Future Skills Needs: South

Armagh City, Banbridge and Craigavon

Newry, Mourne and Down

Department for the Economy

SKILLS TO SUCCEED

Invest Northern Ireland

Contents

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Introduction and background

Introduction and background

Ulster University Economic Policy Centre (UUEPC) were commissioned by Invest Northern Ireland to report on the future skills needs of the South of NI.

The South area is defined by two Local Government Districts (LGDs); Newry, Mourne and Down; and Armagh City, Banbridge and Craigavon. The empirical approach is based directly upon UUEPC's forecasting methodology employed in the Northern Ireland (NI) Skills Barometer.

The NI Skills Barometer was commissioned by the Department for the Economy (DfE) and involved the development of an economic model to forecast future skills needs and skills gaps by qualification level, subject area and sector. The project was originally commissioned in 2015 and is updated every 18 months.

The quantitative findings of the research have benefitted a wide range of stakeholders including; careers advisors, young people and parents; teachers and schools; business groups; DfE; and wider government.

This report provides contextual analysis which underpins skills forecasts, outputs from the assessment of future skills demand, a review of supply side indicators relating to South and overall skill balances.

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Acronyms and skills classification

Acronyms

Acronym	Full title
UUEPC	Ulster University Economic Policy Centre
NI	Northern Ireland
NQF	National Qualifications Framework
SIC	Standard Industrial Classification
SOC	Standard Occupational Classification
DfE	Department For Economy
JACS	Joint Academic Coding System
SSA	Sector Subject Area
HE	Higher Education
FE	Further Education
LGD	Local Government District
MCS	Millennium Cohort Study
PfG	Programme for Government
FDI	Foreign Direct Investment
FSME	Free School Meal Entitlement
StS	Steps to Success
TfS	Training for Success
STEM	Science, technology, engineering and mathematics
DEA	District Electoral Area
SOA	Super Output Area

NQF scale

NQF level	Description
Level 8	PhD (or equivalent)
Level 7	Masters (or equivalent)
Level 6	Undergraduate degree (or equivalent)
Level 4-5	Foundation degree/HND/HNC (or equivalent)
Level 3	A-level (or equivalent)
Level 2	5 GCSEs A*-C (or equivalent)
Level 1	5 GCSEs D-G (or equivalent)
Level 0	No qualification

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How is 'South' geographical area defined?

Workplace labour market structure

Introduction to workplace labour market structure

Workplace labour market structure

It is important to outline South's workplace labour market structure e.g. sectoral mix, demography and skills characteristics in order to fully understand and contextualise forecasted skill requirements.

The workplace refers to the jobs within South, not the jobs held by South's residents. Therefore, jobs held by residents which are located outside South are not included in the analysis which follows.

Data caveats

If analysis refers to the year 2017 or after the data has been estimated using information from UUEPC's economic model. In all other cases figures relate to the most recently published official data.

Although a number of figures in this chapter use data from the 2011 Census, the stock of skills changes very slowly over time. Therefore, the 2011 Census is still considered to be a data source which reflects current skills patterns across NI.

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Retail and health are the largest employment sectors in South

Workforce jobs by sector (1-digit), South (2017)

Workforce jobs
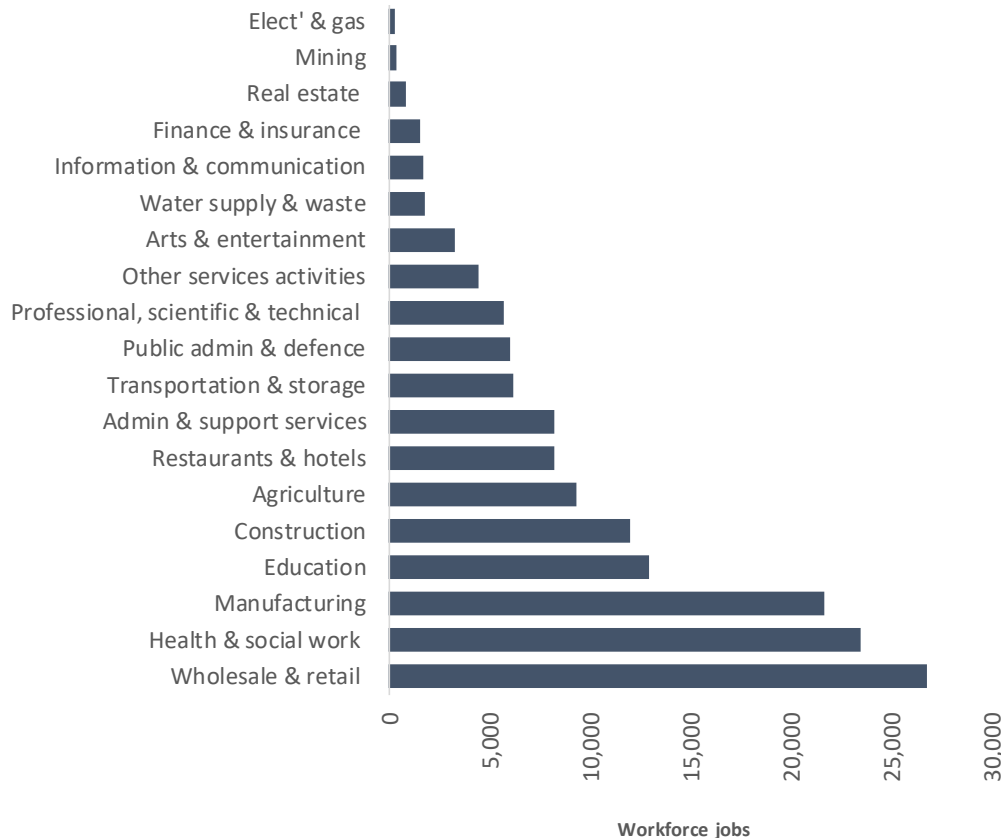
Source: ONS, UUEPC

The largest employment sector in South is wholesale and retail employing 26,800 workers. This accounts for 17% of the South total and 19% of all jobs in this sector in NI.

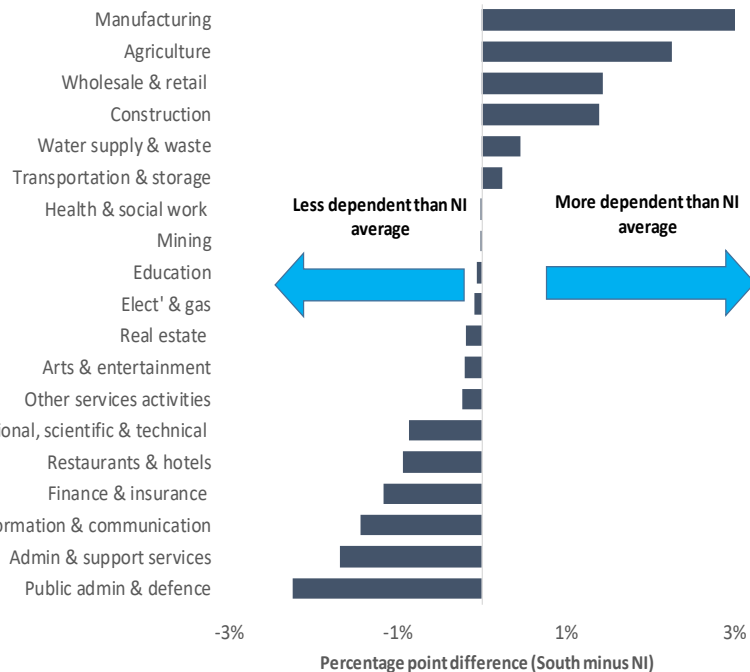The second largest employment sector in South is health and social work employing 23,500 workers. This translates to 15% of the South total and 18% of all jobs in this sector in NI.

Other large employment sectors include manufacturing (21,700 workers, 14% of South's total), education (13,000 workers, 8% of South's total) and construction (12,000 workers, 8% of South's total).

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Higher job concentration in South's manufacturing, relative to the NI average
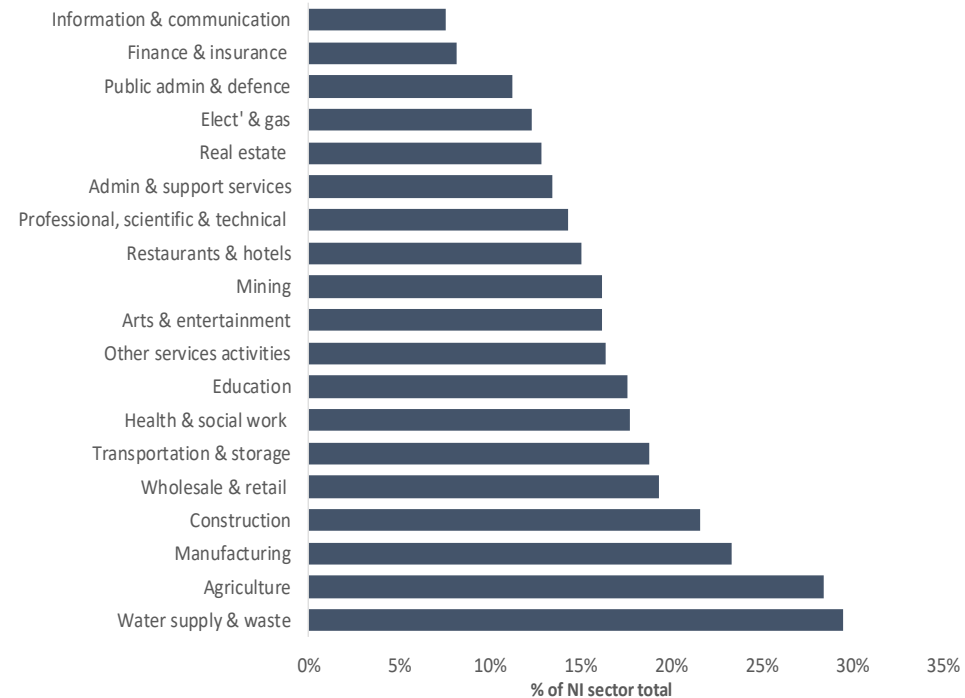
Workforce jobs by sector (1-digit), South versus NI (2017)

Percentage point difference in share of workforce jobs by sector (1-digit), South versus NI (2017)

Less dependent than NI average

More dependent than NI average

Sectors (top to bottom): Manufacturing, Agriculture, Wholesale & retail, Construction, Water supply & waste, Transportation & storage, Health & social work, Mining, Education, Elect' & gas, Real estate, Arts & entertainment, Other services activities, Professional, scientific & technical, Restaurants & hotels, Finance & insurance, Information & communication, Admin & support services, Public admin & defence

Percentage point difference (South minus NI)

Source: ONS, UUEPC

South workforce jobs as proportion of NI total by sector (1-digit) (2017)

Sectors (top to bottom): Information & communication, Finance & insurance, Public admin & defence, Elect' & gas, Real estate, Admin & support services, Professional, scientific & technical, Restaurants & hotels, Mining, Arts & entertainment, Other services activities, Education, Health & social work, Transportation & storage, Wholesale & retail, Construction, Manufacturing, Agriculture, Water supply & waste

% of NI sector total

Source: ONS, UUEPC

Relative to the NI average, South has a higher concentration of jobs in a number of sectors including manufacturing, agriculture, wholesale and retail and construction. High growth sectors such as IT or finance and insurance are less concentrated in South, relative to the NI average.

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Retail trade, education and health dominate South's sub-sector employment

Workforce jobs by sector (top 15 2-digit), South (2017)
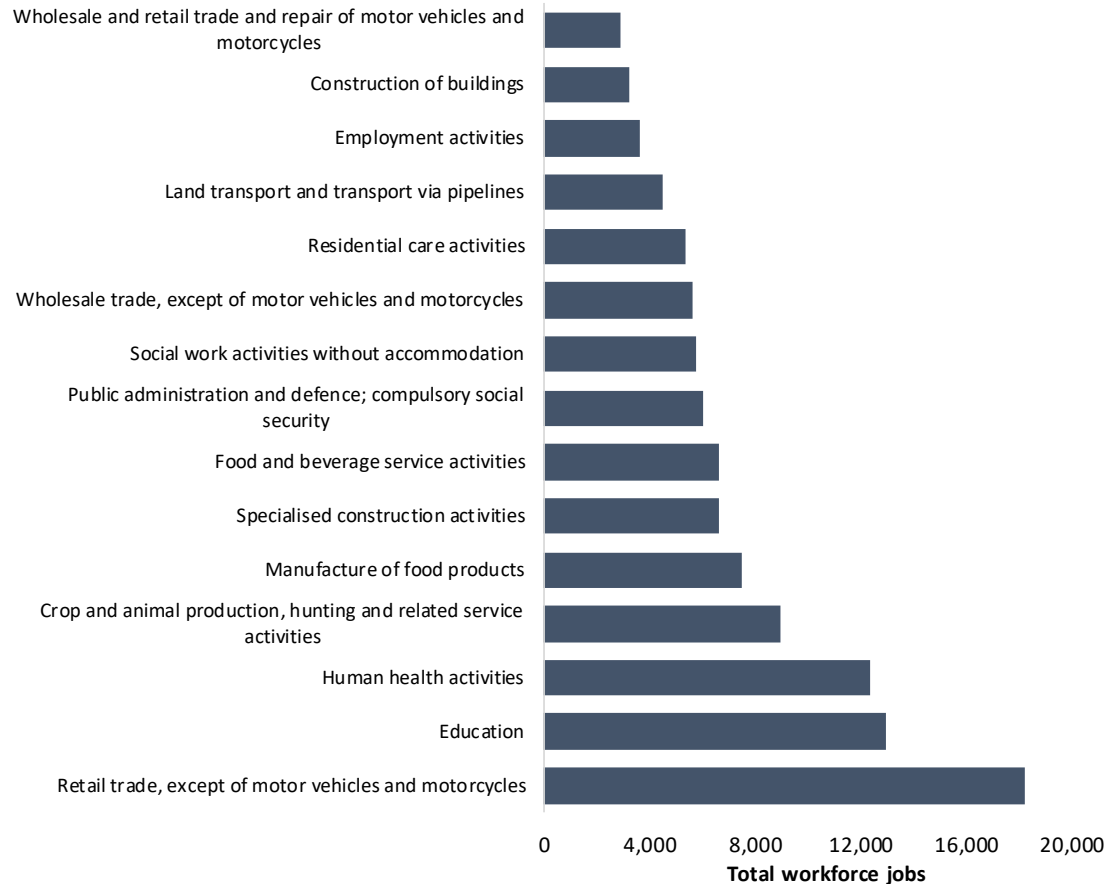
Source: UUEPC

Two of the top three largest employment sub-sectors in South are in the public sector; education (12,900 jobs) and human health activities (12,400 jobs). However, the largest workplace employment sub-sector in South is retail trade (18,300 jobs). Crop and animal production (9,000 jobs) and manufacture of food products (7,500) also fall within the top 5 workplace employment sub-sectors.

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11,330 jobs have been created in South over the 2012-2017

The number of jobs in South increased by 11,330 over the 5 year period 2012-2017. This accounted for 16% of total workforce job growth in NI.

In absolute terms the strongest sectoral growth over the period was in manufacturing (4,550), administration and support services (1,680) and health and social work (1,560). The largest job losses occurred in public administration and defence (-1,210), education (-540) and agriculture (-440).

Overall job growth in South was marginally below the NI average, 8% and 9% respectively over the 2012-2017 period.

**Workforce jobs growth by sector (1-digit), South versus NI (2012-2017)**

Sector	South		Northern Ireland
	Job growth 2012-2017	% change	% change
Agriculture	-440	-4%	-6%
Mining	-120	-27%	-11%
Manufacturing	4,550	27%	20%
Elect' & gas	210	218%	100%
Water supply & waste	180	11%	14%
Construction	1,460	14%	8%
Wholesale & retail	-10	0%	1%
Transportation & storage	350	6%	8%
Restaurants & hotels	1,180	17%	22%
Information & communication	320	24%	17%
Finance & insurance	-80	-5%	-6%
Real estate	-80	-9%	-19%
Professional, scientific & technical	710	14%	20%
Admin & support services	1,680	26%	33%
Public admin & defence	-1,210	-17%	-9%
Education	-540	-4%	3%
Health & social work	1,560	7%	5%
Arts & entertainment	120	4%	14%
Other services activities	1,490	50%	45%
Total	**11,330**	**8%**	**9%**

Source: ONS, UUEPC
Note: Figures may not sum due to rounding

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# High growth in some small to medium sized sectors

Workforce jobs growth by sector (1-digit) and number of jobs (workplace based), South (2012-2017)
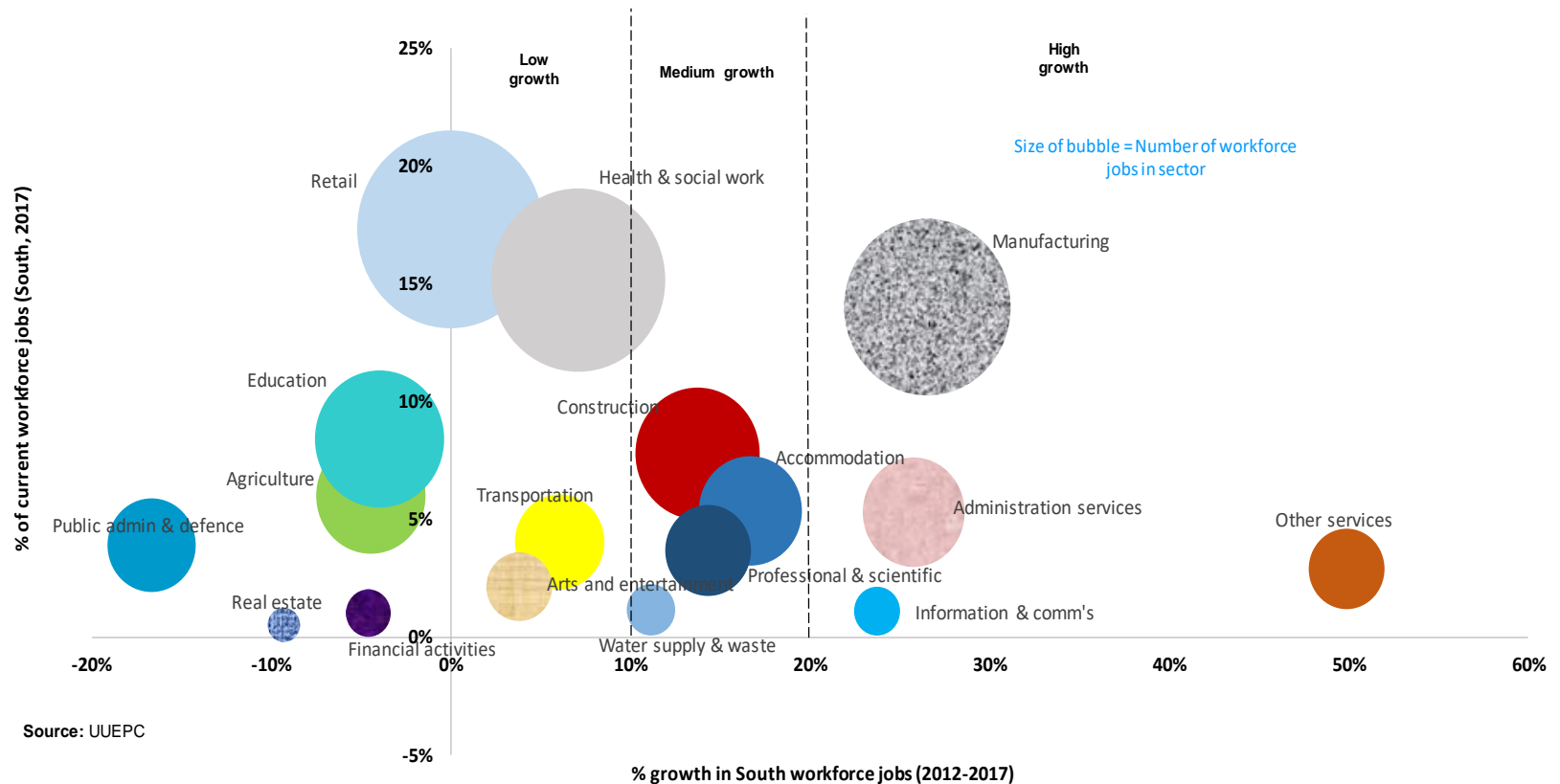
It is important to contextualise job growth figures with the size of a sector. For instance, some sectors may have experienced strong growth but remain relatively small in size (e.g. other services). Whereas, other sectors may have experienced medium growth but as they are larger sectors will contribute a significant number of absolute jobs (e.g. health and social work).

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Residential care activities have created the greatest quantum of jobs in South since 2012

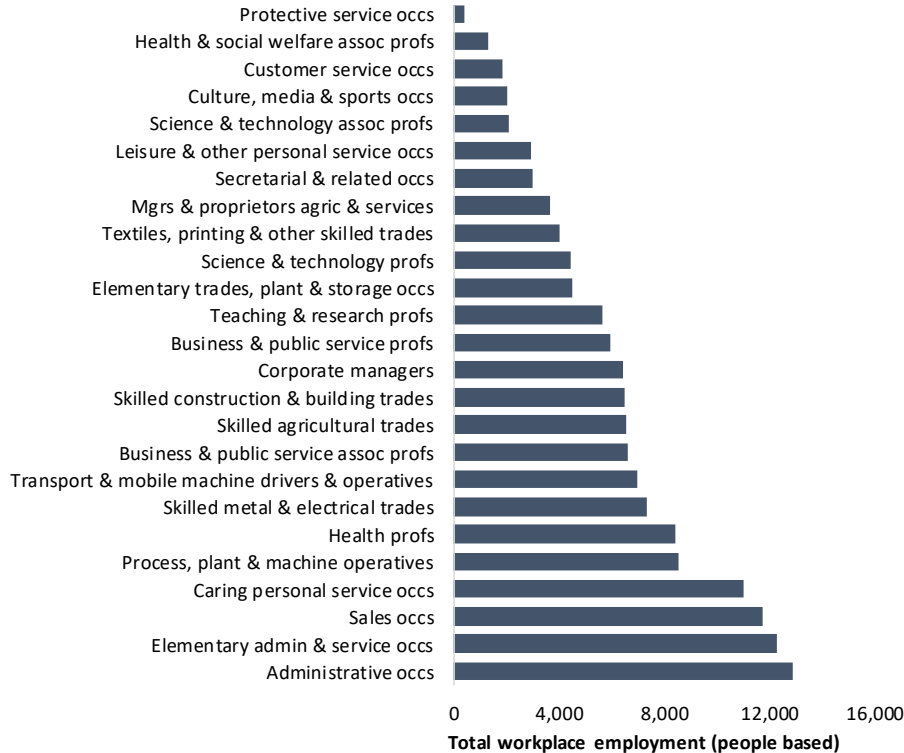**Workforce jobs growth by sector (top 15 2-digit), South (2012-2017)**
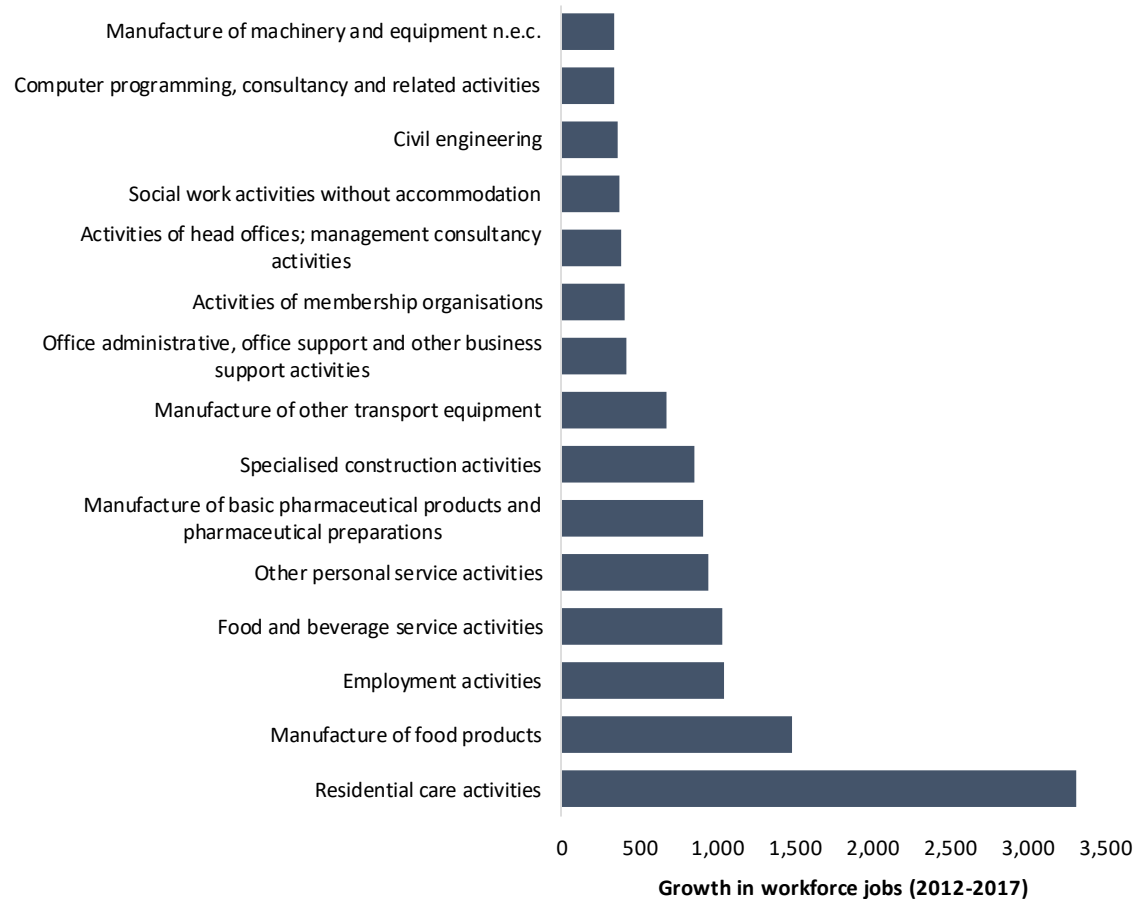
Source: UUEPC

The largest quantum of sub-sectoral job growth was recorded in residential care activities creating 3,300 jobs over the period 2012-2017. This was followed by manufacture of food products (1,500 jobs) and office employment activities (1,000 jobs).

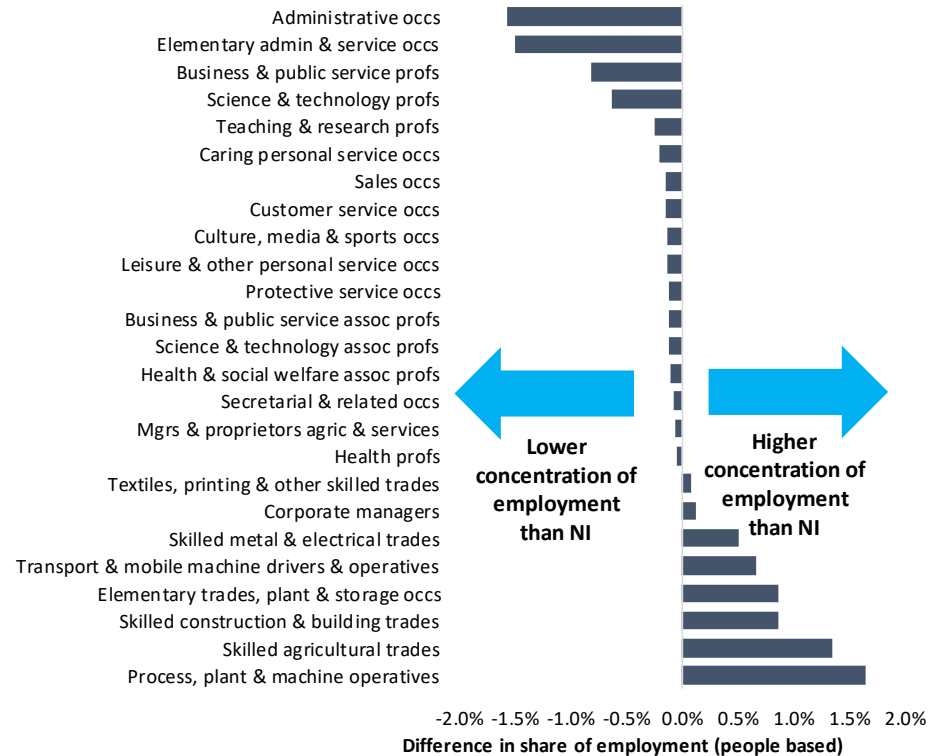# Higher concentration of trade related occupations in South, relative to NI

Workplace employment by occupation (2-digit), South versus NI (2017)

Workplace structure by occupation (2-digit), South (people based) (2017)

Total workplace employment (people based)

Source: UUEPC

Workplace based structure by occupation (2-digit), South versus NI (people based) (2017)

Difference in share of employment (people based)

Source: UUEPC

South's occupational structure is different to NI's, as it is driven by a different sectoral structure. There is a slightly higher concentration of process, plant and machine operatives (6% in South compared to 4% in NI as a whole) and trade related occupations, relative to NI. However, there is also a relatively lower concentration of administrative occupations and, elementary administration and service occupations, compared to NI.
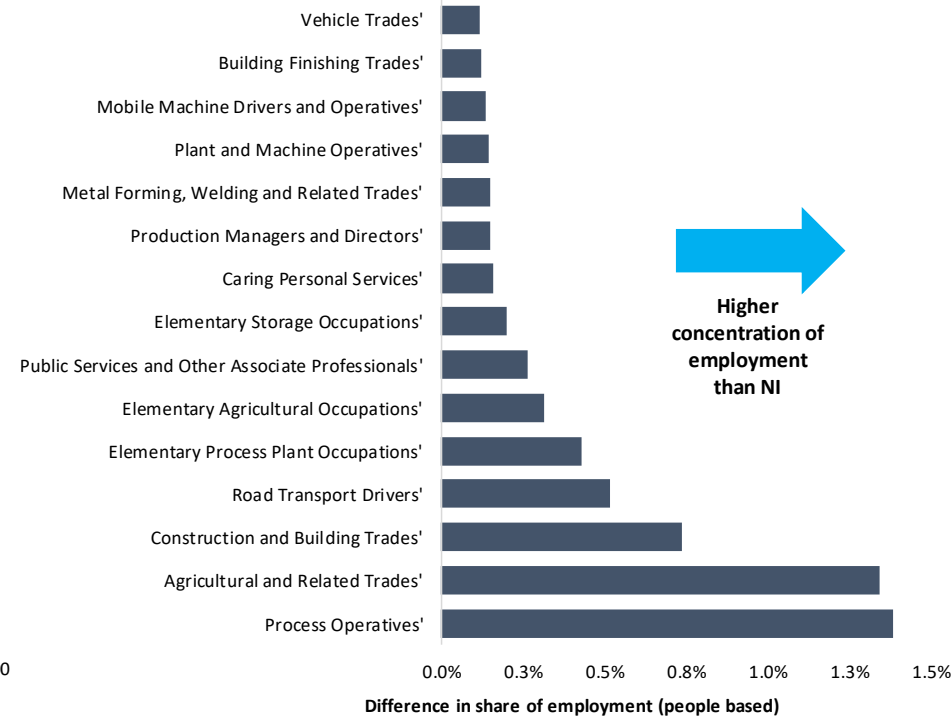
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Sales assistants and retail cashiers is the largest detailed occupation

Workplace based employment by occupation (top15 3-digit), South versus NI (2017)

Workplace structure by occupation (3-digit), South (people based) (2017)

Occupation	Total workplace employment (people based)
Sales, Marketing and Related Associate Professionals'	~3,000
Administrative Occupations: Gvrnmnt and Related Orgs'	~3,100
Food Preparation and Hospitality Trades'	~3,200
Elementary Cleaning Occupations'	~3,400
Childcare and Related Personal Services'	~3,900
Other Administrative Occupations'	~4,200
Process Operatives'	~4,300
Other Elementary Services Occupations'	~4,500
Construction and Building Trades'	~5,000
Nursing and Midwifery Professionals'	~5,200
Teaching and Educational Professionals'	~5,600
Road Transport Drivers'	~5,700
Agricultural and Related Trades'	~6,500
Caring Personal Services'	~6,800
Sales Assistants and Retail Cashiers'	~10,300

Total workplace employment (people based)

Source: UUEPC

Workplace based structure by occupation (3-digit), South versus NI (people based) (2017)

Occupation	Difference in share of employment (people based)
Vehicle Trades'	~0.13%
Building Finishing Trades'	~0.15%
Mobile Machine Drivers and Operatives'	~0.18%
Plant and Machine Operatives'	~0.2%
Metal Forming, Welding and Related Trades'	~0.2%
Production Managers and Directors'	~0.2%
Caring Personal Services'	~0.22%
Elementary Storage Occupations'	~0.25%
Public Services and Other Associate Professionals'	~0.3%
Elementary Agricultural Occupations'	~0.35%
Elementary Process Plant Occupations'	~0.45%
Road Transport Drivers'	~0.52%
Construction and Building Trades'	~0.78%
Agricultural and Related Trades'	~1.35%
Process Operatives'	~1.38%

Difference in share of employment (people based)
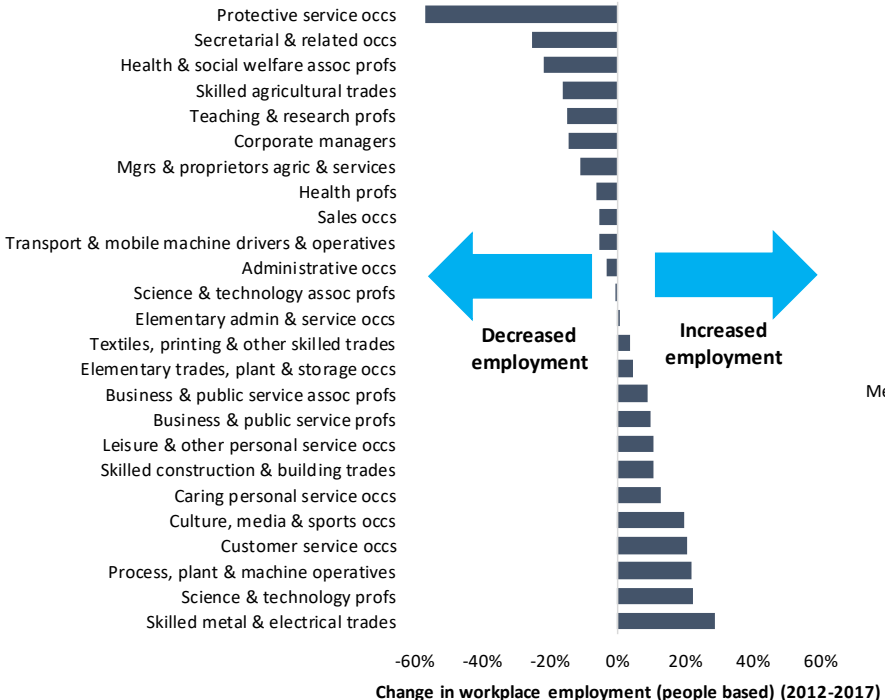
Higher concentration of employment than NI

Source: UUEPC

At a more granular level the largest detailed (3-digit) occupations are sales assistants and retail cashiers (10,300 employed), linked to the large wholesale and retail sector. This is followed by caring and personal services (6,800) and agricultural related trades (6,500).
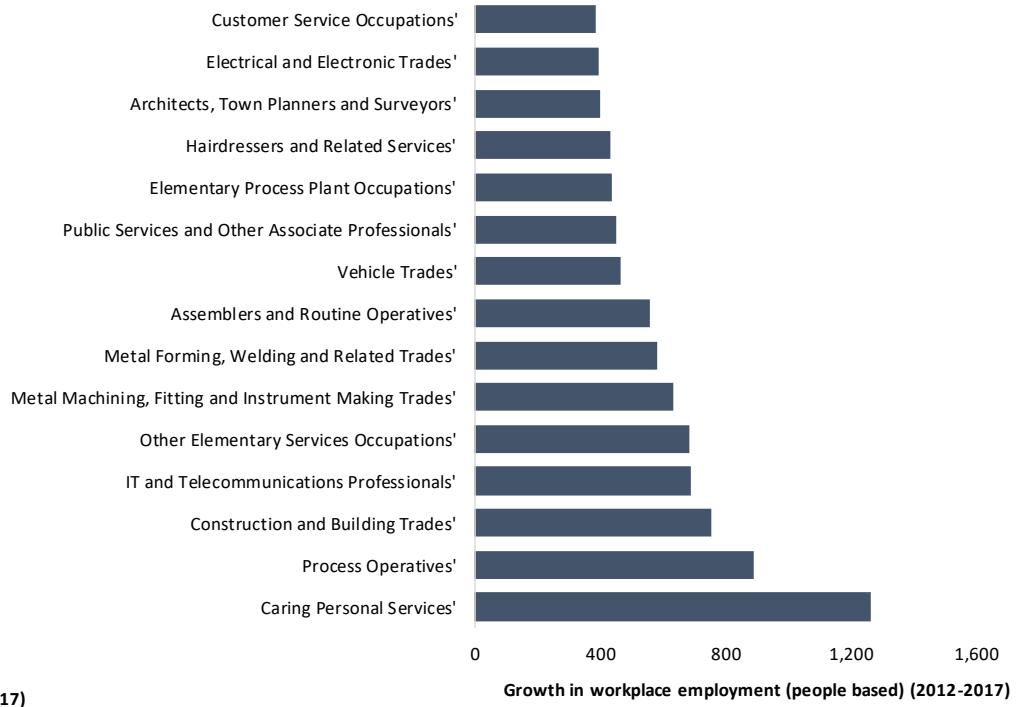
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Protective service occupations experienced a considerable decline since 2012

Workplace based growth by occupation (2-digit), South (people based) (2012-2017)

Workplace based employment by occupation (2-digit) structure, South versus NI, (2012-2017)

Protective service occs
Secretarial & related occs
Health & social welfare assoc profs
Skilled agricultural trades
Teaching & research profs
Corporate managers
Mgrs & proprietors agric & services
Health profs
Sales occs
Transport & mobile machine drivers & operatives
Administrative occs
Science & technology assoc profs
Elementary admin & service occs
Textiles, printing & other skilled trades
Elementary trades, plant & storage occs
Business & public service assoc profs
Business & public service profs
Leisure & other personal service occs
Skilled construction & building trades
Caring personal service occs
Culture, media & sports occs
Customer service occs
Process, plant & machine operatives
Science & technology profs
Skilled metal & electrical trades

Decreased employment **Increased employment**

-60% -40% -20% 0% 20% 40% 60%

Change in workplace employment (people based) (2012-2017)

Source: UUEPC

Workplace based employment growth by occupation (top 15 3-digit), South (workplace based) (2012-2017)

Customer Service Occupations'
Electrical and Electronic Trades'
Architects, Town Planners and Surveyors'
Hairdressers and Related Services'
Elementary Process Plant Occupations'
Public Services and Other Associate Professionals'
Vehicle Trades'
Assemblers and Routine Operatives'
Metal Forming, Welding and Related Trades'
Metal Machining, Fitting and Instrument Making Trades'
Other Elementary Services Occupations'
IT and Telecommunications Professionals'
Construction and Building Trades'
Process Operatives'
Caring Personal Services'

0 400 800 1,200 1,600

Growth in workplace employment (people based) (2012-2017)

Source: UUEPC

The occupation with the largest quantum of growth within South over the past five years is caring and personal services (1,300 jobs) followed by other process operatives (900), construction and building trades (800) and IT and telecommunications professionals (700).

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Summary of workplace labour market structure

Sectoral structure - South's largest sectoral employers are wholesale and retail (17% of total jobs), health and social work (15% of total jobs) and manufacturing (14% of total jobs). Relative to the NI average South has a higher concentration of workforce jobs in sectors including manufacturing, agriculture and wholesale and retail.

Scale of workforce - South accounts for over one fifth of total NI employment in a number of sectors. The sector which accounts for the largest proportion of NI workplace employment is water supply and waste (29%), followed by agriculture (28%) and manufacturing (23%).

Sectoral growth - The largest quantum of job growth was in manufacturing (4,550 jobs) over the 2012-2017 period, followed by administration and support services (1,680 jobs) and health and social work (1,560). Overall job growth in South was marginally below the NI average, 8% and 9% respectively.

Occupation structure - South has a marginally different occupation structure compared to NI as a whole, driven by differences in the sectoral structures. South's largest occupation is administrative occupations (9% of total), followed by elementary administration and service occupations (8% of total) and sales occupations (8% of total).

Relative to the NI average South has a higher concentration in a number of occupations including process, plant and machine operatives, skilled agricultural trades and skilled construction and building trades. Likewise South is less dependent upon administrative occupations, elementary administration and service occupations and business and public service professionals.

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Summary of workplace labour market structure (continued)

Occupation growth - The fastest growing occupation within South over the period 2012-2017 was skilled metal and electrical trades (29%). This was followed by science and technology professionals (22%) and process, plant and machine operatives (22%). At a more granular level and in absolute terms caring and personal services increased by the largest quantum (1,300) followed by process operatives (900).

Occupation decline - A number of occupations have also declined over the past five years. For example, protective services and secretarial and related occupations. These can be linked to either a change in the occupational composition within sectors or an overall decline in sectors where specific occupations are highly concentrated. For example, a decline in corporate managers can be linked to the decline of the finance sector, as there is a high concentration of branch managers of banks etc.

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Workplace demographic factors

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Replacement demand within South is similar to NI average, driven by a similar demographic profile

Workplace based employment by age, South (2011)

Workplace employment (excluding students) by age, South (2011)

Aged 65+ 3%
Aged 16-24 11%
Aged 50-64 23%
Aged 25-49 63%
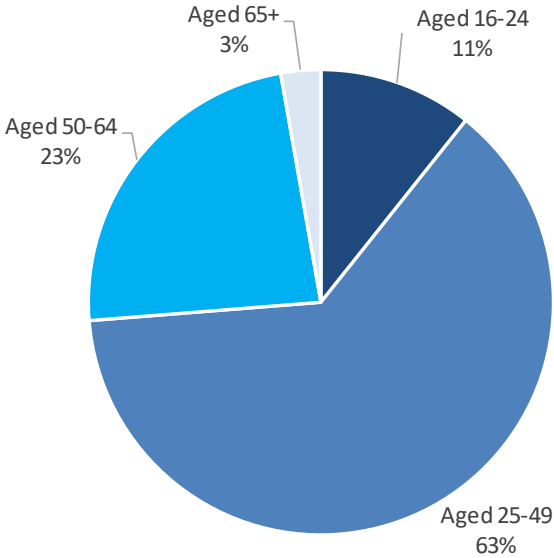
Source: NI Census, 2011
Note: Based on those aged 16-74 in employment, excluding students

Proportion of workplace employment (excluding students) aged over 50, LGDs (2011)

% workplace employment aged 50+

- Ards and North Down
- Causeway Coast and Glens
- Mid and East Antrim
- Fermanagh and Omagh
- Lisburn and Castlereagh
- Antrim and Newtownabbey
- Newry, Mourne and Down
- South
- Armagh City, Banbridge and Craigavon
- Northern Ireland
- Mid Ulster
- Derry City and Strabane
- Belfast
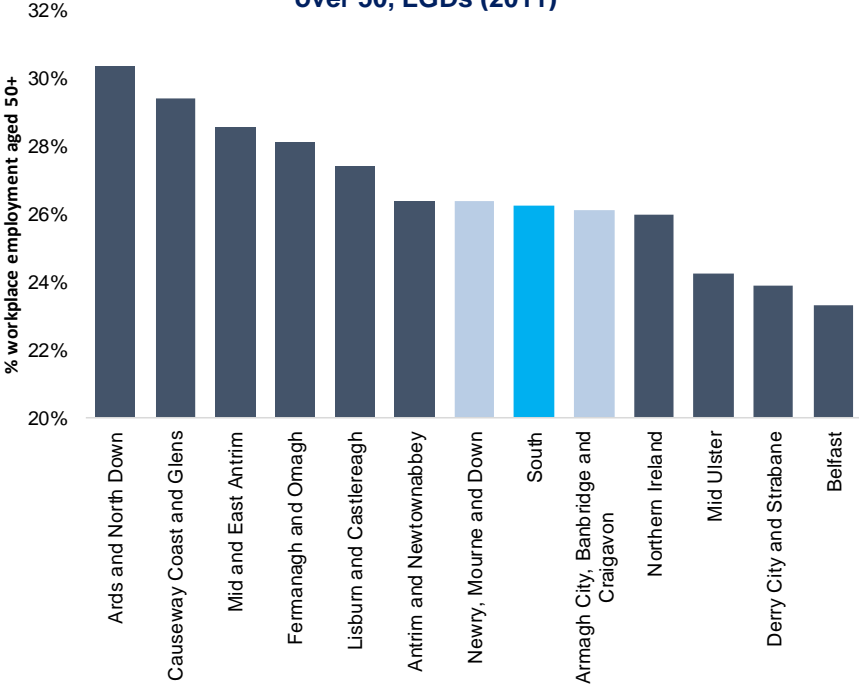
Source: NI Census, 2011

The higher the proportion of older workers the higher the level of replacement demand. That is, as older workers move into retirement vacancies become available within the labour market which must be replaced. The proportion of workplace employment in South aged over 50 (26%), is equal to the NI average. This suggests retired workers in South will need replaced at a rate similar to NI.

