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REGIONAL REPORT OF LABOUR MARKET CHARACTERISTICS AND SUMMARY OF CHALLENGES AND OPPORTUNITIES IN SCOTLAND.

REPLAY-VET: *Strengthening key
competencies of low skilled people in VET to
cover future replacement positions.*

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SECTION 1. CHARACTERISATION OF THE LOW SKILLED LABOUR MARKET IN SCOTLAND

1.1. Social and labour characterization of population with low qualification

Analysis of the Scottish labour market in comparison to EU 28

LABOUR MARKET INDICATORS	EU28		Scotland	
	2015	Δ 08-15	2015	Δ 08-15
Population on 1 January (000)	508,504	2%	5,356,482	3%
Population between the ages of 15-64 (%)	66%	-1%	66%	1%
Total occupation (000)	43%	-1%	0.05%	3%
Employment rate (%population age group 20-64)	70%	0%	76.4%	2%
Employment rate (%population age group 15-64)	65.6%	0%	72.8%	1%
Employment rate (%population age group 15-24)	33%	-12%	51.4%	1%
Employment rate (%population age group 25-54)	78%	-2%	n/a	3%
Employment rate (%population age group 55-64)	53.3%	17%	60.7%	5%
Full time employment rate (%population age group 20-64)	56.7%	-3%	n/a	n/a
Self-employment (%total occupation)	13.8%	-12%	11.1%	n/a
Part-time employment rate (%total occupation)	19.6%	8%(*)	26.7%	9%
Fixed term contract (%total employees)	14.1%	-1%	n/a	n/a
Economic activity rates (%population 15-64 age group)***	72.5%	3%	73.4%	1%
Economic activity rates (%population 15-24 age group)	41.5%	-6%	56.5%	3%
Economic activity rates (%population 25-54 age group)	84.2%	0%	82.7%	0%
Economic activity rates (%population 55-64 age group)***	57.3%	20%	60.0%	5%
Total Unemployment (000)	22,898	36%	159.1%	28%
Unemployment rate (% active)	9.4%	34%	5.7%	21%
Youth Unemployment rate (%active 15-24 year group)	20.4%	28%	14.0%	9%
Long-term unemployment rates (%active)	4.5%	73%	1.8%	80%
Long-term unemployment (% total unemployment)	48.3%	30%	31.2%	51%
Youth Unemployment rate (%population 15-24 age group)	8.4%	22%	9.2%	14%
Employment rate of the population with low qualification 25-64 (ISCED 0-2)	53.0%	-6%(*)	34.5%**	n/a

(*) Δ 2008-2014

(**) data for population age of 16-64

Table 1 Scotland and EU28 key labour market indicators

1,885,800 - the highest level of full-time employment since 2008. The employment rate amongst 20 to 64 year olds was 76.4%, compared to 70% in the EU28. For the age group 15-64, the employment rate in 2015 was 72.8%. Between 2008 and 2015, employment had risen slightly

Scotland is one of the four UK nations with a partially devolved parliamentary legislature. The Scottish population in 2015 was 5,356,482¹, or 8% of the UK's population. 81.7% are British, 5.6% have dual nationality and 12.7% have other nationalities.

The Scottish potential working population between the ages of 15 and 64 constitutes 66% of residents, which is consistent with the EU28 as a whole. Between 2008 and 2015, its working age population rose by 1%, which is positive in the context of the EU28 countries where it declined by 1%. In 2016 a record high 49.2% of working people (aged 16-64) had Further or Higher education qualifications. 35.8% of workers in Scotland aged 25-64 are graduates in 2016 – the highest percentage on record.²

The latest Scottish Government statistics show that full-time employment levels increased to

¹ Statistics presented in Table 1 and throughout this section (unless otherwise referenced) are derived from Eurostat's "Regional statistic by NUTS: Regional labour market statistics. Population and social conditions: Labour market: Employment and unemployment".

² Scottish Government (May 2017), Regional Employment Patterns in Scotland: Statistics from the Annual Population Survey 2016, Scotland: Edinburgh.

by 2%. Employment amongst the youngest workers (15-24 years old) stood at 51.4%, which is substantially higher than in the EU28 countries (33%). Similarly the employment rate for the age group of 55-64 in Scotland is much higher than in the EU28 (60.7% compared to 53.3%), although it is growing more slowly (with a 5% growth compared to 17% in the EU28 from 2008-15). The employment rate for older workers (65+) has increased from 5.2% in 2004 to 9.1% in 2016. Over half of workers over state pension age (65+)³ in Scotland said they had not yet retired because they were “not ready to stop working”⁴.

The female employment rate in Scotland was 69.2% in 2016 (a decrease by almost 1% over the year from 70.1%) while the UK rate rose by 0.5% to 69.0% (from 68.5%)⁵. However, the female employment rate in Scotland during Jan-Dec 2016 was still 0.8% higher than the 68.4% rate at the start of the 2008 recession. Between 2008 and 2016 female employment rates increased in 20 of Scotland's 32 local authority areas. The 12 remaining local authority areas saw decreases but none of the decreases were statistically significant. Of note is the low employment rate for the low skilled (ISCED 0-2) in Scotland (34.5% compared to 53.0% in EU28)⁶.

In 2015, the self-employment rate was slightly (2.7%) lower in Scotland than in the EU28, standing at 11.1% and 13.8% respectively. However, 2016 had the highest self-employment level and rate on record, with 327,200 people self-employed (12.7% of all employees)⁷. Part-time employment, on the other hand, was 7% higher than in the EU28 (26.7% and 19.6% respectively). It has been steadily growing at a similar rate to the EU28 countries (8-9%).

Data from last quarter 2016 suggest that underemployment is falling as the rate stood at of 7.8%⁸. The total unemployment rate for Scotland stood at 5.7% in 2015, much lower than the EU28 rate of 9.4%. The Scottish Government statistics show that the unemployment rate for 16+ in Scotland decreased over the year and in 2016 stood at 4.8%⁹. Youth unemployment fared better in Scotland than the EU28 having increased at 9% over 2008-2015 and in 2015 stood at 14% (compared to 28% and 20.4% respectively for the EU28), and the more recent data suggest a small decrease in Scotland to 12% in 2016¹⁰. Long-term unemployment stands at 1.8%, and despite its steep increase by 80% over 2008-15, is still lower than the EU28 (4.5% with growth of 73%).

Economic activity rates are generally slightly higher in Scotland than the EU28 (73.4% compared to 72.5%), especially for the younger age group (56.5% and 41.5% respectively for 15-24 year olds) in 2015. The economic inactivity rate for those aged 16-64 in Scotland increased to 23.2% in 2016. The increase in economic inactivity levels since 2008 is explained

³ The current State Pension Age is 65 for men and approximately 63 for women, but both rise to 66 years by 2020.

⁴ *Ibid.*

⁵ *Ibid.*

⁶ The minimum high school leaving age in Scotland is 16 years old.

⁷ *Ibid.*

⁸ *Scottish Government (February 2017), Quarterly Labour Market Briefing - February 2017, Scotland: Edinburgh.*

⁹ *Ibid.*

¹⁰ *Scottish Government (May 2017), Regional Employment Patterns in Scotland: Statistics from the Annual Population Survey 2016, Scotland: Edinburgh.*

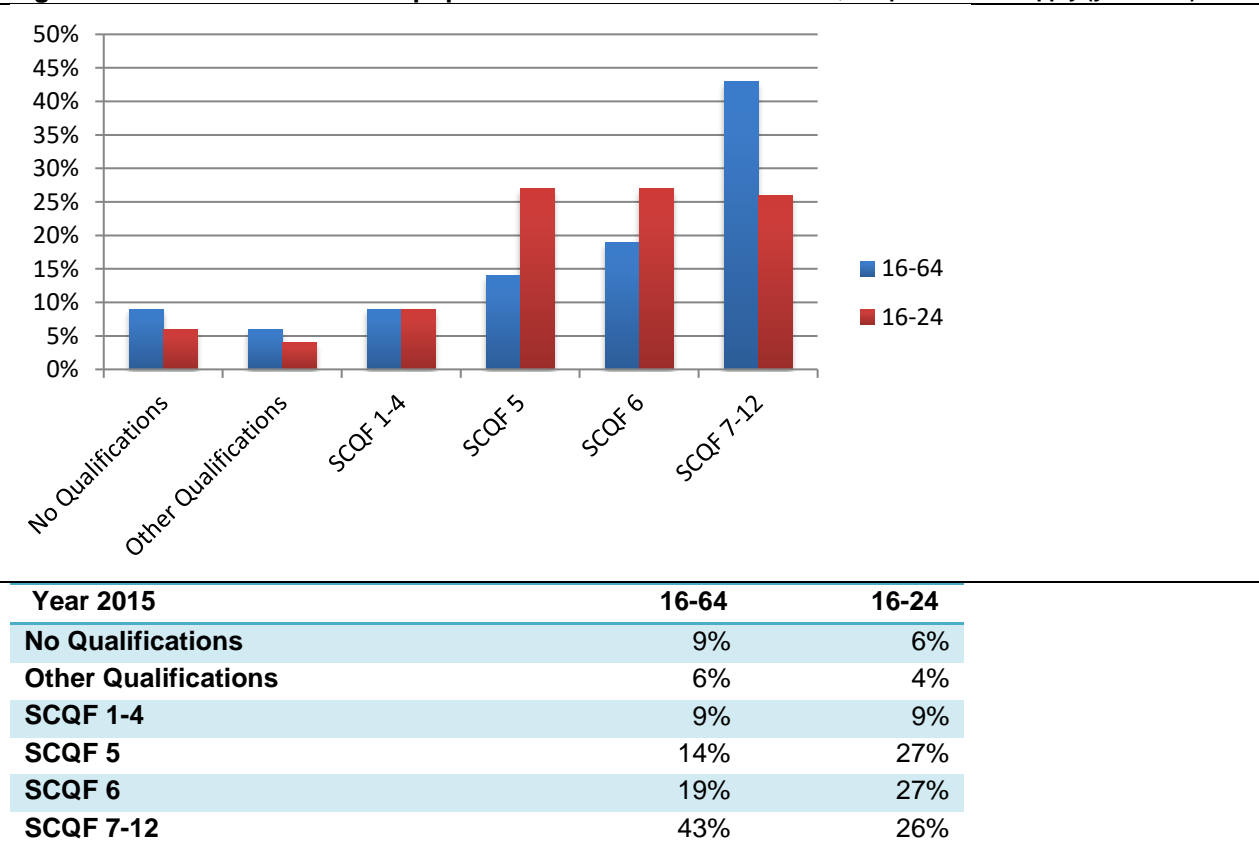
by the Scottish Government as being mainly driven by increases in the number of students, while the increase in the economic inactivity rate over the last year was driven by increased rates for women, (rising slightly from 26.1% in 2015 to 27.5% in 2016). The largest increases in the economic inactivity rate over the year was noted for those aged 16-24 and 35-49¹¹.

1.2 Low skilled labour market characterization

Activity and occupation

For this report, the population with low qualification has been defined as those older than 16 years old and with educational levels ISCED 0 - ISCED 2, which includes those with preschool education (ISCED 0), primary education or first stage of basic education (ISCED 1), and first cycle of secondary education or second cycle of basic education (ISCED 2)¹². In Scotland low qualification levels are represented by SCQF levels 1-4¹³.

Figure 1: Qualification levels of population in Scotland. Source SDS, People & Skills Supply (year 2015)¹⁴



¹¹ Scottish Government (May 2017), *Regional Employment Patterns in Scotland: Statistics from the Annual Population Survey 2016*. Scotland: Edinburgh.

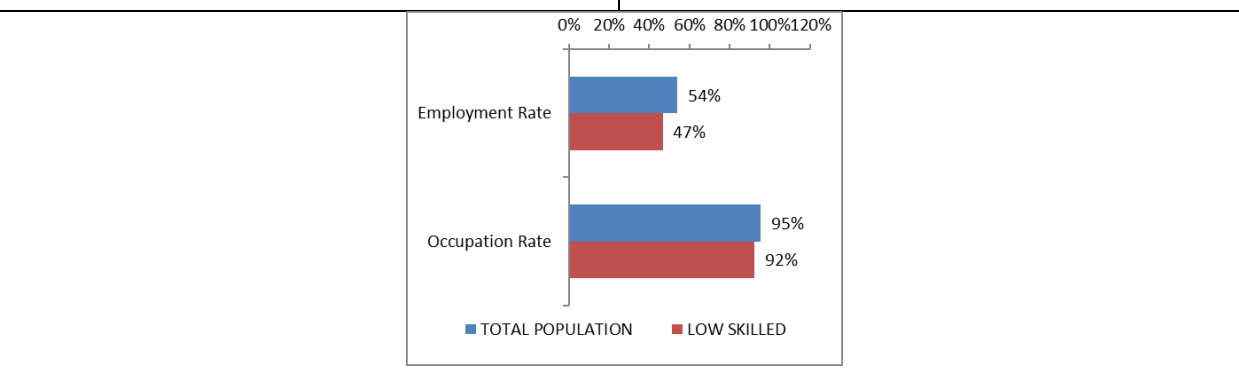
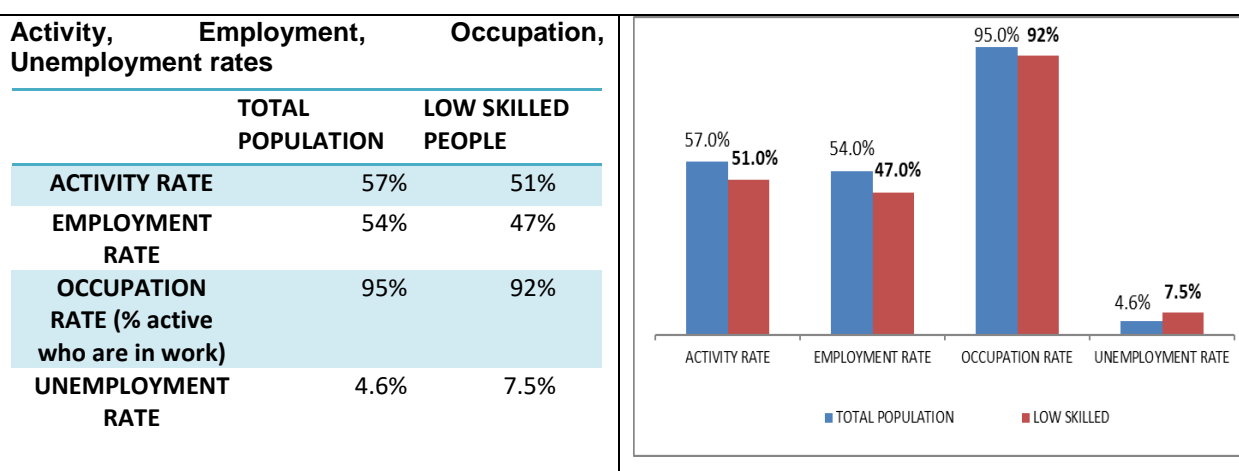
¹² Labour Force Survey 2016 was used to derive statistics and supplemented with additional national sources when appropriate.

¹³ <https://www.gov.scot/publications/scottish-qualifications-unesco-isced-levels/>

¹⁴ SDS (December 2016), *Regional Skills assessment: data matrix- people and skills supply*. SDS: Edinburgh.

In 2015, 18% of those aged 16-64 and 15% of those 16-24 years were low skilled (SCQF level 1-4 or below, i.e. ISCED 0-2 level), excluding 'other qualifications'¹⁵ (Figure 1). The percentage of the economically active population (working or unemployed and actively looking for work) who are in employment (termed here the 'occupation rate') is slightly lower for the low skilled (92% compared to 95% for the higher skilled) (Figures 2-3). People with low qualifications in Scotland have lower activity, employment and occupation rates than typical across the total population. This population also experience higher unemployment in comparison to the total population 7.5% and 4.6% respectively.

