



# NI Skills Barometer Findings Report

*“Skills in demand”*

November 2015

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# Introduction

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# Background

- This skills barometer project represents an investment by the Department for Employment and Learning (DEL) to build a model to estimate the quantum of future skill needs and gaps by level, sector and subject area across a range of economic outcomes (including a base case and a high growth scenario). This will also be a useful tool to consider the skills implications of the forthcoming Programme for Government and future NI Executive economic strategies and the model can be adapted to reflect the priorities within those.
- This project is being undertaken as part of a 3 year sponsorship arrangement between DEL and the Ulster University Economic Policy Centre (UUEPC) and this report has been completed following work completed in Year 1.
- The principle of “**Every job matters**” has been adopted 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.

# Background

- A broad range of stakeholder groups have been identified as potential users and beneficiaries of the skills barometer:
  - **Young people and parents** – young people should be appropriately informed when choosing their career pathway and subjects areas to study;
  - **Careers Advisors** – the Skills Barometer could also provide careers advisors with further information and evidence to improve the quality of advice given to their clients;
  - **Teachers** – also recognising the important role teachers also have in dispensing careers advice;
  - **Employers** – as a vehicle to articulate skills needs;
  - **Education institutions** – to help inform future levels of provision; and
  - **DEL (and wider Government)** – to develop policy responses to meet skills needs of the NI economy.

# Approach – modelling

- A detailed modelling exercise has been conducted to forecast both the demand and supply of skills across the economy. This included analysis of:
  - Job growth – including both expansion demand (as sectors grow and in some instances contract) and replacement demand (e.g. people leave due to retirement, for family reasons or to move to another sector and they must be replaced);
  - Changing skills mix – there is an established trend of increasing the level of skills in the workforce across all sectors; and
  - Supply of skills into the economy.
- Analysis of both supply and demand gives a picture of the scale of imbalance across both qualification levels and subject areas.
- All forecasts are based on “high growth” assumptions which has identified an aspirational level of employment growth. See sub-section “Understanding the High Growth Scenario” (see page 16).

# Approach – modelling

## Identify demand and supply factors

### Demand side indicators

- Demand for jobs (by industry and occupation)
  - Expansion demand
  - Replacement demand
- Demand for skills
  - Current and Projected skills mix
  - HE and FE skills (by subject area and NQF Levels 0 to 8)

*Plan for High Growth*

### Supply side indicators

- Supply of people
  - Demographics
- Supply of HE and FE skills (by subject area and NQF levels 0 to 8)
  - Attainment

### Supply/ Demand (im)balance

- Identify the annual average supply gap
  - by HE (JACS) and FE (SSA)
  - by NQF Levels 0 to 8
- High skills need (supply gap by subject area)

# Approach – consultations

- In addition to the modelling/ forecasting work, a significant level of consultation has also been undertaken to review the quantitative analysis and provide sectoral expertise. The stakeholders consulted include:
  - Sector skills organisations;
  - Employers;
  - HE and FE institutions; and
  - Government departments and agencies.
- The consultation exercise provided significant sectoral insight and in general the forecasts were judged to be reasonable. However, in some instances, the forecasts were revised to reflect the insight provided by stakeholders.
- A detailed list of consultees is set out in Annex A.



# Context to skills forecasting

- **The focus of this skills barometer is to forecast the skills net requirement from the education and migration.** It is also recognised that businesses recruit from a wide range of other sources:
  - Most skills needs will be met by existing labour market participants moving between sectors/ occupations;
  - Other recruitment needs are met by people from unemployment and inactivity;
  - With the free movement of people across the EU and the accession of Eastern European nations in 2004 and 2007 there is an increased trend of employing migrant labour. Therefore the net requirement identified by the Skills Barometer not supplied by education, will be met, at least in part, by migration.
- **Upskilling<sup>1</sup>** in the labour market is an important feature of meeting industry skills needs. Upskilling has been excluded from the supply-side based on initial assumptions, however further research is required in this area.

# Context to skills forecasting

- **Level and scope of skills forecasting** – the skills barometer forecasts skills requirements across all industry sectors and occupational groups in the economy. It also assesses the level of skills required from NQF level 2 (i.e. GCSE equivalent) through to NQF level 8 (i.e. PhD equivalent) and a further level of analysis is also provided to forecast the subject areas over and under-supplied at both FE and HE.
- **Detailed sectoral analysis not provided** – although the level of detail provided is broad in scope, individual sectoral bodies may wish to undertake more detailed analysis to assess the level of over or under-supply of specialist disciplines within broader subject areas. E.g. the current supply of medicine and dentistry graduates meets demand, but within the medical profession there have been reported shortages in some areas (such as GPs). The skills barometer focus at present is at the wider subject area level.

# Context to skills forecasting

- **Breaking new ground** – this skills barometer provides a greater level of detail than previous skills forecasting work across a number of areas:
  - **more detailed analysis** – providing analysis at 2 digit SIC (Standard Industrial Classification/ industry sectors) and 3 digit SOC (Standard Occupational Classification/ occupational areas) level. This has required the development of a large LFS (Labour Force Survey) dataset to allow for a greater level of analysis;
  - Inclusion of skills requirements **across all NQF levels**, not just at higher skills levels.
  - identifying areas of over and under supply at the subject area level (1 digit JACS and SSAs);
  - **recognition of employability** issues and the associated reduction in the supply of skills has been considered in this report for the first time;
  - **recognition of upskilling**, this analysis makes initial assumptions on the level of upskilling but further research is recommended to understand in greater detail the quantity of upskilling ongoing and required.

# Context to skills forecasting

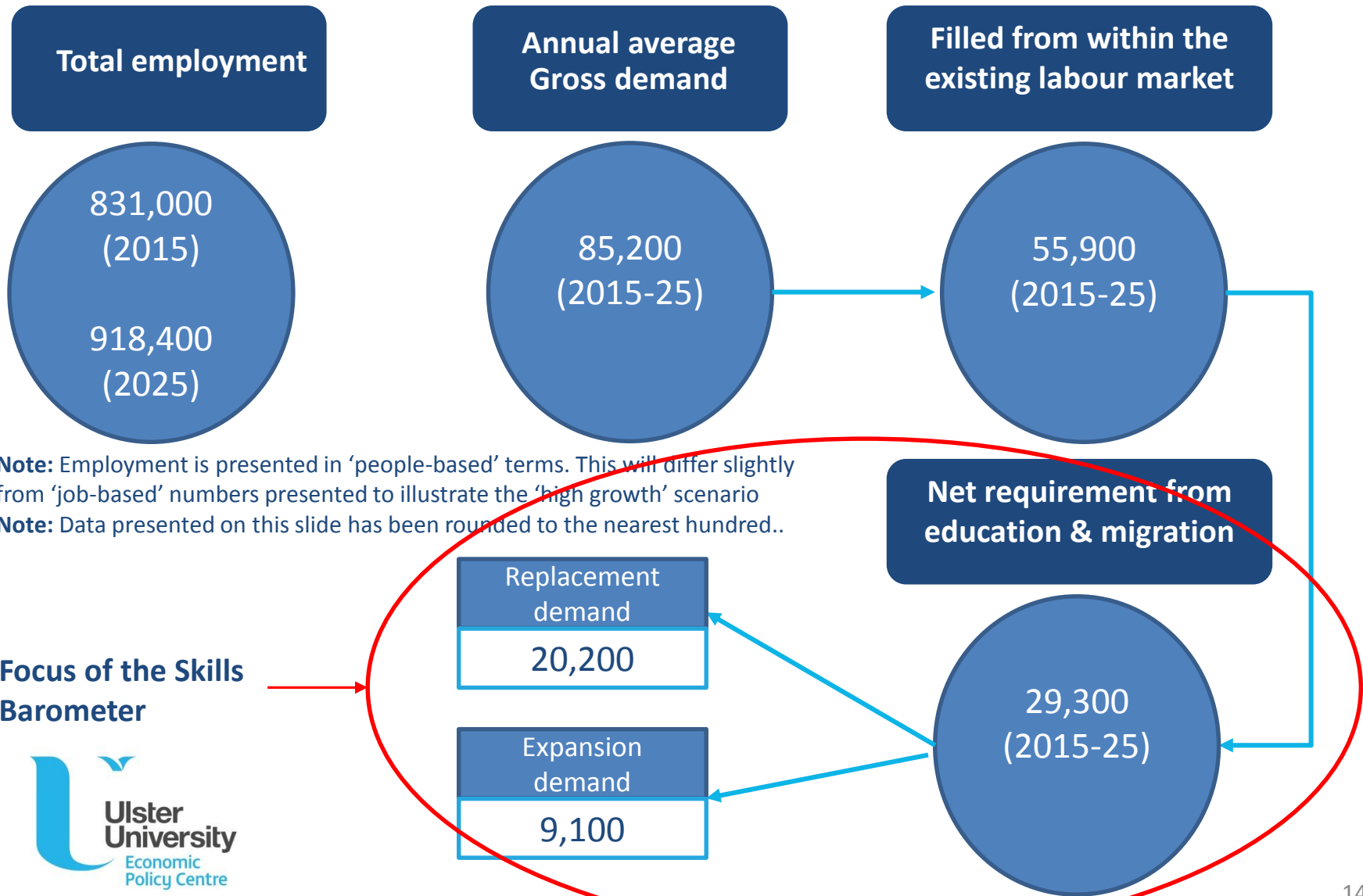
- **The impact of austerity** – the scale of budget cuts facing the NI Assembly is more significant than experienced previously and as a result, the baseline outlook for the local economy would suggest a relatively low level of demand for skills. This is in contrast to previous skills forecasting projects which would have been made against a backdrop of a much more positive economic outlook.

# Supply and demand – Key terms

- **Annual Average Gross demand** refers to the total expansion and replacement demand for staff per annum. These jobs are filled by those currently working in the labour market, those currently out of work and also those from education and migration. In simple terms, all vacancies to be filled.
- **Expansion demand** is directly related to the growth in size of the sector.
- **Replacement demand** refers to the number of positions which become available as a result of staff leaving employment (typically due to retirement, family reasons, ill health or to move to another sector). This calculation refers specifically to the number required from education and migration.
- **Net requirement from education and migration** indicates the number of vacancies that can not be filled from within the existing labour market.