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Agriculture, mining and utilities have the highest proportion of older workers

Workplace based employment by age and sector (1-digit), South (2011)
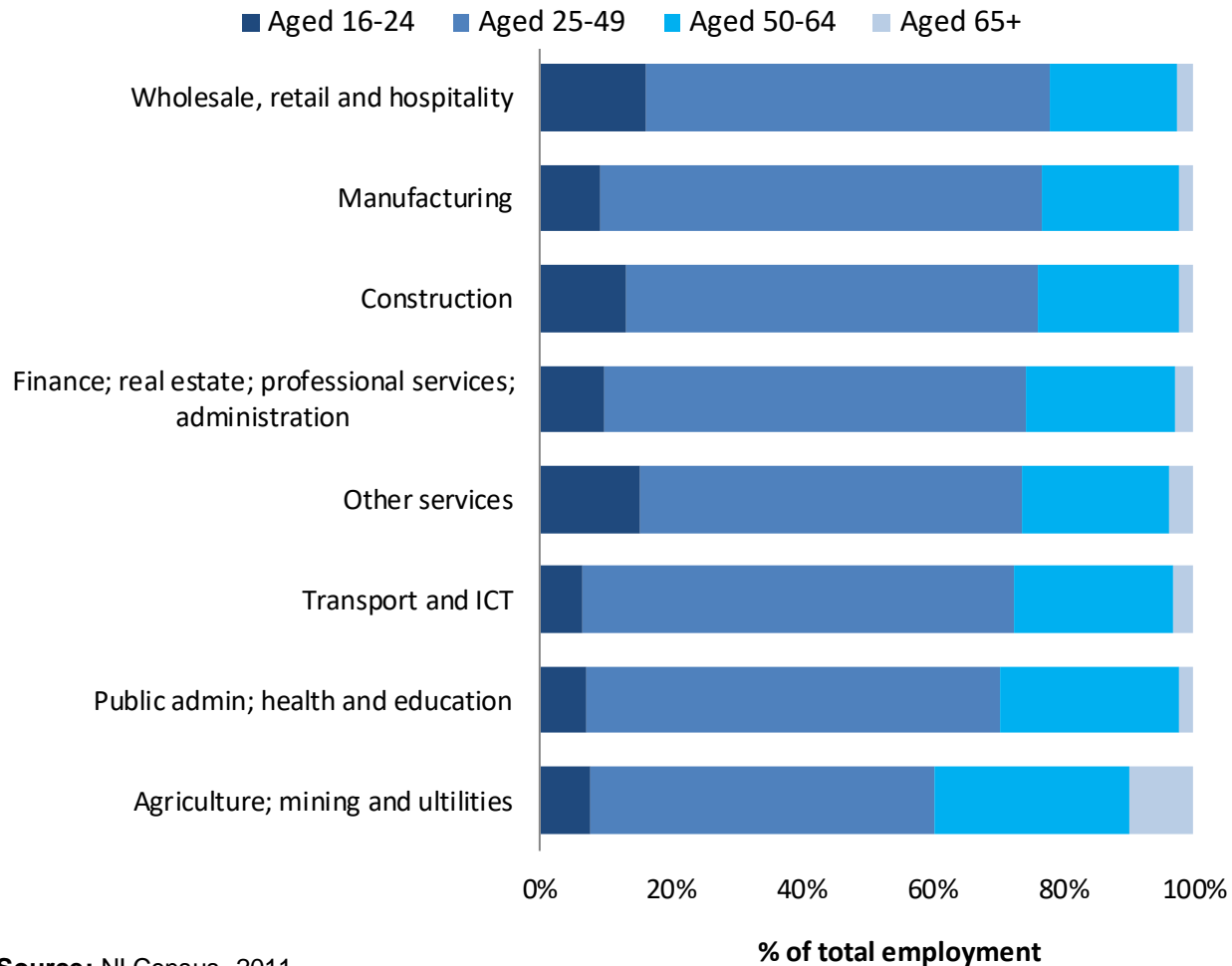
Legend: ■ Aged 16-24 ■ Aged 25-49 ■ Aged 50-64 ■ Aged 65+

Categories (top to bottom):
- Wholesale, retail and hospitality
- Manufacturing
- Construction
- Finance; real estate; professional services; administration
- Other services
- Transport and ICT
- Public admin; health and education
- Agriculture; mining and ultilities

X-axis: 0%, 20%, 40%, 60%, 80%, 100%

% of total employment

Source: NI Census, 2011
Note: Based on those aged 16-74 in employment, excluding students

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Sales assistants and customer service occupations have the most youthful populations

Workplace based employment by occupation (1-digit), South (2011)
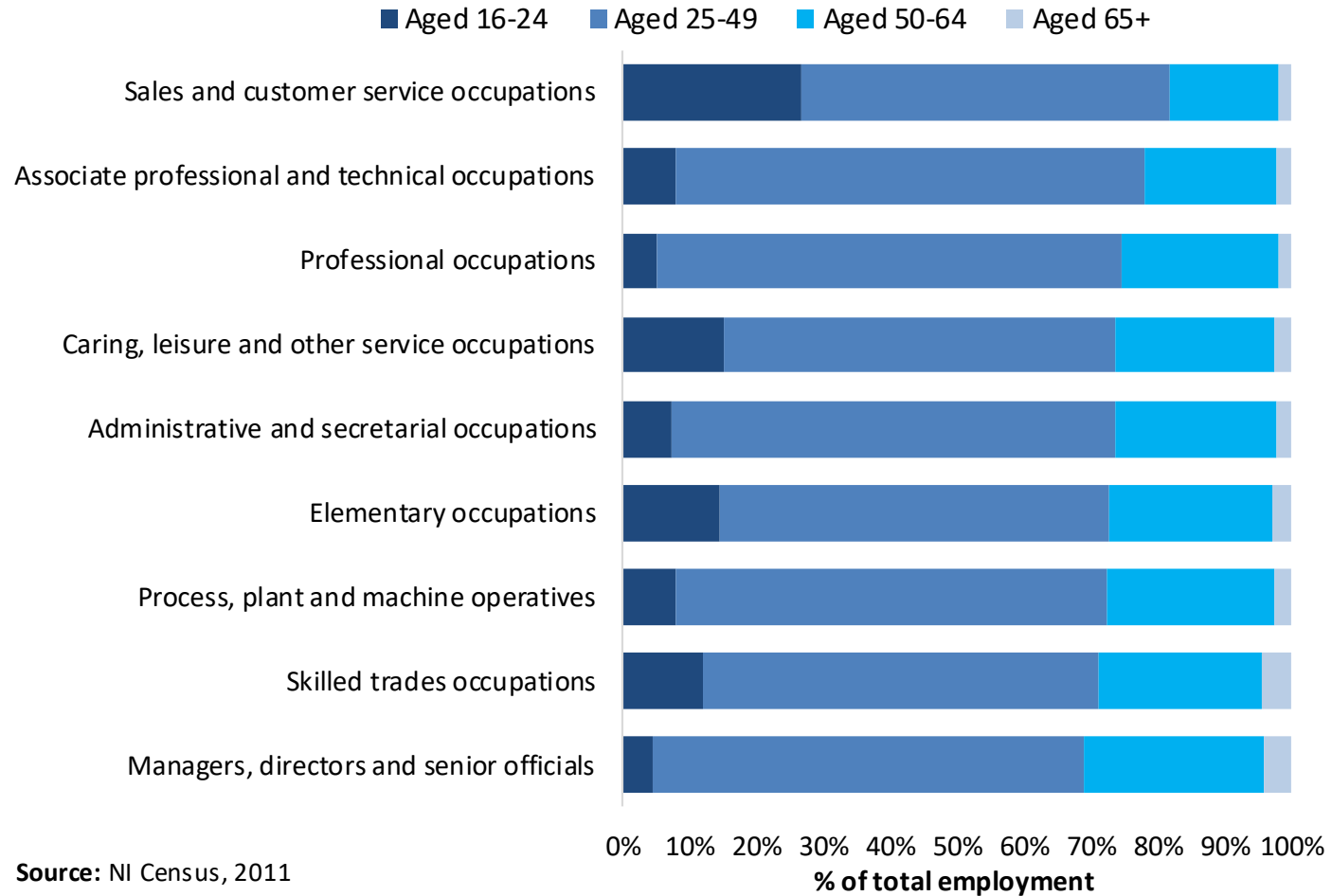
■ Aged 16-24   ■ Aged 25-49   ■ Aged 50-64   ■ Aged 65+

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

% of total employment

Source: NI Census, 2011

Note: Based on those aged 16-74 in employment, excluding students

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Almost half of skilled agricultural trade workers are aged 50 or above

Workplace based employment by top 10 occupations (2-digit) with workers aged over 50, South (2011)

Legend: ■ Aged 16-24 ■ Aged 25-49 ■ Aged 50-64 ■ Aged 65+

Categories (top to bottom):
- Business, media and public service professionals
- Health professionals
- Caring personal service occupations
- Corporate managers and directors
- Teaching and educational professionals
- Elementary administration and service occupations
- Secretarial and related occupations
- Transport and mobile machine drivers and operatives
- Other managers and proprietors
- Skilled agricultural and related trades

X-axis: 0% 20% 40% 60% 80% 100%

% of total employment

Source: NI Census, 2011

Note: Based on those aged 16-74 in employment, excluding students

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Workplace demography

Workplace age - The age distribution of South's workplace is similar to the NI average:

- 11% of South workforce aged 16-24 (1 percentage point above NI average);
- 63% of South workforce aged 25-49 (1 percentage point below NI average); and
- 26% of South workers aged 50+ (equal to NI average).

The proportion of workers aged over 50 remained constant amongst LGDs which constitute South (26%) and equal to the NI average. This indicates South's will have to replace retiring workers at an equal rate to the NI average.

Workplace age and sector - Agriculture, mining and utilities had the highest concentration of workers aged 50+ (40%) followed by public sectors (30%). Therefore, these sectors will require a higher level of demand to replace retired workers, relative to other sectors.

Contrastingly wholesale, retail and hospitability employs the largest proportion of workers aged below 25 (16%). This suggests a relatively lower demand with regard to replacing retired workers. Rather, a high rate of replacement demand in this sector is likely to be driven by relatively high entry and exit rates within the sector.

Workplace occupation and age - Sales assistants and customer service occupations have the largest proportion of workers aged 16-24 (27%), linked to a large wholesale and retail sector. Whereas managers, directors and senior officials constitute the highest proportion of workers aged 50 and above (31%).

At a more granular level skilled agricultural and related trades have the largest proportion of workers aged over 50 (48%) followed by other managers and proprietors (36%).

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Workplace skills structure

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South's workplace has a lower concentration of degree level and above workers, relative to the NI average

Workplace based qualification structure (NQF), South versus NI (2011)

Percentage point difference in workplace qualification profile (NQF), South versus NI (2011)
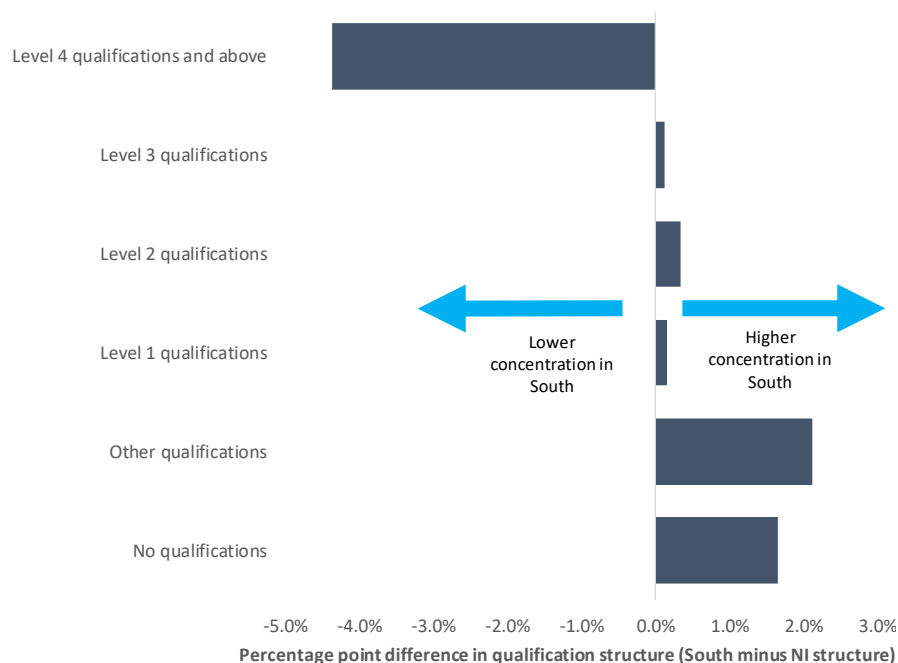
Workplace qualification profile (NQF), South versus NI (2011)
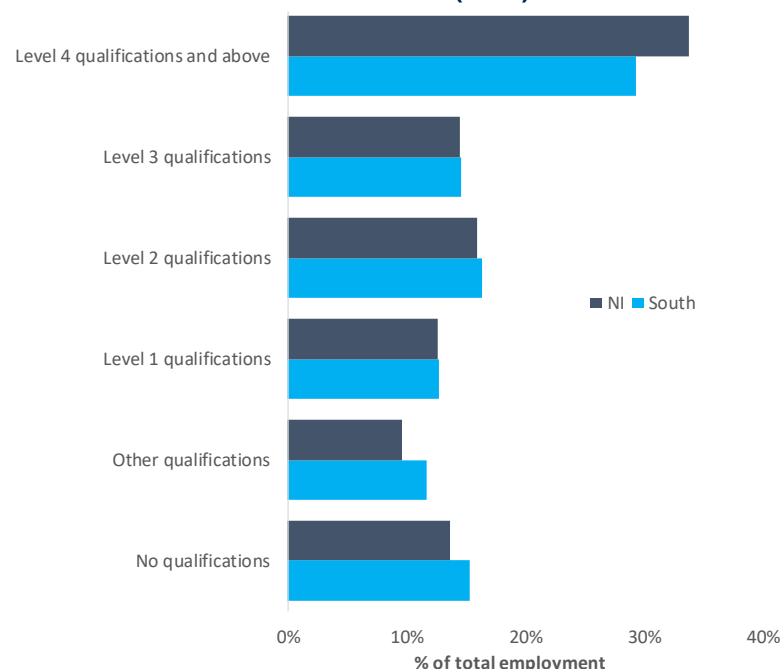
Lower concentration in South

Higher concentration in South

Percentage point difference in qualification structure (South minus NI structure)

■ NI ■ South

% of total employment

There are proportionately fewer workers in South with NQF level 4+ qualifications compared to NI, 29% and 34% respectively. There are also a higher proportion of individuals with lower level of qualifications within South's workplace, relative to the NI average. This may be linked to the sectoral structure of South where there are higher concentrations of employment in sectors such as agriculture and manufacturing, typically associated with lower qualification requirements.

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As older workers with lower qualifications retire the stock of qualifications will trend upwards

Workplace qualification structure (NQF) by age, South (2011)

Percentage point difference in employed qualification profile (NQF), under 50's versus over 50's, South (2011)

Level 4 qualifications and above

Level 3 qualifications

Level 2 qualifications

Lower concentration amongst under 50's

Higher concentration amongst under 50's

Level 1 qualifications

Other qualifications

No qualifications

-30%   -20%   -10%   0%   10%   20%

Percentage point difference in qualification (under 50 minus over 50)

Source: NI Census, 2011
Note: Based on those aged 16-74 in employment, excluding students

Age profile by qualification (NQF), South (2011)
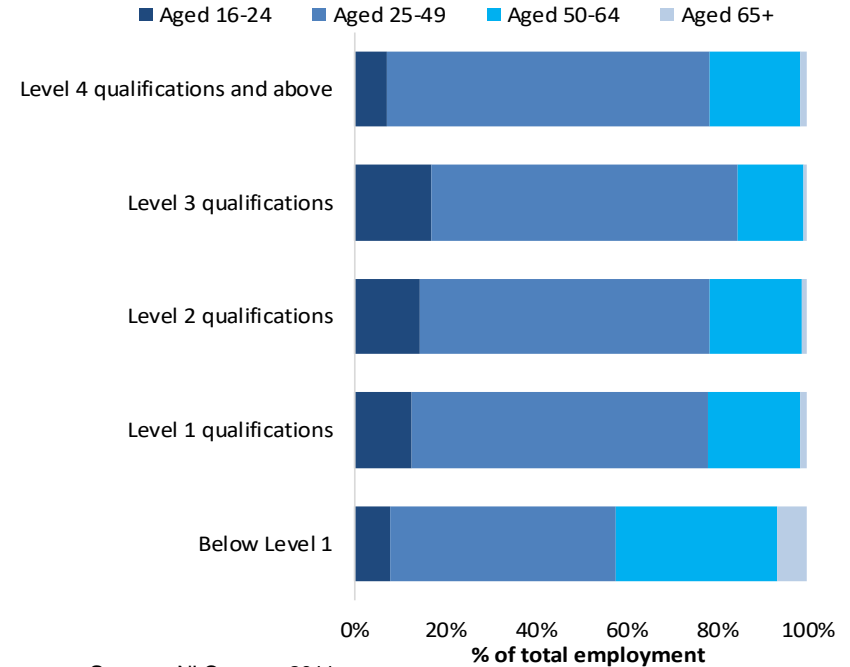
■ Aged 16-24 ■ Aged 25-49 ■ Aged 50-64 ■ Aged 65+

Level 4 qualifications and above

Level 3 qualifications

Level 2 qualifications

Level 1 qualifications

Below Level 1

0%   20%   40%   60%   80%   100%

% of total employment

Source: NI Census, 2011
Note: Based on those aged 16-74 in employment, excluding students

Older workers tend to be associated with lower levels of formal qualifications relative to younger workers. This aligns to the upwards trend in education participation and employer attitudes towards the requirement of formal qualifications. In South, 33% of the workplace aged 50 or over have achieved NQF level 3+ qualifications, compared to 48% of those aged under 50. Therefore as older workers with lower levels of qualifications retire, the stock of qualifications will trend upwards.

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Older workers may have lower qualification levels, but not necessarily lower skilled

Qualification profile of employed residents, South (2017 LGD and 1991 NI)

Qualification profile of employed residents, NI (1991)

- National BTEC/TEC/BEC, ONC, OND, 3%
- Higher BTEC/BEC/TEC, ONC, OND, 3%
- CSE (other than Grade 1), 8%
- GCE 'A' Level, 8%
- Degree level +, 10%
- No formal qualifications, 39%
- GCSE, GCE 'O' Level, Senior Certificate, General BTEC/BEC, 29%
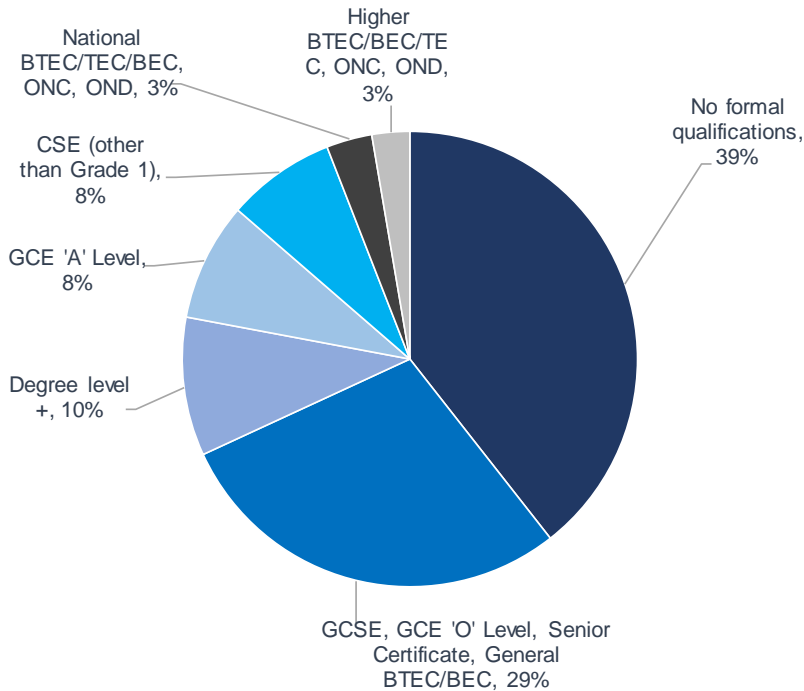
Source: Census 1991

Qualification profile of economically active, South (2017)

- No qualifications, 11%
- Level 1 qualifications, 11%
- Level 2 qualifications, 17%
- Level 3 qualifications, 25%
- Level 4+ qualifications, 35%
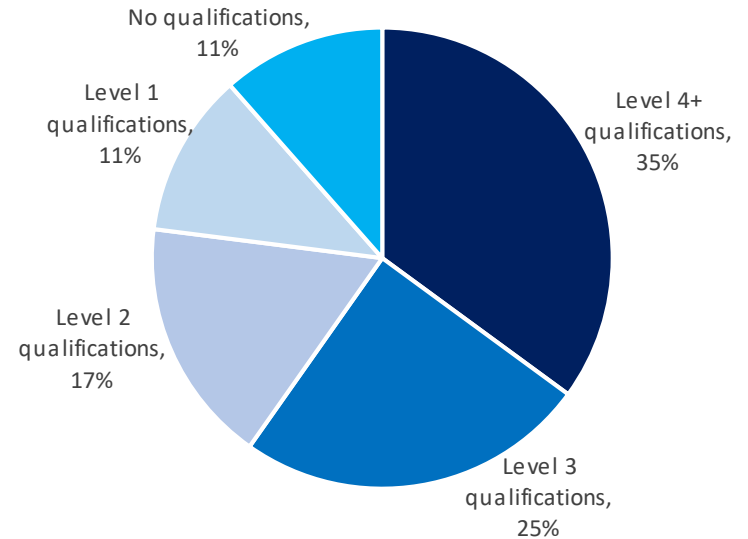
Source: Labour Force Survey

There has been a remarkable change in the qualification profile of the population across a generation. However, it is important to note a 16 year old entering the labour market with low qualifications in 1991 (when almost 40% of the employed had no qualifications) could still be in todays labour market aged 43 with similar qualification levels but almost three decades of work experience, therefore they are not unskilled.

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Resident qualifications are typically below workplace qualification levels in South

Resident versus workplace qualifications (NQF), South (2011)

Percentage point difference in qualification structure (NQF), resident versus workplace, South (2011)

Lower concentration amongst South residents

Higher concentration amongst South residents

Percentage point difference in skill (residents minus workplace structure)

-6% -4% -2% 0% 2% 4% 6% 8% 10%

Level 4 qualifications and above
Level 3 qualifications
Level 2 qualifications
Level 1 qualifications
Other qualifications
No qualifications
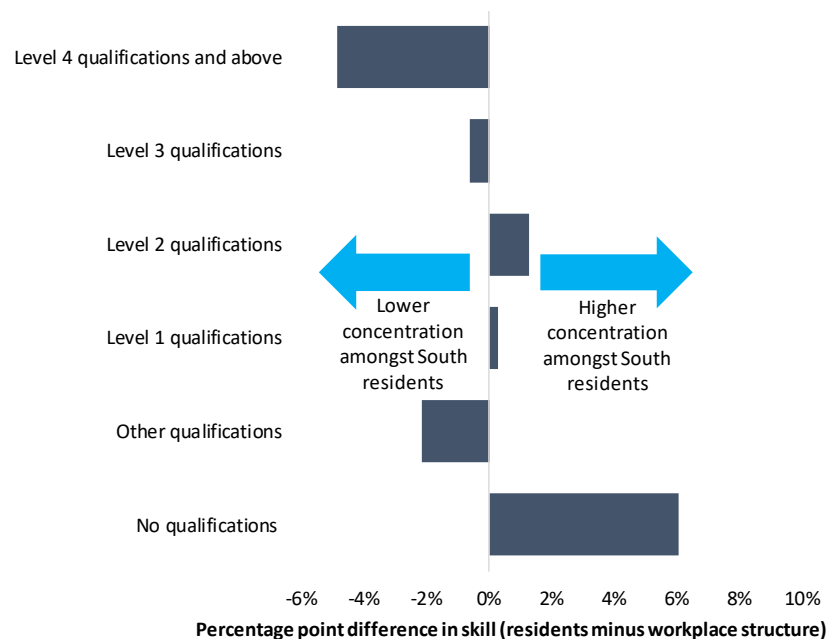
Source: NI Census, 2011
Note: Based on those aged 16-64, excluding students

Qualification structure (NQF), resident versus workplace, South (2011)

■ Workplace
■ 16-64 Residents

Level 4 qualifications and above
Level 3 qualifications
Level 2 qualifications
Level 1 qualifications
Other qualifications
No qualifications

0% 10% 20% 30%

% of total employment
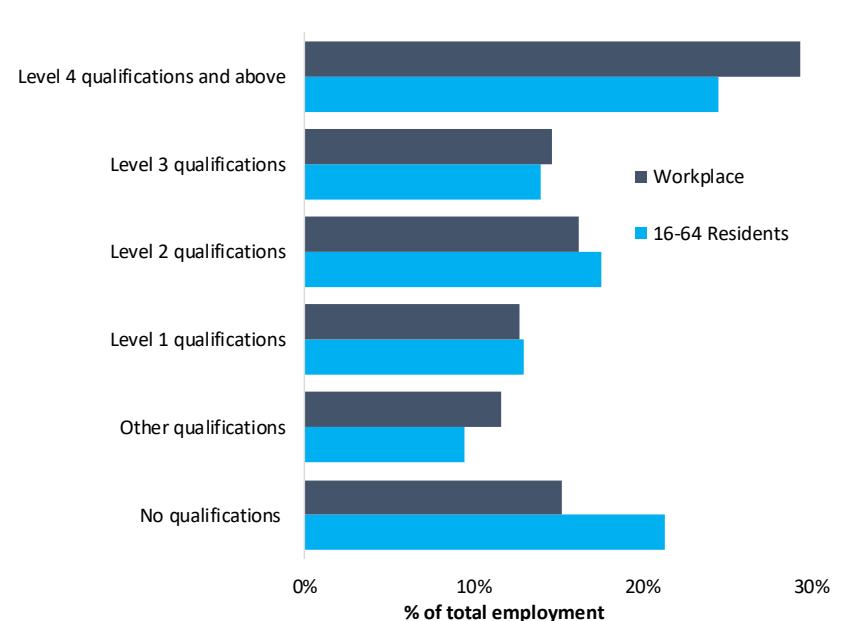
Source: NI Census, 2011
Note: Based on those aged 16-64, excluding students

A mismatch between resident and workplace skill structure can generate labour market barriers, particularly for those at the bottom of the skills spectrum. In South, 29% of the workplace have tertiary level education (NQF level 4+) compared to 25% of South's resident population. This suggests South must either import skills from other LGDs at the higher end of the skills spectrum or raise the qualification profile of the resident population to fill the deficit.

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Workplace versus resident qualifications highlights some mismatches

Qualification profile (NQF), workplace versus resident, South SOA's (2011)

Resident population aged 25-64 (%) with low or no qualifications, South SOA's, 2011

Workplace population aged 16-74 (%) with highest qualification below NQF level 2, South SOA's, 2011

% of population aged 25-64
With no or low qualifications
- Above 45%
- Above 35% but below 45%
- Above 25% but below 35%
- Below 25%
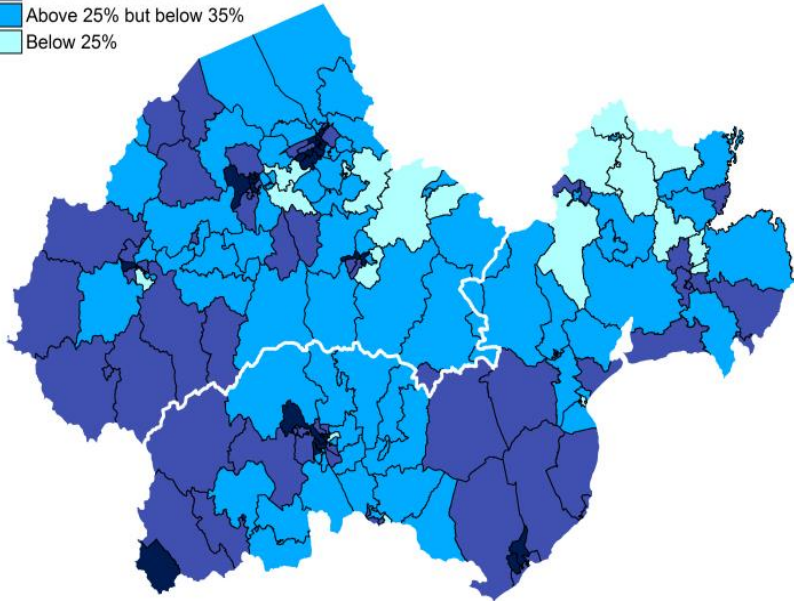
Source: NISRA, NI Multiple Deprivation Survey

% of workplace population aged 16-74
With highest qualification below NQF level 2
- Above 45%
- Above 35% but below 45%
- Above 25% but below 35%
- Below 25%
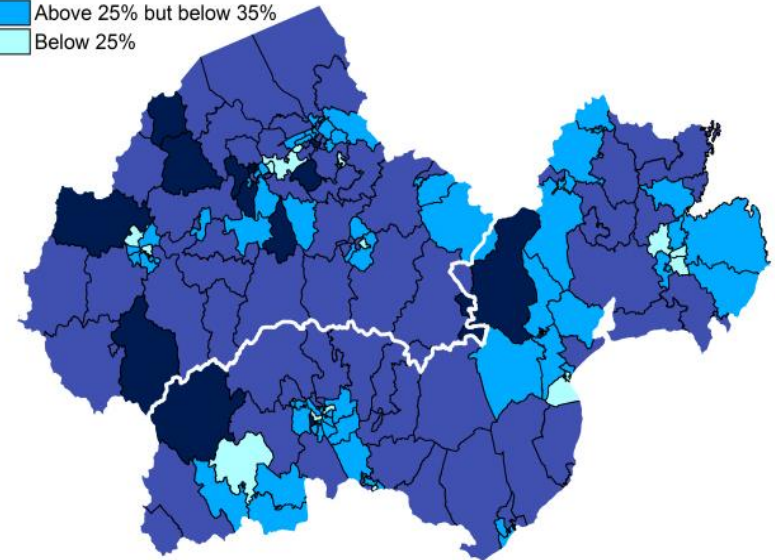
Source: NISRA, Census 2011

Employed versus non-employed qualification profiles highlight the link between qualifications and employability

Resident qualification profile (NQF), employed versus non-employed, South (2016)

Qualification structure (NQF) of non-employed residents, South (2016)

- No qualifications, 29%
- NQF level 1-2, 37%
- NQF level 3, 18%
- NQF level 4+, 16%
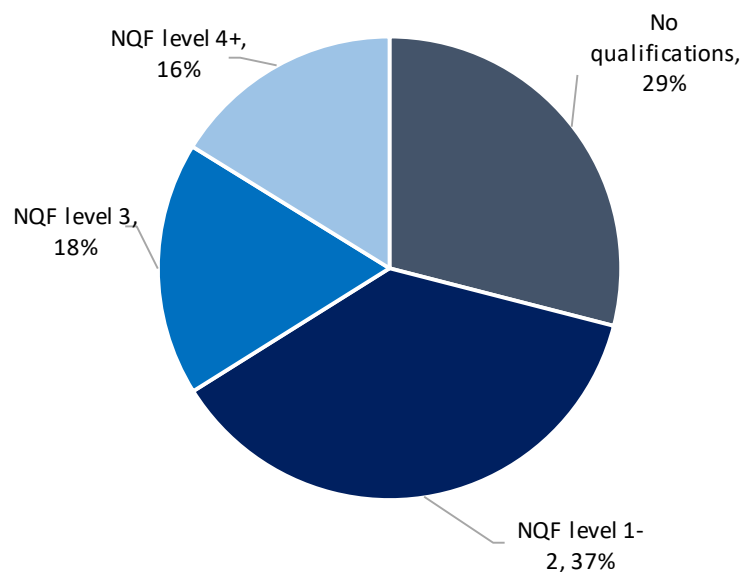
Source: LADB

Percentage point difference in employed versus non-employed resident qualifications (NQF), South (2016)

Higher concentration in non-employed

Higher concentration in employed

- NQF level 4+
- NQF level 3
- NQF level 1-2
- No qualifications

-30% -20% -10% 0% 10% 20% 30%

Percentage point difference non-employed minus employed
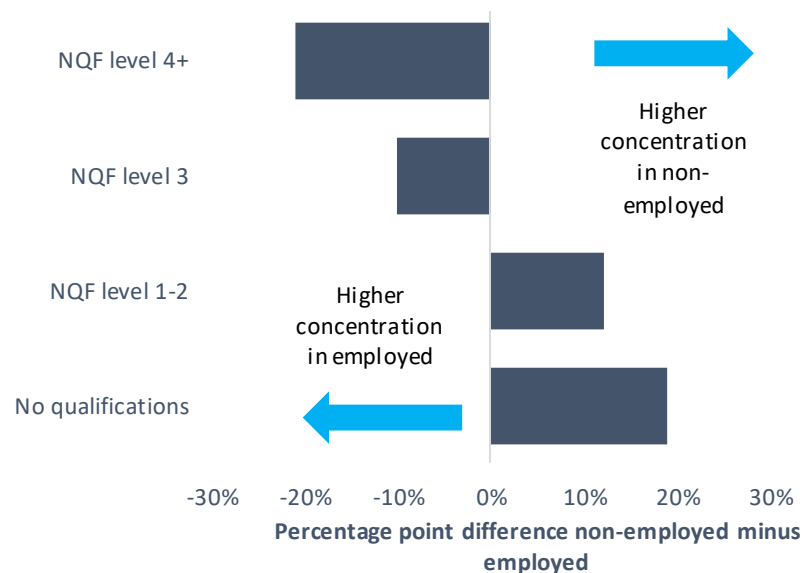
Source: LADB

Note: Non-employed refers to the sum of unemployed and economically inactive

The difference in qualification structure between employed and non-employed emphasises the relationship between skills and employability. For example, 66% of non-employed residents have a qualification level of NQF level 2 or below compared to 35% of employed residents.

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Summary of workplace skills structure

Workplace qualification structure versus NI - The workplace qualification structure in South is below the NI average. Workers with low qualifications (NQF level 1 or below) represent 40% of workplace employment in South, compared to 36% in NI. The proportion of employed individuals within South's workplace that hold degree level or above qualifications is below the NI average, 29% and 34% respectively.

Age profile and qualification structure - The qualification profile of South's workplace varies significantly across age brackets. That is, younger workers tend to have higher levels of qualifications relative to older workers, aligning to the upward trend in education participation. Amongst the over 50s employed in South, 54% have low qualifications (NQF level 1 or below), compared to only 35% of those workers aged16-24

As older workers with relatively lower levels of qualifications move into retirement and higher qualified younger workers enter the labour market South's workplace skills profile will naturally improve.

Qualification levels over time - There has been significant improvement in workplace qualification levels over a generation. However, it is important to note that low qualification levels do not always directly translate to an unskilled individual. An individual may have low level qualifications but have significant workplace experience and so are highly skilled.

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Summary of workplace skills structure (continued)

Resident qualifications versus workplace qualifications - There are significant differences between the level of resident qualifications and workplace qualifications. In South, 29% of the workplace have achieved tertiary level education (NQF level 4+) compared to 25% of residents. Contrastingly, 21% of residents have no qualifications compared to 15% employed in South's workplace.

These trends should be considered in the context of employability challenges as a mismatch between residents skills/qualifications and required workplace skills/qualifications can reduce employment opportunities, specifically for those at the bottom of the skills spectrum.

Employed qualifications versus non-employed qualifications - The profile of employed individual's skills against non-employed individual's skills highlights the relationship between skills and employability.

In South, two thirds (66%) of non-employed residents have NQF level 2 or below qualifications, compared to 35% of the employed. Contrastingly, 16% of individuals out of work have achieved NQF level 4+ qualifications compared to 37% of the employed.

Therefore policy ambitions to reduce the number of out of work individuals through reintegration to the labour market should consider the need for upskilling.

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Commuting flows

Residents in South account for 91% of workplace employment suggesting few in-commuters

Commuting incidence by Local Government District (2011)

Resident employment within council as a proportion of total workplace employment (excluding students), LGDs (2011)
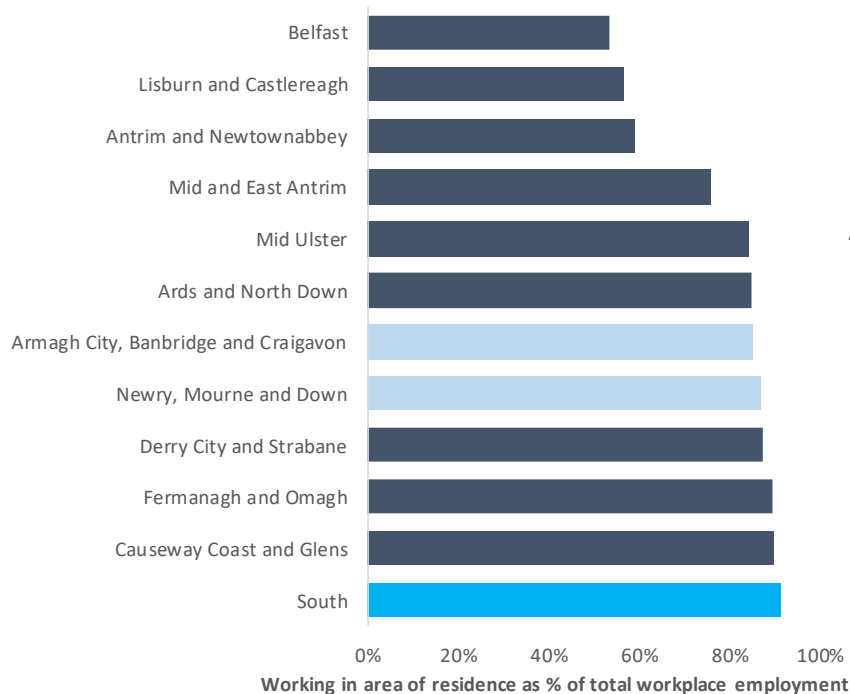
Working in area of residence as % of total workplace employment

Source: NI Census, 2011
Note: Based on those aged 16-74 in employment, excluding students

Resident employment within council as a proportion of total resident employment (excluding students), LGDs (2011)
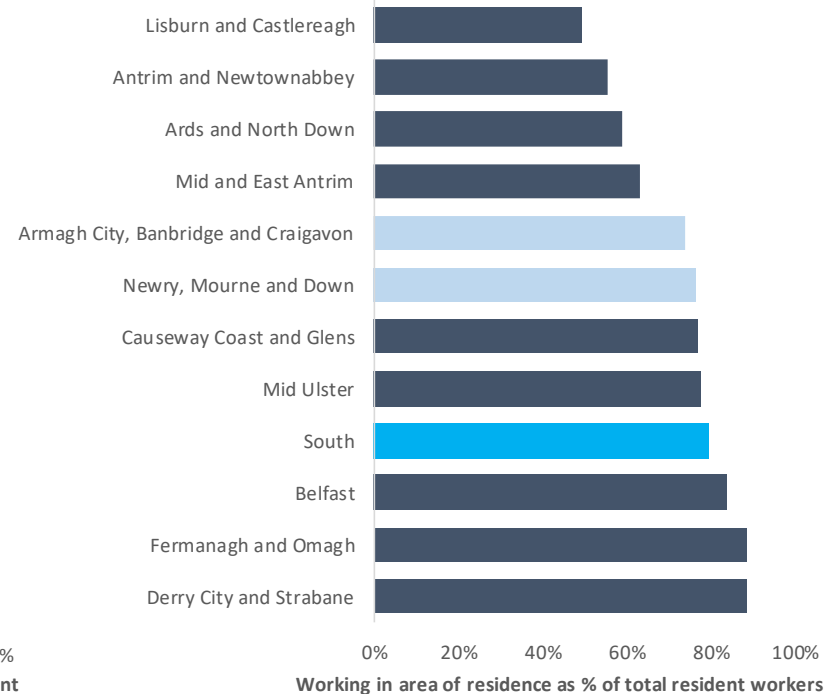
Working in area of residence as % of total resident workers

Source: NI Census, 2011
Note: Based on those aged 16-74 in employment, excluding students

Residents in South account for 91% of the total workplace employment, indicating there are relatively few in-commuters to the region. The proportion of South's residents that work within South account for 83% of total resident employment, indicating 17% of employed South residents commute elsewhere for work. Given the close proximity to the border with the Republic of Ireland there is likely to be some degree of cross boarder commuting not captured within this data.

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South has a net commuting outflow

Commuting patterns in South (2011)

Commuter outflow (excluding students) by sector (1-digit), South (2011)

Mining and quarrying
Electricity and gas
Agriculture, forestry and fishing
Water supply; sewerage and waste
Real estate activities
Accommodation and food
Other
Transport and storage
Information and communication
Administrative and support service
Financial and insurance activities
Construction
Professional, scientific and technical
Education
Manufacturing
Wholesale and retail trade
Human health and social work activities
Public administration and defence

0   2,000   4,000   6,000

Number of out-commuters

Source: UUEPC

Net commuting flow (excluding students), South versus LGDs (2011)

Belfast
Lisburn and Castlereagh
Antrim and Newtownabbey
Ards and North Down
Derry City and Strabane
Fermanagh and Omagh
Mid Ulster
Mid and East Antrim
Causeway Coast and Glens

Net commuting outflow   **Net commuting inflow**

-12,000   -8,000   -4,000   0

Net flow of commuters

Source: Census 2011
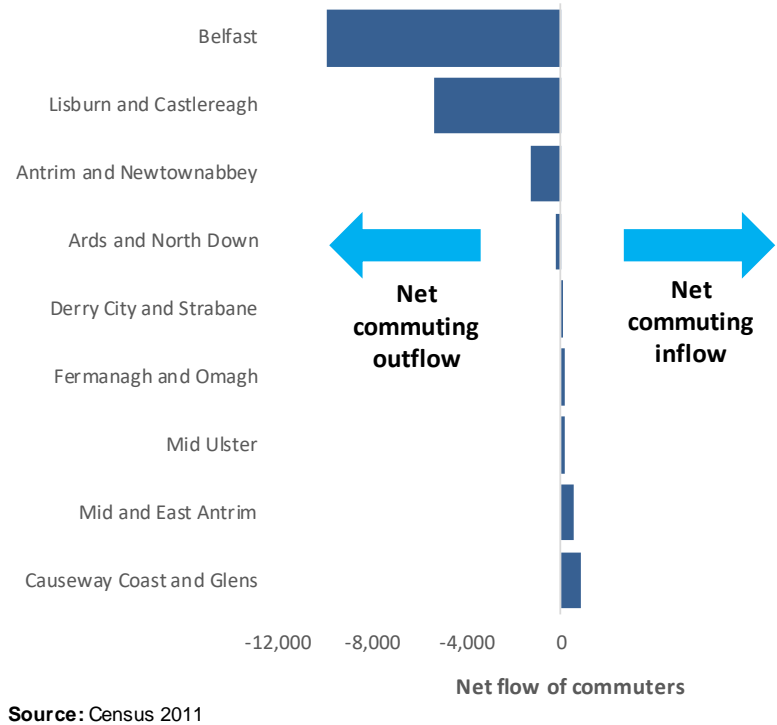
South holds a net commuting outflow with four of the nine LGDs. This translates to overall more workers leaving South for employment than entering South from another LGD to work. The largest net outflow of workers from South is to Belfast, followed by Lisburn and Castlereagh. Workers typically leave South to work in public sectors; public administration and defence (4,890) and health and social work (4,460).

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Almost half of South out-commuters have degree level or above qualifications

Skill differences between residents and commuters working outside South (2011)

Highest level of qualification of South residents (excluding students) working elsewhere (out-commuters) (2011)

- No qualifications, 6%
- Other qualifications, 3%
- Level 1 qualifications, 9%
- Level 2 qualifications, 14%
- Apprenticeship, 4%
- Level 3 qualifications, 15%
- Level 4 qualifications and above, 49%
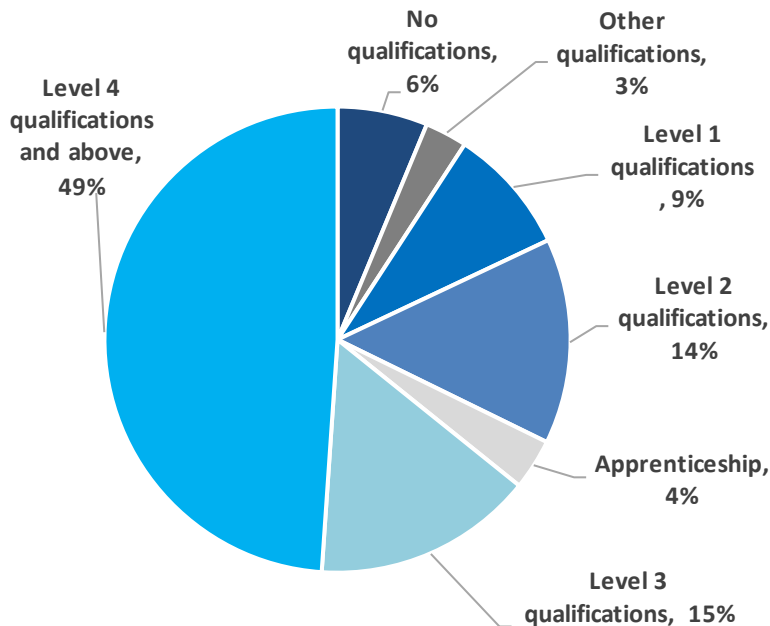
Source: Census 2011

Highest level of qualification of South residents working in South (2011)

- Level 4 qualifications and above, 29%
- No qualifications, 15%
- Other qualifications, 12%
- Level 1 qualifications, 13%
- Level 2 qualifications, 16%
- Level 3 qualifications, 15%
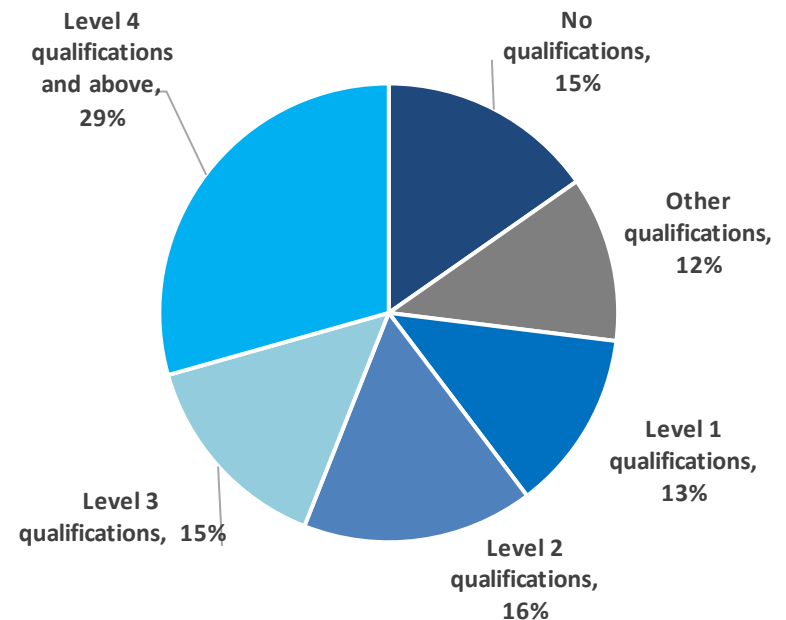
Source: Census 2011

Almost half (49%) of out-commuters from South have tertiary level qualifications (NQF level 4+), compared to 29% of employed residents. Likewise, only 23% of out-commuters have NQF level 2 and below qualifications, compared to 40% of South residents employed in the region. This indicates out-commuters are typically higher skilled, than South residents employed in the region.

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Summary of commuting flows

In-commuters - There are relatively few in-commuters to the region as South residents account for 91% of the total workplace employment. The proportion of South residents that work within South account for 83% of total resident employment, indicating 17% of employed South residents commute elsewhere for work. Given the close proximity to the border with the Republic of Ireland there is likely to be some degree of cross boarder commuting not captured within this data.

Out-commuters by sector - Workers are most likely to commute out of South to work in in public sectors (4,890 public admin and defence commuters, 4,460 health and social work commuters and 2,630 education commuters) as well as wholesale and retail (4,460) and manufacturing (2,931).

Out-commuters by skill - On average workers commuting out of South have higher levels of qualifications than South residents working in the region. For example, almost half (49%) of South out-commuters have tertiary level qualifications (NQF level 4+), compared to 29% of employed residents. Likewise, only 18% of out-commuters have below NQF level 2 qualifications, compared to 40% of South residents employed in the region.

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High growth scenario

UUEPC's high growth scenario predicts 14.5k extra jobs – 9k above the baseline by 2027

Workforce jobs, high growth versus baseline scenarios, South (2001-2027)
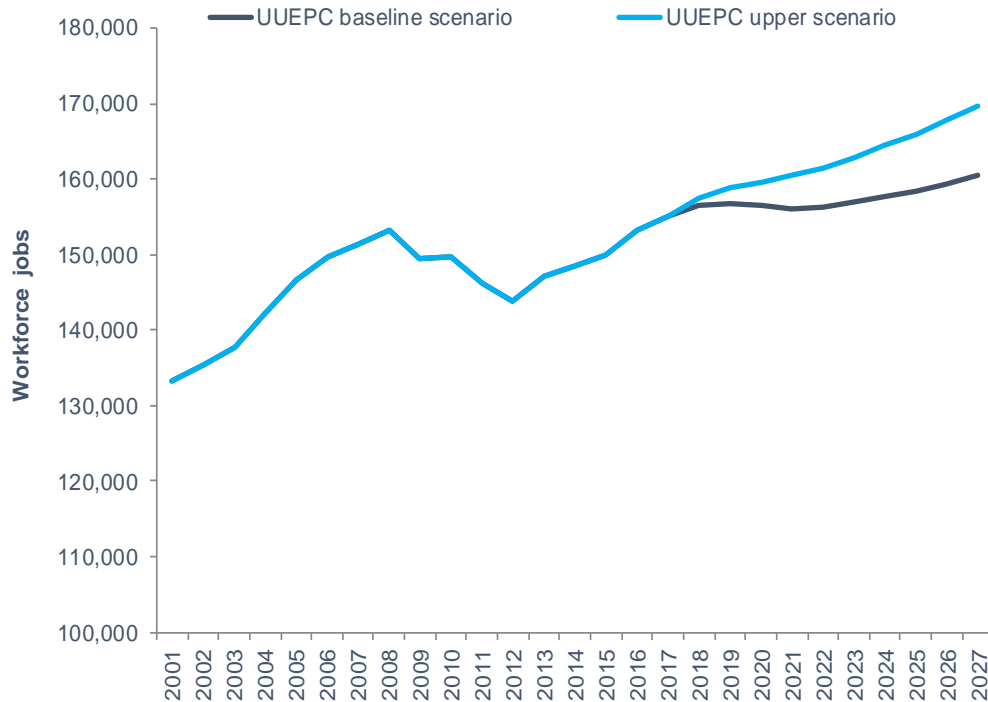
UUEPC's high growth scenario outputs are aligned to NI achieving future policy success aligning to targets set within the Programme for Government (PfG).

