Information Service (NINIS) section of the Northern Ireland Statistics and Research Agency's website) into five categories from 'most deprived' to 'least deprived' it is not surprising that the most deprived areas contain 34% of the NEET population and the least deprived areas contain 10% of the NEET population (11,000 and 3,000 people respectively). The proportion 'NEET' in the area falls with increasing affluence. It should be noted that while this finding might be intuitively appealing it does not rule out the fact that some affluent areas contain pockets of deprivation.

Working Age population growth forecasts and job forecasts

It is expected that the working age population will only increase by about 1,000 per year for the next few years. Against this, the job creation forecasts suggest that between 2012 and 2018 there will be an additional 40,000 or so jobs created. Even given recent commentary (NICEP, November, 2014) on the challenging economic future of Northern Ireland, it is still likely that the momentum in job creation will continue. If the momentum does continue albeit at a much slower pace, it would still be reasonable to assume that the number of jobs created will exceed the growth of the working age population. However, even though there will be a demographic trend leading to modest growth in the working age population this will occur alongside the existing pool of unemployed people who will be competing for these jobs.

Figure 4: Cumulative job and working age population growth 2012 – 2018



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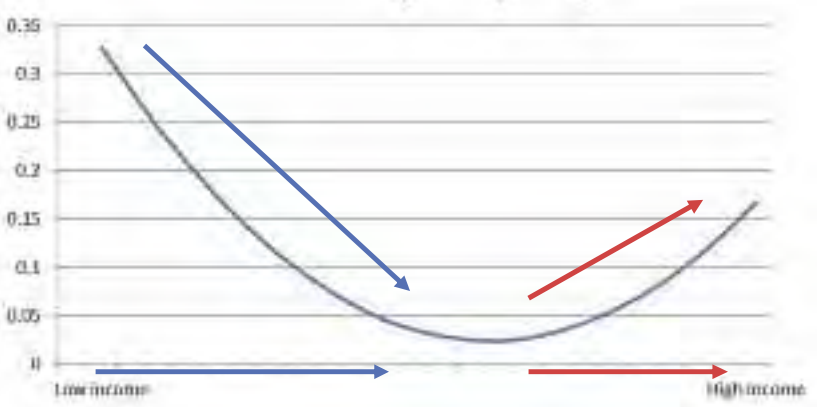
NEETs and household income

Very little is known about the household income of NEETs but there is some evidence from Eurofound (2012) that links household income to the probability of being in the NEET category. The Eurofound research showed that the lower the income of the household the higher the chances of the young person being NEET. As income increased the chances of being NEET decreased until the household income entered the top 25% or so of income households. It may be a counter-intuitive finding but 'affluent' households tend to have higher chances of containing NEETs than middle income households.

Figure 5: Effect of Income on the probability of being NEET



Source: Mascherini et al Eurofound

The reasons for this are not fully clear but it could be due to a range of factors such as young people taking a 'gap' year or that more affluent households exert less pressure on young people to take any job on offer at the first opportunity, or provide financial or other support.

In Northern Ireland NEETs are concentrated in the most deprived areas (Multiple Deprivation Measure, Northern Ireland Statistics Research Agency). However, there are some NEETs in the most affluent areas who are likely to be in high income households. This cannot be proven with current data sources as there are pockets of deprivation within affluent areas but certainly there are NEETs with very high qualifications. For example, 21% have either a level 3 or level 4 qualification and 10% of the older NEET age group have a level 4 qualification (Degree, HNC, HND, BTEC etc).

Census 2011 Geographic Analysis

In the 2011 Census, there were **33,516** young people falling into the NEET category in total, which at that time represented almost 15% of the 16-24 population. A map of their distribution by the new District Council areas is given below.

There is a higher rate of NEETs as a proportion of the 16-24 population in the North and North-West of Northern Ireland as well as in some parts of Belfast. West and North Belfast and Foyle have particularly high proportions of NEETs and Upper Bann also. West and North Belfast and Foyle also have very high proportions of NEETs aged 20-24 (close to or over 30% of the age group in that area).

NEETs distributed across the New District Council Areas

The proportion of the 16-24 year old population which is NEET varies across the new District Council Areas from 12% to 19%, compared to the Northern Ireland average of 15%. The highest level is in Derry and Strabane (19%). The lowest proportions of NEETs are in Antrim and Newtownabbey (12%).

Figure 6: Proportion of NEETs (16-24 Year Olds)

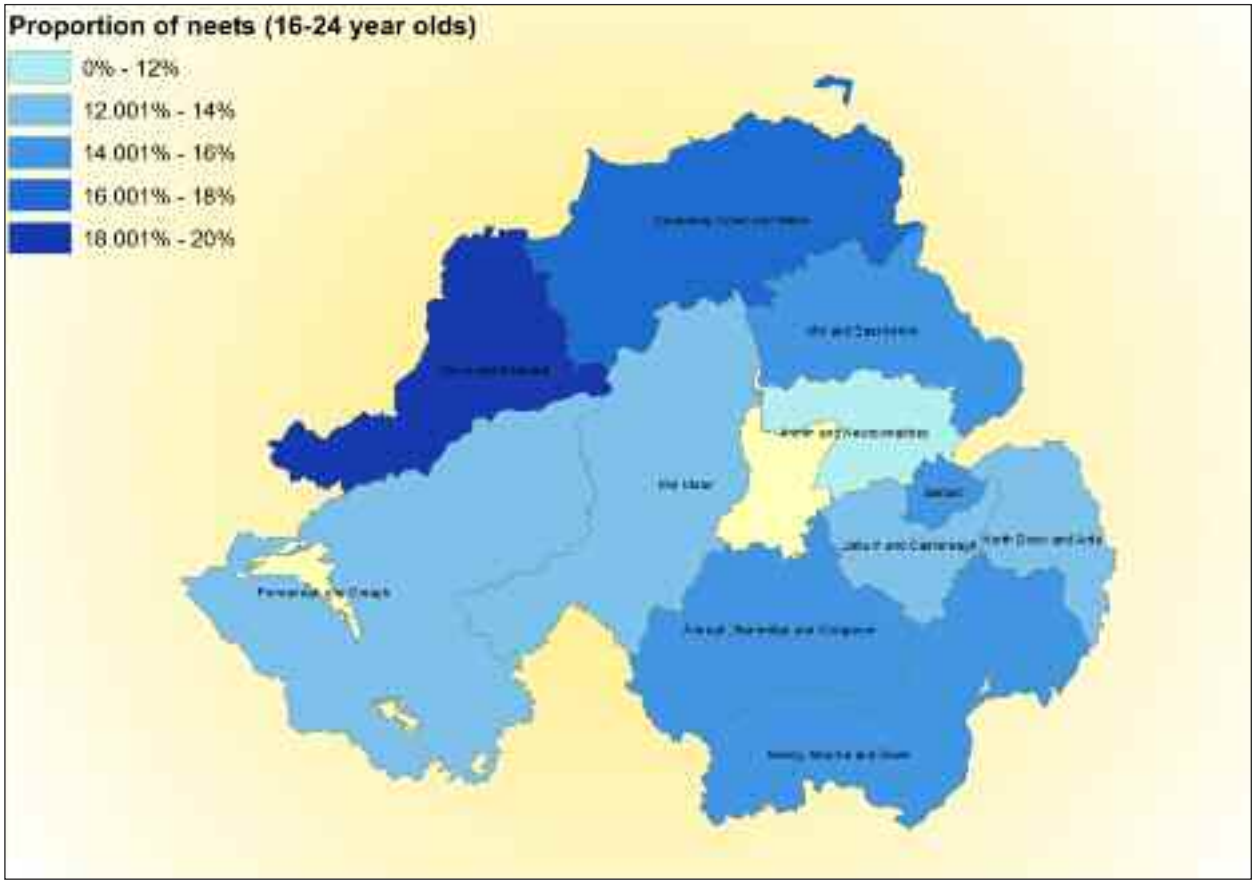


Table 2: NEETs Proportions by New District Council Area

Geography		NEETs
LGD2014 name	**LGD2014 code**	**Proportions**
Antrim and Newtownabbey	N09000001	11.9%
Armagh, Banbridge and Craigavon	N09000002	14.5%
Belfast	N09000003	15.8%
Causeway Coast and Glens	N09000004	16.7%
Derry and Strabane	N09000005	18.7%
Fermanagh and Omagh	N09000006	13.6%
Lisburn and Castlereagh	N09000007	13.2%
Mid and East Antrim	N09000008	14.1%
Mid Ulster	N09000009	12.9%
Newry, Mourne and Down	N09000010	14.9%
Ards and North Down	N09000011	13.4%
Total		**14.7%**

Table 3 Multiple Deprivation Quintile

Multiple Deprivation Quintile	Age band		
	All 16-19	All 20-24	All 16-24
Group 1 - Most Deprived	2,717	8,576	11,293
Group 2	1,865	5,979	7,844
Group 3	1,414	4,562	5,976
Group 4	1,271	3,847	5,118
Group 5 - Least Deprived	848	2,437	3,285
Total	**8,115**	**25,401**	**33,516**

MDM Quintile	Age band		
	All 16-19	All 20-24	All 16-24
Group 1 - Most Deprived	33%	34%	34%
Group 2	23%	24%	23%
Group 3	17%	18%	18%
Group 4	16%	15%	15%
Group 5 - Least Deprived	10%	10%	10%
Total	**100%**	**100%**	**100%**

Acknowledgements:

Acknowledgements and thanks to: Jamie Mill, Tom Gardiner, and Chris Lawless, Department for Employment and Learning (Census Maps and Tables and supplementary labour market information).

Brian French, Hugh Kerr and Richard Elliott, NISRA, DFP, (Provision of original census data).

Gerard Colgan and Jacquie McManus, NISRA, DFP (LFS data).

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The Department for Employment and Learning Performance Report 2013

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The Department has published its fourth annual Performance Report. The report assesses performance against a series of key performance indicators reflecting the Department's commitments across skills, employment and innovation. It identifies trends and emerging issues likely to affect the Department's performance. The annual report forms an important strand of the Department's quality improvement strategy, 'Success through Excellence' and reflects its commitment to evidence based policy development and high quality service delivery. This article sets out the background to the annual Performance Report, identifies the key trends across the Department's programmes and provision and, finally, summarises the key messages.

Background

The Department's fourth annual performance report was published in December 2013.[1] It has changed focus from earlier versions - its central reference point is now the Department's new Programme for Government (PfG) commitments and key strategic goals for skills, employment and innovation/Research and Development (R&D). It examines performance against those high level commitments drilling down into programme areas in terms of qualifications, enrolments, retention and achievement. There is also an examination of performance on the strategically important areas of Science, Technology, Engineering and Mathematics (STEM) and the widening access agenda across skills programmes. Performance benchmarks at both the United Kingdom level and international level are included, where possible.

This article identifies the key trends across the Department's programmes and provisions, concluding with a summary of the key messages. The 2013 report is based on the latest available data at the time of the report's production. In the context of skills programmes this will, in most cases, relate to 2011/12 academic year data.

Key Messages from the Department for Employment and Learning's Performance Report 2013

Overall, the Department's fourth annual Performance report points to continuing challenges from the environment the Department operates within; it refers to increases in unemployment and to weak prospects for economic growth over the medium term.[2] Nevertheless, it demonstrates that a good start is being made against both Programme for Government commitments and key strategic goals. However much more remains to be achieved in the years ahead. Across the higher education (HE) and further education (FE) sectors, the report points to an improving picture on retention of students on courses and, particularly in FE, on achievement of qualifications. It shows that qualifications at level 2 or above fell (in the year to 2011/12) in FE Mainstream provision (-3%) but increased in HE (+8%), HE in FE (+10%), Essential Skills (+26%) and Training Programmes (+32%). This bodes well for continued attainment against the Department's overall Programme for Government qualifications target.

Across a broad front, the Department's skills provision continues to be successful at engaging with those from the more deprived areas and, where comparable data exist, the Northern Ireland performance on

1 http://www.delni.gov.uk/es/del-performance-report-2013.docx
2 More recent economic data show signs of a more positive outlook with falling unemployment and stronger than expected growth projected.

this measure tends to be significantly ahead of other parts of the United Kingdom. The report does however point towards challenges in the Science, Technology, Engineering and Mathematics (STEM) agenda with more to be done to achieve the Success through Skills strategic goal of increasing the proportion in Higher Education qualifying with STEM qualifications. In addition, while ameliorated somewhat by improving retention and achievement performance, STEM enrolments at level 2 and above in mainstream Further Education have declined in recent years. Strong growth in Essential Skills ICT and numeracy enrolments at level 2 should also be set against that picture.

The annual report identifies areas of good performance but also shines a light on areas of underperformance where further action is required. The Department has published, alongside its report, an action plan to respond to the specific issues raised and to enhance further the quality and performance of its sponsored programmes.[3] Moreover, as part of its 2013 report, the Department also published a research paper called '*What Factors Contribute to Successful Student Outcomes from Further Education – An Econometric Analysis*', which is the subject of a separate Labour Market Bulletin article. The key trends emerging from Performance Report 2013 are set out below.