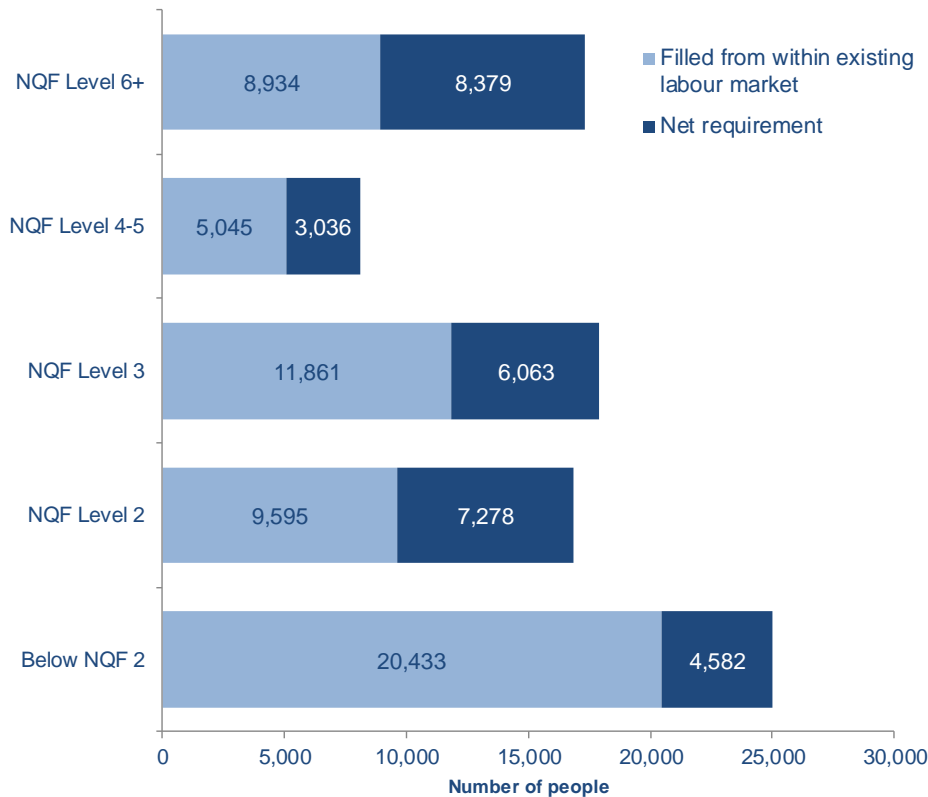
The **annual average net requirement from education and migration** does not include the positions to be filled by labour market participants from other sectors, from unemployment or from economic inactivity. It is also important to recognise the possibility that the trend of jobs filled from the labour market can change over time.

# Overview of demand and supply



# Overview of demand and supply

## Annual average gross demand for skills (2015-25)



- This chart sets out the annual average gross demand (i.e. 85,200) by skills level.
- The largest net requirement (i.e. from education) is at the graduate level, followed by NQF L2 and then NQF L3.
- Overall large demand for low level skills (below NQF L2) but a very significant proportion of that demand will be met from within the existing labour market. Demand for people with low/ no skills from education is small.

# Understanding the High Growth Scenario

- The UUEPC produces regular economic forecasts outlining the most likely economic outcome (the Baseline scenario), however if NI is to achieve its economic ambitions, a higher level of economic growth is required (the High Growth scenario).
- At the macro level, the assumptions applied to high growth scenario are based on the following principles:
  - The NI employment rate would rise closer to the current UK employment rate (average over 3 years, assumed to increase from 68% to 71.5%);
  - The biggest growth is applied to the higher value added and export potential areas of the economy (ICT, Professional Services and Manufacturing);
  - Lower but appropriate levels of growth applied to the wider supporting sectors such as Retail, Hospitality, Construction and Transport;
  - Increased private sector growth should also increase the tax base and therefore the reduction in spending on public sector services would not be as significant.



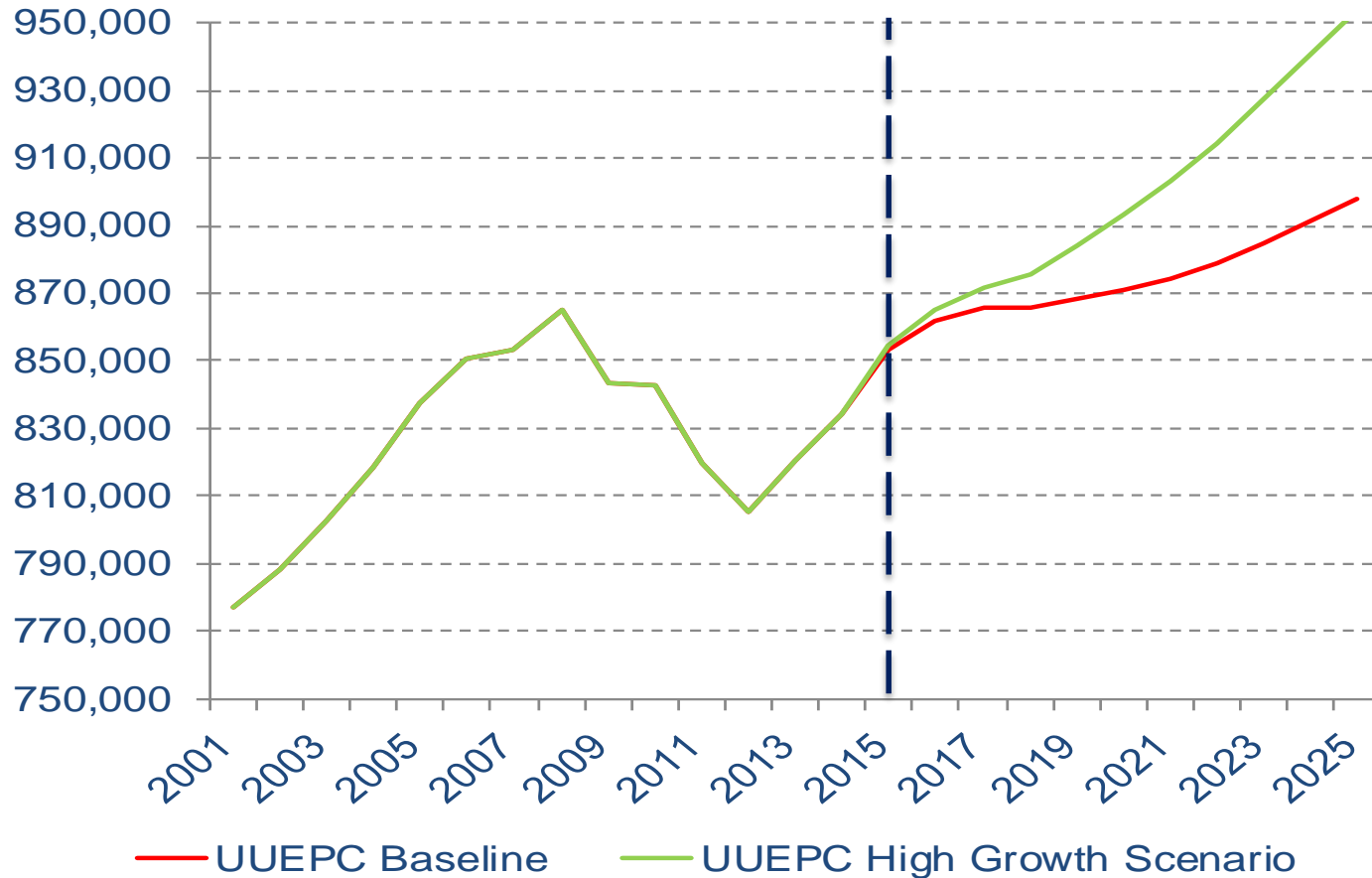
# Understanding the High Growth Scenario

- **The assumptions on job creation (and demand for skills) used in the skills barometer are based on this High Growth scenario.**
- The job growth assumptions are detailed further below and have been compared to actual job growth achieved in the period 1997 to 2007 (the last period of sustained employment growth). A few key points:
  - The overall forecast level of job creation from 2015 to 2025 is lower than the ten year period to 2007 (11% compared to 17%). In contrast the baseline forecast employment growth is 5%.
  - Assumed growth in ICT and Professional Services is ambitious but still lower than in 1997 to 2007.
  - Manufacturing is forecast to grow significantly reversing a long term trend of decline and typically in higher value sectors driven by an increase in FDI.

A more detailed analysis between baseline and high growth is set out in Annex B1 and B2.

# Understanding the High Growth Scenario

## Overall Jobs Forecast



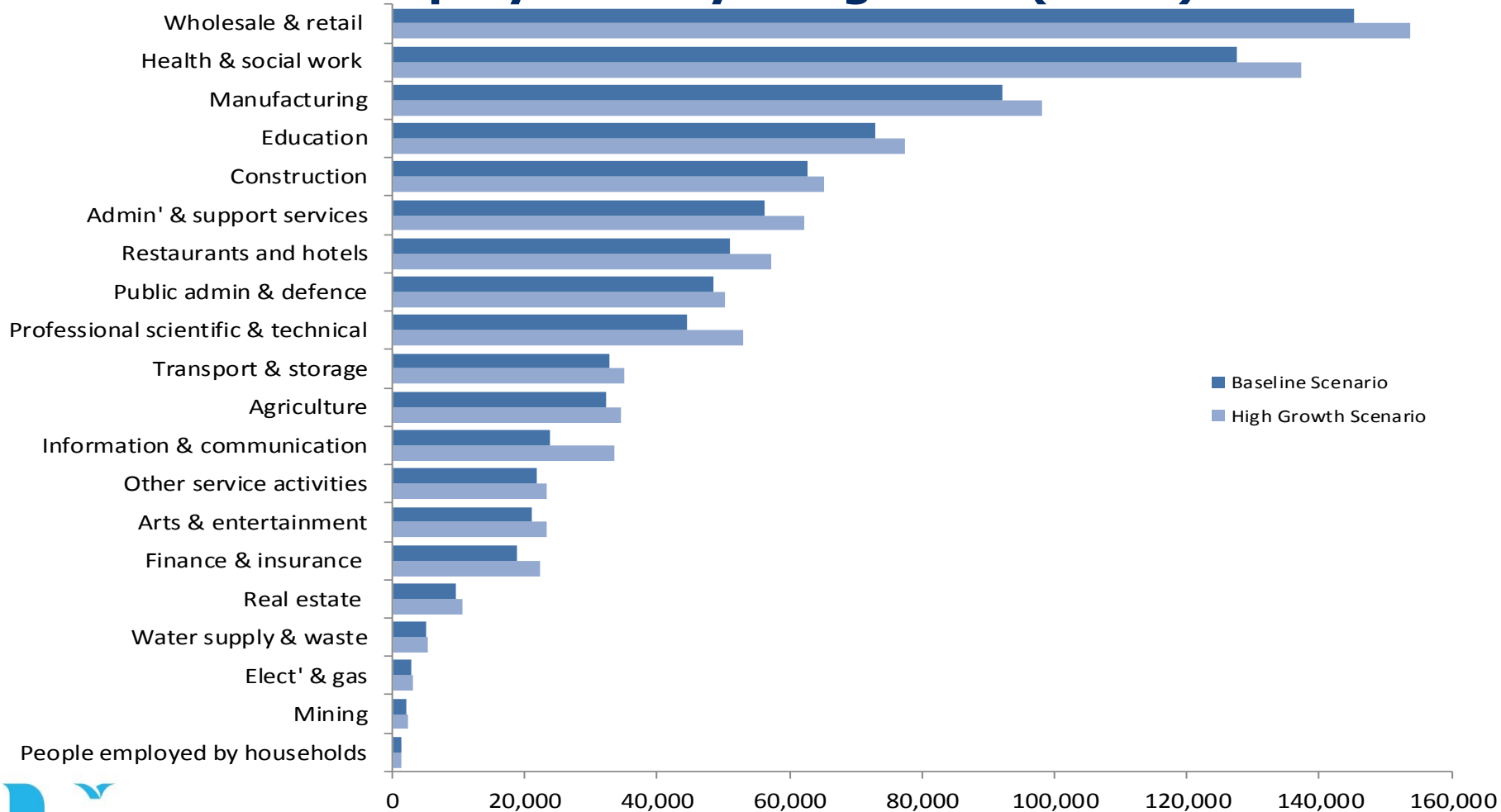
# High Growth job creation

Industry	Employment 2015	Employment growth 2015-25		% change in employment	
		Baseline	High Growth	High Growth 2015-25	Actual 1997-07
Agriculture	31,500	+1,580	+2,999	+10%	-27%
Mining	2,000	+151	+298	+15%	+50%
Manufacturing	84,250	+8,191	+13,769	+16%	-21%
Electricity & gas	2,750	+69	+348	+13%	-42%
Water supply & waste	5,000	+124	+360	+7%	+5%
Construction	59,250	+3,787	+5,952	+10%	+56%
Wholesale & retail	146,250	+4,431	+7,429	+5%	+27%
Transport & storage	31,250	+1,961	+3,866	+12%	+20%
Restaurants and hotels	49,500	+3,910	+7,731	+16%	+30%
Information & communication	18,000	+5,951	+15,430	+86%	+95%
Finance & insurance	19,000	+85	+3,338	+18%	+27%
Real estate	8,750	+1,085	+1,926	+22%	+155%
Professional scientific & technical	37,500	+7,876	+15,398	+41%	+103%
Administrative & support services	52,250	+5,448	+9,959	+19%	+96%
Public admin & defence	57,250	-7,754	-7,015	-12%	-3%
Education	78,000	-1,520	-566	-1%	+11%
Health & social work	130,000	+3,293	+7,232	+6%	+22%
Arts & entertainment	18,250	+3,734	+5,072	+28%	+24%
Other service activities	21,250	+1,321	+2,157	+10%	-3%
People employed by households	1,200	+52	+100	+8%	-69%
<b>Total</b>	<b>853,200</b>	<b>+43,774</b>	<b>+95,782</b>	<b>+11%</b>	<b>+17%</b>