At a sub-regional level the high growth scenario outputs are consistent with LGDs general economic ambitions, but not directly linked to specific LGD targets.

The model accounts for three scenarios; baseline; central; and high growth. This report will focus on outputs from the high growth scenario.

Source: UUEPC

UUEPC estimates that under a high growth scenario employment in South has the potential to grow from 155,100 in 2017 to 169,600 in 2027.

Planning for skills in an aspirational nature

It is prudent to plan for skill needs in an aspirational nature based on economic ambitions of an economy. If such ambitions are not met there is a cost to individuals achieving such skills however research suggests this cost is lower than the cost of undersupplying skills.

For example, if businesses are unable to meet their demand for skilled labour the competitiveness of an economy will fall, productive capacity decrease ultimately dampening future job growth.

Likewise, it is important to have in place measures to offset any potential individual costs if policy ambitions are not met leading to an oversupply of skills.

For example, a contingency plan may include conversion courses for redundant workers or training rights for young people unable to secure employment after graduation.

Note: The results for a lower growth baseline scenario are provided in Annex A.

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High growth forecast in professional services and IT sectors

Baseline scenario and high growth scenario job growth by sector (1-digit), South (2017-2027)

Industry	Total jobs 2017 baseline	Job growth (absolute terms) 2017-2027		Job growth (compund annual growth rate)	
		Baseline	High growth scenario	High growth scenario 2017-2027	Actual 2012-2017
Agriculture	9,320	-680	-350	-0.4%	-0.9%
Mining	320	-10	-10	-0.2%	-6.2%
Manufacturing	21,740	+1,010	+1,650	0.7%	4.8%
Electricity & gas	310	+70	+100	2.8%	26.0%
Water supply & waste	1,770	+170	+240	1.3%	2.1%
Construction	12,050	+640	+1,430	1.1%	2.6%
Wholesale & retail	26,830	+40	+290	0.1%	0.0%
Transport & storage	6,220	+490	+740	1.1%	1.2%
Restaurants and hotels	8,270	+920	+1,610	1.8%	3.1%
Information & communication	1,660	+220	+830	4.1%	4.3%
Finance & insurance	1,560	-10	+390	2.3%	-0.9%
Real estate	810	+20	+80	1.0%	-1.9%
Professional scientific & technical	5,710	+950	+2,960	4.3%	2.7%
Administrative & support services	8,200	+840	+1,290	1.5%	4.7%
Public admin & defence	6,050	-360	+70	0.1%	-3.6%
Education	12,990	+10	+300	0.2%	-0.8%
Health & social work	23,500	+1,090	+2,290	0.9%	1.4%
Arts & entertainment	3,280	+70	+390	1.1%	0.7%
Other service activities	4,470	+30	+250	0.5%	8.4%
Total	**155,060**	**+5,510**	**+14,550**	**0.9%**	**1.5%**

Source: UUEPC

Note: Figures may not sum to total due to rounding

Relative to the baseline, the additional 9,040 jobs are primarily generated within the following sectors; professional scientific and technical (2,010 jobs above baseline); health and social work (1,200 jobs above baseline); and construction (790 jobs above baseline).

The sectors expected to contribute the largest increase in jobs in absolute terms over the period 2017-2027 are: professional scientific and technical (2,960); health and social work (2,290); and manufacturing (1,650).

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Significantly high growth expected in IT and professional services

Workforce job growth by sector (1-digit) and number of jobs (workplace based), South (2017-2027)
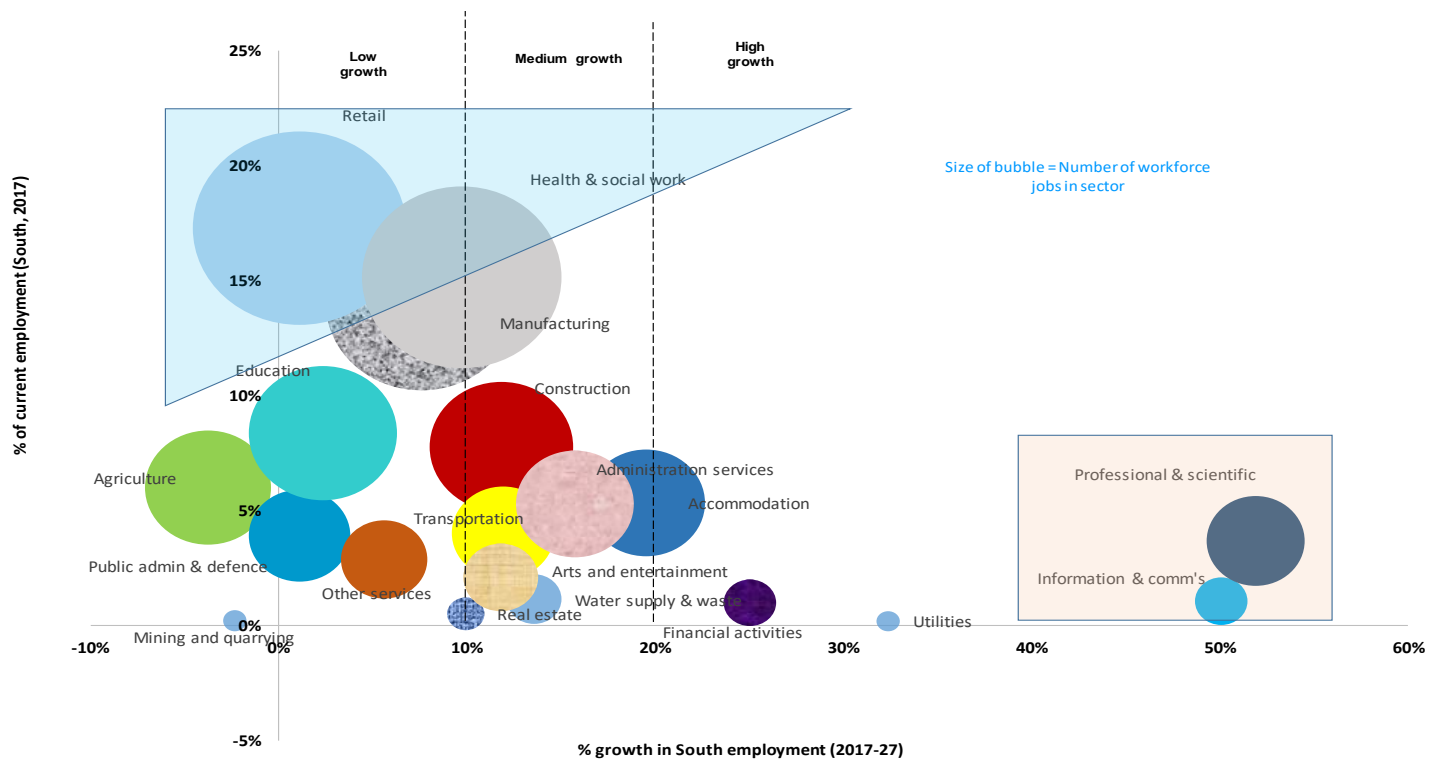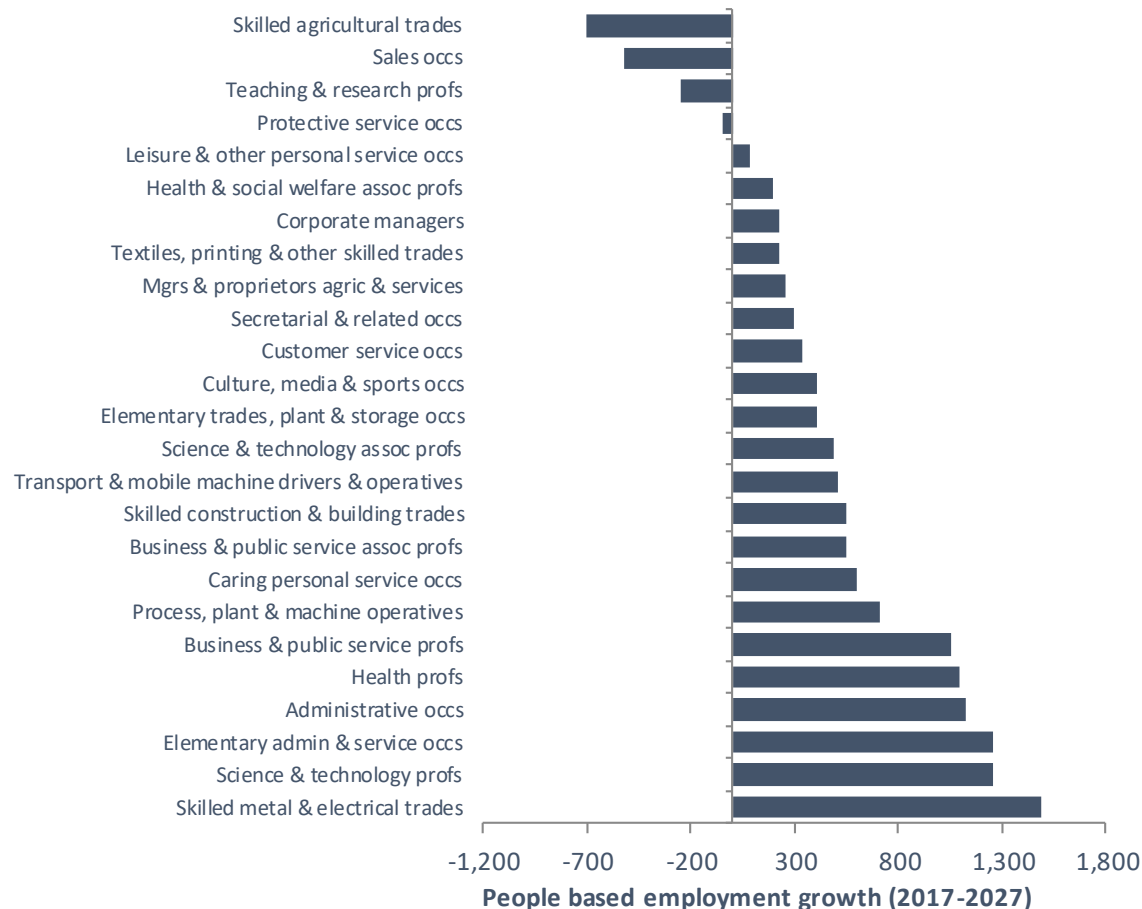

Source: UUEPC
Note: Triangle highlights largest sectors. Square highlights fastest growing sectors in NI high growth scenario

Large employment sectors are due to have medium growth over coming decade; health and social work (10%) and manufacturing (8%). Given the large scale of such sectors growth rates will still constitute significant job numbers, 2,290 and 1,650 respectively. Whereas, despite strong growth in sectors such as ICT the relatively smaller scale of this sector translates to relatively fewer jobs (850).

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Largest growth forecast in skilled metal and electrical trades

Employment growth (people based) by occupation (2 digit), South (2017-2027)

Source: UUEPC

Occupations accounting for the largest absolute growth over the coming decade are skilled metal and electrical trades (1,500), science and technology professionals (1,300) and elementary administration and service occupations (1,300).

IT and telecommunications professionals set to be the largest contributor to job growth

Employment growth (people based) by occupation (3 digit), South (2017-2027)

Health Professionals
Secretarial and Related Occupations
Construction and Building Trades
Administrative Occupations: Records
Administrative Occupations: Finance
Sales, Marketing and Related Associate Professionals
Caring Personal Services
Road Transport Drivers
Assemblers and Routine Operatives
Architects, Town Planners and Surveyors
Business, Research and Administrative Professionals
Metal Machining, Fitting and Instrument Making Trades
Other Elementary Services Occupations
Nursing and Midwifery Professionals
IT and Telecommunications Professionals

People based employment growth (2017-2027)

0   500   1,000

Source: UUEPC

A granular analysis of occupation growth highlights specific areas of expected growth. At a detailed level IT and telecommunications professionals are expected to see the highest amount of absolute growth (700) over the coming decade, followed by nursing and midwifery professionals (700) and other elementary service occupations (700).

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Summary of UUEPC's high growth scenario

High growth scenario - UUEPC's high growth scenario is aligned (but not directly linked) to the general economic ambitions of LGDs, forecasting 14,600 additional jobs over the period 2017-2027. That is, 2.6 times as many jobs forecast in the baseline scenario.

Sector growth over coming decade - The fastest growing sectors are expected to be professional services (4.3%) and ICT (4.1%) over the period 2017-2027.

In absolute terms the largest growth is expected to be in professional scientific and technical (2,960), health and social work (2,290) and manufacturing (1,650).

Large employment sectors in absolute terms such as manufacturing and health and social work are set to have medium growth over coming decade, but will contribute significant job numbers due to their scale, 1,600 and 2,300 respectively.

Occupation growth over coming decade - The occupations forecast to account for the largest absolute growth over the period 2017-2027 are skilled metal and electrical trades (1,500), science and technology professionals (1,300) and elementary administration and service occupations (1,300).

At a more granular level the occupations (3-digit) expected to grow most rapidly in absolute terms are IT and telecommunications professionals (700), nursing and midwifery professionals (700) and other elementary services occupations (700).

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Demand side – Sectors and occupations

Demand side concepts

Expansion demand is the additional jobs created due to growth in a 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).

Net replacement demand is the difference between all leavers from employment – to retirement, inactivity, unemployment, other occupations and out migration - and joiners to employment – from unemployment, inactivity (excluding education leavers) and other occupations.

Net requirement from education and migration indicates the number of vacancies that can not be filled from within the existing labour market and therefore must be met from those leaving education and/ or from migration. The annual average net requirement does not include the positions to be filled by labour market participants from other sectors, from unemployment or from economic inactivity.

Annual average gross demand in simple terms, refers to all vacancies to be filled in a year. It is the total expansion and replacement demand for staff per annum and the jobs are filled by those currently working in the labour market, those currently out of work and also those from education and migration.

Net requirement from education and migration

The figure of most interest is the **net requirement from education and migration** (net replacement demand plus expansion demand). This measures the quantum of vacancies for education leavers and migrants.

It takes account of 'churn' in the labour market. Skills demand associated with replacement demand is dependent largely on the existing stock and skill needs of current jobs. It can be compared directly to education outputs and the level of migrant inflows and is therefore useful for skills and wider workforce planning.

The focus on vacancies for education leavers and migrants should not be interpreted to mean that job opportunities for those out of work are ignored. Rather it is the case that joiners from unemployment and inactivity are already factored into replacement demand assumptions, and will essentially compete with education leavers and migrants for total arising vacancies.

The expansion demand (net change in the stock of jobs) is often more widely understood as a driver of future demand, it remains the case that, future skills and employability demand will still be significantly determined by net replacement demand.

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Wholesale and retail is forecast to remain the largest employment sector

Employment (people based) by sector (1-digit), South (2017-2027)

Employment (people based) by sector (1-digit), South (2017 versus 2027)

People based employment

Legend: ■ 2017 ■ 2027

Sectors (top to bottom): Mining, Elect' & gas, Real estate, Finance & insurance, Water supply & waste, Information & communication, Arts & entertainment, Other service activities, Public admin & defence, Transport & storage, Professional scientific & technical, Agriculture, Restaurants and hotels, Admin' & support services, Education, Construction, Manufacturing, Health & social work, Wholesale & retail

Employment (people based) growth by sector (1-digit), South (2017-2027)

People based employment growth (2017-2027)

Sectors (top to bottom): Agriculture, Wholesale & retail, Mining, Education, People employed by households, Public admin & defence, Real estate, Elect' & gas, Other service activities, Water supply & waste, Arts & entertainment, Finance & insurance, Transport & storage, Information & communication, Admin' & support services, Restaurants and hotels, Construction, Manufacturing, Health & social work, Professional scientific & technical

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Labour market flows determine skills demand

Components of net requirement from education and migration, South (2017-2027)

| Leavers to death 420 | Leavers to retirement 1,870 | Leavers to migration 2,140 | Leavers to unemployment/ training schemes 2,830 | Leavers to inactivity (excl. retirement) 1,680 | Leavers to other occupations 3,380 |

Total leavers 12,320

Joiners from unemployment/ training schemes 3,380

Joiners from inactivity (excl. students 2,450

Joiners from other occupations 3,240

Expansion demand 920

Net requirement from education and migration 4,180

Total joiners 9,070

Source: UUEPC
Note: Figures may not sum due to rounding

Expansion demand and replacement demand, South (2017-2027)

Demand category	2012-2017 (annual)	2017-2027 (annual)
(A) Gross demand	12,800	13,240
(B) Expansion demand	580	920
(C) Replacement demand	12,230	12,330
(D) Filled from within the existing labour market	9,120	9,070
(E) Net replacement demand	3,110	3,260
(F) Net requirement from education and migration	**3,690**	**4,180**

Source: UUEPC
Relationship between rows: A=B+C, E=C-D, F=E+B

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A High proportion of job opportunities filled from within the existing labour market across sectors

Average annual gross demand by sector (1-digit), South (2017-2027)

■ Net requirement

■ Filled within the existing labour market

Sectors (top to bottom): Mining, Elect' & gas, Real estate, Finance & insurance, Water supply & waste, Information & communication, Arts & entertainment, Public admin & defence, Other service activities, Transport & storage, Agriculture, Education, Professional scientific & technical, Construction, Admin' & support services, Restaurants and hotels, Health & social work, Wholesale & retail, Manufacturing

X-axis: -500, 0, 500, 1,000, 1,500, 2,000, 2,500

Number of people demanded

Source: UUEPC

Gross demand highlights a significant number of total job opportunities are filled from recruitment within the existing labour market (i.e. employed or unemployed). For example, in education 78% of total job opportunities are expected to be filled by individuals already within the existing labour market compared to 22% filled by education leavers and migrants.

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Sectors do not have to be growing fast to create a plentiful supply of opportunities

Average annual net requirement from education and migration by sector (1-digit), South (2017-2027)
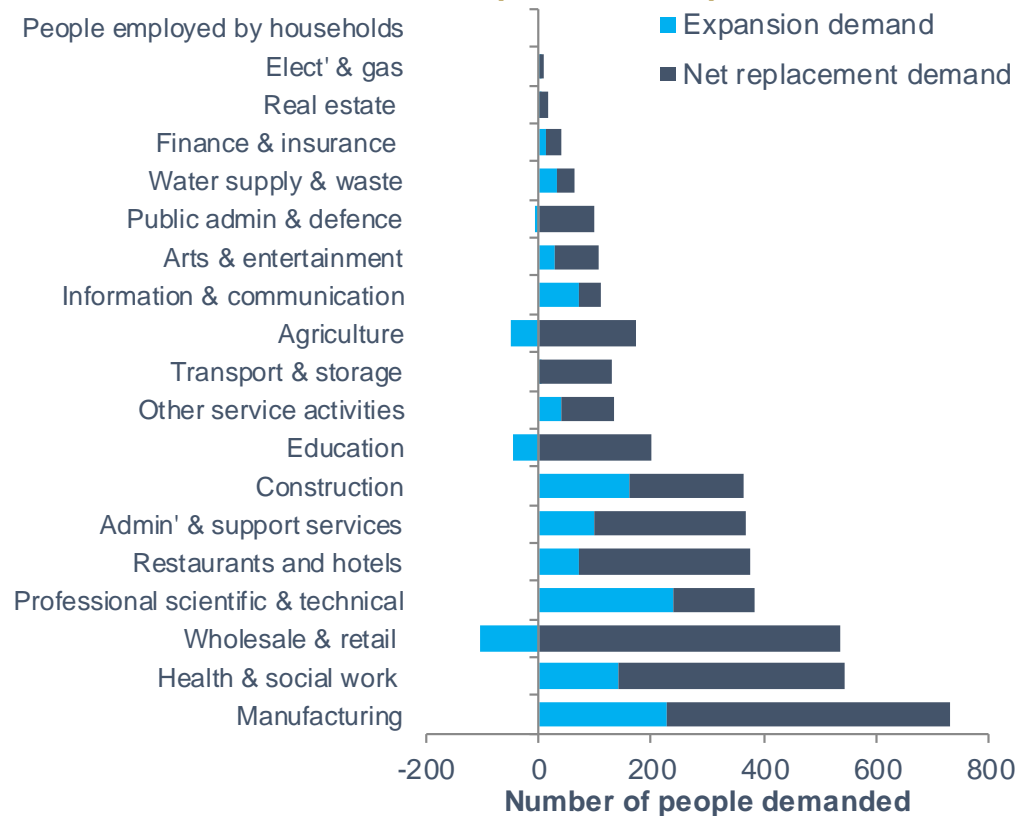
Source: UUEPC

The composition of expansion demand and replacement demand within a sector depends upon the sectoral nature. For example, expansion demand is likely to account for the majority of net requirement in a sector with projected high growth rates i.e. professional and scientific. Whereas replacement demand is likely to account for the majority of net requirement in a sector with high entry/exit rates.

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Manufacture of food products constitutes highest labour demand

Average annual net requirement from education and migration by sector (top 15 2-digit), South (2017-2027)

Legend:
- Expansion demand
- Net replacement demand

Categories (top to bottom):
- Scientific research and development
- Human health activities
- Crop and animal production, hunting and related service activities
- Specialised construction activities
- Manufacture of rubber and plastic products
- Travel agency, tour operator and other reservation service and related activities
- Wholesale trade, except of motor vehicles and motorcycles
- Social work activities without accommodation
- Education
- Public administration and defence; compulsory social security
- Food and beverage service activities
- Residential care activities
- Retail trade, except of motor vehicles and motorcycles
- Wholesale and retail trade and repair of motor vehicles and motorcycles
- Manufacture of food products

X-axis: Number of people demanded (-100, -50, 0, 50, 100, 150, 200, 250, 300, 350)

Source: UUEPC

A more granular analysis of labour demand highlights the top 15 detailed sectors (2-digit) account for 70% of total net requirement. The largest net requirement is in manufacture of food products (8% of total net requirement) followed by retail trade (7%), linked to large manufacturing and retail sectors.

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Occupation demand is a function of sector growth (expansion) and scale (replacement)

Average annual net requirement from education and migration by occupation (2-digit), South (2017-2027)
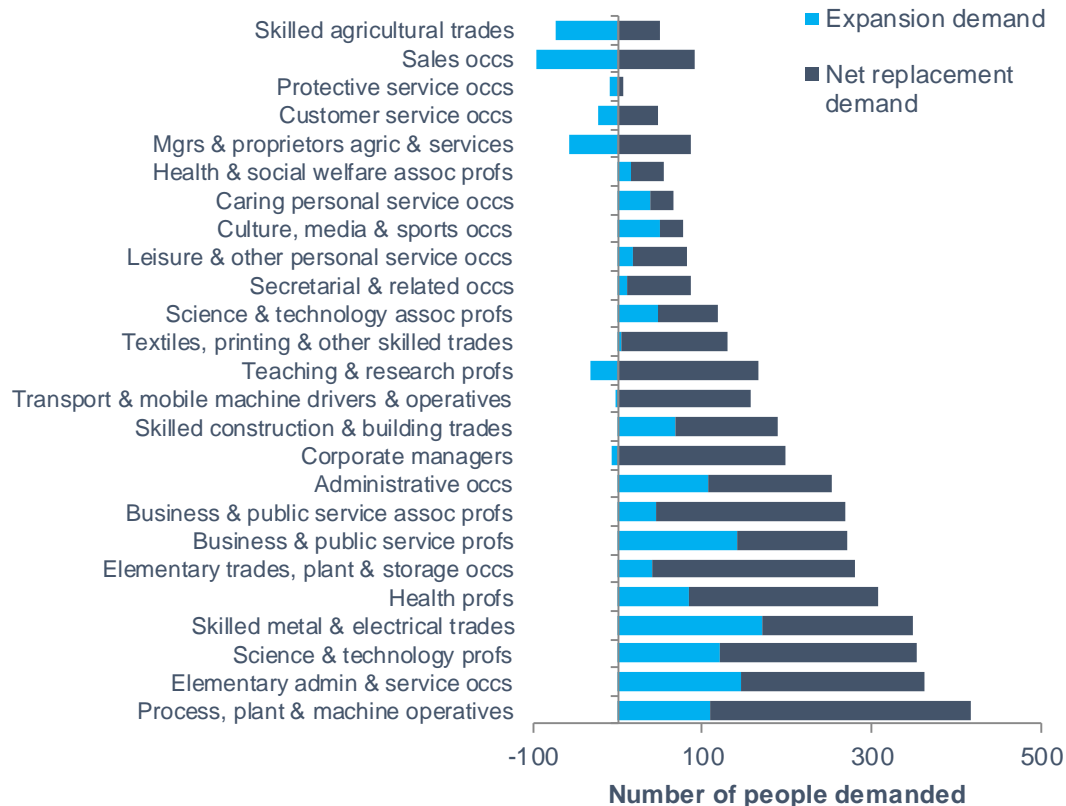
Occupations that are expected to provide the most job opportunities in the coming decade are process, plant and machine operatives (10% of total net requirement), elementary administration and service occupations (9%) and science and technology professionals (8%).

Source: UUEPC

Process operatives expected to require the largest net requirement over the coming decade

Average annual net requirement from education and migration by occupation (top 15 3-digit), South (2017-2027)
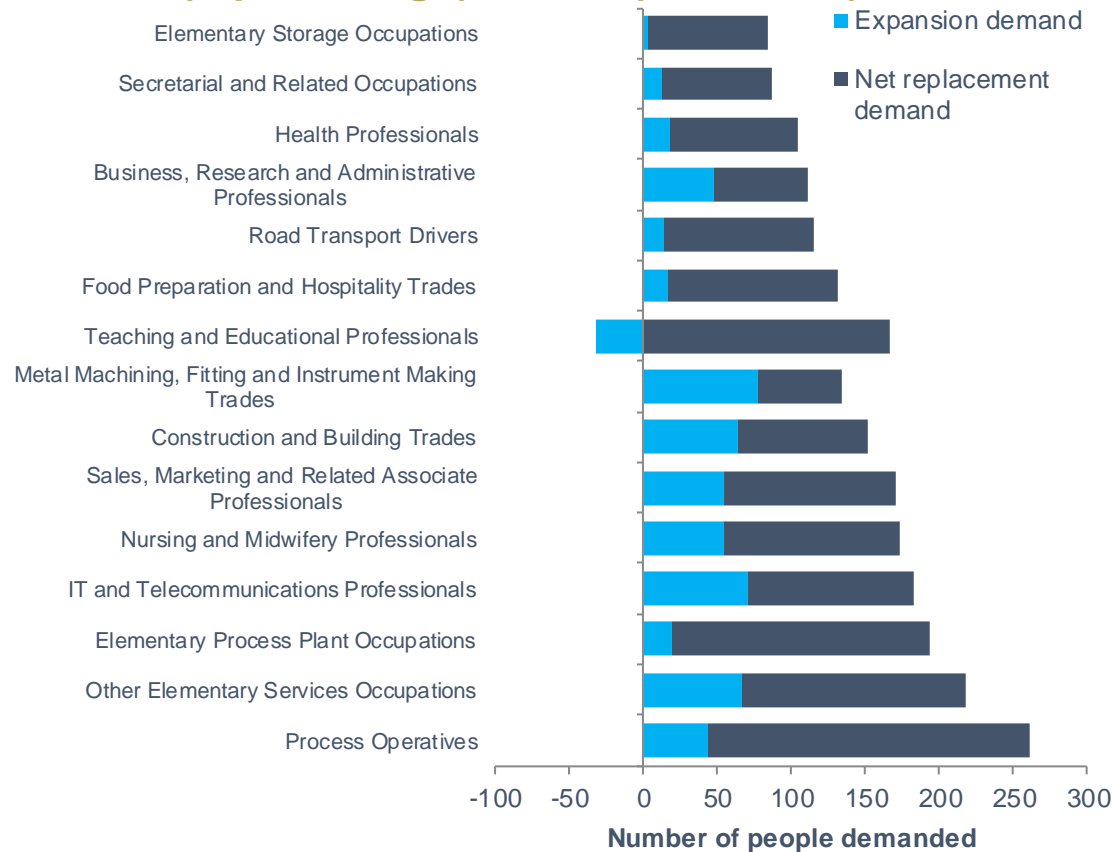
Source: UUEPC

At a more detailed level the occupations (3-digit) expected to be in 'high demand' over the coming decade are process operatives (6% of the net requirement), other elementary service occupations (5%) and elementary process plant occupations (5%).

Summary of demand side sectors and occupations

Demand side concepts - It is important to fully understand each of the demand side concepts and recognise how they interact with one another.

Labour market flows and skills demand - The largest component of labour demand comes from replacing workers who have created a vacancy by leaving their position (for retirement, sickness, moving to another job etc.). However, most of these vacancies will be taken by people already within the labour market (e.g. job movers, individuals moving from unemployment to employment).

This replacement demand under a high growth scenario is expected to be 12,330 per annum over the next 10 years compared to expansion demand of 920 per annum.

Vacancies not filled by labour market participants must be filled by either leavers the education system or migrants. In South the average annual individuals required from education and migration is 4,180 over the 2017-2027 period.

Gross demand by sector - The sectors expected to require the largest gross demand over the 2017-2027 period are the top three employment sectors, manufacturing (16% of total gross demand), wholesale and retail (14%) and health and social work (13%).

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Summary of demand side sectors and occupations (continued)

Net requirement by sector - In high growth sectors expansion demand accounts for a more significant proportion of overall labour demand. For example, professional scientific and technical is forecast to experience rapid growth. Therefore, expansion demand accounts for 62% of net requirement and replacement demand the remaining 38%.

In other sectors a sizeable amount of labour demand is driven by replacement demand rather than expansion of the sector. For example, restaurants and hotels is relatively large in scale and has high entry and exit rates. Therefore, over four-fifths of labour demand comes from vacancies created by workers who leave their jobs and one-fifth from expansion demand.

Net requirement by occupation - The occupations forecast to provide the most job opportunities for education leavers and migrants are process, plant and machine operatives (10% of total net requirement), elementary administration and service occupations (9%) and science and technology professionals (8%).

At a more granular level the top 15 occupations (3-digit) account for 54% of the total net requirement. The largest net requirement in detailed occupations is expected in process operatives (6% of net requirement), other elementary services (5%) and elementary process plant operatives (5%).

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Demand side - Qualifications

Demand for graduates in South's marginally below the NI average

Average annual net requirement by qualification (NQF), South (2017-2027)

NQF Level 6+ — 1,230
NQF Level 4-5 — 500
NQF Level 3 — 1,130
NQF Level 2 — 890
Below NQF 2 — 430

29% of the net requirement require degree level qualifications

Total = 4,180 p.a.

Only 10% of the net requirement will require qualifications below NQF level 2

Number of people
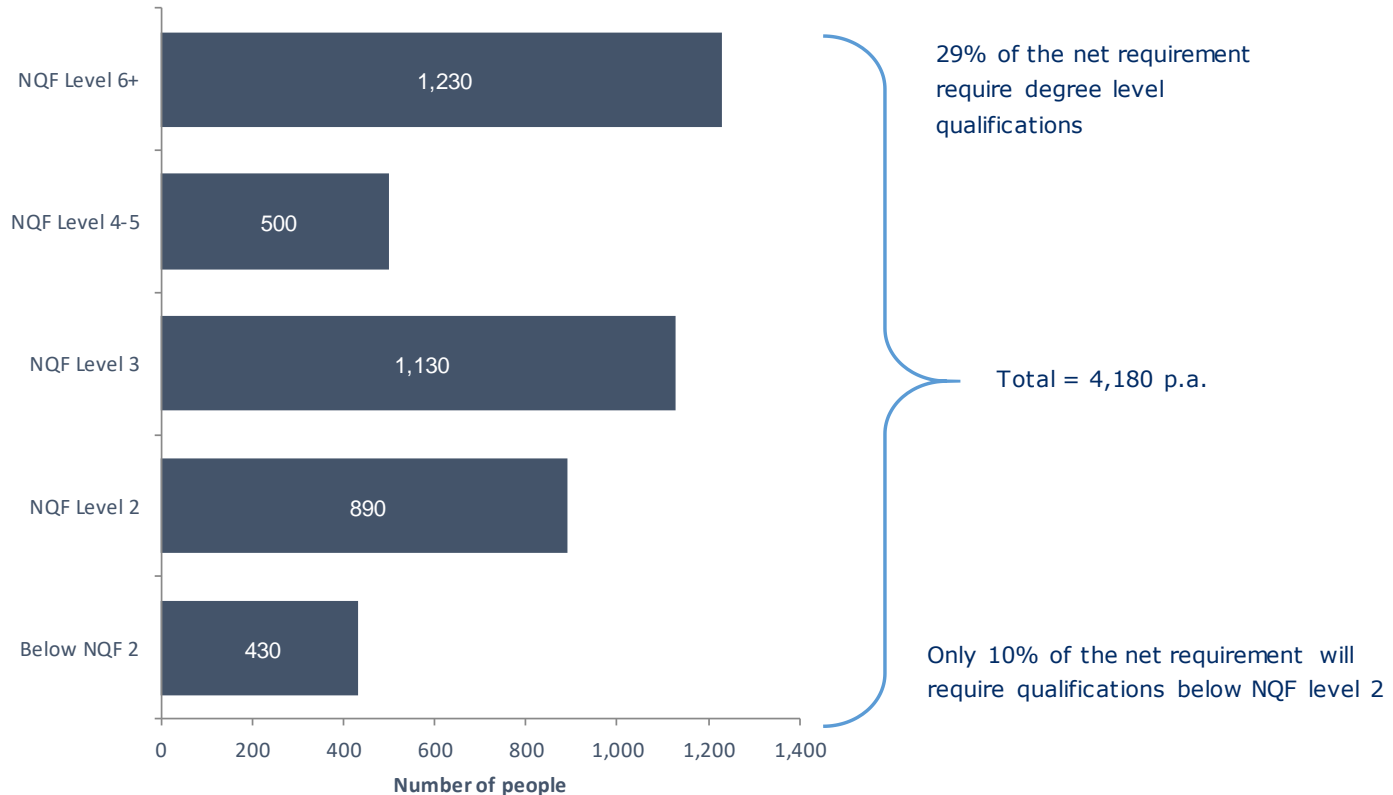
Source: UUEPC

UUEPC's skills model estimates the net requirement by highest NQF level. South is expected to require 1,230 graduates per annum over the next decade, accounting for 29% of the net requirement. However, it should be noted than skills and qualifications are not the same. For example, labour may be highly skilled but have low levels of formal qualifications and vice versa.

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The profile of demand is more graduate intensive than the current stock of skills

Average annual net requirement by qualification (NQF) versus current workforce qualification (NQF) profile, South (2017-2027)

Average annual net requirement by qualification (NQF), South (2017-2027)

- Below NQF 2, 10%
- NQF Level 2, 21%
- NQF Level 3, 27%
- NQF Level 4-5, 12%
- NQF Level 6+, 29%
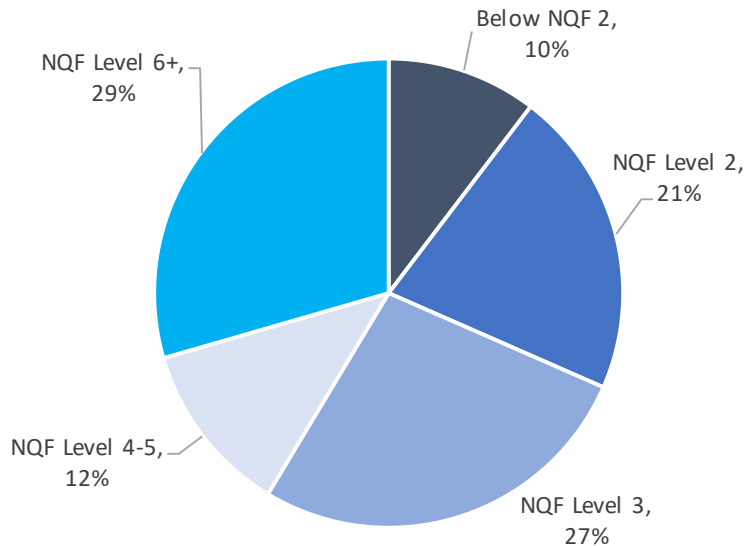
Source: UUEPC

Qualification profile of employed, South (2016)

- NQF Level 6+, 22%
- Below NQF 2, 25%
- NQF Level 2, 17%
- NQF Level 3, 22%
- NQF Level 4-5, 14%
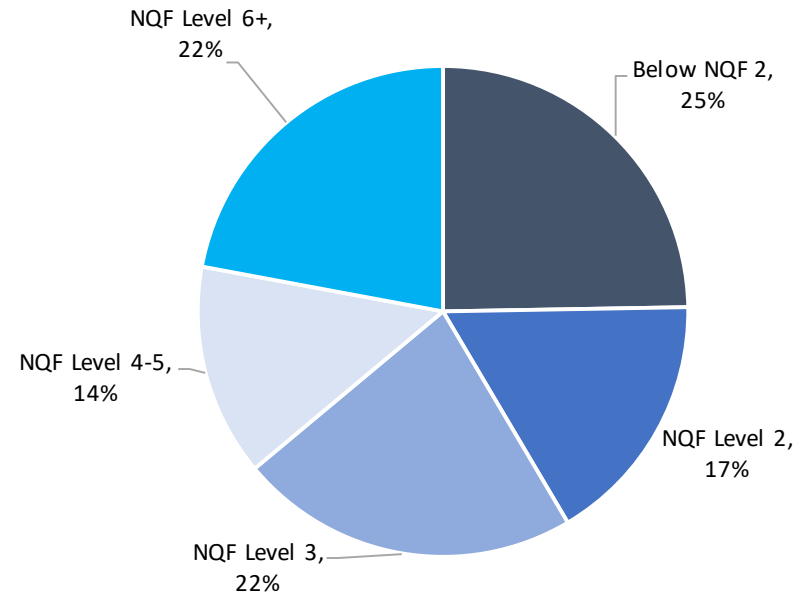
Source: UUEPC

Increasing HE participation levels and employers attitudes towards qualifications has influenced the higher weighting towards degree level qualifications in the workplace, squeezing out the lower qualified. For example, one quarter (25%) of the employed hold a qualification below NQF level 2, future demand is forecast to require only 10% of workers with below NQF level 2. This implies the current qualification profile of the employed does not match future skill needs.

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Health and social & ICT sectors account for almost one fifth of graduate demand

Average annual net requirement for NQF level 6+ by sector, South (2017-2027)

Average annual net requirement for NQF level 6+ by sector (1-digit) South (2017-2027)

Source: UUEPC
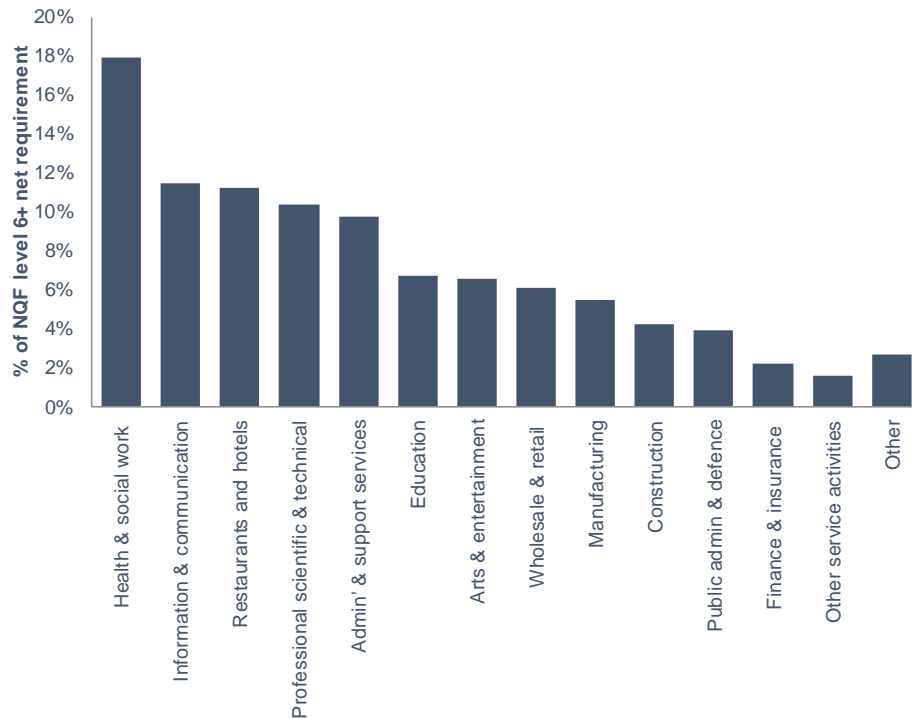
Average annual net requirement for NQF level 6+ by sector (2-digit top 15), South (2017-2027)

2 digit SIC	% of NQF level 6+ net requirement
Food and beverage service activities	8.4%
Human health activities	8.1%
Residential care activities	8.0%
Education	7.0%
Public administration and defence; compulsory social security	4.8%
Travel agency, tour operator and other reservation service and related activities	4.1%
Wholesale trade, except of motor vehicles and motorcycles	4.1%
Computer programming, consultancy and related activities	3.6%
Scientific research and development	3.3%
Legal and accounting activities	3.2%
Office administrative, office support and other business support activities	3.2%
Civil engineering	3.2%
Manufacture of basic pharmaceutical products and pharmaceutical preparations	3.0%
Publishing activities	2.6%
Activities of head offices; management consultancy activities	2.6%

Source: UUEPC

The proportion of graduates required from education and migration varies across sectors. For example, in the ICT sector 64% of the net requirement is forecast to require at least an undergraduate level degree, compared to 34% in health and social work professionals. However, health and social work accounts for the largest proportion of degree level and above net requirement due to the scale of the sector.

Science and technology professionals require almost one fifth of graduate demand

Average annual net requirement for NQF level 6+ by occupation, South (2017-2027)

Average annual net requirement for NQF level 6+ by occupation (2-digit), South (2017-27)
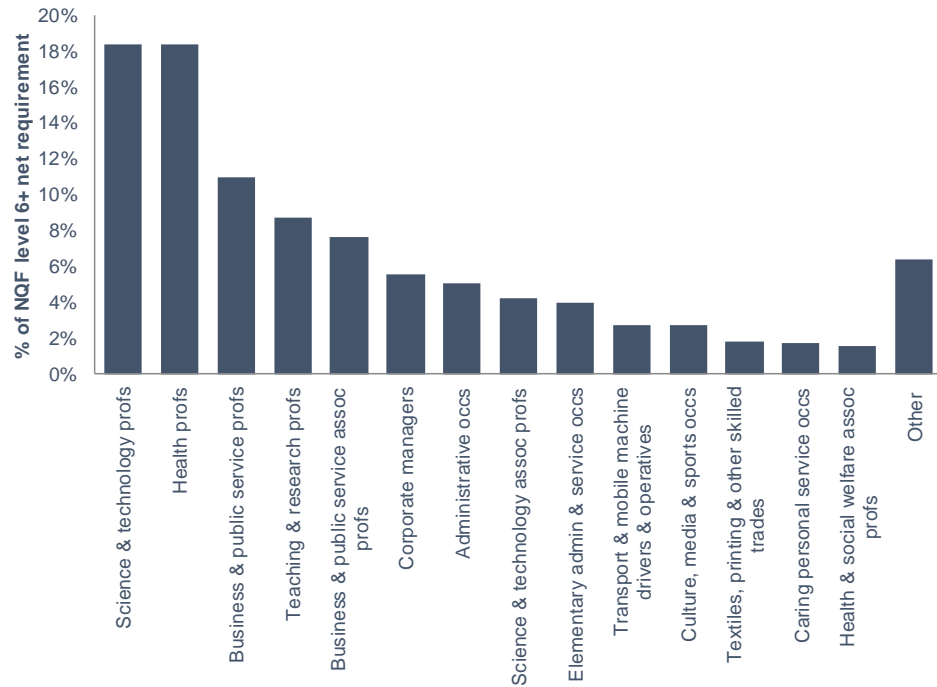
Source: UUEPC

Average annual net requirement for NQF level 6+ by occupation (top 15 3-digit), South (2017-27)

3 digit SOC	% of NQF level 6+ net requirement
Information technology and telecommunications professionals	12.4%
Nursing and midwifery professionals	10.7%
Teaching and educational professionals	8.7%
Health professionals	5.9%
Business, research and administrative professionals	4.6%
Sales, marketing and related associate professionals	4.5%
Natural and social science professionals	3.3%
Other elementary services occupations	3.0%
Managers and directors in retail and wholesale	2.6%
Information technology technicians	2.0%
Road transport drivers	2.0%
Engineering professionals	1.9%
Science, engineering and production technicians	1.8%
Therapy professionals	1.8%
Food preparation and hospitality trades	1.7%

Source: UUEPC

The occupation profile of the net requirement is driven by South's sectoral structure. The occupations which account for the highest proportion of NQF level 6+ net requirement are science and technology professionals (18% of net requirement) linked to strong demand in the IT sector. This is followed by health professionals (17%) linked to high demand in the large health sector and business and public service professionals (11%).

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Health and social work requires almost one third of sub-degree qualifiers demanded

Average annual net requirement for NQF level 4-5 by sector, South (2017-2027)

Average annual net requirement for NQF level 4-5 by sector (1-digit), South (2017-2027)

Source: UUEPC
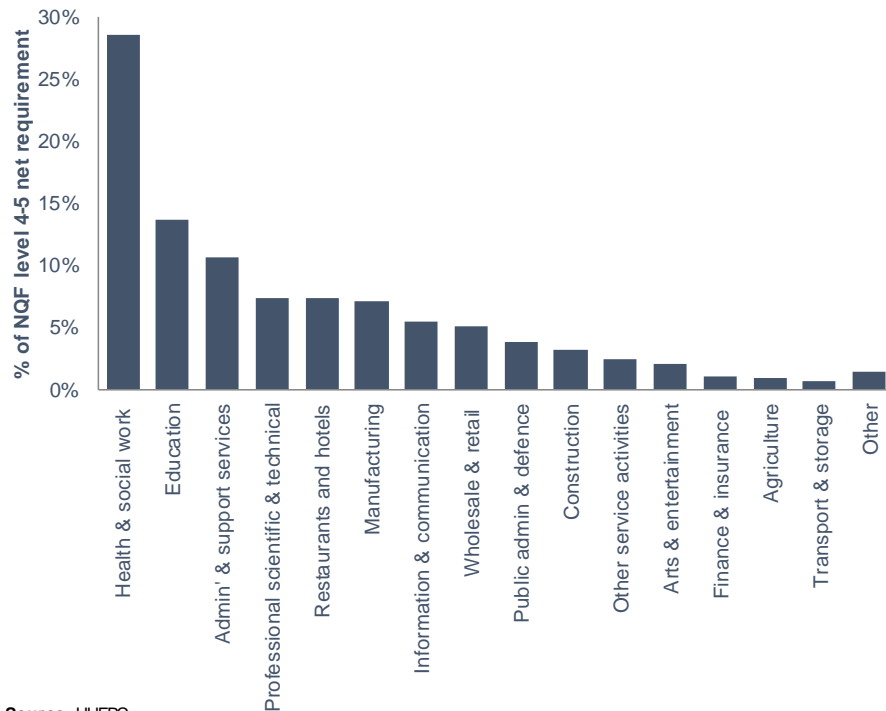
Average annual net requirement for NQF level 4-5 by sector (top 15 2-digit), South (2017-2027)

2 digit SIC	% of NQF level 4-5 net requirement
Human health activities	19.7%
Education	14.0%
Residential care activities	7.0%
Food and beverage service activities	5.1%
Legal and accounting activities	4.5%
Public administration and defence; compulsory social security	4.4%
Office administrative, office support and other business support activities	4.2%
Travel agency, tour operator and other reservation service and related activities	3.9%
Manufacture of food products	3.5%
Wholesale trade, except of motor vehicles and motorcycles	2.9%
Manufacture of basic pharmaceutical products and pharmaceutical preparations	2.7%
Civil engineering	2.4%
Repair of computers and personal and household goods	2.2%
Publishing activities	1.7%
Wholesale and retail trade and repair of motor vehicles and motorcycles	1.6%

Source: UUEPC

The industry mix of NQF level 4-5 net requirement demand is similar to that of NQF level 6+. The sectors accounting for the largest proportion of sub-degree level net requirement are health and social work (29%), education (14%) and administration and support services (11%).

