

# The Northern Ireland Skills Barometer

*“Skills in Demand”*

A Summary Report

November 2015

## Contents

1.	Introduction and summary.....	3
2.	Approach.....	6
3.	The supply/demand (im)balance.....	9
4.	Sectoral demand for skills.....	14
5.	Sector feedback.....	17
6.	Policy implications .....	18

## 1. Introduction and summary

### Introduction

Maximising the potential of young people and the wider population through the effective development of skills is a fundamental building block of a successful economy.

Therefore, identifying both the skills needs of employers and the level of skills supplied through education institutions is important to fully inform Government policy decisions.

In recognition of this information deficit, the Northern Ireland Skills Barometer represents an investment by the Department for Employment and Learning (DEL) to build a forecasting tool to estimate the quantum of future skills needs across a range of economic scenarios (e.g. a reduction in Corporation Tax, or the impact of austerity). This will also be a useful tool to consider the skills implications of the forthcoming Programme for Government and future NI Executive economic strategies.

The current Skills Barometer forecasts are based on high levels of economic growth across the private sector and lower levels of growth in the public sector, consistent with published Government spending plans. The scale and nature of the economic growth assumptions (in terms of both the number of jobs created and the sectors in which those jobs are created) has a direct impact on the number and level of qualifications required and the subject areas of those qualifications.

Given the sensitivity of skills demand to levels of job creation, it is also recognised that if the economy does not achieve high levels of growth, then a skills over-supply could become an issue in some subject areas.

This paper provides an overview of the detailed results from the research undertaken to forecast both the supply and demand for skills over the next ten years and identify the areas where supply gaps are likely to occur. A more detailed report has been produced and is available separately.

### Skills Barometer Stakeholders

There are a wide range of stakeholders for the Skills Barometer information, including:

- **Young people (and parents)** – young people should be appropriately informed when choosing their career pathway and associated subject areas of study;
- **Careers Advisors** – the Skills Barometer could also provide independent careers advisors with further information and evidence to improve the quality of advice given to clients;
- **Teachers** – also recognising the important role teachers also have in dispensing careers advice;
- **Education Institutions** – course provision may need to be tailored to meet the requirements of business and to manage areas of over and under supply;
- **Department for Employment and Learning (DEL) and other policy makers** – in an increasingly tight funding environment, policy makers will have difficult decisions to make and priorities will have to be identified; and
- **Employers** – the skills barometer could become a vehicle through which employers can articulate their skills requirements.

### Summary of findings

The headline findings, assuming a high growth trajectory is achieved, are set out below:

- **A skills gap will emerge** – at the macro level the demand for skills in Northern Ireland will outstrip supply but the nature of the skills gap varies depending on the level of skills required:
  - **Marginal undersupply at higher level skills** – overall the supply at NQF Level 6 (i.e. degree and equivalent) will fall marginally short of demand and the supply and demand of NQF L7 (Masters and equivalent) and NQF L8 (PhD and equivalent) will be broadly in balance. The more fundamental issue is the mix of subject areas supplied which is currently out of balance.
  - **Shortage most acute in mid-tier skills** – the largest supply gaps are likely to emerge in the mid-tier skills levels i.e. NQF L3 (A-Level equivalent) and NQF L4-5 (Foundation degree/ HNC/ HND equivalent).
  - **Over-supply of low and no skills** – the demand for formal qualifications across all areas of the economy will increasingly impact the employment prospects of people with low or no skills.
- **STEM (Science, Technology, Engineering and Mathematics) skills shortages** – at both higher level (NQF L6 and above) and mid-level (NQF L4-5) skills, the largest supply gaps<sup>1</sup> are forecast in the STEM related subject areas. One potential reason for these subjects being consistently identified as undersupplied relates to the technical nature of the sectors which require these skills. For example, qualifications in engineering or computer science are required to follow a career in those occupations and they are not easily substitutable with other subjects/ qualification. In contrast, engineering or computer science qualifications can be easily applied in a wide range of other sectors and occupations. This exacerbates the shortage in technical related subject areas such as STEM.
- **Impact of austerity** – lower levels of government spending and a reduction in public sector recruitment will have a significant impact on the demand for skilled employment. The public sector is “qualifications hungry” and have historically taken a large number of qualifiers/ graduates from both Further Education and Higher Education institutions. To illustrate, it is forecast that 52% of employees to be recruited into the education sector over the next 10 years and 39% of employees to be recruited into the health sector will require an NVQ L6 qualification or above. This increases to 75% of recruits to education and 73% of recruits to the health sector will require a NQF L4 qualification or above.

Any marked reduction in recruitment patterns would therefore most likely lead to an over-supply in the subject areas traditionally demanded by the public sector.
- **Replacement/ expansion** – over the 10 year forecast period of this analysis, replacement demand (recruitment required to replace people leaving the sector e.g. through retirement or to work in a different sector) is much greater than expansion demand (recruitment required because the sector is growing). The ratio of replacement to expansion demand will vary across sectors with, for example, high levels of expansion in the ICT sector compared to high levels of replacement demand in the retail sector.
- **Wider employability skills are essential** – consultations with employer groups stressed the importance of employability/ transversal skills. These skills are not

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<sup>1</sup> Supply gap – refers to a circumstance where demand is greater than supply.

specific to subject areas, qualification levels or industry sectors. They are a requirement for all employers and cover areas such as: good communication, team working, professional attitude, problem solving, initiative and objective thinking. This creates both a pedagogical challenge to education institutions but also requires employers to step up and offer students work placement opportunities.

### Potential uses of the Skills Barometer

#### *Advice for Young People*

The Skills Barometer should help young people (and their parents and careers advisors) when making career decisions and may encourage more to study in an under-supplied subject area. However, young people should **always** study a subject which plays to their strengths and for which they have a strong interest. In some instances students drift into a subject area in which they have no strong desire to find subsequent employment, as a consequence they are less likely to be successful both academically and professionally in that area.

The aim is for young people to make well informed decisions based on the likely employment outcomes of different subject courses.

#### *As a policy tool*

The Skills Barometer should provide DEL and the Northern Ireland Executive with information to understand the skills implications of different policy measures. For example, the forthcoming Programme for Government and subsequent economic development strategies may set out sectoral employment growth targets and the barometer has the flexibility to identify the skills impact of those targets.

### **“Every job matters”**

A principle of “Every job matters” has been adopted for the Skills Barometer to reflect the contribution all jobs make to the economy. As the NI Executive endeavours to reduce levels of unemployment and economic inactivity, it is important society places a value on all employment opportunities. As a result, this skills barometer analyses skills requirements at all levels and across all sectors of the economy.

## 2. Approach

### Introduction

The approach developed to forecast skills requirements over the 2015-25 period included both a quantitative and qualitative analysis. This approach recognised the importance of both a sound evidence base from a wide range of quantitative data sources as well as incorporating industry insight from employers and sector groups.