Key Trends

Table 1: Trends in Key Skills Indicators

Indicator	Recent Change	Long-Term Trend
Percentage of those **people in employment** with Level 2 skills and above*	Between Q1 2012 and Q1 2013, it is estimated that the percentage of people in employment with level 2 skills and above has decreased by 1.1 percentage points, and now stands at 74.2%. (Goal: to attain at least 84% by 2020).	Since the baseline in 2008, it is estimated the percentage of those people in employment with Level 2 skills and above has increased by 2.5 percentage points to 74.2% in Q1 2013. (Goal: to attain at least 84% by 2020).
Percentage of those **people in employment** with Level 3 skills and above*	Between Q1 2012 and Q1 2013, it is estimated that the percentage of people in employment with level 3 skills and above has decreased by 1.8 percentage points, and now stands at 57.3%.(Goal: to attain at least 68% by 2020).	Since the baseline in 2008, it is estimated the percentage of those people in employment with Level 3 skills and above has increased by 2.1 percentage points to 57.3% in Q1 2013. (Goal: to attain at least 68% by 2020).
Percentage of those **people in employment** with Level 4-8 skills and above*	Between Q1 2012 and Q1 2013, it is estimated that the percentage of people in employment with level 4-8 skills and above has increased by 1.8 percentage points, and now stands at 36.2%.(Goal: to attain at least 44% by 2020).	Since the baseline in 2008, it is estimated the percentage of those people in employment with Level 4-8 skills and above has increased by 3.2 percentage points to 36.2% in Q1 2013. (Goal: to attain at least 44% by 2020).

3 http://www.delni.gov.uk/es/annex-1-del-quality-and-performance-action-plan.pdf

Table 1: Trends in Key Skills Indicators *(continued)*

Indicator	Recent Change	Long-Term Trend
Percentage of those qualifying from NI HEIs in graduate and post graduate level courses in STEM subjects[4].	Between 2010/11 and 2011/12 the percentage of those qualifying from NI HEIs in graduate and post graduate level courses in STEM subjects remained broadly unchanged, increasingly marginally from 18.1% to 18.5%.(HE Strategy Target: to attain at least 22% by 2020).	Between 2008/09 and 2011/12 the percentage of those qualifying from NI HEIs in graduate and post graduate level courses in STEM subjects remained broadly unchanged, increasing marginally from 18.0% to 18.5%. (HE Strategy Target: to attain at least 22% by 2020).
Deliver over 200,000 qualifications at Level 2 and above.	In 2011/12 academic year there were 73,247 Level 2 and above full qualifications gained across mainstream FE, Essential Skills, funded Departmental Training programmes, and HE, including HE in FE. This is growth of 11% from the qualifications gained in 2010/11.	Almost 140,000 qualifications at Level 2 and above have been delivered in the first two academic years of this PfG commitment (2010/11 and 2011/12) – well in excess of the target of 105,000 for the two years. This suggests good progress is being made towards achievement of the overall target.

** The three skills of people in employment indicators set out above are based on Labour Force Survey (LFS) data. The LFS is a sample survey which is subject to considerable volatility; caution should be applied in reading too much into its short term movements.*

4 With an emphasis on physical and biological sciences, mathematical and computer science, engineering and technology

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Table 2: Trends in key Northern Ireland Higher Education Institution Indicators

Indicator	Recent Change	Long-Term Trend
Qualifications.	The number of student qualifiers at NI HEIs has increased over the year to 2011/12 by 8%, from 14,960 in 2010/11 to 16,100 in 2011/12.	The number of student qualifiers at NI HEIs has increased by almost one-quarter (+23%) between 2001/02 and 2011/12.
'Narrow'[5] STEM Qualifications[6].	The number of 'narrow' STEM qualifications gained at Northern Ireland Higher Education Institutions over the last year has increased by 10% to 2,975 in 2011/12. 'Narrow' STEM represents 18.5% of overall qualifications compared to a Skills Strategy goal of at least 22% by 2020.	The number of 'narrow' STEM qualifications gained at Northern Ireland Higher Education Institutions has increased by 9% between 2001/02 and 2011/12.
Overall Enrolments.	Enrolments at NI HEIs remained at a similar level in 2011/12 compared to 2010/11 – around 52,000.	Enrolments at NI HEIs grew by 10% between 2001/02 and 2011/12.
Widening Access.	The proportion of young full-time first degree entrants to NI HEIs by National Statistics Socio-Economic Classification (NS-SEC) 4,5,6 & 7 in 2011/12 was 39.1%, the same as the position of 39.1 % in 2010/11.	Between 2002/03[7] and 2011/12 the proportion of young full-time first degree entrants to NI HEIs by (NS-SEC) Classes 4,5,6 & 7 has decreased from 41.3% to 39.1%.
'Narrow' STEM Enrolments.	'Narrow' STEM enrolments at NI HEIs decreased by 2% over the year to 10,930 in 2011/12.	'Narrow' STEM enrolments at NI HEIs have increased by 4% between 2001/02 and 2011/12.
Non-continuation.	The proportion of all full-time first degree entrants to NI HEIs in 2010/11 who were no longer in HE in 2011/12 was 6.0%, this compares favourably with a rate of 8.3% in the previous year.	There has been an improvement in the proportion of all full-time first degree entrants to NI HEIs who were no longer in HE one year later over the ten year period between 2001/02 (8.0%) and 2011/12 (6.0%).

5 Defined as Biological sciences, Physical sciences, Mathematical sciences, Computer science & Engineering & technology
6 Source: HESA. (Figures are rounded to the nearest 5).
7 2002/03 is the first year NS-SEC was available.

Table 3: Trends in key Northern Ireland Higher Education in Further Education Indicators

Indicator	Recent Change	Long-Term Trend[8]
Qualifications.	The number of full qualifications achieved from HE in FE provision has increased over the year to 2011/12 by 10%, from 4,061 in 2010/11 to 4,466 in 2011/12.	The number of full qualifications achieved from HE in FE provision has increased by 46% between 2003/04 and 2011/12.
'Narrow'[9] STEM Qualifications.	The number of 'narrow' STEM full qualifications achieved from HE in FE over the last year has increased by almost one-third (+31.7%) to 1,080 in 2011/12.	The number of 'narrow' STEM full qualifications achieved from HE in FE provision has more than doubled (+121%) between 2003/04 and 2011/12.
Overall Enrolments.	Enrolments in HE in FE experienced a 3% increase between 2010/11 (11,004) to 2011/12 (11,316).	Enrolments at HE in FE fell by 15% between 2003/04 and 2011/12.
Widening Access.	In 2011/12 20% of HE in FE enrolments were from the 20% most deprived areas in NI - the same proportion as in 2010/11.	Since 2001/02 there has been a 4 percentage point increase in drawing in those from the 20% most deprived areas to HE in FE, compared to 2010/11.
'Narrow' STEM Enrolments.	'Narrow' STEM enrolments in HE in FE increased by 16% over the year to 2011/12.	'Narrow' STEM enrolments in HE in FE have increased by 3% between 2003/04 and 2011/12.
Retention on HE in FE Courses.	The retention rate on HE in FE courses has increased marginally by 1 percentage point to stand at 95% in 2011/12.	The retention rate on HE in FE courses at 95% in 2011/12 is at the same level as in 2001/02.
Achievement on HE in FE Courses.	The achievement rate on HE in FE courses has increased from 88% in 2010/11 to 93% in 2011/12[10].	The achievement rate on HE in FE courses has increased from 78% in 2001/02 to 93% in 2011/12.

8 2003/04 is used as the base year for HE in FE qualifications and enrolments as this is the first year the current NICIS Management Information System became operational within the colleges
9 Defined as Biological sciences, Physical sciences, Mathematics & Computing science and Engineering & technology.
10 The increasing quality of FE datasets (with improved recording of achievement data) is likely to be contributing to an element of this observed increase.

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Table 4: Trends in Key Mainstream Further Education Indicators (at qualification level 2 and above)

Indicator	Recent Change	Long-Term Trend[11]
Qualifications in mainstream FE .	The number of qualifications in mainstream FE has decreased by 3% from 24,628 in 2010/11 to 23,973 in 2011/12.	N/A[12]
'Narrow' STEM Qualifications.	The number of 'narrow' STEM full qualifications achieved from mainstream FE over the last year has increased by 4% to 4,244 in 2011/12.	N/A
Enrolments on mainstream FE courses.	The number of enrolments on mainstream FE courses has decreased by 6% from 47,284 in 2010/11 to 44,505 in 2011/12.	Enrolments on mainstream FE courses have decreased by 7.5%, from 48,090 in 2007/08 to 44,505 in 2011/12.
Widening Access.	In 2011/12 21.5% of mainstream FE enrolments were from the 20% most deprived areas in NI – the same proportion as in 2010/11.	In 2011/12 21.5% of mainstream FE enrolments were from the 20% most deprived areas in NI, showing a 1 percentage point increase since 2007/08.
'Narrow'[13] STEM Enrolments.	'Narrow' STEM enrolments within mainstream FE decreased by 1% over the year to 2011/12.	'Narrow' STEM enrolments within mainstream FE have decreased by one-fifth (20%) between 2007/08 and 2011/12.
Retention on mainstream FE Courses.	The retention rate for mainstream FE enrolments has held fairly constant over the last year increasing by 1 percentage point to stand at 92% in 2011/12.	The retention rate for mainstream FE enrolments was 91% in 2007/08.
Achievement on mainstream FE Courses.	The achievement rate for mainstream FE courses enrolments has increased from 80% in 2010/11 to 83% in 2011/12.	N/A

11 2007/08 is used as the long term baseline since this was the first year FLU data was collected.
12 The FLU return did not capture achievement data until 2009/10 and therefore further trend analysis is not available prior to that.
13 Defined as Subject Areas: Biological sciences, Physical sciences, Mathematics & Computing science and Engineering & technology.

Table 5: Trends in Training for Success / Programme-led Apprenticeships

Indicator	Recent Change	Long-Term Trend
Overall occupancy on the DEL Training for Success / PLA programme.	Figures for 31 October 2012 indicate a 6% decrease in occupancy on Training for Success (inc. PLA) compared to the same period a year earlier, bringing the total occupancy number to 7,768.	Occupancy has grown by 59% between 2008 and 2012.
PLA participants on 'narrow' STEM frameworks.	Occupancy on 'narrow' STEM frameworks within PLA has increased by 5% between October 2011 and October 2012.	Occupancy on 'narrow' STEM frameworks within PLA has almost doubled (92%) between October 2009 and October 2012.
TfS/PLA participants by MDM quintiles.	The proportion of TfS participants from the most deprived areas decreased from 42% to 41% between October 2011 and October 2012. The proportion of PLA participants from the most deprived areas increased from 31% to 32% between October 2011 and October 2012.	The proportion of TfS participants from the most deprived areas has increased from 40% to 41% over the last four years. The proportion of PLA participants from the most deprived areas has decreased from 35% to 32% over the last three years.
Numbers of TfS and PLA leavers obtaining qualifications.	Numbers of Level 2 and above qualifications obtained by leavers from TfS/PLA increased substantially from 418 to 1,346 between 2010/11 and 2011/12.	Figures for numbers of qualifications obtained by leavers from TfS/PLA for the early years of these programmes are not comparable with later years, as it takes considerable time for trainees to pass through the system and for qualifications to be obtained.

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Table 6: Trends in ApprenticeshipsNI

Indicator	Recent Change	Long-Term Trend
Overall occupancy on the DEL ApprenticeshipsNI programme.	Between October 2011 and October 2012, there was an 8% decrease in occupancy on the ApprenticeshipsNI programme, bringing the total occupancy number to 11,207.	Occupancy on ApprenticeshipsNI has increased by 77% between 2008 and 2012.
ApprenticeshipsNI participants on 'narrow'[14] STEM frameworks.	Occupancy on 'narrow' STEM frameworks within ApprenticeshipsNI has decreased by 15% between October 2011 and October 2012.	Occupancy on 'narrow' STEM frameworks within ApprenticeshipsNI increased by 20% between October 2008 and October 2012.
ApprenticeshipsNI participants by MDM quintiles.	The proportion of ApprenticeshipsNI participants from the most deprived areas has increased by 1 percentage point between October 2011 and October 2012, to 25%.	The proportion of ApprenticeshipsNI participants from the most deprived areas increased between October 2008 and October 2012, from 20% to 25%.
Number of Level 2 qualifications obtained by leavers from the DEL ApprenticeshipsNI programme.	Between 2010/11 and 2011/12, there was an increase of 7% in the number of NVQ Level 2 qualifications obtained by leavers from the Apprenticeship Northern Ireland programme. Full frameworks obtained by leavers at Level 2 increased by 1%.	Between 2007/08 and 2011/12, the number of NVQ Level 2 qualifications obtained by Apprenticeship leavers increased from 66 to 4,324. Over the same period, the number of Level 2 leavers obtaining a Full Framework at Level 2 increased from 46 to 3,482.
Number of Level 3 qualifications obtained by leavers from the DEL ApprenticeshipsNI programme.	Between 2010/11 and 2011/12, there was an increase of 76% in the number of NVQ Level 3 qualifications obtained by participants leaving ApprenticeshipsNI. Over the same period, the number of these leavers who obtained a Full Framework at Level 3 increased by 88%.	Between 2007/08 and 2011/12, the number of NVQ Level 3 qualifications obtained by participants leaving ApprenticeshipsNI increased from 1 to 2,416. Over the same period, the number of these leavers who obtained a Full Framework at Level 3 increased from a zero base to 2,270.

14 Defined as subject areas; Engineering & Technology, Manufacturing and Information Technology.

Table 7: Trends in Bridge to Employment

Indicator	Recent Change	Long-Term Trend
Successful completion of training on **Bridge to Employment** programmes (i.e. achieving employment following training).	The training completion rate on Bridge to Employment has decreased over the last year from 90% in 2011/12 to 80% in 2012/13, but still remains at a high level.	The training completion rate has decreased from 99% in 2008/09 to 80% in 2012/13, but still remains at a high level.