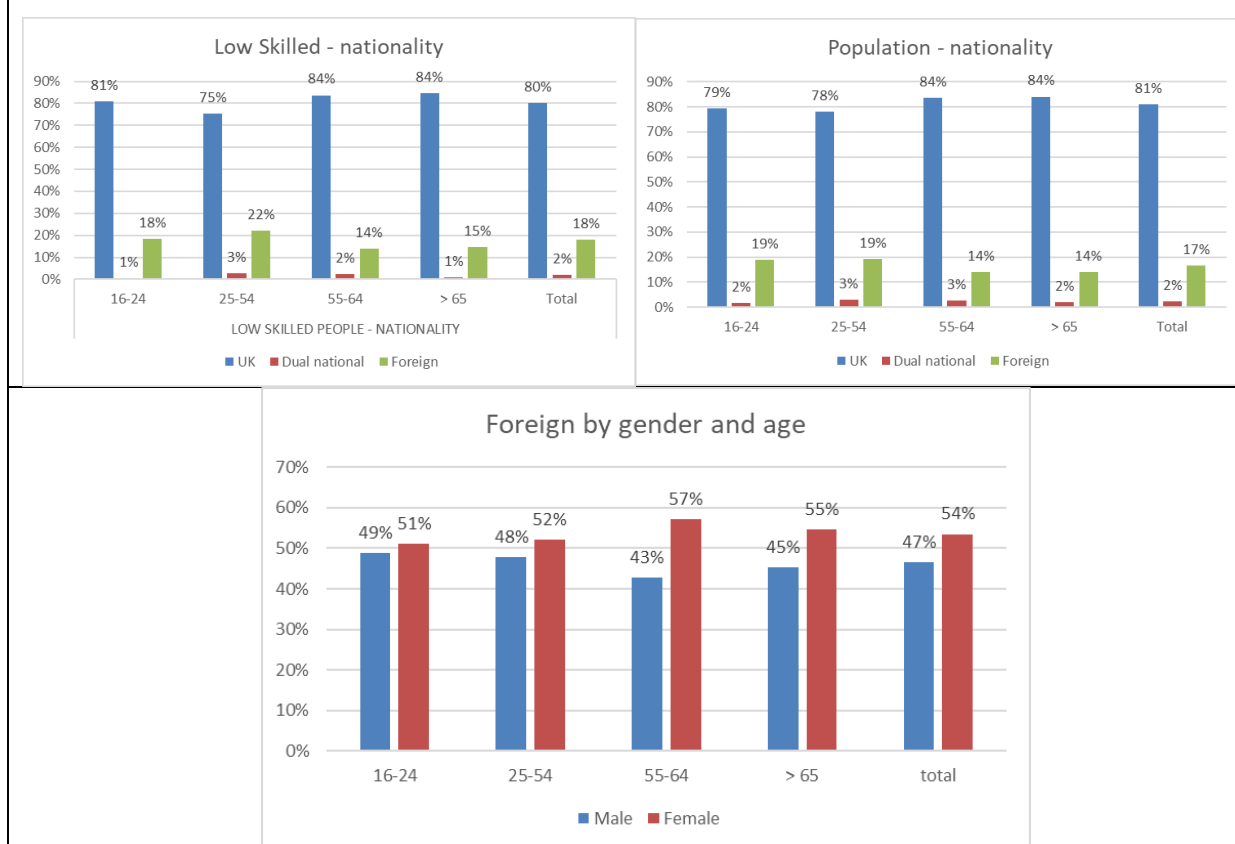
Figures 2-3: Labour market ratios of the low skilled people in relation to the total population Activity rates etc. – Scotland (16+ years) 2016



Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service.

Non-British/non-dual citizenship people/'foreigners' constitute about 17% of the population in Scotland (LFS), and 18% of the low skilled. In total, 80% of the low skilled are British citizens, 18% foreigners and 2% Dual nationals. In the main working age group (25-54 years), foreigners make up a slightly high share of the low skilled (22%) and a lower share in the 65+ group. Otherwise the low skilled foreign population was similar, overall population. Some 54% of low skilled foreigners are women and 47% are men (figures do not add to 100 due to rounding).

¹⁵ Other qualifications are excluded as many may be from foreign educated people and the level is not necessarily ISCED 0-2.

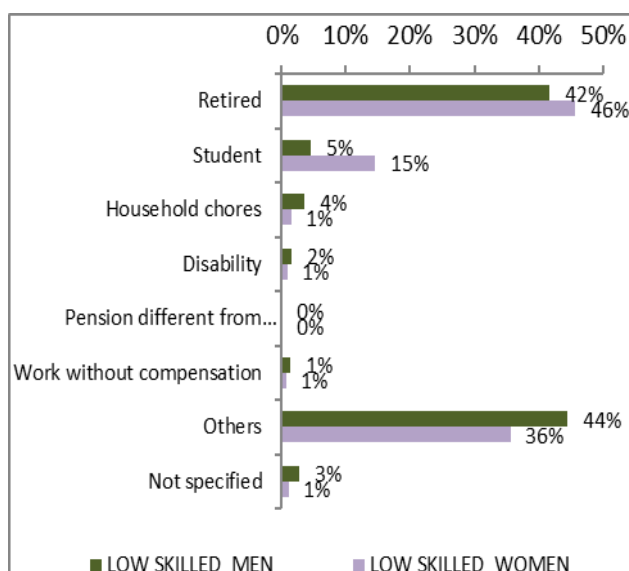
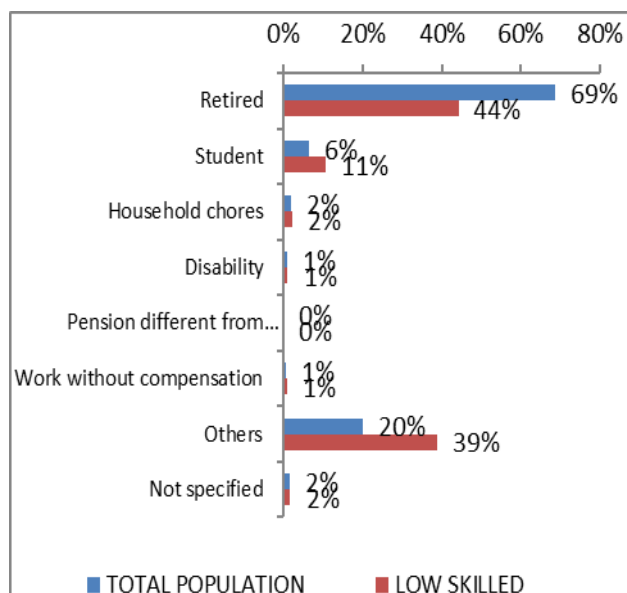
Figures 4-6: Low skill and population nationality; low skill nationality and gender - Scotland


Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service. NOTE THAT SAMPLE SIZES (ESPECIALLY FOR AGE GROUPS) MAY BE SMALL.

The main reasons for the inactivity level of people with low skills do not appear to differ from those of the rest of the population. As with the Scottish population (16+) as a whole retirement and students and 'other' are the primary causes (Figures 7-8). Indeed, 39% of low skilled people belong to the category "other", which means that one of the key factors of inactivity of low skilled people is unknown or unclassified. Statistics provided by the Scottish Government suggest over 50% of the 793,700 economically inactive people in Scotland in 2016 were inactive because they were long-term sick or students¹⁶, so health might also be an issue likely to explain some of the higher economic inactivity rates amongst the low skill population (in some cases perhaps linked to their previous occupations, e.g. more physical work, and other reasons such as very low incomes etc.). 23.7% (188,400) of all economically inactive people aged 16-64 in Scotland wanted to work, but were unavailable for work or not actively seeking work, however data are unavailable to compare this finding to the low skilled population¹⁷.

¹⁶ Ibid.

¹⁷ Scottish Government (May 2017), *Regional Employment Patterns in Scotland: Statistics from the Annual Population Survey 2016*, Scotland: Edinburgh

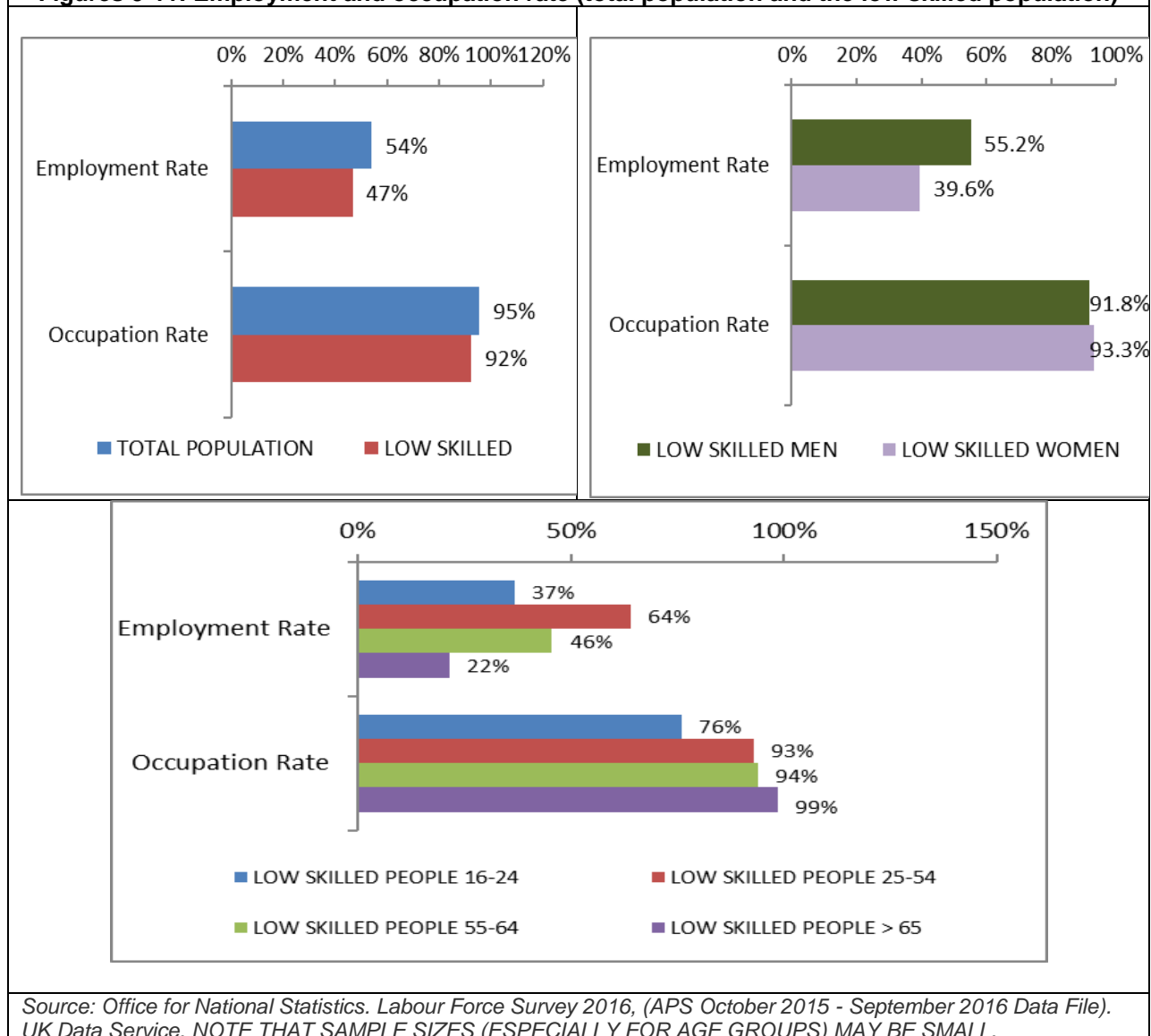
Figures 7-8: Main reasons for inactivity (total population and the low skilled 16+ population) Scotland


Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service.

1.3 Employment rate

Differences between employment (a measure of the extent to which available labour is being used)¹⁸ and occupational rates between total and low skilled populations are not very substantial (only 7 and 3 percentage points lower respectively). There is, however, about a 15% difference between the employment rate of low skilled women and men, with the former being significantly lower. It is those over 65, who unsurprisingly have the lowest employment rate (22%), followed by the youngest 16-24 year olds (37%). The highest employment rate amongst the low skilled population in Scotland is in the 25-54 age group. On the other hand, in all age groups occupational rate are high, above 75% for 16-24 and above 90% for those over 25.

¹⁸ OECD employment rate definition: <https://data.oecd.org/emp/employment-rate.htm>

Figures 9-11: Employment and occupation rate (total population and the low skilled population)


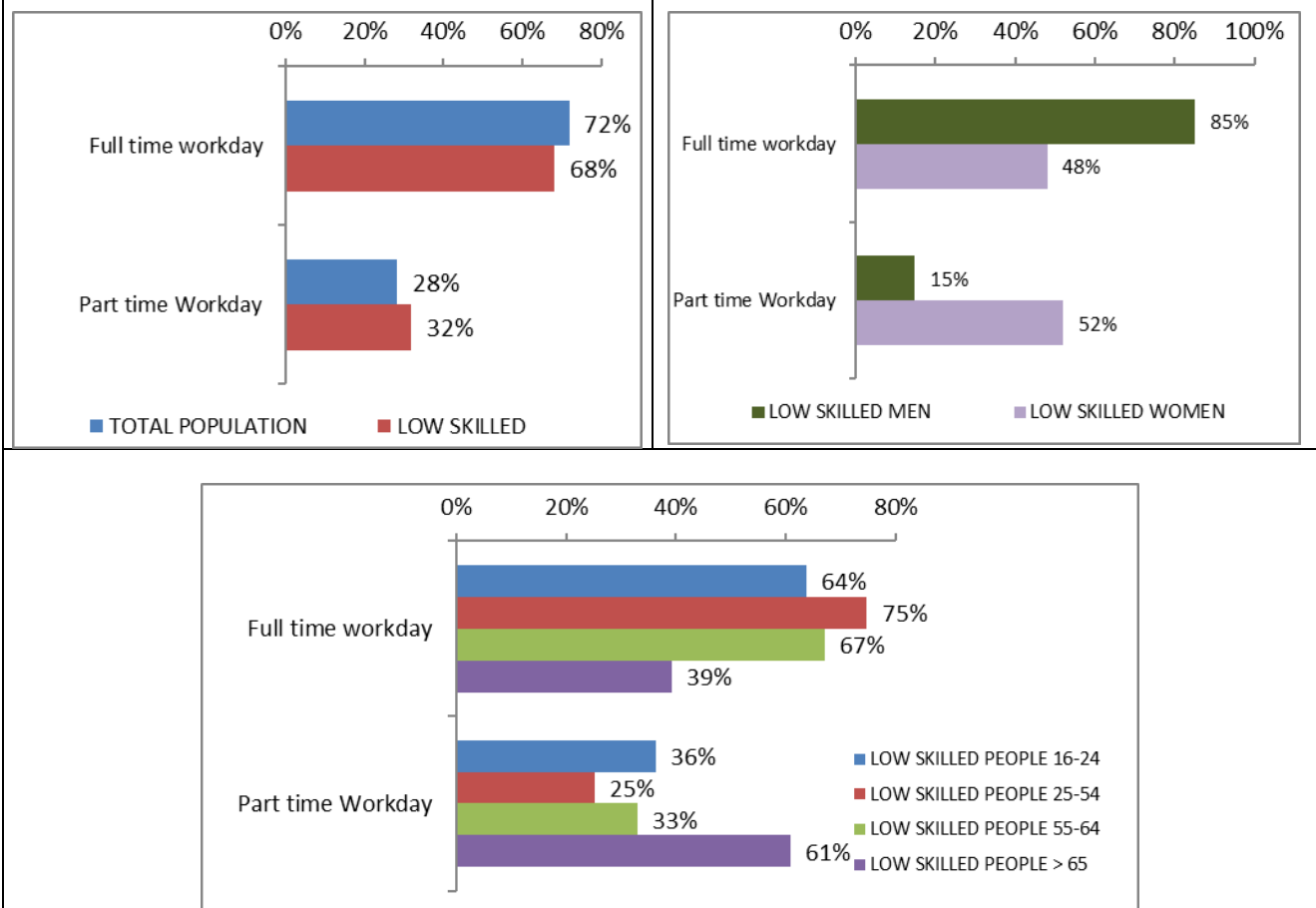
1.4 Labour conditions

Regarding labour conditions for low skilled people, we now analyse their workday (part-time or full-time) and the kind of contract they have (indefinite or temporary).

There is a slight difference in the weight part-time jobs have compared to the population as a whole. Low skilled people are slightly more likely to be in part-time jobs (by around 4% points), and the reverse situation exists in the full-time employment. This may partly relate to fewer

training and promotion opportunities for part-timers¹⁹. However, further differences emerge for different sex and age groups, with women much more likely to be part timers (partly due to child caring responsibilities). 52% of low skilled women have a part-time job, while only 15% of similarly low skilled men are in that situation. When it comes to age groups, it is noteworthy that 61% of the oldest age group have a part-time job, which contrasts with the lower rates of 36%, 25% and 33% respectively for the 16-24, 25-54 and 55-64 age groups.

Figures 11-13: Type of workday of the employed low skilled population.