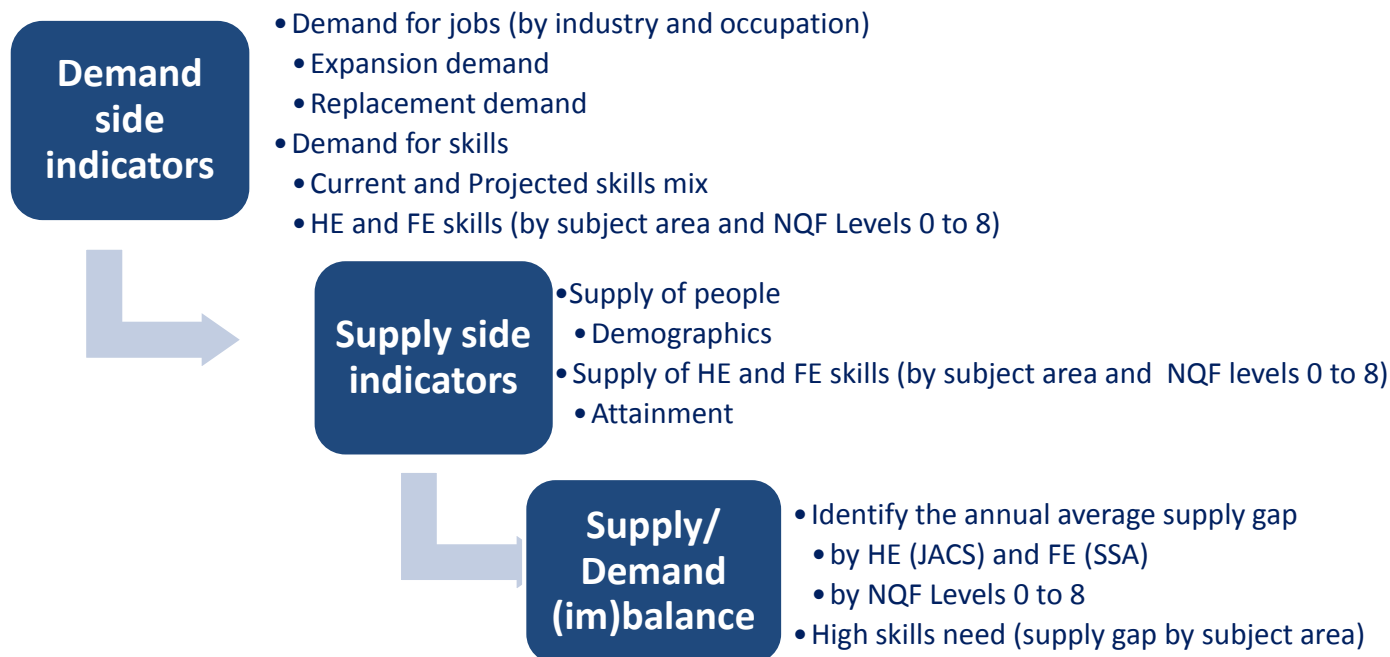
### Quantitative analysis

A detailed modelling exercise was undertaken to forecast both the demand and supply of skills across the economy. This included analysis of:

- **Job growth** – including both expansion demand (i.e. as sectors grow demand for employment will be created) and replacement demand (i.e. as people leave due to retirement, for family reasons or to move to another sector and must be replaced);
- **Changing skills mix** – there is an increasing demand for higher levels of skills in the workforce which varies across individual sectors in the economy; and
- **Supply of skills into the economy** – as determined by the number of qualifications across all skills levels<sup>2</sup> and subject areas.

Analysis of both the demand and the supply gives a picture of the scale of imbalance across both qualification levels and subject areas.

**Figure 1: Overview of Supply and Demand quantitative analysis**



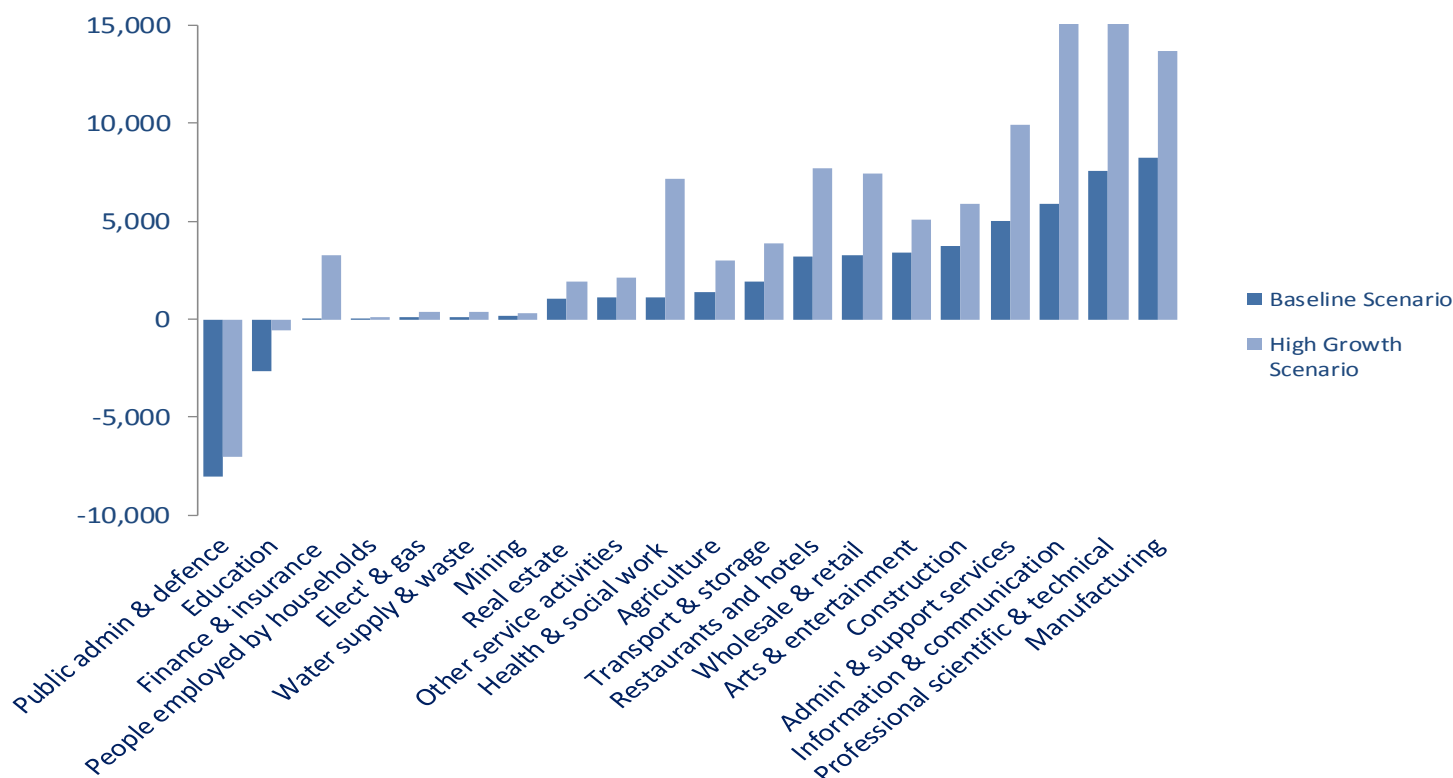
### Forecast growth in employment

<sup>2</sup> All skills levels refers to NQF (National Qualification Framework) Level 1 (5 GCSEs Grade D – G or equiv) to Level 8 (PhD or equiv.)