Table 8: Trends in Key Essential Skills Indicators – Level 2 Provision[15]

Indicator	Recent Change	Long-Term Trend
Level 2 Qualifications in Essential Skills[16].	The number of Level 2 qualifications in Essential skills has increased by 26% from 16,307 in 2010/11 to 20,584 in 2011/12.	Level 2 qualifications in Essential Skills have increased from 291 in 2003/04 to 20,584 in 2011/12.
Level 2 Enrolments on Essential Skills courses.	The number of Level 2 enrolments on Essential skills courses has increased by 7% from 21,766 in 2010/11 to 23,211 in 2011/12.	Level 2 enrolments on Essential Skills course has increased from 759 in 2003/04 to 23,211 in 2011/12.
Retention on Level 2 Essential Skills Courses.	The retention rate on Level 2 Essential skills courses has held constant at 90% in 2011/12.	The retention rate on Level 2 Essential skills courses has increased from 89% in 2003/04 to 90% in 2011/12.
Achievement on Level 2 Essential Skills Courses.	The achievement rate[17] on Level 2 Essential skills courses has increased from 84% in 2010/11 to 99% in 2011/12.	The achievement rate on Level 2 Essential skills courses has increased from 43% in 2003/04 to 99% in 2011/12.

15 Qualifications are correct as at 31 March2013. Enrolments are correct as at 1 February 2013.
16 Qualifications in Essential Skills are calculated on the information returned by Awarding Organisations.
17 The inability to match individuals with Essential Skills qualifications issued by Awarding Organisations to the enrolment data from the providers of Essential skills reduces the robustness of achievement rate analysis by academic year.

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Table 9: Trends in key Employment Indicators

Indicator	Recent Change	Long-Term Trend
Moving Benefit clients into Employment.	In 2012/13 there were 38,871 benefit claimants supported into employment (compared to a target of 30,000). This represents an increase of 2.4% (900 claimants) from 2011/12, (29.6% above target) and has been achieved against a backdrop of rising unemployment.	Numbers have increased somewhat despite the recession putting downward pressure on vacancies. In the first two years of the PfG the Department has supported almost 77,000 (76,841) benefit claimants into employment. The commitment is to support 114,000 into employment by 2015.
Steps to Work.	This year's data have been enhanced by adding information from DSD and HMRC. These have improved the estimates of those moving to employment. The figure for 2011/12 was 37% of leavers moving to unsubsidised employment which is unchanged from the previous year (2010/11).	Since the Steps to Work programme was introduced in September 2008 the percentage of leavers moving to unsubsidised employment has increased year on year from 26% in 2008/09, 33% in 2009/10 to 37% in both 2010/11 and 2011/12.
Economic Inactivity*	Inactivity Strategy to be developed and likely to result in refined indicators. The working age inactivity rate stands at 27.3% (May – July 2013). This rate increased by 0.3 percentage points over the quarter and by 0.4 percentage points over the year. However, the Northern Ireland rate remained significantly higher than the UK average rate (22.3%) and was the highest rate among the twelve UK regions.	The working age economic inactivity rate has mostly stayed within a fairly narrow band between 25% and 30% over a period of around three decades.

* *The **Economic Inactivity rate** is based on Labour Force Survey (LFS) data. The LFS is a sample survey which is subject to considerable volatility; caution should be applied in reading too much into its short term movements*

Table 10: Trends in Key Innovation Indicators[18]

Indicator	Recent Change	Long-Term Trend
STEM PhD enrolments at NI HEIs.	Between 2010/11 and 2011/12 STEM enrolments in PhDs at NI HEIs have decreased by 7.5%.	Between 2001/02 and 2011/12 STEM enrolments at NI HEIs have increased by 47%.
Income from Collaborative Research at NI HEIs.	Between 2010/11 and 2011/12 income from Collaborative Research has decreased by 11%. However, in relative terms, the performance of local HEIs in gaining income from collaborative research remains strong at £35.4 million in 2011/12, representing 3.6% of the UK total (where the Northern Ireland economy represents 2.2**%** of UK Output).	Income from Collaborative Research has increased by 28% between 2002/03 and 2011/12.
Number of Spin-off Companies originating from NI HEIs[19].	Between 2010/11 and 2011/12 the number of spin-off companies decreased by 1 (from 39 companies to 38). However, in relative terms, this represented almost 5% of the UK total in 2011/12, indicating that local HEIs are outperforming their UK counterparts.	Between 2002/03 and 2011/12 the number of spin-off companies has increased by 23% (from 31 companies in 2002/03).
FE Cost Recovery Provision.	Between 2010/11 and 2011/12, cost recovery professional & technical provision in FE (which provides an indicator of FE interaction with business and the community) increased by 1.8%.	Between 2002/03 and 2011/12, the cost recovery professional & technical provision in FE has increased by around 50%, on aggregate.

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18 Position at June 2013.
19 Relates to those spin out companies with some HEI ownership and still active after 3 years.

Evaluation of the Strengthening the All–Island Research Base Programme

Jenny Irwin & Rosalind Henry, RSM McClure Watters

The Department for Employment and Learning Higher Education Research Policy Branch delivers numerous programmes including "Strengthening the all-Island Research Base Programme." It was designed to develop and/or strengthen the links with research groups in the Republic of Ireland through research that is economically and socially relevant to Northern Ireland and the Island of Ireland as a whole. This article presents details of a recent evaluation of the Programme by RSM McClure Watters.

Introduction

The "Strengthening the all-Island Research Base" programme was introduced partially to address findings of a study published by InterTradeIreland in 2008, entitled "Mapping Research and Technology Development Centres on the Island of Ireland." This study showed a lack of awareness and funding were barriers to cross border research collaboration.

With a strategic investment of £17.2million from late 2008/ early 2009 to March 2011, the programme enabled Northern Ireland's two Universities to establish twelve major projects to build additional and sustainable research capacity and capability that would contribute to the development of the 'All-Island Research Infrastructure.' The programme's overall objective was to develop and / or strengthen links with research groups in the Republic of Ireland and address the barriers to cross border research collaboration. The underlying objectives of the programme were to:

- Enable the Northern Ireland Universities to provide additional and sustainable research capacity and capability that will provide for the development of the "all-Island Research Infrastructure" as a result of appropriate targets and meaningful collaboration with leading research teams in the Republic of Ireland; and

- Contribute towards the social and economic development of Northern Ireland and the Island as a whole, by funding projects that support the priorities of the Northern Ireland Executive through:

  - The Programme for Government (Public Service Agreement 1 "Productivity Growth, Objective 1.5 "To develop and sustain a Higher Education research sector that holds a strong position within the United Kingdom and beyond and makes a major contribution to economic and social well-being");

  - The Economic Vision of Northern Ireland as a high value-added, highly skilled, innovative and enterprising economy which enables the region to compete globally, leading to greater wealth-creation and better employment opportunities for all – particularly through the driver of "increasing Investment in Research & Development and Promoting Innovation / Creativity" as set out in Section 3 of the Vision; and

  - The Regional Innovation Strategic Action Plan 2008-2011 (Key Objective 1.1. – "Ensure that Northern Ireland is playing its full role in the United Kingdom, all-Island Europe and global innovation arenas")

These key objectives were supplemented in the "Call for Proposals" by five "Anticipated Outcomes":

- Northern Ireland Universities having increased access to complementary research infrastructure and investments in the Republic of Ireland, including those made under the Programme for Research in Third Level Institutions Initiative or via Science Foundation Ireland (this should enable the Northern Ireland Universities to increase external research grant income without the need for investment in new physical resources);
- Enhanced Republic of Ireland Universities' access to Northern Ireland research infrastructure and investments;
- The Creation of 'split site' studentships that will develop increased research collaboration and further embed cross border research partnerships within the partner institutions;
- The Leverage of further research collaboration with high quality research centres internationally, including those in the United States through the United States-Ireland Research & Development Partnership; and
- Increased benefits/ outcomes for Northern Ireland's Innovation Agenda.

The Wider Context of Cross Border Research

As autonomous bodies, the universities are encouraged by the Department for Employment and Learning to establish strategic international partnerships with the best Higher Education Initiatives globally and where there will be genuine added value accrued to Northern Ireland. North/South collaboration has therefore been viewed in this wider context of pursuing international relevance and excellence, rather than as an end in and of itself.

Currently, the Department's commitment to encouraging North/South research collaboration is set in the wider European and trans-Atlantic contexts of the European Framework Programme (Framework Programme 7/ Horizon 2020) and the increasingly prestigious United States-Ireland Research & Development Partnership respectively. Enhancing participation in these larger international programmes would be a key priority for any future North/South research programme, building on the success of the "Strengthening the all-Island Research Base" programme which has spawned increased activity in both European Union and United States arenas.

A recent study undertaken by the Centre for Cross Border Studies on behalf of the Irish Department of Education and Skills uncovered around 400 existing research projects (many of them science projects) with partners from universities and institutes of technology in the two jurisdictions on the island of Ireland. Many of these are being undertaken in the context of wider European consortia under the auspices of Framework Programme 7.

Conclusions

Effectiveness of the Programme in meeting its Aims and Objectives

To assess the **effectiveness of the programme** in relation to aims, objectives and outcomes, RSM McClure Watters considered feedback from survey respondents.

Northern Ireland Lead Programme Indicators

At least 75% of Northern Ireland Lead Programme Indicators expect to achieve each of the anticipated aims and objectives of the programme and over 64% of Northern Ireland Lead Programme Indicators state they have already achieved these in full. Over 75% of the Northern Ireland Lead Programme Indicators expect to achieve most (six) of the seven programme outcomes. While only 58% expected to achieve the outcome related to creation of split-site studentships, meeting this outcome was not a key requirement for all projects. Considering those who indicated each of the following was an anticipated outcome for their project, around 80% of Northern Ireland Lead Programme Indicators indicated that they had already fully achieved:

- Increased access to complementary research and infrastructure and investments;
- Increased external research grant income;
- Increased research collaboration.

The proportion who had already fully achieved other anticipated outcomes varied from 29% to 58%. Overall only one Northern Ireland Lead Programme Indicators stated that one anticipated outcome was not achieved: the reason given was that the timeline was not sufficient to recruit and appoint split-site studentships.

Republic of Ireland Partner Programme Indicators

Over 70% of Republic of Ireland Partner Programme Indicators expect to achieve the objectives of developing cross-border research collaboration and additional and sustainable research capacity and capability. However while 66% fully achieved the former objective, only 25% fully achieved the latter. With regard to other objectives, over 35% of Republic of Ireland Partner Programme Indicators expect to develop and sustain an Higher Education research sector that holds a strong position in the United Kingdom/Ireland and increase investment in Research & Development. The proportions who indicated each of these objectives was fully achieved were 33% and 17% respectively.

The majority (around 60% or more) of Republic of Ireland Partner Progamme Indicators expect to achieve most (six) of the seven outcomes; only a small proportion (29%) expected to achieve the outcome related to creation of split-site studentships, although this was not a key requirement for all projects. Considering those who indicated each of the following was an anticipated outcome for their project, around two thirds (67% and 75% respectively) of Republic of Ireland Partner Programme Indicators indicated that they had fully achieved the following:

- Increased research collaboration; and
- Embedded cross-border partnerships.

In relation to programme objectives, one Republic of Ireland Partner Programme Indicators stated that the objective of increased investment in Research & Development was not achieved as matching funds in Republic of Ireland were not available. In addition, one was not able to increase external research grant income as Republic of Ireland grant agencies did not synchronise with those in Northern Ireland. Furthermore, two Republic of Ireland Partners were not able to create split-site studentships because students were not recruited and Cotutelle agreements[1] were never finalised.

The justification for and benefits of the programme

Overall United Kingdom, Northern Ireland and Republic of Ireland government policy at the time that the programme was introduced highlighted the benefits of investment in Higher Education Initiatives research in terms of its contribution to an innovative and knowledge-based economy. A review of the competitiveness of Northern Ireland indicated that to improve the level of international technology transfer and collaborative research the Executive, United Kingdom and Irish Governments and research funding bodies should jointly explore how mainstream science funding and long-term strategy could be aligned[2].

In addition, a Joint Paper by University of Ulster and Queens' University of Belfast submitted to Economic Development Forum Innovation Subgroup[3] suggested initiatives such as those aimed at skills development in Republic of Ireland, could also be usefully extended to Northern Ireland. This would foster the formation of world class research clusters across the Island and enhance prospects for externally funded research activity from sources such as the European Union Framework Programme 7.

In the Republic of Ireland the Advisory Council for Science, Technology and Innovation[4] emphasised the importance of collaboration, and especially international collaboration. It stated that all Science, Technology and Innovation funders and owners of national Science, Technology and Innovation programmes should be required to 'demonstrate how the research groups and enterprises they are supporting are exploiting the potential offered by Framework

1. Joint supervision of doctoral studies by two universities from different countries; if successful, the doctoral candidate will be awarded a joint or double doctoral degree awarded by the two institutions (Source: http://eacea.ec.europa.eu/erasmus_mundus/tools/glossary_en.php)
2. Sir David Varney for HM Treasury, Review of the Competitiveness of Northern Ireland (April 2008)*
3. Joint Paper by 2 NI Universities submitted to Economic Development Forum (EDF) Innovation Subgroup, Northern Ireland's Universities: Key Drivers of Wealth Creation and Future Economic Development, (May 2007)
4. Advisory Council for Science, Technology and Innovation, Ireland's International Engagement in STI (2008)

Programme 7 and other European programmes to get involved in appropriate trans-national collaborations and avail of the opportunities offered for researcher mobility'.