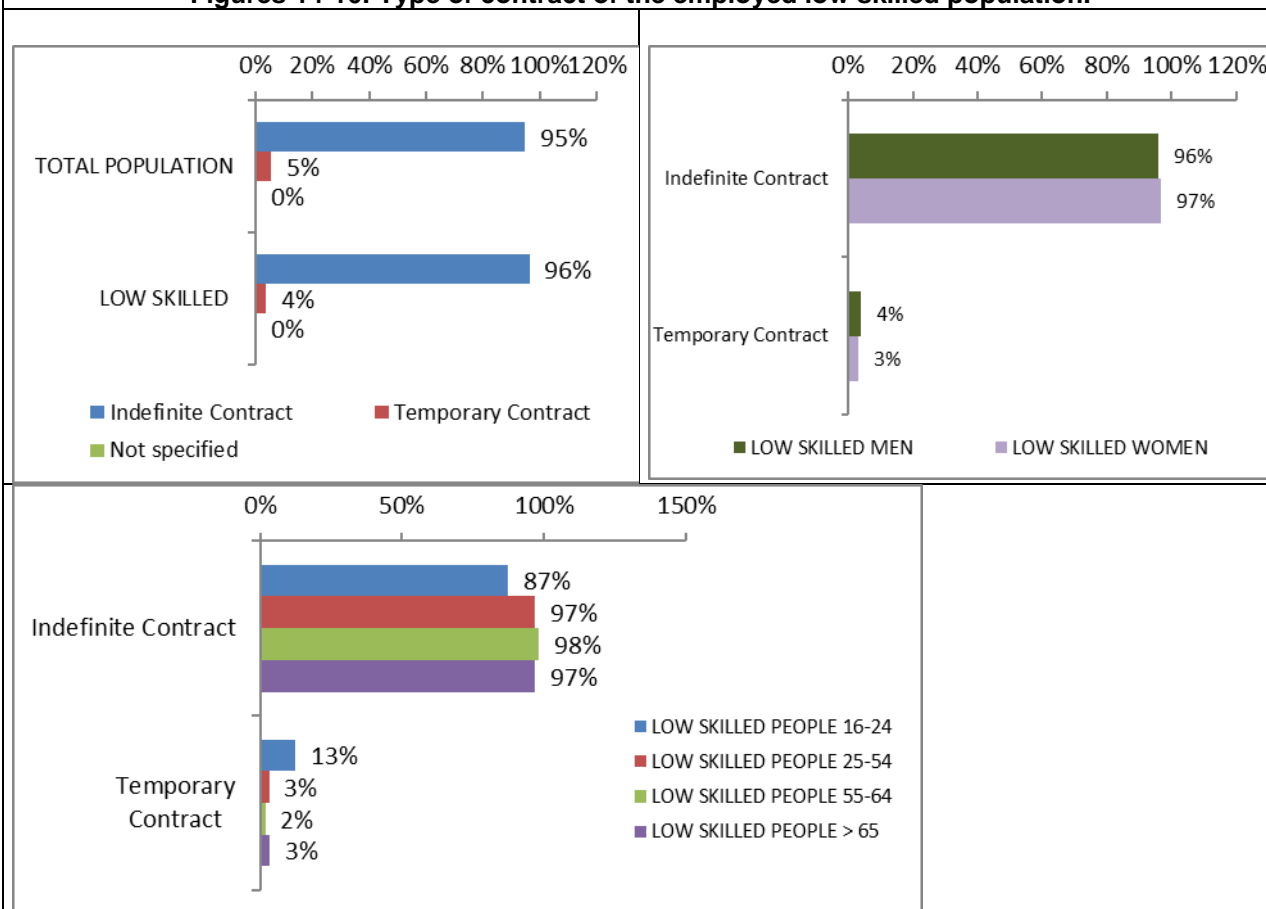


Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service. NOTE THAT SAMPLE SIZES (ESPECIALLY FOR AGE GROUPS) MAY BE SMALL.

Most of the low skilled population work with an indefinite (i.e. permanent) contract. No significant differences were identified amongst different age categories, with exception that young low skilled workers (16-24) have the highest rate of temporary contracts.

¹⁹ Canduela, J., Dutton, M., Johnston, S., Lindsay, C., McQuaid, R.W. and Raeside, R. (2012) 'Ageing, Skills and Participation in Work-Related Training in Britain: Assessing the Position of Older Workers', *Work, Employment and Society*, 26, 1, 42-60.

Figures 14-16: Type of contract of the employed low skilled population.



Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service. NOTE THAT SAMPLE SIZES (ESPECIALLY FOR AGE GROUPS) MAY BE SMALL.

1.5 Participation by sector and occupation

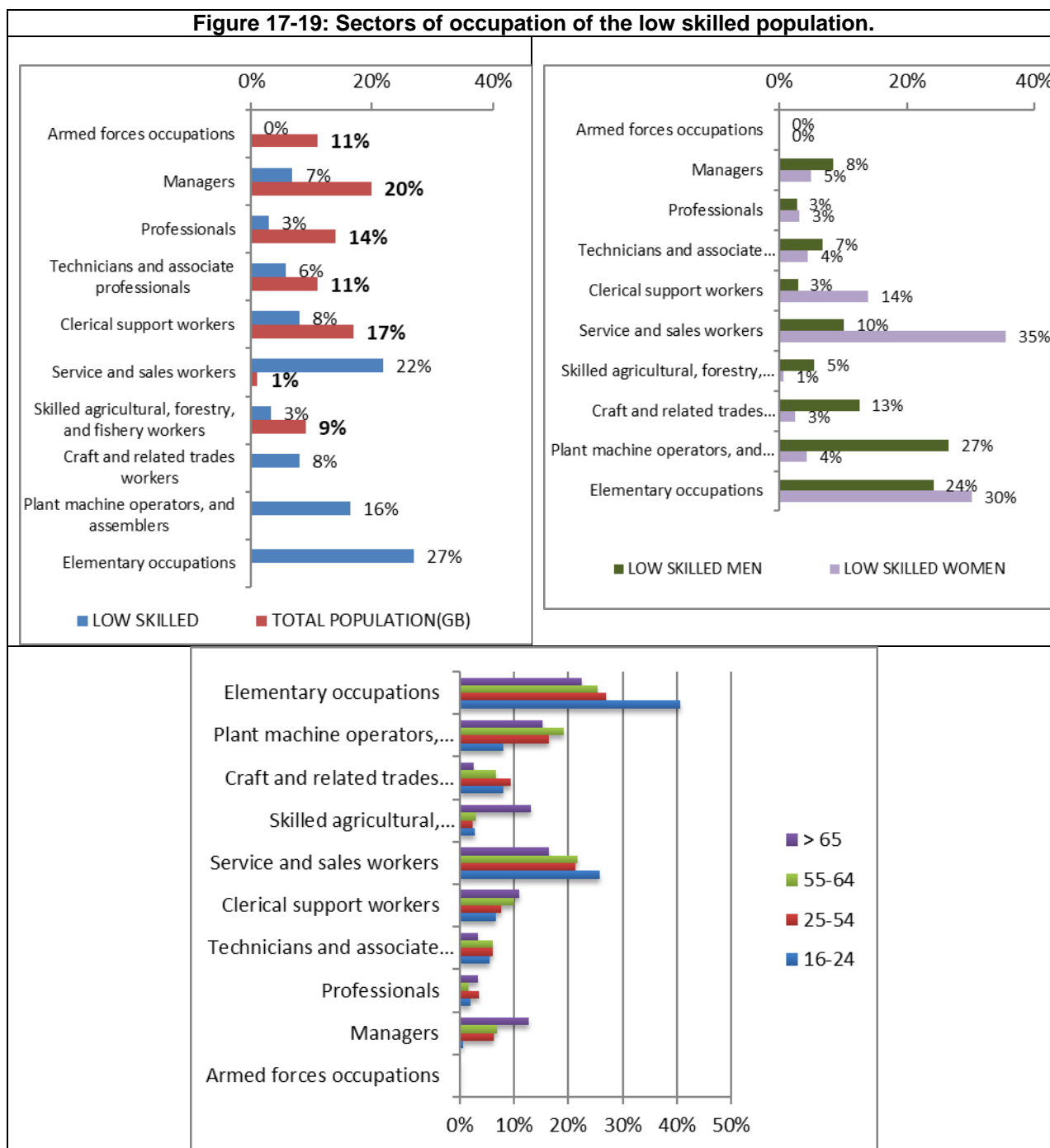
Activity sectors

Unsurprisingly, the 'professional' category is under-represented among low skilled people in Scotland (3% in comparison to 14% amongst the total population). Most low skilled workers sector is in an 'elementary occupation' (27%), followed by 'service and sales' (22%), then by 'plant machine operators and assemblers' (16%). Only 9% of low skilled people work in 'skilled agricultural, forestry, and fishery workers', and none in 'armed forces occupations'.

Low skilled women tend to be greatly overrepresented in 'service and sales' (38% in comparison to 9% of low skilled men), 'elementary occupations' (35% and 10% respectively), and 'clerical support' (14% and 3% respectively). Low skilled men on the other hand are overrepresented in 'craft and trade' (13% in comparison to 3% of low skilled women), 'plant machine operators, and assemblers' (27% and 4% respectively), and in other technical occupations (7% and 4%) and machine operating jobs (27% and 4% respectively).

It is worth noting that young low skilled people are the largest age groups working in 'service and sales' (26%). In the elementary occupations, which are well represented by all age groups but again with the youngest dominate the field (41% respectively). As expected, 25-54, 55-64 plus the 65+ age groups are also well represented in "plant machine operators and assemblers" category. Amongst the low skilled managers those aged 65+ are the most represented age group.

Figure 17-19: Sectors of occupation of the low skilled population.

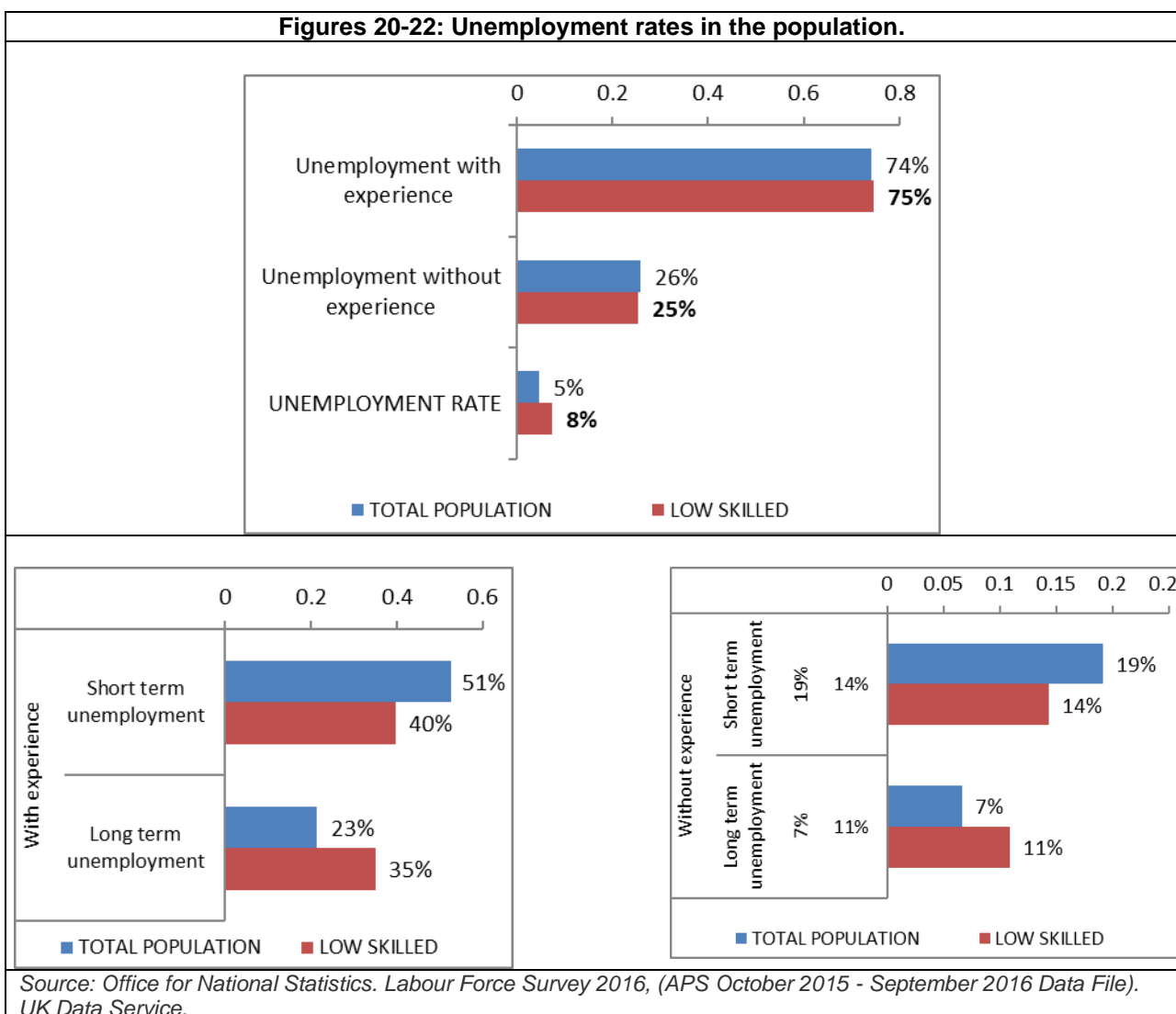


Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service. NOTE THAT SAMPLE SIZES (ESPECIALLY FOR AGE GROUPS) MAY BE SMALL.

1.6 Unemployed low skilled people:

The unemployment rate among the low skilled in Scotland is under 3% points higher than that of the rest of the population, 7.5% and 4.6% respectively. In 2016, 10.7% of people aged 16-19 were not in education employment or training (NEET)²⁰. Three-quarters (75%) of low skilled people who are unemployed have work experience with a similar rate (74%) for those higher skilled. However, for those with previous work experience, low skilled people who are unemployed are more likely to be long term unemployed (35%) than the unemployed in the general population (23%). Similarly, for those without work experience, low skilled people who are unemployed are more likely to be long term unemployed (7% of all unemployed low skilled) than the unemployed in the equivalent group in the general population (11%).

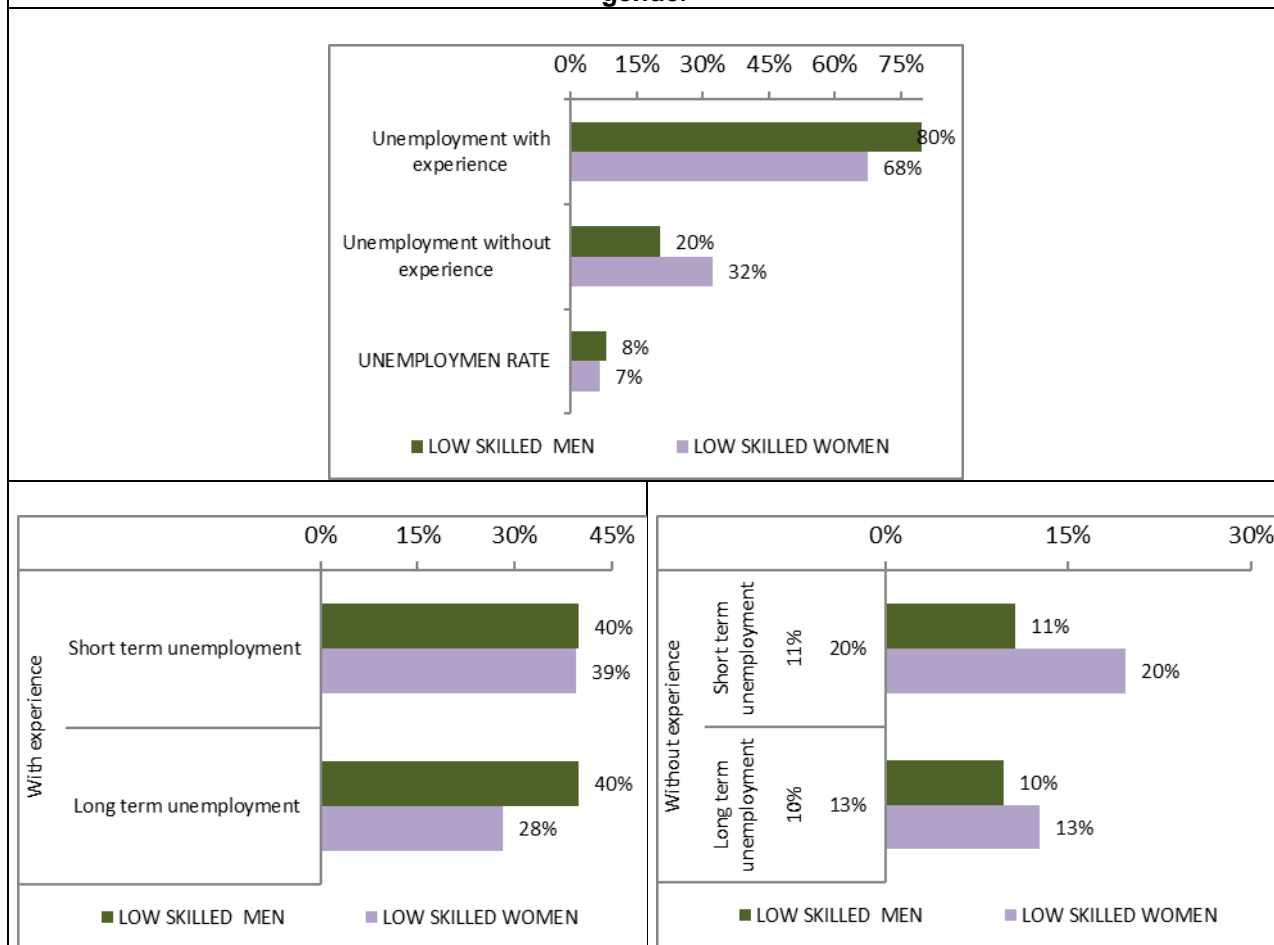
Figures 20-22: Unemployment rates in the population.