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The job creation assumptions are based on the Ulster University Economic Policy Centre (UUEPC) macro-economic forecast. This represents the most likely economic outcome (i.e. the Baseline scenario). However if Northern Ireland is to achieve its economic ambitions, a higher level of economic growth and job creation will be required. The assumptions on job creation and in turn the demand for skills are based on this high growth scenario.

**Figure 2: Total employment change 2015-25 (by 1 digit SIC<sup>3</sup>)**



Source: UUEPC

The Baseline scenario is based on an increase of approximately 44k jobs and the high growth scenario is based on an increase of approximately 96k jobs.

The levels of employment growth assumed in the high growth scenario have been set at a level that would bring the overall Northern Ireland (NI) employment rate closer to the UK average. In addition, there has been a particular emphasis on export focused sectors such as manufacturing, professional services and ICT.

<sup>3</sup> SIC – Standard Industrial Classification codes used by the Office of National Statistics to classify industry sectors (e.g. Public Admin & Defence, Education, Finance & Insurance etc.)

### Qualitative assessment

In addition to the modelling/ forecasting work, a significant level of consultation has been undertaken to review the quantitative analysis and provide sectoral insight. The stakeholders consulted included:

- Sector skills organisations;
- Employers;
- Education institutions; and
- Government departments and agencies.

### The need to over-supply

The approach recognised the need to supply a greater number of qualified personnel than demanded by the economy. There are a number of reasons for over-supplying skills including:

- Graduates/ qualifiers move into sectors different from their area of study – this is a particular issue where specific technical skills are required (e.g. engineering);
- Additional skills development is required before the graduate/ qualifier is capable of taking employment opportunities at a grade for which they are qualified; and
- Some people choose voluntarily to move into employment at a grade lower than their qualification level.

### Upskilling

The Skills Barometer does not currently include levels of upskilling<sup>4</sup> on the basis that it is assumed these individuals are already in the labour market and will remain with their current employers after training. As a result they would not represent additional supply to the labour market.

However it is recognised that following upskilling, staff can make significant productivity improvements and therefore further research is recommended to understand this important strand of skills development. The barometer currently makes a number of high level assumptions regarding the level of upskilling across all NQF levels, which is netted out of the analysis. Moving forward, greater understanding is required both of the scale of current upskilling and the demand over the forecast period.

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<sup>4</sup> Upskilling refers to people in employment and undertaking an accredited qualification.



## 3. The supply/ demand (im)balance

### Introduction

The supply/ demand imbalance or “supply gap” identified by the Skills Barometer highlights a mixed picture across skills levels. The most significant under-supply gaps are forecast to occur at the mid-level (NQF Level 3 and 4-5) with an over-supply of those with low or no skills (NQF Level 2 and below).

**Table 1: National Qualification Framework (NQF)**

Level 8 – PhD (or equivalent)
Level 7 – Masters (or equivalent)
Level 6 – Degree (or equivalent)
Level 4-5 – Foundation Degree/ HND/ HNC (or equivalent)
Level 3 – A-Level (or equivalent)
Level 2 – 5 GCSEs Grades A – C (or equivalent)
Level 1 – 5 GCSEs Grades D – G (or equivalent)
Level 0 – No qualifications

### Interpreting the results

A tolerance level should be applied when interpreting the results. In most subject areas the level of over/under supply is relatively low and therefore it could be reasonably concluded these subjects are broadly in balance. As a result, only subject areas at the extreme ends of over/ under supply should be considered in detail.

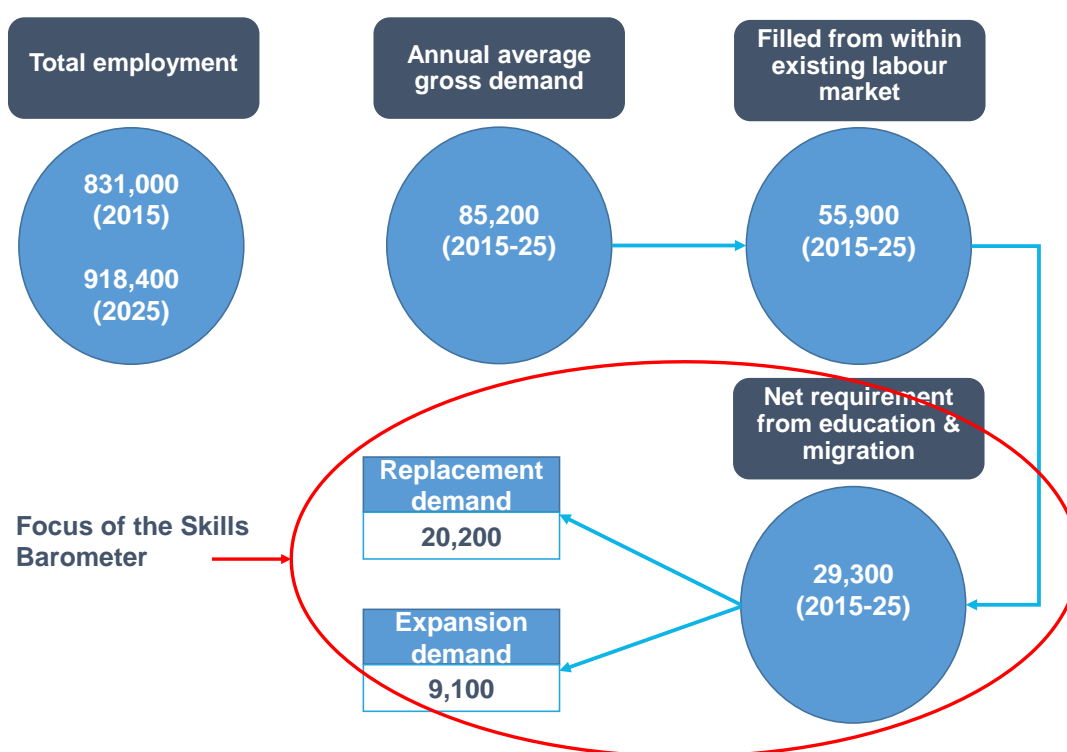
### Overview of demand

The demand for skills is driven primarily by the demand for jobs and Figure 3 below sets out the overall growth in employment levels between 2015 and 2025. The Skills Barometer assumes an increase in employment levels from 831k in 2015 to 918k in 2025.