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Health professionals account for the highest proportion of sub-degree level qualifiers demanded

Average annual net requirement for NQF level 4-5 by occupation, South (2017-2027)

Average annual net requirement for NQF level 4-5 by occupation (2-digit) South (2017-2027)

Source: UUEPC

Average annual net requirement for NQF level 4-5 by occupation (top 15 3-digit) South (2017-2027)
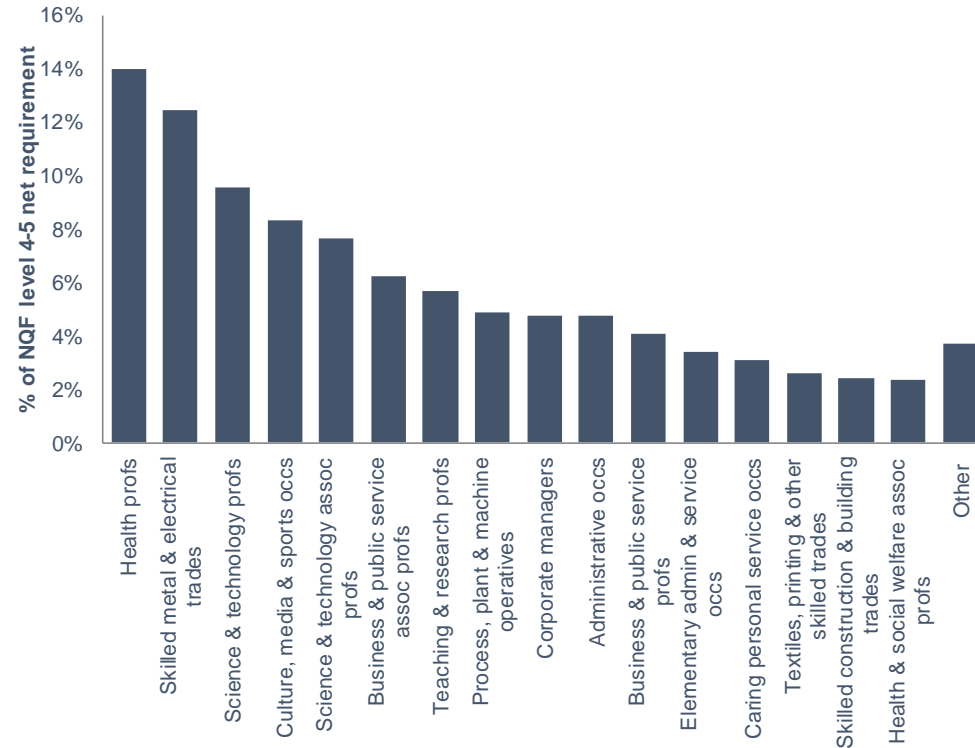
3 digit SOC	% of NQF level 4-5 net requirement
Nursing and midwifery professionals	7.9%
Information technology and telecommunications professionals	5.8%
Teaching and educational professionals	5.7%
Metal machining, fitting and instrument making trades	4.8%
Health professionals	4.7%
Artistic, literary and media occupations	3.8%
Sales, marketing and related associate professionals	3.7%
Science, engineering and production technicians	3.5%
Information technology technicians	3.3%
Process operatives	2.8%
Food preparation and hospitality trades	2.7%
Caring personal services	2.7%
Design occupations	2.6%
Electrical and electronic trades	2.5%
Metal forming, welding and related trades	2.5%

Source: UUEPC

The occupations which account for the largest proportion of the future NQF level 4-5 net requirement are health professionals (14%), skilled metal and electrical trades (12%) and science and technology professionals (10%).

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Wholesale and retail demands the highest proportion of below NQF level 3 qualifiers

Average annual net requirement for below NQF level 3 by sector, South (2017-2027)

Average annual net requirement for below NQF level 3 by sector (1-digit), South (2017-2027)
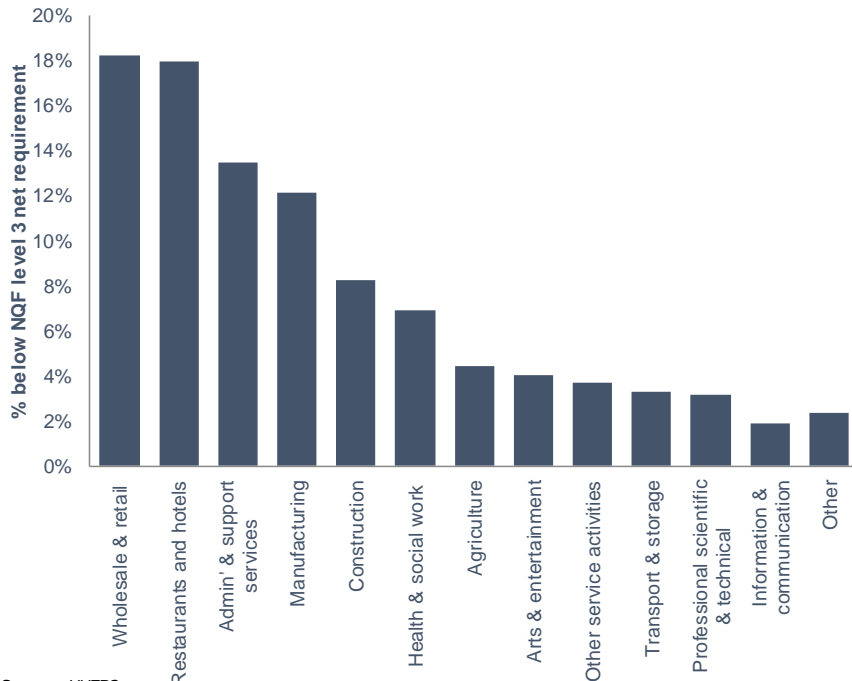
Source: UUEPC

Average annual net requirement for below NQF level 3 by sector (top 15 2-digit), South (2017-2027)

2 digit SIC	% below NQF level 3 net requirement
Food and beverage service activities	13.2%
Manufacture of food products	8.8%
Wholesale and retail trade and repair of motor vehicles and motorcycles	7.5%
Wholesale trade, except of motor vehicles and motorcycles	6.9%
Office administrative, office support and other business support activities	6.4%
Specialised construction activities	6.0%
Residential care activities	5.1%
Travel agency, tour operator and other reservation service and related activities	4.3%
Land transport and transport via pipelines	4.1%
Crop and animal production, hunting and related service activities	3.9%
Civil engineering	3.8%
Retail trade, except of motor vehicles and motorcycles	2.6%
Repair of computers and personal and household goods	2.5%
Manufacture of machinery and equipment n.e.c.	2.1%
Accommodation	1.8%

Source: UUEPC

The industry profile of the net requirement at below NQF level 3 varies significantly relative to tertiary level qualifications. The largest proportion of the net requirement is within wholesale and retail (18%) followed restaurants and hotels (18%) and administration and support services (13%). Due to graduate intensity within high growth sectors it is important that job opportunities are available across the skills spectrum.

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Elementary admin and service occupations account for the largest proportion of below NQF level 3 demand

Average annual net requirement for NQF level 3 and below by occupation, South (2017-2027)

Average annual net requirement for below NQF level 3 by occupation (2-digit) South (2017-2027)
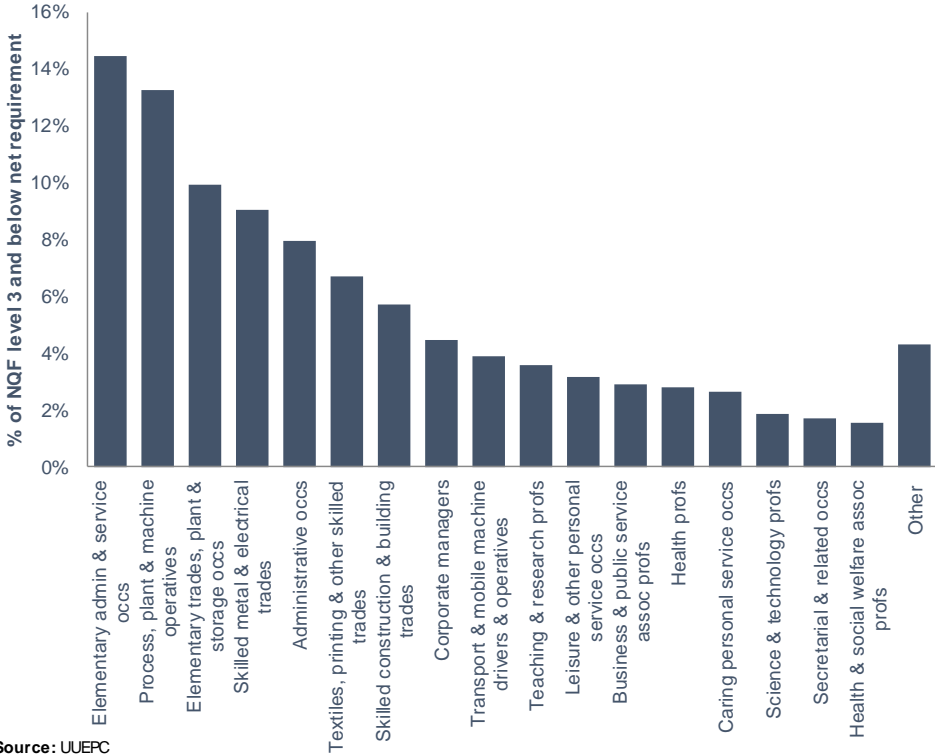
Average annual net requirement for below NQF level 3 by occupation (top 15 3-digit) South (2017-2027)

3 digit SOC	% of below NQF level 3 net requirement
Other elementary services occupations	10.2%
Process operatives	7.5%
Food preparation and hospitality trades	6.9%
Elementary process plant occupations	6.3%
Construction and building trades	4.6%
Teaching and educational professionals	3.6%
Metal machining, fitting and instrument making trades	3.5%
Road transport drivers	3.0%
Assemblers and routine operatives	2.8%
Administrative occupations: Finance	2.5%
Elementary construction occupations	2.4%
Administrative occupations: Records	2.3%
Caring personal services	2.3%
Elementary storage occupations	2.1%
Managers and directors in retail and wholesale	2.0%

The occupation profile follows those which are most prevalent within the high demand sectors for low level qualifications. The occupations which account for the most below NQF level 3 net requirement are elementary administration and services (14%), process, plant and machine operatives (13%) and elementary trades, plant and storage occupations (10%).

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Summary of demand side qualifications

Net requirement by NQF - It is forecast that 29% of total demand will require at least a degree level qualification, which is below the NI average. However, it is expected only 10% of job opportunities will be available to individuals with a qualification level below NQF level 2. Research at an NI level in 2009 highlighted this figure was as high as 22% and has since continued to fall. As qualifications hungry employers squeeze out lower qualified workers, it is expected this declining trend will continue.

The higher weighting of opportunities for those with degree level qualifications relative to low or no qualifications highlights the need to address educational underachievement in NI.

Workforce qualifications current versus future - Current workforce qualifications do not match future qualification. For example, in South 22% of people employed have NQF level 6+ qualifications compared to 29% forecast for the coming decade.

At mid-level (NQF level 2, 3 and 4-5) qualifications are closely aligned between current and future qualification demands. There is a large gap between the current employed with below NQF level 2 (25%) and the future net requirement (10%).

However, current workforce qualifications are skewed by a high proportion of older workers who hold less formal qualifications (relative to younger workers) but are not necessarily low skilled, and so drag down the qualification profile of the workforce.

Net requirement by NQF level 6+ by sector - The graduate intensity within the net requirement differs relatively across sectors. Around two thirds (64%) of net requirement for the ICT sector requires NQF level 6+ qualifications compared to only 34% in health and social. Although there is a large difference in the proportionate requirement, the size difference in sectors impacts the numbers of required graduates. For example, ICT is forecast to require 140 per annum over the next decade compared to 220 in health and social work.

Summary of demand side qualifications (continued)

Net requirement by NQF level 6+ by occupation - The occupation profile of the net requirement at graduate level is shaped by the sectoral structure. The occupations which account for the highest proportion of the NQF level 6+ net requirement are science and technology professionals (18%) and health professionals (17%).

Net requirement by NQF level 4-5 by sector - The industry mix for NQF level 4-5 is similar to NQF level 6+. The sectors accounting for the largest proportion of NQF level 4-5 net requirement are health and social work (29%) and education (14%).

Net requirement by NQF level 4-5 by occupation - In the same vain the sectoral structure determines the occupations demanded. The occupation accounting for the largest proportion of net requirement is health professionals (14%) followed by skilled metal and electrical trades (12%).

Net requirement for below NQF level 3 by sector - The sectoral mix of net requirement at below NQF level 3 differs from tertiary level qualifications. The largest proportion of net requirement is within wholesale and retail (18%) followed by restaurants and hotels (18%).

Due to graduate intensity many of the high growth sectors provide very few opportunities for individuals with non-tertiary level qualifications. It is important that job opportunities are provided across the skill spectrum. The sectors requiring low qualified individuals play a vital role in the local economy, specifically if it is to achieve inclusive growth.

Net requirement for below NQF level 3 by occupation - The occupations which account for the highest proportion of below NQF level 3 net requirement are elementary administration and service occupations (14%), process plant and machine operatives (13%).

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Demand side – Subjects

Interpreting outputs relating to subject demand

The UUEPC's skills model estimates subject demand across occupations. The outputs should be interpreted as a rough proxy as at a sub-regional level the demand for skills can be significantly altered by a new large employer (e.g. large FDI firm) or a large employer closing or moving to another area.

In addition, estimates of future skills demands are based on historic patterns. Therefore it is possible demand in some sectors has the potential to evolve over time changing the required subject mix within sectors (e.g. growth in artificial intelligence or cyber-security).

This section will outline subject demand for:
* NQF level 6+ (undergraduate, masters and PhD); and
* NQF level 4-5 (sub-degree level qualifications).

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Medical related subjects expected to demand over 200 NQF level 6+ qualifiers per annum over the next decade

Average annual net requirement for NQF level 6+ by subject (JACS, 1-digit), South (2017-2027)
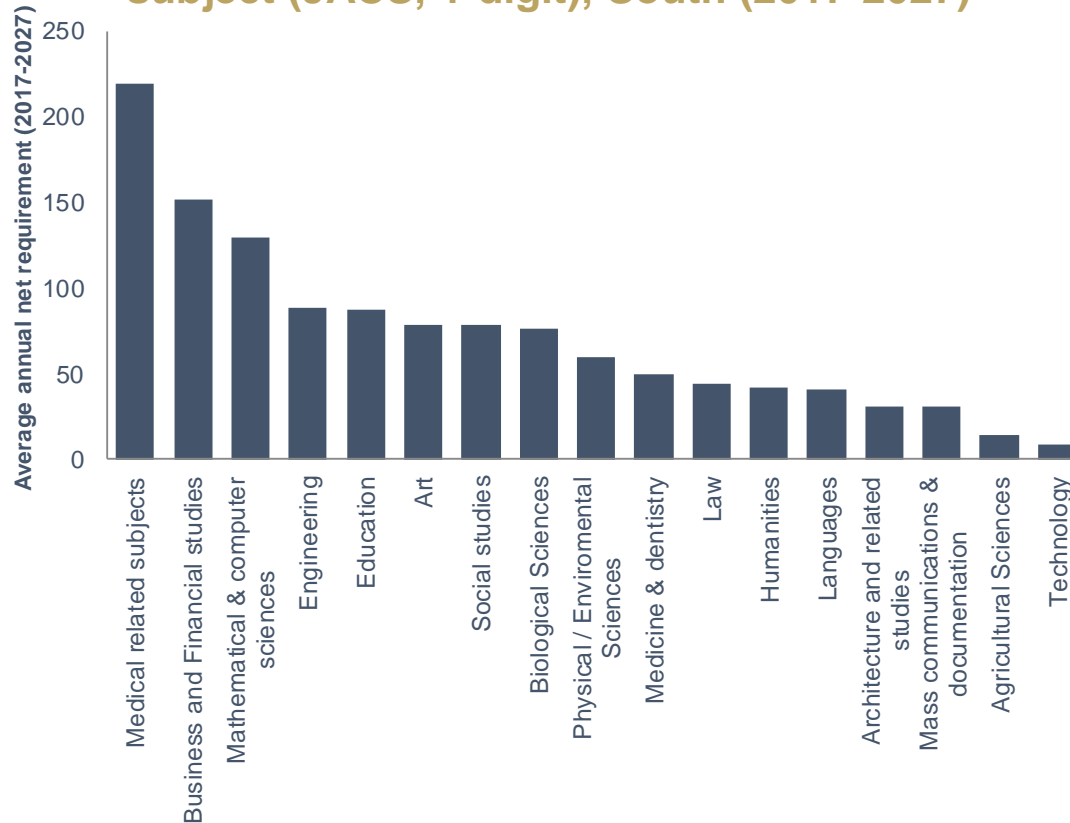
Medical related subjects account for the largest proportion of the NQF level 6+ net requirement (18%), linked to the large health and social sector. This is followed by business and financial studies (12%) and mathematical and computer sciences (10%), linked to strong expansion demand in the professional services and ICT sectors.

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At a more detailed level nursing accounts for the highest proportion of graduate demand

Average annual net requirement for NQF level 6+ by subject (JACs, 2-digit) South (2017-2027)
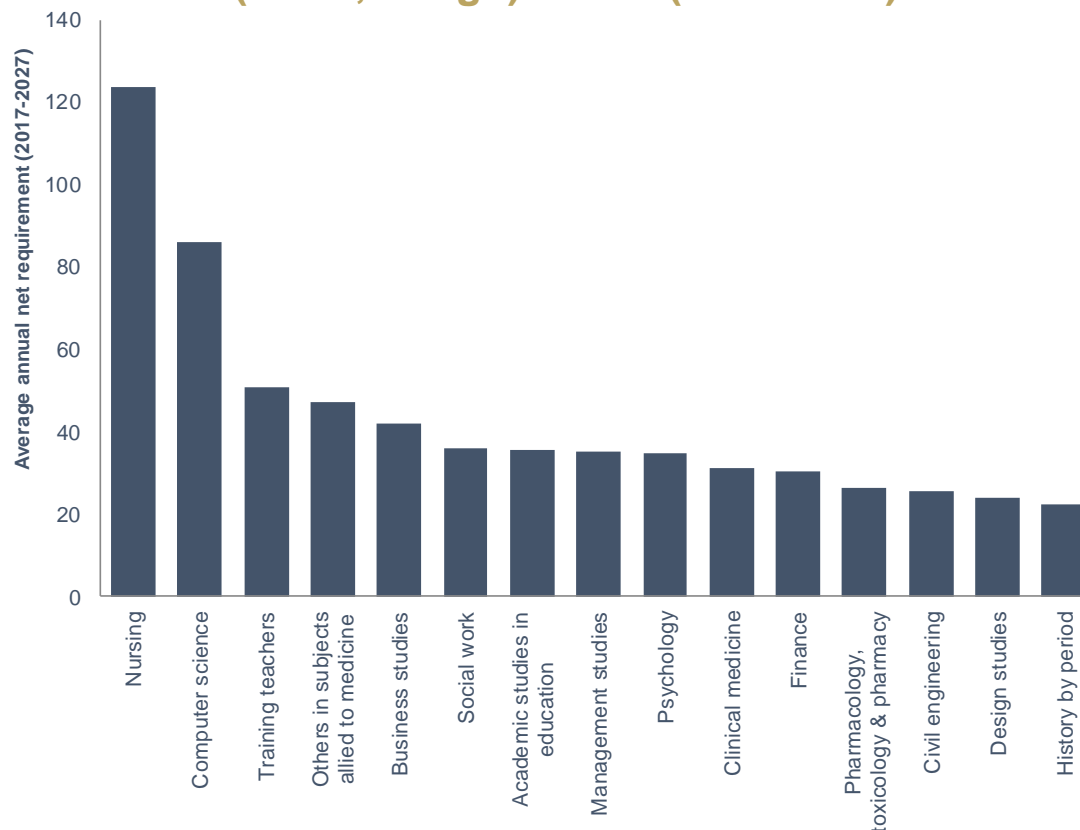
Source: UUEPC

A more detailed analysis highlights that nursing accounts for the highest NQF level 6+ annual net requirement (120), linked to the large demand in the health and social work sector. Followed by computer science (85), (influenced by high expansion demand in the ICT sector) and training teachers (50).

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Health, public services and care account for the largest sub-degree subject demand

Average annual net requirement for NQF level 4-5 by subject (SSA, 1-digit), South (2017-2027)
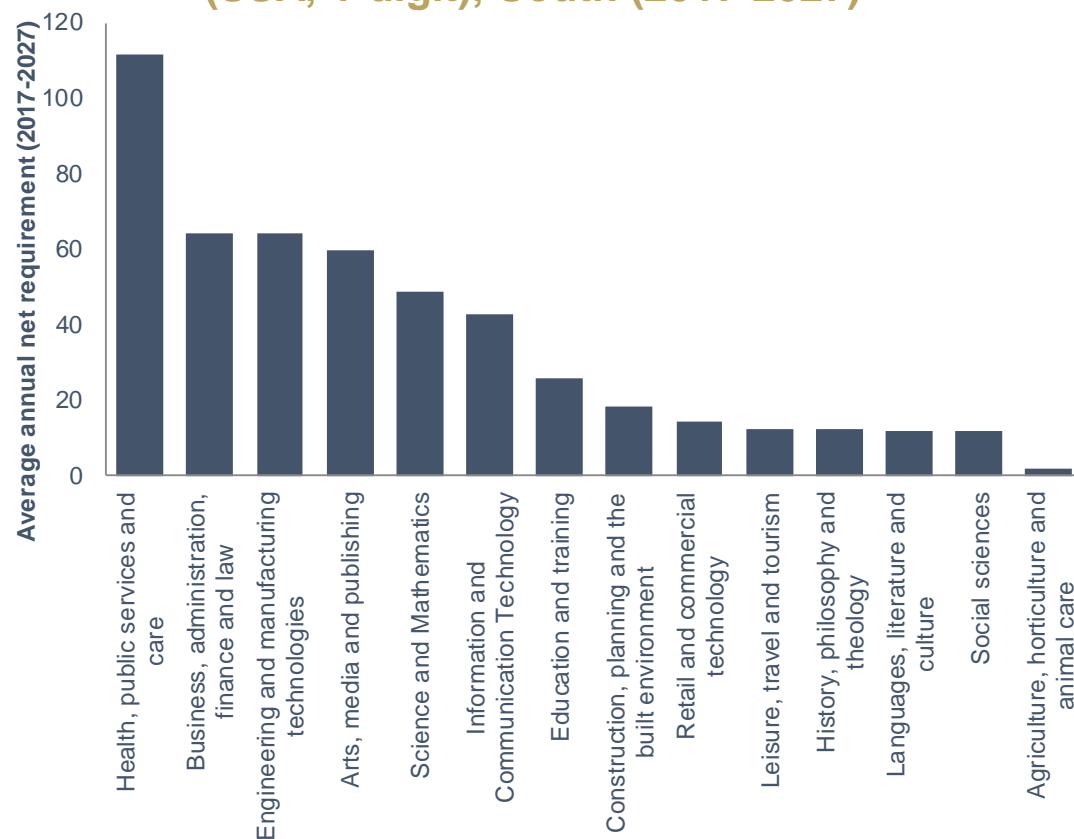
Source: UUEPC

At a sub-degree level the largest proportion of the net requirement is in health, public service and care professionals (22%) followed by business, administration, finance and law (13%) and engineering and manufacturing technologies (13%).

Summary of demand side subjects

Interpreting subject demand - Subject outputs from the model should be interpreted as a rough guide as at a sub-regional level many factors can have a significant influence on net requirement e.g. a new large employer, the closure of a large employer or move of a large employer elsewhere.

South's subject demand is dominated by health, business and ICT related subjects. The demand is driven by a large health and social work sector which requires a significant volume of replacement demand, and strong expansion demand in the professional services and ICT sectors.

Net requirement by NQF level 6+ subjects - The subject which accounts for the largest proportion of NQF level 6+ demand is medical related subjects (18%). This is followed by business and financial studies (12%) and math's and computer science (10%).

Granular level analysis can provide detailed insight. For example, nursing accounts for the largest proportion of NQF level 6+ net requirement. The next largest subjects in demand at a detailed level are computer science and business studies.

Net requirement by NQF level 4-5 subjects - The largest subject in demand at a sub-degree level is health, public services and care (22% of NQF level 4-5 net requirement). This reflects growth the high level of replacement demand based on the scale of the health sector within South.

The next largest sub-degree subjects in demand are business, administration, finance and law (13% of NQF level 4-5 net requirement) and engineering and manufacturing technologies (13%).

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Supply side – School leavers achievement

Educational attainment at A-level in South is below the NI average

GCSE and A-level attainment of school leavers, LGDs (2015/16)

Proportion (%) of school leavers achieving 5+ GCSEs A*-C including English and maths, LGDs (2015/16)

Belfast
Mid Ulster
Antrim and Newtownabbey
Armagh City, Banbridge and Craigavon
Northern Ireland
South
Causeway Coast and Glens
Derry City and Strabane
Mid and East Antrim
Newry, Mourne and Down
Fermanagh and Omagh
Ards and North Down
Lisburn and Castlereagh

40% 50% 60% 70% 80%
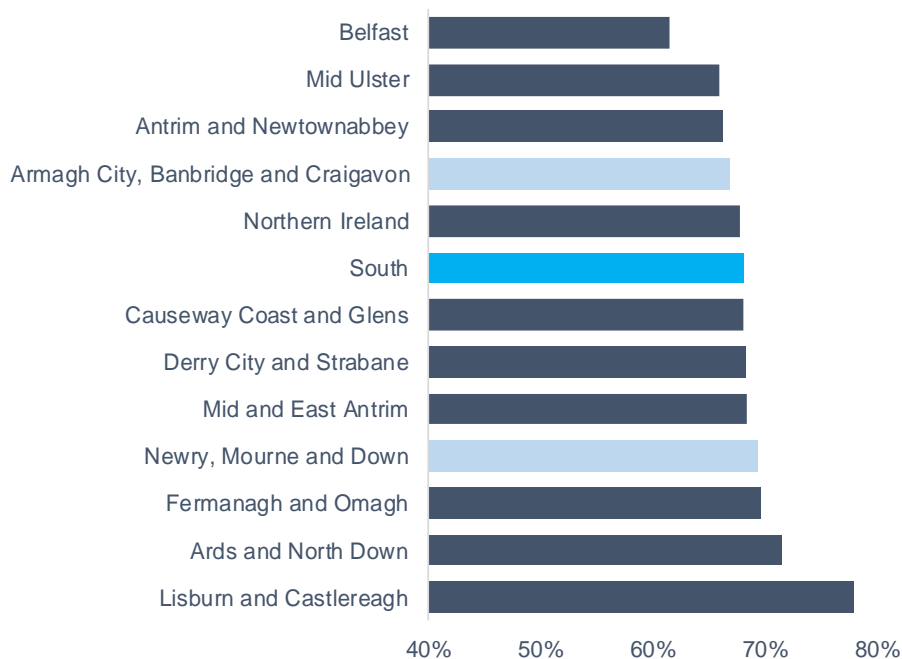
% school leavers

Source: NI school leavers survey

Proportion (%) of school leavers achieving 2+ A-levels A*-E, LGDs (2015/16)

Armagh City, Banbridge and Craigavon
Causeway Coast and Glens
South
Antrim and Newtownabbey
Mid and East Antrim
Northern Ireland
Mid Ulster
Belfast
Ards and North Down
Newry, Mourne and Down
Derry City and Strabane
Fermanagh and Omagh
Lisburn and Castlereagh

40% 50% 60% 70%
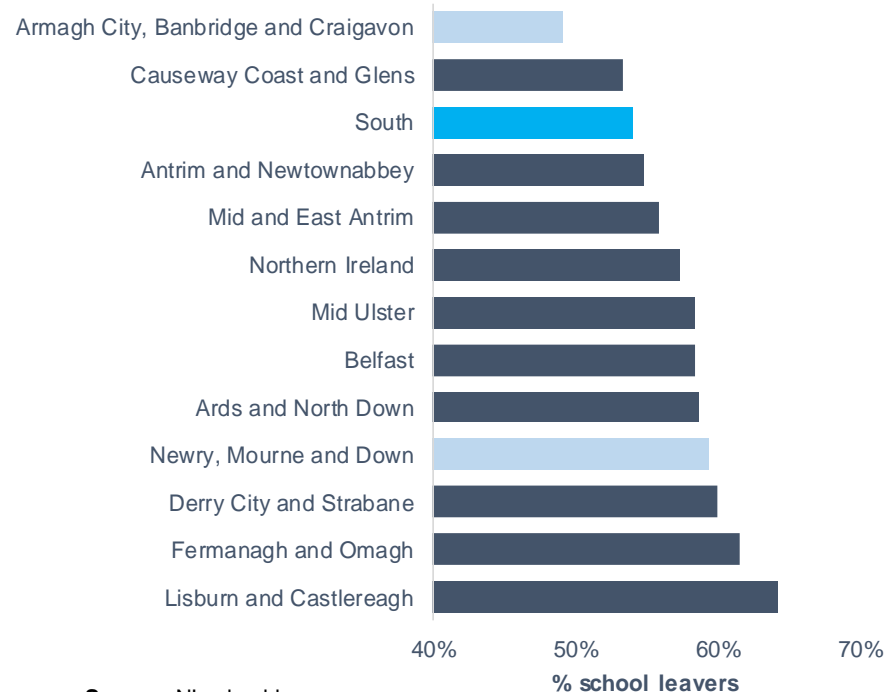
% school leavers

Source: NI school leavers survey

Although the proportion of South is similar to the NI average with regard to education attainment at GCSE there is a significant difference in the A-level performance. This is driven by relatively lower proportions of school leavers in Armagh City, Banbridge and Craigavon achieving 2+ A-levels A*-E (49%) – lowest across all LGD's.

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Improvement in GCSE performance over time in South is below the NI average improvement

Skill structure of school leavers (2015/16) and change in performance (2007/08-2015/16)

Percentage point difference in qualifications of school leavers, South versus NI (2015/16)

Not achieving 5+ GCSEs A*-C

Achieving 5+ GCSEs A*-C

5+ GCSEs A*-C inc. English and maths

Lower concentration in South

Higher concentration in South

2+ A-levels A*-E

-5.0% -3.0% -1.0% 1.0% 3.0% 5.0%
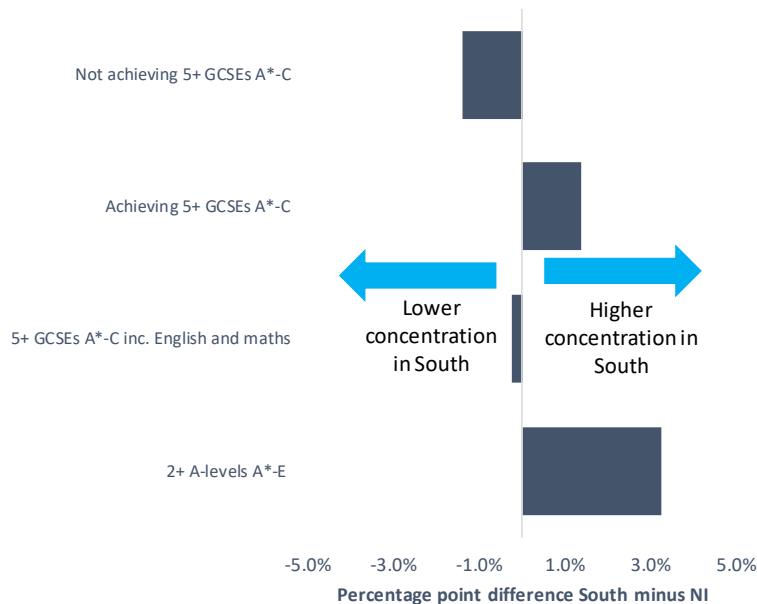
Percentage point difference South minus NI

Percentage point difference in school leavers achieving 5+ GCSEs A*-C including English and maths, LGDs (2007/08-2015/16)
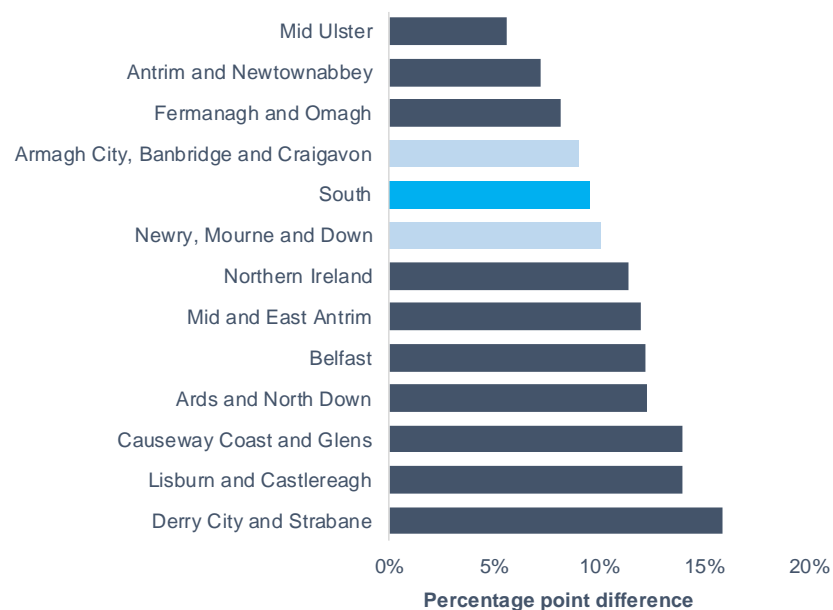
Mid Ulster
Antrim and Newtownabbey
Fermanagh and Omagh
Armagh City, Banbridge and Craigavon
South
Newry, Mourne and Down
Northern Ireland
Mid and East Antrim
Belfast
Ards and North Down
Causeway Coast and Glens
Lisburn and Castlereagh
Derry City and Strabane

0% 5% 10% 15% 20%

Percentage point difference

The rate of school leavers achieving 5+ GCSEs A*-C including English and maths in South has improved by 10 percentage points over the 8 year period 2007/08-2015/16.

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Are there lessons to be learned from schools in improving areas?

Percentage point difference in proportion (%) of school leavers achieving 2+ A-levels A*-E, South (2007-2010 versus 2013-2016)

Percentage point difference
In those achieving at least 2 A-levels, A*-E

- Above 10 p.p
- Above 5 p.p but below 10 p.p
- Above 0 p.p but below 5 p.p
- Below 0 p.p
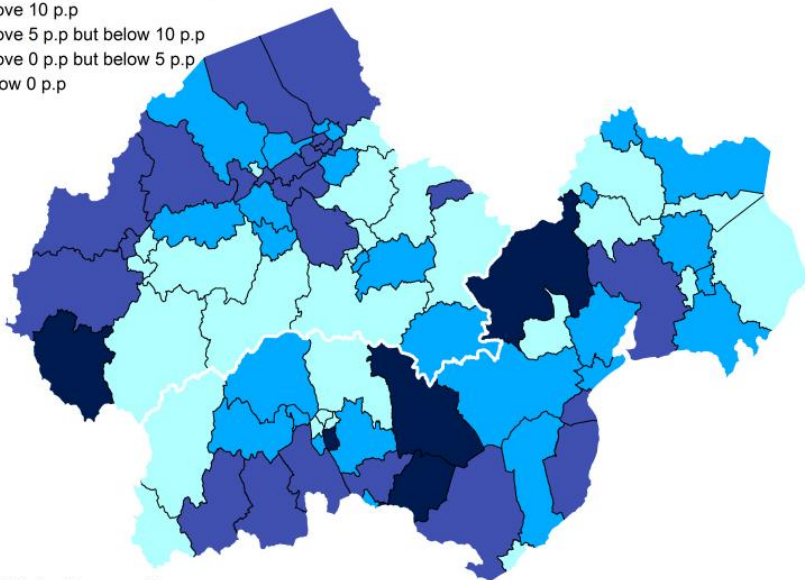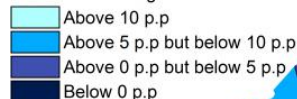
Source: NI School Leavers Survey

	Most Improved Wards in South		
	Ward	**LGD**	**p.p. change**
1	Drumaness	Newry, Mourne and Down	20%
2	The Mall	Armagh City, Banbridge and Craigavon	19%
3	Strangford	Newry, Mourne and Down	18%
4	Ballybot	Newry, Mourne and Down	18%
5	Crossgar and Killyleagh	Newry, Mourne and Down	17%
6	Damolly	Newry, Mourne and Down	16%
7	Cathedral	Newry, Mourne and Down	16%
8	Markethill	Armagh City, Banbridge and Craigavon	16%
9	Loughbrickland	Armagh City, Banbridge and Craigavon	15%
10	Banbridge North	Armagh City, Banbridge and Craigavon	14%
11	Donaghcloney	Armagh City, Banbridge and Craigavon	14%
12	Magheralin	Armagh City, Banbridge and Craigavon	13%
13	St. Patrick's	Newry, Mourne and Down	13%
14	Corcrain	Armagh City, Banbridge and Craigavon	13%
15	Kilmore	Newry, Mourne and Down	12%
16	Mayobridge	Newry, Mourne and Down	12%
17	Banbridge West	Armagh City, Banbridge and Craigavon	12%
18	Newtownhamilton	Newry, Mourne and Down	11%
19	Gransha	Armagh City, Banbridge and Craigavon	11%
20	Kilkeel	Newry, Mourne and Down	11%

To improve school achievement it is important to look at good practice in order to understand what works in which contexts. Analysis of A-level school leaver achievements in South at a granular level highlights a 20 percentage point improvement in Drumaness and a 19 percentage point improvement in The Mall over the period 2007/08-2015/16. These are the 13th and 20th strongest improvements across all 462 wards.

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12% of NQF level 2 school leavers not achieving a pass grade in core subjects English and maths

School leavers achieving any 5 GCSEs A*-C and those that include English and maths, LGDs (2015/16)

Proportion (%) of school leavers achieving 5+ GCSEs and those including and excluding English and maths, LGDs (2015/16)

Legend:
- ■ p.p. difference in achieving any 5+ GCSEs A*-C and those including English and maths
- ■ Achieving 5+ GCSEs A*-C and those including English and maths

Bar chart values (% of total school leavers):
- Lisburn and Castlereagh: 78% / 9%
- Mid Ulster: 66% / 19%
- Causeway Coast and Glens: 68% / 16%
- Newry, Mourne and Down: 69% / 13%
- Ards and North Down: 71% / 11%
- Northern Ireland: 68% / 14%
- Derry City and Strabane: 68% / 13%
- Mid and East Antrim: 68% / 13%
- Fermanagh and Omagh: 70% / 12%
- South: 68% / 12%
- Antrim and Newtownabbey: 66% / 13%
- Belfast: 62% / 17%
- Armagh City, Banbridge and Craigavon: 67% / 11%

Source: NI school leavers survey

P.p. difference in rate of school leavers achieving 5+ GCSEs A*-C, including English and maths versus not including English and maths, LGDs 2015/16

Horizontal bar chart (Percentage point difference, 0%–25%):
- Lisburn and Castlereagh
- Ards and North Down
- Armagh City, Banbridge and Craigavon
- Fermanagh and Omagh
- South
- Mid and East Antrim
- Antrim and Newtownabbey
- Derry City and Strabane
- Newry, Mourne and Down
- Northern Ireland
- Causeway Coast and Glens
- Belfast
- Mid Ulster
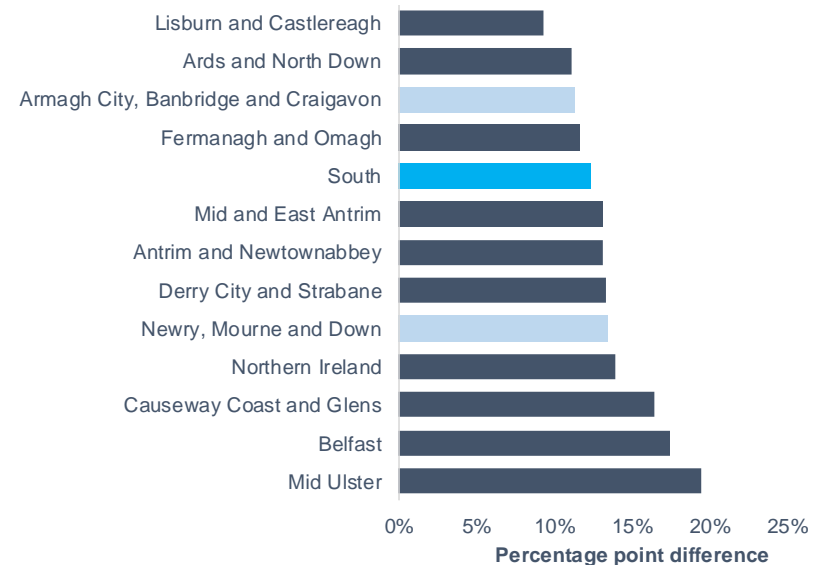
Source: NI school leavers survey

At least a pass grade in English and maths at GCSE is often a prerequisite for jobs and a precondition for education and training courses. A high difference between the proportion of school leavers achieving this and those not represents potential barriers to labour force participation. In South of the 4,100 school leavers that qualified with at least 5+ GCSE's A*-C 1,600 did not achieve a pass grade in English and maths.

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# Females consistently outperform male post-primary educational attainment across South

School leavers achieving 5+ GCSEs A*-C including English and maths, male versus female, South (2015/16)

Proportion (%) of school leavers achieving 5+ GCSEs A*-C including English and maths, male versus female, South (2007/08-2015/16)
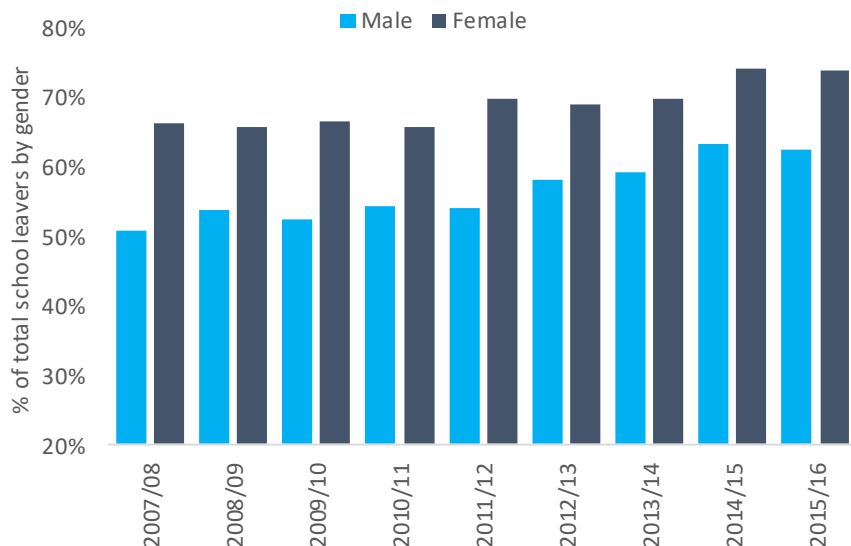
Source: NI school leavers survey

Percentage point difference in school leavers qualification level, male versus female, South (2015/16)
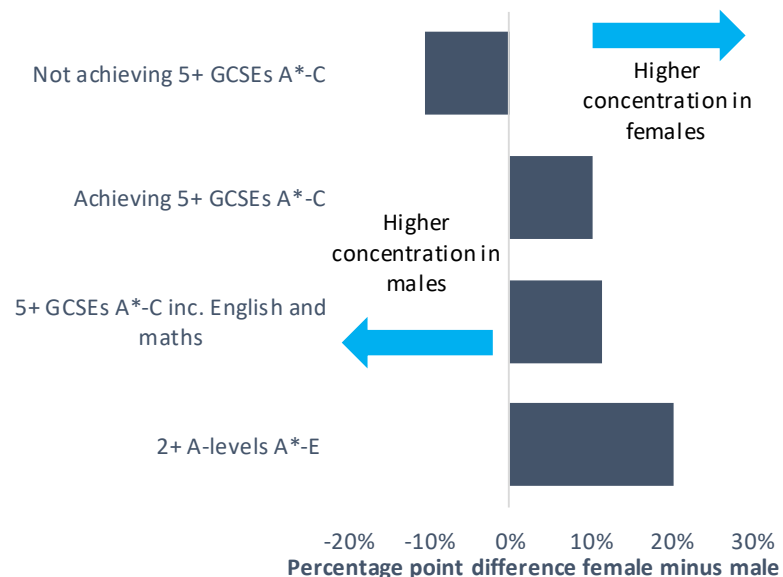
Source: NI school leavers survey

Gender analysis highlights female school leavers in South outperform male school leavers across both GCSE and A-level attainment. For example, the difference in the rate of female and male school leavers achieving 2+ A-levels A*-E is 20 percentage points. This compares to a difference of 17 percentage points in males and females across NI as a whole.