²⁰ Ibid.

The unemployment rate is around 1% point higher amongst low skilled women compared to men in Scotland. Low skilled unemployed women are relatively more likely to be without work experience compared to men, with 32% of unemployed low skilled women being inexperienced compared to 20% of unemployed low skilled men. The rates for low skilled men and women who are unemployed, but have experience, are similar. Relatively more of the women are without experience than men, for both short and long-term unemployment.

Figures 23-25: The unemployment rate of the low skilled population by work experience and gender



Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service.

The unemployment rate is by far the highest in the low skilled young population (24%). This seems partly linked to their lack of work experience, as 72% of young unemployed have no work experience (and 28% had work experience) compared to only 10% of unemployed 25-54 year olds and 0% of older unemployed people having no previous work experience (Table 2).

Table 2: The unemployment rate of the low skilled population by age groups and experience.

		LOW SKILLED PEOPLE			
		16-24	25-54	55-64	> 65
With experience	Short term unemployment	17%	51%	37%	100%
	Long term unemployment	11%	39%	60%	0%
	Unemployment with experience	28%	90%	97%	100%
Without experience	Short term unemployment	47%	3%	0%	0%
	Long term unemployment	26%	7%	3%	0%
	Unemployment without experience	72%	10%	3%	0%
UNEMPLOYMENT RATE		24%	7%	6%	1%

Source: Office for National Statistics. Labour Force Survey 2016, (APS October 2015 - September 2016 Data File). UK Data Service. NOTE THAT SAMPLE SIZES (ESPECIALLY FOR AGE GROUPS) MAY BE SMALL

1.7 Statistical analysis conclusions

Summary of Scottish labour characteristics

- In January 2015 Scotland had 5,356,482 inhabitants, which represent 8% of the UK's population. Scottish potential working population between the ages of 15 and 64 constitutes 66% of the total population.
- An increase in the labour market participation in the oldest age group (55-64) has been much higher in the EU28 than in Scotland.
- The employment rate amongst all age groups in Scotland is higher than across the EU28. The employment rate amongst the youngest is substantially higher than across the EU28 countries (33%).
- In 2015, the self-employment rate was slightly lower in Scotland than in the EU28 by 2.7% points, however, 2016 had the highest self-employment rate on record for Scotland (12.7% of all employees). Part-time employment has been steadily growing, which is consistent with the trend in the EU28 countries.
- The total unemployment rate rose by a 28% in Scotland from 2008-2015 and stood at 5.7% in 2015, which is lower than the EU28 unemployment rate of 9.4%. The Scottish Government statistics shows, however, that the unemployment rate (16+) in Scotland decreased over the year and to 4.8% in 2016. Youth unemployment has increased by 9% over 2008-2015 period and in 2015 stood at 14% but the latest data suggest a small decrease to 12% in 2016. Long-term unemployment, despite its steep increase by 80%, is still lower than the EU28 average (mean).

Summary of labour characteristics of low skilled people in Scotland:

- In 2015 the population with low qualifications in Scotland represented 17% of the whole population or 18% of those 16-64 (although note should be taken of relatively small sample sizes in some statistics). The low skilled population had lower employment and occupation rates than the total population. They also experience higher unemployment,

which is 2.5% points higher in comparison to the total population 7.5% and 4.6% respectively.

- The difference in the employment rates between total and low skilled populations is 7% points, at 47%. There is however a much lower employment rate of low skilled women compared to low skilled men.
- The unemployment rate is the highest in the low skilled young 16-24 population (24%).
- Low skilled people are slightly more represented in part-time jobs (by 4% points). 52% of low skilled women have a part-time job, while only 15% of low skilled men are in that situation. 61% of the oldest age group (>65) have a part-time job.
- As with the overall population, nearly all of the low skilled populations work in indefinite contracts, with little difference by gender. The highest rate of temporary contracts is characteristic of young low skilled workers (16-24) at 13%.
- The three most represented sectors for low skills workers are 'elementary occupations' (27%), 'service and sales' (22%), and "plant machine operators and assemblers" (16%). Low skilled women tend to be hugely overrepresented in service and sales (35% in comparison to 10% of low skilled men), and elementary occupations (30% and 24% respectively). Low skilled men on the other hand are over-represented in 'craft and trade' (13% in comparison to 3% of low skilled women), 'plant machine operators, and assemblers' (27% and 4% respectively).
- Young low skilled people are the largest age groups working in 'service and sales' (26%). In the elementary occupations, which are well represented by all age groups but again with the youngest dominate the field (41% respectively). As expected, 25-54, 55-64 plus the 65+ age groups are also well represented in "plant machine operators and assemblers" category.
- The low skilled working population is more likely to suffer greater short- and long-term unemployment. On average 75% of the low skilled who are unemployed have had work experience. Those without work experience are more likely to be long term unemployed.
- Foreigners constitute around 18% of the population and also of the low skilled in Scotland. this is the groups with high low skill rate. Those aged 24-54 are more likely to be low skilled population than other non-British/non-dual citizenship age groups.

SECTION 2. OPPORTUNITIES OF THE REPLACEMENT DEMAND IN SCOTLAND

2.1. Projections for total employment by sector skills and occupations

Skills Panorama²¹ provides only general analysis of projections for future employment in the UK and gives no specific consideration of the expected demand for skills and occupations in Scotland. This Section draws on projections by UK Commission for Employment and Skills (UKCES) and its most recent publication of projections for 2016-2024²².

Table 3 Expansion and Replacement demands 2016-24

Occupation	Expansion demand	Replacement demand	Total jobs requirement
Managers, directors & senior officials	1,700	51,600	53,300
Professional occs	8,500	229,400	237,900
Assoc professional & technical occs	1,200	80,900	82,100
Admin & secretarial occs	-3,900	96,000	92,100
Skilled trades occs	4,700	87,600	92,300
Caring, leisure & other service occs	7,400	83,800	91,200
Sales & customer service occs	2,500	106,500	109,000
Process, plant & machine operatives	-1,700	43,300	41,600
Elementary occs	6,100	175,000	181,100
Total	26,500	954,100	980,600

Source: Oxford Economics, for Jobs and Skills in Scotland and Industrie 4.0, SFC Board Meeting, March 17th 2017

http://www.sfc.ac.uk/web/FILES/CNP_Councilmeeting17March2017_17032017/SDS_presentation_-_Jobs_and_Skills_in_Scotland.pdf

Predictions show a relatively constant female-male employment ratio to 2024. Part-time employment is expected to grow the most, while self-employment is predicted to shrink (Table 4).

²¹ <https://ec.europa.eu/info/sites/info/files/2017-european-semester-country-report-united-kingdom-en.pdf>

²² UKCES (May 2016) *UKCES labour market projections for Scotland: 2014-2024*. (*based on small sample sizes)

Tables 4 Employment status predictions									
Shares by Employment Status				%	Changes in Employment Status				000's
2014					2014-2019				
Employment by Gender	FT	PT	SE	Total	Employment by Gender	FT	PT	SE	Total
Male employment	36.7	7.3	7.5	51.5	Male employment	16	17	-6	27
Female employment	23.2	21.0	4.3	48.5	Female employment	20	15	-1	34
Total employment	59.9	28.3	11.8	100.0	Total employment	36	32	-7	61
2019					2019-2024				
Employment by Gender	FT	PT	SE	Total	Employment by Gender	FT	PT	SE	Total
Male employment	36.5	7.8	7.1	51.3	Male employment	1	19	-8	11
Female employment	23.4	21.1	4.2	48.7	Female employment	23	20	0	43
Total employment	59.9	28.8	11.3	100.0	Total employment	24	38	-9	54
2024					2014-2024				
Employment by Gender	FT	PT	SE	Total	Employment by Gender	FT	PT	SE	Total
Male employment	35.8	8.3	6.7	50.7	Male employment	17	36	-14	38
Female employment	23.8	21.3	4.1	49.3	Female employment	43	35	-1	77
Total employment	59.6	29.6	10.8	100.0	Total employment	60	70	-15	115
FT= Full-time PT= Part-time					SE=Self-employed				

Five occupational areas are projected to offer the most opportunities for employment in 2024: professional occupations; associate professionals and technical; *elementary occupations*; managers, directors and senior officials; and *caring leisure and other services*. Three occupational areas offering the highest replacement demand will be: professional occupations; elementary occupations, administrative and secretarial; associate professional and technical; skills trades occupations and caring; manager, directors and senior officials; and leisure and other services. The highest positive change is expected in professional occupations and the highest negative change is expected in administrative and secretarial occupations.

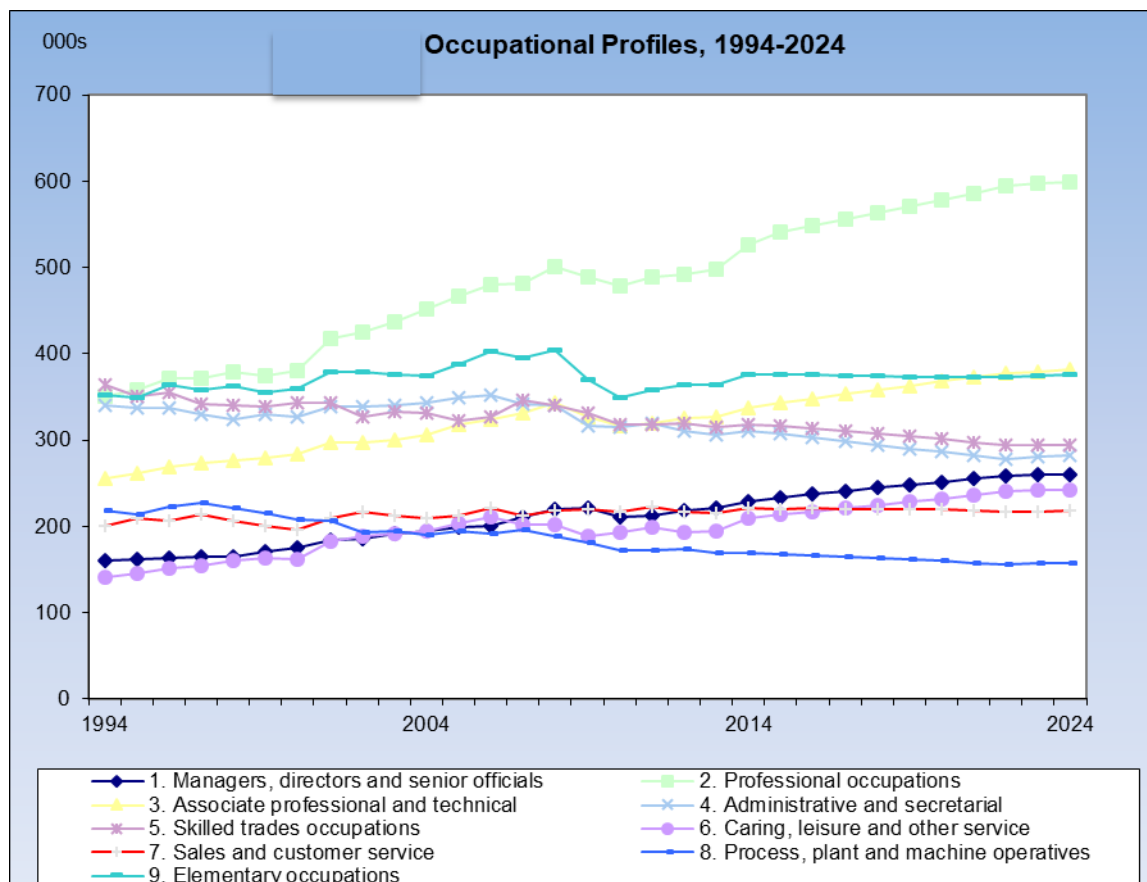
Table 5 Employment levels in Scotland prediction for 2024

SOC2010 Major Groups, Scotland Employment Levels (000s)	1994	2004	2014	2019	2024	Net Change	Replacement Demands	Total Requirement
Managers, directors and senior officials	160	194	229	248	261	32	96	128
Professional occupations	350	452	527	570	600	73	212	285
Associate professional and technical	256	306	337	363	381	44	125	169
Administrative and secretarial	340	343	311	290	283	-28	130	102
Skilled trades occupations	364	332	318	305	294	-24	115	91
Caring, leisure and other service	141	195	210	228	243	33	93	126

Sales and customer service	200	210	222	220	218	-4	81	78
Process, plant and machine operatives	218	190	169	161	158	-11	62	50
Elementary occupations	352	375	376	373	377	1	149	150
Total	2,382	2,596	2,698	2,759	2,813	115	1,063	1,178

Percentage Changes								
Percentage Shares	1994	2004	2014	2019	2024			
Managers, directors and senior officials	7	7	8	9	9	14.0	42.2	56.2
Professional occupations	15	17	20	21	21	13.9	40.2	54.1
Associate professional and technical	11	12	13	13	14	13.0	37.1	50.1
Administrative and secretarial	14	13	12	11	10	-9.0	41.8	32.8
Skilled trades occupations	15	13	12	11	10	-7.7	36.1	28.5
Caring, leisure and other service	6	7	8	8	9	15.5	44.4	60.0
Sales and customer service	8	8	8	8	8	-1.7	36.7	35.1
Process, plant and machine operatives	9	7	6	6	6	-6.7	36.5	29.8
Elementary occupations	15	14	14	14	13	0.3	39.6	39.8
Total	100	100	100	100	100	4.3	39.4	43.7

Figure 26 Changes in occupational profiles



An extended list of occupations with predicted expansion and demand replacement is included in Table 6.

Table 6 Replacement demand

Replacement Demand: Total		Period: 2014 - 2024					
All industries (Results in 000s)	Base year employment level	Expansion demand	Retirement	Occupational mobility	Migration	Replacement demand	Net requirement
11 Corporate managers and directors	148	25	57	0	0	57	81
12 Other managers and proprietors	81	7	40	0	0	40	47
21 Science, research, engineering and technology professionals	135	17	42	0	0	42	59
22 Health professionals	134	24	56	0	0	56	79
23 Teaching and educational professionals	152	15	68	0	0	68	84
24 Business, media and public service professionals	105	17	46	0	0	46	62
31 Science, engineering and technology associate professionals	52	3	16	0	0	16	19
32 Health and social care associate professionals	44	9	18	0	0	18	26
33 Protective service occupations	39	0	10	0	0	10	10
34 Culture, media and sports occupations	39	6	18	0	0	18	24
35 Business and public service associate professionals	164	26	64	0	0	64	89
41 Administrative occupations	243	-7	101	0	0	101	93
42 Secretarial and related occupations	67	-20	29	0	0	29	9
51 Skilled agricultural and related trades	55	1	31	0	0	31	32
52 Skilled metal, electrical and electronic trades	102	-13	30	0	0	30	17
53 Skilled construction and building trades	92	-3	30	0	0	30	26
54 Textiles, printing and other skilled trades	69	-10	24	0	0	24	15
61 Caring personal service occupations	158	33	69	0	0	69	102
62 Leisure, travel and related personal service occupations	52	0	24	0	0	24	24
71 Sales occupations	172	-13	64	0	0	64	50
72 Customer service occupations	50	10	18	0	0	18	27
81 Process, plant and machine operatives	85	-12	25	0	0	25	13
82 Transport and mobile machine drivers and operatives	85	1	37	0	0	37	38
91 Elementary trades and related occupations	58	-1	20	0	0	20	19
92 Elementary administration and service occupations	317	2	129	0	0	129	131
All occupations	2,698	115	1,063	0	0	1,063	1,178

* Replacement Demand = Retirements + Occupational Mobility + Migration Net requirement = Expansion Demand + Replacement Demand

2.2. Trends in employment, occupational forecast and demand

Skills policy is largely devolved to the Scottish government. The Regional Skills Assessments (RSAs)²³ carried by Scotland's Skills Development body²⁴, offers some opportunities for historical analysis of labour characteristics, as well as the skills demand and planning activities for future. Scotland, like many other European countries, has undergone labour market transformation from a manufacturing to a service-based economy in recent decades²⁵. Services account for around 73% of Scottish economy, and are the biggest sectors offering employment. Over the last five years, the greatest increase in employment has been in professional occupations, from 16.7 % of all employment in 2004 to 19.9% in 2015 (an increase of 107,100 jobs). Professional services and health and social work sectors grew steeply in the previous decade and are still expected to continue to expand on a similar scale (Figure 27). Whilst health and social work is expected to continue to expand, growth in professional services employment is forecast to be much slower than in previous decade. Other sectors will face a similar situation of a slowdown in employment growth: support services and arts and entertainment. Construction, information technology and financial services, on the other hand, have been forecasted to expand. Therefore the labour demand in the sectors of growth will need to be addressed in relation to the skills and education provision match which commentators urge will be required to support Scotland's future economic growth.