A study commissioned by InterTradeIreland[5] noted that centres in Northern Ireland and Republic of Ireland collaborate, to a greater extent, with local industry and academic partners (i.e. in their respective jurisdictions) compared to cross-border partners. The levels of cross-border collaboration identified in the study point to a distinct border-effect which can be explained by a combination of factors including limited knowledge of potential partners and of the incentives that accommodate or encourage all-Island collaboration. The availability of suitable funding is also identified as both a driver and a barrier to collaboration.

In addition, a report into developing the Northern Ireland Economy[6] recognised that there were still many significant barriers to organisations of all sizes becoming involved in Research & Development. These barriers included:

- Issues regarding awareness and understanding of the available opportunities;
- Barriers to accessing funding and barriers to navigating and coping with the complexities of the programmes; and
- The administrative processes associated with them.

Net additionality of the programme

Additionality, displacement and **deadweight** have been assessed from the surveys of Lead Programme Indicators and Republic of Ireland Partner Programme Indicators.

Table 1: Additionality of the Programme shows the full and partial additionality of the programme for Northern Ireland Lead PIs and Republic of Ireland Partner Programme Indicators

Table 1: Additionality of the Programme

	12 Lead Programme Indicators	17 Partner Programme Indicators (Republic of Ireland)
Full Additionality	Full 33% (2 probably, 2 definitely) would not have gone ahead with project	Full 65% (7 probably, 4 definitely) would not have gone ahead with project
Partial Additionality	Partial 66% (n=8) would have gone ahead (but with longer timescales and / or smaller scale)	Partial 35% (n=6) would have gone ahead (but with longer timescales and / or smaller scale)

Source: RSM McClure Watters January 2013

5. Genesis Consulting Ltd commissioned by InterTradeIreland, Mapping Research & Technological Development Centres on the Island of Ireland (Jan. 2008)
6. Enterprise Trade and Investment Committee, Report on the Committee's Inquiry into Developing the Northern Ireland Economy Through Innovation Research Development (2012)

All respondents reported either full or partial additionality:

Full additionality[7]: The table above shows full additionality is higher for Republic of Ireland Partner Programme Indicators than for Northern Ireland Lead Programme Indicators (65% vs. 33%); these would not have gone ahead with their project without the programme.

Partial additionality[8]: However partial additionality (would have gone ahead with the project over a longer timescale and/or on a smaller scale) is higher for Northern Ireland Lead Programme Indicators (66%) than for Republic of Ireland Partner Programme Indicators (35%).

Deadweight[9]**:** this is 0% suggesting no Programme Indicators would be undertaking these activities on their own;

Displacement[10]**:** The Northern Ireland Lead Programme Indicators and the Republic of Ireland Partner Programme Indicators who indicted partial addtionality provided some further explanation of other funding sources that they might have accessed. However the work completed would have been of a lesser scale and/or over a longer timescale; in addition it is not clear to what extent cross-border collaboration might have featured.

Both Northern Ireland Lead and Republic of Ireland Partner Programme Indicators were also asked about the need for collaborative research partners for the project – this assesses the extent to which a collaborative partner was required.

Table 2: Need for Collaborative Research Partner

	12 Lead Programme Indicators	17 Partner Programme Indicators (Republic of Ireland)
Need for research partners for collaboration in the project	10 could not have undertaken the research project without a research partner to collaborate with	12 could not have undertaken the research project without research partner to collaborate with

Source: RSM McClure Watters January 2013

Table 2: Need for Collaborative Research Partner shows that most (10 of the 12 Northern Ireland Lead Programme Indicators and 12 of the 17 Republic of Ireland Partner Programme Indicators) stated they could not have undertaken the research project without a collaborative partner. Therefore it is evident that all of the Northern Ireland Lead Programme Indicators and Republic of Ireland Partner Programme Indicators reported both full or partial additionality and none stated that they could have completed the research project within the same timescale, or to the same scale, in the absence of the programme.

7. Full additionality - benefits are wholly attributable to the programme, i.e. deadweight and displacement are zero
8. Partial additionality - activity would have been carried out earlier, or on a larger scale or to a higher specification or has displaced existing activity.
9. Deadweight - activity that would have occurred regardless of the policy
10. Displacement of activity within a local area (taking market share from other local firms producing the same or similar goods or services)

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Wider "spill-over" benefits of the funding, including additional research projects and other collaborations

Table 3 details the additional research projects and other collaborations undertaken by the 12 Northern Ireland Lead Programme Indicators.

Table 3 shows that there have been a number of wider 'spill-over' benefits as a result of the funding provided by the programme. The majority of Northern Ireland Lead Programme Indicators have been able to secure funding to sustain the project (11 of 12) and sustain collaboration with Republic of Ireland partners (11 with the same institution and 10 with different/additional Republic of Ireland institutions). In addition over 75% of Northern Ireland Lead Programme Indicators have established international partnerships, while 7 have submitted joint applications for funding / subsequent collaborative research.

Table 3: Additional research projects and other collaborations undertaken by the 12 Northern Ireland Lead Programme Indicators

	Additional research projects & other collaborations – 12 Lead Programme Indicators
Sustaining the project	11 of 12 of Lead Programme Indicators indicated they were able to secure funding to sustain the project Funding secured to sustain projects (to date) [11]: 100+ awards amounting to **£37.980m** from various sources including: United Kingdom Research Councils, Framework Programme 7, Health and Social Care Research & Development Office, Industry, Invest Northern Ireland / Technology Strategy Board, Trusts/Foundations (Wellcome Trust, Leverhulme Trust), etc.
Additional Research - Sustaining collaborations with Republic of Ireland partners	11 of the 12 Northern Ireland Lead Programme Indicators continued partnership – with same Republic of Ireland institution but undertaking new / subsequent research
International partnerships	10 Northern Ireland Lead Programme Indicators – established strategic connections with high quality research centres internationally 9 Northern Ireland Lead Programme Indicators – engaged in additional / enhanced research collaboration with high quality research centres internationally 10 Northern Ireland Lead Programme Indicators – engaged in additional joint research projects initiated internationally
Joint applications for funding / subsequent collaborative research	7 Northern Ireland Lead Programme Indicators submitted joint applications to Framework Programme 7 / 5 Northern Ireland Lead Programme Indicators to United States-Ireland Research & Development Partnership / 6 Northern Ireland Lead Programme Indicators to Others 3 provided details of further funding leveraged in addition to that secured to sustain the project: 16 awards/**£4.3m** (from various sources including: European union funding (Framework Programme 7, EURRECA, Interreg), Fusion, Industry, government departments/agencies, Wellcome Trust)

Source: RSM McClure Watters January 2013

11. Details of funding leveraged here is based on all 12 projects. Although for the twelfth project (UU05), the Principal Investigator reported not having secured funding to sustain the project in the immediate aftermath of the DEL funding programme, his team has subsequently been able to secure funding to pursue further research in the area of Functional Biomaterials as a direct result of work funded through, and building on the outcomes of, the DEL-funded programme.

Overall, therefore over 80% of Northern Ireland Lead Programme Indicators and 50% of Republic of Ireland Partner Programme Indicators indicated that the identified research related outputs were realised. The majority of the Northern Ireland Lead Programme Indicators (at least 9) and the Republic of Ireland Partner Programme Indicators (at least 10) cited various aspects of enhanced capacity/ infrastructure and collaborative working as impacts resulting from the project.

Table 4: Broader Economic Benefits, details the broader economic benefits in terms of Higher Education research/ reputation and contribution to innovation agenda/competitive economy reported by the 12 Northern Ireland Lead Programme Indicators and 17 Republic of Ireland Partner Programme Indicators. **Table 4** shows that the majority of the Northern Ireland Lead Programme Indicators and Republic of Ireland Partner Programme Indicators stated that their research project contributed to the various aspects of Higher Education research/reputation on which they were invited to comment.

Table 4: Broader Economic Benefits

Broader economic benefits	12 Lead Programme Indicators	17 Republic of Ireland Partner Programme Indicators
Higher Education research/ reputation	All 12 stated that their research project contributed to: • Northern Ireland Higher Education research sector – contribution to economic & social well-being • Pursuit of international relevance and excellence 11 stated that their research project contributed to: • Northern Ireland Higher Education research sector – maintaining strength of position in United Kingdom & beyond	All 17 stated that their research project contributed to: • Pursuit of international relevance and excellence • Most (at least 11) stated their research project contributed to: • Republic of Ireland Higher Education research sector – contribution to economic & social well-being • Republic of Ireland Higher Education research sector – maintaining strength of position
Contribution to innovation agenda / competitive economy	All 12 stated their research project contributed to: • Highly skilled, innovative and enterprising economy enabling the region to compete globally • Contribution to Northern Ireland's innovation agenda • Stimulation of innovation through collaborative projects between business & knowledge base 11 researchers said their research contributed to: • United Kingdom, all-Island European & global innovation arenas	12 said their research contributed to: • highly skilled, innovative and enterprising economy enabling the region to compete globally; • stimulation of innovation through collaborative projects between business & knowledge base. 15 stated their research contributed to all-Island European, and global innovation areas

Source: RSM McClure Watters January 2013

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Table 5: Broader Economic Benefits arising from research shows that the majority of Northern Ireland Lead Programme Indicators cited wider economic benefits arising from their research, this is mostly with regard to leverage from other funders (11 of 12 Lead Programme Indicators stated this). 11 of the Republic of Ireland Partner Programme Indicators also reported leverage from other funders, however less than half reported any of the other broader economic benefits listed.

Table 5: Broader Economic Benefits arising from research

Wider economic benefits (arising from research)	12 Lead Programme Indicators	17 Republic of Ireland Partner Programme Indicators
Leverage from other funders (external to Northern Ireland)	11	11
Created or sustained high level / quality jobs	10	5
Contributed to salaries of above average level for Northern Ireland	7	1
Contributed to commercial exploitation of innovations arising from Research & Development (patents, licenses, Intellectual Property)	8	2

Source: RSM McClure Watters January 2013

Relevance of the programme to the local, all-Island and European strategic contexts

There is evidence of a good fit between the programme and local, all-Island and European contexts. The United Kingdom strategic context indicates there was an emphasis on innovation and investing in the knowledge based economy, as well as the need for collaboration across disciplines and organisations. The Northern Ireland strategic context also refers to the need for a knowledge based economy and emphasises the importance of Higher Education Initiatives to the economic growth of Northern Ireland, the Varney Review citing Higher Education Initiatives as a key driver of economic growth[12]. The strategic context in the Republic of Ireland highlighted the benefits of, and need for, collaborative research and that the development of a knowledge based economy is a key opportunity for Ireland. From a cross border perspective the programme contributed to the key areas of aspiration for the European Research Area[13], namely an adequate flow of competent researchers, world-class research infrastructures, excellent research institutions, effective knowledge-sharing, well-coordinated research programmes and priorities and an opening of the European Research Area to the world.

12. Sir David Varney for HM Treasury, Review of the Competitiveness of Northern Ireland (April 2008)
13. The European Research Area: New Perspectives (Green Paper, 4.4.2007)

Fit of the programme within the wider context of Department for Employment and Learning's research funding portfolio

RSM McClure Watters reviewed Research & Development funding available from 11 United Kingdom and 11 Republic of Ireland based funding bodies as well as 3 international organisations. These provide funding across a range of sectors and funding is largely provided in the country where the funding organisation is based.

United Kingdom and Northern Ireland providers primarily provide funding across the United Kingdom or Northern Ireland, depending on their scope. Similarly, in Republic of Ireland the majority of funding providers fund research locally, although Programme for Research in Third Level Institutions Initiative encourages collaboration and will fund some Northern Ireland partner costs whilst Science Foundation Ireland provides funding for researchers who wish to relocate to Ireland. Several funders do offer funding on an all-Island basis (sometimes through specific schemes and in some cases the Northern Ireland Higher Education Initiatives is in the lead, but in other cases, it is a partner). These include: Charles Parsons Awards, Marine Institute/Beaufort Marine Research Fund, Environmental Protection Agency/Strive Fund, Teagasc, Geological Survey of Ireland, Heritage Council and the Health Research Board. International programmes such as Framework Programme 7 provide funding worldwide, though the United States-Ireland Research & Development Partnership is focused on the United States and Ireland, north and south.

Effectiveness of the programme in advancing the universities' research and internationalisation strategies

There are synergies evident between the universities' research and internationalisation strategies and the aims and objectives of the Strengthening the all-Island Research Base Programme. It is evident that the projects have been effective in achieving the aims, objectives and outcomes of the programme, and in doing so there has also been a corresponding contribution to the universities' strategies including the following:

- The University of Ulster Research Strategy (October 2012);
- The University of Ulster Internationalisation Strategy 2011/12 - 2015/16;
- The Institutional Research Strategy of Queens' University of Belfast (2009); and
- The Queens' University of Belfast Internationalisation Strategy 2011-2016 (2011).

Feedback from Northern Ireland Lead Programme Indicators indicates that the programme has contributed to key aspects of the universities' research and internationalisation strategies – for example:

- Increasing external grant income: 80% of Northern Ireland Lead Programme Indicators stated that the programme helped increase external grant income, evident in additional funding leveraged;
- Increasing research capacity and capability: of the 10 Northern Ireland Lead Programme Indicators who stated that they hoped to generate additional and sustainable research capacity and capability through the programme, 90% reported this was fully achieved;
- Develop and sustain a Higher Education research sector that holds a strong position in the United Kingdom/Ireland: two thirds of Northern Ireland Lead Programme Indicators said this was fully achieved;
- Leverage further research collaboration internationally: 100% of Northern Ireland Lead Programme Indicators believed this has been achieved.