**Note:** Employment is presented in 'job-based' terms and therefore differs from forecasts calculated on 'people-based' terms shown previously (i.e. some people have more than one job). It is essential to convert the forecasts from 'jobs' to 'people' based to determine the skills requirements of the labour market.

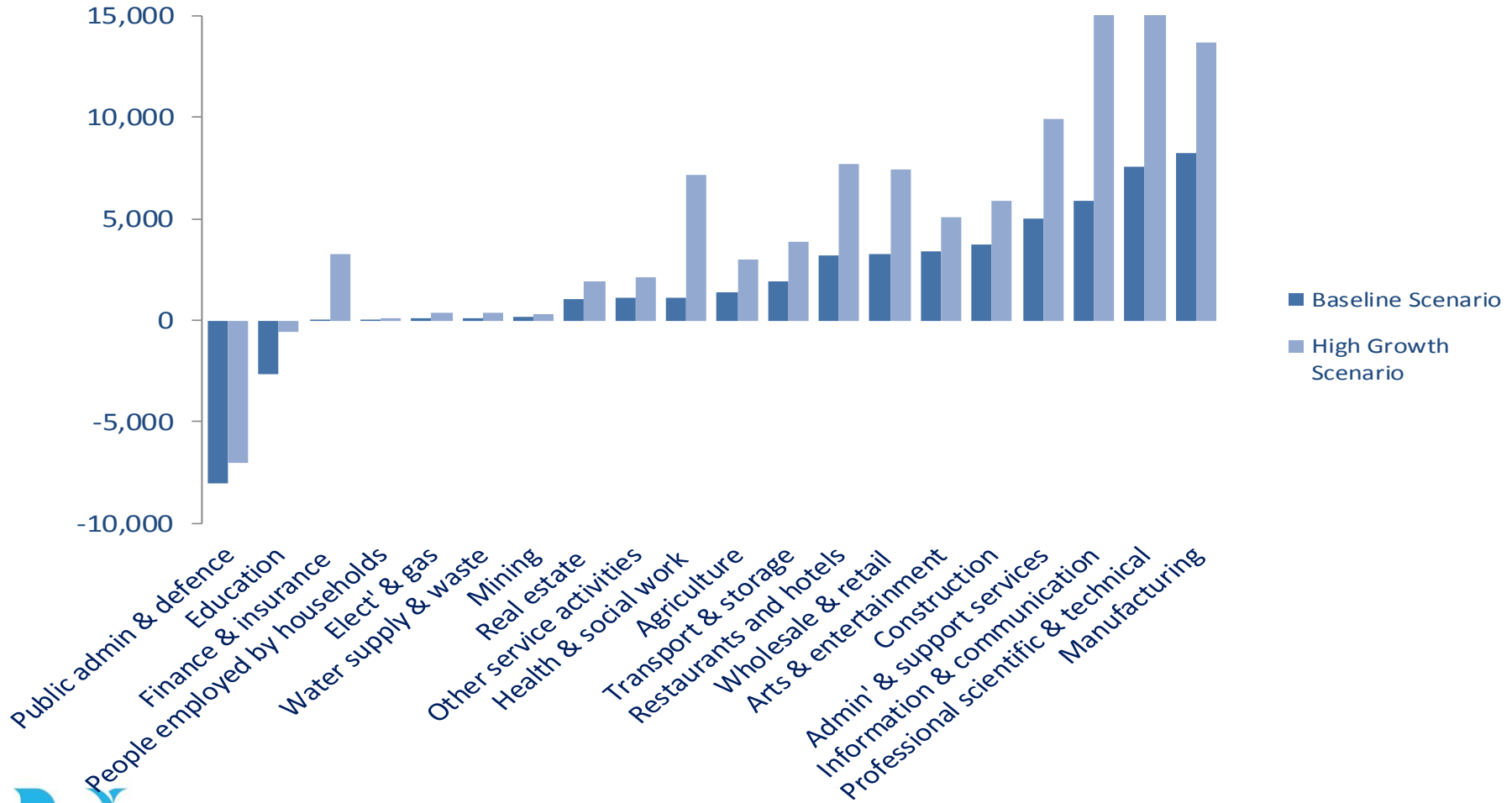
# Employment projections by sector

## Total employment by 1 digit SIC (2025)



# Employment projections by sector

## Total employment change by 1 digit SIC (2015-25)



# Employment projections by sector

- The 5 largest sectors in employment terms are retail, health, manufacturing, education and construction (in that order). Yet only one of those sectors, manufacturing, has a significant export focus.
- Other high value added sectors such as professional services and ICT are much smaller in total employment terms but they are the sectors assumed to deliver the greatest level of job growth over the next 10 years.
- The construction sector has also developed an export focus in recent years and this is also an area of projected employment growth over the forecast period.
- Public Administration and Education are the only two sectors forecasted to reduce in size over the next 10 year period.



# The Supply/ Demand (Im)balance – identifying the HE and FE Supply Gaps

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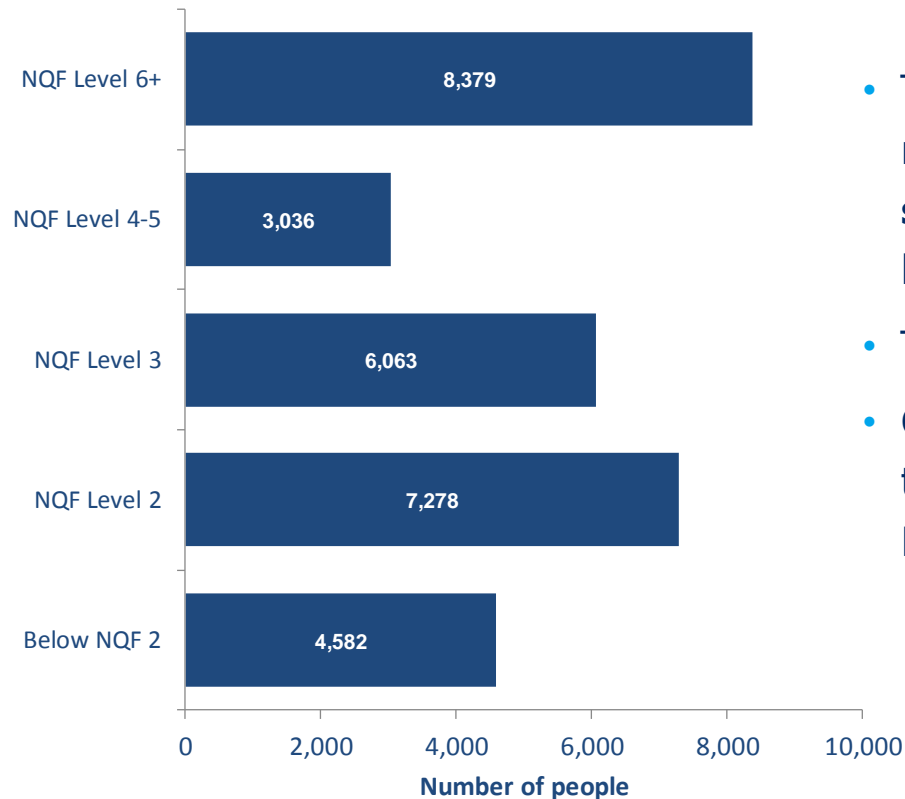
# The Supply/ Demand (Im)balance

- The supply/ demand imbalance or “supply gap” information is presented in charts in the following pages based on the high growth scenario. The following definitions are used in the analysis:
  - **JACS** (Joint Academic Coding System) – the coding system used to group HE subjects (1 digit is the highest level group and 2 digit is a lower level grouping).
  - **SSAs** (Sector Subject Areas) – the coding system used to group FE subjects (which also has a similar 1 and 2 digit hierarchy).
  - **NQF** (National Qualification Framework) – there are 8 levels within the NQF denoting the level of qualification:
    - Level 8 – PhD (or equivalent)
    - L7 – Masters (or equivalent)
    - L6 – Degree (or equivalent)
    - L4-5 – Foundation Degree/ HND/ HNC (or equivalent)
    - L3 – A-Level (or equivalent)
    - L2 – 5 GCSEs Grades A – C (or equivalent)
    - L1 – 5 GCSEs Grades D – G (or equivalent)
    - L0 – No qualifications