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FSME achievement is improving, but the gap is narrowing slowly

School leavers achieving 5+ GCSEs A*-C including English and maths, FSME versus non-FSME, South (2015/16)

Proportion (%) of school leavers achieving 5+ GCSEs A*-C including English and maths, FSME versus non-FSME, South (2007/08-2015/16)
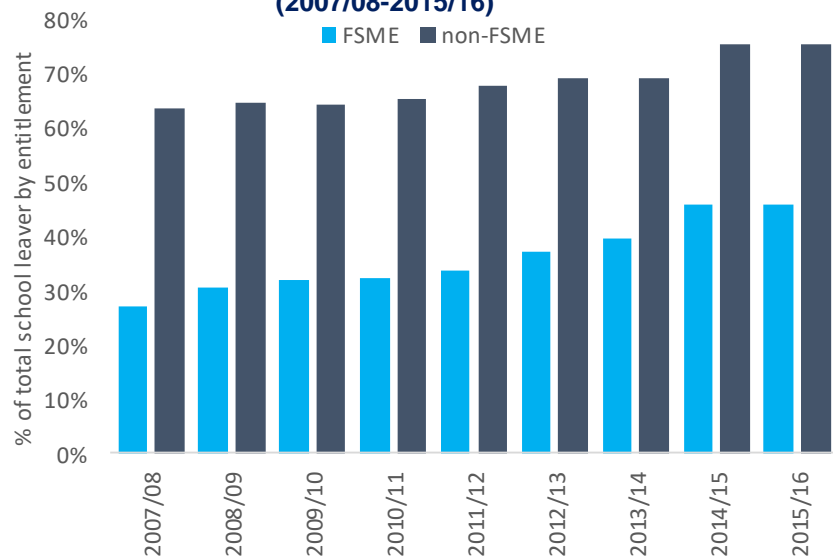
Source: NI school leavers survey

Percentage point difference in school leavers qualification level, FSME vs non-FSME, South (2015/16)
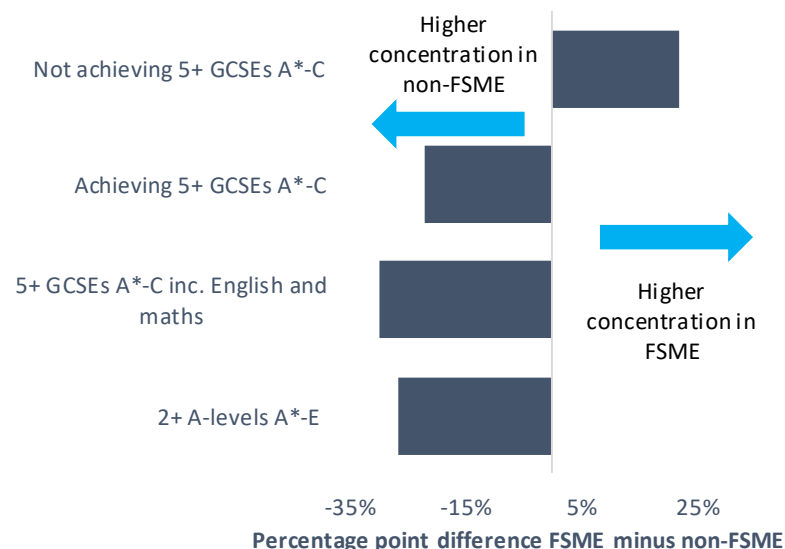
Source: NI school leavers survey

School leaver qualification profile (NQF) by gender and FSME, South (2015/16)

Qualification level	Male			Female		
	FSME	non-FSME	Percentage point difference	FSME	non-FSME	Percentage point difference
2+ A-levels A*-E	23%	51%	-28%	46%	71%	-25%
5+ GCSEs A*-C inc. English and maths	39%	71%	-32%	53%	81%	-27%
Any 5+ GCSEs A*-C	56%	82%	-26%	73%	90%	-17%
Not achieving 5+ GCSEs A*-C	44%	18%	26%	27%	10%	17%

Source: NI school leavers survey

Note: Percentage point difference refers to FSME minus non-FSME

Areas within South where a high rate of school leavers do not achieve the minimum standard required by employers

Proportion (%) of school leavers not achieving 5 GCSEs (A*-C) including English and maths, South wards (2013/14 – 2015/16)

% of school leavers
Not achieving 5 GCSEs
(including English & maths), A*-C

- Above 40%
- Above 30% but below 40%
- Above 20% but below 30%
- Below 20%
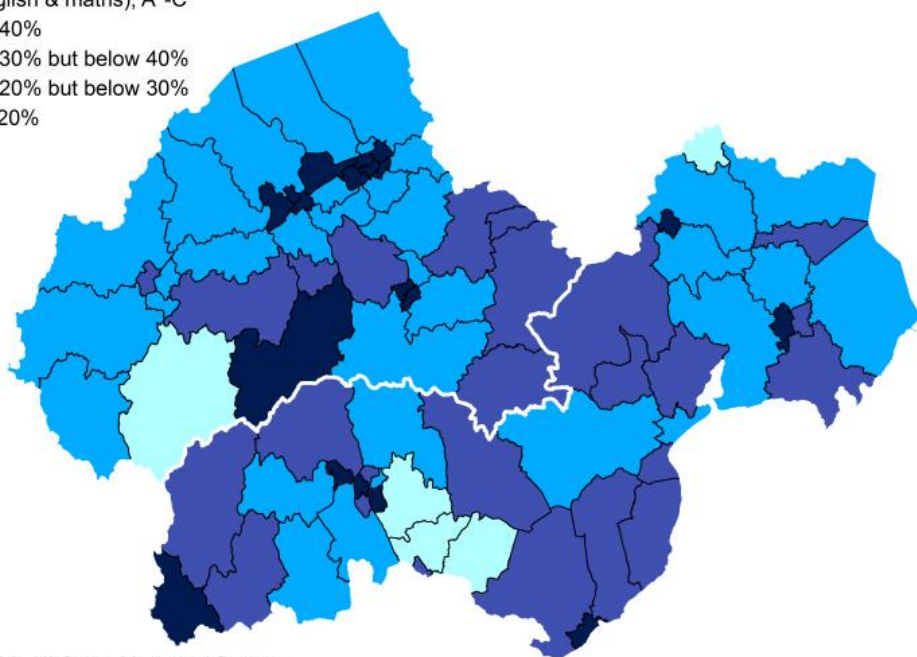
Source: NISRA, NI School Leavers Survey

Lowest achievers in South

	Ward	LGD	%
1	Ballybay	Armagh City, Banbridge and Craigavon	63%
2	Brownlow	Armagh City, Banbridge and Craigavon	57%
3	Mourneview	Armagh City, Banbridge and Craigavon	57%
4	Ballybot	Newry, Mourne and Down	53%
5	Shankill	Armagh City, Banbridge and Craigavon	52%
6	Ballynahinch	Newry, Mourne and Down	49%
7	Bessbrook	Newry, Mourne and Down	47%
8	Kilkeel	Newry, Mourne and Down	46%
9	Crossmaglen	Newry, Mourne and Down	45%
10	Cathedral	Newry, Mourne and Down	45%

Highest achievers in South

	Ward	LGD	%
1	Derryleckagh	Newry, Mourne and Down	14%
2	Seagahan	Armagh City, Banbridge and Craigavon	17%
3	Saintfield	Newry, Mourne and Down	18%
4	Burren	Newry, Mourne and Down	19%
5	Rostrevor	Newry, Mourne and Down	19%
6	Drumaness	Newry, Mourne and Down	22%
7	Waringstown	Armagh City, Banbridge and Craigavon	22%
8	Magheralin	Armagh City, Banbridge and Craigavon	23%
9	Derryboy	Newry, Mourne and Down	23%
10	Keady	Armagh City, Banbridge and Craigavon	24%

In South, the ward with the poorest school attainment is Ballybay (Armagh City Banbridge and Craigavon) where 63% of school leavers fail to achieve 5+ GCSEs A*-C including English and maths. This is ranked 450th out of 462 wards in NI. On the other hand in Derryleckagh (Newry, Mourne and Down) only 14% of school leavers fail to achieve 5+ GCSEs A*-C including English and maths, which is ranked 18th out of 462 wards. This highlights the range of attainment across the region.

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South accounts for a relatively lower proportion of low achieving areas

School leavers not achieving 5 GCSEs A*-C including English and maths, Wards (2015/16)

	% of total wards	% of wards in lowest performing quartile	% of wards in lowest performing decile
Antrim and Newtownabbey	9%	12%	15%
Armagh City, Banbridge and Craigavon	9%	8%	9%
Belfast	13%	24%	39%
Causeway Coast and Glens	9%	7%	7%
Derry City and Strabane	9%	12%	4%
Fermanagh and Omagh	9%	3%	0%
Lisburn and Castlereagh	9%	4%	4%
Mid and East Antrim	9%	7%	11%
Mid Ulster	9%	9%	2%
Newry, Mourne and Down	9%	6%	2%
Ards and North Down	9%	8%	7%
Northern Ireland	100%	100%	100%
South	18%	14%	11%

Source: NI school leavers survey

An analysis of school performance using small geographical areas highlights if an area has a proportionate or disproportionate share of pupils underachieving.

South accounts for 18% of total wards and only 14% of those in the lowest performing quartile in relation to school leavers achieving 5+ GCSE's A*-C including English and maths.

This is influenced by Newry, Mourne and Down accounting for 9% of total NI wards but 6% of wards within the lowest performing quartile, and 2% in the lowest decile.

Potentially 18k pupils to leave school by 2027 without achieving 5 GCSE's A*-C inc. English and maths

School leavers achieving 5+ GCSEs A*-C including English and maths and those not, South (2007/08-2027/28)

Legend:
- Not achieving 5+ A*-C including English and maths
- Achieving 5+ A*-C GCSEs including English and maths

Y-axis: Total school leavers (0 to 6,000)

X-axis categories: 2007/08, 2008/09, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17, 2017/18, 2018/19, 2019/20, 2020/21, 2021/22, 2022/23, 2023/24, 2024/25, 2025/26, 2026/27, 2027/28
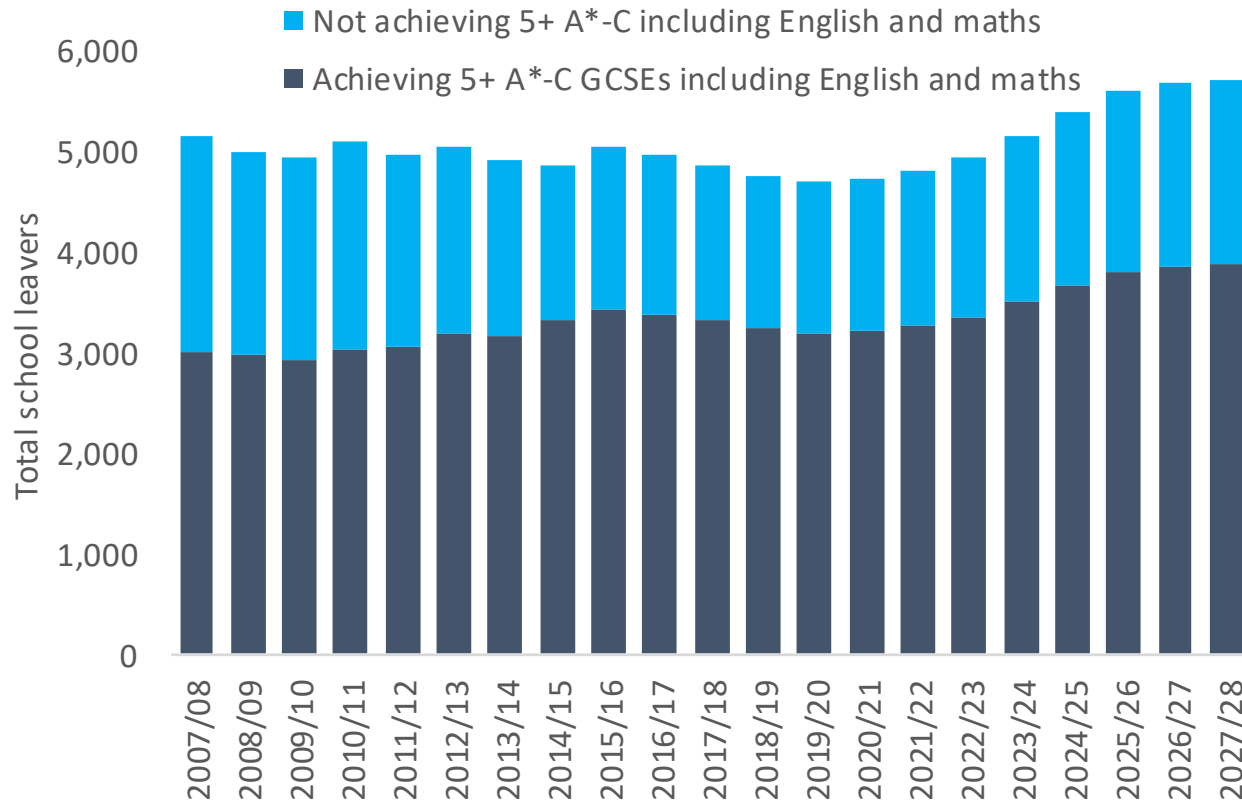
Source: UUEPC, NI school leavers survey
Note: The fall in qualifiers in 2019 is caused by a fall in the population of 21 year olds in the NISRA population projections

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Summary of school leavers attainment

2+ A-levels A*-E - The proportion of South's school leavers achieving 2+ A-levels A*-E is below the NI average, 54% and 57% respectively.

It is important to note the performance of the two LGDs which constitute South ranges from 59% of school leavers in Newry, Mourne and Down achieving 2+ A-levels A*-E to 49% of Armagh City, Banbridge and Craigavon.

5+ GCSEs A*-C - The rate of school leavers in South achieving 5+ GCSEs A*-C including English and maths performs in line with the NI average, 68% in both.

The rate has improved by 10 percentage points over the period 2007/08 - 2015/16 which is marginally below the NI average, indicating there is scope for further improvement.

GCSE's and employability - The difference between the proportion of school leavers achieving 5+ GCSEs A*-C including English and maths and those not including English and maths is important from an employability context. At least a pass grade in the two subjects is often a prerequisite for many jobs in the labour market, as well as a pre-condition for entry to many education and training courses. A high difference between the two achievements in the area could indicate a barrier to labour force participation.

In South of the 4,100 school leavers that qualified with at least 5+ GCSE's A*-C 1,600 did not achieve a pass grade in English and maths.

Summary of school leavers attainment (continued)

Male versus female - There are also gender differences in the attainment of school leavers wherein females out perform males. For example, a higher proportion of females achieved 2+ A-levels A*-E, 5+ GCSEs A*-C including English and maths and any 5+ GCSEs A*-C, relative to males. Whereas males are more likely to not achieve 5+ GCSEs A*-C.

FSME - Broadly speaking pupils receiving FSME have a significantly lower level of school attainment relative to their peers not in receipt of FSME. For example, 46% of FSME school leavers achieve 5+ GCSEs A*-C including English and maths compared to 76% of those who are not in receipt of FSME.

Whilst the attainment of pupils receiving FSME has improved over time, so too has those not in receipt of FSME meaning the gap has remained largely unchanged. This suggests a lower rate of enrolment in tertiary level education courses is likely amongst children who are socioeconomically deprived, relative to their more affluent peers.

Future attainment - Assuming current school participation and performance rates it is estimated that 18,000 children resident in South over the period 2017-2027 will leave the school system without achieving the minimum standard education expected by most employers i.e. 5+ GCSEs A*-C including English and maths.

A high proportion of low achievers puts pressure on other parts of the education system. For example, high enrolment in low NQF level courses at FE which are publically funded, as well as participation in Government training courses Essential Skills and Training for Success (TfS).

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Supply side – Destination of school leavers

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HE is the most common destination for South school leavers, followed closely by FE

Destination of school leavers, South versus NI (2015/16)

Destination of school leavers, South (2015/16)

- Higher education, 41%
- Further education, 38%
- Employment, 7%
- Training, 10%
- Unemployed/Unknown, 4%
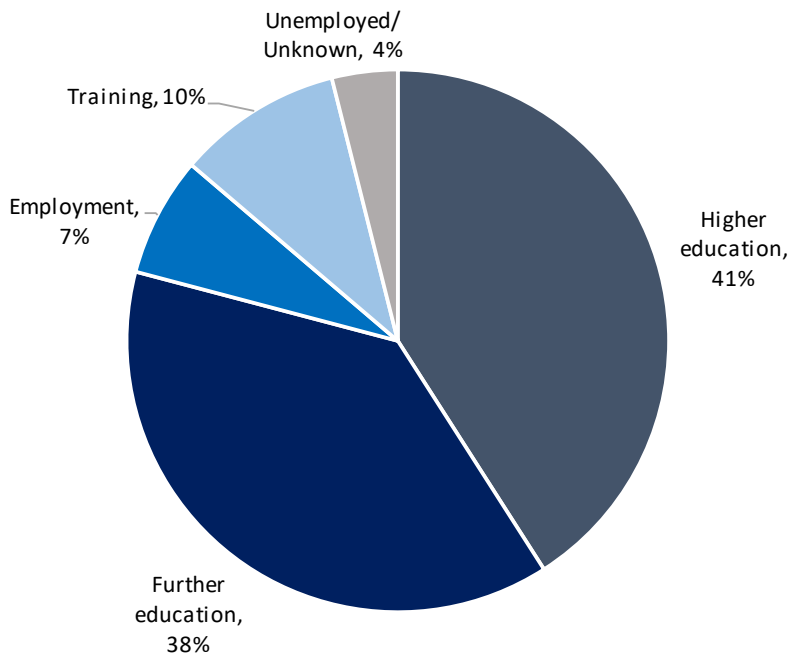
Source: NI school leavers survey

Percentage point difference in destination of school leavers, South versus NI (2015/16)

Higher concentration in South ← → Higher concentration in NI

Categories: Unemployed/Unknown, Training, Employment, Further education, Higher education

Axis: -5.0%, -3.0%, -1.0%, 1.0%, 3.0%

Percentage point difference NI minus South
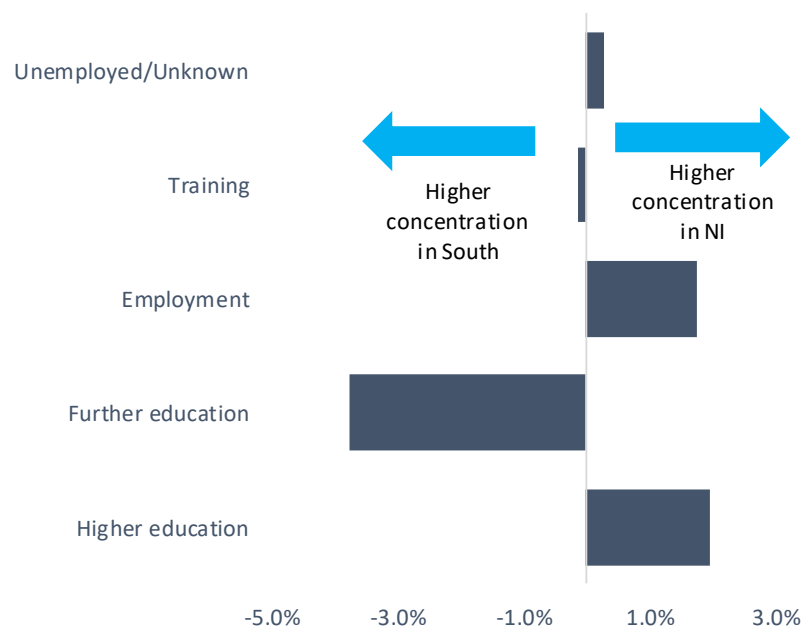
Source: NI school leavers survey

Amongst South's school leavers higher proportions enter Further Education (FE), lower proportions enter Higher Education (HE) and employment, relative to the NI average.

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HE and FE account for almost four fifths of school leavers destinations in South

Destination of school leavers, LGDs (2015/16)

■ Higher education ■ Further education ■ Employment
■ Training ■ Unemployed/Unknown
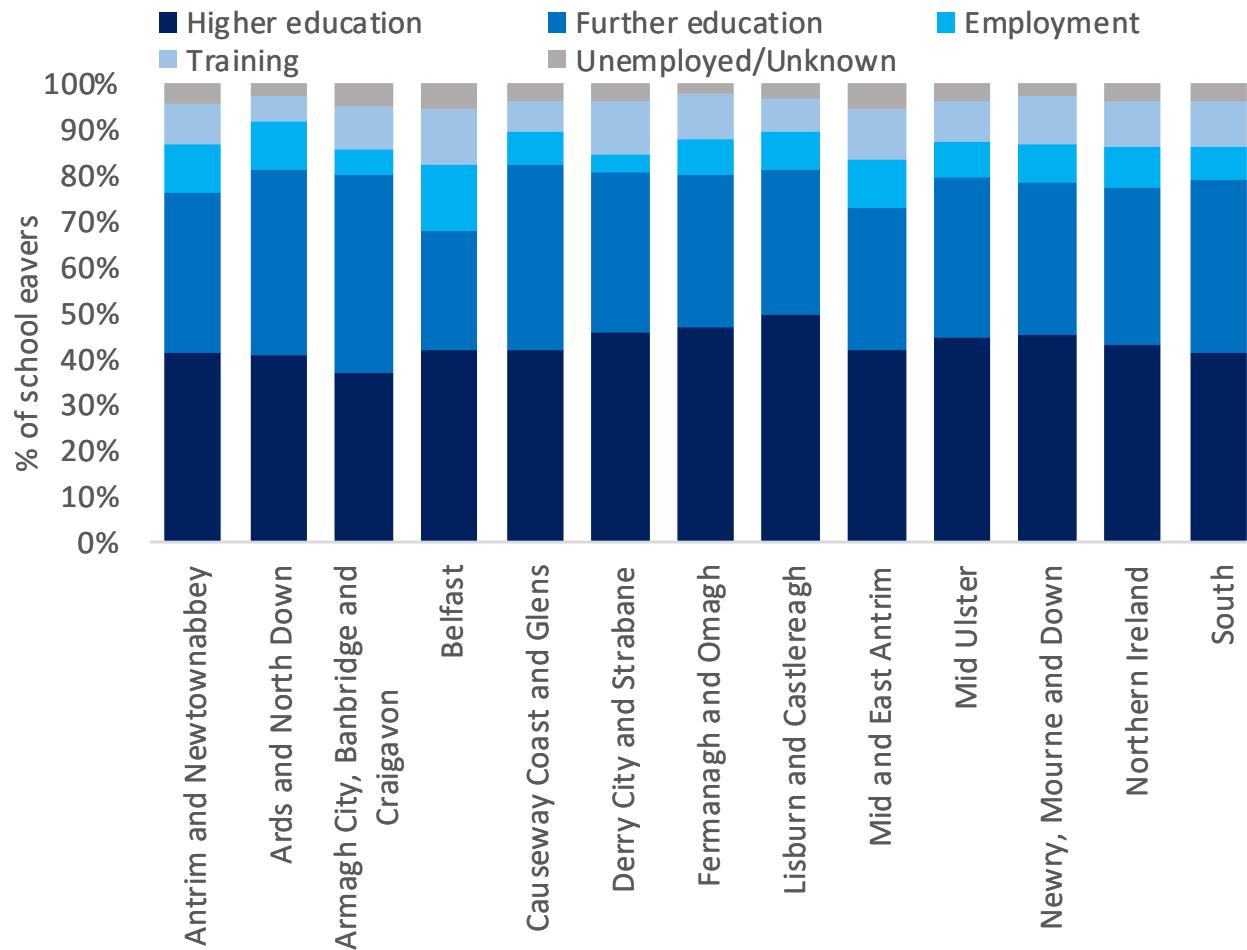
Source: NI school leavers survey

Summary of destination of school leavers

Higher Education - The most common destination of school leavers is HE, accounting for 41% of total South school leavers, marginally below the NI average of 43%.

The rate proceeding to HE varies across the LGD's which constitute South. For example, 45% of the school leavers in Newry, Mourne and Down proceed to HE compared to only 37% of school leavers in Armagh City, Banbridge and Craigavon. This is influenced by A-level school attainment level across LGDs. That is, in Newry, Mourne and Down 59% of school leavers achieve 2+ A-levels A*-E, compared to 49% in Armagh City, Banbridge and Craigavon – the lowest performing across all LGD's.

Further Education - The second most common destination of school leavers is FE, accounting for 38% of South school leavers, compared to 34% in NI. However, this varies across the LGDs which comprise South. FE is the most popular destination of school leavers in Armagh City, Banbridge and Craigavon (43%) but the second most common destination in Newry, Mourne and Down (33%), possibly linked to differing school attainment levels at A-level.

Employment - The proportion of school leavers moving into employment is slightly below the NI average, 7% and 9% respectively. This ranges from 9% in Newry, Moune and Down to 6% in Armagh, Banbridge and Craigavon.

Training/unemployed/unknown - A combination of training, unemployed and unknown accounts for 14% of South leavers, equal to the NI average.

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Supply side – Post secondary education

Relatively high proportion of STEM qualifiers, driven by rates in Armagh, Banbridge and Craigavon

Subject studied at Higher Education, South versus NI (2015/16)

Subject studied at Higher Education, South (2015/16)

Medicine, denistry & subjects allied to medicine, 21%

Biological, veterinary, agricultural & physical sciences, 12%

Maths, computing, engineering & technology, 12%

Social studies & law, 14%

Business, admin', mass comms & documentation, 15%

Other disciplines, 26%
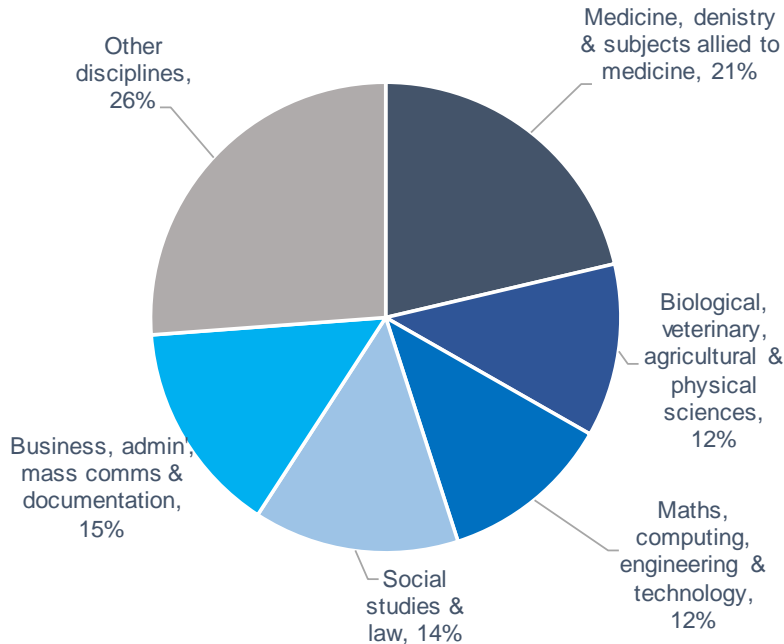
Source: NINIS

HE qualifiers from STEM related subjects, LGDs (2015)
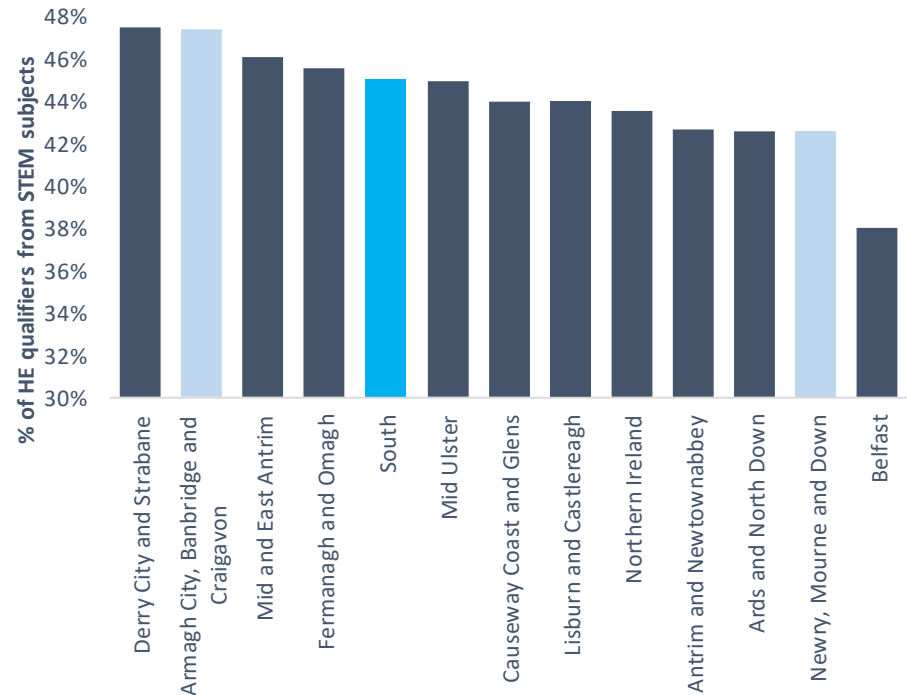
Source: NINIS

In South 45% of students qualify from a broad STEM related subject, marginally above the NI average (44%). The figure is driven by the rate in Armagh, Banbridge and Craigavon where 47% of HE leavers qualify from a broad STEM subjects, the second highest rate among NI LGDs.

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Despite relatively high STEM qualifiers overall, an undersupply exists in some key subject areas

Current versus future subject profile of NQF level 6+, South (2015, 2017-2027)*

	% distribution of qualifiers (2015)	% distribution of net requirement (2017 - 2027)	p.p. difference
Medicine, denistry, subjects allied to medicine	21%	22%	-1%
Biological, veterinary, agricultural & physical sciences	12%	12%	0%
Maths, computing, engineering and technology	12%	18%	-7%
Social studies & law	14%	10%	4%
Business, administration, mass communication and documentation	15%	15%	0%
All other disciplines	26%	23%	3%

Source: NINIS

Considering the current subject profile of graduates against forecast net requirement identifies some imbalances. For example, currently 12% of graduates qualify from maths, computing, engineering and technology subjects. However, the net requirement of NQF level 6+ qualifications from these subjects 18% of graduates.

*It should be noted, the subject groupings at LGD levels are too broad to draw any firm conclusions from.

Over the coming decade around 750 HE qualified South residents will work outside NI

Location of HE qualifiers 6 months after graduating, South (2010/11-2027/28)
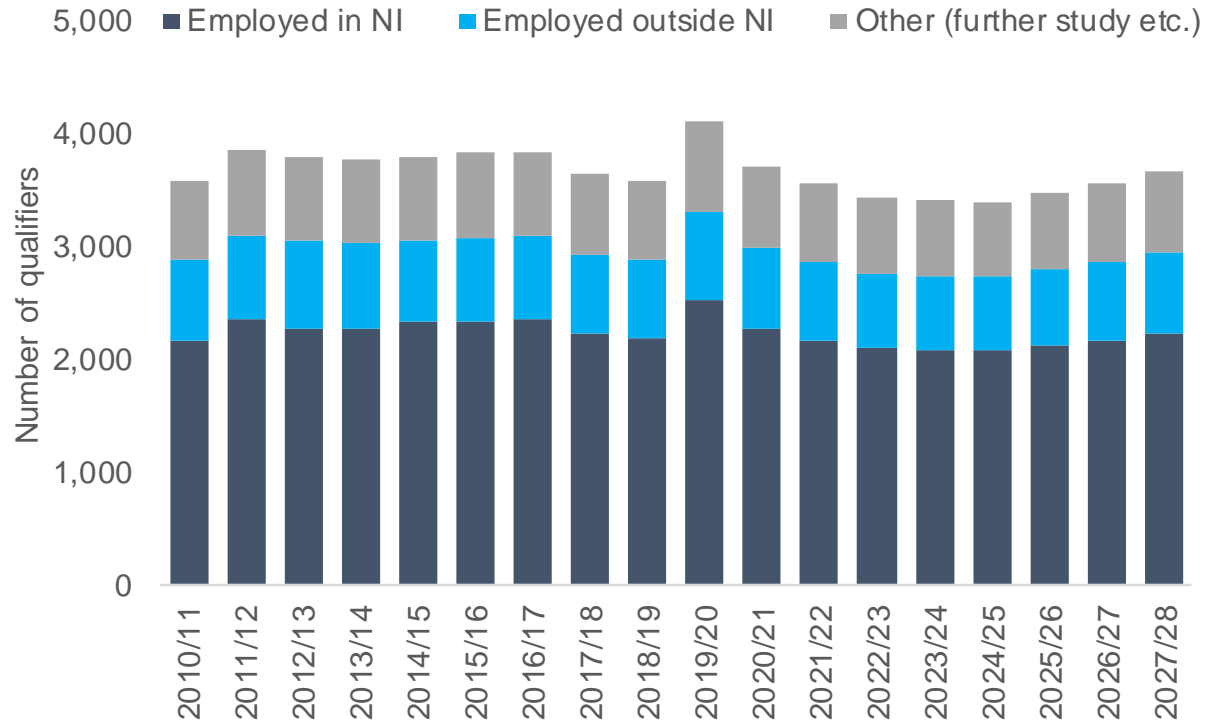
Source: DfE, NINIS

Approximately 65% of employed NI qualifiers who graduate from GB HE institutions have not returned home 6 months after graduating. Of employed NI domiciled qualifiers from NI HE institutions 11% are recorded outside NI 6 months after graduating. Assuming the same proportions apply to South residents, this would imply a brain drain of 760 highly skilled South residents in 2015.

South has a high concentration of FE leavers at NQF level 2 and below

Qualification (NQF) profile of FE leavers, South versus NI (2016/17)

Further Education leavers (%) achieving NQF level 2 or below, LGDs (2016/17)

LGD	
Derry City and Strabane	
Causeway Coast and Glens	
Fermanagh and Omagh	
Ards and North Down	
Lisburn and Castlereagh	
Mid Ulster	
Antrim and Newtownabbey	
Northern Ireland	
Mid and East Antrim	
Newry, Mourne and Down	
South	
Armagh City, Banbridge and Craigavon	
Belfast	

0% 10% 20% 30% 40% 50% 60% 70%

% of total FE leavers
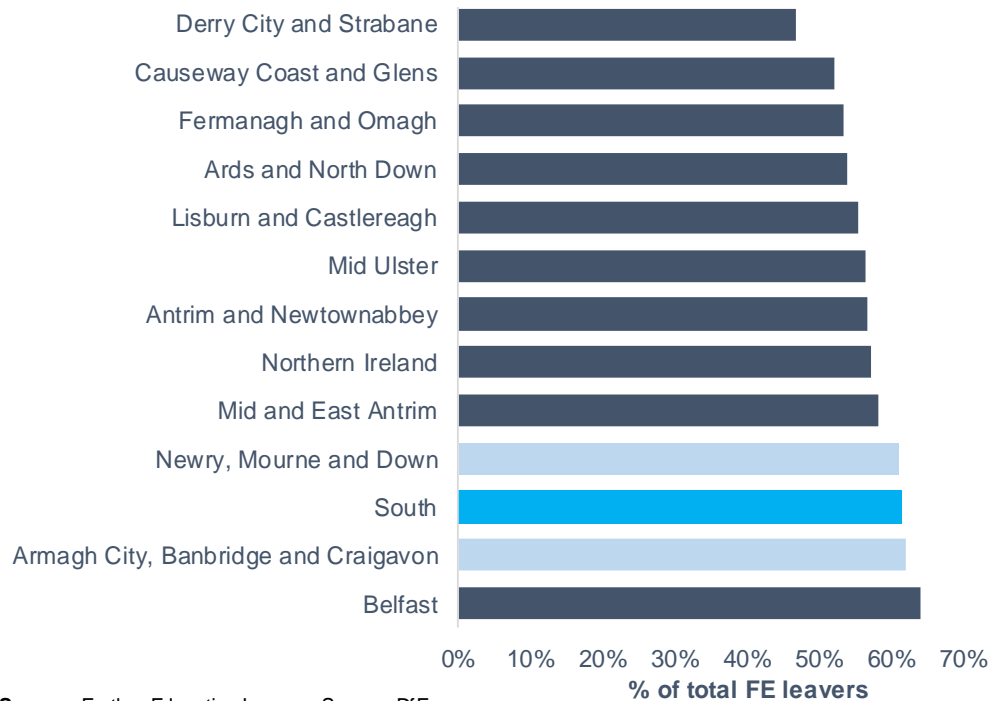
Percentage point difference in FE leavers achieving qualification level, South versus NI, LGDs (2016/17)

NQF level 6+

Higher concentration in NI ← | → Higher concentration in South

NQF level 4-5

NQF level 3

NQF level 2

NQF level 1 and below

-6% -5% -3% -2% 0% 2% 3% 5% 6% 8% 9%

Percentage point difference South minus NI

Source: Further Education Leavers Survey, DfE
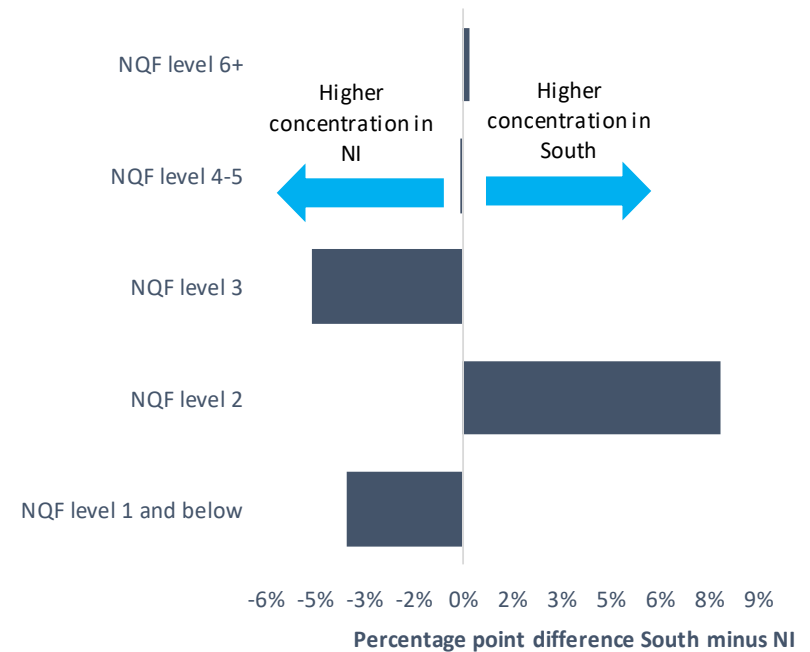
Source: Further Education Leavers Survey, DfE

The majority of FE qualifiers tend to qualify from low-level courses. In 2016/17 11,700 South residents qualified from FE, 62% of which from courses NQF level 2 and below the NI average. A further 28% qualify from NQF level 3 courses, 4 percentage points below the NI average of 32%.

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Over one third of FE qualifiers in South return to further study

Destination of FE qualifiers by qualification (NQF), South (2016/17)
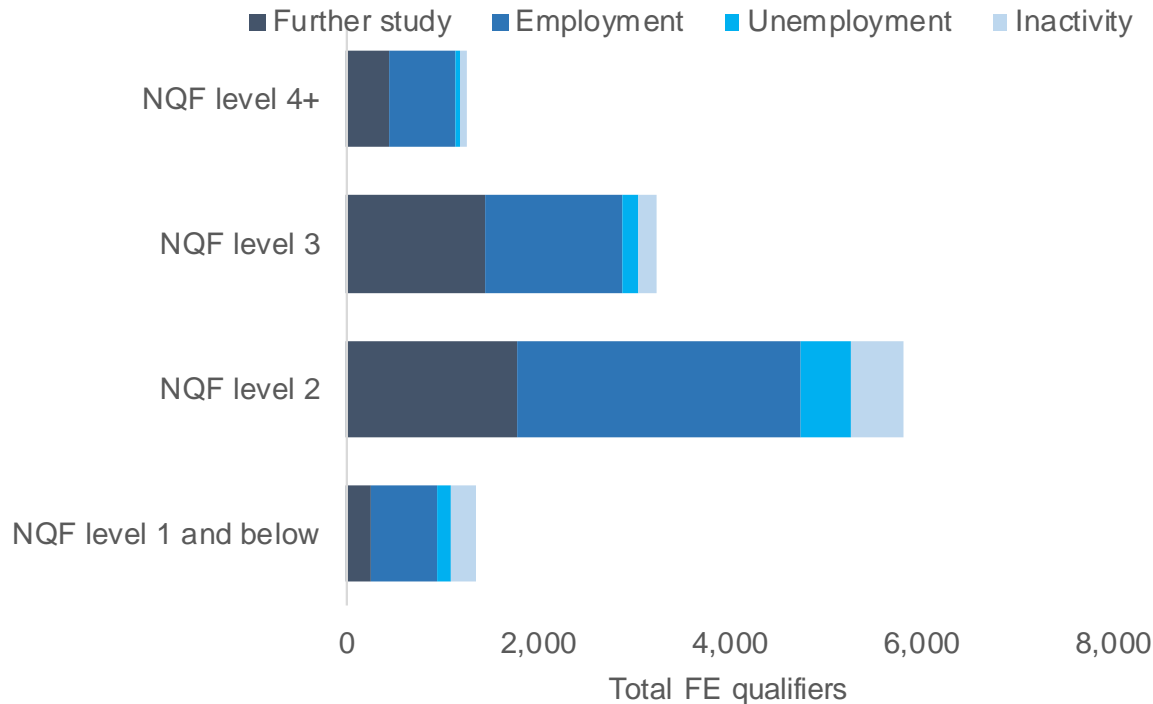
Source: DfE, NINIS

Although data at a sub-regional level for destinations of FE leavers is not available, it is possible to estimate by holding constant NI rates across LGDs. In South it is estimated that half (50%) of FE leavers will proceed to employment and over one third (34%) will continue to further study. The estimated destination of FE leavers however varies across the qualification profile.

Low achievement leads to high levels of participation in publically funded training schemes (1)

Training for Success participation (% of 16-17 population), LGDs (2016)
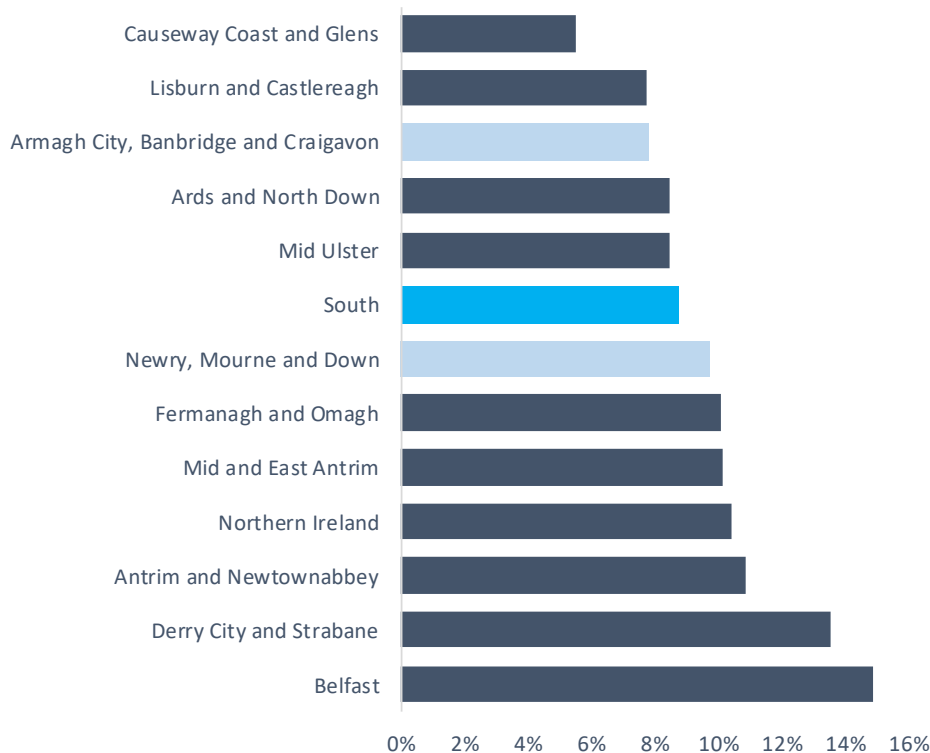
% of 16-17 year olds participating in Trainning for Success

Source: DfE, NINIS

TfS is a government training scheme which provides 16-17 year old low achievers with 104 weeks of training to gain a formal qualification.

Although NQF level 3 is possible to achieve on the training course, most participants are working towards either NQF level 1 or NQF level 2.

In 2016, 900 South residents participated in TfS training. The participation rate varies slightly across the LGDs which comprise South, from 10% in Newry, Mourne and Down to 8% in Armagh City, Banbridge and Craigavon.

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Low achievement leads to high levels of participation in publically funded training schemes (2)

Essential Skills enrolments (% of 15-24 population), LGDs (2016)

LGD	Number of enrolments	Essential skills
Northern Ireland	35,780	15%
South	6,540	14%
Belfast	6,180	12%
Derry City and Strabane	3,640	18%
Armagh City, Banbridge and Craigavon	3,550	14%
Mid Ulster	3,250	17%
Causeway Coast and Glens	3,050	16%
Newry, Mourne and Down	2,990	13%
Mid and East Antrim	2,780	17%
Antrim and Newtownabbey	2,590	15%
Ards and North Down	2,460	14%
Fermanagh and Omagh	2,390	17%
Lisburn and Castlereagh	2,180	13%

Source: DfE, NINIS

Essential Skills is a government training course designed to improve reading, writing, maths and/or ICT skills with the opportunity to gain accredited qualifications.

In 2016 6,540 South residents participated within Essential Skills courses, accounting for 14% of the 15-24 year olds.

Newry, Mourne and Down, hosts one of the lowest participation rates across NI at 13% of 15-24 year olds enrolled in Essential Skills courses.

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Low achievement leads to high levels of participation in publically funded training schemes (3)

Steps to Success participation (per 1000 16-64 population), LGDs (2016)

LGD	Total enrolments	Enrolments (per 1,000 16-64 population)
Derry City and Strabane	2,100	21.9
Belfast	2,830	21.4
Causeway Coast and Glens	1,050	11.7
Fermanagh and Omagh	660	9.1
Ards and North Down	860	8.9
Newry, Mourne and Down	960	8.7
South	1,980	8.2
Armagh City, Banbridge and Craigavon	1,020	7.7
Mid and East Antrim	660	7.6
Antrim and Newtownabbey	560	6.3
Mid Ulster	580	6.3
Lisburn and Castlereagh	530	5.9

Source: DfE, NINIS

Steps to Success (StS) is a government training course compulsory for those claiming unemployment benefit for over 6 months.

The training is designed to develop skills and experience required to gain and sustain employment.

In South 1,980 residents participated with StS, accounting for 8.2 in every 1,000 16-64 year olds.

The rate of enrolments varies slightly across the LGDs which comprise South ranging from 8.7 residents in every 1,000 16-64 year olds within Newry, Mourne and Down to 7.7 in Armagh City, Banbridge and Craigavon.

It should be noted that numbers are inextricably linked to employability of local residents and therefore the rate is higher in areas where unemployment is higher.

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Summary of post secondary leavers

Subject studied at HE - In South 45% of HE qualifiers have studied a STEM related subject, marginally above the NI average of 44%. This is driven by a relatively high rate in Armagh, Banbridge and Craigavon, where 47% of HE qualifiers are from STEM related subjects. This is an interesting finding as although relatively lower proportions of school leavers enter HE in Armagh, Banbridge and Craigavon those that do are more likely to study in demand subjects.

Current versus future subject profile - There are some imbalances between the current and projected subject mix required from NQF level 6+ qualifiers. For example, currently 12% of South HE leavers qualify in maths, computing, engineering or technology. This is 6 percentage points below the forecast requirement of 18% of NQF level 6+ qualifiers.

Destination of employed HE qualifiers - Assuming NI rates apply to South residents it is estimated 760 NI domiciled HE qualifiers per annum will be lost to working outside NI over the coming decade (2017-2027). This equates to a total loss of 7,670 HE qualifiers over the next decade.

Qualifications of FE leavers - In South FE leavers are more likely to qualify from lower level courses relative to the NI average. For example, FE leavers achieving NQF level 2 in South is higher than the NI average, 62% and 57% in respectively. South qualifiers are also less likely to qualify from NQF level 3 relative to the NI average, 28% and 32% respectively.

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Summary of post secondary leavers (continued)

Destination of FE leavers - Assuming NI rates apply to South residents it is estimated 50% of FE qualifiers proceed to employment and 34% to further study. However, the destination of FE leavers varies across qualification profiles. For example, over one fifth (21%) of NQF level 2 and below qualifiers are estimated to proceed to worklessness, whereas this figure drops to 11% for NQF level 3+ qualifiers. On the other hand 18% of NQF level 1 qualifiers are estimated to move into further study, this figure increases to 45% for NQF level 3 qualifiers.

TfS - In South 9% of 16-17 year olds participate within TfS government training scheme, this equates to 900 individuals. The rate of participation is marginally below the NI average however it varies from a low of 8% in Armagh City, Banbridge and Craigavon to 10% in Newry, Mourne and Down.

Essential skills - Currently 14% of 15-24 year olds within South are enrolled on an essential skills course, 2 percentage points above the NI average. This rate remains fairly constant across LGDs with 14% in Armagh City, Banbridge and Craigavon and 13% in Newry, Mourne and Down.

StS - This government training course accounts for 8.2 in every 1,000 individuals in South, a total of 1,980 individuals. The figure is ranges from 7.7 per every 1,000 individuals in Armagh City, Banbridge and Craigavon to 8.7 in every 1,000 in Newry, Mourne and Down.