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Overall Impact of the Programme

The programme has delivered a wide range of benefits (including outputs, outcomes and impacts as previously described under the headings **Effectiveness of the Programme in meeting its Aims and Objectives** and **Wider "spill-over" benefits of the funding, including additional research projects and other collaborations.**

Whilst most of these benefits are not monetised, we can compare the financial benefits (funding secured to sustain the projects as well as additional funding leveraged through other collaborations) which is around £42.3m to the overall programme costs of £17.2m yielding a healthy ratio of 2.5:1.

Value for money

In order to assess value for money we consider:

- **Effectiveness**: There is evidence of the effectiveness of the programme given the feedback from survey respondents in terms of meeting programme aims, objectives and outcomes achieved.

- **Efficiency**: The ratio of funding leveraged (both to sustain the projects and through additional collaborative projects) to programme costs is around 2.5:1 (£42.3m: £17.2m)[14].

- **Economy**: The cost to deliver the programme[15] has been estimated from Department for Employment and Learning staff time allocated to programme management activities as £25k. This represents a very small proportion of overall programme costs (£17.2m); the ratio being 0.15% which is a low value.

Taking account of this evidence, it would be reasonable to conclude that the programme has offered Value for Money over the period under evaluation.

How effectively the programme has been managed by Department for Employment and Learning

In order to assess the effectiveness of the Department for Employment and Learning in managing the programme, we consider:

- **The Department for Employment and Learning programme management costs**: These have been estimated as £24,780 over the duration of the programme (November 2008 – March 2011, 29 months). This represents 0.15% of the value of the funding under management (£17.2m) and is clearly a relatively low resource cost to deliver the programme in its current format.

- **Stakeholder feedback on the Programme**: Overall feedback in relation to the management of the programme by the Department for Employment and Learning has been positive. Stakeholders (who had been involved in the early stages of the programme (including the Assessment Panel)) indicated that they were kept well informed; the programme was delivered efficiently and included a diverse range of projects.

- **Programme participants' feedback on the Programme** – a generally high level of satisfaction was reported.

Extent to which Key Barriers to Cross-Border Research Collaboration still Pertain

The Research and Technological Development Mapping Study produced by InterTradeIreland highlighted that the two main barriers for cross-border collaboration were awareness and funding. Overall most Lead Programme Indicators and Republic of Ireland Partner Programme Indicators indicated some previous involvement in some form of collaborative research and most still perceived barriers to collaborative research (see **Table 6**).

14. This ratio takes into account a total of **£42.3m** leveraged in external income. This consists of **£37.980m** secured to sustain the projects. Funding leveraged in addition to that secured to sustain the project amounted to **£4.327m** in joint applications for funding / subsequent collaborative research
15. The cost does not include time spent on the assessment process or evaluation.

Table 6: Perceived barriers to collaborative research (based on ranking barriers, where one is most significant barrier and five is least significant barrier)

Barriers to cross-border collaboration	Northern Ireland Lead Programme Indicators	Republic of Ireland Partner Programme Indicators	Studentship Holders
Lack of awareness of cross-border opportunities	50% ranked this 1 or 2	73% ranked this 1 or 2	81% ranked this 1 or 2
Lack of time / resources to investigate	58% ranked this 1 or 2	60% ranked this 1 or 2	88% ranked this 1 or 2
Lack of funding	92% ranked this 1 or 2	80% ranked this 1 or 2	69% ranked this 1 or 2

Source: RSM McClure Watters January 2013

Lack of funding was cited by 92% of Northern Ireland Lead Programme Indicators, 80% of Republic of Ireland Partner Programme Indicators and 69% of studentship holders as a significant barrier (ranked one or two with one being most significant) to cross border research. This suggests that lack of funding is still a key barrier to cross border research, particularly for lead researchers.

Evidence of need for future rounds of the programme

There is significant justification for future rounds of the programme or other forms of all-Island research funding. To establish this we have considered:

- **Evidence of need for cross-border research funding**. There is strong evidence of the need for future funding
- **Synergies/natural fit of Northern Ireland and Republic of Ireland partners**. Due to physical proximity, also shared characteristics (including language, culture, perspectives etc.), there is a lot of common ground on which Northern Ireland / Republic of Ireland partnerships can be fairly easily established and built.
- **Value for money of the previous programme**. As highlighted earlier, there is strong evidence of the programme performing well and yielding robust impacts.
- **Complementarity with other funding sources:** As highlighted earlier, there are few other funding sources in place which support cross-border Research & Development funding in Ireland. Therefore there is a low risk of duplication/overlap with other funding sources.

Clearly therefore, there is significant justification for all-Island Research & Development and mechanisms to support this.

Section 75 requirements

Considering equality issues in the programme now completed, we note that both Queens' University of Belfast and University of Ulster were designated as a public authority, for the purposes of Section 75 of the Northern Ireland Act in 2001, and had their Equality Scheme approved by the Equality Commission for Northern Ireland (the Commission) and implemented in 2002. Specifically with regard to the Strengthening the all-Island Research Base Programme, both Universities were required by the Department for Employment & Learning to perform Equality Impact Assessments – these referenced areas of particular relevance to the cross border research projects including recruitment of staff and procurement.

Recommendations

Recommendation 1: Future Funding for all-Island Research Funding

Having reviewed the evidence available, there is a strong case for future funding for all-Island Research. The rationale is based on the clear evidence of success of the 2008-2011 programme. Given the importance of Research & Development in Northern Ireland, and the important role that a future funding programme would play in enabling Higher Education Initiatives to enhance their capability and capacity, together with links to the wider policy context, we recommend that funding is made available to support an all–Island Higher Education Initiatives Research programme.

Recommendation 2: Level and Duration of Funding

The level and duration of funding are influenced by a number of factors:

- **Duration**: This is influenced by the lead-in time to recruit staff as well as the time to complete a PhD. The minimum duration should therefore be at least three years and there is a case for this being longer (up to five years).
- **Average funding requirement per project**: The scale of funding will be influenced by the duration of the funding. For example in the 2008-2011 programme, the average project budget was around £1.4m over 29 months – which equates to about £0.58m on average per project per annum. Increasing the duration to three years provides an estimated funding requirement of £1.8m per project over three years. Clearly this is an average indicative requirement and is based on levels of funding in the 2008-2011 programme.
- **Support for funding for Republic of Ireland Partner costs**: The 2008-2011 programme did not cover the costs of Republic of Ireland Partners. This was an area of some concern that was highlighted in feedback from some of the surveys. However, it does not fall within the Department for Employment and Learning's legal remit (under Article 30 of the Education and Libraries (Northern Ireland) order 1993) to fund institutions from Republic of Ireland. To address this issue, there would be a need to secure input from an Republic of Ireland funding stream. This is something which needs to be explored with the most relevant Republic of Ireland agencies, namely the Higher Education Authority and Science Foundation Ireland.

We recommend that a future all-Island research stream is funded at a minimum at the level of the 2008-2011 programme but scaled up to three years i.e. £21m.

Recommendation 3: Delivery Mechanism

Under the 2008-2011 programme, the funding was administered and managed by the Department for Employment and Learning with specific terms and conditions and reporting requirements. Only projects based in Queens' University of Belfast and University of Ulster were eligible for support and these projects had to also involve at least one Republic of Ireland university partner. However, the Republic of Ireland partners could not receive funding under the programme.

As a condition of the Department for Employment and Learning funding, both Queens' University of Belfast and University of Ulster were required to submit funding proposals, followed by Economic Appraisals and Equality Impact Assessments (covering only the quorum of approved proposals in each university). Once Letters of Offer had been issued, the universities were then required to submit Quarterly Progress Reports (to accompany claims to be paid in arrears) for the duration of the programme, with Post Completion Reports also required at programme end. Looking to the future, there are a number of alternative scenarios to consider:

- Option 1: "As-Is" – the Department for Employment and Learning delivers the programme and only Northern Ireland Higher Education Initiatives are eligible for funding;

- Option 2: Funding from the Department for Employment and Learning and Republic of Ireland partner / two delivery bodies – the Department for Employment and Learning and a funding body from Republic of Ireland (e.g. Science Foundation Ireland or Higher Education Authority) jointly fund and administer the programme with Northern Ireland and Republic of Ireland Higher Education Initiatives eligible to participate and apply to the relevant body in their own jurisdiction for funding;

- Option 3: Funding from the Department for Employment and Learning and Republic of Ireland partners / one external delivery body – the Department for Employment and Learning and a funding body from Republic of Ireland (e.g. Science Foundation Ireland or Higher Education Initiative) jointly fund the programme, but the delivery of the funding operates through a separate body operating in both jurisdictions;

- Option 4: Funding from the Department for Employment and Learning and Republic of Ireland partner / two delivery bodies with one leading on assessment – the Department for Employment and Learning and a funding body from Republic of Ireland (e.g. Science Foundation Ireland or Higher Education Authority) agree a unified call and assessment mechanism to be administered by one organisation (either the Department for Employment and Learning, Science Foundation Ireland or Higher Education Authority) but overseen by a board providing representation/input from all the funders. Once the successful proposals are selected, the Department for Employment and Learning will issue Letters of Offer/ Contracts to the Northern Ireland universities and Science Foundation Ireland/ Higher Education Authority to the Republic of Ireland universities;

- Option 5: Mainstreaming – directing funds through existing mechanisms to encourage cross-border collaboration.

We recommend that the Department for Employment and Learning seeks to determine the interest and commitment of a funding body/bodies in Republic of Ireland to operate a joint programme, with initial discussions focusing on models along the lines of Options 2 to 5 above.

Recommendation 4: Targeting Support to Maximise Impact

Support offered through future all-Island funding for research should be consistent with: Horizon 2020 themes; Current European Union/United Kingdom, Northern Ireland and Republic of Ireland strategies; Issues which have an all-Island relevance e.g.: energy, health, transport; Sectors which are economically relevant; University research and internationalisation strategies; and University areas of strength.

Support should also be focused where additionality is high and hence where the greatest impact / potential exist. We recommend that any future all-Island funding stream defines and sets out clearly the areas in which it will provide support (based on the broad headings above).

Recommendation 5: Competitive Process for Allocating Funding

We recommend that the funders of any future cross-border collaborative Research & Development programme define a set of criteria against which funding applications will be assessed. As was the case with the 2008-2011 programme, these might include links with priority themes, additionality, sustainability, etc. This will ensure a consistent approach to allocating funding and funding would therefore be allocated on a competitive basis.

Recommendation 6: Objectives and Targets

In the 2008-2011 Programme, each of the 12 projects signed up to the overall programme objectives, targets and outcomes. They also had the opportunity to set out project specific objectives. There is considerable variation in how these are presented and their format.

We recommend that in any future programme, Programme Indicators are encouraged to specify SMART targets which encompass inputs, outputs, outcomes and impacts and against which progress can be relatively easily tracked.

Recommendation 7: Performance Monitoring

The evaluation of the progress of projects through the 2008-2011 programme has been captured through quarterly progress reports. Whilst these provided a useful record of progress and particularly at an operational level, there may be merit in collating some additional information – perhaps on an annual basis and in a standard format – to assist with any future evaluation. We recommend that in any future programme, a standard / proforma is issued annually to collate information in the key areas in relation to outputs, outcomes and impacts.

Recommendation 8: Monitoring Impacts in the Longer Terms

The final outcome of several of the targets associated with the 2008-2011 Strengthening the all-Island Research Base Programme have not yet been fully realised. We therefore recommend that the Department for Employment and Learning should continue to periodically monitor progress against selected targets in order to obtain a more complete picture of the outcomes and impacts of the programme.

Recommendation 9: Section 75 and DDA

The 2008-2011 funded projects in both Queens' University of Belfast and University of Ulster comply with the relevant policies and strategies with regard to statutory duties including equality and disability.

We recommend that any future programmes continue to ensure compliance with university policy and strategies in terms of Equality and DDA and broader strategies such as Widening Participation to avoid any adverse impacts in respect of anti-poverty, social inclusion, equality of opportunity or good relations.

Equality monitoring update

Analytical Services, Department for Employment and Learning

This article updates the results of the Department for Employment and Learning's equality monitoring for the Department's programmes and services to March 2014 by gender, community background and disability and also includes information by age and marital status. Higher Education (HE), Further Education (FE) and Essential Skills (ES) enrolments are taken over the full academic year 2012/13. Figures by gender, community background and disability have been published in the annual Labour Market Bulletins since 2001. Information has also been provided on the number of participants on Steps to Work who have moved into sustained (for 13 weeks) unsubsidised employment, by a number of the Section 75 groups between September 2008 and September 2013.

Background

Section 75 of the Northern Ireland Act (1998) places a statutory obligation on all public authorities, in carrying out their functions, to have due regard to the need to promote equality of opportunity:

- Between persons of different religious belief, political opinion, racial group, age, marital status or sexual orientation;
- Between men and women generally;
- Between persons with a disability and persons without; and
- Between persons with dependants and persons without.

As a result the Department has monitored its main programmes and services in terms of gender, disability, community background, dependants, marital status, age and ethnicity for some time. The dimensions of political opinion and sexual orientation are not currently collected. The results of the Department's equality monitoring on gender, community background and disability have been published in the Labour Market Bulletins since 2001. Monitoring is one way in which the Government can keep a check on its own performance and publication of monitoring results enables public scrutiny.

Participation by gender, community background and disability

Table 1 shows occupancy/enrolments on the Department's main programmes and services and shows the eligible groups for gender, community background and disability. The eligible group is the total number of people eligible to participate in the programme or service. The breakdown of the eligible population by gender, community background and disability was taken from the Labour Force Survey 2014 Quarter 1. Not all eligible group figures are available as the data are taken from a sample survey and once the estimated number in a category drops below a certain level (6,000), data are deemed to be unreliable and are not published. Numbers exceeding 6,000 are also subject to sampling error. The figures for occupancy should broadly reflect those for the target population. If there is a large difference between the occupancy and eligible group figures then further investigation may be appropriate.