# The Supply/ Demand (Im)balance

## Annual average net requirement for skills (2015-25)



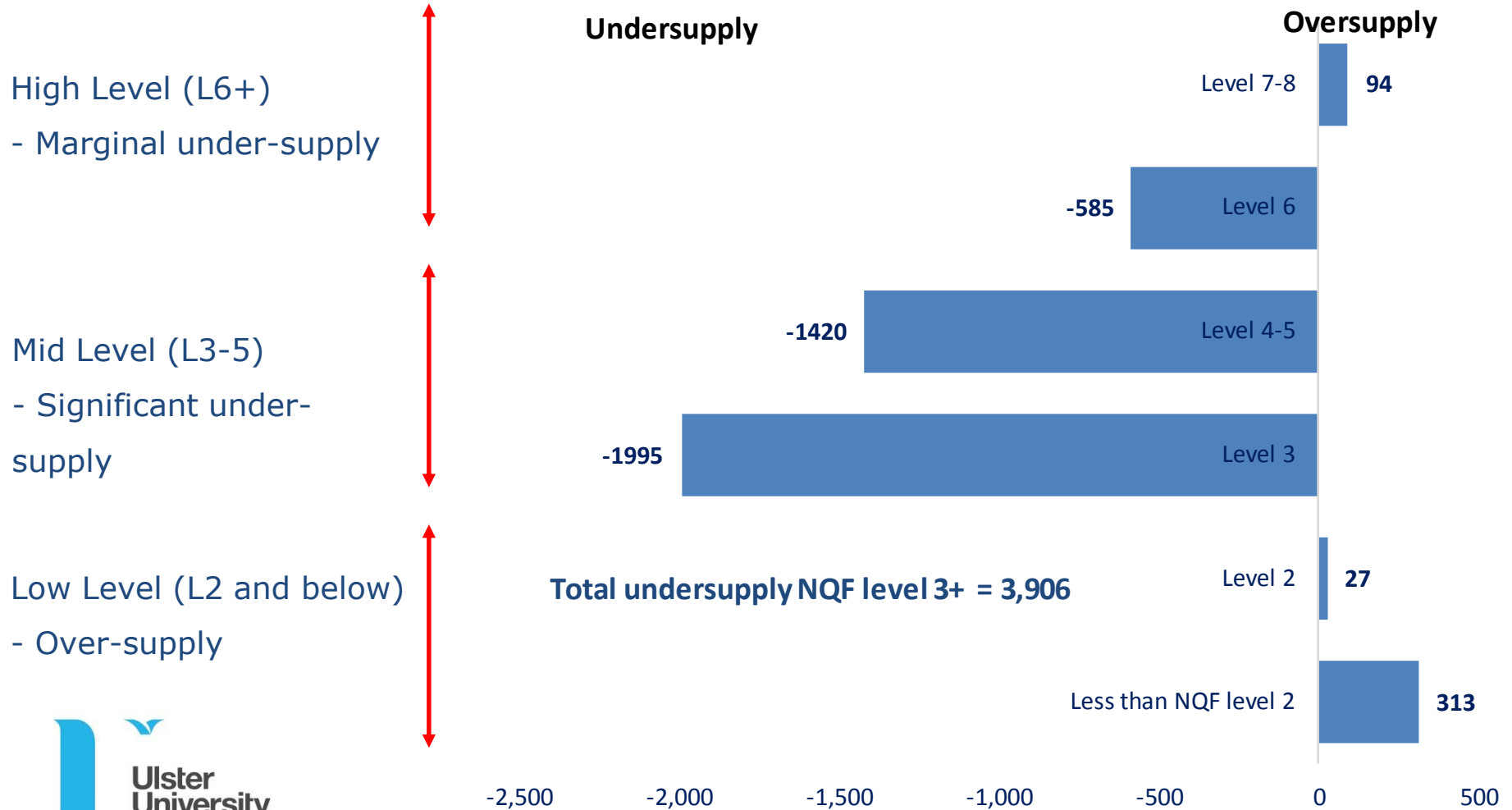
- This chart sets out the annual average net requirement (i.e. **the demand for skills from education and migration**) by skills level.
- Total across all skills levels is 29,300 p.a.
- Graduate skills are forecast to represent the largest area of demand followed by NQF L2 and then NQF L3.

# The Supply/ Demand (Im)balance

- **Annual Average Supply Gap** – this represents the difference between supply and demand and is forecast over a 10 year period (2015 to 2025). **The information is presented on an annual average basis.** Therefore if the supply gap for a subject area is estimated at 200, that means 200 additional qualifiers are forecast to be required in that subject area annually.
- This section identifies the annual average supply gap across individual subject areas (1 digit JACS and 1 digit SSAs) at both the NQF Level 6+ and NQF Level 4-5.
  - Most of the analysis focuses on HE level skills (i.e. NQF L6 and above) because the data available for HE is more comprehensive.
  - Subject area forecasting for NQF L3 and below is different as students tend to study more than one subject area. As a result, this skills barometer forecasts demand for L3 skills and below at industry rather than subject level.

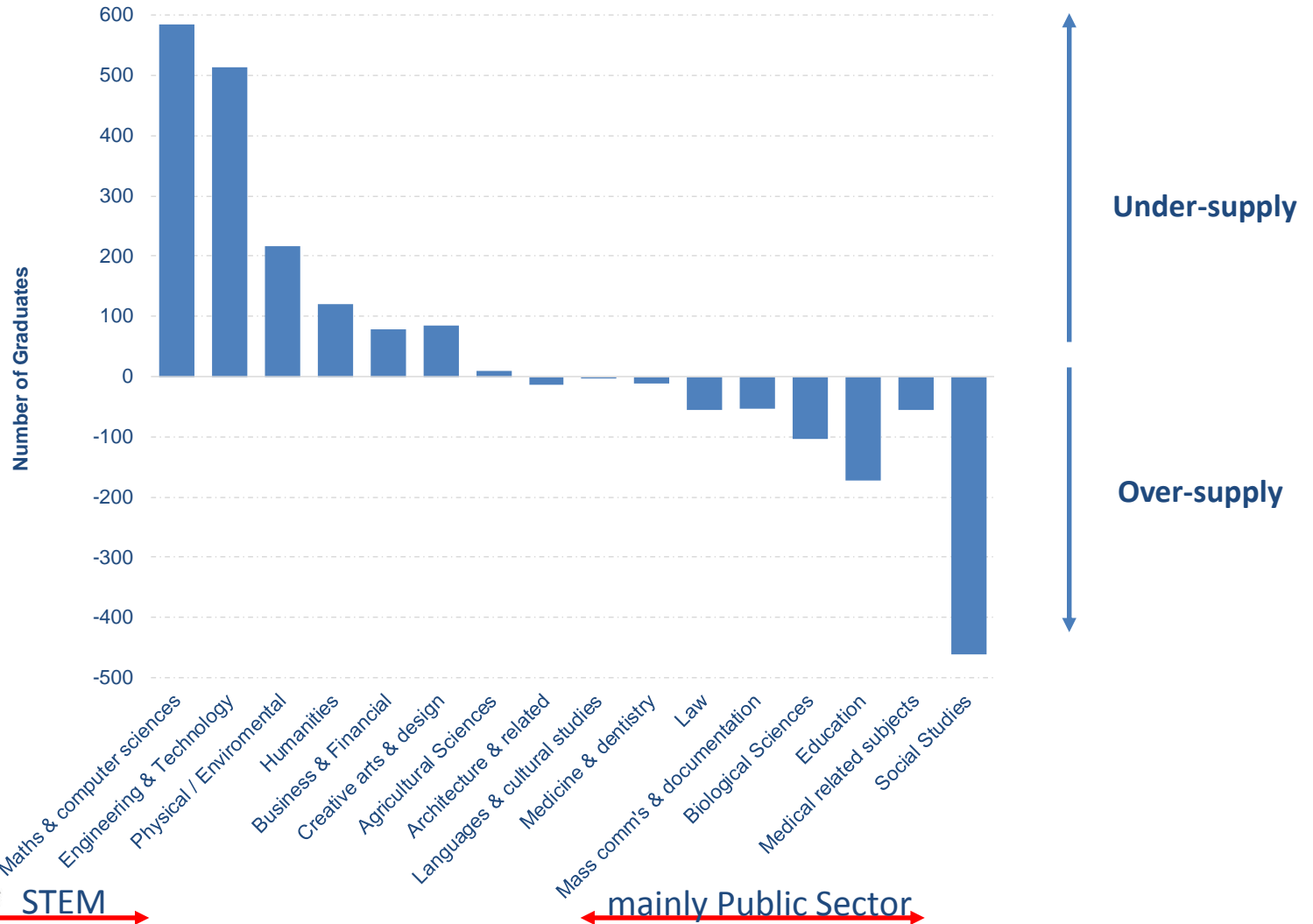
# Supply Gap – NQF Level

## Annual average labour market supply gap (NQF L1 to L8)



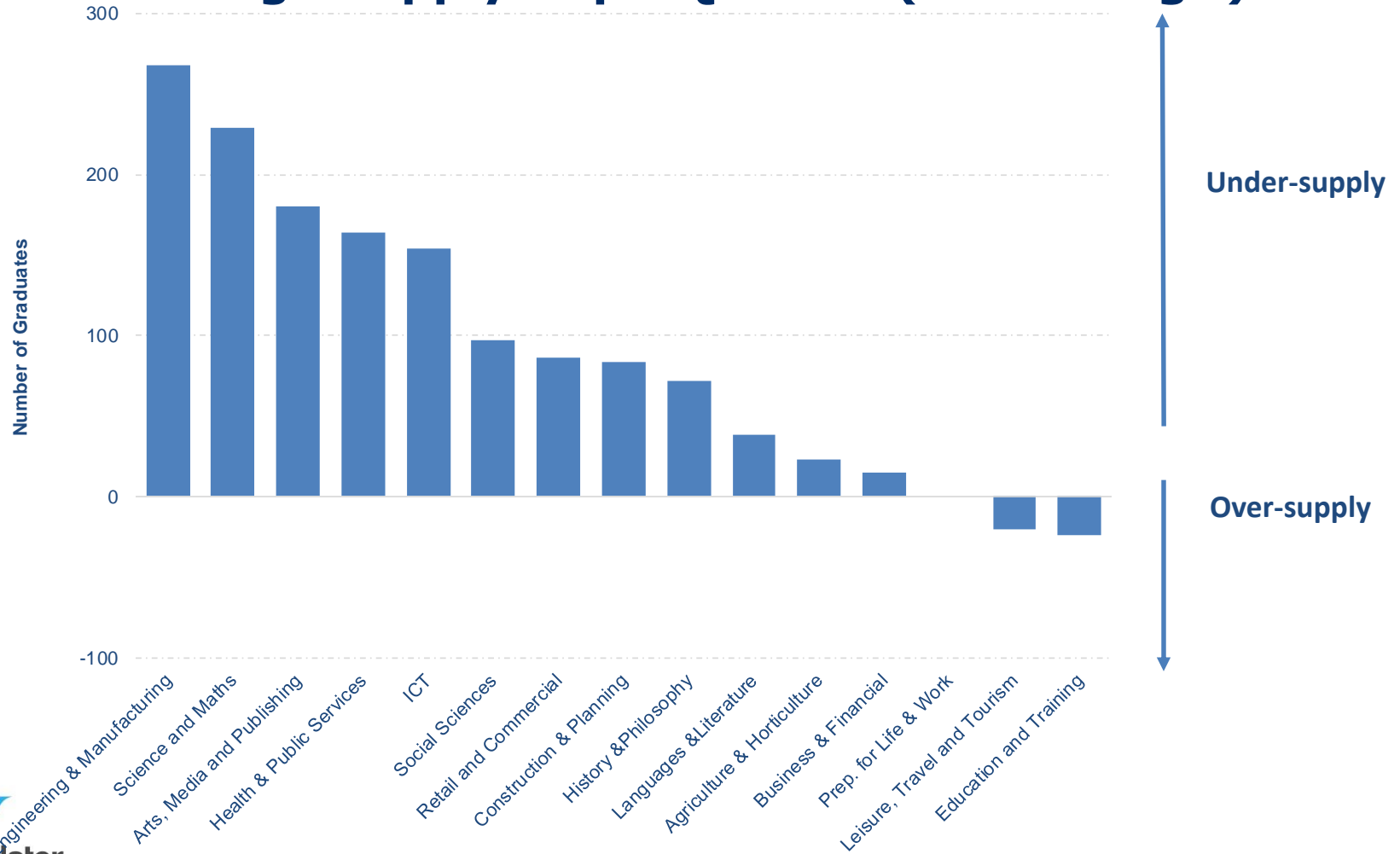
# NQF level 6+ Supply Gap – Broad subject area