On this basis, it is assumed that the labour market will create on average 85,200 job opportunities per annum (referred at the ‘Annual average gross demand’). However most of these positions, 55,900, will be filled from within the existing labour market. The remainder of these positions, 29,300, are therefore to be filled from education and migration (referred as the ‘Net requirement from education & migration’).

The focus of the skills barometer is on identifying the ‘Net requirement from education and migration’ to inform the policy decisions on the overall level of provision/ supply.

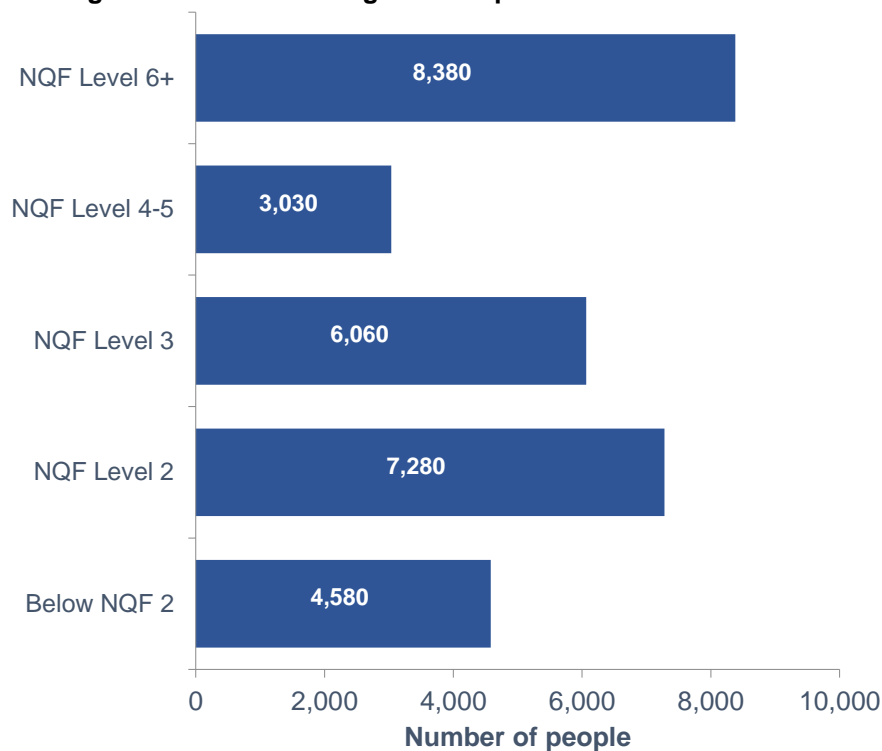
**Figure 3: Overview of demand**



### Annual Average Net Requirement for Skills

The annual average net requirement for skills across all NQF levels from the education system is set out in Figure 4 below. This totals 29,300 across all skills levels and forecasts demand for NQF L6 and above to be greater than other NQF levels.

**Figure 4: Annual Average Net Requirement for Skills**



**Source: UUEPC**

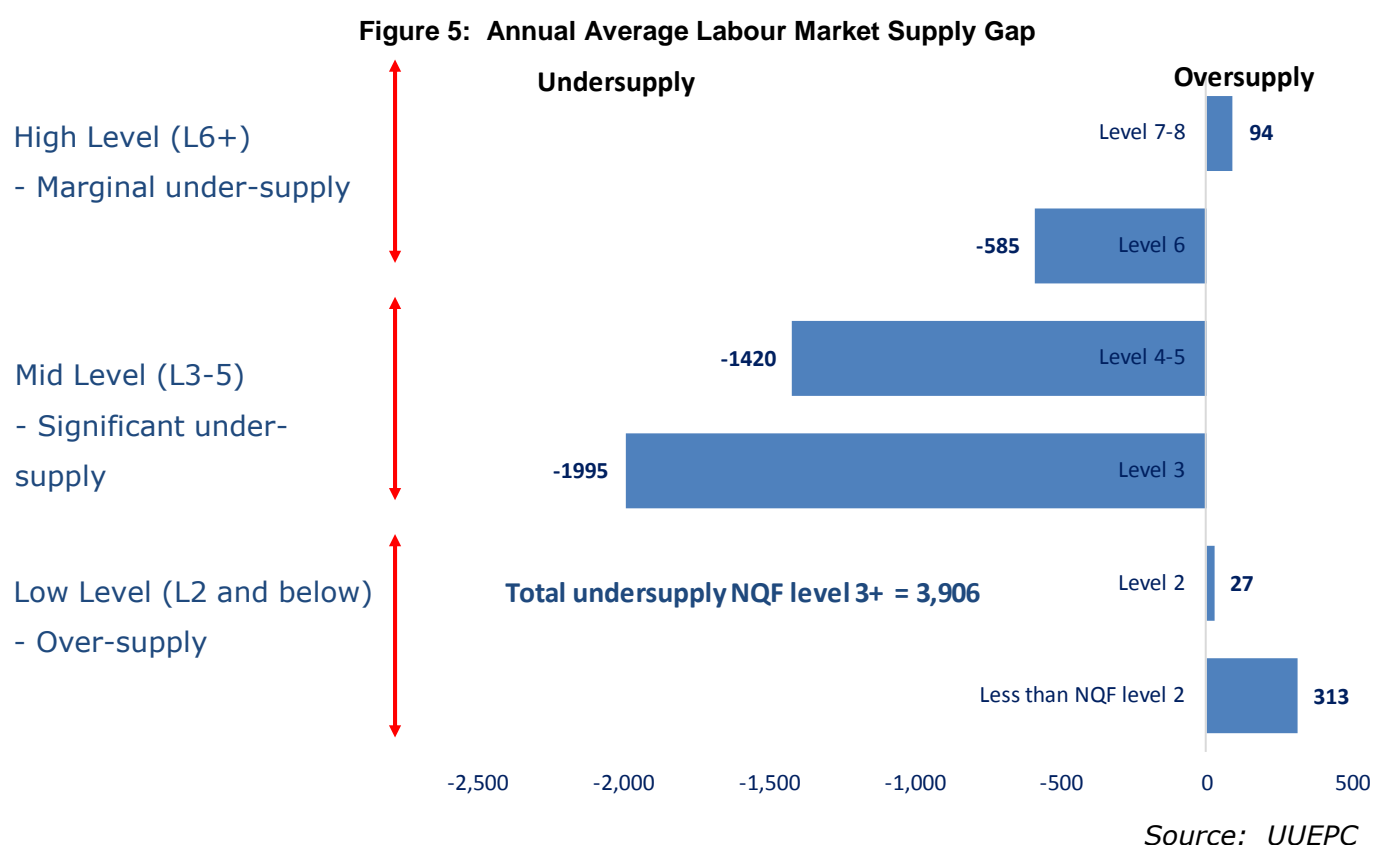
The net requirement analysis above highlight a number of important points:

- **Graduate level skills in high demand** – approximately 29% of demand from the education system is at graduate level entry;
- **Low demand for low skills** – only 16% of the opportunities arising from education will be for those with below NQF L2 qualifications (i.e less than 5 GCSEs Grades A-C). This contrasts with 21% of school leavers achieving less 5 GCSEs A-C, which increases significantly to 36% for those with 5 GCSEs A-C including Mathematics and English<sup>5</sup>.