Supply side – Causal factors

Over one in five children fail to achieve basic reading, writing and communication skills

Key Stage 2 assessment results, LGDs (2012)

	Communication in English			Using maths		
	Pupils achieving level 4 or above (%)	% of wards in lowest performing quartile	% of wards in lowest performing decile	Pupils achieving level 4 or above (%)	% of wards in lowest performing quartile	% of wards in lowest performing decile
Antrim and Newtownabbey	78%	10%	7%	79%	9%	9%
Armagh City, Banbridge and Craigavon	77%	9%	9%	79%	9%	6%
Belfast	72%	23%	33%	74%	19%	15%
Causeway Coast and Glens	77%	9%	9%	78%	10%	6%
Derry City and Strabane	79%	6%	2%	79%	9%	6%
Fermanagh and Omagh	79%	9%	7%	81%	8%	13%
Lisburn and Castlereagh	79%	9%	7%	80%	8%	17%
Mid and East Antrim	77%	9%	9%	78%	12%	6%
Mid Ulster	79%	4%	9%	81%	6%	4%
Newry, Mourne and Down	81%	3%	2%	81%	5%	11%
Ards and North Down	77%	10%	9%	78%	7%	4%
Northern Ireland	77%	100%	100%	79%	100%	100%
South	79%	12%	11%	80%	14%	4%

Source: Department of Education

Literature suggests that communication (reading, writing, talking and listening) is an important skill in the early stages of a child's education. According to research, families can arguably have a greater impact on children's development than the school system and that this influence contributes to gaps between children before they start school. In South 21% of pupils fail to achieve an adequate level in basic communication skills, which is below the NI average of 23%.

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The level of education of parents has a more significant impact than income levels

Skill profile of mothers of children aged 7, LGDs (2011)

Female parents (of seven year old children) with highest qualification below NQF level 2, LGDs (2011)

Categories (top to bottom):
- Lisburn and Castlereagh
- Ards and North Down
- Armagh, Banbridge and Craigavon
- South
- Newry, Mourne and Down
- Fermanagh and Omagh
- Antrim and Newtownabbey
- Mid and East Antrim
- Mid Ulster
- Northern Ireland
- Causeway Coast and Glens
- Derry and Strabane
- Belfast

X-axis: 0% to 40%, **% school leavers**
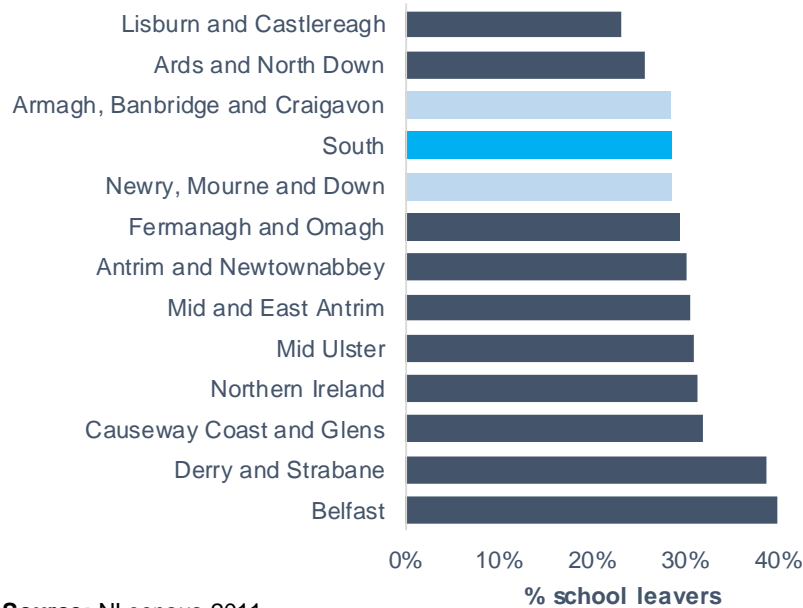
Source: NI census 2011

Note: Below NQF level 2 includes 'other qualifications not included in the NQF framework, in addition to apprenticeships that are not defined by NQF level

Comparison of skills profile between mothers in South vs NI average (2011)

Categories (top to bottom):
- Level 4 qualifications and above
- Level 3 qualifications
- Level 2 qualifications
- Level 1 qualifications
- Other qualifications
- No qualifications

Higher concentration in NI (→)
Higher concentration in South (←)

X-axis: -2%, -1%, 0%, 1%, 2%, 3%
Percentage point difference NI minus South
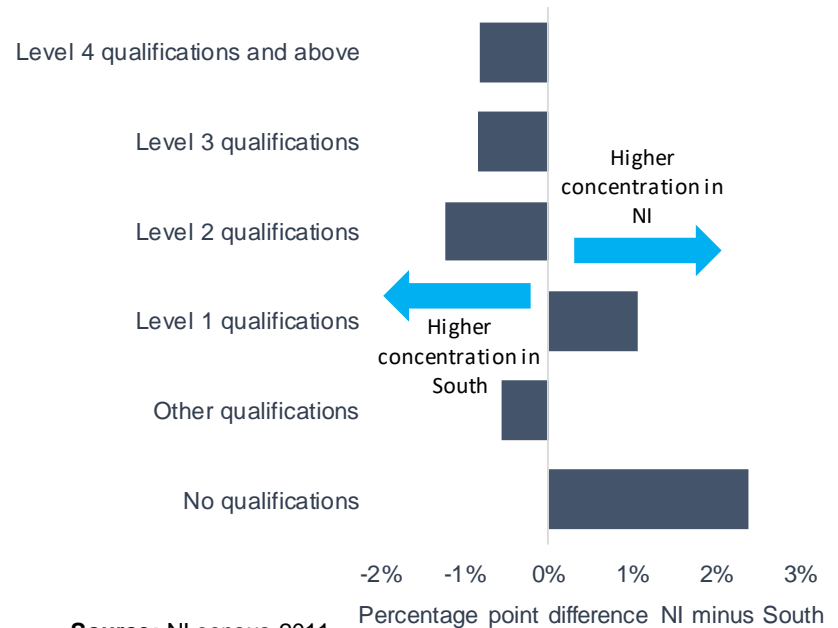
Source: NI census 2011

Longitudinal research undertaken in the US, UK, Australia and Canada by Bradley et al. (2015) estimates that parents with higher levels of educational attainment are 20%-25% more likely to read to their children everyday than those with low levels of education attainment. In South, 29% of mothers have a highest level of qualification equal to NQF level 2 or below, compared to 31% in NI as a whole.

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Adult skills and parental aspiration is a significant factor in a young persons education journey

School attainment (2015/16), adult skills (2011) and HE participation (2015/16) South SOA's

% school leavers not achieving 5+ GCSEs including English and maths (2015/16) versus % of 25-64 population with low or no qualifications (2011), South SOA's

$y = 1.0999x - 0.0627$
$R^2 = 0.5244$

Woodville_1
Drumgor_2
Annagh_2
Knocknashane_1
Kernan_2
Parklake
Court_1
Drumnamoe_1
Dromore South_1
Kilmore_2
Donaghcloney_2
Kilkeel Central_2
Donard_1
Drumnamoe_2
Derrynoose
Kilmore_1
Ballymatrim
Mayobridge_2
Woodville_2 Carrigatuke
Seaview_1

y-axis: % school leavers not achieving 5+ GCSEs including English and maths (0% to 80%)
x-axis: % 25-64 population with low or no qualifications (0% to 70%)

Source: NI Multiple Deprivation Measure

% 18-21 population not enrolled in HE course at HE or FE (2015/16) versus % of 25-64 population with low or no qualifications (2011), South SOA's

$y = 0.8648x + 0.3269$
$R^2 = 0.6554$

Annagh_2
Corcrain_2
Ballymote
Drumnamoe_1
Killough_2
Court_1
Kernan_2
Court_2
Seaforde
Donaghcloney_2
Downs
Derryboy_1
The Birches_2
Camlough
Derryleckagh_1
Warringstown_2

y-axis: % 18-21 population not enrolled on a HE course at HE or FE (30% to 100%)
x-axis: % 25-64 population with low or no qualifications (0% to 70%)

Source: NI Multiple Deprivation Measure

Research from Millennium Cohort Study (MCS) highlights 80% of the richest fifth of mothers expect their child to go to University but the figure falls to 40% for the poorest mothers. In South there is a strong correlation between the rate of young adults not enrolled in a HE level course and the rate of adults with low or no qualifications. In addition, there is a correlation between poor school attainment and low adult qualifications.

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Lone parents are linked to factors which adversely affect childhood education

School attainment (2013/14-2015/16) and mothers characteristics (2016, LGDs) (2014-15, Wards), South

% school leavers not achieving 5+ GCSEs including English and maths (2013/14-2015/16) versus % of births to unmarried mothers (2014-2015), South Wards

$y = 0.4984x + 0.1497$
$R^2 = 0.4503$

Source: NI School leavers survey

Birth rates mothers demography and household structure, LGDs (2016)

LGD	Birth rate per 1,000 female population aged 15-44	Births to teenage mothers (%)	Births to unmarried mothers (%)	Births to single parent homes (%)
Antrim and Newtownabbey	63.5	3.4%	43.2%	22.9%
Armagh City, Banbridge and Craigavon	72.3	2.7%	40.0%	19.8%
Belfast	61.8	5.3%	57.6%	41.1%
Causeway Coast and Glens	62.0	3.3%	47.2%	28.6%
Derry City and Strabane	66.3	3.3%	55.8%	44.3%
Fermanagh and Omagh	70.4	1.7%	30.3%	16.5%
Lisburn and Castlereagh	66.6	2.8%	34.7%	16.8%
Mid and East Antrim	62.6	3.6%	41.7%	23.8%
Mid Ulster	73.8	2.4%	31.1%	15.8%
Newry, Mourne and Down	73.1	2.1%	37.9%	22.3%
Ards and North Down	59.1	3.2%	39.6%	18.5%
Northern Ireland	66.2	3.3%	43.5%	26.4%
South	72.7	2.4%	39.0%	21.0%

Source: NISRA, ONS

Note: Single parent homes are calculated through the aggregation of joint registrations at different address and sole resistrations, divided by the total number of births.

Research highlights lower cognitive ability in children within lone parent households, relative to those where both parents live together. Lone parents are also more likely to be in relative income poverty (39%) and so, are disproportionately affected by factors associated with households in poverty. Although South has a relatively lower proportion of single parent homes (21%) compared to NI (26%), over one fifth of births at a higher potential risk of the adverse impacts associated with relative income poverty is too high.

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Experiences of poverty linked to educational attainment from a young age

School attainment (2015/16) and FSME (2015/16), South Wards/LGDs

% school leavers not achieving 5+ GCSEs including English and maths (2013/14-2015/16) versus % of pupils receiving FSME (2013/14-2015/16), South Wards

$y = 0.6154x + 0.1919$
$R^2 = 0.4289$

Source: NI School leavers survey
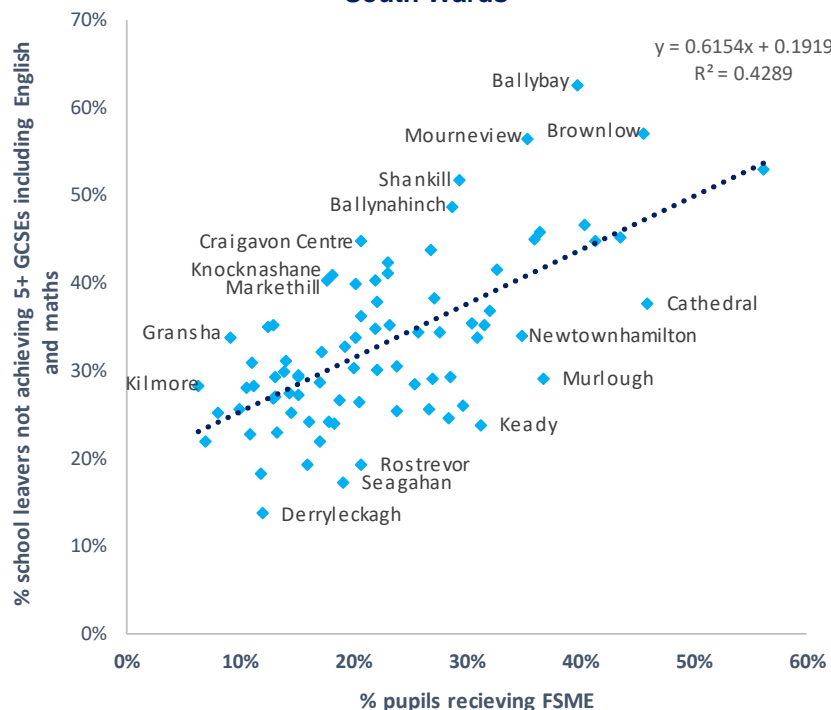
School leavers (%) in receipt of FSME, LGDs (2015/16)
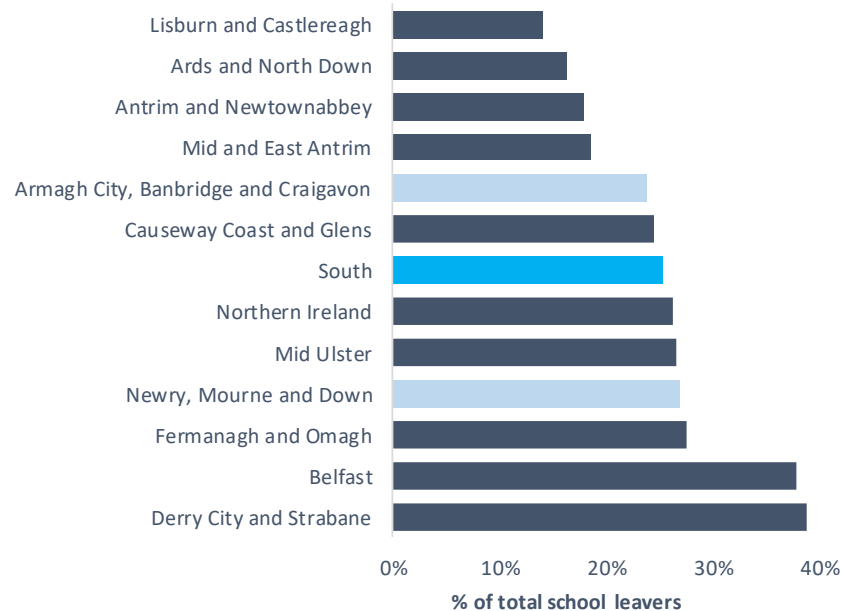
Source: NI school leavers survey

The MCS highlighted that 65% of children who experienced poverty persistently had a vocabulary level below the NI average at age five, compared to 38% of children who never experienced poverty. In South there is a marginally lower proportion of school leavers in receipt of FSME compared to NI, 25% and 26% respectively. This is driven by a lower rate of 24% in Armagh, Banbridge and Craigavon.

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Parental worklessness is negatively associated with educational attainment

School attainment (2015/16) and employment deprivation (2015/16), South SOA's

% school leavers not achieving 5+ GCSEs including English and maths (2015/16) versus % of working age population employment deprived (2015/16), South SOA's

$y = 1.2612x + 0.0701$
$R^2 = 0.4792$

Woodville_1
Drumgor_2
Ballybay
Drumgor_1
Knocknaghshane_1
Kernan_2
Court_1
Drumnamoe_1
Callan Bridge
hamiltonsbawn_2
Quoile_1
Kilmore_2
Murlough
Donaghcloney_2
Daisy Hill_2
Dromore
Keady
South_2
Cathedral_1
Donard_1
Carrigatuke
Seaview_1

% school leavers not achieving 5+ GCSEs including English and maths

% working age population employment deprived
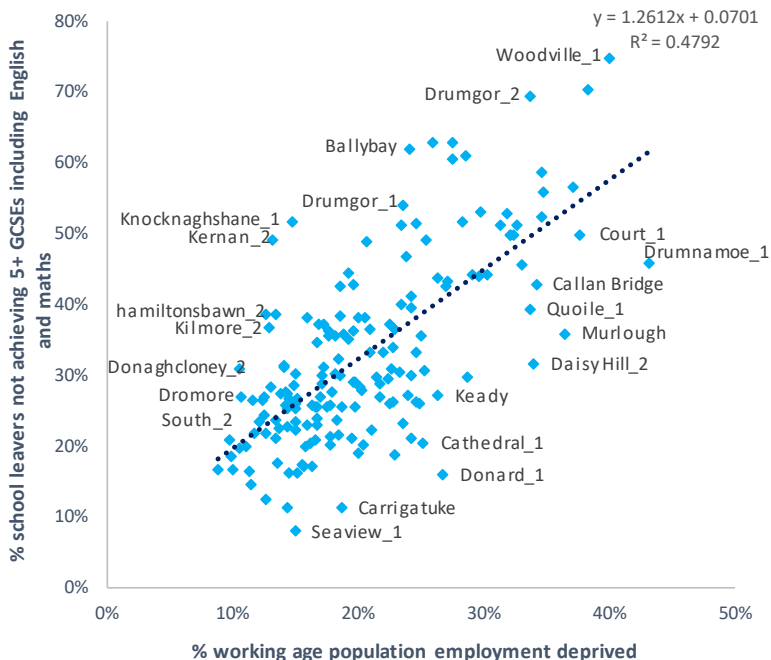
Source: NI Multiple Deprivation Measure

Note: Employment deprived is defined as proportion of working age population who are in receipt of at least one employment related benefit, and individuals who are not in receipt of an employment related benefit, nor have received income from employment

Comparison between relative size of LGDs and the proportion of the working age population who are employment deprived (2015/16)

	% of total SOAs	% of SOAs in lowest performing quartile	% of SOAs in lowest performing decile
Antrim and Newtownabbey	8%	5%	2%
Armagh City, Banbridge and Craigavon	10%	6%	6%
Belfast	20%	37%	54%
Causeway Coast and Glens	8%	6%	2%
Derry City and Strabane	8%	17%	26%
Fermanagh and Omagh	6%	5%	3%
Lisburn and Castlereagh	8%	1%	0%
Mid and East Antrim	7%	5%	1%
Mid Ulster	7%	3%	0%
Newry, Mourne and Down	9%	9%	4%
Ards and North Down	10%	5%	1%
Northern Ireland	100%	100%	100%
South	19%	15%	10%

Source: NI multiple deprivation measure

The correlation between poor school attainment and high employment deprivation highlights worklessness in local communities as a factor holding back school achievements. In South there is a lower proportion of employment deprived SOA's as the region accounts for 19% of total SOA's but only 15% of the lowest performing quartile.

Summary of causal supply side factors*

KS2 assessment results - Communication (reading, writing, talking and listening) is an important skill in the early years of a child's education.

Over one in five (21%) children that reside in South fail to achieve what is essentially basic reading writing and communication skills – 2 percentage points below the NI average of 23%. Proficiency in numeracy skills show a similar pattern, 20% of South residents do not achieve proficiency level 4 or above, which is 1 percentage point below the NI average.

Influence of parents education - Research indicates the educational attainment of parents is a strong predictor in the educational performance of children. In South, 29% of female parents (of seven year old children) have a highest qualification level below NQF level 2 (5+ GCSEs A*-C), that is 2 percentage points below the NI average.

At detailed geographies (SOA's) bivariate analysis highlights strong correlations between: low adult qualification levels and higher rates of poor school attainment; and low adult skill levels and higher rates of young adults not enrolled in a HE level course.

* A full set of correlations is provided in Annex C.

Household structure - Advanced countries have experienced increases in the rate of single parent households in recent decades. Research highlights characteristics of lone parent households are often linked to factors which negatively affect children's education performance, particularly in the early years (e.g. low income, low qualifications etc.).

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Summary of causal supply side factors (continued)

Household structure (continued) - Although there is a relatively lower proportion of births to single parent homes (21%), compared to NI (26%) and a lower proportion of unmarried mothers (39%) compared to NI (44%), these groups remain particularly vulnerable to adverse affects associated with relative income poverty.

Parental worklessness - The strong correlation between poor school attainment and employment deprivation across detailed geographical boundaries highlights the impact of worklessness on educational achievements.

In South there is a disproportionate affect as the region hosts 19% of total NI wards but 15% in the lowest performing decile of employment deprivation.

Poverty and education attainment - Research highlights experiencing poverty has a negative impact on children's vocabulary ability in early years (MCS). In South there is a marginally lower rate of disadvantaged pupils (as defined by FSME) relative to the NI average.

As skills represents the most effective route out of poverty it is important that tackling low performance in these 'left behind' areas is a priority for an economy with an aspiration of promoting inclusive growth.

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Can South's resident service tomorrow's skills needs?

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The missing middle

Net requirement vs qualification profile (NQF) of labour market entrants, South (2017-2027)

Legend: ■ South - entering the labour market (%) ■ South - net requirement (%)

Categories (top to bottom): NQF Level 6+, NQF Level 4-5, NQF Level 3, NQF Level 2, Below NQF Level 2

X-axis: 0% 5% 10% 15% 20% 25% 30% 35% 40% — % of total
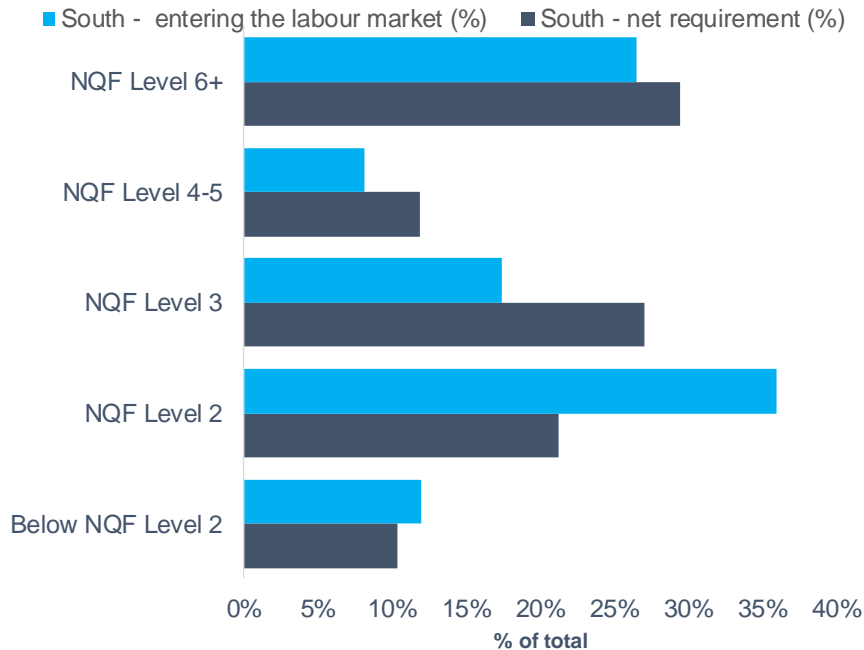
Source: UUEPC

In total 20,200 South residents per annum are forecast to gain qualifications over the coming decade and 10,700 of such are projected to enter the labour market.

Benchmarking the skills profile of net requirement against those entering the labour market outlines:

- There is a marginal undersupply of high-level qualifications (NQF level 6+) as 27% are entering the labour market compared to a forecast demand of 29%.

- A shortage of mid-level qualifications (NQF level 3-5) qualifiers as 26% enter the labour market but demand is forecast to require 39%.

- An over supply of low-level skills (NQF level 2 and below) as 32% are demanded over the next decade but 48% are entering the labour market.

Labour market supply by qualification level (NQF), South (2017-2027, annual average)

	School leavers		FE leavers		HE leavers		Total	
	Total leavers	Entering labour market	Total leavers	Entering labour market	Total leavers	Entering labour market	Total leavers	Entering labour market
Below NQF level 2	1,010	450	1,330	830	*	*	2,340	1,280
NQF level 2	1,340	390	5,730	3,450	*	*	7,070	3,840
NQF level 3	2,770	280	3,180	1,570	*	*	5,950	1,850
NQF level 4 - 5	*	*	1,150	660	300	240	1,450	900
NQF level 6	*	*	40	30	2,560	2,100	2,600	2,130
NQF level 7 - 8	*	*	40	40	740	680	780	720

Source: UUEPC

Note: * refers to not applicable

The skill balance varies across the South region

Net requirement versus supply, South DEA's (2017-2027)

Percentage point difference in demand and supply by NQF level 6+, South DEA's (2017-2027)
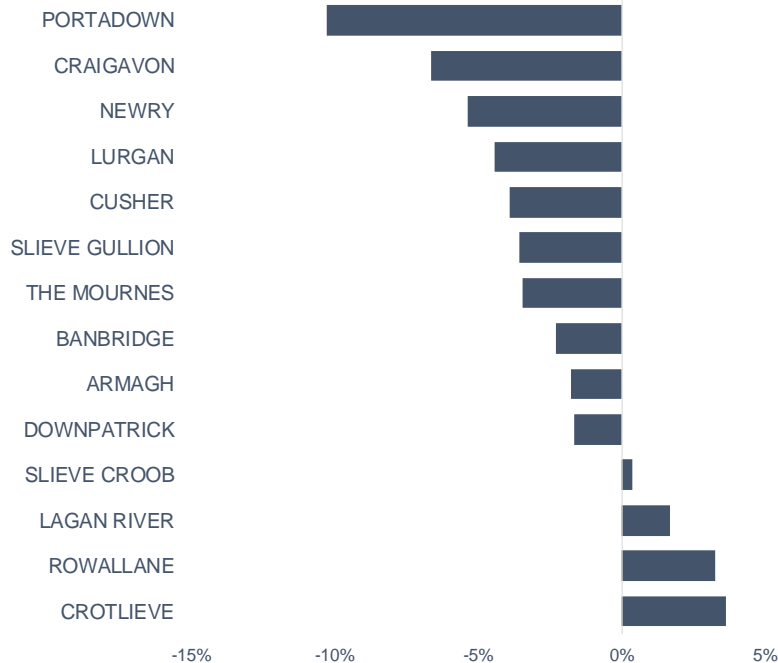
Percentage point difference supply DEA and net requirement South

Source: UUEPC

Percentage point difference in demand and supply by below NQF level 2, South DEA's (2017-2027)
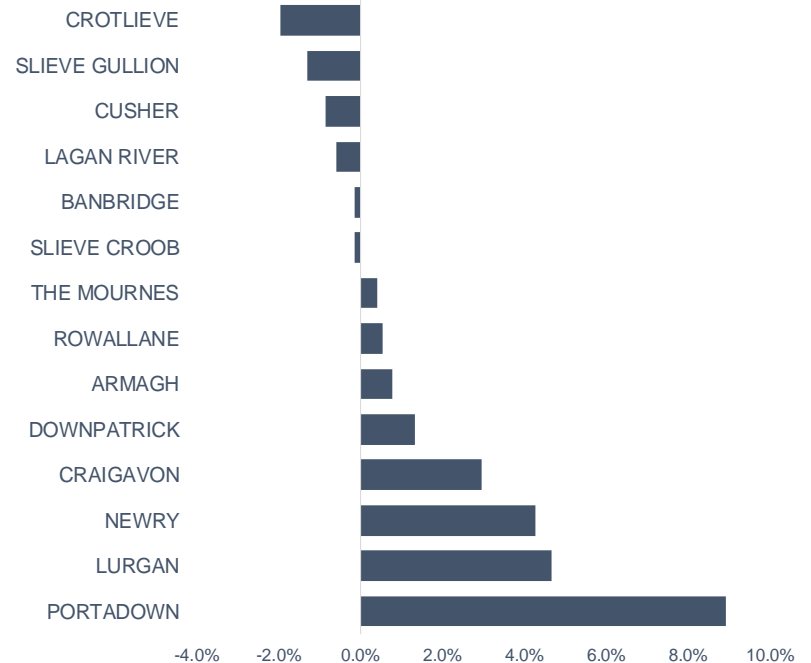
Percentage point difference supply DEA and net requirement South

Source: UUEPC

The largest gap between supply and demand at NQF level 6+ is in Portadown where supply is 10 percentage points below the net requirement. This compares to Crotlieve where supply of high level qualifications is 4 percentage points above the net requirement. However, it should be noted these figures refer to proportionate differences and not absolute figures.

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Diverse labour markets operate within South

Net requirement versus qualification profile of labour market entrants, Crotlieve and Portadown, (2017-2027)

Net requirement (South) vs skills profile of labour market entrants (Crotlieve) (2017-2027)
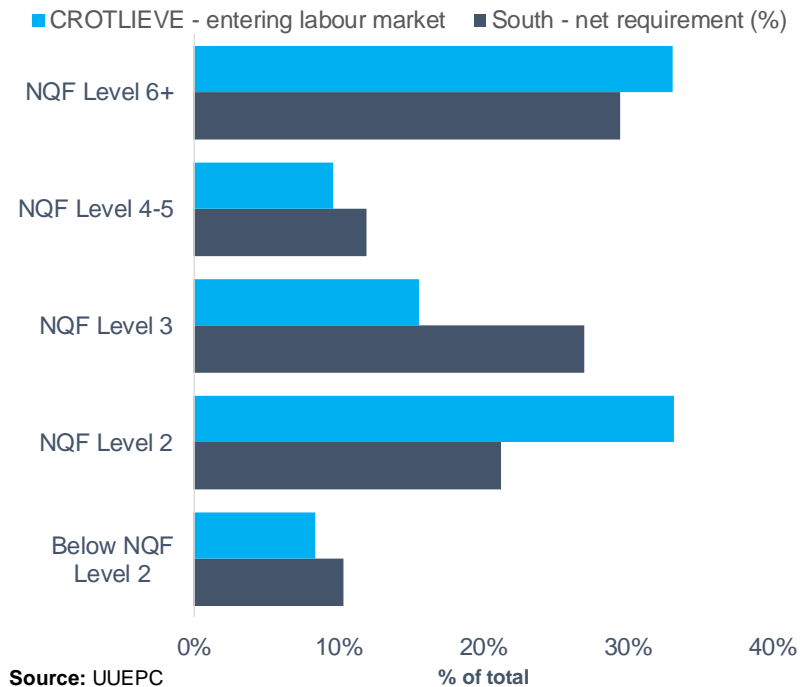
■ CROTLIEVE - entering labour market ■ South - net requirement (%)

NQF Level 6+
NQF Level 4-5
NQF Level 3
NQF Level 2
Below NQF Level 2

Source: UUEPC

Net requirement (South) vs skills profile of labour market entrants (Portadown), (2017-2027)

■ PORTADOWN - entering labour market ■ South - net requirement (%)

NQF Level 6+
NQF Level 4-5
NQF Level 3
NQF Level 2
Below NQF Level 2

Source: UUEPC
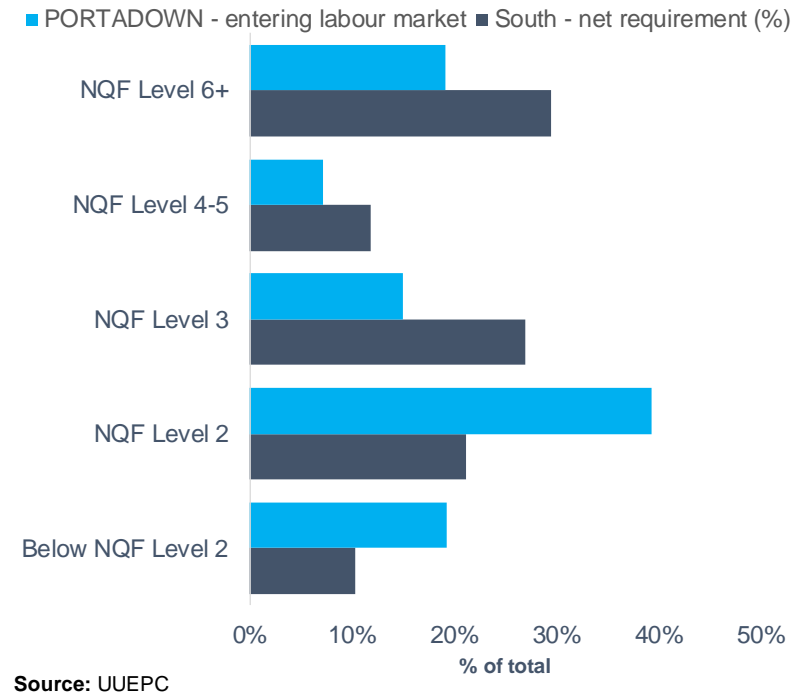
In Crotlieve 8% of individuals due to enter the labour market over the coming decade have below NQF level 2 qualifications, compared to 19% in Portadown. On the other hand, in in Crotlieve 33% of individuals are expected to enter the labour market with above NQF level 6 qualifications, compared to 19% in Portadown.

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Economic and social challenges must be overcome to improve the skills flow and skills stock

Scorecard (1= top performing in NI, 80= bottom performing in NI), Armagh City, Banbridge and Craigavon DEA's

Armagh City, Banbridge and Craigavon	Lurgan	Portadown	Banbridge	Armagh	Craigavon	Lagan River	Cusher
Skills flow							
% of school leavers achieving 5 GCSE's (including English and maths)	67	66	34	30	64	22	31
% of school enrolments entitled to FSM	44	52	31	55	45	7	29
% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	50	45	24	63	28	5	29
% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	65	79	51	68	70	27	52
% of FE qualifiers achieving a highest level of qualification at NQF level 2	41	63	11	25	38	8	10
Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	64	70	37	52	65	8	16
% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	37	62	66	76	60	34	55
% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	49	8	37	46	27	53	28
Skills stock							
% of 16-64 population with low qualifications (Below level 2)	53	72	33	56	48	12	37
% of 16-64 population with high qualifications (NQF level 4+)	58	65	39	52	38	12	45
% of 16-34 population with low qualifications (Below NQF level 2)	57	73	36	60	58	8	33
% of 16-34 population with high qualifications (NQF level 4+)	56	55	29	62	32	8	28
Labour market and socio-economic indicators							
Social security clients (client group analysis) as a % of the population (16-64)	55	43	39	41	42	6	25
Social security clients (client group analysis) as a % of the population (16-34)	53	40	37	42	45	3	20
Housing benefit claimants as a % of the population (16-64)	54	53	37	47	35	5	15
Housing benefit claimants as a % of the population (16-34)	55	47	38	42	35	4	15
% of households with no adults in employment	54	53	27	47	18	3	8
% of households with no adults in employment with dependent children	55	45	35	56	60	14	26
% of households with lone parents with dependent children	56	49	42	50	55	15	26
% of people employed who are either managers/senior officials or professionals	45	63	23	43	35	10	26
Employment rate (%, 16-74 population)	51	46	22	56	34	4	14
Unemployed who have never worked (% of unemployed)	40	32	26	54	62	1	36

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

- 🟩 Ranked in the top 10 performing DEA's in NI
- 🟥 Ranked in the bottom 10 performing DEA's in NI

There are very few metrics where DEA's within Armagh City, Banbridge and Craigavon perform amongst NI's lowest performing areas. Further, there are only two DEA's within Armagh City, Banbridge and Craigavon that perform among the top ten performing DEA's across more than one metric. Therefore there are economic and social challenges to overcome that will ultimately help improve the skills stock of Armagh City, Banbridge and Craigavon.

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Economic and social challenges must be overcome to improve the skills flow and skills stock

Scorecard (1= top performing in NI, 80= bottom performing in NI), Newry, Mourne and Down DEA's

Newry, Mourne and Down	Newry	The Mournes	Slieve Croob	Rowallane	Slieve Gullion	Crotlieve	Downpatrick
Skills flow							
% of school leavers achieving 5 GCSE's (including English and maths)	40	37	36	29	50	9	47
% of school enrolments entitled to FSM	68	49	34	19	65	36	51
% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	46	49	23	34	72	47	40
% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	77	69	23	15	60	63	62
% of FE qualifiers achieving a highest level of qualification at NQF level 2	51	21	19	27	6	17	32
Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	39	47	45	21	19	11	49
% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	41	55	63	12	72	58	53
% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	13	44	71	53	29	76	50
Skills stock							
% of 16-64 population with low qualifications (Below level 2)	62	44	22	19	54	25	29
% of 16-64 population with high qualifications (NQF level 4+)	49	57	33	22	62	21	30
% of 16-34 population with low qualifications (Below NQF level 2)	69	50	27	26	48	18	41
% of 16-34 population with high qualifications (NQF level 4+)	53	60	54	36	48	25	70
Labour market and socio-economic indicators							
Social security clients (client group analysis) as a % of the population (16-64)	64	52	33	20	61	29	65
Social security clients (client group analysis) as a % of the population (16-34)	58	48	34	21	51	23	69
Housing benefit claimants as a % of the population (16-64)	61	49	25	30	45	19	63
Housing benefit claimants as a % of the population (16-34)	56	44	20	27	52	18	66
% of households with no adults in employment	62	60	20	23	55	19	56
% of households with no adults in employment with dependent children	68	53	40	24	73	54	59
% of households with lone parents with dependent children	64	37	38	34	63	39	65
% of people employed who are either managers/senior officials or professionals	36	53	30	18	52	13	24
Employment rate (%, 16-74 population)	67	54	21	20	68	42	60
Unemployed who have never worked (% of unemployed)	33	35	28	31	55	17	59

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

- Ranked in the top 10 performing DEA's in NI
- Ranked in the bottom 10 performing DEA's in NI

There are very few metrics where DEA's within Newry, Mourne and Down perform amongst NI's lowest performing areas. However, there are also relatively few instances of DEA's in Newry, Mourne and Down that perform among the top ten performing DEA's across a range of metrics. Therefore there are economic and social challenges to overcome that will ultimately help improve the skills stock of Newry, Mourne and Down.

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Summary of skill balances

South skills balance - The number of high-skilled (NQF level 6+) individuals supplied is marginally below the number demanded. However, it is important to recognise the subject mix of such qualifers is likely to cause issue as opposed to the overall volume.

At mid-level (NQF level 3-5) there is a shortage of skills driven by fewer people studying these qualifications and subsequently moving into the labour market. Instead it is more likely individuals who study at this level proceed into further study.

There is an oversupply of low-level (below NQF level 2) skills as 48% of qualifiers are expected to enter the labour market enter at this level, compared to a forecast demand of 32% through net requirement.

Diverse labour market - The skill profile varies across South. Therefore, it is important for economic policy to ensure job opportunities are available across the qualification spectrum, enabling inclusive growth. In addition, misalignments between demand and supply across South's DEA's* highlights a need to upskill individuals in order to meet demand where required.

Understanding what works - There are very few metrics where DEA's within South perform amongst NI's lowest performing areas. However, there are also relatively few instances of DEA's in South that perform among the top ten performing DEA's across a range of metrics. Therefore there are economic and social challenges that policy should prioritise to priorities to ultimately help improve the skills stock of South.

* A scorecard for each DEA in South is provided in Annex E.

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Conclusions

Limited in-commuting in South's workplace

The commuting patterns reviewed in this research emphasised a high volume workers commute out of the South region to secure employment and relatively few workers commute to the region to for employment.

South out-commuters: South residents that work within South account for 83% of total resident employment, suggesting 17% of residents commute elsewhere. According to the Census 2011 this translated to around 32,800 workers commuting out of South to other LGD's within NI for employment. These workers typically commute out of the region for jobs within the public sector and of a relatively higher skilled nature, compared to the South workplace.

South in-commuters: South residents account for 91% of total workplace employment, suggesting 9% of workers commute to the region. According to the Census 2011 this translated to around 15,000 workers commuting to South from other LGD's within NI for employment.

The net commuting flow is an outflow of workers from South, most predominantly to Causeway Coast and Glens and Belfast. A continually high volume of South residents leaving the region for employment opportunities could have implications for future infrastructure planning and over the longer term it will be important that such labour market opportunities are available in the South region.

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Demand side growth of the South economy

Recent performance: The number of jobs in South increased by 11,330 over the 2012-2017 period, accounting for 16% of job growth in NI. In absolute terms, the largest quantum of job growth was in manufacturing, administration and support services and health and social work.

Future growth: Under a high growth scenario, future job growth (expansion demand) over the coming decade in South will be driven by high skill sectors such as health and social work professional services. This translates to high growth in science and technology occupations, which highlights the importance of education performance in STEM subject areas.

When focusing on skills forecasting it is prudent to plan for skills needs in an aspirational nature based on the ambitions of economic policy. There is a risk of oversupplying skills if the aims of economic policy are not achieved. This would involve a personal cost to individual's investing in their skills development who are unable to find suitable employment opportunities. However, this potential cost is relatively lower when considered alongside the potential cost of undersupplying skills. If businesses are unable to find the skilled labour required to expand their businesses it depresses competitiveness, productive capacity and holds back future job growth.

Forecasting in any context is never a precise science. While it is prudent to plan for high growth, it is important to undertake **contingency planning** in the event that the ambitions of economic policy are not achieved. The skills requirements based on a more conservative baseline scenario are provided in Annex A.

Labour market flows generate job opportunities

Replacement demand: South is forecast to experience employment growth (i.e. expansion demand) in the UUEPC high growth scenario, however net replacement demand is expected to account for a much larger quantum of opportunities (e.g. replacing workers who have retired, moved to another position etc.).

Sector distribution of replacement demand: The largest sectors tend to be associated with the highest levels of replacement demand. Therefore, sectors such as manufacturing, health and restaurants and hotels will have relatively large levels of replacement demand in the South economy. This is an important point with regard to careers advice, as sectors do not necessarily have to be growing rapidly in order to provide job opportunities.

Transitions within the labour market: A significant proportion of job vacancies are filled by people already working in the labour market (i.e. job-to-job movements). Many of the vacancies requiring lower levels of qualification are filled within the labour market rather than recruitment from the education system (net requirement).

Qualifications versus skills: Although there remains a significant proportion of people working in the labour market with low-level qualifications, they have work experience and are not necessarily low skilled. There is an insider-outsider element to the end of the labour market characterised by low qualifications. Individuals inside the labour market have some mobility to move between jobs. However, once a person with low levels of qualifications is out of work it is difficult for them to find suitable opportunities to re-engage in the labour market.

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Qualifications are increasingly important for labour market access

The net requirement from education and migration is the total number of job opportunities (expansion and replacement) which require labour from either the education system or from migration (i.e. that the demand cannot be filled from inside the existing labour market).

Sector outlook: Manufacturing is forecast to provide the most job opportunities in South. This is a useful example relating to the importance of replacement demand. Although manufacturing is forecasted to create marginally less additional jobs than professional services, it creates more job opportunities overall through higher replacement demand.

Labour demand is increasingly qualifications hungry: Of the net requirement from education and migration over the coming decade, 29% of job opportunities will require a degree level qualification (NQF level 6+). Only 10% of the net requirement from education and migration will require qualifications below NQF level 2. This suggests that it is imperative that the number of young people with low-level qualifications is minimised. Education and labour market policies that support the most vulnerable groups can bolster inclusive economic growth by equipping individuals of all backgrounds with the skills to obtain 'good' jobs.

Subject demand: The most in-demand degree subjects (NQF level 6+) are medical related subjects; business and finance; and maths and computer science. At sub-degree level (NQF level 4-5) the most in-demand subjects are health, public services and care; business administration, finance, and law and engineering and manufacturing technologies.

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Educational attainment in schools

School leaver attainment: In South 68% of school leavers achieved at least five GCSE's A*-C (including English and maths), marginally above NI average (68%). This figure has improved by 12 percentage points over the last 8 years, the strongest improvement across each region. However, school leavers achieving 2+ A-levels A*-E (54%) is below the NI average (57%).

Tackling low achievement is a significant spatial challenge: Low education achievement is geographically concentrated, and South contains a proportionately lower number of low achieving areas. For example, 18% of the wards in NI are in South, yet 14% of the wards in the lowest performing quartile are in South.

Children in deprived households face significant challenges: Children in deprived households are identified by their FSME. Almost half (46%) of FSME children achieve 5 GCSE's A*-C (including English and maths), compared to almost four fifths (76%) of non-FSME pupils. Although the outcomes for FSME pupils has improved, the outcomes for non-FSME pupils has improved at a marginally faster rate, meaning the gap has widened in the most recent year.

Literacy and numeracy: Given the importance that employers put on literacy and numeracy skills the mix of GCSE subjects is worth consideration. In South 80% of school leavers achieve at least five GCSE's, yet only 68% achieve at least five GCSE's including English and maths. In other words, there is a significant number of school leavers who achieve NQF level 2; however, they have not achieved the key subjects of English and maths. This will cause labour market challenges as many jobs, education courses and employment programmes require English and maths for access. Many school leavers who fail to achieve English and maths will end up re-sitting these qualifications in another setting such as FE institutions.

The determinants of education performance transcend across a range

Early intervention initiatives have the most significant influence. This is because gaps between children have already emerged prior to starting school. These gaps are influenced by multifarious economic and social factors outside the school environment.

- **Intergenerational transfer of low skills:** There is a high correlation between areas where a high proportion of school leavers are failing to achieve at least 5 GCSE's including English and maths, and the skills of the 25-64 population. This suggests that there is an increased probability of low achievement at school where parents' highest level of qualification is relatively low.

- **Socioeconomic status:** There is a strong correlation between school performance and socioeconomic indicators such as poverty (free school meal entitlement) and employment deprivation .

- **Aspiration in high deprivation areas:** The participation of young people in HE in small areas also correlates significantly with the qualifications of qualifications of the 25-64 year old population. This data highlights a lower participation rate in areas where adult skills are low, suggesting that low adult skills in an area can negatively affect the education aspiration of young people in that area.

- **Family structure:** There is a statistically significant relationship between the proportion of births to lone parents and school performance, with lone parents likely to be low achievers relative to other family types. Lone parents are a particularly vulnerable group and areas with a high proportion of lone parents tend to correlate significantly with a number of indicators relating to poverty.

These factors reinforce each other, which contributes to geographic concentrations of low achievement in discrete areas. Although this is most predominantly an issue in more urban areas, sub-regional areas must be conscious of these implications. There is no single policy initiative that will solve the spatial concentration of skills deficits. Therefore, a multi-agency locally focused response is required. Without a recognised panacea to address this issue there is scope to test pilot initiatives.

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Skills balances

Graduates (NQF level 6+) balances: In South the demand and supply of graduates are broadly aligned. Approximately 27% of South residents enter the labour market with an NQF level 6+ qualification compared to 29% of the net requirement. However, it should be noted there may still be a mismatch of subject requirements at this level.

Mid-level skills (NQF level 3-5): There is some misalignment between the profile of demand and supply for mid-level skills. Relatively fewer people enter the labour market with this level of qualification. In South 39% of the net requirement is related to NQF level 3-5, yet only 26% of South residents entering the labour market are qualified to NQF level 3-5.

Low-level skills (NQF level 2 and below): There is an oversupply of qualifications associated with low NQF level qualifications. That is, 48% of those entering the labour market hold NQF level 2 or below qualifications, compared to a 31% net requirement. With employers becoming increasingly 'qualifications hungry' there are limited job opportunities that will be available to this group without further study.

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Wider considerations

Lifelong learning: The modern labour force is currently undergoing a period of transformational change, with some occupations being vulnerable to skills biased technological change. This change highlights the importance of lifelong learning to enable greater occupational mobility in the labour market.

Skills versus qualifications: There are many people in the labour market who have a low level of qualification, yet are highly skilled. In other words, people who have accumulated skills on the job but do not have a qualification on the NQF framework to recognise their skill level. Validating formal and non-formal learning strengthens an individuals incentive to invest in training, and improves the signalling power of those who are highly skilled but poorly qualified.

Applied work skills: Employer surveys consistently report a lack of basic employability skills amongst graduates. Improving the soft skills of graduates should be a shared responsibility between education providers and employers. Education providers contribute to employability skills through curriculum design, and, where possible, simulation a work environment in teaching methods. Employers enhance employability skills via effective training. The provision of work placements is one method which has proved to be very effective in improving the employability skills of graduates. However, the number of available placements provided by employers has not expanded at the same pace as higher education participation in recent years.

The cost of the long tail of underachievement: Low achievers are likely to become tied up in the education and training system for a number of years at a significant public cost. In the long run they are also more likely to become workless and generate a fiscal cost via out of work benefits. The analysis in this report has highlighted the link between socio-economic indicators and education underperformance, and the concentration of underachievement in relatively deprived small areas. As skills represents the most effective route out of poverty, tackling low performance in these 'left behind areas' must be a priority to ensure future economic growth is inclusive for all.