A wide range of commentators, consistent with the RSA's evidence, emphasise importance of differentiating between the scale and nature of '*expansion demand*', generated by growth in the Scottish economy and '*replacement demand*' generated by replacing those people who retire, change occupations or move away, when considering and planning for workforce training, development and management. Expansion demand in Scotland is expected to result in 140,000 new job opportunities between 2012 and 2022; however, replacement demand is projected to result in over one million job openings over the same period, nearly ten times that resulting from net growth. Importantly, these openings will occur across all types of jobs. Many opportunities will exist in the Scottish labour market for people with higher qualifications. Managers, professionals combined will be a source of over half of all job openings to 2022/24 (Figure 28).

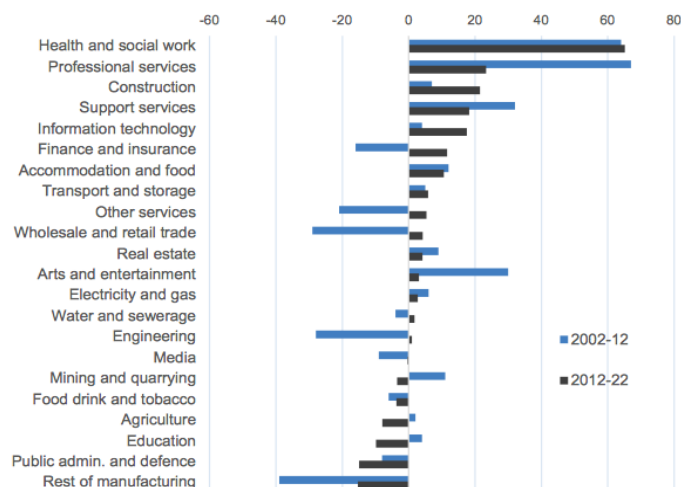
²³ Regional Skills Assessments (RSA), commissioned by Skills Development Scotland, is a first exercise of this kind. It provides a coherent evidence base on which future investment in skills can be based. It aims to highlight economic and labour market data, offer trends and forecasts at both regional and local authority level. The data covered includes demand for skills, supply of people, provision of skills and skills challenges.

Skills Development Scotland SDS (16th December 2016) Data Matrix.

²⁴ <http://www.skillsdevelopmentscotland.co.uk/publications-statistics/publications/?page=1&order=date-desc>

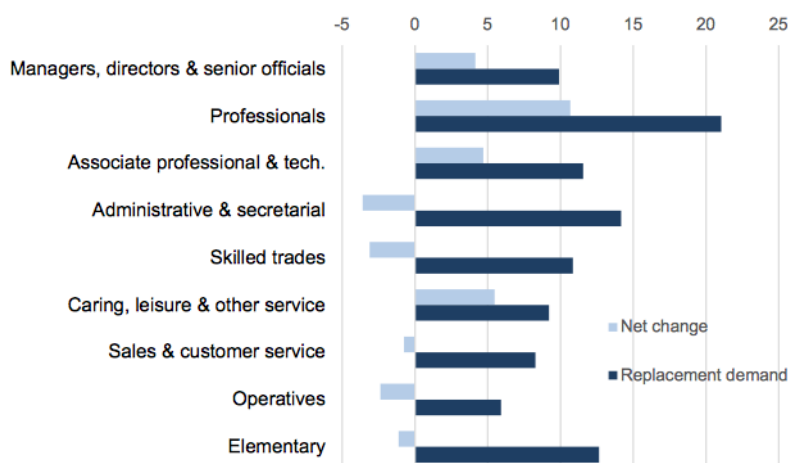
²⁵ Scottish Government (2016), *Scotland's Labour Market Strategy Assessing Our Future Needs*
<http://www.gov.scot/Publications/2016/08/2505/6>

Figure 27 Net change in employment by industry in Scotland, 2002/12 and 2012/22 (000's)



Source: SQW analysis of Working Futures data

Figure 28 Forecast net change and replacement demand in Scotland ('000's), by standard occupational classification (SOC) groups, 2012-2022



Source: SQW analysis of Working Futures data

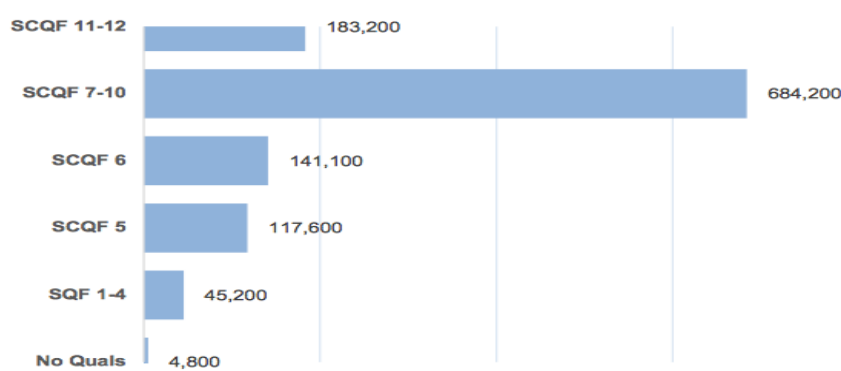
Graham and Mackay²⁶ brought forward some important evidence from RSAs. In 2014, 6% of the economically active population in Scotland had no qualifications (a total of 165,000 people) but less than 5,000 job openings will be available to those with no qualifications between now and 2022²⁷. Commentators suggest that although more than half (52%) of those with no qualifications are over the age of 50, and therefore likely to be leaving the labour market within

²⁶ Graham, T. and Mackay, S. (2015) *Some key issues for employment and skills planning in Scotland: a review of emerging evidence Fraser of Allander Institute Economic Commentary: 39(2)*, University of Strathclyde.

²⁷ *Ibid.*

the next 10-15 years, there is still likely to be a need for provision aimed at increasing the qualification levels of those who are unemployed or in low skilled occupations, at least in the short to medium term, in order to increase the participation rate and ensure that anticipated demand for qualifications can be met. Analysis shows that less than 5,000 job openings to 2022 will be available to those with no qualifications. Scottish labour market are likely to have an hour-glass characteristics, which means there will be demand for higher level skills but also some job openings in lower skilled jobs; however people with no qualification and SCQF 1-4 (ISCED 0-2) will find themselves in a risky situation unless steps are taken to upskill them to at least SCQF 5 and 6 levels in order for them to benefit from new job openings up to 2022 (Figure 5).

Figure 29 Projected jobs openings, by required qualification level (2012-2022)



Source: SQW analysis of Working Futures database: Total job openings = 1.2m

Taken together, forecast employment and population change points to a potential mismatch between future labour supply and demand in Scotland: the total number of Scottish jobs is expected to increase by 5% between 2012 and 2022, whilst the working age population is expected to contract by 1% over the same period. It is expected Scotland will see nearly 1.2 million new jobs openings between 2014-24.²⁸ 115,000 jobs (9%) will arise from expansion demand and the remaining vast majority, from replacement demand. The replacement demand will vary across sectors reflecting, in particular, differences in the demographic profile of the workforce. As forecasts confirm a continuing ageing of the population, replacement demand will occur across all occupations, even those forecasted to decline. Health and Social Work, Professional Services and Support Services are predicted to grow while Agriculture, Education and Rest of Manufacturing will decline.

According to Scottish Labour Market Strategy 2014-2024 employment in ICT and digital technology is predicted to increase substantially (84,000 to 150,000) by 2020²⁹. The profile of the current workforce is ageing and the proportion of 16 to 24 year olds working in Scotland as

²⁸ Scottish Labour Market 2014-2024;

http://stats.learningandwork.org.uk/events_presentations/IntoWork2016/Presentations/23%20hall%2011b%20Chris%20Broadie.pdf

²⁹ Ibid.

IT and telecoms professionals is half that of other occupations. Forecasts suggest that there could be as many as 11,000 job opportunities each year in ICT and digital technology roles presenting a major opportunity for young people. Roles include software and web development, project management and sales. PwC study³⁰ estimated that around 6% of all UK jobs in 2013 did not exist in 1990 and these were mostly relating to digital computing and communications technologies. It is further predicted that by the 2030s, 5% or more of UK jobs may be in areas related to new robotics and Artificial Intelligence. However, not all lower-skill level jobs may become automated for a variety of economic, legal and regulatory reasons. Hiring more people, rather than incurring potentially large up-front costs by investing in new technologies such as AI and mobile robots is not always economically viable, and legal complexity in relation to ownership and responsibility for new technologically driven solutions might deter many companies from replacing humans with machines³¹. Replacement by technology is a potentially common danger for many occupations and jobs, as technological solutions ICT and AI can produce more results quicker, and often with better quality and less potential for errors, thus massively increasing economic productivity of any business and sector. Interestingly, income generated by adoption of technology is estimated to be fed back into the wider economy (i.e. by means of spending or investing in other areas, including in sectors that are less automatable, such as healthcare and other personal services where robots may not be able to totally replace human touch input for the foreseeable future).

In other specialised sectors, for example, in Subsea Engineering where Scotland has world-leading capabilities largely built up by experience in the North Sea oil and gas fields, this provides development opportunities for a declining jobs market. Opportunities currently exist around research and development in global markets such as subsea mining, defence, decommissioning, renewables and aquaculture³².

Public sector employment provides substantial employment opportunities across all parts of Scotland. Currently it accounts for around one fifth of Scotland's workforce, however due to the changing demographics and developments in progressive policies aiming to promote inclusion and equality, further impacts on the demand for public sector workforce are predicted. Workforce planning strategies are being currently devised and developed particularly around health, social care, education and early years provision to address these sectors expansion. For example, the most significant new employment demand will come from the expansion of free early learning and childcare provision. This will require a considerable scaling up of the workforce in this sector, with up to an estimated 20,000 additional staff required by 2020. Policy-makers assure amongst the new jobs provided by the expansion a range of roles across different qualification levels will arise. Public sector declares ambition to train/retain workers and ensures that these opportunities are accessible to disadvantaged communities. The strategy also predicts increased demands on the construction sector as a result of the substantial infrastructure development required to support the expansion of early learning and childcare

30 Frey, C. and J. Hawksworth (PwC, 2015): <http://www.pwc.co.uk/assets/pdf/ukeyo-regional-march-2015.pdf>

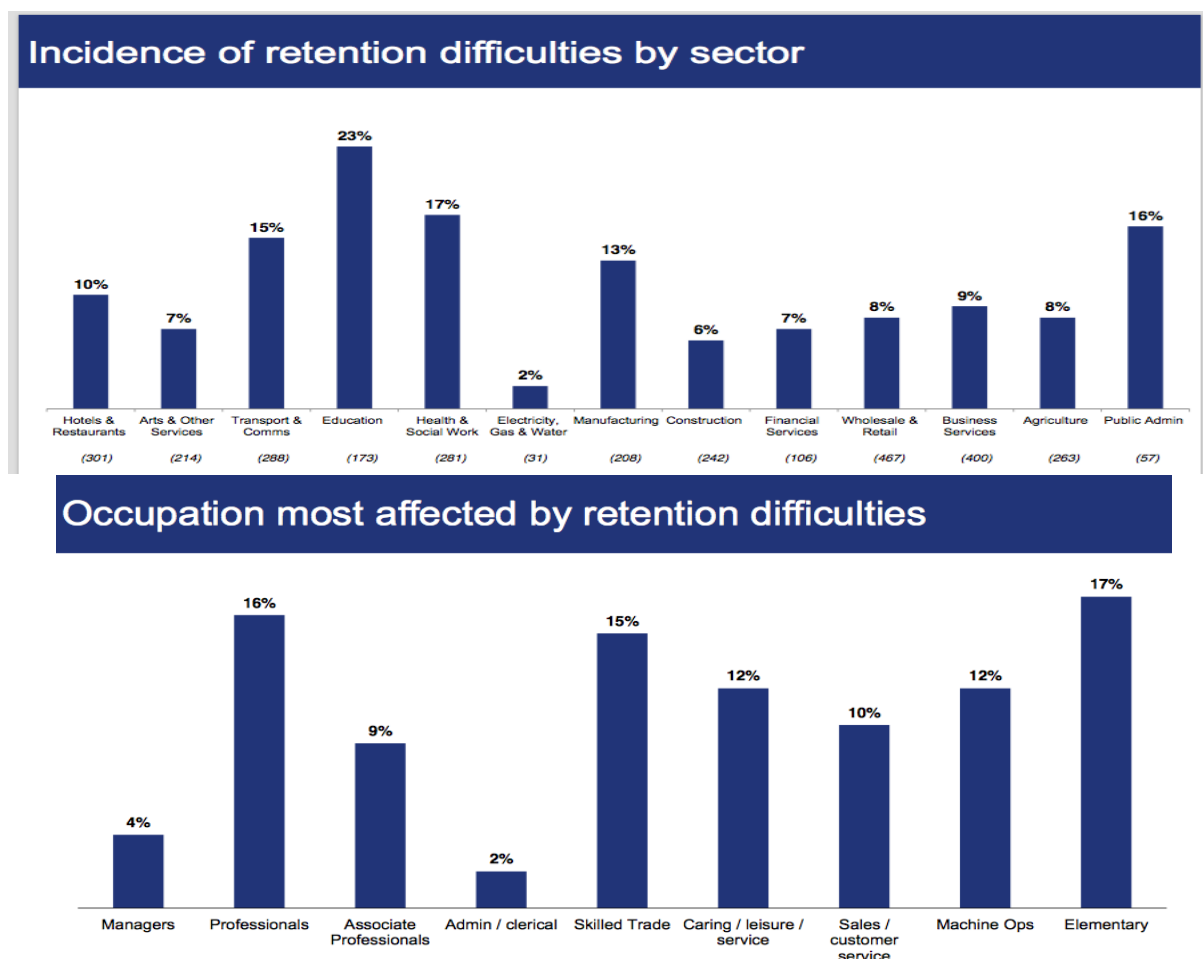
31 Berriman, R. (March 2017) *Will robots steal our jobs? The potential impact of automation on the UK and other major economies*. UK Economic Outlook March 2017.

32 Scottish Labour Market 2014-2024;
http://stats.learningandwork.org.uk/events_presentations/IntoWork2016/Presentations/23%20hall%2011b%20Chris%20Broadie.pdf

provision (learning facilities) 50,000 additional affordable homes guaranteed by housing policies, and other opportunities in relation to the national energy efficiency priority.

In addition, data from the Employer Skills Survey suggest that education 23% and health and social work 17% are two the highest sectors which might experience staff retention difficulties (Figure 7-8), hence additional sets of implication should be considered when predicting future employment opportunities³³.

Figure 31 Retention difficulties in selected sectors and occupations.



In addition, it is unknown at the moment, what impact implications of BREXIT will have on regions, sectors, people and jobs.

2.3. Summary

The Scottish and UK projections seem to be greatly aligned with prediction for Europe. The CEDEFOP report (2016) confirms a pan-European trend of continuing shift from the primary sectors (especially agriculture and traditional manufacturing industries) towards services and

³³ UKCES 2016 *Employer skills survey 2015*, UKCES (2014). *The Labour Market Story: Skills for the Future*

the knowledge-intensive sectors were majority of future jobs will be located³⁴. The service sector is expected to rise from 70.7% to nearly 74% and this is predicted to be the main area of employment growth with around 12 million jobs are services. Distribution, transport, hotels and catering together are projected to grow by 3.4 million over the next decade, and non-marketed services (mainly public services) are expected to increase by just over a million, while demand for public administration is predicted to fall due to expected public budget constraints.

These projected sectorial changes will have significant implications for occupational skills needed in the future. The CEDEFOP (2016) report states high- and medium-level skills occupations, but also some which require only lower or no formal skills, will experience growth in demand. Regulated and non-regulated professional and associate professional occupations at higher skill levels (e.g. in healthcare and education) will be in demand for different reasons making these mismatch priority occupations (MPOs). For example, many of these professions like teachers and midwives are expected to retire in the coming decade and shortages arise from the need to replace them (replacement demand). On the other hand, it is being observed that an ageing society is increasing demand for social and medical services, and thus opportunities for new jobs in healthcare/personal care occupations will arise due to need driven expansion in these sectors/occupations (expansion demand).

Similarly, the UK Commission for Employment and Skills also predicts that the future of jobs and skills in the Scottish labour market will be either associated with service and health/caring work or in professional, technical occupations such as IT. Low skilled people thus may be able to up-skill or re-train to capitalise on some of these opportunities available. Appropriate training strategies should be developed to make transitions to better-qualified jobs possible and successful.

³⁴ CEDEFOP (2016) *Briefing note: Skill shortage and surplus occupations in Europe*; Available at: <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9115>. (Figures 17, 20-22).

SECTION 3. SELECTED ECONOMIC SECTOR AND TARGET GROUP IN SCOTLAND

3.1 Early Learning and Care Sector.

Early Learning and Care (ELC) sector in Scotland seems to be a strategically important sector, which at the same time can offer opportunities for employment for low skill people. The main reasons for this are:

- Significant policy-driven expansions in the Scottish ELC sector currently being implemented;
- Positive labour market projections for the coming years, due to both expansion and replacement demands;
- Likely suitability of the sector for employment of low skilled people, as the sector requires a variety of vital and quite diverse roles, which include managerial and professional, but also support roles.
- Jobs in the ELC is an example of work areas more difficult to be easily replaced by automation;
- The extension of the care provision for early years appears to be planned on inclusive principles and aims to offer opportunities for disadvantaged and excluded groups of individuals;
- The expansion of the sectors offers opportunity for innovation and a cultural change, whereby currently and historically female-dominated ELC sector (and of a low socio-economic status) can be transformed into a more diverse and desirable context to work in.