Table 1: Occupancy and eligible group figures by gender, community background and disability [1,2]

Programme	% Female		% Catholic[3, 4]		% Disabled[5]	
	Occupancy	Eligible	Occupancy	Eligible	Occupancy	Eligible
Services to Clients[6]	39%	42%	48%	59%	5%	34%
Employment Support	34%	51%	44%	46%	100%	100%
Bridge to Employment	5%	49%	57%	55%	0%	36%
Higher Education (HE)	57%	N/A	49%	N/A	7%	N/A
Further Education (FE)[7]	49%	N/A	36%	N/A	7%	N/A
Training for Success	34%	N/A	42%	N/A	20%	N/A
Apprenticeships NI	39%	50%	35%	44%	3%	21%
Programme Led Apprenticeships	29%	N/A	47%	N/A	16%	N/A
Intro	56%	N/A	35%	N/A	0%	N/A
Workable (NI)	36%	51%	30%	46%	82%	100%
Essential Skills (ES)	46%	N/A	40%	N/A	7%	N/A
Steps to Work (StW)	29%	N/A	57%	N/A	11%	N/A
Study USA	58%	N/A	68%	N/A	4%	N/A

1 The occupancy figures are as at 31st March 2014 for all of the main training and employment programmes. HE, FE and ES enrolments are taken over the full academic year 2012/13. FE figures relate to assessed provision only. The breakdown of the eligible population was taken from the Labour Force Survey 2014 Quarter 1.
2 The denominator used to calculate percentages is the total number of participants on the programme.
3 Community Background information is not mandatory for training and employment programmes.
4 For HE and FE, information on community background is not a mandatory question and it is only collected for NI domiciled students studying at NI institutions, which contributes to high response rates.
5 Disability in HE and FE is collected on the basis of self-assessment by each individual student, while those on training or employment schemes are given the DDA definition of disability and asked to determine if they are disabled under this definition. Disability information is not mandatory for training and employment programmes and is only input when the client declares a disability.
6 Eligible Group figures for Services to Clients include only those who are ILO unemployed or economically inactive but who would like a job. Services to Clients is also available to those who are employed but fewer will take up the service.
7 FE enrolments relate accredited enrolments

Examples of some of the differences in the occupancy and eligible group figures regarding female participation are given below:

- The level of female participation on Employment Support (34%) is low compared to the eligible group (51%);
- The level of female participation on Apprenticeships NI is low (39%) compared to the eligible group (50%);
- The level of female participation on Workable (NI) (36%) is low compared to the eligible group (51%);

Examples of some of the differences in the occupancy and eligible group figures regarding Catholic participation are given below:

- The level of Catholic participation on Services to Clients (48%) is low compared to the eligible group (59%);
- The level of Catholic participation on Apprenticeships NI (35%) is low compared to the eligible group (44%);
- The level of Catholic participation on Workable NI (30%) is low compared to the eligible group (46%).

Examples of some of the differences in the occupancy and eligible group figures regarding disabled participation are given below:

- The level of disabled participation on Services to Clients (5%) is very low compared to the eligible group (34%);
- The level of disabled participation on Apprenticeships NI (3%) is low compared to the eligible group (21%);
- The level of disabled participation on Workable (NI) (82%) is low compared to the eligible group (100%).

Participation by age

Table 2 shows occupancy/enrolments on the Department's main programmes and services and shows the eligible groups for age. The breakdown of the eligible population by age was taken from the Labour Force Survey 2014 Quarter 1. The eligible group is the total number of people eligible to participate in the programme or service. Not all eligible group figures are available as the data are taken from a sample survey and once the estimated number in a category drops below a certain level (6,000), data are deemed to be unreliable and are not published. Numbers exceeding 6,000 are also subject to sampling error. The figures for occupancy should broadly reflect those for the target population. If there is a large difference between the occupancy and eligible group figures then further investigation may be appropriate. The breakdown of the eligible population by age is not possible for a large number of the programmes as they specify particular age criteria and therefore a breakdown into age bands would not be appropriate or produce reliable estimates.

Table 2: Occupancy and eligible group figures by age[1,8]

Programme	% 16/17		% 18-24		% 25-49		% 50+		% Other[7]	
	Occ.[4]	Eligible	Occ.[4]	Eligible	Occ.[4]	Eligible	Occ.[4]	Eligible	Occ.[4]	Eligible
Services to Clients[2]	0%	N/A	28%	30%	54%	48%	18%	22%	0%	0%
Employment Support	0%	N/A	0%	7%	85%	47%	15%	43%	0%	N/A
Bridge to Employment	0%	N/A	100%	32%	0%	45%	0%	23%	0%	0%
Higher Education (HE)	1%	N/A	66%	N/A	28%	N/A	6%	N/A	0%	N/A
Further Education (FE)[3, 6]	33%	N/A	35%	N/A	25%	N/A	7%	N/A	0%	N/A
Training for Success	89%	N/A	11%	N/A	0%	N/A	0%	N/A	0%	N/A
Apprenticeships NI	9%	4%	73%	14%	17%	54%	2%	14%	0%	0%
Programme Led Apprenticeships	79%	N/A	21%	N/A	0%	N/A	0%	N/A	0%	N/A
Intro	0%	N/A	39%	N/A	60%	N/A	0%	N/A	0%	N/A
Workable (NI)	0%	7%	21%	47%	57%	43%	10%	N/A	12%	N/A
Essential Skills (ES)[5]	45%	N/A	28%	N/A	21%	N/A	6%	N/A	0%	N/A
Steps to Work (StW)	N/A	N/A	37%	N/A	48%	N/A	14%	N/A	0%	N/A
Study USA	0%	N/A	96%	N/A	4%	N/A	0%	N/A	0%	N/A

1 The occupancy figures are as at 31st March 2014 for all training and employment programmes. HE, FE and ES enrolments are taken over the full academic year 2012/13. FE figures relate to assessed provision only. The breakdown of the eligible population was taken from the Labour Force Survey 2014 Quarter 1.
2 Eligible Group figures for Services to Clients include only those who are ILO unemployed or economically inactive but who would like a job. Services to Clients is also available to those who are employed but fewer will take up the service.
3 In HE age is calculated as at the 31st August 2012 and in FE age is calculated at the 1st July of the previous academic year. Percentages are calculated excluding those aged under 16 for FE enrolments.
4 Occ. Is abbreviation of Occupancy.
5 For Essential Skills (ES) age is derived from date of birth and start date for student. Percentages are calculated excluding those aged under 16.
6 FE enrolments relate to accredited enrolments
7 The 'other' category is for those with unknown ages
8 The denominator used to calculate percentages is the total number of participants on the programme.

Examples of some of the differences in the occupancy and eligible group figures regarding participation by age are given below:

- The level of participation of 18 to 24 year olds on Apprenticeships NI (73%) is high compared to the eligible group (14%);
- The level of participation of 18 to 24 year olds on Workable NI is low (21%) compared to the eligible group (47%);
- The level of participation of 25-49 year olds on Employment Support is high (85%) compared to the eligible group (47%);
- The level of participation of those aged between 25 and 49 on Apprenticeships NI is low (17%) compared to the eligible group (54%);
- The level of participation of those aged over 50 years old on Employment Support (15%) is low compared to the eligible group (43%);
- The level of participation of those aged over 50 years old on Apprenticeships NI (2%) is low compared to the eligible group (14%).

Participation by marital status

Table 3 shows occupancy/enrolments on the Department's main programmes and services and shows the eligible groups for marital status. The breakdown of the eligible population by marital status was taken from the Labour Force Survey 2014 Quarter 1. The eligible group is the total number of people eligible to participate in the programme or service. Not all eligible group figures are available as the data are taken from a sample survey and once the estimated number in a category drops below a certain

Table 3: Occupancy and eligible group figures by marital status[1,7]

Programme	% Single		% Married		% Other[6]	
	Occ.[4]	Eligible	Occ.[4]	Eligible	Occ.[4]	Eligible
Services to Clients[2]	68%	59%	15%	26%	16%	14%
Employment Support	88%	38%	11%	43%	1%	19%
Bridge to Employment	57%	58%	38%	30%	5%	11%
Higher Education (HE)	79%	N/A	12%	N/A	9%	N/A
Further Education (FE)[3, 5]	63%	N/A	12%	N/A	25%	N/A
Training for Success	5%	N/A	0%	N/A	95%	N/A
Apprenticeships NI	56%	42%	3%	48%	41%	10%
Programme Led Apprenticeships	13%	N/A	0%	N/A	87%	N/A
Intro	79%	N/A	18%	N/A	12%	N/A
Workable (NI)	75%	38%	12%	43%	3%	19%
Essential Skills (ES)[3]	54%	N/A	8%	N/A	38%	N/A
Steps to Work (StW)[3]	77%	N/A	10%	N/A	13%	N/A
Study USA	97%	N/A	3%	N/A	0%	N/A

1 The occupancy figures are as at 31st March 2014 for all training and employment programmes. HE, FE and ES enrolments are taken over the full academic year 2012/13. FE figures relate to assessed provision only. The breakdown of the eligible population was taken from the Labour Force Survey 2014 Quarter 1.
2 Eligible Group figures for Services to Clients include only those who are ILO unemployed or economically inactive but who would like a job. Services to Clients service is also available to those who are employed but fewer will take up the service.
3 Figures for '% married' of FE and ES enrolments and Steps to Work occupancy figures includes '% co-habiting'.
4 Occ. Is abbreviation of Occupancy.
5 FE enrolments relate to accredited enrolments.
6 The 'other' category also included those those with unknown marital status.
7 The denominator used to calculate percentages is the total number of participants on the programme.

level (6,000), data are deemed to be unreliable and are not published. Numbers exceeding 6,000 are also subject to sampling error. The figures for occupancy should broadly reflect those for the target population. If there is a large difference between the occupancy and eligible group figures then further investigation may be appropriate. The breakdown of the eligible population by marital status is not possible for a large number of the programmes as there is a large proportion of suppressed data and therefore a breakdown into marital status bands would not be appropriate or produce reliable estimates.

Examples of some of the differences in the occupancy and eligible group figures regarding participation by marital status are given below:

- The level of single participation on Services to Clients (68%) is high compared to the eligible group (59%);
- The level of single participation on Employment Support (88%) is extremely high compared to the eligible group (38%);
- The level of single participation on Apprenticeships NI is high (56%) compared to the eligible group (42%);
- The level of single participation on Workable NI is high (75%) compared to the eligible group (38%);
- The level of married participation on Services to Clients (15%) is low compared to the eligible group (26%);
- The level of married participation on Employment Support (11%) is extremely low compared to the eligible group (43%);
- The level of married participation on Apprenticeships NI is extremely low (3%) compared to the eligible group (48%);
- The level of other marital status groups' participation on Employment Support (1%) is very low compared to the eligible group (19%);
- The level of other marital status groups' participation on Apprenticeships NI is high (41%) compared to the eligible group (10%);
- The level of other marital status groups' participation on Workable NI is low (3%) compared to the eligible group (19%).

Participation by dependants and ethnicity

The breakdown of the eligible population by dependants is not possible for several reasons. The information on dependant children is derived from the household dataset to ensure that only the head or partner of a head of household are included as those with dependants. This avoids the problem of counting an adult sibling in a household with other younger dependant children as a person with dependants. Usage of the household dataset in this manner does not enable the required breakdown by the various eligibility criteria for the programmes.

The breakdown of the eligible population by ethnicity is not possible due to the small number of people classified as 'non-white' of the total working age. As a result any further breakdowns such as those required render this estimate unreliable.

Monitoring outcomes

From 2006 the process of examining the measurable outcomes of the Department's programmes and services began. In this year's equality article the measurable outcomes of Steps to Work will be provided.

The aim of Steps to Work is to assist people who are unemployed or economically inactive to find and sustain employment.

Participation in Steps to Work is mandatory for all those on Jobseeker's Allowance (JSA) aged between 18 and 24 who have been claiming for six months or longer and those aged 25 and over claiming JSA for 18 months or more. Steps to Work also offers access to provision for voluntary participants aged 18 or over (16 or over for lone parents) for those on Incapacity Benefit, Employment and Support Allowance, Income Support, other benefits, and those economically inactive not in receipt of benefits.

Individuals on JSA who have not yet reached the threshold for mandatory participation may also avail of Steps to Work provision on a voluntary basis. Furthermore, access to Steps to Work provision is available to those on the Department for Employment and Learning's Pathways to Work programme and LEMIS (Local Employment Intermediary Service).

Table 4 shows the numbers of leavers and the number who have moved into sustained (for 13 weeks) unsubsidised employment for Steps to Work by a number of the Section 75 equality groups between September 2008 and September 2013.

Table 4: All participants who moved into sustained (for 13 weeks) unsubsidised employment by equality group (September 2008 to September 2013)

Equality Group[1]	Total leaving Steps to Work	Moved to employment[2]	% of Total Leaving	Sustained 13 weeks	% of Total Leaving
All	114,477	40,937	36%	33,311	29%
Male	84,070	30,003	36%	23,995	29%
Female	30,407	10,934	36%	9,316	31%
Single	87,470	32,536	37%	26,212	30%
Married/Cohabiting	13,968	5,141	37%	4,380	31%
Other	11,936	2,875	24%	2,395	20%
Not known	1,103	358	35%	324	29%
Catholic	57,017	19,634	34%	15,951	28%
Protestant	42,252	15,510	37%	12,588	30%
Other	5,344	2,024	38%	1,654	31%
Not known	9,864	3,769	38%	3,118	32%
Non Disabled	96,115	35,763	37%	28,970	30%
Disabled	10,466	2,202	21%	1,740	17%
Not known	7,896	2,972	38%	2,601	33%
White	110,907	39,706	36%	32,316	29%
Non White	2,013	736	37%	596	30%
Not known	1,557	495	32%	399	26%
Aged <25	53,456	22,223	42%	17,858	33%
Aged 25 to 49	48,660	15,942	33%	13,137	27%
Aged 50+	12,361	2,772	22%	2,316	19%

1 A Participant is considered as having moved to employment within 13 weeks of leaving Steps to Work based on DEL/HMRC data.
2 A participant is considered to have sustained employment for 13 weeks if they remain in the same spell of employment for 13 weeks or more according to DEL/HMRC data.