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Annex A: Baseline scenario

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Expansion and replacement demand under the baseline scenario

UUEPC's baseline scenario directly links to UUEPC forecasting model and is considered to be the most likely economic trajectory for the local economy.

The employment outlook in the baseline scenario is considerably lower than the high growth scenario previously presented.

Under baseline conditions there is a lower expansion demand and a larger component of labour demand comes from replacing workers who have left their position. Therefore the net replacement demand over the coming decade is forecast to be 3,260 compared to an expansion demand of 920. On average over the 2017-2027 period annual the annual net requirement from education and migration is forecast to be 880 lower compared to the high growth scenario.

Expansion demand and replacement demand (baseline scenario), South (2017-2027)

Demand category	2012-2017 (annual)	2017-2027 (annual)
(A) Gross demand	12,800	13,240
(B) Expansion demand	580	920
(C) Replacement demand	12,230	12,330
(D) Filled from within the existing labour market	9,120	9,070
(E) Net replacement demand	3,110	3,260
(F) Net requirement from education and migration	**3,690**	**4,180**

Source: UUEPC

Relationship between rows: A=B+C, E=C-D, F=E+B

Differences between the baseline and high growth scenarios is largest in professional services

Expansion demand and replacement demand by sector (1-digit), baseline versus high growth scenarios, South (2017-2027)

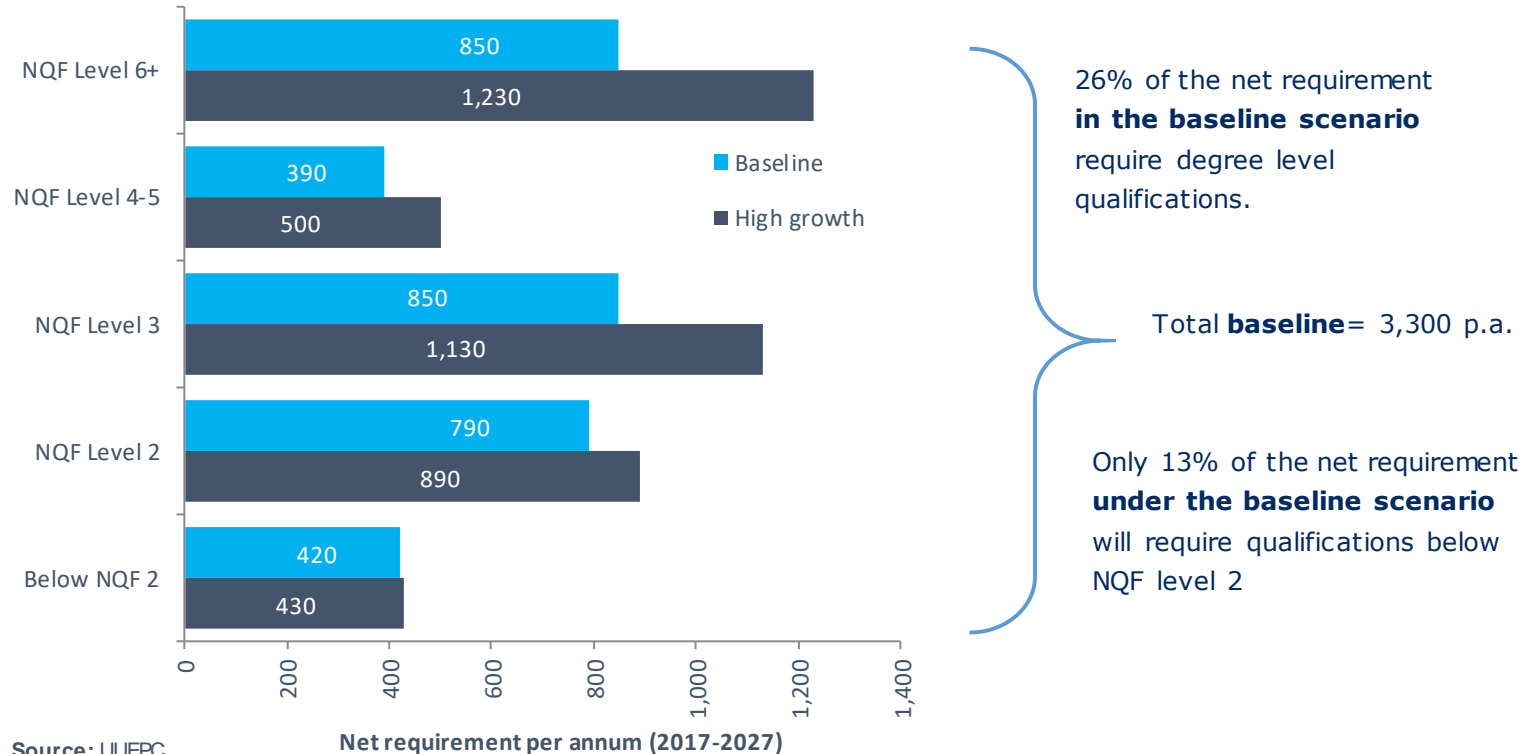**Net requirement (expansion and replacement) by sector (1-digit), (2017-2017 annual average)**

Legend:
- ■ Expansion demand
- ■ Net replacement demand

Sectors (top to bottom): People employed by households, Finance & insurance, Elect' & gas, Real estate, Information & communication, Public admin & defence, Water supply & waste, Arts & entertainment, Agriculture, Transport & storage, Other service activities, Education, Professional scientific & technical, Construction, Restaurants and hotels, Admin' & support services, Wholesale & retail, Health & social work, Manufacturing

X-axis: Number of people demanded (-200 to 800)

Source: UUEPC

Difference between baseline and high growth scenario's by sector (1-digit), (2017-2027 annual average)

Sectors (top to bottom): Professional scientific & technical, Health & social work, Construction, Restaurants and hotels, Manufacturing, Information & communication, Admin' & support services, Public admin & defence, Finance & insurance, Agriculture, Arts & entertainment, Education, Transport & storage, Wholesale & retail, Other service activities, Water supply & waste, Real estate, Elect' & gas, People employed by households, Mining

X-axis: Difference in baseline and high growth net requirement (-250 to 50)

Source: UUEPC

Under the baseline scenario the sectors with the largest net requirement from education and migration are manufacturing (670 per annum) and health and social work (440 per annum). The largest differences between the two scenarios are in professional services (200 less net requirement per annum under the baseline scenario) and ICT (100 less net requirement per annum under the baseline scenario).

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Replacement demand represents a higher proportion of labour demand the baseline scenario

Expansion demand and replacement demand by occupation (2-digit), baseline versus high growth scenarios, South (2017-2027)

Net requirement (expansion and replacement) by occupation (2-digit), (2017-2027 annual average)

Legend:
- Expansion demand
- Net replacement demand

Occupations (top to bottom):
- Skilled agricultural trades
- Sales occs
- Protective service occs
- Mgrs & proprietors agric & services
- Customer service occs
- Caring personal service occs
- Health & social welfare assoc profs
- Culture, media & sports occs
- Secretarial & related occs
- Leisure & other personal service occs
- Science & technology assoc profs
- Textiles, printing & other skilled trades
- Teaching & research profs
- Transport & mobile machine drivers & operatives
- Skilled construction & building trades
- Corporate managers
- Administrative occs
- Business & public service profs
- Business & public service assoc profs
- Elementary trades, plant & storage occs
- Health profs
- Science & technology profs
- Elementary admin & service occs
- Skilled metal & electrical trades
- Process, plant & machine operatives

x-axis: -100, 100, 300, 500
Number of people demanded

Source: UUEPC

Difference between baseline and high growth scenarios by occupation (2 digit), (2017-2027 annual average)

Occupations (top to bottom):
- Business & public service profs
- Administrative occs
- Science & technology profs
- Elementary admin & service occs
- Business & public service assoc profs
- Health profs
- Caring personal service occs
- Skilled construction & building trades
- Corporate managers
- Skilled metal & electrical trades
- Process, plant & machine operatives
- Transport & mobile machine drivers & operatives
- Textiles, printing & other skilled trades
- Mgrs & proprietors agric & services
- Secretarial & related occs
- Elementary trades, plant & storage occs
- Culture, media & sports occs
- Skilled agricultural trades
- Science & technology assoc profs
- Sales occs
- Leisure & other personal service occs
- Teaching & research profs
- Customer service occs
- Health & social welfare assoc profs
- Protective service occs

x-axis: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0
Difference in baseline and high growth net requirement

Source: UUEPC

Under the baseline scenario the occupations with the largest net requirement over the coming decade are process plant and machine operatives (380) and science and technology professionals (310). The largest differences between the two scenarios are in business and public service professionals (90 less net requirement per annum under the baseline scenario) and administration occupations (80 less net requirement per annum under the baseline scenario).

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The percentage distribution of the net requirement is similar in both scenarios but absolute numbers vary significantly

Average annual net requirement by qualification (NQF) baseline versus high growth scenario, South (2017-2027)

NQF Level 6+: Baseline 850, High growth 1,230

NQF Level 4-5: Baseline 390, High growth 500

NQF Level 3: Baseline 850, High growth 1,130

NQF Level 2: Baseline 790, High growth 890

Below NQF 2: Baseline 420, High growth 430

Net requirement per annum (2017-2027)

Source: UUEPC

26% of the net requirement **in the baseline scenario** require degree level qualifications.

Total **baseline** = 3,300 p.a.

Only 13% of the net requirement **under the baseline scenario** will require qualifications below NQF level 2

The profile of skills demand across the two scenarios is relatively similar. Under the baseline scenario 26% of the net requirement is associated with qualifications at NQF level 6+, compared to 29% in the high growth scenario. However, in absolute terms there are 380 fewer people per annum demanded at NQF level 6+ under the baseline scenario. Similarly, although the proportions of people demanded below NQF level 2 are relatively similar under both scenarios (13% and 10% respectively), the absolute number of people demanded is 10% lower in the baseline scenario.

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The largest NQF level 6+ subject in demand under baseline conditions is medical related subjects

Average annual net requirement by NQF level 6+, baseline versus high growth scenario, South (2017-2027)
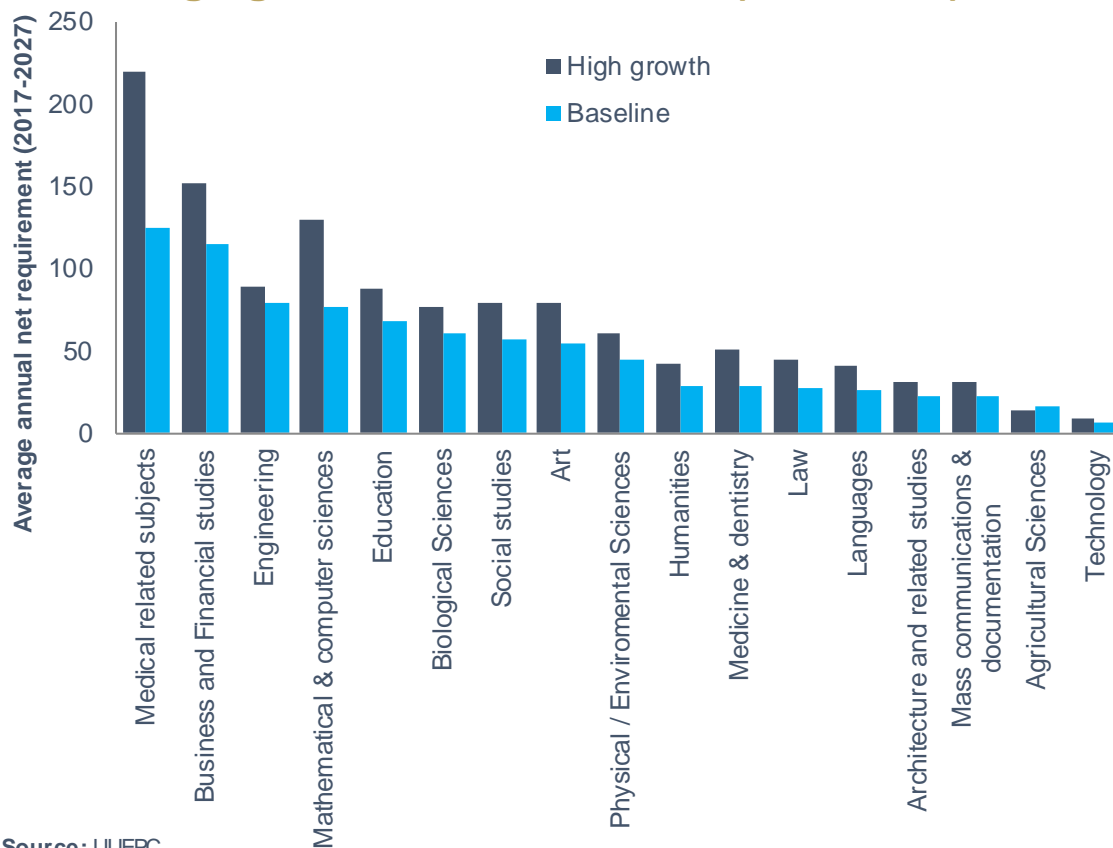
Source: UUEPC

Under baseline conditions, over the next decade the largest subject in demand for NQF level 6+ degree programmes and above is medical related subjects representing 15% of the NQF level 6+ demand. Compared to the high growth scenario the absolute number of people demanded from medical related subjects at NQF level 6+ is 76% lower under the baseline scenario.

Engineering and manufacturing technologies is the most in-demand subject at NQF level 4-5 under baseline conditions

Average annual net requirement by NQF level 4-5, baseline versus high growth scenario, South (2017-2027)
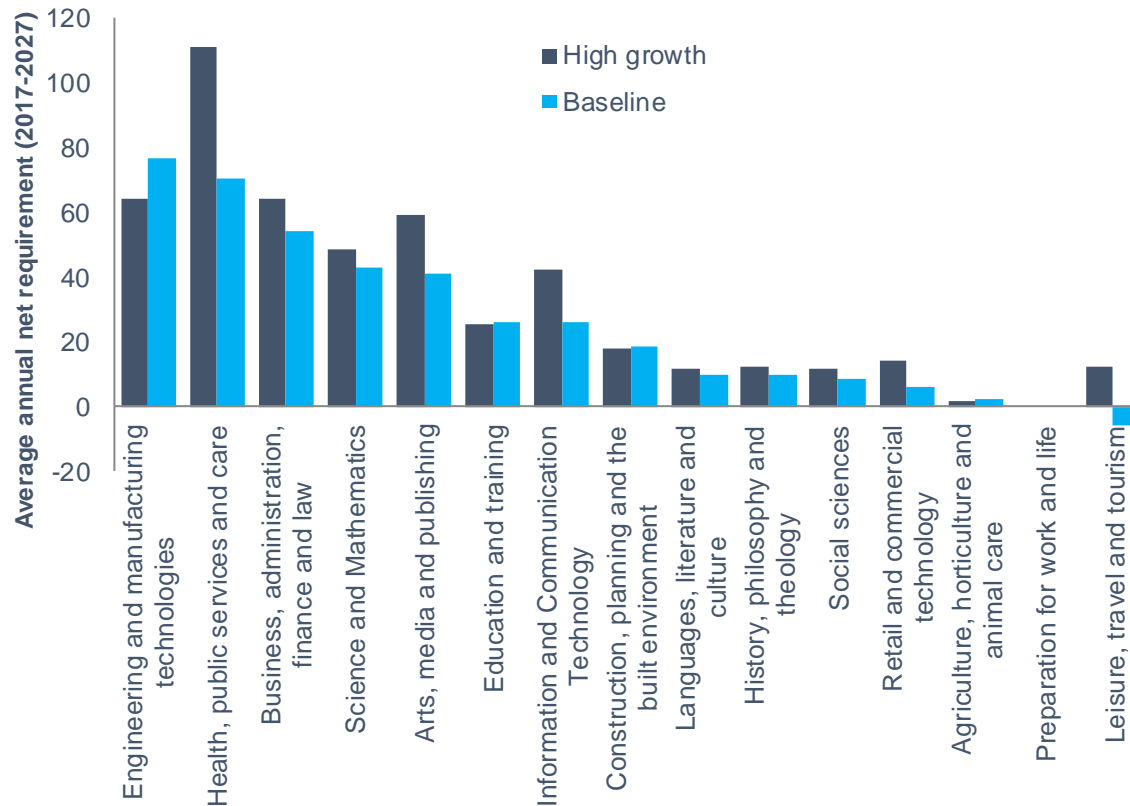
Source: UUEPC

Under baseline conditions, over the next decade the largest subject in demand for sub-degree programmes at NQF level 4-5 is engineering and manufacturing technologies at 80 persons per annum, representing 20% of the NQF level 4-5 demand. This is followed by health public services and care (70 qualifiers per annum) and business administration, finance and law (50 qualifiers per annum).

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An oversupply of degree level and low qualifications but a shortage of sub-degree tertiary level qualifications

Net requirement versus qualification profile, South (2017-2027)

Source: UUEPC
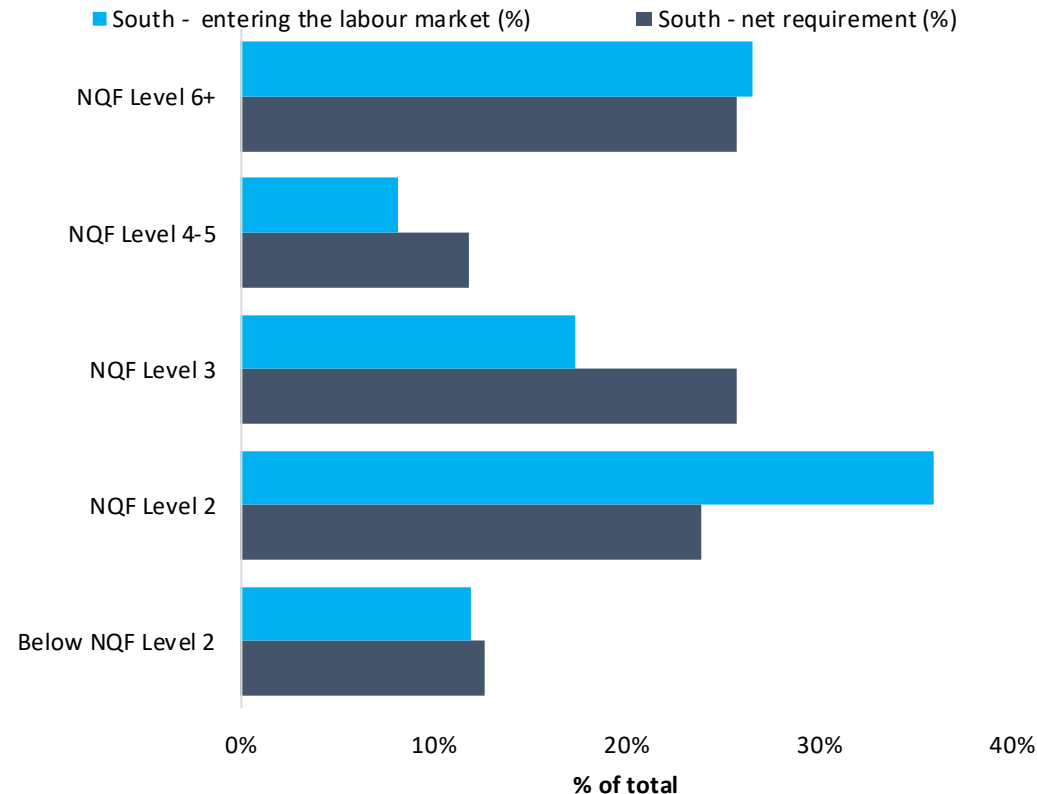
Proportionately there is a marginal oversupply of degree level and above qualifiers entering into the labour market relative to the net requirement under baseline conditions, 26% and 27% respectively. There is also an undersupply of NQF level 3-5 qualifications entering the labour market, relative to the forecast demand, 26% and 38% respectively.

The largest subject gap in current and future skills is in maths, computing, engineering and technology

The largest gaps in current and future skills exist in maths, computing, engineering and technology (-7 percentage points). This suggests that the current subject mix is currently out of sync with the subject demand for high-level skills under the baseline scenario.

It is important to remember that this analysis simply compares the percentage distribution of the demand and supply of skills.

Under baseline conditions, despite there being a clear difference in the subject distribution between the demand and supply, with a lower number of graduates demanded overall under baseline conditions there is unlikely to be a skills shortage in this area.

Distribution of current versus net requirement by NQF level 6+ and subject, South (2017-2027)

	% distribution of qualifiers (2015)	% distribution of net requirement (2017 - 2027)	p.p. difference
Medicine, denistry, subjects allied to medicine	21%	18%	3%
Biological, veterinary, agricultural & physical sciences	12%	14%	-2%
Maths, computing, engineering and technology	12%	19%	-7%
Social studies & law	14%	10%	4%
Business, administration, mass communication and documentation	15%	16%	-1%
All other disciplines	26%	23%	3%

Source: NINIS

Annex B: Maps

School leaver attainment by South wards (2013/14-2015/16)

School leavers (%) achieving 2+ A-levels A*-E, South wards (2013/14-2015/16)

% of school leavers
Achieving at least 2 A-levels, A*-E

- Above 70%
- Above 60% but below 70%
- Above 50% but below 60%
- Below 50%
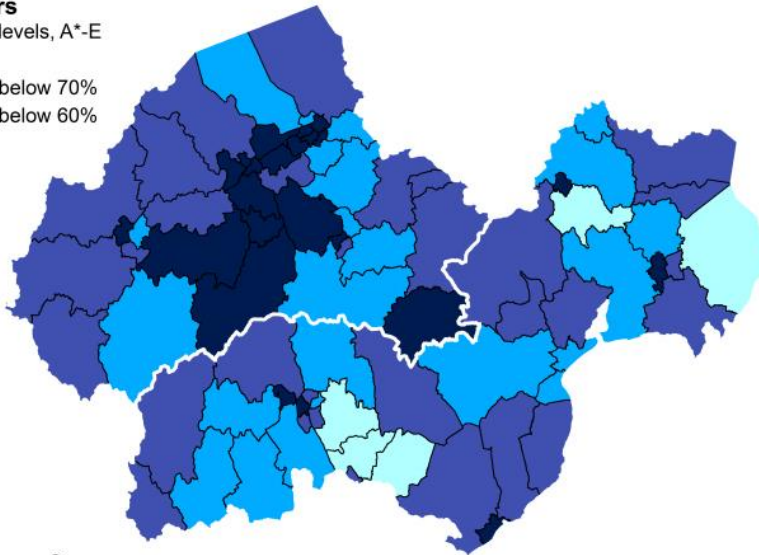
Source: NI School Leavers Survey

School leavers (%) achieving 5+ GCSEs A*-C including English & maths, South wards (2013/14-2015/16)

% of school leavers
Achieving at least 5 GCSEs
(including English & maths), A*-C

- Above 80%
- Above 70% but below 80%
- Above 60% but below 70%
- Above 50% but below 60%
- Below 50%

Source: NI School Leavers Survey

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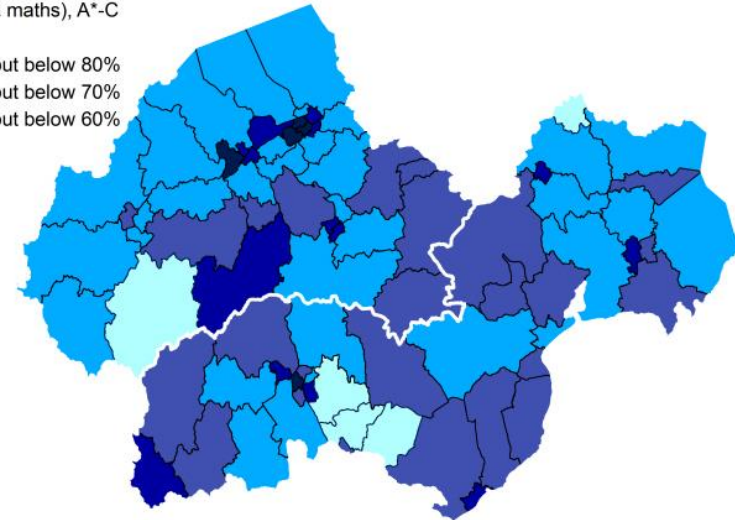
Annex B2: School leaver attainment by South wards (2013/14-2015/16)

School leaver attainment by South wards (2013/14-2015/16)

School leavers (%) achieving 5+ GCSEs A*-C, South wards (2013/14-2015/16)

School leavers (%) not achieving 5+ GCSEs A*-C, South wards (2013/14-2015/16)

% of school leavers
Achieving at least 5 GCSEs, A*-C

- Above 85%
- Above 80% but below 85%
- Above 75% but below 80%
- Below 75%
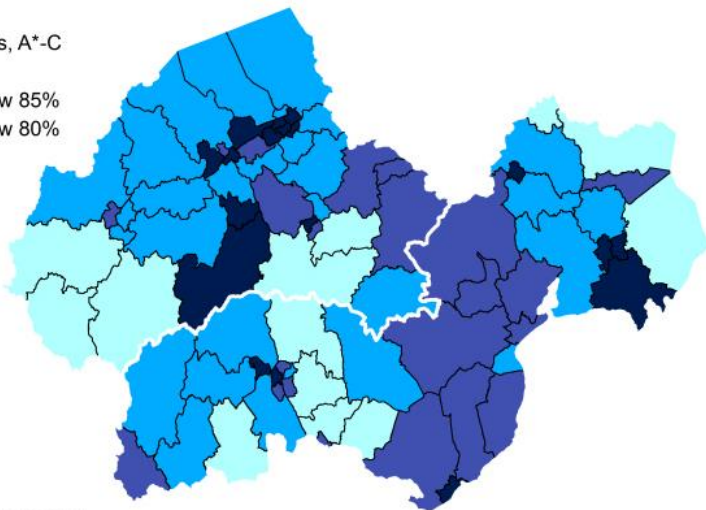
Source: NI School Leavers Survey

% of school leavers
Not achieving at least 5 GCSEs, A*-C

- Above 30%
- Above 20% but below 30%
- Above 15% but below 20%
- Below 15%
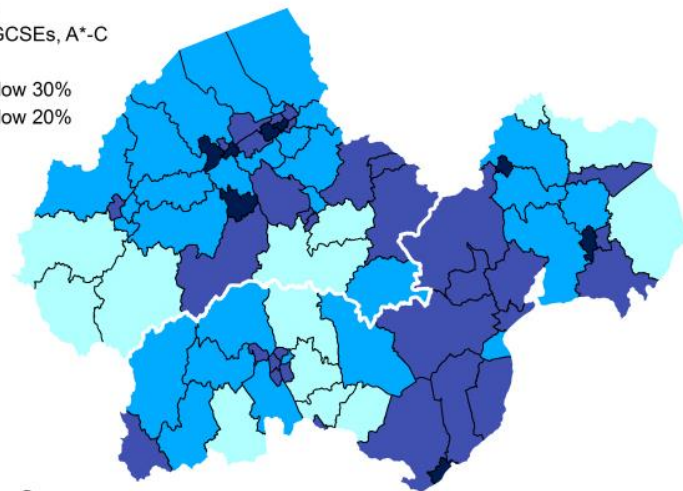
Source: NI School Leavers Survey

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Annex B3: Highest qualification below NQF level 2 (2011) versus school leavers not entering education, employment or training (2013/14 to 2014/15), South DEA's/SOA's

Working age population (%) with NQF level 2 or below, South DEA's (2011)

School leavers (%) not entering education, employment or training, South SOA's (2013/14 to 2014/15)

% of working age population
With highest qualification below NQF level 2
- Above 45%
- Above 40% but below 45%
- Above 35% but below 40%
- Below 35%

Source: NISRA, Census 2011

% of school leavers aged 16-18
Not entering Education, Employment or Training (NEETs)
- Above 5%
- Above 3% but below 5%
- Above 2% but below 3%
- Above 1% but below 2%
- Below 1%

Source: NISRA, NI Multiple Deprivation Index

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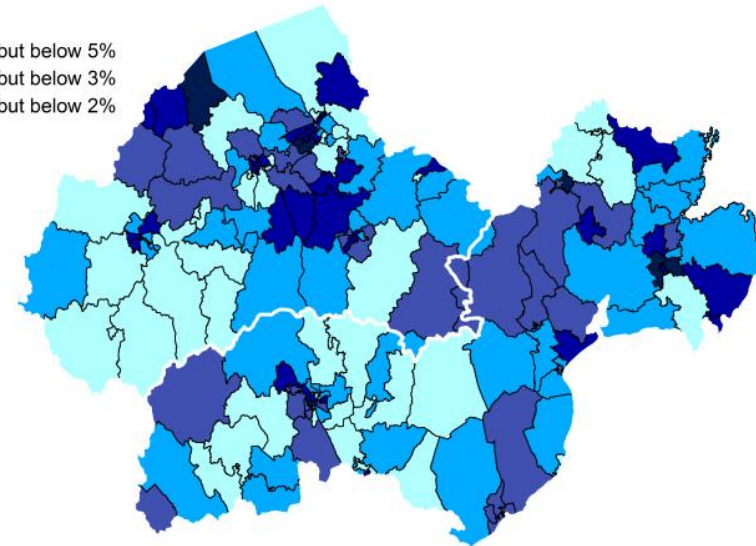
Annex B4: Employment deprivation (2015/16) versus population aged 18-21 not enrolled in a HE course at HE or FE, South SOA's (2012/13-2014/15)

Employment deprivation (2015/16) versus population aged 18-21 not enrolled in a HE course at HE or FE, South SOA's (2012/13-2014/15)

Proportion (%) of population aged 25-64 who are employment deprived, South SOA's (2015/16)

Proportion (%) of population aged 18-21 not enrolled in a HE course at HE or FE, South SOA's (2012/13-2015/16)

% of population aged 25-64
Employment deprived
- Above 25%
- Above 20% but below 25%
- Above 15% but below 20%
- Below 15%
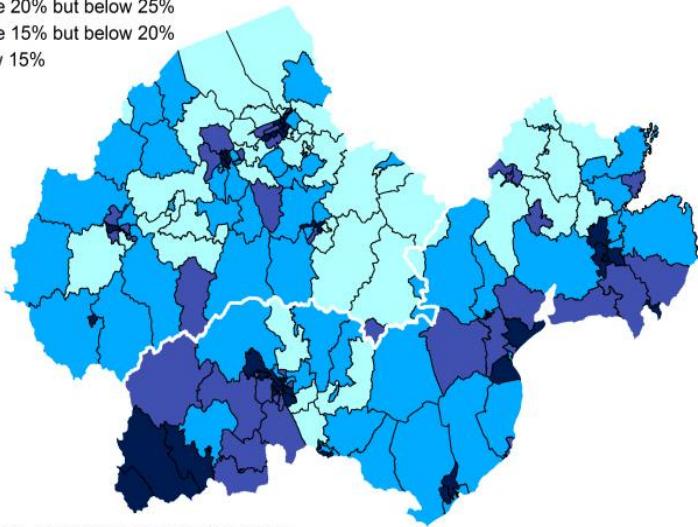
Source: NISRA, NI Mulitple Deprivation Index

Note: Employment derpived is defined as the proportion of working age population who are in reciept of at least one employment benefit and individuals who are not in receipt of the selected benefits, nor have received income from employment.

% of population aged 18-21
Not enrolled in Higher Education
- Above 80%
- Above 70% but below 80%
- Above 60% but below 70%
- Above 50% but below 60%
- Below 50%
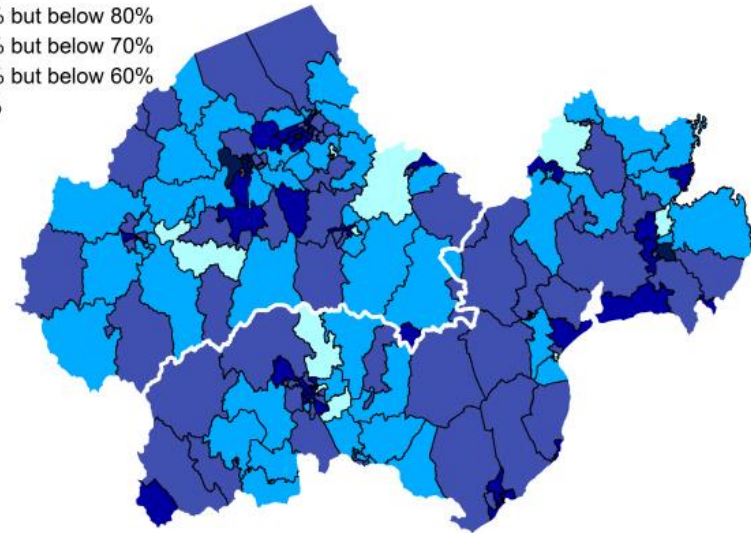
Source: NISRA, NI Multiple Deprivation Index
Note: Not enrolled in higher education course in a higher or further education Institution

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Annex B5: NQF level 4+ qualifications, workplace versus resident, South SOA's (2011)

NQF level 4+ qualifications, workplace versus resident, South SOA's (2011)

Proportion (%) of 16-74 population with NQF level 4+ qualifications (workplace based), South SOA's (2011)
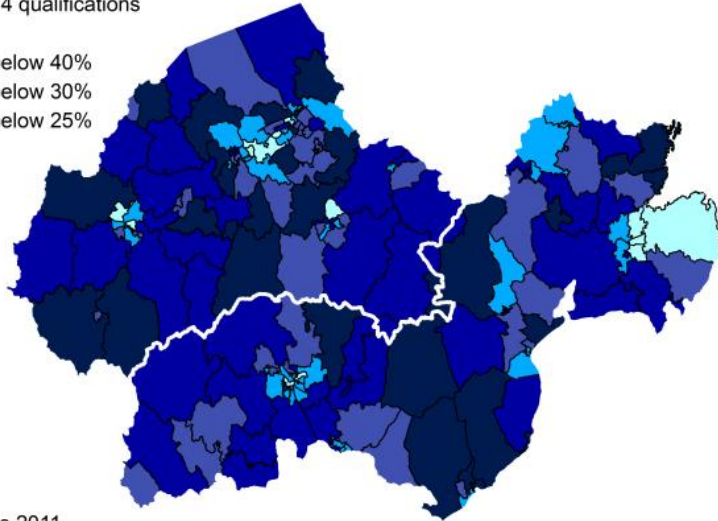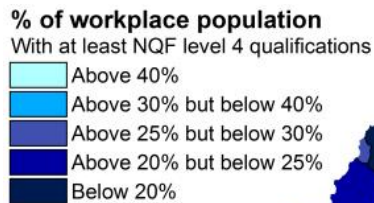
Proportion (%) of 25-64 population with NQF level 4+ qualifications (resident based), South SOA's (2011)

% of workplace population
With at least NQF level 4 qualifications
- Above 40%
- Above 30% but below 40%
- Above 25% but below 30%
- Above 20% but below 25%
- Below 20%

Source: NISRA, Census 2011

% of population aged 25-64
With at least NQF level 4 qualifications
- Above 40%
- Above 30% but below 40%
- Above 25% but below 30%
- Above 20% but below 25%
- Below 20%

Source: NISRA, Census 2011

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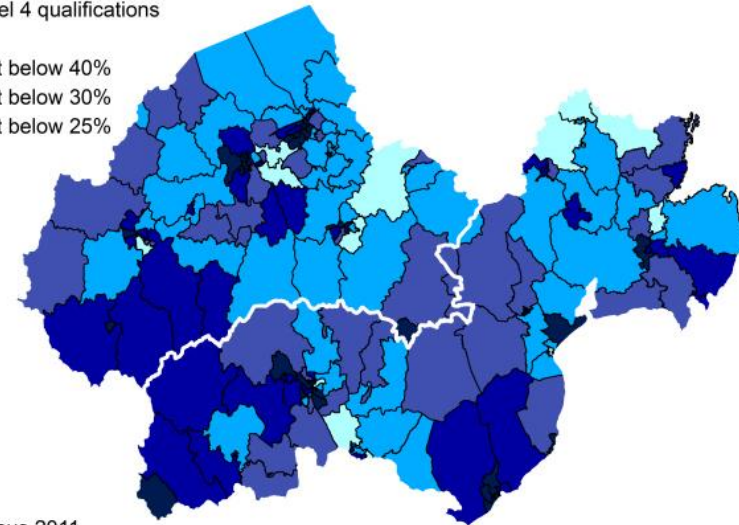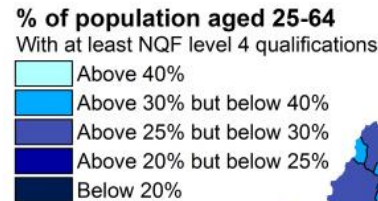
Annex C: Scatters

Annex C1: Employment deprivation (2015/16) versus low or no qualifications (2011), South and NI SOA's

% working age population employment deprived (2015/16) versus % of 25-64 population with low or no qualifications (2011), South SOA's

y = 0.6904x - 0.0405
R² = 0.6859

% working age population employment deprived (2015/16) versus % of 25-64 population with low or no qualifications (2011), NI SOA's

y = 0.7309x - 0.0517
R² = 0.7613

Source: NI Multiple Deprivation Measure
Note: Employment deprived is defined as proportion of working age population who are in receipt of at least one employment related benefit, and individuals who are not in receipt of an employment related benefit, nor have received income from employment

Source: NI Multiple Deprivation Measure

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Annex C2: Educational attainment (2013/14-2015-16) versus proportion of pupils entitles to free school meals (2013/14-2015/16), South and NI wards

% school leavers not achieving 5+ GCSEs including English and maths (2013/14-2015/16) versus % of pupils receiving FSME (2013/14-2015/16), South Wards

y = 0.6154x + 0.1919
R² = 0.4289
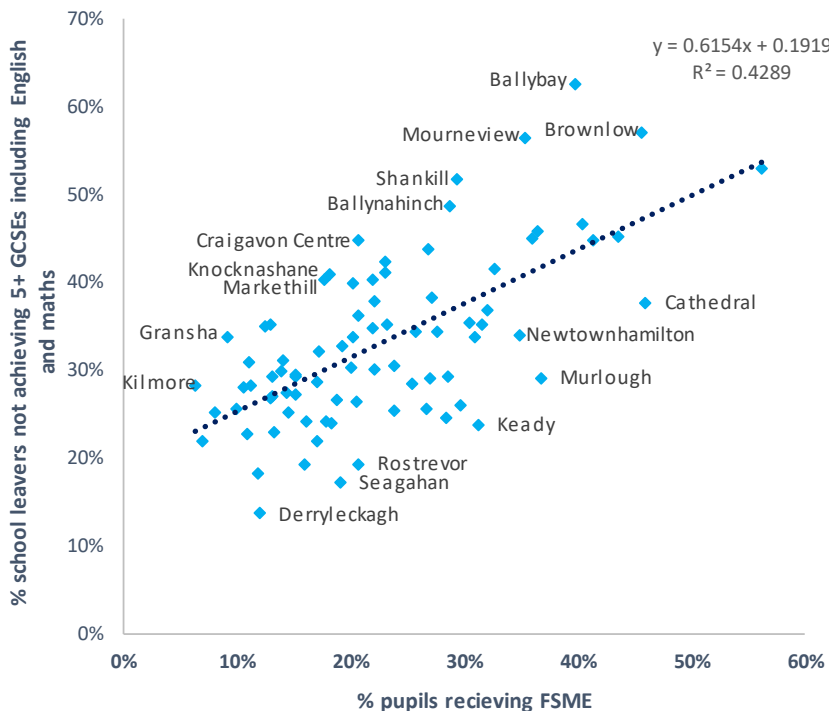
% school leavers not achieving 5+ GCSEs including English and maths (2013/14-2015/16) versus % of pupils receiving FSME (2013/14-2015/16), NI Wards

y = 0.6898x + 0.1789
R² = 0.5391

Source: NI School leavers survey

Source: NI School leavers survey

Annex C3: Educational attainment (2013/14-2015/16) versus proportion of births to unmarried mothers (2014-15), South and NI wards

% school leavers not achieving 5+ GCSEs including English and maths (2013/14-2015/16) versus % of births to unmarried mothers (2014-2015), South Wards

$y = 0.4984x + 0.1497$
$R^2 = 0.4503$

Labelled points: Ballybay, Brownlow, Shankill, Ballynahinch, Bessbrook, Crossmaglen, Annalong, Gransha, Donaghcloney, Killycomain, Lecale, Damolly, Murlough, Lough Road, Drumaness, Seagahan, Derryleckagh

Y-axis: % school leavers not achieving 5+ GCSEs including English and maths
X-axis: % births to unmarried mothers

% school leavers not achieving 5+ GCSEs including English and maths (2013/14-2015/16) versus % of births to unmarried mothers (2014-2015), NI Wards

$y = 0.536x + 0.1192$
$R^2 = 0.5409$

Labelled points: Woodvale, Shankill, Ballee and Harryville, Ballybay, Kilcooley, Brownlow, Fairview, Ardboe, Coagh, Beechmount, Ballygawley, Derrylin, Lisnagelvin, Ballymaguigan, Shaw's Road, Springtown, Camowen, Dunmurry, Ballyholme, Culmore, Malone

Y-axis: % school leavers not achieving 5+ GCSEs including English and maths
X-axis: % births to unmarried mothers

Source: NI School leavers survey

Source: NI School leavers survey

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Annex C4: Educational attainment (2015/16) versus employment deprivation (2015-16), South and NI SOA's

% school leavers not achieving 5+ GCSEs including English and maths (2015/16) versus % of working age population employment deprived (2015/16), South SOA's

y = 1.2612x + 0.0701
R² = 0.4792
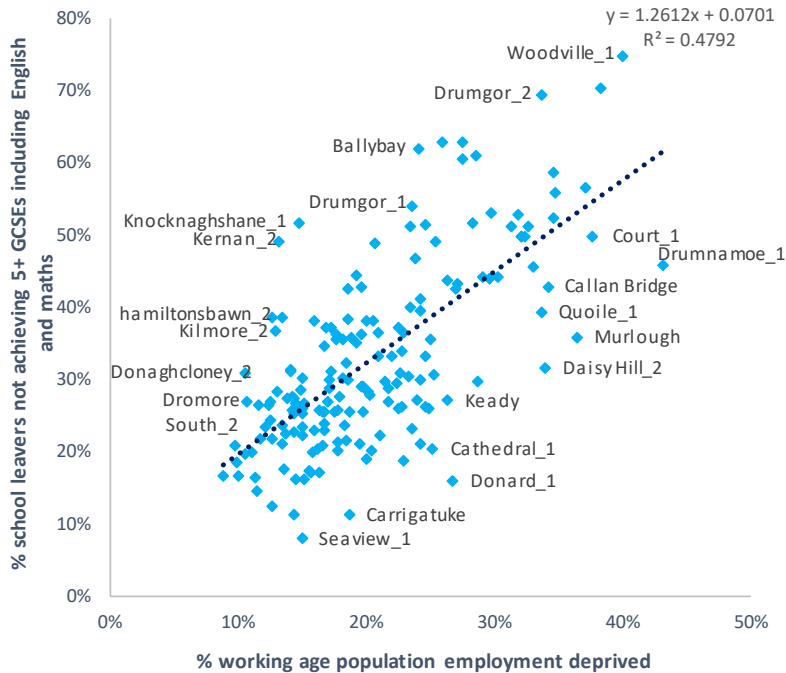
Source: NI Multiple Deprivation Measure

Note: Employment deprived is defined as proportion of working age population who are in receipt of at least one employment related benefit, and individuals who are not in receipt of an employment related benefit, nor have received income from employment

% school leavers not achieving 5+ GCSEs including English and maths (2015/16) versus % of working age population employment deprived (2015/16), NI SOA's

y = 1.1262x + 0.1044
R² = 0.4984

Source: NI Multiple Deprivation Measure

Note: Employment deprived is defined as proportion of working age population who are in receipt of at least one employment related benefit, and individuals who are not in receipt of an employment related benefit, nor have received income from employment

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Annex C5: Educational attainment (2015/16) and adult population with low or no qualifications (2011), South and NI SOA's

% school leavers not achieving 5+ GCSEs including English and maths (2015/16) versus % of 25-64 population with low or no qualifications (2011), South SOA's

y = 1.0999x - 0.0627
R² = 0.5244

Source: NI Multiple Deprivation Measure

% school leavers not achieving 5+ GCSEs including English and maths (2015/16) versus % of 25-64 population with low or no qualifications (2011), NI SOA's

y = 1.0268x - 0.0273
R² = 0.5904
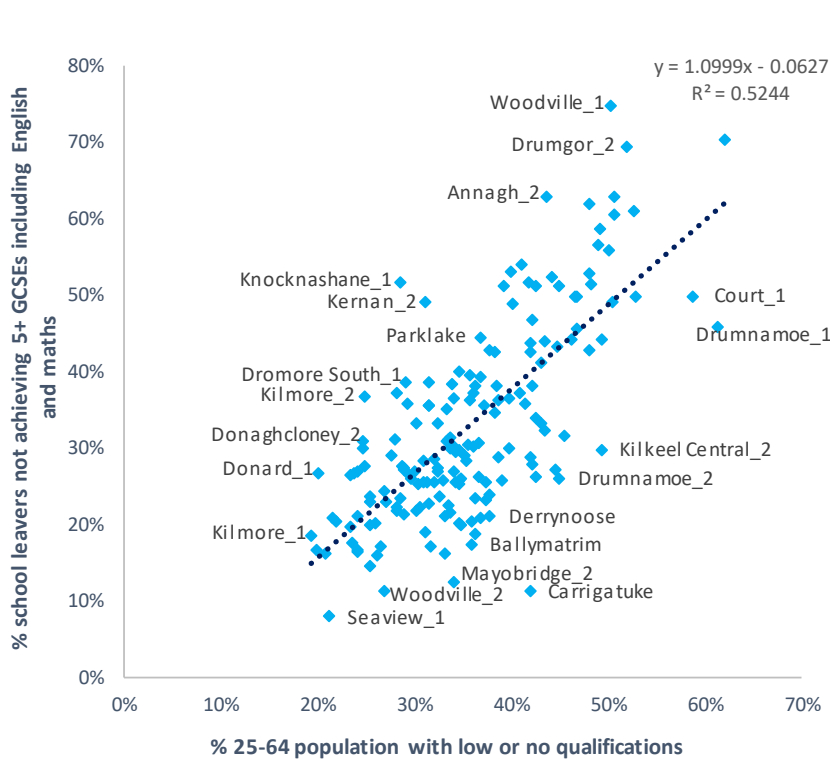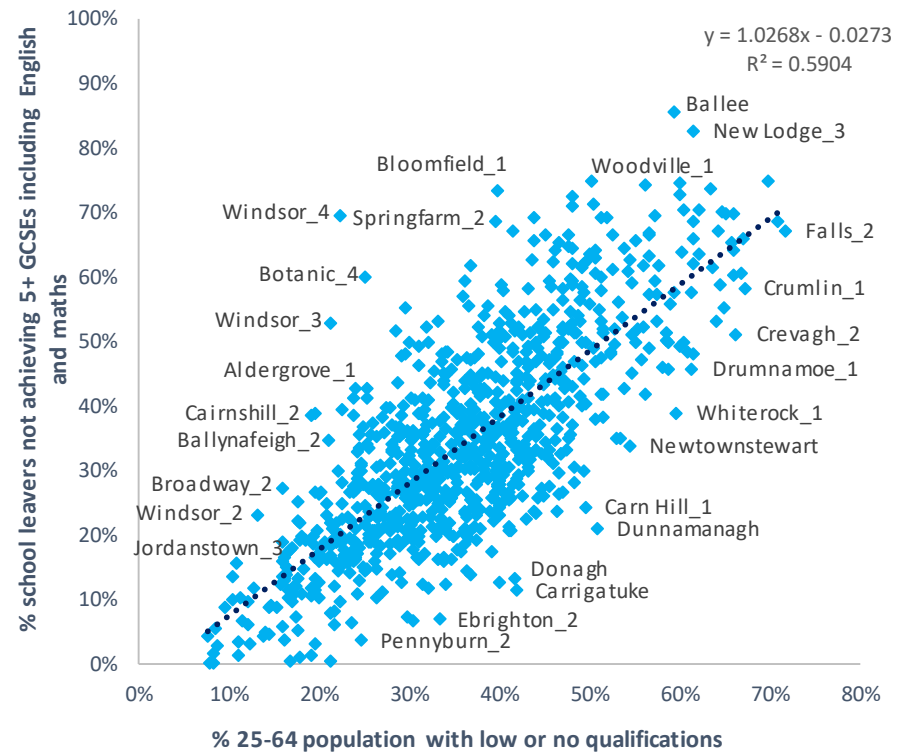
Source: NI Multiple Deprivation Measure