Occupational Projections of Skills Investment Plan³⁵ for 'Caring, leisure & other service occupations' in years 2016-2024 estimated 91,171 as a total labour requirement. As suggested in the previous section, this makes the caring sector an attractive choice to match future demands with employment opportunities for low skill people. However, the most recent ELC policy development, with a strong agenda of increasing provision of free early learning and childcare provision, is one of the key factors that makes ELC sector, in Scotland in particular, so

³⁵ Specific Skills Investment Plans have been developed by Scottish national body, Skills Development Scotland (SDS) - responsible for skills development. SDS aim to bring skills demand and supply closer together, support individuals to develop the skills industry needs, and sectors and regions to make best use of the people, skills and resources available. It identifies the skills challenges and opportunities across Scotland's key sectors to give a picture of the economic and labour market situation, trends in skills and qualification supply and employers' perspectives on the big skills issues affecting sector growth. <https://www.ourskillsforce.co.uk/skills-investment-plans/>

strategically important. The Scottish Government has pledged to increase the provision of free early learning and childcare provision to 1140 hours per year by 2020, for children who are 3 or 4 years old, as well for 2 year olds whose parents/carers are on qualifying benefits and are eligible for the 600 hours free entitlement through the Children & Young People's Act 2014³⁶. This increase of free entitlement sponsored by the Government (from 475 to 600 hours of free care per child), and in relatively short period of time, will require more trained and registered childcare workforce, e.g. childminders, as well as practitioners, managers, other support workers and associated professions³⁷. The Scottish Government provisionally estimated up to 20,000 additional workers may be required for the expansion programme. Because of the increase in free entitlement to ELC by 2020, the sector wants to and needs to attract and train a diverse workforce and therefore opportunities for the low skills might arise. As the sector has to grow and invest in the workforce development, many current challenges and barriers to work in the sector needs to be addressed (including perceived gender and low socio-economic status of jobs in ELC etc.).

In 2015, the ELC workforce was estimated at 39,030, and which comprised two main areas: childminding and day care³⁸. There were 5,560 people working as childminders in Scotland (83% of Scotland's childminders are members of Scottish Childminding Association), 33,460 worked in day care of children in admin, support and managerial roles. The estimated 20,000 additional workers will substantially increase the size of the workforce in this sector.

Table 7 Role profile of the Early Learning and Childcare workforce, 2015 (Source: SDS, 2016)

	No of Staff (Headcount)	Admin., Support and Ancillary Workers		Class 2/3 Care Workers		Class 4 Care Workers		Managers, Directors & Chief Executives		Not Known	
Childminding	5,570	0	-	0	-	0	-	0	-	5,570	100%
Day Care of Children	33,460	1,910	6%	26,080	78%	1,690	5%	3,330	10%	220	<1%
Scotland	39,030	1,910	5%	27,770	67%	1,690	4%	110	9%	5,790	15%

Source: SSSC Workforce Data, 2016; Figures may not sum due to rounding

It is difficult to provide a robust assessment of the overall skills levels of the ELC workforce other than using qualifications as a proxy. As the Table below demonstrates, a range of different levels of qualification is being displayed by those who enroll on ELC-related college courses – with almost half of them in 2014/2015 with no or low qualification levels.

³⁶ Scottish Government (December 2015), *Increasing the hours of free early learning and child care provision* <http://www.gov.scot/Publications/2015/12/4790/322740>.

³⁷ Skills Development Scotland (23rd March 2017) *Prospectus for Scotland's early learning and childcare sector*.

³⁸ *Ibid.*

Table 8 College enrolments on Early Learning and Childcare-related courses, by level, 2014/15 (Source: SDS, 2016)

	2012/13		2013/14		2014/15	
	Count	%	Count	%	Count	%
No Qualifications	155	2%	147	2%	346	4%
Other Qualifications	1,760	26%	1,834	26%	2,141	26%
SCQF 1-4 (e.g. NCs and NPAs)	1,050	15%	837	12%	1,101	13%
SCQF 5 (e.g. National 5)	1,116	16%	1,433	20%	1,908	23%
SCQF 6 (e.g. Highers)	1,377	20%	1,480	21%	1,348	16%
SCQF 7-12 (e.g. HNC, SVQ 3 and above)	1,395	20%	1,410	20%	1,455	18%
Total	6,853	100%	7,141	100%	8,299	100%

Evidence from the consultations indicates that people entering education and training do not have the required essential skill set such as literacy, numeracy, personal presentation and verbal and non-verbal communication. Evidence suggests that 63% of partner providers reported difficulty with recruitment of suitable new employees³⁹. Interestingly, year on year, the uptake of courses relating to ELC at Scottish universities increases, with a 75% increase since 2012 in first degree level Childhood Practice and a 107% increase in Childcare postgraduate courses. This suggests that the whole sector has currently an hourglass shape skills structure; however it seems the upskilling of the entire sector's workforce is considered as important requirement to ensure high quality care being offered. Employers felt that it is important that the workforce has an appropriate level of literacy, numeracy, digital skills and science-related knowledge. They should have enhanced digital/ICT skills reflecting the demands of a changing workplace, be good communicators, both written and verbally, to enable them to communicate with children, parents, carers, their team, wider community and other organizations as needed.

³⁹ Ibid.

Table 9 Enrolments on courses at Scottish HEIs relating to Early Learning and Childcare (Source: SDS, 2016)

Course by Degree Level	2012/13	2013/14	2014/15	% of total	% change
First Degree					
Childhood Practice	286	443	501	51%	75%
Childcare	227	329	321	32%	41%
Training teachers – nursery	130	154	168	17%	29%
Other Undergraduate					
Childcare	363	136	84	67%	-77%
Childhood Practice	133	39	42	33%	-
Postgraduate					
Childcare	105	142	217	83%	107%
Childhood Practice	-	7	14	5%	-
Training teachers – nursery	35	31	32	12%	-9%

Source: SDS, 2016

Many of the new job opportunities in ELC will exist within the public sector employment, others employment opportunities will exist in self-employment capacity (providing a successful accreditation process). In Scotland childminders belong to an occupational group that works mostly on a freelance basis⁴⁰. All current and new opportunities in both employment capacities are talked about in inclusive language, which matches with the public sector declared ambitions to ensure all work opportunities are accessible to people from all backgrounds. Some problematic access barriers exist, however. Access to learning and training is often more difficult for childminders, due to the time and costs associated with investment in learning and training as well as geographical barriers to accessing training, particularly in remote/rural areas.

The ELC workforce requires a set of essential skills, attributes and attitudes but these are not easily measured. The sector has already engaged in conversations about opportunities but also challenges regarding the sector's development. Some persisting challenges exist in terms of recruiting and retaining people to work in ELC and to diversify the workforce in terms of age, ethnicity, gender and disability. A broaden approach to recruitment is suggested as a priority to continue to attract people into the sector, especially in the timeframe associated with expansion of ELC provisions. Attracting people from a BME background, career changers and returners to the sector also offer potential solutions to the workforce shortage. Upskilling the low skill people have not been communicated clearly so far, but this sector is considered a good fit for low skills people who can help redressing the skills shortage. A variety of qualification levels and training channels exists and should be utilized in up-skilling of low skills population (e.g. SVQ, HNQ, college and university degrees, on the job training, apprenticeships, work-based learning). The initial scoping report of the sector emphasized particular challenges in recruiting and training ELC staff in rural and remote areas where the pool of potential workers is smaller. Again, while

⁴⁰ Scottish Childminding Association <https://www.childminding.org/about-us>

this is a substantial challenge it can become an opportunity for low skilled and geographically remote people.

It seems an apprenticeship model, and perhaps other vocational approaches to training, are currently underutilized in ELC sector. As the Table below shows, no apprenticeship in Early Years Care Education has been offered, while social service apprenticeship seems quite a popular occurrence. This could be also an opportunity to alter the perceived access barriers that make the sector unattractive for new entrants.

Table 10 Provision of apprenticeship in Early Learning and Childcare, 2014/15 and 2015/16
(Source: SDS, 2016)

Framework	2014/15	2015/16
Early Years Care Education	0	0
Children's Care, Learning and Development	0	1
Social Services (Children and Young People)	1,254	1,288
Social Services (Children and Young People) Technical Apprenticeship	19	150
Total	1,273	1,439

Source: SDS, 2016

3.2. The potential impact of automation

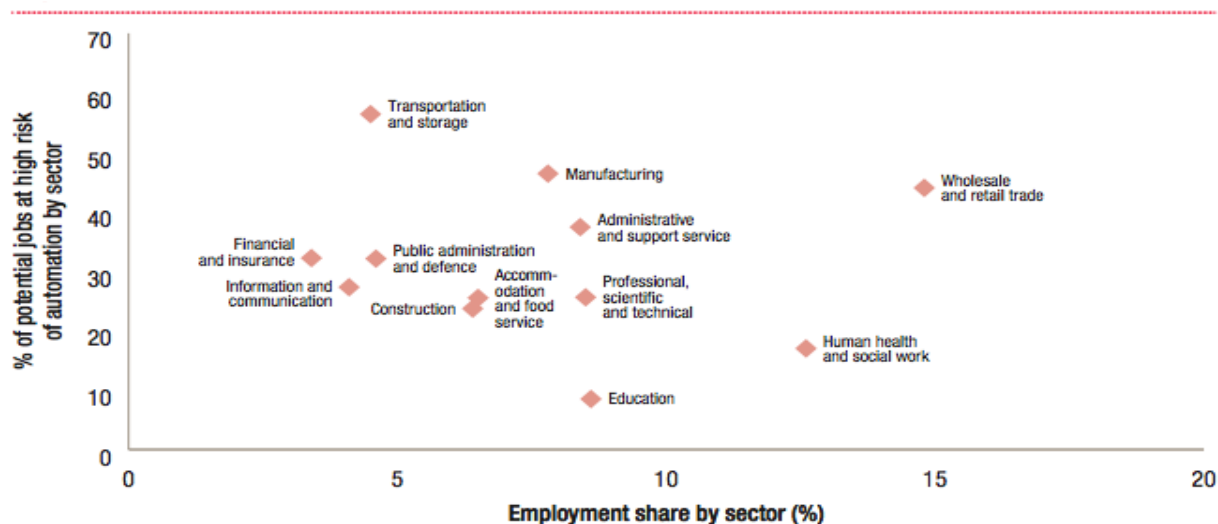
Another important reason for choosing the ELC as a context of study is its high level of resistance towards the impacts of technological advancements. As caring is predominantly about delivering service that focus on people and requires face-to-face emotionally engaged interactions, jobs in ELC appear to potentially be less susceptible to substitution by technology.

UK-wide research suggests that up to 30% of UK jobs could potentially be at high risk of automation by the early 2030s, lower than the US (38%) or Germany (35%), but higher than Japan (21%)⁴¹. In Scotland, 78% adult in the working age will still be of working age by 2030. Equally, but over 46% of jobs (1.2 million) in Scotland are at high risk of potential automation over the next few decades⁴². In the UK service-dominated economy, the risks appear highest in sectors such as transportation and storage (56%), manufacturing (46%) and wholesale and retail (44%), but lower in sectors like health and social work (17%).

⁴¹ Berriman, R. (2017) *Will robots steal our jobs? The potential impact of automation on the UK and other major economies*. UK Economic Outlook March 2017.

⁴² *Scotland Skills 2030: The future of work and the skills system in Scotland*, <http://www.ippr.org/publications/scotland-skills-2030>

Figure 32 Potential impact of job automation by UK industry sector



Sources: ONS; PIAAC data; PwC analysis

A level of education seems to be a signifying factor, and those with just GCSE-level qualification or lower (ISCED 0-2) are estimated to be at the highest risk associated with job replacement by automation (46%) in comparison to only 12% for those with undergraduate degrees or higher (ISCED 5-8). As indicated in tables below, it seems men will find themselves at the highest risk of job loss by automation. It is also estimated that private sector employees, particularly those employed in SMEs are at the greater risk than those working in the public sector (Tables 4.2 and 4.3).

Table 11 Estimated proportions of UK jobs at high risk of automation by employer and worker characteristics

Employer characteristics	Job automation (% at potential high risk)	Worker characteristics	Employment share (%)	Job automation (% at potential high risk)	Jobs at potential high risk of automation (millions)
Public sector	22%	Gender:			
Private sector	34%	Female	46%	26%	4.1
Employees:		Male	54%	35%	6.3
<11	30%	Education:			
11-1000	32%	Low education (GCSE level or lower)	19%	46%	3.0
1000+	24%	Medium education	51%	36%	6.2
		High education (graduates)	30%	12%	1.2

Sources: PwC estimates using PIAAC data

Sources: PwC estimates using PIAAC data

Commentators explain that jobs in services sectors, health, education and personal care are less likely to be automated because of their task composition. Main drivers for potential high

risk of job automation are: repetitiveness, routinisation and a need for greater physical exertion (e.g. jobs in manufacturing or transportation and storage). On the other hand, jobs that require social and literacy skills (in sectors such as education and healthcare) are more resilient to loss by automation. PwC research suggest the proportion of jobs at potential high risk of automation is over 2.5 times greater in the wholesale and retail trade (44%) than in health and social work (17%).

These findings are consistent with US research based on the Bureau of Labor Statistics (BLS) data⁴³. According to Frey and Osborne (2013) the Social Intelligence (SI) element remains a substantive barrier to full computerisation of jobs, and it is a necessary element of jobs in many person-focused services. SI constitutes abilities such as Social Perceptiveness (being aware of others' reactions and understanding why they react as they do), Negotiation (bringing others together and trying to reconcile differences); Persuasion (persuading others to change their minds or behaviours), and Assisting and Caring for Others (providing personal assistance, medical attention, emotional support, or other personal care to people). These components are crucial in a range of jobs and are essential to work tasks in many services. Frey and Osborne argue, while most workers in transportation and logistics occupations, office and administrative support and in production occupations are likely to be substituted by computer capital, people-centred occupations, with strong SI requirements, are not. Thus distinction between jobs in services that have high degree of social intelligence seems to be currently a factor preventing from a wave of computerisation in the nearest future. For example in service sectors: Healthcare Social Workers (0.028) Child, Family, and School Social Workers (0.0035) Healthcare practitioners and technology workers are unlikely to be automated (0.055), also childcare workers (0.084) have lower probability of being automated than low skilled healthcare workers whose jobs can be easily routinized (0.63)⁴⁴.

In the currently highly polarised labour market, danger of computerisation and replacement is being associated with low skill and low-wage occupations. Therefore low skill workers will need to reallocate to tasks that are non-susceptible to computerisation – i.e., tasks requiring creative and social intelligence, but successful acquisition of creative and social skills is prerequisite for such transition. Care-focused roles seem to be an appropriate context to acquire work which will have relatively low risk of being fully substituted by technology.

3.3. Target group

Due to a wide-ranging nature of roles associated with the expansion of ELC provisions in Scotland and the equality principles embedded in the workforce development strategy, the target group is not limited to a specific age group or gender, nor the socio-economic status. The project will thus try to focus on opportunities that exist for all non-qualified or those with very low skill who could obtain work in the ELC sector across Scotland in its various roles.

⁴³ Frey, B.C., Osborne, M.A. (2013), *The Future Of Employment: How Susceptible Are Jobs To Computerisation?*

⁴⁴ *Ibid.* (Appendix no. 142)

3.4 Summary

Early Learning and Care (ELC) sector in Scotland seems to be a strategically important sector, which at the same time can offer opportunities for employment for low skill people⁴⁵.

Significant policy-driven expansions in the Scottish ELC sector are currently being implemented and for which it is estimated that around 20,000 new jobs will be needed to deliver promised services. Opportunities related to replacement demands and retention problems common in service sectors focus on delivery of care, also exist but precise numbers are not known.

As the sector requires a variety of vital and quite diverse roles, which include managerial and professional, but also lower skilled at entry level and support roles, this sector seems suitable for employment of low skilled people. It also offers scope for improved skills development among low skilled staff. In addition, the extension of the care provision for early years appears to be planned on inclusive principles and aims to offer opportunities for disadvantaged and excluded groups of individuals; including those with no or low qualification.

Lastly, the nature of jobs in the ELC is an example of work areas more difficult to easily replace through automation. As currently a danger of computerisation and replacement is being associated with many low skill and low-wage occupations, the ELC sector offers some realistic opportunities for low skill workers to train in or be reallocated to care-focused roles – a context which seems to have relatively low risk of being fully substituted by technology. However, a successful acquisition of creative and social skills is prerequisite for such transition.

The principal challenge facing the ELC sector is recruiting and retaining an adequate, high quality, diversified and committed workforce to meet current and projected need. The right people from a diverse range of backgrounds including career changers, returners and older workers, and who have attitudes, skills and aptitudes to pursue a career in ELC is only one part of the problem. The sector must also be able to provide support and learning opportunities to experienced staff and support them to adapt to changes and avoid retention problems.