There were a total of 114,477 participants who left the programme, and of these 29% sustained employment for 13 weeks or longer. Female participants have a higher proportion sustaining employment with 31% of leavers doing so compared with 29% for males. In terms of community background, 30% of Protestants moved into sustained employment compared to 28% of Catholics. When looking at disability, the figures for Non-disabled and disabled are 30% and 17% respectively. There is a noticeable difference between age groups with participants aged under 25 outperforming their counterparts. Approximately 33% of this group moved into sustained employment compared to 27% for those aged 25-49 and 19% for those aged 50+.

The Department will continue to collect data on and monitor the occupancy of its main programmes and services in order to ensure that all of these are delivered on the basis of equality of opportunity and we will continue to publish the results in the Labour Market Bulletins.

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Key words:
equality, monitoring, DEL programmes, Section 75, occupancy, eligible groups, measurable outcomes.

The Department for Employment and Learning: Vacancy Management Employer Survey

Edited by Eugene Curran, Analytical Services, Department for Employment and Learning

Preface

This article details the results and key findings of the 'Vacancy Management Employer Survey', conducted by Millward Brown Ulster on behalf of the Department for Employment and Learning (DEL). The study was carried out in June and July of 2014, it tests the practices and attitudes of employers who use the Departments vacancy management service.

Introduction

The Department for Employment and Learning's Employment Service (ES) offers a free of charge vacancy placement service to employers, through the digital platform of Employers Online (EROL), or via a manual office based vacancy taking service in the jobs and Benefits Offices across Northern Ireland (NI).

To ensure that the quality of services offered to employers is of the highest standards and to help improve current practices, the Department commissioned a survey of its vacancy taking service.

Following a formal tendering process Millward Brown Ulster were commissioned by the Department to carry out a comprehensive survey of employers to measure employer satisfaction and their experience of using the current ES vacancy taking service.

Methodology

In order to provide detailed quantitative information on the attitudes, behaviours and experiences of employers a telephone survey methodology was utilised.

All interviews were conducted by telephone from a clean sample database of more than 6,000 contacts provided by the Department spanning all customers who utilised their services between January and June 2014. Furthermore, during the survey period every employer within the database had an equal opportunity of being contacted for interview.

In total 2,200 employers responded to the survey. The data was segmented and analysed by a range of different variables although only reported on by these segments if the results were significant. Based on confidence limits of 95%, a sample of 2,000 respondents yields sensitivity swings of +/- 2%.

In terms of quotas the Department expressed that they would like to achieve as close as possible to a 50/50 split for online and manual users (1,100 completed surveys for each cohort). Quota controls were also calculated based upon the sample universe and stratifications were agreed to ensure the achieved sample was fully representative of employers in terms of number of employees, location and sector. However, at no stage throughout the fieldwork period did the controls need to be evoked (**Table 1**).

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Table 1: Breakdown of telephone interviews achieved during the fieldwork period

Method of Placing Vacancy	Number	Quota Control Target %	Achieved %
Online	1,100	50	50
Manual	1,100	50	50
Total	2,200	100	100
Number of Employees	Number	%	%
1 - 9 Employees	1,102	57	50
10 - 49 Employees	761	30	35
50 - 249 Employees	269	10	12
250+ Employees	68	3	3
Total	2,200	100	100
Sector	Number	%	%
Private	1,771	NA	81
Public	236	NA	11
Voluntary	193	NA	9
Total	2,200	NA	100
Super Council Area	Number	%	%
Antrim & Newtownabbey	141	6	6
Armagh, Banbridge & Craigavon	251	11	11
Belfast	431	20	20
Causeway Coast & Glens	161	8	7
Derry & Strabane	227	11	10
Fermanagh & Omagh	163	7	7
Lisburn & Castlereagh	110	5	5
Mid & East Antrim	157	7	7
Mid Ulster	216	9	10
Newry, Mourne & Down	202	9	9
North Down & Ards	141	7	6
Total	**2,200**	**100**	**100**

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Key Findings

Employer Profile (Percentage)

More than a third (34%) of interviews were conducted with the general/duty manager of the business and a further fifth (20%) were carried out with the owner or proprietor. Directors /Managing Directors accounted for 14% while human resources/personnel managers accounted for 12%.

Four fifths (80%) of employers placing vacancies were part of the private sector. The remainder was split across the public sector (11%) and the voluntary sector (9%).

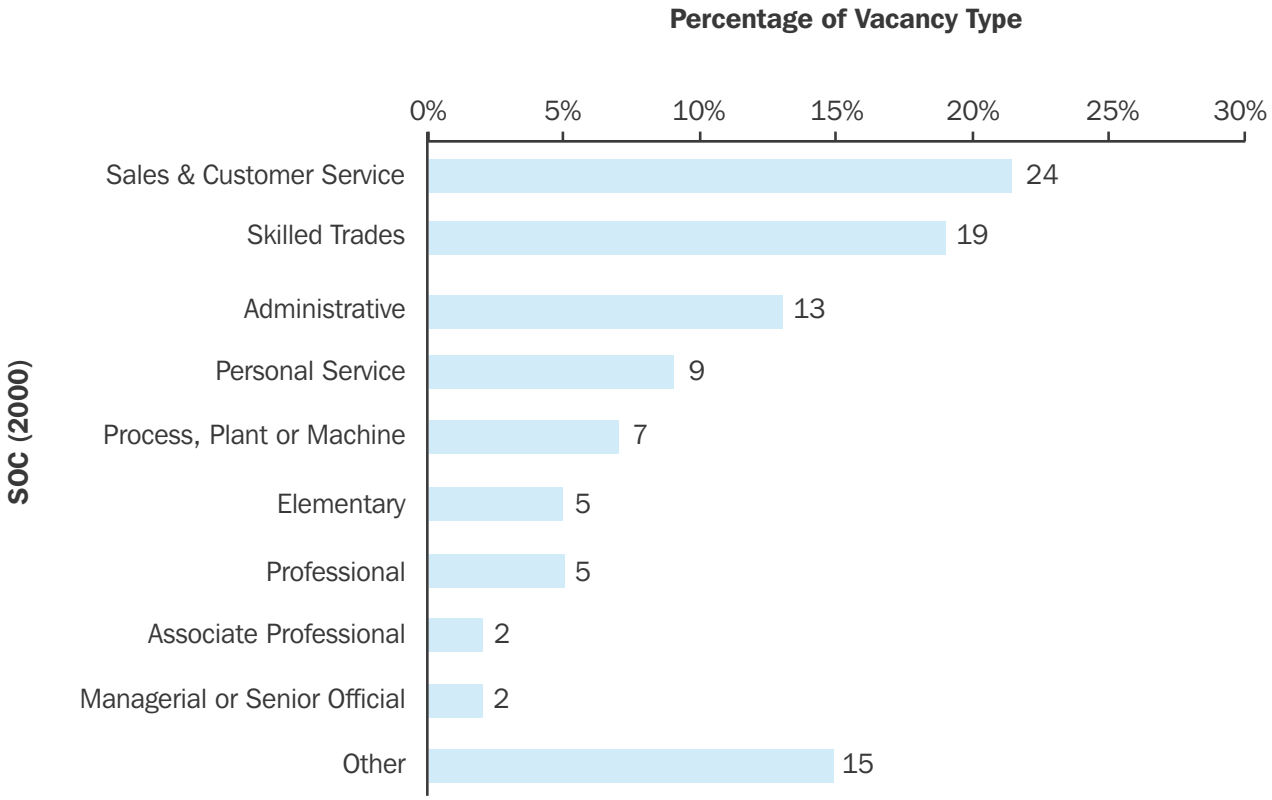
Over a fifth (22%) of employers fell into the 'other service activities' sector, while 19% of businesses were part of the wholesale and retail sector. The manufacturing and construction sectors accounted for a further 14%.

There was representation from all of the 11 new super council areas with 20% of employers placing vacancies within the Belfast area, followed by 11% from the new Armagh, Banbridge and Craigavon council area.

Contact with the Department for Employment and Learning (Percentage)

Almost a quarter (24%) of employers placed vacancies for sales or customer service occupations and a further 19% for skilled trade occupations. Administrative or secretarial positions accounted for 13% and 9% of positions were personal service occupations (**Figure 1**).

Figure 1: Type of Vacancy Placed by Employers



Half of the sample (50%) placed their vacancy via the online platform and the other half (50%) did so via manual means. Half (50%) placed their vacancy online, 30% via telephone, 9% in person, 7% via email and the remaining 5% were approached by a staff member from the Department for Employment and Learning who subsequently placed the vacancy on their behalf.

Vacancy Profile (Percentage)

A third (33%) of employers posting a vacancy stated that they were doing so for more than one position within the business. When comparing how the vacancies were placed, those utilising the online platform (36%) were slightly more likely to place a vacancy for multiple posts than those who did so via manual methods (31%).

Three fifths (60%) of employers placed vacancies which offered some form of flexible working terms. Three quarters (75%) of employers cited part-time working as a flexible working term offered.

Three fifths (60%) of employers who offered vacancies which were for part-time positions, required between 16 and 30 hours work per week. Over a third (35%) offered less than 16 hours a week.

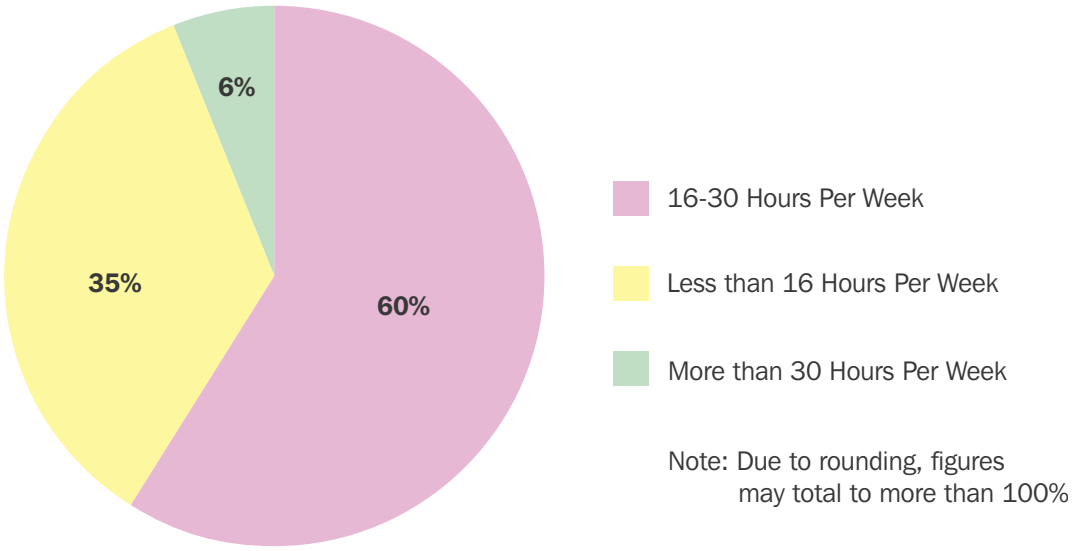
Almost three quarters (74%) of vacancies placed by all employers were for some form of permanent role. The voluntary sector was the least likely to offer a permanent position (45%). Almost four fifths (78%) of private sector businesses placed vacancies which offered a permanent position.

Vacancies which were not for permanent positions were most commonly found to be fixed term contracts (23%), other causal work (20%), seasonal work (19%) or a work placement (15%).

Two thirds (66%) of employers who placed a vacancy between January and June 2014 managed to fill the position. A further 5% filled some but not all of the advertised posts.

With regard to employers who did not get their vacancy filled, 79% reported that the recruitment process was still ongoing, while 14% reported that the vacancy they placed had been withdrawn.