### Supply Gap – NQF Level

At the macro-level, the demand for skills in Northern Ireland will outstrip supply but the nature of the skills gap varies across NQF levels.

The scale of the annual average supply gap for the 2015 to 2025 period is set out in Figure 5. This analysis highlights the need to encourage much greater numbers of young people who currently leave school with low/ no qualifications to stay in education.



There are a number of findings across different skill levels:

- **Marginal supply gap at the graduate level (NQF L6+)** – overall the supply of graduates is forecast to fall marginally short of demand. However, the fundamental issue is the mix of subject areas studied which is out of balance. As previously noted, given the importance of the public sector to the recruitment of those with higher skills, austerity will have an impact on the supply gap.
- **Shortage most acute in mid-tier skills (NQF L3 and L4-5)** – the largest supply gaps are likely to emerge in the mid-tier skills levels across most subject areas. However this is primarily a supply issue, as shown by the lower level of demand in

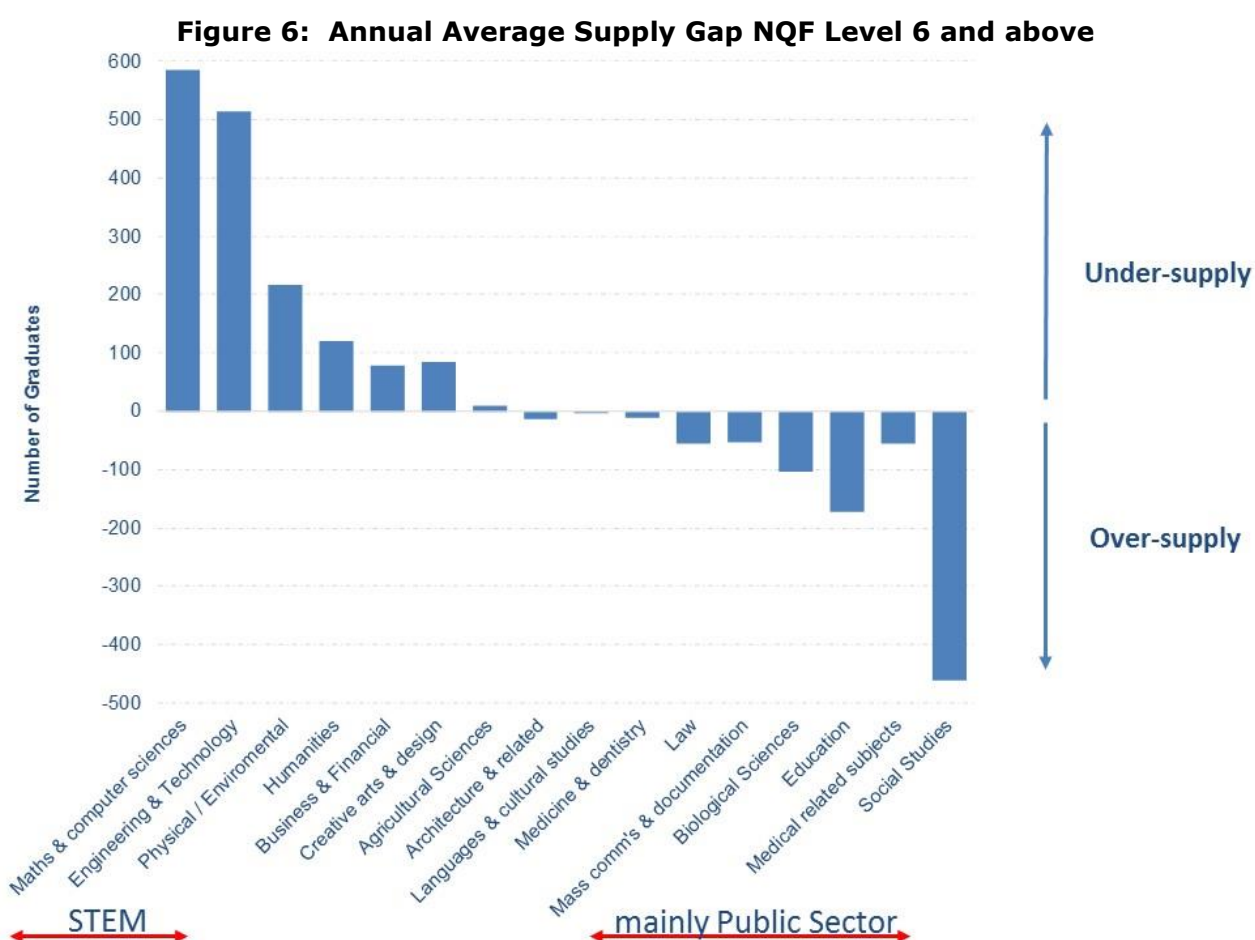
<sup>5</sup> Source: DENI, Qualifications of School Leavers 2013/14

Figure 4 further above. Typically most students studying at NQF Level 3, continue their education thereby reducing the supply leaving education at that level;

- **Over-supply of low and no skills (NQF L2 and below)** – the demand for formal qualifications across all areas of the economy will increasingly impact the employment prospects of people with low or no skills.

### Supply Gap – By degree subject area (Level 6+)

Analysis of NQF Level 6 and above skills shows that whilst the number of graduates and post-graduates combined are marginally undersupplied, there is an imbalance across individual subject areas (see Figure 6).



Source: UUEPC

The STEM related subjects are the most undersupplied, particularly Mathematics & Computer Science and Engineering & Technology. In contrast, areas such as Social Studies and Education are forecast to have the largest levels of over-supply.

This trend reflects the anticipated growth in the ICT, Professional Services and Advanced Manufacturing sectors driving demand for qualifications in computer science and engineering subjects. In contrast, the low/ no growth in public sector spending and the likely lower levels of recruitment will impact the demand for skills in subject areas popular across the public services.