⁴⁵ Childcare is an important sector for both children and for supporting their parents to work according to the European Commission (2013, Towards Social Investment for Growth and Cohesion (COM(2013) 83) and for 'adequate and sustainable social protection' under the Social Pillar (COM(2016) 126 final).

SECTION 4. RESULTS OF INTERVIEWS

4.1. Relevance of the sector for low skilled workers

4.1.1. Relevance of the chosen sector for the selected target group

The childcare sector offers many employment opportunities at the present and future times, especially due to new Scottish government policies to extend the amount of free childcare to parents as well as the continued promotion of the return to work of parents, especially mothers, when their children are still quite young.⁴⁶ Most employees (especially at the lowest qualification levels) currently are young females or women returning to work after looking after their own children. So most opportunities related to the sector's growth are likely to be used by low qualification females. There may be attempts to improve, especially, gender diversity but currently the representation of males working in the sector is very low. Trades Union participants argue that unions are concerned with the lack of political drive to change the sector's structures, which they argue, "perpetuate the old biases and inequalities in the sector" (I/1). This means that exploitative and undervaluing practices related to gender segregation need to be eliminated so unemployed women, particularly lone parents and young to middle age women, or women with low-qualification can enter a well-valued work and careers rather than be "coerced to gender segregated, stereotypical roles which are undervalued and underpaid." (I/1)

The Scottish Government's investment in the sector by extending amount of free childcare has been welcomed with the excitement by the sector's professional bodies, workforce and the general public. The policy that is going to be implemented in 2020, but with 14 formal trials run at present throughout the country (and a lot of informal trials), offers 1140 hours free childcare hours per year. This is doubling the free cost hours per each child aged 2-3 and 3-4 from 15 hrs up to 30 hrs per week. A phased delivery will start in August 2018 and the sector is currently getting ready for it. As the childcare has a direct impact on parents working in all other sectors of the economy, it is considered to be a vital link in sustaining and improving the productivity. The Scottish Government estimated the policy would save an average family £350 per month. New Early Years and Childcare (ELC) policy extension is aimed to offer parents more care choices and thus have a positive 'knock on' effect on their employers and workplaces. A vital ingredient in meeting demand for the childcare delivery is an integrated approach whereby different forms of provisions from different partner-providers (e.g. home based child minding, publically and privately run nurseries, with health/social care) are being considered to deliver a well-functioning service meeting the new demand.

While the new increased demand for childcare professionals brings positive and ambitious development plans for the sector, at the same time some reservations around the substantive

⁴⁶ Such policies build on previous Scottish Government policies to promote employment for disadvantaged parents, e.g. the £80 million Working for Families Fund, McQuaid R.W., Bond, S. and V. Fuertes (2009) *Working for Families Fund Evaluation* (2004-08), Scottish Government, Edinburgh
<http://www.scotland.gov.uk/Publications/2009/04/20092521/0>

and truly transforming nature of the new policy-driven developments have been raised by trades unions and a body representing the childminders. Firstly, currently the ELC sector reflects a wider societal perceptions which places a low value on caring responsibilities, which means that the ELC workers have a lower status (in comparison to other professionals such as teachers), is heavily gender segregated, and is often provided in unpaid forms (by mothers, or kin-carers). The unions criticise the policy not in terms of offering new work opportunities for the ELC workers, but rather for not utilizing this opportunity for redesigning the sector in a way that would uplift its professional status and help the sector and its workers to overcome the value and respect problems. Secondly, the new free childcare provision is feared to potentially undermine the role of childminders in ELC provision and cut their hours of work, particularly when differences across local government exist in terms of approach to the integrated provision.

Current ELC workforce is “a mixed workforce” in terms of age, skillset and experience; some “come straight from collage but quite a large group will come after they had children of their own that’s when they realise that’s what they want to do.” (4) The ELC sector offers opportunities for employment in both public and private sector nurseries. In addition, home-delivered childminder services offer opportunities for self-employment. Currently, employment in public sector provision has put more emphasis on qualifications, so the growth of public provision may be accompanied by growing demand for qualifications. Growth in private sector provision may also increase demand for qualifications, particularly when the sector will need to undergo large-scale recruitment. The qualification is predicted to be an important aspect of conscious work towards the maintenance of high-standard childcare, especially with the sector’s appetite for changing its professional status. The sector is particularly keen on changing the public perception about the skills necessary to work in the sector.

Commonly, the sector is perceived as work context of formally low qualified people with childcare skills often assumed not to require verification in qualifications. Often, the general public as well, as the whole economy, tend to make a strong value judgement about low-levels of skills and low-pay and low-status of people working in ELC. One of the officers representing the union movement expressed: “I don’t think the labour market has a reliable way of assessing the value of skills. The value of skills is just so politically charged” (I/1). These skills judgments often carry a historical bias and are wrapped in undermining language. Interestingly, however, “there is also a contradictory line that describes these jobs as being highly pressurised”(I 2/2), with expectations to deliver a high level of care and high level of dedication to one’s job. Such a dichotomy suggests a confusion and inconsistency in the valuation of the sector and its workforce. On the one hand “parents don’t want to leave their children with people who are particularly low skill. They want to know that they children are looked after and are safe.” Yet the industry does not have that sort of recognition.

Participants in the sector argue that this low-qualification situation is not synonymous with the low skill perception of the sector, as work in ELC requires a wide range of important skills. Many routes to qualification gain already exist and these are getting easier to access, from college-based courses, SVQ work-based qualifications, apprenticeship programmes, placements as well as university-degree courses. Thus it looks like the sector is already on the way to tackling existing misperceptions. In addition, despite such a low societal status of childcare, there is a true vocation and workers in the ELC tend to love their jobs and the turnover of staff in the sector is assessed as low. Thus, despite the low pay in the ELC sector, when job satisfaction is

measured in surveys “these are the jobs that come on top.”(I 2/1) This contradiction offers an interesting insight into the relationship between pay, conditions and satisfaction in vocational context.

4.1.2. Kind of jobs that the target group develops in the selected sector

With the sector policy-driven expansion, a demand for all types of ELC workers exists and will increase. “Childcare is not only about childcare workers, children come along with additional medical needs, some children will need to be assessed in relation to learning difficulties – things which need to be monitored and supported.” (I/1). Due to a complexity of delivery of the childcare service in the sometimes multinational and multicultural context of Scottish childcare, there is also a range of language and translations needs for children for whom English is not their first language. Thus a variety of jobs will be available at different levels of workforce, which means demand for all: early childcare educators, senior early childcare educators, support workers, admin staff and managers. Most employment in the sector is not particularly precarious, as the work pattern is known (in the public sector there is a 35hrs working week). The child minders (self-employed), who can care for up to 6 children, always had a degree of flexibility over their own work pattern but are highly dependent on the parental interest/demand and their income status. Currently, they are increasingly fearful that their work might become precarious due to the number of children looked after them may decrease as parents are expected to use publically-delivered free childcare allocation first, before they spend for non-covered services such as care delivered by child minders.

Childminding in particular could be an interesting proposition for low skilled workers to enter the care sector because there is less requirement for having formal qualifications, although all childcare workers need to be registered with the national care body, the Care Inspectorates, which oversees and controls the quality of care delivered in Scotland. However, this opportunity is not without challenges. The childminding national body said: “the big barrier that we currently have, with the intended expansion of the hours of ELC, is that childminders are not currently being used by the local authorities as partners – providers.” (I/3). The findings suggest that childminders are either not used at all in the current planning/trial stage or are used in a very limited capacity. It has been discovered that less than 2% of childminders are being used in the delivery of the policy just now. For example, in a big region of Scotland with a high concentration of childminders, only 8 places have been offered for the 500 childminders who work.

Thus, the new Scottish Government support for free childcare could result in some child minding becoming an unviable work opportunity (e.g. if free care is given in the middle of the day and child minding is only required for an hour or two at the start or end of the day). This might further result in changing incomes for the workers, and in effect, a patchy unsustainable work model. Furthermore, it might even jeopardise the variability of childminders' work because as reported “currently it is very unfortunately...that some childminders are going out of the business because of that.” (I/3) Because of this tricky situation, the childminders' professional body openly expressed their concerns over whether at present they should actively promote child minding as viable career option, simply because of high risk associated with less work available. “Actually, we should be shouting loud about recruiting childminders presently because of the

current situation.” (I/3) It has been even considered as not ethical to advocate opportunities for a long-term career until some resolution to these issues has been achieved.

A concern about the shortsightedness of policy, planning and implementation of the ECL extension and the potential demise of childminders is unsubstantiated although similar previous policy developments in England and Wales drastically decreased the amount of active childminders (I/3). A particular concern has been expressed in the context of the initially positively received extension policy, which was expected to offer more work opportunities for childminders rather than reduce the existing ones. Although the demand is higher “there are less childminders than they were before”(I/3). The fear over job opportunities is real. Over 70% of the association’s members have asked for help in lobbying on their behalf “because they are concerned about the lack of knowledge even from the local authorities as to what resources they have on their doorstep that they are not actually using.” (I/3).

The association advocates for a blended model of delivery whereby children are looked after by a “childminder in the morning, go to the nursery in the afternoon and childminders can assist with the logistics of these arrangements. As they articulate, “it’s about a transition in a single day (...) and communication to ensure that child’s wellbeing is paramount.”(I/3). This means “a single child’s plan, which will then be able to be shared between the providers (...) and all the different providers could be working together to ensure that the child achieves its full potential.” (I/3). Although, some local authorities claim that they do not have enough childminders that would make a difference to the delivery, many of the Scottish local authorities are committed to a delivery of the integrated childcare system, in which child minders are considered as a vital link and an important delivery partner, and parents are advised they will be able to use their free care allocation towards childminding.

One of the local authority interviewed had already organised an information session for the childminders to “reassure them” and “to communicate them what our vision for them is”(I/4). Thus partnership work with the local authorities “would secure places with them so that the parents go and access those places and actually would help secure their work.” (I/4) This means such arrangements would actually help in securing and planning amount of work and pay, as income from partnership work would be guaranteed. However, being a partner in a delivery might impose new requirements on the childminders. “The Scottish Government may require the childminders to also have qualifications” to match the criteria set for the nurseries, but this is believed to be “positive for the whole sector.” (I/4). Some local authorities openly embraced childminders as a part of providers and they are actually recruiting a small number of childminders to deliver the service trial. Many other local authorities might be on the board to deliver this rather organic multichannel approach that concentrates on a child, but at the moment the approach for engaging childminders seems to be inconsistent and patchy across different local authorities responsible for delivery of childcare.

However, there is another procurement barrier identified by childminder’s body. As local authorities put their service provision on the public tender Scotland website, each individual childminder business need to complete such tender, which is suggested to be a complicated and bureaucratic exercise. Where a tendering process is not required, a very long forms (e.g. a 46 page document) needs to be filled in by each childminding business. The association commented on this challenging process: “by having seen some of the documentation, it’s really

geared towards nurseries and it's not being amended to suit childminding provision and it makes it actually quite difficult to complete." (I/3). The concern has been expressed that this situation carries an unnecessary bias and is perceived as exclusive.

4.1.3. Existence of 'black (underground) economy' in the selected sector and in these occupation types and steps to overcome this

Literature on childcare extensively covers a growing phenomenon of kinship-care, whereby retired grandparents are increasingly undertaking care responsibilities for children of their children due to raising cost and care provision inflexibility⁴⁷. However, there appeared to be little evidence of a significant 'black economy' in the sector. Our study did not find any evidence on the black economy in the childcare, although there may be a grey economy of friends or family looking after children for payment. In addition, some child minders may not be registered as is legally required. This is considered to be partially related to the public opinion and the idea that somehow childcare is a natural skill and competence all women have and thus are expected to be well-prepared to deliver an informal care in their own or the child's home.

On the one hand, low skilled workers might experience barriers in finding and maintaining employment in the selected sector, which might force them to undertake any work opportunity, especially those unregistered jobs or in so called "black market". On the other hand, in recent years with a growing demand, ELC has been a sector of rapid labour insertion and with few requirements for non-professional care assistants, which eliminates the risk of ELC black economy. The sector currently experiences relatively low staff turnover "...once they are in they tend to stay within the sector. Very few people actually leave." (I/4) The opportunities that exist for upskilling the people in and through the workplace (specifically in the public sector), also suggest that a more rounded approach, which offers long-term progression and developmental opportunities can deter the need for entering the black market.

4.2. Training, Participation, Engagement and Recruitment

This section discusses the findings on the skills, training needs, engagement and recruitment in the ELC sector.

4.2.1. Academic competences and other skills

People who work or want to work in the ELC, in the roles that require contact with children "have to be very knowledgeable on the range of things" (I/4); "as a ELC practitioner you have to be

⁴⁷ Guzman, L. (1999). The use of grandparents as child care providers. Center for Demography and Ecology, University of Wisconsin-Madison; Jappens, Maaïke; Van Bavel, Jan. (2012) Regional family norms and childcare by grandparents in Europe, Demographic Research; Rostock Vol. 27, (Jul-Dec 2012): 85-120; The Scottish Commission on Older Women (2015) Older Women and Work: Looking to the Future Report, SCOW: Edinburgh. (Credited contribution); STUC (2016, a) Barriers, Hopes and Opportunities for Women's Work, Careers and Employment. An overview of insights and recommendations, STUC: Glasgow; Wheelock, J., & Jones, K. (2002). 'Grandparents Are the Next Best Thing': Informal Childcare for Working Parents in Urban Britain. Journal of Social Policy, 31(3), 441-463. doi:10.1017/S0047279402006657

multi-skilled”(1/5); “it’s one of the most difficult but rewarding jobs” (1/5). The informants agreed that is the job where workers “have to be alert in all times”, “have to multitask” and the job “can be physically demanding ” and requires “a good sense of humour” (1/5).

All commonly agree that three key skills required to work in the sector are communication, relationship and partnership working skills. People working in the sector have to have few basic academic, language and numeracy skills but social skills and emotional intelligence were noted to be more important than the academic skills. The employers place far more emphasis on interpersonal skills ability to work as a part of the team, support each other and with time learn mentoring skills and become a mentor. The sector values learning on the job, and importantly, childcare worker skills are developed in the very collaborative teamwork environments, with – depending on the size of the provision - multiple ELC workers looking after children at the same time. The sector’s rules prescribed that one educator is required to look after 8 children, if they are 3-5 years old, one educator to five children, if they 2-3, and one educator to 3 children if they 0-2 (1/4). Such a range of practitioners working together enables shadowing, observation and mentoring practices to be well integrated into the working day of new staff.

A specific technical skill which childcare workers need to acquire relates to documentation of the child development process and a clear communication of it, but again it is recognised by the employers as “a learned skill and you only get that through experience of actually working with the children and observing and shadowing practitioners.” (1/5). The sector strives itself to look at skills on the ground in a more collective way which means that practitioners can supplement each other’s skills (e.g. someone might be better with technology, or someone else with mentoring or documentation). The co-operative environment of work enables workers to share the demands of work and utilize the team’s skills and not just the skills of a single individual.

As mentioned in the previous section, the level of formal qualifications differs depending on the role, e.g. childminders and learning supports are not required to have SVQ2 completed, unlike nursery workers who need to gain SVQ3 qualifications to be fully responsible for children. However, childminders emphasise the uniqueness of their situation by pointing out that a majority of childminders come with previous work experience from nurseries or other sectors of economy, as well as with a range of other life skills, which they claim make them appropriately experienced and prepared for their jobs. An average age of a childminder in Scotland is just under 35, and arguably they would have accumulated more experience “as opposed to a young person that is just out of school and who is going to work in the nursery.” (1/3). In addition, it’s been articulated that “childminders are highly skilled because they actually have to run their own business, and they have to take the responsibly for providing the best possible care, wellbeing and opportunities for the children.” (1/3).

4.2.2. *Current Training in the sector for low skilled people*

In Scotland, many routes to qualification gain in ELC exist from college-based courses, SVQ work-based qualifications, apprenticeship programmes, placements as well as university-degree courses. There is a wide range of training courses provided by Further Education Colleges and Higher Education. The most common route in the past, and which is becoming highly utilized during the workforce development planning responding to the ELC policy extension, is a route through vocational training and college settings.

In the local authorities sector the SVQ route used to be less popular than in the private sector, where non-qualified staff could start working with a child straight away. The view held in the public sector is that, although experience is important, people cannot 'walk in from the street to look after children'. "We're of the view that to be able to work with children you'd need to have qualification first (...). There is a minimum level of qualification to be an educator. There needs to be a minimum level of qualifications that needs to be attained." (SC/4). Thus traditionally, most of the workforce would have come with HNC (SCQF level 7, or SVQ 3+), a college-level qualification. Due to the new demand, the sector however is trying to be more creative by opening new access routes to the profession: "because our expansion is so huge, in the next few years we really need to be creative in how we recruit these people. So currently we have approximately 226 educators in Stirling and we need to be looking to recruit approximately another 252 people so that's doubling our workforce. So that's huge! So in order to do that we need to offer different roots into employment." (SC/4). One of the local authority is considering attracting and supporting opportunities for the current workforce in different roles, i.e. "people who are already working within the authority if they are in another job and want to do a career change".