Annex C6: Tertiary education participation (2015/16) versus adult population with low or no skills (2011), South and NI SOA's

% 18-21 population not enrolled in HE course at HE or FE (2015/16) versus % of 25-64 population with low or no qualifications (2011), South SOA's

$y = 0.8648x + 0.3269$
$R^2 = 0.6554$

% 18-21 population not enrolled in HE course at HE or FE (2015/16) versus % of 25-64 population with low or no qualifications (2011), NI SOA's

$y = 0.7435x + 0.3743$
$R^2 = 0.568$

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Annex D: DEA Net Requirement

Annex D1: DEA Net Requirement (Armagh and Banbridge)

Net requirement (South) vs skills profile of labour market entrants (Armagh) (2017-2027)

■ ARMAGH - entering labour market ■ South - net requirement (%)

NQF Level 6+
NQF Level 4-5
NQF Level 3
NQF Level 2
Below NQF Level 2

% of total
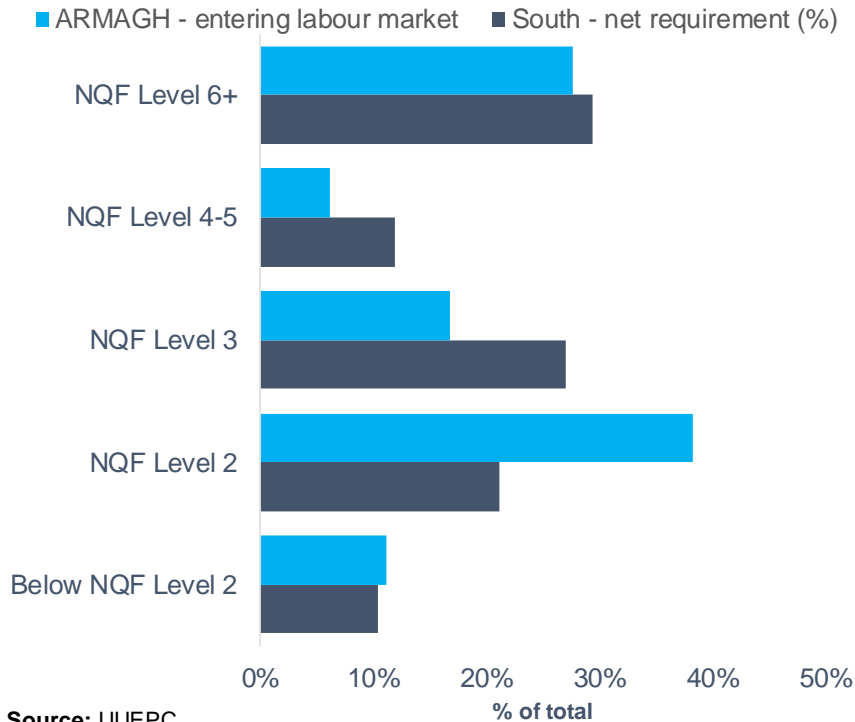
Source: UUEPC

Net requirement (South) vs skills profile of labour market entrants (Banbridge) (2017-2027)

■ BANBRIDGE - entering labour market ■ South - net requirement (%)

NQF Level 6+
NQF Level 4-5
NQF Level 3
NQF Level 2
Below NQF Level 2

% of total

Source: UUEPC

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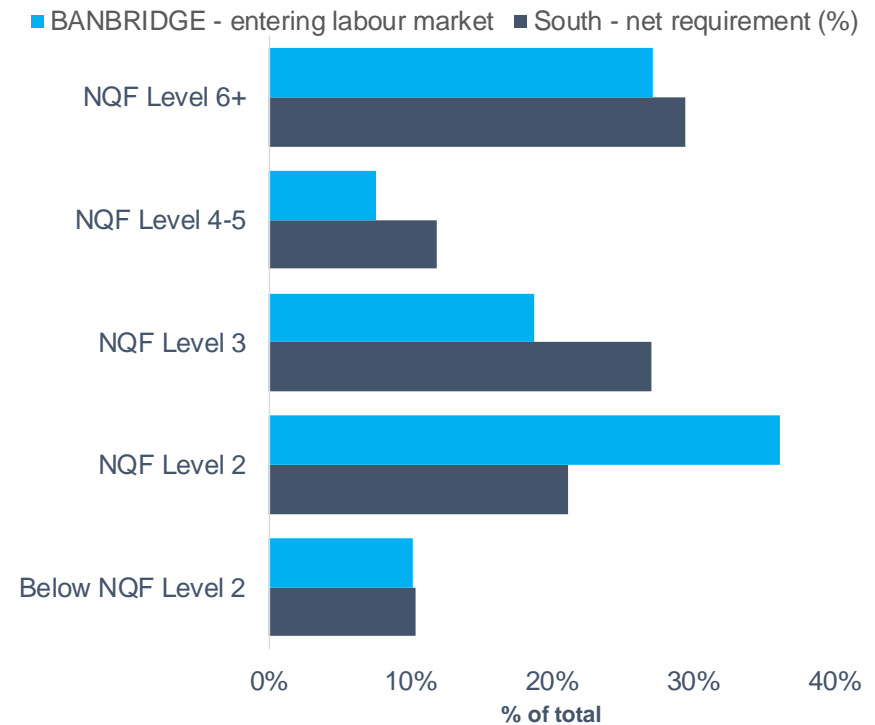
Annex D2: DEA Net Requirement (Craigavon and Crotlieve)

Net requirement (South) vs skills profile of labour market entrants (Craigavon) (2017-2027)
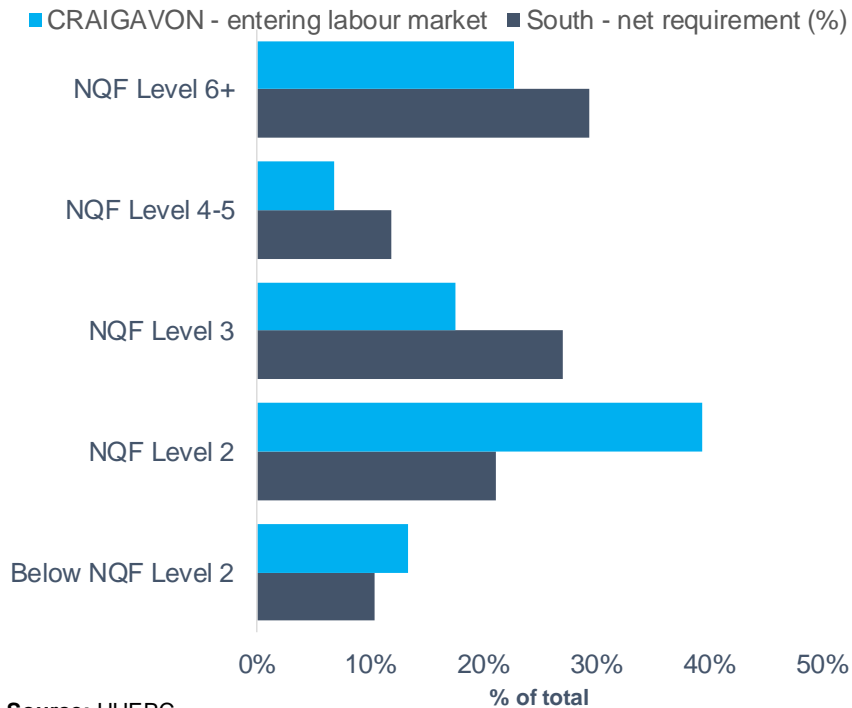
■ CRAIGAVON - entering labour market ■ South - net requirement (%)

Net requirement (South) vs skills profile of labour market entrants (Crotlieve) (2017-2027)

■ CROTLIEVE - entering labour market ■ South - net requirement (%)

Source: UUEPC

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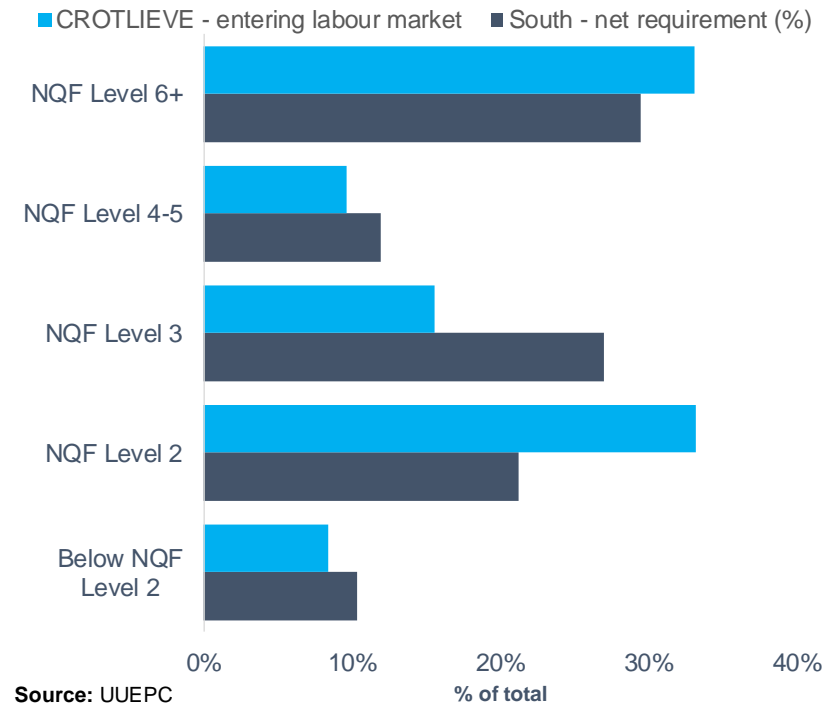
Annex D3: DEA Net Requirement (Cusher and Downpatrick)

Net requirement (South) vs skills profile of labour market entrants (Cusher) (2017-2027)

Legend: ■ CUSHER - entering labour market   ■ South - net requirement (%)

Categories (top to bottom): NQF Level 6+, NQF Level 4-5, NQF Level 3, NQF Level 2, Below NQF Level 2

X-axis: 0%, 10%, 20%, 30%, 40% — % of total

Source: UUEPC
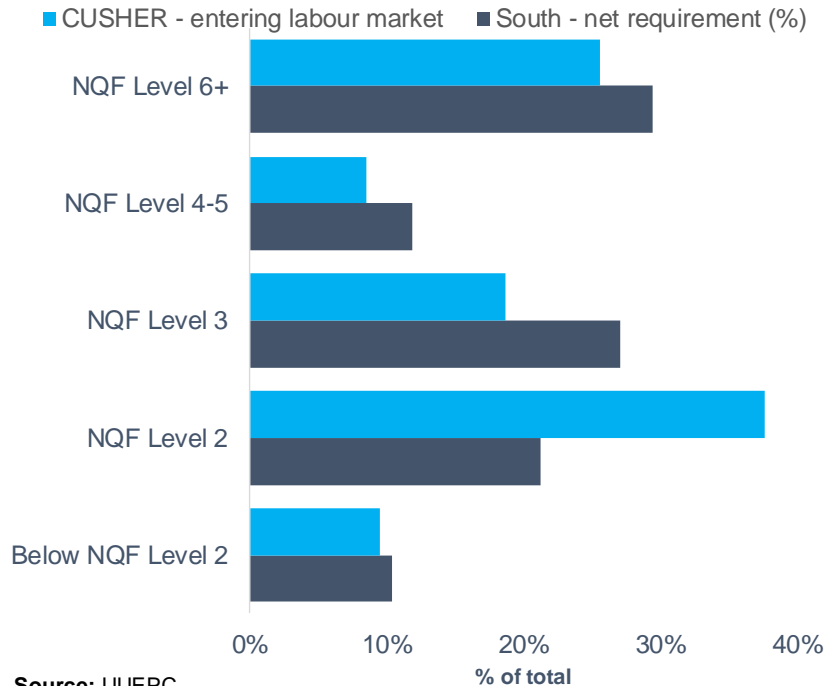
Net requirement (South) vs skills profile of labour market entrants (Downpatrick) (2017-2027)

Legend: ■ DOWNPATRICK - entering labour market   ■ South - net requirement (%)

Categories (top to bottom): NQF Level 6+, NQF Level 4-5, NQF Level 3, NQF Level 2, Below NQF Level 2

X-axis: 0%, 10%, 20%, 30%, 40% — % of total

Source: UUEPC

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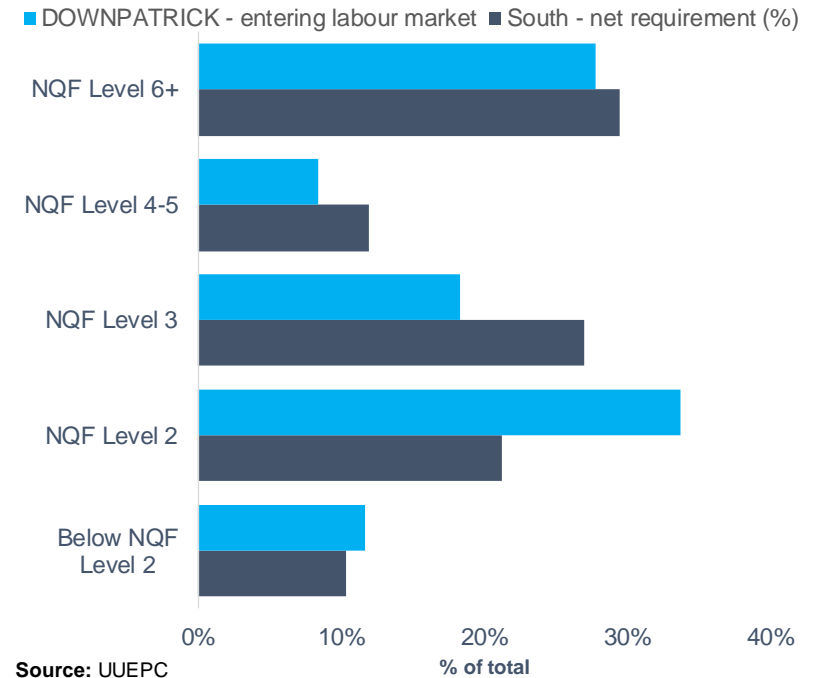
Annex D4: DEA Net Requirement (Lagan River and Lurgan)

Net requirement (South) vs skills profile of labour market entrants (Lagan River) (2017-2027)

■ LAGAN RIVER - entering labour market ■ South - net requirement (%)
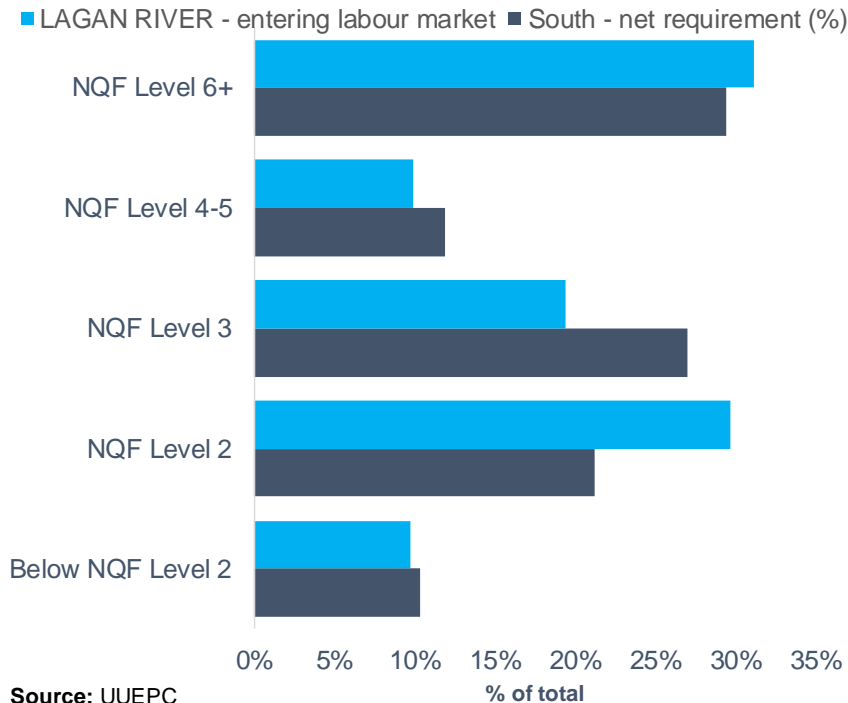
Net requirement (South) vs skills profile of labour market entrants (Lurgan) (2017-2027)

■ LURGAN - entering labour market ■ South - net requirement (%)

Source: UUEPC

Ulster University
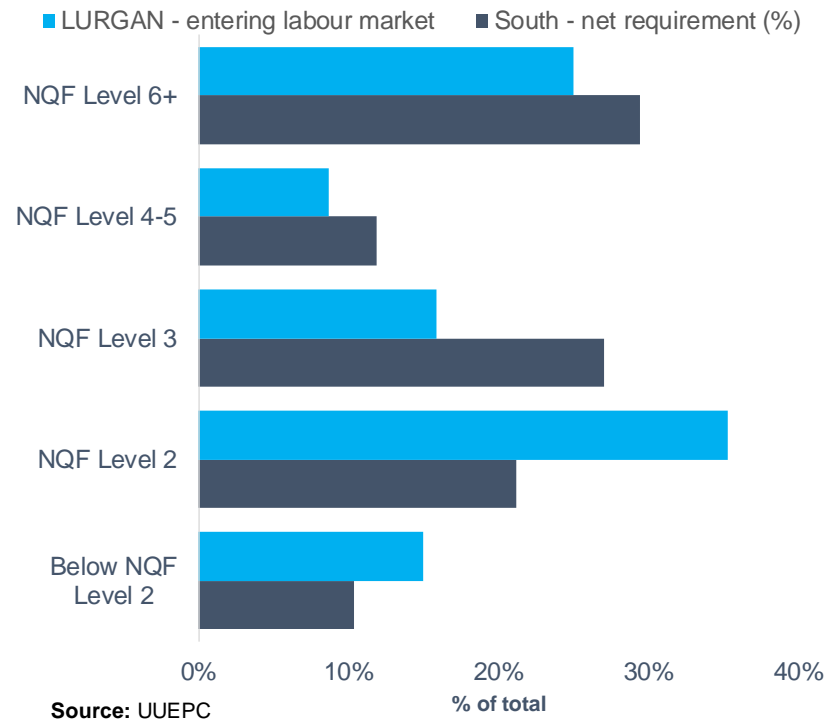
Annex D5: DEA Net Requirement (Newry and Portadown)

Net requirement (South) vs skills profile of labour market entrants (Newry) (2017-2027)
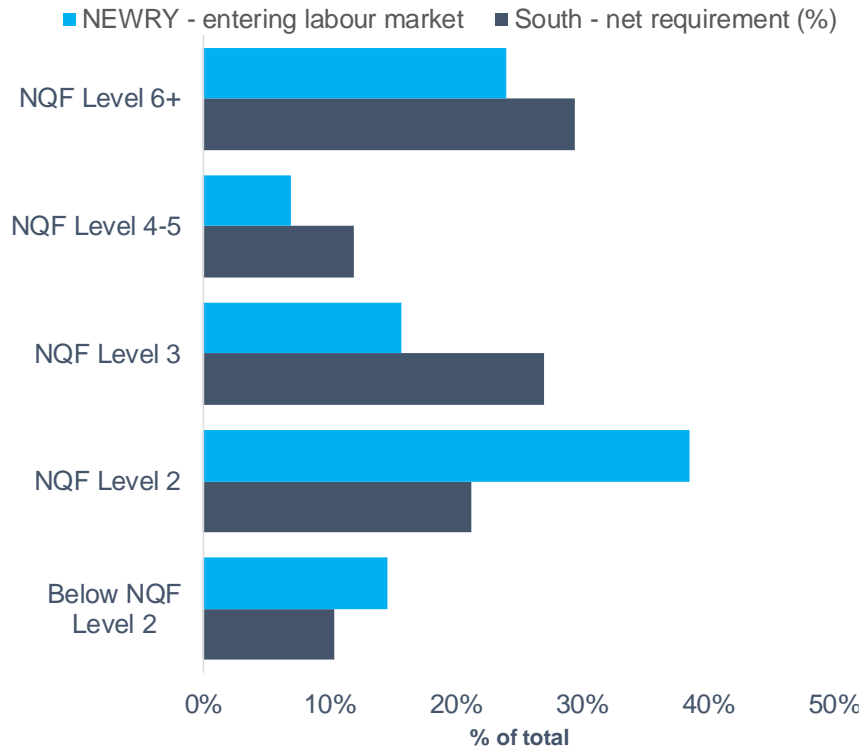
■ NEWRY - entering labour market ■ South - net requirement (%)

Net requirement (South) vs skills profile of labour market entrants (Portadown) (2017-2027)

■ PORTADOWN - entering labour market ■ South - net requirement (%)
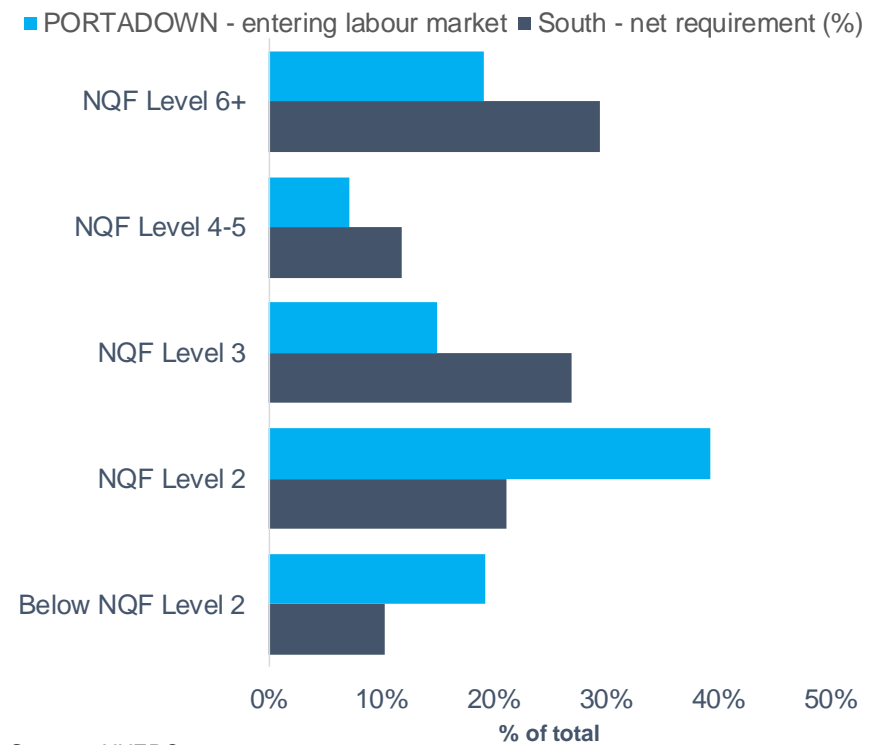
Source: UUEPC

Source: UUEPC

Annex D6: DEA Net Requirement (Slieve Croob and Slieve Gullion)

Net requirement (South) vs skills profile of labour market entrants (Slieve Croob) (2017-2027)

■ SLIEVE CROOB - entering labour market ■ South - net requirement (%)

Source: UUEPC

% of total
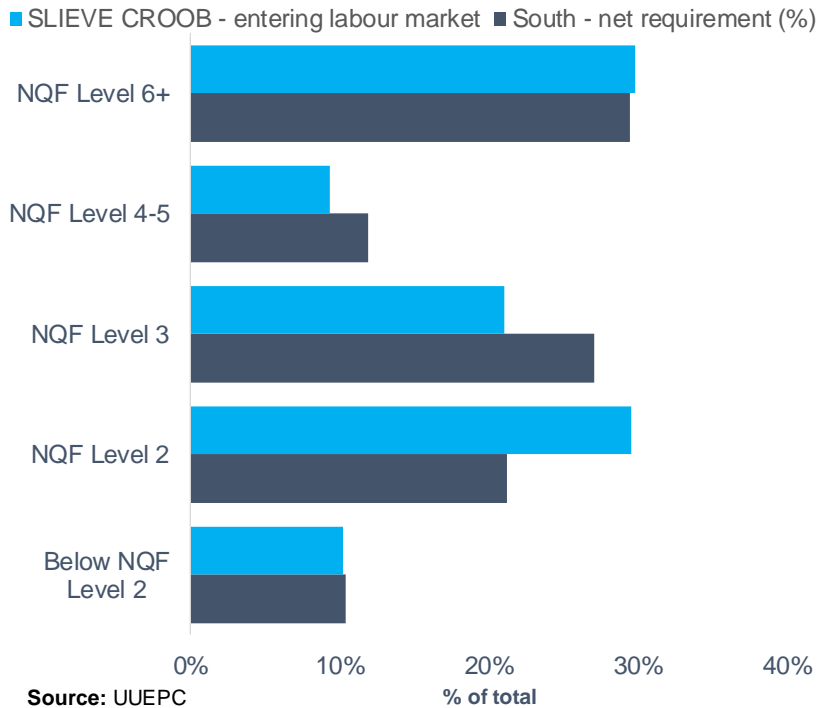
Net requirement (South) vs skills profile of labour market entrants (Slieve Gullion) (2017-2027)

■ SLIEVE GULLION - entering labour market ■ South - net requirement (%)

Source: UUEPC

% of total
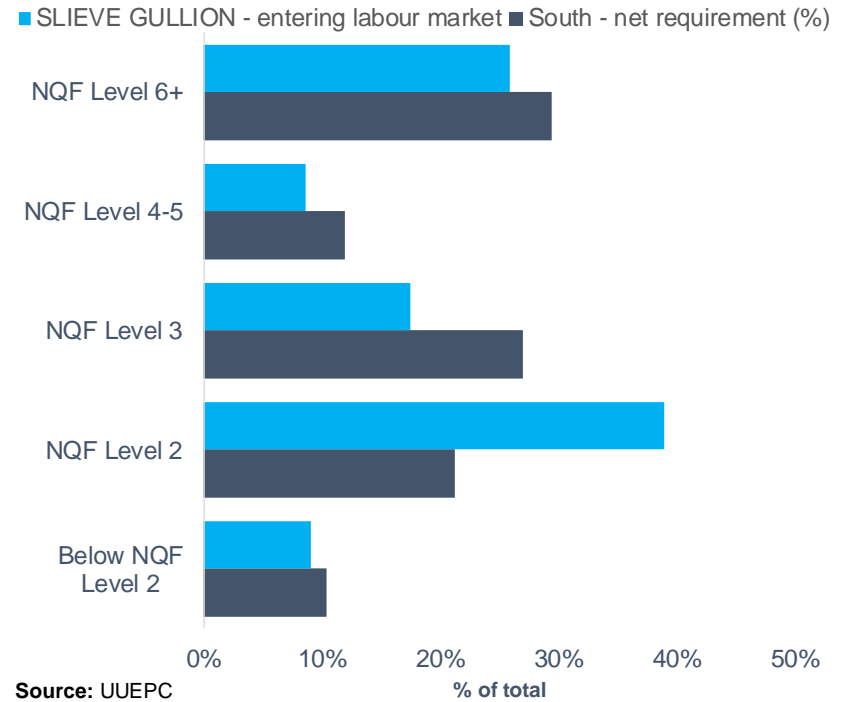
Annex D7: DEA Net Requirement (Rowallane and the Mournes)

Net requirement (South) vs skills profile of labour market entrants (Rowallane) (2017-2027)

■ ROWALLANE - entering labour market ■ South - net requirement (%)

Source: UUEPC
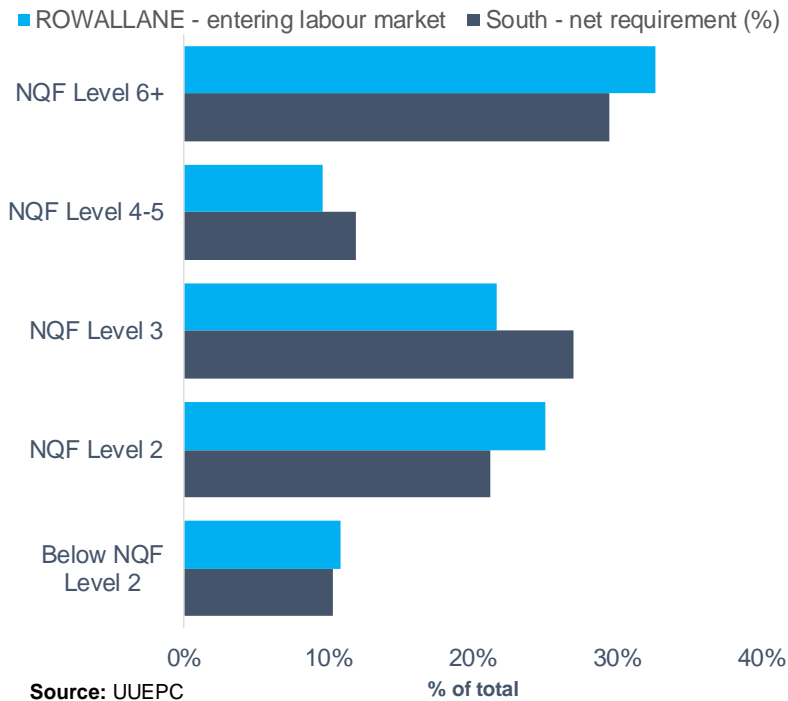
Net requirement (South) vs skills profile of labour market entrants (The Mournes) (2017-2027)

■ THE MOURNES - entering labour market ■ South - net requirement (%)

Source: UUEPC
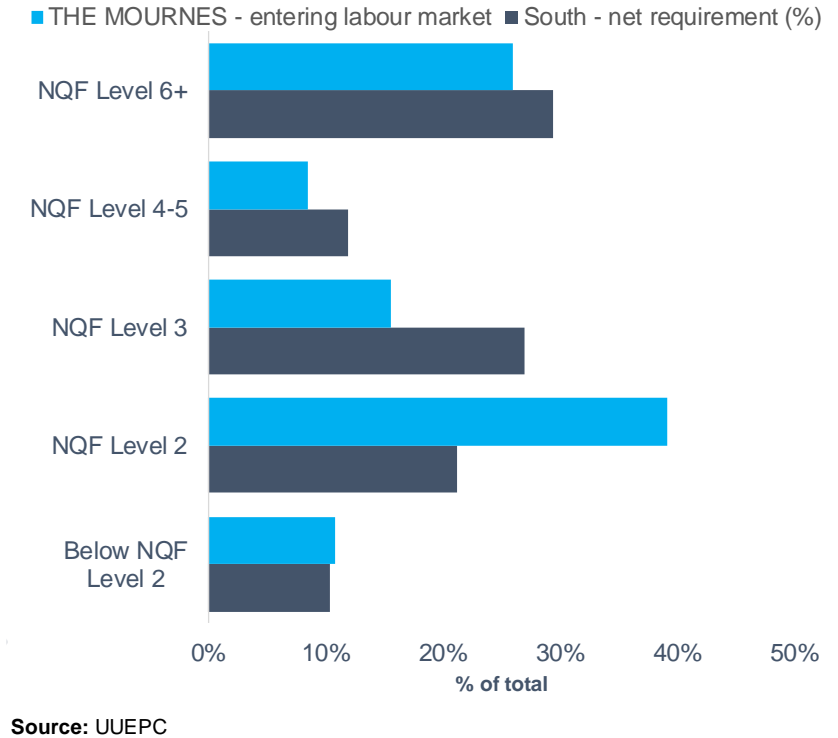
Annex E: DEA Score cards

Annex E1: Crotlieve (Newry, Mourne and Down)

	Crotlieve	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	78%	9
	% of school enrolments entitled to FSM	23%	36
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	13%	47
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	61%	63
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	9%	17
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	21%	11
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	20%	58
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	9%	76
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	35%	25
	% of 16-64 population with high qualifications (NQF level 4+)	28%	21
	% of 16-34 population with low qualifications (below NQF level 2)	25%	18
	% of 16-34 population with high qualifications (NQF level 4+)	27%	25
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	18%	29
	Social security clients (client group analysis) as a % of the population (16-34)	11%	23
	Housing benefit claimants as a % of the population (16-64)	6%	19
	Housing benefit claimants as a % of the population (16-34)	4%	18
	% of households with no adults in employment	30%	19
	% of households with no adults in employment with dependent children	6%	54
	% of households with lone parents with dependent children	8%	39
	% of people employed who are either managers/senior officials or professionals	9%	13
	Employment rate (%, 16-74 population)	61%	42
	Unemployed who have never worked (% of unemployed)	12%	17

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

Ranked in the top 10 performing DEA's in NI

Ranked in the bottom 10 performing DEA's in NI

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Annex E2: Downpatrick (Newry, Mourne and Down)

	Downpatrick	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	66%	47
	% of school enrolments entitled to FSM	30%	51
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	11%	40
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	61%	62
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	12%	32
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	15%	49
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	21%	53
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	11%	50
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	36%	29
	% of 16-64 population with high qualifications (NQF level 4+)	26%	30
	% of 16-34 population with low qualifications (below NQF level 2)	29%	41
	% of 16-34 population with high qualifications (NQF level 4+)	21%	70
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	27%	65
	Social security clients (client group analysis) as a % of the population (16-34)	22%	69
	Housing benefit claimants as a % of the population (16-64)	13%	63
	Housing benefit claimants as a % of the population (16-34)	12%	66
	% of households with no adults in employment	37%	56
	% of households with no adults in employment with dependent children	6%	59
	% of households with lone parents with dependent children	11%	65
	% of people employed who are either managers/senior officials or professionals	8%	24
	Employment rate (%, 16-74 population)	59%	60
	Unemployed who have never worked (% of unemployed)	18%	59

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

Ranked in the top 10 performing DEA's in NI

Ranked in the bottom 10 performing DEA's in NI

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Annex E3: Newry (Newry, Mourne and Down)

	Newry	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	67%	40
	% of school enrolments entitled to FSM	38%	68
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	12%	46
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	68%	77
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	16%	51
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	16%	39
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	24%	41
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	15%	13
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	43%	62
	% of 16-64 population with high qualifications (NQF level 4+)	23%	49
	% of 16-34 population with low qualifications (below NQF level 2)	35%	69
	% of 16-34 population with high qualifications (NQF level 4+)	22%	53
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	26%	64
	Social security clients (client group analysis) as a % of the population (16-34)	17%	58
	Housing benefit claimants as a % of the population (16-64)	13%	61
	Housing benefit claimants as a % of the population (16-34)	9%	56
	% of households with no adults in employment	38%	62
	% of households with no adults in employment with dependent children	8%	68
	% of households with lone parents with dependent children	11%	64
	% of people employed who are either managers/senior officials or professionals	8%	36
	Employment rate (%, 16-74 population)	57%	67
	Unemployed who have never worked (% of unemployed)	14%	33

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

Ranked in the top 10 performing DEA's in NI

Ranked in the bottom 10 performing DEA's in NI

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Annex E4: Rowallane (Newry, Mourne and Down)

	Rowallane	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	71%	29
	% of school enrolments entitled to FSM	19%	19
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	9%	34
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	50%	15
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	11%	27
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	18%	21
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	30%	12
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	11%	53
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	33%	19
	% of 16-64 population with high qualifications (NQF level 4+)	28%	22
	% of 16-34 population with low qualifications (below NQF level 2)	26%	26
	% of 16-34 population with high qualifications (NQF level 4+)	24%	36
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	17%	20
	Social security clients (client group analysis) as a % of the population (16-34)	11%	21
	Housing benefit claimants as a % of the population (16-64)	7%	30
	Housing benefit claimants as a % of the population (16-34)	6%	27
	% of households with no adults in employment	31%	23
	% of households with no adults in employment with dependent children	4%	24
	% of households with lone parents with dependent children	7%	34
	% of people employed who are either managers/senior officials or professionals	9%	18
	Employment rate (%, 16-74 population)	65%	20
	Unemployed who have never worked (% of unemployed)	13%	31

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

Ranked in the top 10 performing DEA's in NI

Ranked in the bottom 10 performing DEA's in NI

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Annex E5: Slieve Croob (Newry, Mourne and Down)

	Slieve Croob	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	68%	36
	% of school enrolments entitled to FSM	23%	34
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	8%	23
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	52%	23
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	10%	19
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	15%	45
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	19%	63
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	9%	71
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	34%	22
	% of 16-64 population with high qualifications (NQF level 4+)	26%	33
	% of 16-34 population with low qualifications (below NQF level 2)	26%	27
	% of 16-34 population with high qualifications (NQF level 4+)	22%	54
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	19%	33
	Social security clients (client group analysis) as a % of the population (16-34)	13%	34
	Housing benefit claimants as a % of the population (16-64)	7%	25
	Housing benefit claimants as a % of the population (16-34)	5%	20
	% of households with no adults in employment	31%	20
	% of households with no adults in employment with dependent children	5%	40
	% of households with lone parents with dependent children	8%	38
	% of people employed who are either managers/senior officials or professionals	8%	30
	Employment rate (%, 16-74 population)	64%	21
	Unemployed who have never worked (% of unemployed)	13%	28

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

🟩 Ranked in the top 10 performing DEA's in NI

🟥 Ranked in the bottom 10 performing DEA's in NI

Annex E6: Slieve Gullion (Newry, Mourne and Down)

	Slieve Gullion	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	66%	50
	% of school enrolments entitled to FSM	37%	65
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	20%	72
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	61%	60
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	7%	6
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	19%	19
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	17%	72
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	14%	29
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	42%	54
	% of 16-64 population with high qualifications (NQF level 4+)	22%	62
	% of 16-34 population with low qualifications (below NQF level 2)	30%	48
	% of 16-34 population with high qualifications (NQF level 4+)	23%	48
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	24%	61
	Social security clients (client group analysis) as a % of the population (16-34)	16%	51
	Housing benefit claimants as a % of the population (16-64)	9%	45
	Housing benefit claimants as a % of the population (16-34)	8%	52
	% of households with no adults in employment	37%	55
	% of households with no adults in employment with dependent children	9%	73
	% of households with lone parents with dependent children	11%	63
	% of people employed who are either managers/senior officials or professionals	7%	52
	Employment rate (%, 16-74 population)	57%	68
	Unemployed who have never worked (% of unemployed)	17%	55

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

Ranked in the top 10 performing DEA's in NI

Ranked in the bottom 10 performing DEA's in NI

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Annex E7: The Mournes (Newry, Mourne and Down)

	The Mournes	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	68%	37
	% of school enrolments entitled to FSM	29%	49
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	13%	49
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	65%	69
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	10%	21
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	15%	47
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	20%	55
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	12%	44
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	40%	44
	% of 16-64 population with high qualifications (NQF level 4+)	22%	57
	% of 16-34 population with low qualifications (below NQF level 2)	30%	50
	% of 16-34 population with high qualifications (NQF level 4+)	22%	60
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	23%	52
	Social security clients (client group analysis) as a % of the population (16-34)	14%	48
	Housing benefit claimants as a % of the population (16-64)	9%	49
	Housing benefit claimants as a % of the population (16-34)	7%	44
	% of households with no adults in employment	37%	60
	% of households with no adults in employment with dependent children	6%	53
	% of households with lone parents with dependent children	7%	37
	% of people employed who are either managers/senior officials or professionals	7%	53
	Employment rate (%, 16-74 population)	60%	54
	Unemployed who have never worked (% of unemployed)	14%	35

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

Ranked in the top 10 performing DEA's in NI

Ranked in the bottom 10 performing DEA's in NI

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Annex E8: Armagh (Armagh City, Banbridge and Craigavon)

	Armagh	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	71%	30
	% of school enrolments entitled to FSM	31%	55
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	16%	63
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	64%	68
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	11%	25
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	14%	52
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	15%	76
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	12%	46
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	42%	56
	% of 16-64 population with high qualifications (NQF level 4+)	23%	52
	% of 16-34 population with low qualifications (below NQF level 2)	33%	60
	% of 16-34 population with high qualifications (NQF level 4+)	22%	62
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	21%	41
	Social security clients (client group analysis) as a % of the population (16-34)	14%	42
	Housing benefit claimants as a % of the population (16-64)	9%	47
	Housing benefit claimants as a % of the population (16-34)	7%	42
	% of households with no adults in employment	35%	47
	% of households with no adults in employment with dependent children	6%	56
	% of households with lone parents with dependent children	9%	50
	% of people employed who are either managers/senior officials or professionals	8%	43
	Employment rate (%, 16-74 population)	60%	56
	Unemployed who have never worked (% of unemployed)	17%	54

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

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Annex E9: Banbridge (Armagh City, Banbridge and Craigavon)

	Banbridge	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	69%	34
	% of school enrolments entitled to FSM	22%	31
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	8%	24
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	58%	51
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	9%	11
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	16%	37
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	18%	66
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	13%	37
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	38%	33
	% of 16-64 population with high qualifications (NQF level 4+)	25%	39
	% of 16-34 population with low qualifications (below NQF level 2)	28%	36
	% of 16-34 population with high qualifications (NQF level 4+)	26%	29
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	20%	39
	Social security clients (client group analysis) as a % of the population (16-34)	13%	37
	Housing benefit claimants as a % of the population (16-64)	8%	37
	Housing benefit claimants as a % of the population (16-34)	6%	38
	% of households with no adults in employment	32%	27
	% of households with no adults in employment with dependent children	5%	35
	% of households with lone parents with dependent children	8%	42
	% of people employed who are either managers/senior officials or professionals	9%	23
	Employment rate (%, 16-74 population)	64%	22
	Unemployed who have never worked (% of unemployed)	13%	26

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

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Annex E10: Craigavon (Armagh City, Banbridge and Craigavon)

	Craigavon	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	63%	64
	% of school enrolments entitled to FSM	28%	45
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	9%	28
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	65%	70
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	13%	38
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	13%	65
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	19%	60
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	14%	27
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	41%	48
	% of 16-64 population with high qualifications (NQF level 4+)	25%	38
	% of 16-34 population with low qualifications (below NQF level 2)	33%	58
	% of 16-34 population with high qualifications (NQF level 4+)	25%	32
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	21%	42
	Social security clients (client group analysis) as a % of the population (16-34)	14%	45
	Housing benefit claimants as a % of the population (16-64)	8%	35
	Housing benefit claimants as a % of the population (16-34)	6%	35
	% of households with no adults in employment	30%	18
	% of households with no adults in employment with dependent children	6%	60
	% of households with lone parents with dependent children	10%	55
	% of people employed who are either managers/senior officials or professionals	8%	35
	Employment rate (%, 16-74 population)	63%	34
	Unemployed who have never worked (% of unemployed)	18%	62

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC
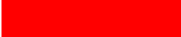
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Annex E11: Cusher (Armagh City, Banbridge and Craigavon)

	Cusher	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	70%	31
	% of school enrolments entitled to FSM	22%	29
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	9%	29
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	58%	52
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	8%	10
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	20%	16
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	20%	55
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	14%	28
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	39%	37
	% of 16-64 population with high qualifications (NQF level 4+)	24%	45
	% of 16-34 population with low qualifications (below NQF level 2)	27%	33
	% of 16-34 population with high qualifications (NQF level 4+)	26%	28
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	18%	25
	Social security clients (client group analysis) as a % of the population (16-34)	11%	20
	Housing benefit claimants as a % of the population (16-64)	5%	15
	Housing benefit claimants as a % of the population (16-34)	4%	15
	% of households with no adults in employment	29%	8
	% of households with no adults in employment with dependent children	4%	26
	% of households with lone parents with dependent children	6%	26
	% of people employed who are either managers/senior officials or professionals	8%	26
	Employment rate (%, 16-74 population)	66%	14
	Unemployed who have never worked (% of unemployed)	14%	36

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

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Annex E12: Lagan River (Armagh City, Banbridge and Craigavon)

	Lagan River	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	74%	22
	% of school enrolments entitled to FSM	12%	7
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	4%	5
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	53%	27
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	8%	8
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	21%	8
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	25%	34
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	11%	53
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	31%	12
	% of 16-64 population with high qualifications (NQF level 4+)	31%	12
	% of 16-34 population with low qualifications (below NQF level 2)	22%	8
	% of 16-34 population with high qualifications (NQF level 4+)	32%	8
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	14%	6
	Social security clients (client group analysis) as a % of the population (16-34)	8%	3
	Housing benefit claimants as a % of the population (16-64)	4%	5
	Housing benefit claimants as a % of the population (16-34)	3%	4
	% of households with no adults in employment	25%	3
	% of households with no adults in employment with dependent children	3%	14
	% of households with lone parents with dependent children	6%	15
	% of people employed who are either managers/senior officials or professionals	10%	10
	Employment rate (%, 16-74 population)	69%	4
	Unemployed who have never worked (% of unemployed)	8%	1

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

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Annex E13: Lurgan (Armagh city, Banbridge and Craigavon)

	Lurgan	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	62%	67
	% of school enrolments entitled to FSM	27%	44
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	13%	50
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	63%	65
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	14%	41
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	13%	64
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	24%	37
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	11%	49
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	42%	53
	% of 16-64 population with high qualifications (NQF level 4+)	22%	58
	% of 16-34 population with low qualifications (below NQF level 2)	32%	57
	% of 16-34 population with high qualifications (NQF level 4+)	22%	56
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	23%	55
	Social security clients (client group analysis) as a % of the population (16-34)	16%	53
	Housing benefit claimants as a % of the population (16-64)	10%	54
	Housing benefit claimants as a % of the population (16-34)	9%	55
	% of households with no adults in employment	37%	54
	% of households with no adults in employment with dependent children	6%	55
	% of households with lone parents with dependent children	10%	56
	% of people employed who are either managers/senior officials or professionals	8%	45
	Employment rate (%, 16-74 population)	60%	51
	Unemployed who have never worked (% of unemployed)	15%	40

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

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Annex E14: Portadown (Armagh City, Banbridge and Craigavon)

	Portadown	%	Rank
Skills flow	% of school leavers achieving 5 GCSE's (including English and maths)	62%	66
	% of school enrolments entitled to FSM	30%	52
	% of school leavers entitled to FSM achieving 5 GCSE's (including English and maths)	12%	45
	% of FE qualifiers achieving a highest level of qualification at NQF level 2 and below	69%	79
	% of FE qualifiers achieving a highest level of qualification at NQF level 2	20%	63
	Qualifiers from tertiary level education in either FE or HE as a % of the 20-24 year olds	12%	70
	% of HE qualifiers achieving a postgraduate qualification (NQF level 7-8)	19%	62
	% of HE qualifiers gaining qualifications in maths, computing, engineering & technology	16%	8
Skills stock	% of 16-64 population with low qualifications (below NQF level 2)	46%	72
	% of 16-64 population with high qualifications (NQF level 4+)	21%	65
	% of 16-34 population with low qualifications (below NQF level 2)	36%	73
	% of 16-34 population with high qualifications (NQF level 4+)	22%	55
Labour market and socio-economic indicators	Social security clients (client group analysis) as a % of the population (16-64)	21%	43
	Social security clients (client group analysis) as a % of the population (16-34)	14%	40
	Housing benefit claimants as a % of the population (16-64)	10%	53
	Housing benefit claimants as a % of the population (16-34)	7%	47
	% of households with no adults in employment	36%	53
	% of households with no adults in employment with dependent children	5%	45
	% of households with lone parents with dependent children	9%	49
	% of people employed who are either managers/senior officials or professionals	7%	63
	Employment rate (%, 16-74 population)	61%	46
	Unemployed who have never worked (% of unemployed)	13%	32

Source: NISRA, DfE, DE, 2011 Census, DfC, UUEPC

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End

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