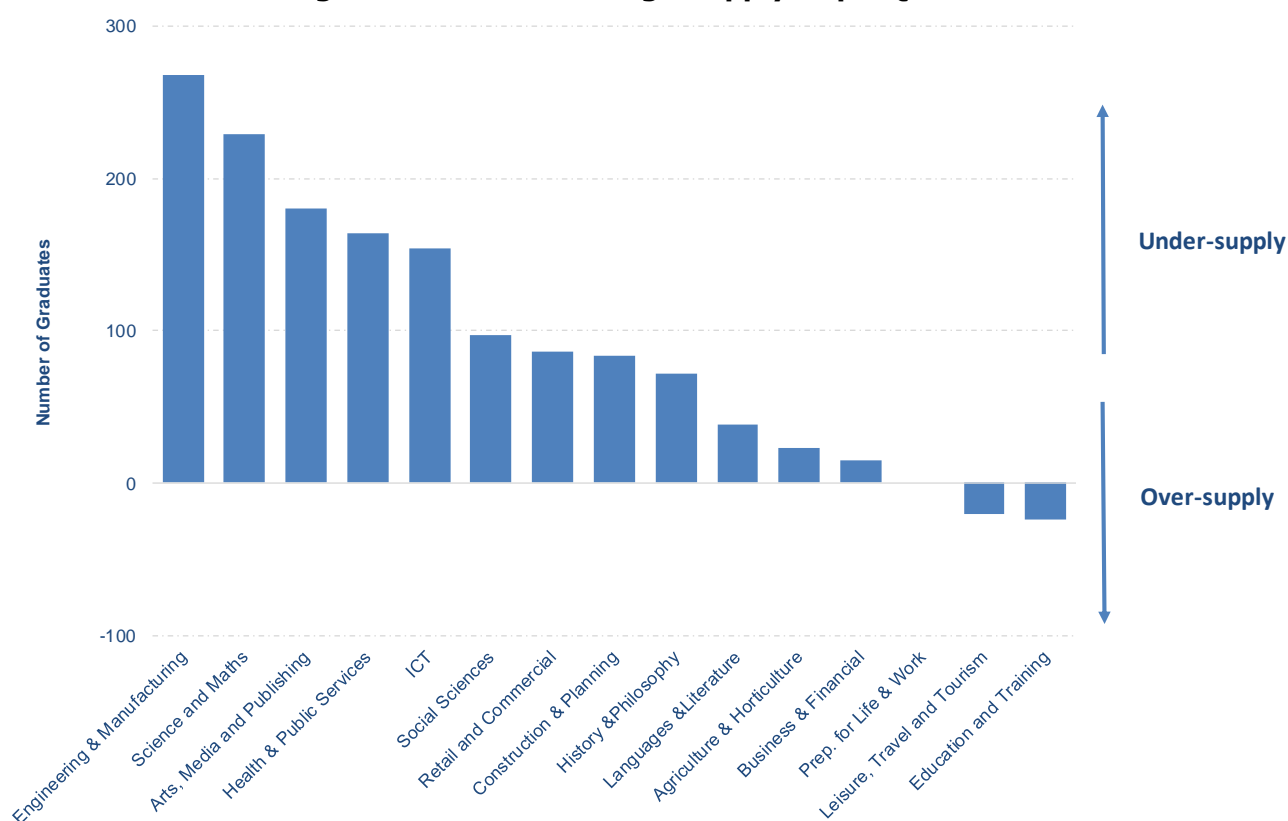
In addition, the need to over-supply has a significant impact on the scale of the supply gap and the charts below incorporate the supply adjustment made to address this issue.

In many subject areas the scale of under or over-supply is marginal and these areas should be considered as being broadly in balance.

### Supply Gap – by Foundation Degree and equiv. subject areas (NQF Level 4-5)

Analysis of NQF Level 4-5 skills shows a much greater level of under-supply both at the macro level and also across individual subject areas (see Figure 7). Similar to higher level skills, the subject areas with the largest under-supply are STEM related.

**Figure 7: Annual Average Supply Gap NQF Level 4-5**



Source: UUEPC

### Conclusion

The most acute shortage has been identified in medium level skills which creates a demand for programmes such as Higher Level Apprenticeships. Furthermore, whilst skills gaps have been identified across most skill levels, there is a forecasted oversupply of people with low or no skills.

This potential skills shortage could constrain economic growth and employers could either look to source labour from overseas or shift investment from local facilities to their overseas operations. Finally, there is an identified need to encourage young people into training and tertiary level education to reduce the numbers with low/ no skills.

## 4. Sectoral demand for skills

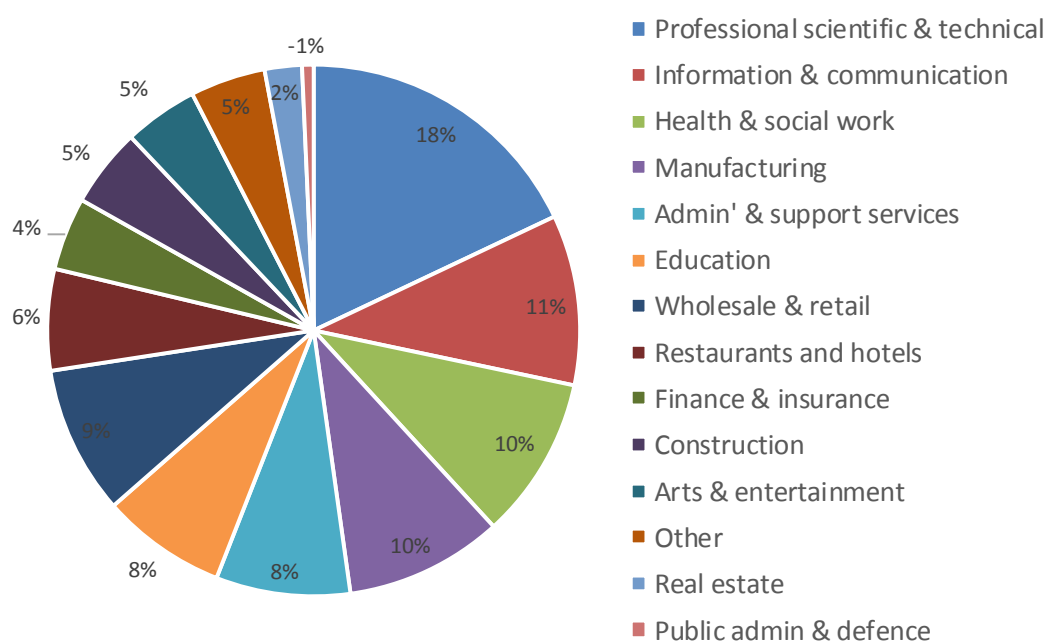
### Introduction

The demand for skills varies across sectors and the research has identified the areas which are forecast to recruit the highest proportion of those with NQF L6 and above skills, those with NQF L4-5 qualifications and also those with NQF Level 3 skills and below.

### Which sectors recruit those with high level skills (Level 6+)?

Degree equivalent qualifications tend to be demanded in Professional & Scientific Services, Information & Communications, Health and Manufacturing (Figure 8). These sectors tend to be highly skilled and are higher value added areas of the economy.