Figure 2: Number of Part time Hours Offered by Employers



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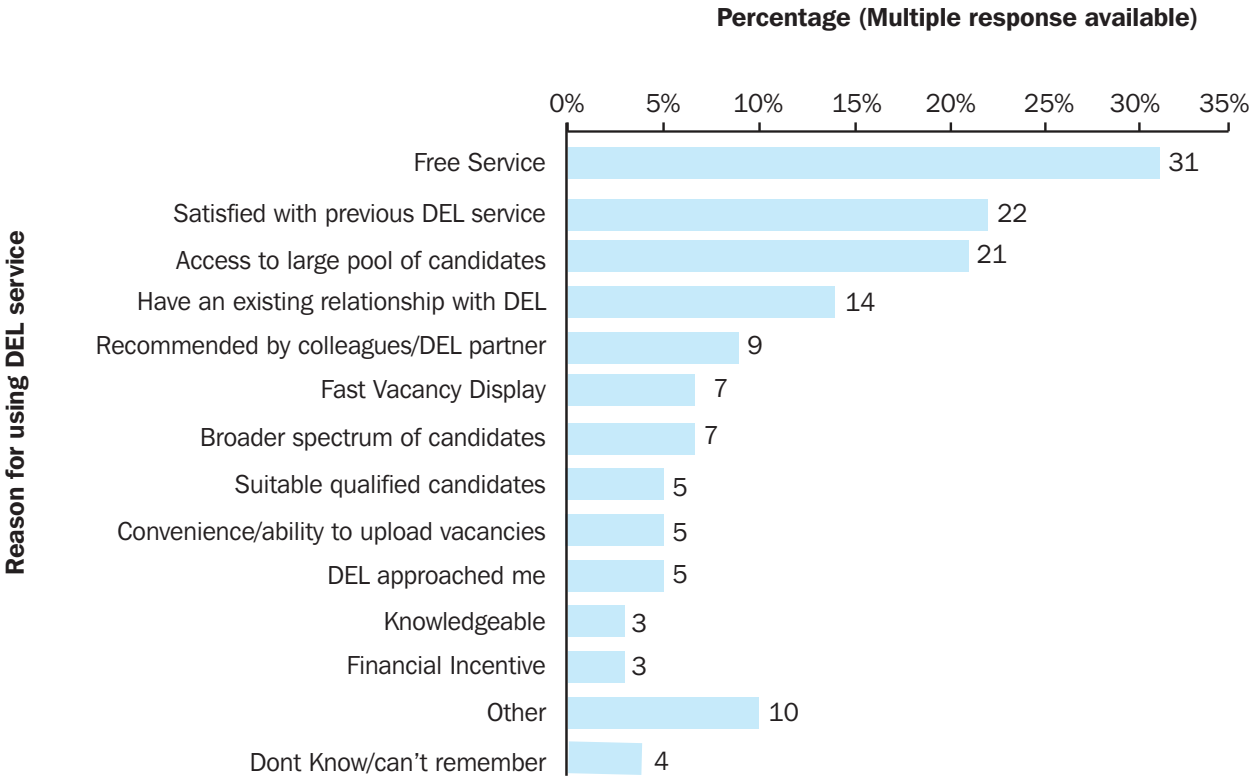
Service Information (Percentage)

Almost a third (31%) of employers stated that the free service offered by the Department for Employment and Learning is what attracted them to use their vacancy placement platforms. The free service was much more likely to be a key attraction for users of the online service compared to those who opted for a manual placement method (35% of online users cited the free service as a key attraction compared with 26% of manual users).

Figure 3: What Attracted Employers to use the Department for Employment and Learning Service



Responses to this question were not mutually exclusive therefore add to more than 100%.

Over a fifth of employers cited previous satisfaction (22%) and access to a large pool of candidates (21%) as other key reasons which attracted them to the Department for Employment and Learning service (**Figure 3**). Online service users (25%) and businesses with 250+ employees (37%) were most likely to cite access to a large pool of candidates as a key attraction of the Department's service.

Over three fifths (62%) of employers stated that they did not use any other means apart from the Department for Employment and Learning service to advertise their latest vacancies. Perhaps unsurprisingly the biggest employers (250+ employees) were much more likely to have utilised multiple methods when placing their most recent vacancies.

Of those employers who did use another placement method, the most popular was via the local newspapers (15%), while 8% of

employers utilised other online or web-based recruitment agencies to advertise their vacancy.

When asked why they opted to use multiple methods to advertise their vacancy employers stated that having access to both a large pool of candidates (32%) and a broader spectrum of candidates (20%) were the most important reasons.

More than half (54%) of employers using multiple vacancy placement methods cited the Department for Employment and Learning service as the method which successfully provided the candidate(s) who filled the positions.

Of the respondents who were manual service users, 51% had contact with the Department after placing their most recent vacancy (compared with 46% of online users). Of those employers who did not receive further contact from the Department after placing their vacancy, 16% stated they would have liked to have received some further communication.

Service Performance (Mean Score)

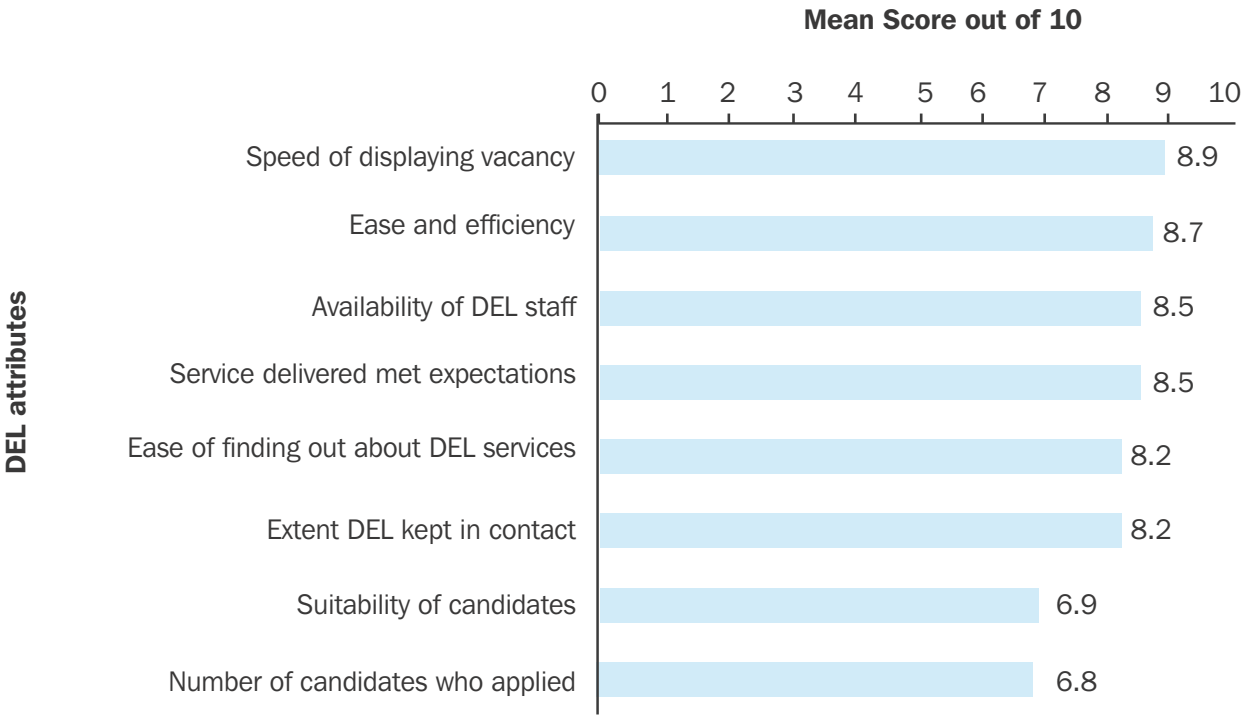
All employers were asked to rate a number of key attributes on a scale of 1 to 10 (1 being extremely dissatisfied and 10 being extremely satisfied).

In **Figure 4** employers expressed very high levels of satisfaction with the speed at which the Department displayed their vacancies (8.9) and the ease and efficiency of the process (8.7). Ratings for both attributes were especially strong amongst users of the manual service.

Satisfaction levels dropped significantly when employers were asked about the suitability of candidates (6.9) and the number of candidates who applied (6.8).

Employers who received further contact from the Department expressed very high levels of satisfaction with the professional and helpful manner of the

Figure 4: Satisfaction with key the Department for Employment and Learning Attributes



Department for Employment and Learning staff (9.0), taking responsibility for dealing with requests (8.9), listening to what employers had to say (8.9) and for making it clear what was required from the employer (8.8).

Employers across the board were also very satisfied with the staff's knowledge of the local labour market (8.6) and their understanding of business/skills requirements (8.5).

A minority of respondents noted some dissatisfaction with the services the Department offered, with poor candidate quality\unsuitable candidates being the primary concerns identified.

Of those employers who expressed some dissatisfaction with the number of candidates who applied for the advertised position(s), the overwhelming majority (93%) claimed their dissatisfaction was down to the fact that too few candidates applied.

All employers expressed high levels of satisfaction with candidates turning up for interview when required (mean score of 7.7 out of a possible 10). Satisfaction was especially strong amongst users of the manual service (8.1).

Satisfaction with the work readiness of the candidates (7.2) and the extent to which candidates had the right skills for the job (6.8) were also above average.

More than two fifths (42%) of employers who stated that candidates were not ready for work cited lack of experience as the main issue. Over a third (36%) cited poor attitude and work ethic as other key reasons why the candidates were not ready for work.

Future Usage & Intentions (Percentage)

More than three fifths (61%) of employers have intentions to recruit again in the next 12 months while 21% stated that they have no intention of doing so.

The overwhelming majority (96%) of employers stated that they would consider using the Department for Employment and Learning to recruit for any future vacancies. For the minority who would not consider using the Department to recruit in the future, the primary reason given was that candidates would not be suitably qualified.

Half (50%) of all employers intended to place any future vacancies online and a further 10% stated they would place the vacancies via email. Interestingly, 19% of employers who used a manual platform to place their most recent vacancy stated that in the future they would utilise the online method.

The overwhelming majority (98%) of employers who have used online recruitment services in the past stated that they had no concerns about using such a service. This is consistent across both employers who used both the online and manual platforms to place their most recent vacancy with the Department for Employment and Learning.

Summary and Recommendations

The free service (31%), satisfaction with using the service on previous occasions (22%) and access to a large pool of candidates (21%) are all key factors in driving employers to the Department for Employment and Learning vacancy placement service.

In terms of the Department for Employment and Learning's current performance employers expressed very high levels of satisfaction with the speed at which the Department displayed their vacancies and the ease and efficiency of the process. Employers across the board were also very satisfied with the Department's staff's knowledge of the local labour market and their understanding of business/skills requirements. It is essential that the Department promote these key strengths to potential users.

Satisfaction with the work readiness of the candidate, the extent to which candidates had the right skills for the job, suitability of candidates and the number of candidates who applied all rated above average but performed significantly poorer than other attributes. These are areas that the Department should actively look to improve to further enhance the user experience and overall satisfaction with the service.

Positively, advocacy of the Department for Employment and Learning service is extremely high with the overwhelming majority of employers (96%)

stating that they would consider using the Department to recruit for any future vacancies.

Half (50%) of all employers intended to place any future vacancies online and a further one in ten (10%) stated they would place the vacancies via email. Interestingly, almost a fifth (19%) of employers who used a manual platform to place their most recent vacancy stated that in the future they would utilise the online method. Given that the overwhelming majority of employers (98%) who have used online recruitment services in the past stated that they had no concerns about using such services and that many current manual customers are unaware (29%) of the Employers Online service there is a clear opportunity for the Department. Essentially, the Department for Employment and Learning could significantly increase the usage of their online offering by addressing this current lack of knowledge about the Employers Online service amongst a significant cohort of current the Department service users.

Almost half (49%) of all employers did not have any contact with the Department for Employment and Learning after placing their most recent vacancy and 16% of employers who did not receive further contact from the Department stated they would actually have liked to have received some further communication. Ensuring some form of follow up contact with employers after they place a vacancy should be a relatively easy policy for the Department to enforce. Follow up contact with the employer ensures that they feel valued and has the added benefit of making the Department more approachable which in turn could further drive overall satisfaction. Employers who received further contact from the Department for Employment and Learning expressed very high levels of satisfaction in terms of the professionalism of the Department staff.

Almost two fifths (38%) of employers utilised other methods (as well as the Department for Employment and Learning service) to place vacancies, local newspapers (15%) were the most popular other placement method. Access to both a large pool of candidates (32%) and a broader spectrum of candidates (20%) were the most important reasons cited for using multiple methods to advertise vacancies. These are both key benefits of using the Department for Employment and Learning service and should be used to demonstrate the benefits of the service.

To address any potential barriers the Department for Employment and Learning need to clearly demonstrate to employers the benefits of using the service. The key benefits of the Department's service include:

- It is a free service;
- Access to a large pool of candidates;
- Access to a broad spectrum of candidates;
- Very high levels of satisfaction with the speed at which vacancies are displayed;
- Very high levels of satisfaction with the ease and efficiency of the process;
- Very high levels of satisfaction with knowledge of the local labour market;
- Very high levels of satisfaction with the Department for Employment and Learning's understanding of business and skills requirements;
- Very high levels of overall satisfaction amongst current users; and
- Advocacy of the service is extremely high amongst current users (96%).

There is a clear need to educate employers about the benefits and savings offered by using the Department for Employment and Learning service. Employers who express resistance to using the Department's service need to be informed of these benefits. Many employers may also be unaware or lack knowledge of the full range of the Department's services. Employers need to be informed that the service is not just targeted at the unemployed and that a wide range of opportunities are available through the service (from highly skilled professional positions right through to unskilled and manual roles). By raising awareness of the service and clearly demonstrating the benefits then it should be obvious to employers the advantages that the Department's service has over other existing products and services.

Overall, employers expressed very high levels of satisfaction with the Department for Employment and Learning vacancy placement service (mean score of 8.5 out of a possible 10) with 54% allocating the service one of the top two

ratings (9 or 10). However, satisfaction levels were much lower amongst bigger businesses. Only 34% of businesses with 250+ employees allocated the Department for Employment and Learning service one of the top two ratings (9 or 10 out of a possible 10) compared to 57% of businesses with 1 to 9 employees. The Department should further engage with bigger employers to understand any specific needs or requirements these businesses may have.

The success of the Department for Employment and Learning service will depend on adequate advertising, promotion and clear information about the how the service works and the benefits it can offer. Raising awareness of the service and providing information to all businesses and social enterprises in Northern Ireland is essential. Convenience, ease of use and value for money are key to the success of any product or service so strong promotion will be needed to get this message across to employers. Finally, it is essential that a clear message is delivered to employers that the Department for Employment and Learning service is suitable for all employer types regardless of size, sector or location.

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