## Annual Average Supply Gap NQF L6+ (JACS 1 digit)

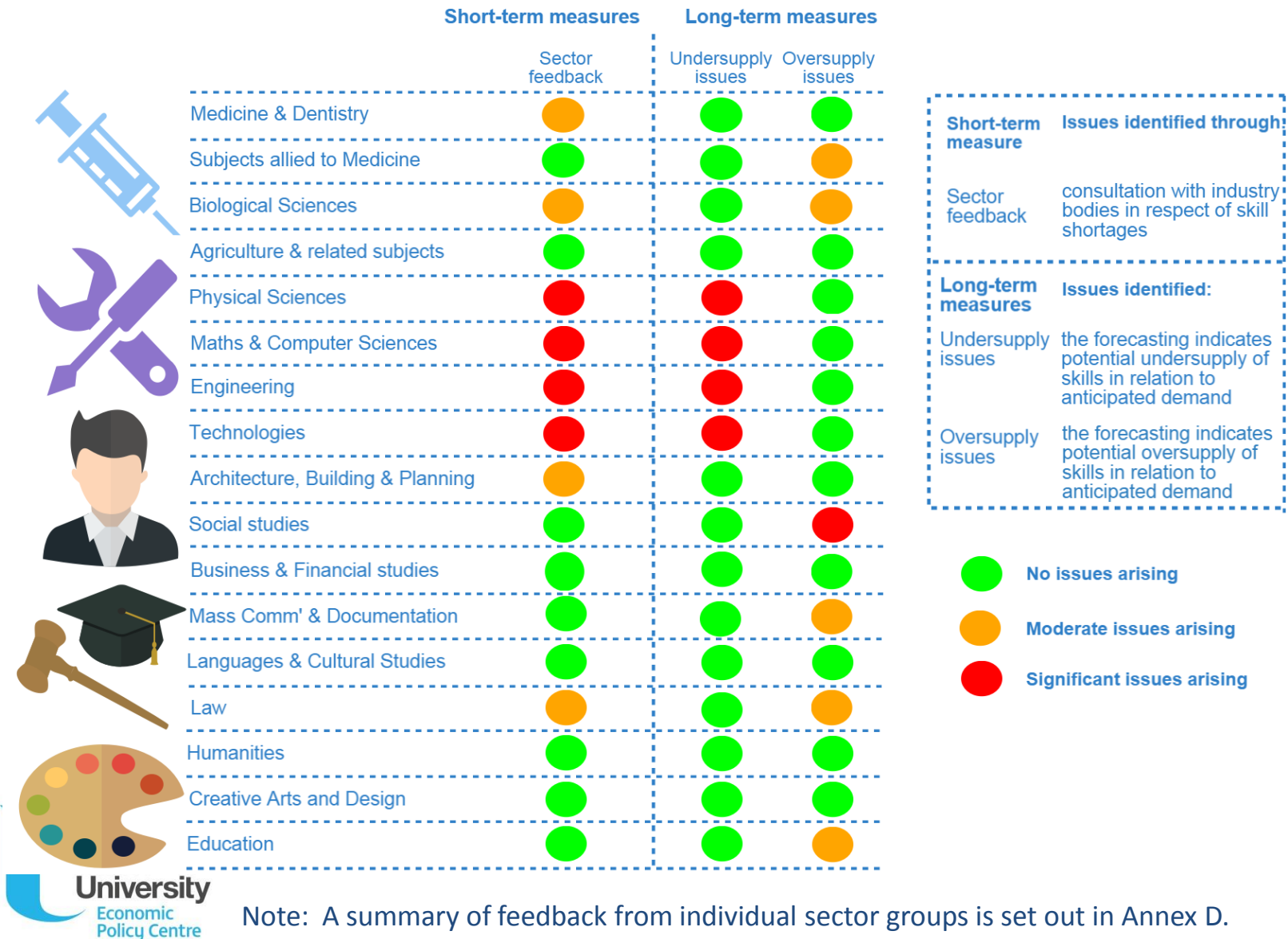


# NQF level 4-5 Supply Gap – Broad subject area

## Annual Average Supply Gap NQF L4-5 (SSAs 1 digit)



# NQF level 6+ Skills Barometer



Note: A summary of feedback from individual sector groups is set out in Annex D.

# NQF level 6+ Skills Barometer

- As indicated above detailed sector feedback is provided Annex D, but there are a small number of subject areas where the quantitative modelling and the sector feedback do not align. These are explained below:
  - **Medicine & Dentistry** – the modelling indicates a subject area broadly in balance, however sector feedback indicates significant areas of undersupply in some disciplines (such as General Practice). The skills barometer does not currently assess individual demand within sectors.
  - **Biological Sciences** – the modelling identifies an oversupply but sector feedback suggests a shortage. The two very dominant subject areas within Biological Sciences in supply terms are Psychology and Sports & Exercise Science both of which are oversupplied. Other Biological Science subjects are NOT oversupplied.
  - **Architecture, Building and Planning** – the modelling indicates a subject area broadly in balance, however sector feedback suggests a lot of skills have been lost to the sector following the recession.
    - **Law** – the modelling indicates moderate oversupply and consultations confirm that law graduates often do not pursue a career in the law, but a shortage in commercial law skills was reported.

# Research Findings

- It is important to note that the results are sensitive to economic performance. In addition they are based on a high growth scenario and include a supply adjustment. However, if high economic growth is not achieved then levels of skills oversupply could materialise.
- **A tolerance level should be applied when interpreting the results** – where the level of over/under supply is relatively low then it could be concluded they are broadly in balance. As a result only subject areas at the extreme ends of over/under supply should be given more detailed consideration.
- **A marginal under-supply exists at NQF Level 6 and above** – overall the supply of graduates and post-graduates will fall marginally short of demand. The fundamental issue is the mix of subject areas studied which is out of balance:
  - There is significant **undersupply** in: Engineering & Technology; Mathematics & Computer Science; and Physical & Environmental Sciences.
  - There is **oversupply** in: Social Studies; Medical Related Subjects; Biological Sciences; and Education.



# Research Findings

- A **significant imbalance exists at NQF Levels 3-5 and below**. It is forecast that a large under-supply of mid-level skills (L3-5).
- There is *significant undersupply* forecast in NQF L4-5 in:
  - Engineering & Manufacturing;
  - Science & Mathematics;
  - Arts, Media and Publishing; and
  - ICT.
- **The over-supply in NQF L4-5 is only moderate for a small number of individual subjects:**
  - Business and Finance;
  - Education & Training;
  - Leisure, Travel and Tourism.
- Furthermore, an over-supply of low level skills (L2 and below) will occur and this lower skilled cohort must be encouraged to increase their skills to the mid-level.

# Research Findings

Further analysis, presented in the slides which follow, sets out the sectors which demand skills across different NQF levels.

- **High level skills** (i.e. NQF L6 and above) tend to be demanded in:
  - Professional & Scientific Services; Information and Communications; and Health.
- **Mid-level skills** (i.e. NQF L4-5) tend to be demanded in the following sectors:
  - Public sector (in particular Health and Education); Information and Communications; and Administration Services.
- **Lower-level skills** (i.e. NQF L3 and below) tend to be demanded in:
  - Retail; Restaurants and Hotels; and Manufacturing.
- **Public sector** takes a significant proportion of high and medium skilled people.
- **Retail sector** employs significant numbers across all skills levels (perhaps offering graduates their first job).
- The high value added sectors (**Prof Services, ICT and manufacturing**) are 'degree hungry', but manufacturing also provides opportunities across all skills levels.

# Research Findings

## **Why are STEM related subjects always undersupplied?**

An undersupply in STEM related subjects is a consistent finding across skills research for many years now. There are many reasons for this finding, not least because sectors such as ICT and engineering have significant growth potential and the skills are in demand across a wide range of sectors and occupations.

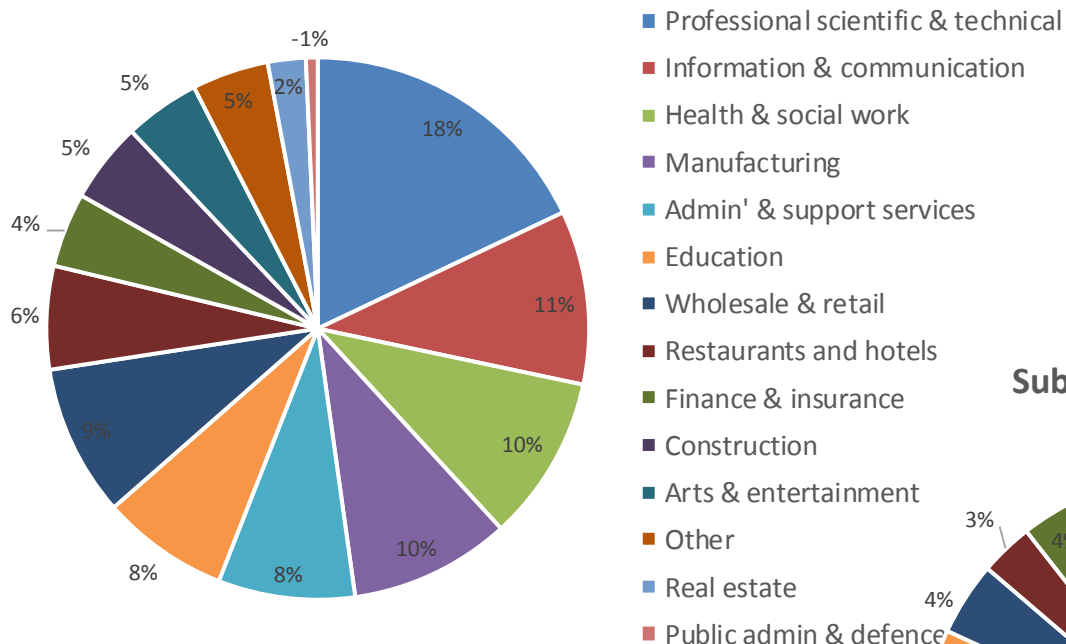
However, a further reason could be that ICT and engineering are amongst a relatively small number of occupations that require a qualification in a relevant subject discipline. This places greater significance on the volume of qualifications being achieved in these subjects on an annual basis relative to other subject areas.

In contrast, an occupation such as accountancy (also technical, numerate and at a professional level) does not recruit solely from accountancy related disciplines. Accountancy firms recruit graduates from a wide range of degree disciplines including the Arts, who then embark on a 3 year “training contract” to achieve their chartered status.