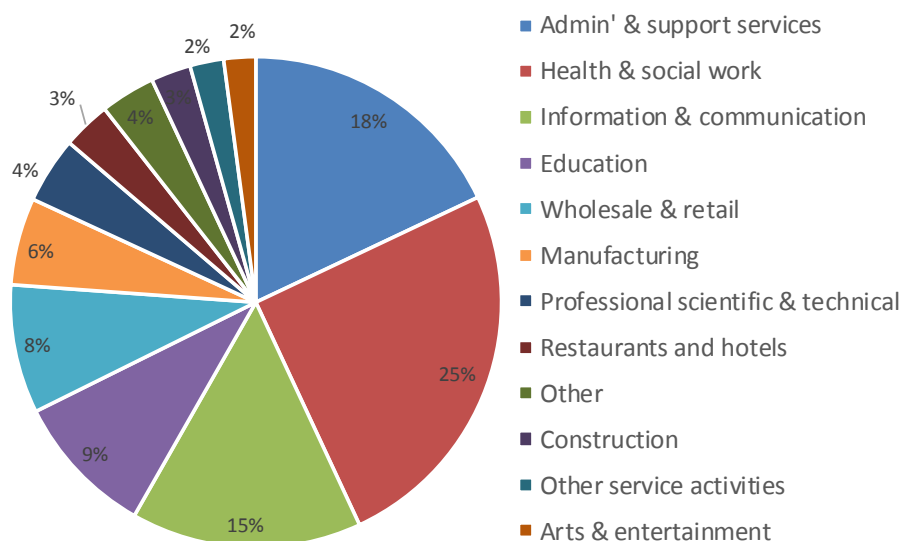
**Figure 8: Which sectors recruit those with high level skills (Level 6+)?**



### Which sectors recruit those with NQF Level 4-5 skills?

Foundation degree equivalent qualifications tend to be demanded in Health, Administration and Support Services, Information & Communications and Education (Figure 9). These sectors are also higher value added areas of the economy and have a strong public sector influence.

**Figure 9: Which sectors recruit those with NQF Level 4-5 qualifications?**

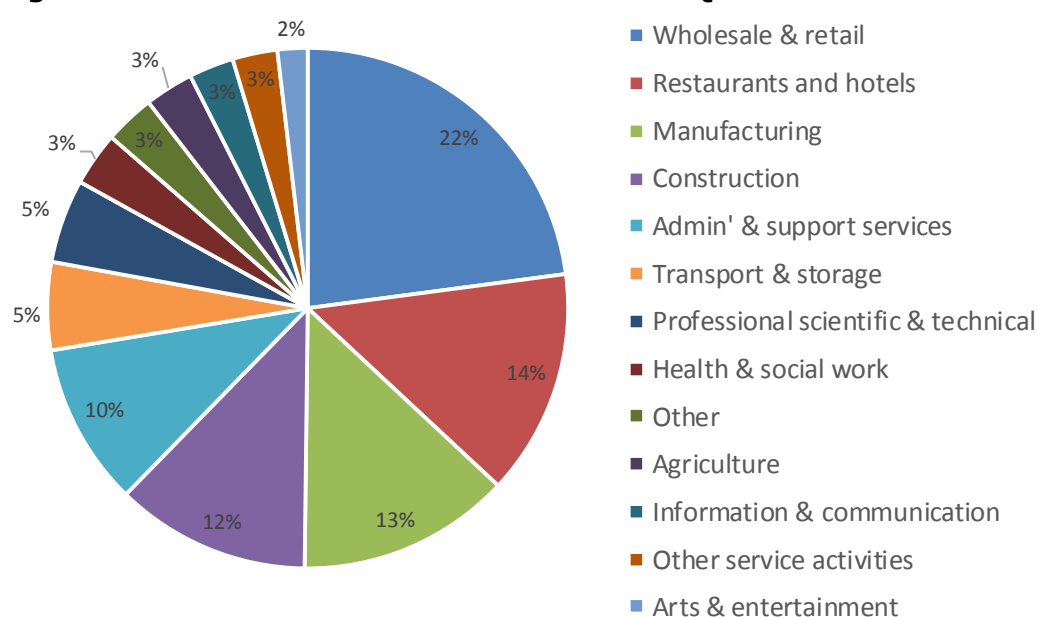


### Which sectors recruit those with mid to low level skills (Level 3 and below)?

Retail, hospitality and manufacturing sectors tend to recruit those with mid to lower level qualifications (Figure 10). These sectors are very significant employers across the economy and strong economic performance generally is closely related to a thriving retail and hospitality sector.

It is also important to recognise that retail and hospitality are very important sectors in providing employment opportunities for those with lower level skills, they often provide graduates their first step on the employment ladder and they also play a key role in developing the employability/ transversal skills valued so highly by employers across all sectors.

**Figure 10: Which sectors recruit those with NQF L3 and below skills?**



## Conclusion

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The analysis shows that the public sector, in particular health and education, is “qualifications hungry”, highlighting the potential impact of significant reductions in recruitment. Given the skills profile of the population (and those leaving the education system) a vibrant economy that provides job opportunities for everyone must have a diverse range of growing sectors.

In the longer term, lower skilled jobs tend to be more vulnerable to technological change and higher level skills will be required. This has implications in terms of the prospects of those with low/ no skills.



## 5. Sector feedback

### Introduction

A wide range of employer groups and sector skills organisations were consulted to complement the quantitative forecasting work undertaken. In addition to providing comments on the quantitative analysis, a wide range of qualitative comments were also made which provides a relevant context for any analysis of skills requirements. **These comments focus on requirements additional to the basic technical skills required to fulfil the job role.**

**Table 2: Sector Feedback**

<i>Importance of employability skills</i>	Although all consultees stressed the need for good technical skills, a very strong recurring theme was the importance of employability skills. This covers areas such as good communication, team-working, problem solving, professional attitude, customer service ethos, ability to critically analyse information and a willingness to learn. Employers want “good people” and they typically associate “good people” as those with strong employability skills.
<i>Multi-skilling and the need for an evolving skillset</i>	There is an increasing expectation that employees will need to bring a range of skills to the labour market (in addition to employability skills) to create a flexible workforce that can undertake a range of tasks. Furthermore sectors have evolving skills needs and it is critical that labour market participants keep their skills up to date.
<i>Business acumen</i>	There is a need for all labour market participants to have a basic level of business acumen. The business world is becoming increasingly competitive and employees are required to understand the financial implications of decisions they are taking on their employer’s business. This is relevant across all subject area disciplines, not just business and finance roles.
<i>Balance of skills to be developed post recruitment</i>	Employers recognise that there must be a balance between the skills expected from the education system and the skills they will be required to develop post-recruitment. Often employers would talk about recruiting staff with the basic technical skills onto which they would then develop the specialist skills required within their organisations.
<i>Give me someone with a passion for the job</i>	Many consultees indicated the need for a “love of the job” and the sector in which you work. That passion then drives good behaviours in the job, such as: hard working, willingness to learn, enthusing other people and working with others.
<i>Understand the requirements of the job</i>	In some instances young people need to have a better understanding of the nature and requirements of the career they are choosing. Expectations are often unrealistic and based on perception. A short period of work experience would often address this issue.

## 6. Policy implications

### Introduction

The research has highlighted a number of issues for consideration by policy makers as well as other stakeholders. These are discussed in turn.

**Table 3: Policy implications for the NI Executive**

<i>High growth must be delivered</i>	<p>The skills forecasts are based on a “high growth” scenario, however a skills over-supply could occur if these higher levels of economic growth are not achieved. Although the intention is to provide the quantum and level of skills necessary to allow NI to reach its economic aspirations, it is also recognised that large numbers of skilled people may leave NI if employment opportunities are not available locally for them.</p> <p>This outcome is preferred to an under-supply of skills which could constrain economic growth in NI and result in higher levels of unemployment.</p>
<i>Young people should stay in education to a tertiary level</i>	<p>Demand for lower level skills is reducing and it is forecast that there will be an over-supply of young people leaving education with low or no skills (NQF Level 2 or below). Given the undersupply at the mid-skills level (NQF L3, 4 and 5), it is critical that people are encouraged to continue their education into tertiary level or other training provision.</p>
<i>Austerity has skills implications</i>	<p>Lower levels of government spending and possible recruitment freezes will have implications in terms of reduced demand for skills in the public sector. Given the historic scale of higher skilled recruitment into the public sector, over supply could be an issue into the medium term.</p> <p>Taking a positive perspective, a reduction in public sector recruitment should create greater supply of higher level skills for the private sector.</p>
<i>Secondary and tertiary education should equip students for the next stage of their careers</i>	<p>The FE and HE sectors are under significant pressure to deliver students with the appropriate skills for the labour market. Similarly, post-primary education must also provide young people with the appropriate skills either to enter employment directly or to enter tertiary education or further training.</p>
<i>Addressing the need to over-supply students</i>	<p>In a difficult funding environment a more efficient way of matching supply and demand should be found. This could include:</p> <ul style="list-style-type: none"> <li>• Increasing employability skills development on all courses;</li> <li>• Giving young people a real life understanding of the career they are seeking to pursue prior to making key decisions;</li> <li>• Incentivising potential students into subject areas which are under-supplied to raise the quality of the intake in those subjects;</li> <li>• Providing careers information that ensures young people are appropriately informed about their career decisions.</li> </ul>
<i>Managing areas of over-supply</i>	<p>The initial response to the over-supply issue could be to simply reduce provision (and this may be necessary) but this is an area which requires careful consideration. NI institutions have experience</p>

in delivering education courses in these subject areas, therefore other policy options could be considered:

- Selling NI as a FDI location to industries requiring those skills – this is relevant to subject areas which support higher value added business sectors. This has started in the legal sector but potential exists elsewhere, e.g. healthcare.
- Existing employers could broaden their search criteria and consider the skills of people with qualifications in these ‘oversupplied’ subject areas e.g. management consultancy firms recruiting law graduates.
- Education institutions should seek to attract greater numbers of international students to offset any potential reduction in the number of local students in over-supplied areas. This could utilise the skillsets and capacity of subject delivery in local institutions for the benefit of the international labour market until a time when local demand returns.
- Conversion courses for graduates (e.g. those with at least a 2:1) with qualifications in subject areas which are over-supplied. It is recognised that DEL are currently doing this through a number of approaches including their ‘academies programme’.
- The workplace relevant skills developed in oversupplied subject areas should be clearly articulated and communicated to employers (i.e. a qualification in an oversupplied subject area may provide a wide range of skills suitable for the labour market in general and not specific to the subject area.)

Students considering studying a subject in an oversupplied area should not be discouraged if it is an area for which they have a strong interest and are passionate about working in. However, they should also understand that they will need to excel in order to progress in that specific area (e.g. in general a 2:2 in an Engineering degree is likely to be more sought after than a 2:2 in a Social Studies degree in the current climate).

### *Improving the image of FE*

There remains a cultural perception in Northern Ireland that FE (technical/ professional) study is of lower value than HE (academic) study. Other developed economies have successfully created an education system which places equal credibility on both technical/ professional and academic career pathways. If young people are to match their career choices with their abilities, then the image of FE must be considered the equal of HE.

One issue impacting the image of FE could be linked to their breadth of provision (NQF Level 1 to Level 6). The potential for FE to focus on mid to high-level skills (e.g. NQF L3 to L5) should be explored with other providers delivering low level skills training. Perhaps lessons could be learned from the experience of Institutes of Technology in the Republic of Ireland.

### *The importance of employability skills*

The importance of employability skills (good communication, team-working, problem solving, professional attitude, critically analyse information; a willingness to learn etc.) has been strongly articulated by employers. This sets a key challenge for education institutions to integrate the development of these skills into course delivery.

## Northern Ireland Skills Barometer – Summary Paper

However, this also requires a commitment from employers to provide placement and internship opportunities for students in order to develop employability skills in the workplace.

### *Enhanced careers information and guidance*

The skills barometer should be used to provide young people and their careers advisors with information to help in making important career decisions. This could potentially lead on to a separate exercise to track students after qualification, introduce an NI Individual Learner Record and conduct other data matching exercises to have a comprehensive understanding of student outcomes by course, classification achieved and institution attended.

An additional component to careers guidance is providing young people with access to a range of work experience opportunities prior to them making decisions about tertiary level career paths. This could include giving each student work experience across a number of different sectors and occupations to allow them to make better informed decisions.

### *Employers should articulate their skills needs in a collective way*

It is important that employer groups work together to provide a consistent message to Government in terms of the skills requirements for their sector. This is more relevant where a sector has a number of organisations representing its interests and providing input to Government policy.

It is also important employers are realistic about the skills which can be developed in an education environment and those skills which can only be effectively developed in the workplace.

[This is an equally valid point when engaging with Government on all policy matters (i.e. beyond skills issues)].

### *Sector Attractiveness*

It is recognised that graduates/ qualifiers in STEM related subjects are in demand across a wide range of sectors. As a result sectors such as engineering and ICT have an increased need to increase the attractiveness of their sectors to potential/ future employees.

### *Cost of undersupplying skills*

The Skills Barometer has set ambitious employment growth assumptions and the associated demand for skills because the cost of undersupplying skills to the economy would be significant. In particular, economic growth would be constrained, the skills mismatch would result in a continued loss of talent to employment opportunities overseas and higher levels of unemployment could result in the local economy.

In addition, a shortage of skills could also lead to employers sourcing skilled labour from overseas or shift investment from local facilities to their overseas operations.

### *Setting appropriate funding incentives for education institutions*

The current funding model encourages a high throughput approach and high levels of student retention. However, if Government want to encourage improved outcomes (e.g. higher employment outcomes), then the funding regime should incentivise and reward those outcomes.

END