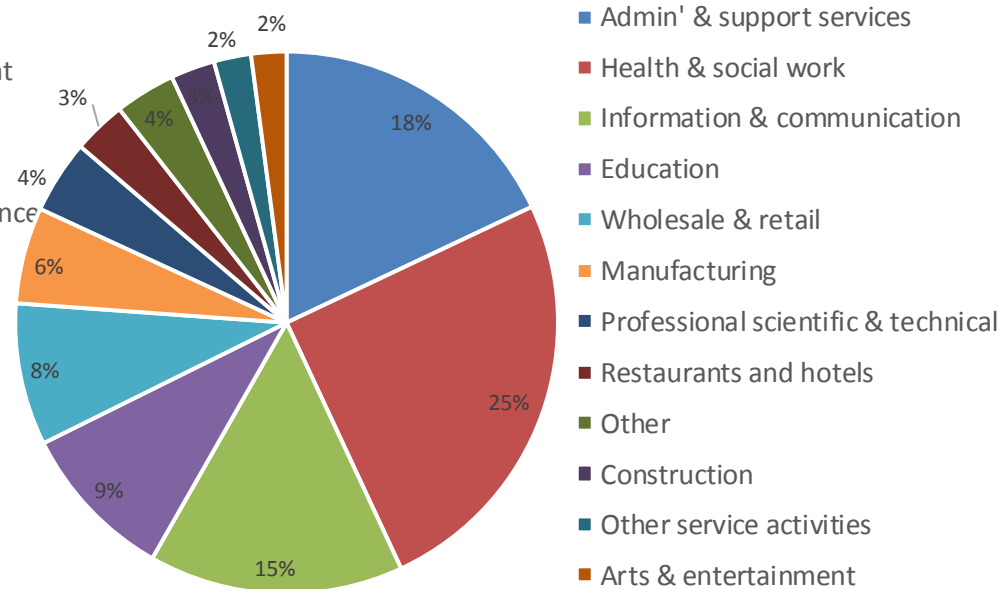
# Sectoral demand (net requirement) by skills level

## Which sectors recruit high (L6+) and medium skilled (L4-5) people?

High level skills requirement (Level 6 and above)



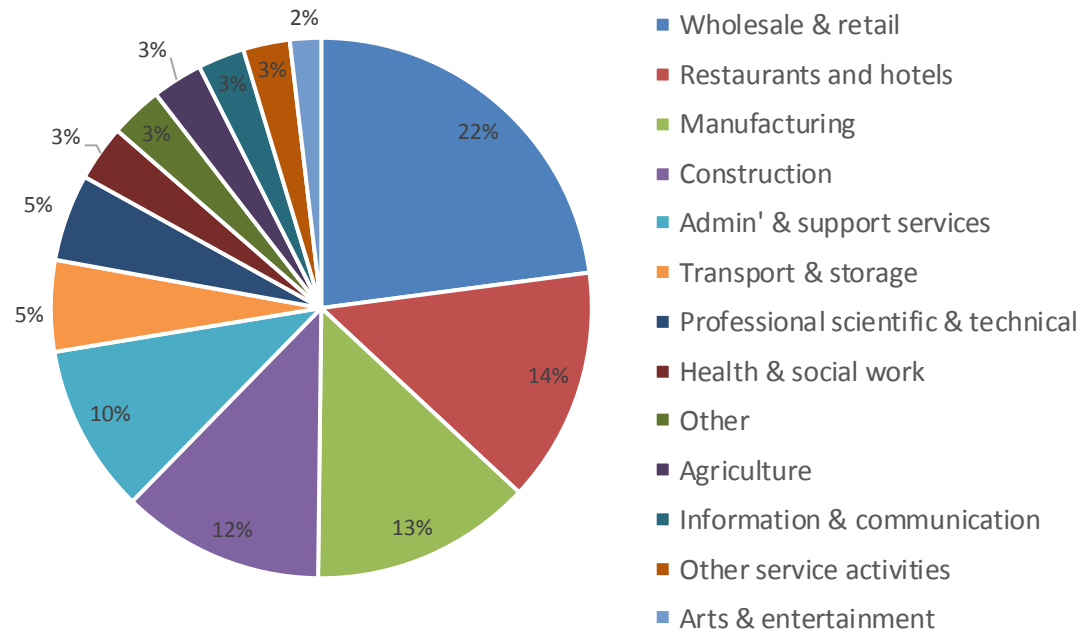
Sub-degree level skills requirement (Level 4 and 5)



# Sectoral demand (net requirement) by skills level

Which sectors recruit medium to lower skilled (L3 and below) people?

Mid to low level skills requirement (Level 3 and below)



Source: EPC



# Policy implications

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# Policy Comments

The following policy comments have been made from the analysis:

- **High growth is required** – the skills barometer has identified the level of under and over supply of skills required in a “high growth” scenario. However, a skills over-supply issue could arise if the level of economic growth achieved is lower.
  - Although the intention is to provide the level of skills necessary to allow NI to reach its economic aspirations, it is also recognised that large numbers of skilled people will leave NI if employment opportunities are not available for them.
  - This outcome is preferred to an under-supply of skills which could constrain economic growth in NI and result in higher levels of unemployment.
- **Skills implications of austerity** – lower levels of government spending and reductions in recruitment levels will have implications in terms of reduced demand for skills particularly in the public sector (but also in areas such as construction). Given the historic scale of higher skilled recruitment into the public sector, over supply could be an issue into the medium term.
  - However, in the longer term Government spending and demand will increase, therefore care must be taken with the policy response so as not to lose the capability to deliver this training.
  - Taking a positive perspective, reductions in public sector recruitment should create greater supply of higher level skills for the private sector.

# Policy Comments

- **The employability issue is impacting supply** – an assessment of ‘effective supply’ has been made to estimate the number of graduates/ qualifiers with the appropriate skills to work at a level equivalent to the qualification achieved. This significantly reduces the overall supply of appropriately skilled people entering the labour market, resulting in supply gaps across a range of subject areas. This gives rise to a number of potential policy responses:
  - Increase the number of students to provide a sufficient number with the appropriate employability skills and accept the high wastage rate. This is currently seen as unachievable and unsatisfactory given tightening Government budgets.
  - Focus on improving the employability rather than quantity of graduates/ qualifiers – this could include incentivising potential students into subjects which are under-supplied to raise the employability of the intake in those subjects.
    - This could also impact the balance of students moving into HE and FE. A complex area requiring cultural change (discussed further below).
  - Assess the capacity of education institutions to increase supply in under-supplied subject areas.



# Policy Comments

- **Policy response to areas of oversupply** – the policy response to an area of under-supply is simply to increase provision, but the response to areas of over-supply should be much more nuanced. The initial (knee-jerk) response to subject areas over-supplied could be to simply reduce provision (and this may be necessary), but alternative approaches could be adopted:
  - 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.
  - Some areas of over-supply could be austerity related, but when austerity ends demand could significantly increase. Therefore the capability to deliver these courses should not be lost.
  - Conversion courses could be made available to graduates (e.g. those with at least a 2:1) with qualifications in over-supplied subject areas.
  - Education institutions could seek to market over-supplied courses more proactively to international students to meet any reduction in enrolments from local students. 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.
  - Local education institutions indicated the importance of offering a wide portfolio of courses. Many of which will meet the needs of the local economy but in some instances they are equipping students with the skills required in the international labour market.

# Policy Comments

- **Advice to different stakeholders regarding areas of oversupply:**
  - **Advice to potential students** – young people should always be encouraged to study in an area for which they have a passion. If that happens to be in a subject area which is over-supplied it is important they understand that they will need to excel in order to progress in that specific area (e.g. in general a 2:2 in Engineering is likely to be more sought after than a 2:2 in Social Studies, in the current climate);
  - **Advice to education institutions** – the work-place relevant skills developed in oversupplied subject areas should be clearly articulated (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. These skills should be marketed effectively to employers.)
  - **Advice to employers** – employers could broaden their search criteria and consider the skills of people with qualifications in over-supplied subject areas. E.g. the skills sets gained in a Psychology degree are attractive across a wide range of industry sectors.
- **Need for depth analysis in key sector areas** – the NI Skills Barometer provides a breadth of analysis across the entire economy but further analysis should be undertaken for priority sectors to understand the skills requirements at a more detailed level (e.g. 2 or 3 digit JACs and SSAs).

# Policy Comments

The importance of **employability skills**:

- **This skills barometer focuses on the technical skills** required by employers as determined by NQF qualifications. There is less of a focus on the wider transversal/ employability skills such as team working; good communication; people management; problem solving and critical/ objective thinking. Consultations with all sector skills bodies highlighted the absolute requirement for these skills, but these skills are required across all sectors. **Therefore employability skills must be developed in all subject areas across all levels of education (HE, FE, training and school).**
- This sets a key challenge for education institutions to integrate the development of these skills into course delivery. By way of example, this may include the promotion of team/ project working, the verbal and written presentation of work and the introduction of challenge sessions and debating into the teaching of courses. Furthermore, appropriate exposure to meaningful work experience, typically through a placement and/ or internship, in addition to the more traditional part-time “student jobs” should be encouraged.
- Also, much of employability skills development will fall on employers as it is difficult for education to mimic the work place environment. This would most likely include increasing numbers of employers offering placement and internship opportunities to students.

# Policy Comments

- **Young people experience a range of sectors/ occupations prior to making career decisions** – provide 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.
- **The image of FE** – the consultations highlighted that there remains a cultural perception in NI 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 (i.e. NQF L3 to L5) should be explored with other providers delivering low level skills training.

# Policy Comments

- **Employers should articulate their skills needs to Government 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.

However it is also important employers are realistic about the skills which can only be effectively developed in the workplace.

This is equally important when engaging with Government on all policy matters (i.e. beyond skills issues).

- **Setting appropriate funding incentives** – 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.

# Policy Comments

- **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.
- **The cost of undersupplying skills** – the Skills Barometer has applied ambitious assumptions for jobs growth and skills demand because it is recognised the cost of undersupplying skills to the economy could be very significant. The most significant implication would be that 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 and increased levels of immigration. The free movement of labour across borders is generally accepted to be positive for economic growth, but immigration also has wider social implications.



# Careers information

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# Careers information

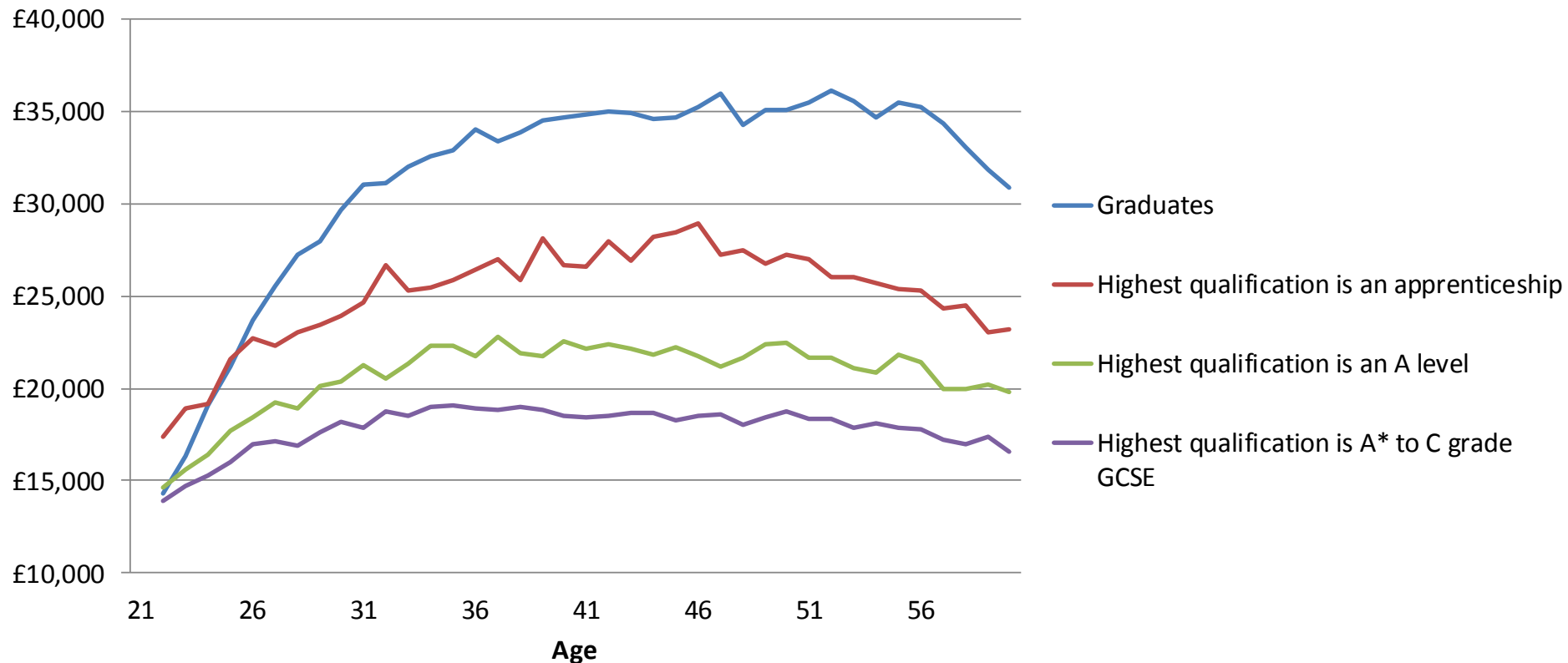
This section sets out the following information:

- Average earnings by level of education
- Employment prospects by level of education
- Prospects by degree subject
- Where are skilled people employed?
- The importance of employability skills
- Destination of graduates 6 months after graduation



# Average earnings by level of education

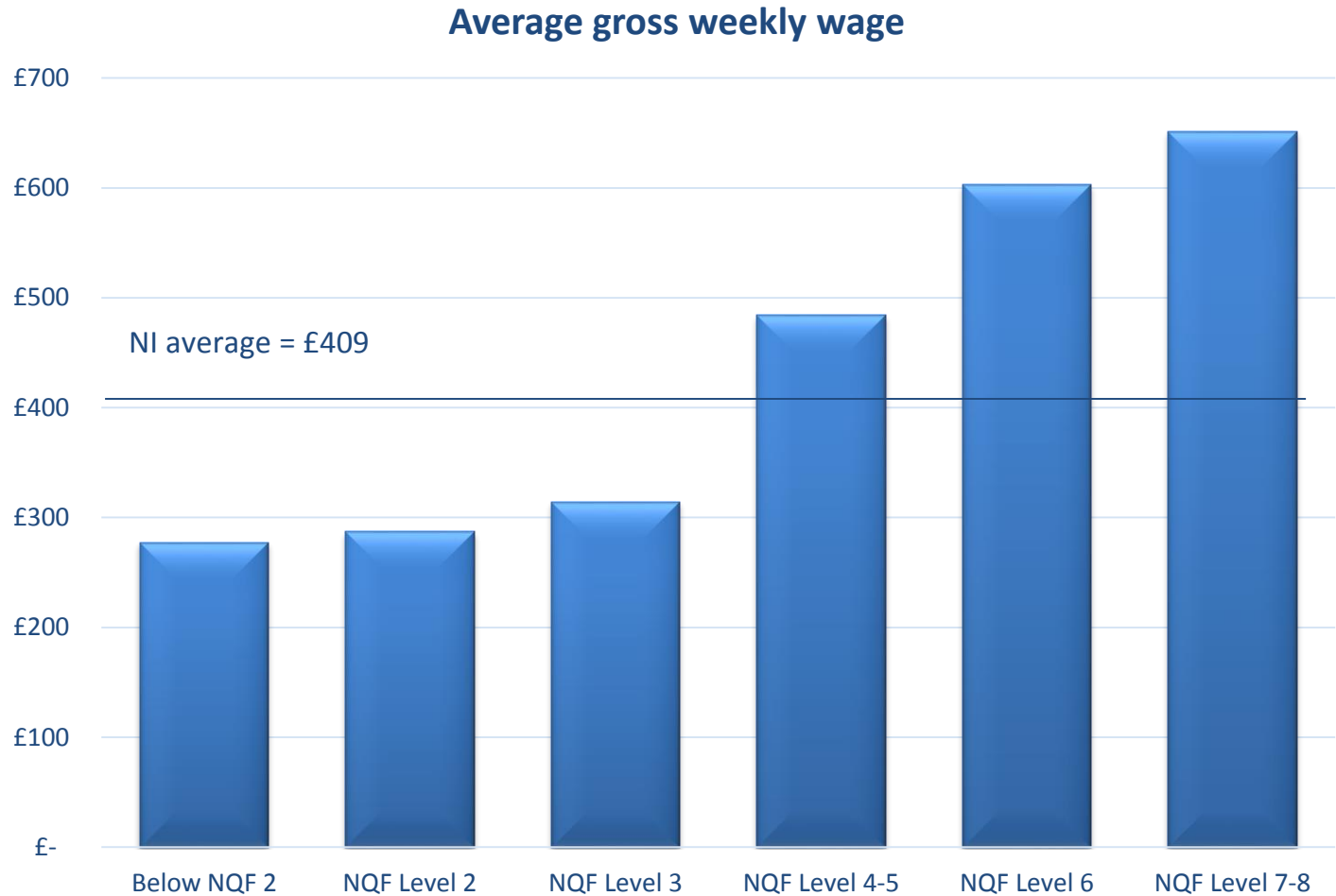
Salary progression by age and level of qualification, UK, 2012/13



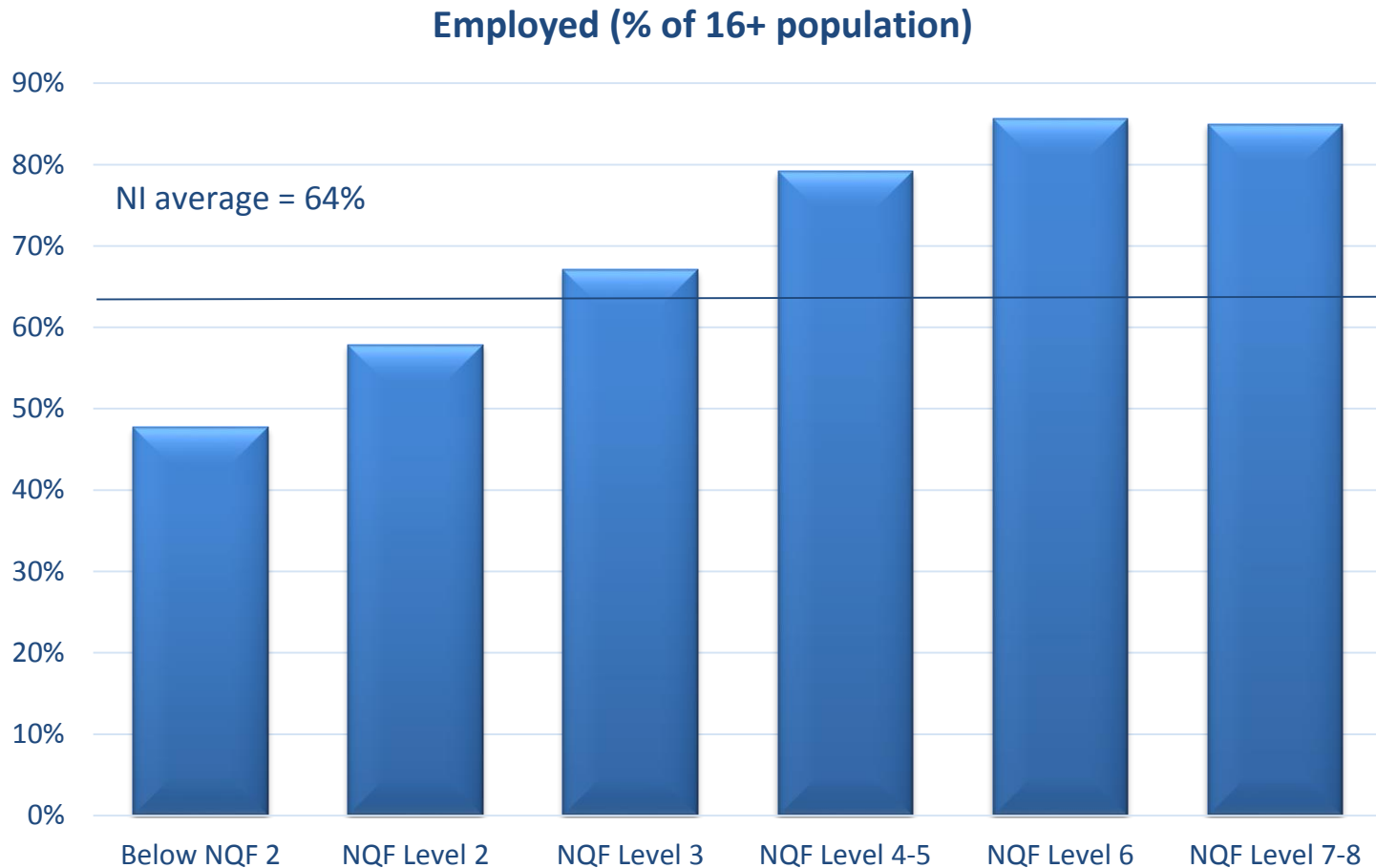
Source: ONS

- 2012/13 is the latest data available from ONS in respect of salary progression. ONS currently have no plans to update this data release.

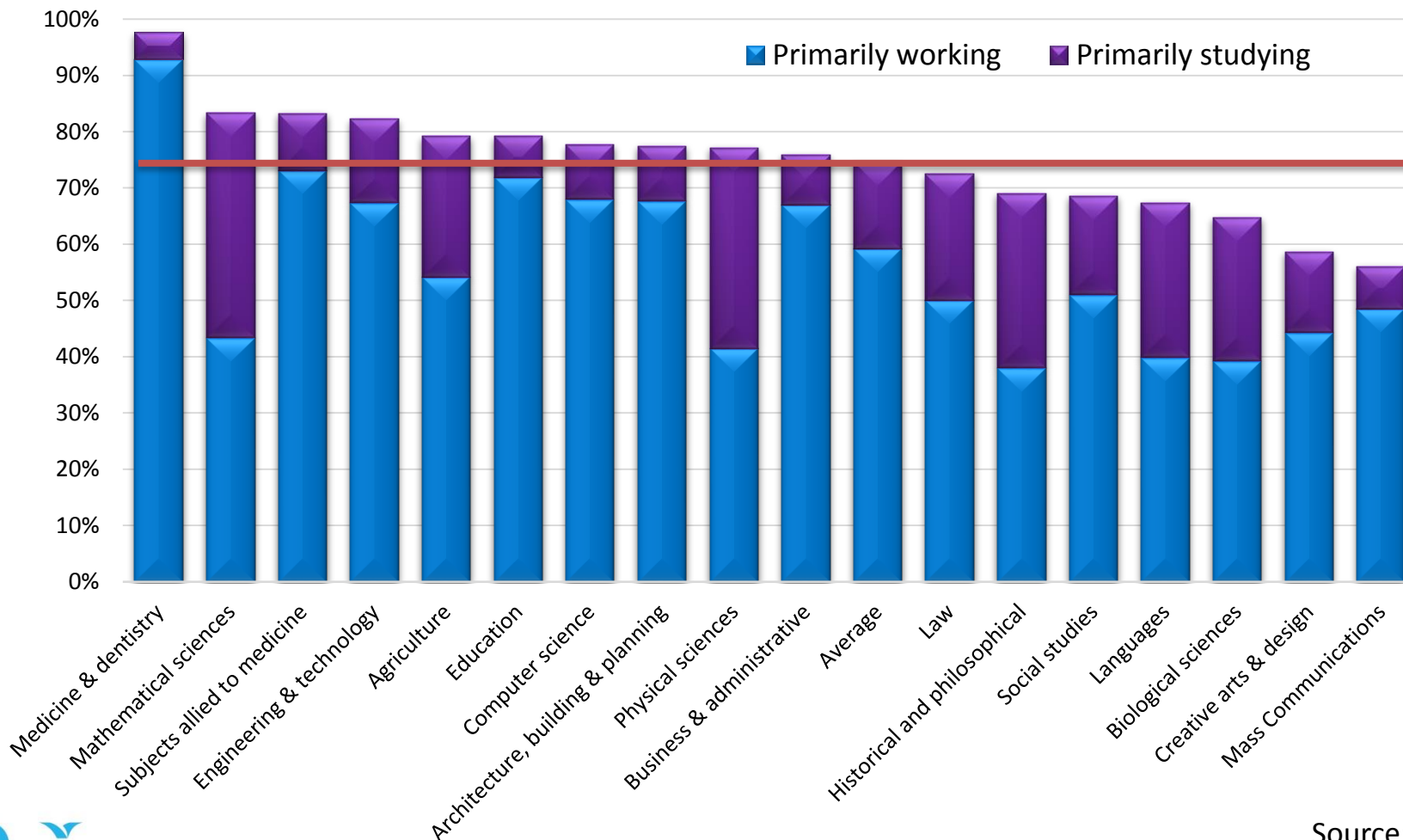
# Average earnings by level of education



# Employment prospects by level of education



# Prospects by degree subject (6 months after graduation)



Source: HESA

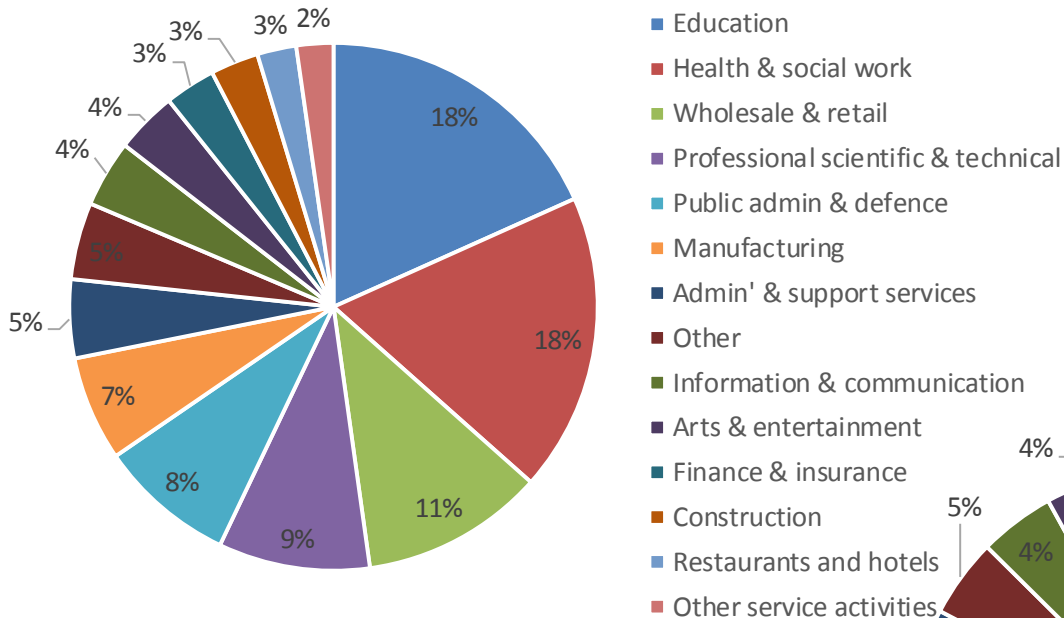
# Employment earnings and prospects

- The evidence strongly suggests that the higher the level of qualification, the higher the earnings potential and employment prospects.
- A fundamental message to young people (and the wider labour market) is the importance of continuing employment to tertiary level (either FE or HE).
- The HE subject data shows employment prospects after 6 months. This is an imperfect measure because it does not necessarily reflect graduate level employment but it shows that not all degrees are the same:
  - STEM related subjects tend to have higher employment prospects (reflecting the shortage of skills in those subject areas);
  - Mathematical subjects have lower employment outcomes after 6 months because a significant proportion stay in education to study for NQF L7 and L8.
  - Computer science employment outcomes are lower than expected given the scale of undersupply forecast. However this may reflect the quality issue raised by some employers in the sector; and
  - Some Arts related subjects tend to show lower levels of employment.

# Where are skilled people employed?

## Where do high (L6+) and medium skilled (L4-5) people work?

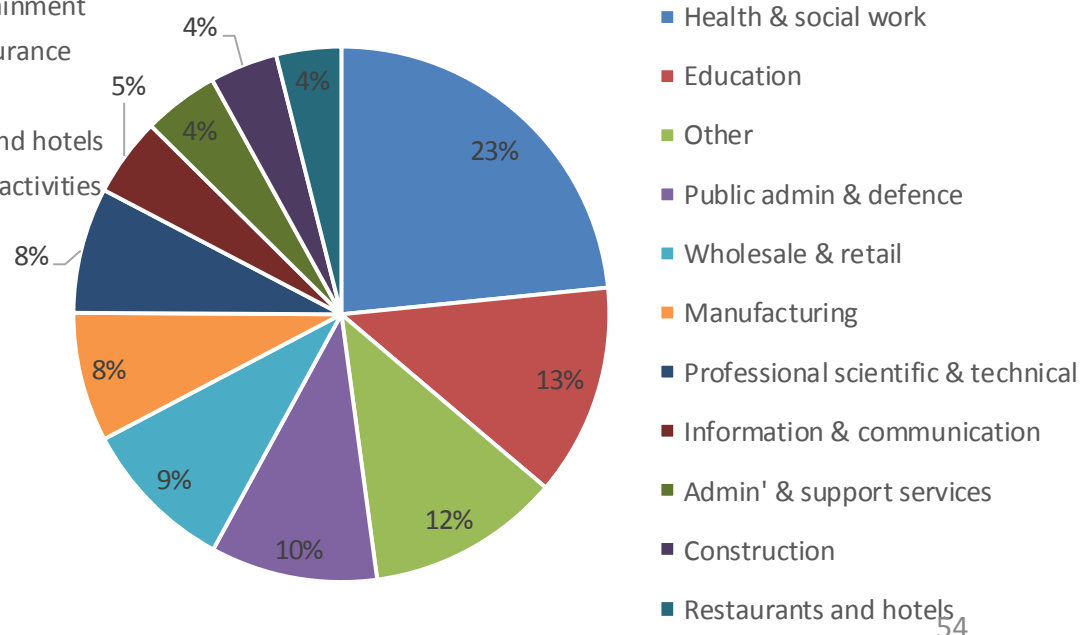
High level skills stock (Level 6 and above)



Other sectors in High level skills include: Real estate, Water supply & waste, Mining, People employed by households and Elect' & gas.

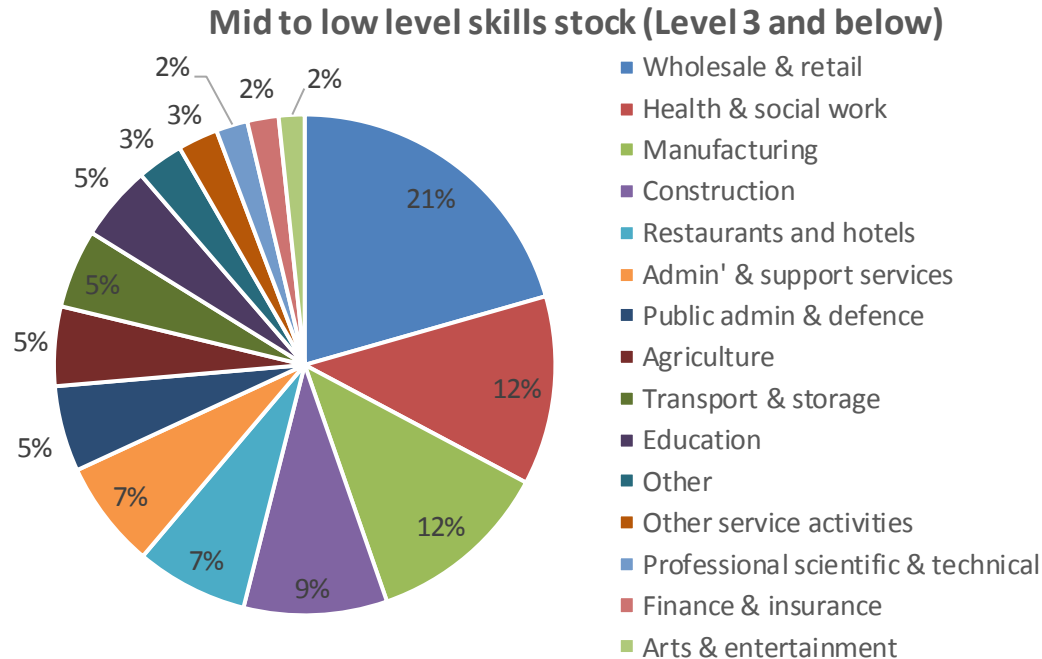
Other sectors in Sub-degree level skills include: Other service activities, Transport & storage, Finance & insurance, Real estate, Agriculture, Arts & entertainment, Water supply & waste, Mining, Elect' & gas and People employed by households.

Sub-degree level skills stock (Level 4 and 5)



# Where are skilled people employed?

## Where do medium to low skilled (L3 and below) people work?



Other sectors in Mid to low level skills include: Real estate, Agriculture, Water supply & waste, Mining, Elect' & gas and People employed by households

# Where are skilled people employed?

- The public sector, in particular health and education, is the major employer for people with high and medium level qualifications.
- The wholesale and retail sector is a large employer across all skill levels, but particularly at the lower skill levels. This reflects the overall scale of the wholesale and retail sector as an employer (approximately 130,000 or 15% of the entire workforce). But retail is also an important first destination sector for many with higher level qualifications and represents the first step on the employment ladder.
- Professional services, manufacturing and ICT are the major employment sectors within the private sector for high and medium level skills.
- Given increased levels of austerity and the associated reductions in public sector recruitment, it is essential that the higher value added sectors such as Professional services, manufacturing and ICT grow very strongly to absorb the large numbers of graduates from both HE and FE.



# The importance of employability skills

- The definition of employability skills varies and although this is not to be considered as exhaustive, they tend to centre on the following key areas:
  - Problem solving;
  - Team working;
  - Communication;
  - People management;
  - Commercial awareness;
  - Critical/ objective thinking;
  - Professional attitude; and
  - Initiative.
- The key challenge for education institutions is to integrate the development of these skills into course delivery. However it is also important that young people in education also develop their employability skills through work experience, typically through a placement and/ or internship in a role linked to the career they wish to pursue.

# The importance of employability skills

- The research sets out a number of key learning points for education institutions, employers and young people making career decisions:
  - Employability skills are a fundamental requirement to secure employment, particularly in high skilled sectors for blue chip employers;
  - Students should make every effort to gain work experience during their studies and education institutions should seek to incorporate internships and/or placement options within their course delivery;
  - Given the value employers place on employability skills and given these skills are typically gained in employment, there is an onus on employers to provide these opportunities for young people. Firms which do not already provide internships and placements should be encouraged to do so. This could be done in a number of ways including the promotion of benefits which employers can gain from having an internship or placement programme.



**End**

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