The SVQ is one of the key opportunities for low skilled people to enter the sector, the other one is a route through the apprenticeship scheme. For example, one of the local authorities now offers a modern apprenticeship for all years' groups, and not just for young school leavers. They said: "We have started from 16 to 19 years old, we are now currently working with 20 to 24 years old and in the New Year there are going to be adult apprenticeships." (I/4). This type of access has been considered as particularly suitable for the low skilled group as it is a type of SVQ route with learning on the job that is "opened to a wider range of people, also to people who are in employment just now but could not give up work to go to college full-time". (I/4). The apprentices "have partial responsibility [for children] but they won't have a full responsibility. There will be someone else with them but it's learning on the job and it's a different form of learning for people who find it difficult to write essays." (I/4).

One of other potential entry routes is to become a learning assistant, which requires lower level of qualification role (SVQ2, whereas SVQ level 3 means a fully qualified practitioner). "Support staff would traditionally support children with specific needs or additional support needs, so they don't need to have responsibilities for the learning part but they are very much involved in the care and they support the learning." (I/4). Low skilled groups considering entry to the ELC sector could indeed consider these roles. No qualifications used to be required when working as learning support, "but now everyone working in day-care services with children are required to have some qualification." (I/4). However, learning assistants have five years to gain a qualification once they take up a post. Another positive aspect of this entry route is that it offers further opportunities for future progression. "This is our second year that we are offering that to all our support for learning assistants in the nurseries and some of them are now choosing to go from that to SVQ3 or into the HNC to have a full qualification so it's almost like [a] step by step route." (I/4)

Voluntary placements for those interested in joining the ELC workforce might also end up being a route to a profession. The respondents informed the project that very often parents get involved in their local nurseries and realise they like it and that this could be a possible career choice. When such interest is being recognised and supported and appropriately directed by the

nursery staff, positive outcomes are noted and a couple of personal stories were shared to support this observation.

Also, as outlined in section 4.1.2, childminding jobs are a key opportunity with fewer initial requirements but with options available to further train and develop. Some colleges offer more accessible SVQ courses for childminders, for example, with a distance learning option whereby the support is given by Skype, telephone or email, with less formative assessment. For childminders who are struggling to attend courses and training due to their work patterns, such flexibility is an important feature. The Scottish Childminding Association is currently also working on establishing itself as a SQA approved centre to carry out and assess work-based training and awards at level 7 on the SVQF Framework, which is roughly the same level as SVQ3. Childminders will be able to use their experience as the underpinning knowledge to fast track to SVQ3.

The other training opportunities are delivered by employer, e.g. in the public sector these commonly are “in-service days throughout the year and that’s normally in-house training”, and “partnership training with local authority.” (I/5). Training in publicly run nurseries tend to be delivered within the working hours so everyone can participate, take advantage of and benefit from it. Continuous striving for improvement means that training on the job includes the experience of being mentored by a senior member of staff, which is found to be “really beneficial.” (I/5). Some of the local authorities pride themselves in having a comprehensive workforce development programme. They are interested in raising standards amongst the workforce and therefore they offer a wide range of developmental opportunities from low to high skills, with an in-built progression element. As one local authority said:

“There is constant on-going training and within <name> council traditionally we have always supported staff who want to go to the degree level qualification. We did the census last week and it’s almost 40% of our workforce hold or are working towards a BA in Childhood Practice or equivalent. That’s been an ongoing process for a number of years. The SSSC [Scottish Social Services Council] doesn’t require our senior educator to have a BA but we have required that so we are already raising the standards. In a nursery class you would have a senior child educator and early child educator so all the senior educators either have or are working towards degree so this year we have opened it up to the next level down so they can apply for funding for that as well. So we have been upskilling. So this is a type of job you can come in to with basic level of qualification and there are career pathways and opportunities that are supported all the way.” (I/4).

4.2.3. *Training in the sector for low skilled people: motivation and barriers*

The interviews with the industry stakeholders provided evidence on the willingness and eagerness of the ELC workforce to be trained, to learn and gain qualifications throughout their working lives. However, along strong motivations, some key barriers were identified.

A few issues emerged in terms of training in the ELC.

Firstly, the further education sector provides a range of courses, however unions advised that with the cuts in public funding, many of the part-time courses have been limited, which prevents

people with jobs or other (e.g. caring) responsibilities to enroll and attend. Such reductions in terms of part time places in the FE sector is perceived as “a structural disadvantage for adults, (...), who might be coming to this as a career change or re-joining the labour market.” (I/1). The unions strongly raise the need for “flexible options in relation to FE and training” and “the need to restore the capacity of FE.” (I/1).

Secondly, some voices from the sector, specifically trade unions, raise concerns about the fast-track approach to workforce training, whereby courses or placements are getting shorter to meet the demand for ELC workers, but which could undermine the quality of training (I/6). This problem is also linked with a wider dilemma whether ELC workers should always first gain knowledge and appropriate qualification before they interact with children, or work and get qualification later or at the same time.

Thirdly, workplace training is offered more commonly in the public sector, which means that ELC workforce in the private sector might not have the same developmental opportunities. Childminders also feel that “many local authorities haven’t provided support for childminders to get qualified because the focus has been on their [own] employees.” (I/3), and that generally there is less training available in the local authorities for them to take part in (I/3).

Some ideas for an ideal training context have emerged. It was discovered that for the upskilling of the workforce to be successful “an employer needs to rise to the challenge” (I 2/1) and take responsibility by creating the best and fair conditions for learners, for example by offering a paid-release time to take part in training, preferably organised in the workplace environment. This is how it is explained by the unions: “Paid-release is crucial. We are here talking about a sector dominated by women, as men tend to have less responsibilities for care, and if we understand that the paid-release is even more important because of the external pressures that people have on them, on their time. You have higher completion rates with paid-release then when people need to do it in their own time.” (I 2/2).

In addition, it was suggested that unions “can play a supportive role around that” (I 2/1). Unions can help employers to organise courses and to provide an active voice on skills needed further development thus providing valuable insight for employers. Unions commonly observe a typical behaviour whereby “employers are still expecting that people will have qualifications and skills. They want to recruit ready-made workers, they don’t want to have to recruit people and train them.” (I 2/2). However, in today’s dynamic and changing work environment, and especially under the pressures of the upcoming demand, that is possibly not a realistic position. The insights to what needs to be improved in specific workplaces can really be a good foundation for a design of successful employer-led workplace learning training opportunities because unions can easily help identify gaps and skill gaps. They “start from a blank sheet” and “build understanding of what the skills demands are coming for the workforce.” (I 2/2). On that basis they can “have a dialogue with an employer about the changing needs of the service and a change in the profile of skills required.” (I/1). Unions can also help setting the additional support, for example through union learning initiatives, for existing workers who need a little bit of support before they can go to employer-run or any other training.

As advocates of a ‘fair work’ philosophy, they are also keen to embrace the role of a mentor throughout all career transitions, such as a move from high school to college, or from college to

the labour market and the workplace. Trade unions want to play an active role in fascinating and ensuring the equality and fair work principles in these changing contexts. The trades union movement strongly believes that “a part of the training for the school leavers should be a framework of fair work, should be a knowledge about quality and equality at work, not just the abstract right to join the trade union; but [it] should be mainstreamed within the programmes as the essential part of the effective productive inclusive economy.” (I/1).

As well as directly supporting individual employees, trades unions see themselves as having an important nation role: “.... an effective voice for them at the national level and defining what the service looks like and what the vocational requirements of those workers are and then participation in the process of encouraging their colleagues through those structures to add to their professional qualifications.” (I/1). Trades union movement sees its role as an independent advocate, and a mechanism for articulating the learners-workers rights, helping them match their skills with vacancies in the economy, and generally, providing more individual-focused support when transiting through to a new learning or work context.

Unions also warn against a pursuit of solely accreditation in training. As they suggest “so much training that is happening across workplaces is not accredited.” (I/2.2), and that “employers don’t often value non-accredited learning they think its worthless.” (I/2.1). Unions would like to see some guidance from the SCQF framework around how these non-accredited but valuable training courses could be translated and better understood.

4.2.4. *Funding the training*

From the interviews with stakeholders, the project learnt that many training options are free to learners. Education at colleges and universities (at the bachelor level) is publicly funded and all training offered in the public sector nurseries is employer-funded. Childminders need to fund their own training if not done through the college system, but some financial support is available to them through Individual Training Account schemes (previously Individual Learner’s Account), which can bring funding of up to £200 per year towards a single training course or training episode per year.

Some observations were made on the decreasing public sector funding, in a still not favourable economic climate of Scotland (and UK), which could affect training provision, its availability and cost. One of the informants commented that “public bodies generally are poorer than they were before and continue to be poorer” (I/1) (i.e. before the 2007 recession). However in relation to this very timely ELC extension it seems like the sector might be excused from pressures of non-funded training, particularly for new entrants.

For career changers, or people coming from different career pathways, some financial barriers and obstacles are expected, especially when needing to retrain while looking after their own families, or where the place of work or training is far from home and access might become an issue. The amount of financial help and training support for learners varies across the country.

4.2.5. *Difficulties and barriers to achieving a higher participation rate from people belonging to the target group?*

Pay and professional status have been identified as key barriers to achieving higher participation rates from all socio-demographic groups. The perceived low status of childcare work and relatively low and varying pay emerged strongly from the interviews. Unlike in the teaching profession, there is no national pay scale for ELC workers and childminders. Interestingly, a big discrepancy in pay across different local authorities has been observed, with occasional differences of £6,000 or more per annum, which causes additional concerns with locally trained practitioners moving to different local authorities “because they'll get a better wage.” (I/4). Public sector pays greater than the private sector for the same work and the latter needs to raise wages at least to fair wage levels to attract new people. While few workers leave the sector for that reason, the pay has been openly declared as the most significant barrier to recruiting new entrants. These choosing better-paid job opportunities are predicated to be the biggest indicator of such unfavourable pay conditions, which do not adequately correspond with the amount of responsibilities childcare workers have. “This is a vocation but being dedicated to your work doesn't necessarily put bread on the table” (I/5) said one of the stakeholders, and this complex, politically and socially-saturated perception and value of the sector and its workers is considered as hugely problematic in times of largest workforce recruitment to meet development plans.

The sector aspires to move beyond stereotypical and gender-segregated views of ELC, however at the moment it still struggles with attracting males. Male practitioners are very rare, unlike in the teaching profession. The voices from the sector think that lifting up the wages could initiate more interest from perspective male childcare workers. The pay, however, should only be a secondary incentive. Vocational motivation to work in the sector is expressed as paramount – “people have to have a strive to work with young children. If you don't have to have that desire to work with children there is no use of being here.” (I/5). Although changing the public perception and removing an historical stigma is a long-term challenge, the sector is optimistic about the opportunity for lifting the professional status of the workers, as the extension policy keeps them in the public domain and increases opportunities for a constructive dialogue. The new reform is believed to be speeding up the change in the valuation of childcare. One professional said “this transformational change is going to be the biggest driver for us, the thing that is going to put us on people's radars and maybe help them understand what we do and the value of the early years.” (I/5). The Scottish Government is aware of the pay difference amongst the public and private sector, and across different local authorities. Salary scales are being already reviewed, with new funding considered to top up wages of workers in the private sector. Thus, a long awaited change seems to be on its way.

Other areas recommended to be addressed, as part of the continuous effort for improving the professionalism of the role, include better career guidance. The ELC sector suggests that “often colleagues in the secondary schools are not promoting us as a career option and a professional career route.” (I/4). There is still a bit of misunderstanding about the value of the role so local authorities have started going to schools' careers fairs to talk to students and their parents about career opportunities in the sector. The Scottish Government is about to start a national recruitment drive and they will start promoting ELC work amongst the school-leavers. The most important message that the sector wants to put across is that the childcare “is not just care role, it's early learning and childcare, it's both.” (I/4). It is about a greater professional role and responsibility than “keeping children safe while someone else [mothers] goes to make money.”

(I/1). This drive is also reflected in a positive change of title of childcare workers who in some local authorities are called “childcare educators”. This however is not a consistent approach, a variety of job titles exist across the sector, e.g. practitioners, early years workers, or even an old-fashioned nursery nurse term. The sector would welcome not only a national pay scale but also a consistent name for the profession to help improving the professional identity and help local authorities retain good staff.

The individual care workers, educators and childminders also have a role to play in transforming the public perception of ELC. This is related to the more professional way of talking about their work and profession, to “portray themselves professionally, and be proud of the knowledge and skill they bring to the table.” (I/3).

4.2.6. Factors to motivate low skilled people to complete their training

Motivations include having qualifications as mandatory (after 5 years), and encouragement and support from employers. Suitable types of training, e.g. bite sized courses, and accreditation can also help. However, a lack of increased pay after training can inhibit motivation.

4.2.7. Monitoring job outcomes (if they get into employment after the course)

There are continuous review of childminders and other childcare providers by the Care Inspectorate and SSSC (which may include comments on skills levels).

4.3. Skills gaps and barriers

4.3.1. Main gaps in employability (transversal - e.g. non-job specific skills- and personal skills) in the target group?

The interviewees point out the need to improve confidence skills. Confidence was considered as key area of non-job specific skills improvement, perhaps not as a sector wide problems but rather a problem of some individuals. Workplaces offer mentorship and training to workers who are just starting-up their career or need to build up their confidence levels and resilience which is so important in this job.

4.3.2. Main gaps in academic skills and qualifications of this group

Although few academic and job specific skills gaps were identified by the interviewed stakeholders, numeracy was considered as the key academic skills gap. This is how the issue was presented: “Numeracy is a real issue, a knowledge and confidence in numeracy. People are much more confident with literacy based activities sand experiences but numeracy is a skill gap. They might be numerate within themselves but to be able to teach those stages to young people and children, that’s where it becomes problem.” (I/4). Some workplaces organise training to address this issue.

Skills gaps identified specifically amongst childminders are in relation to the Curriculum for Excellence delivery that requires a formal assessment of children. As many workers tend to do less formal assessment of children they sometimes “struggle to articulate it in the way the Education Scotland would expect them to”. (I/3). if they are partner-provider in a new service

delivery under the ELC extension they will be obliged to conduct such a formal process. Thus clear areas for upskilling has emerged.

4.3.3. *Necessary Skills in the medium future (5-10 years)*

Key skills identified as necessary in the medium future in the childcare sector were adaptability, creative pedagogy, resourcefulness and risk-taking. Early childcare educators are required to awaken a love for learning in children under their care so they can confidently go into further education and future careers, which might be very different than what is known at the moment. The quote below reflect these hugely critical and creative approach to early education:

“Children in our care at the moment are going to grow up in the world that we can’t imagine. They are going to be doing jobs that don’t exist just now. So our responsibility for them is to provide them with skillset that will help them be adaptive, adaptable and flexible, you know, to be able to think outside the box to what’s going to come in the future; ... to be able to take risks, be able to adapt their thinking, that’s where the key learning evolves. All starts here [at this level of early education] and hopefully continues.” (I/4).

To nurture and develop the appetite for life-long learning and develop children’s learning skills, the ELC workforce have to continue investment in training and learning for themselves and be adaptive to changing skills need. Through this practice they hopefully will be able to instil those skills of adaptability and learning into children.

In addition, early childcare educators also have to to conduct themselves professionally, and continue to develop a renewed reputation for their work and the sector.

4.4. **Good practice and automation**

4.4.1. *Established good practices and policies which have helped achieve the involvement of the target group within the sector and best results*

Interviews gave insights to some good practices in the ELC sector, which aim to transform the status of the profession. In particular, some positive practices were noticed in relation to involvement of the target group mostly by making access routes to the profession more convenient, and by providing a range of routes including training on the job. The sector is perceived now as “very accommodating.” (I/5). In the past choices were limited and the FE college route was the most common. Now the workforce can go through the long-distant college studies, apprenticeship, placements routes etc. A big change was noticed in terms of previous availability of college courses and training, now they are more common and many offer evening classes or distance learning opportunities with a reduced time of learning in a college setting. Thus many more routes into the profession help in eliminating barriers to entry and give options

to low skilled people at different stages in their working lives, which means that “people can still earn while they learn” (I/4), which has been assessed as having a high impact. Therefore not only school-leavers but also adults and career-changers have more appropriate training choices. In addition, as described in section 4.2.2, there are different levels of qualification to be gained which gives the workforce willing to upskill an opportunity to do so. Professionals in the sector call it a “step route” approach. (I/5).

As already reported, the positive changes in training provision has also positively impacted childminders, who in the past had fewer opportunities for training, but are now able to gain SVQ qualifications at levels 2 and 3. Innovation through the flexibility of training has been particularly important for childminders with limited time for professional development “because most childminders are working 60hrs a week and can’t commit a half a day a week or whatever going to college because they have families who need their commitment.” (I/3). As the voices from the sector inform, equalising the access to training opportunities has already seen a greater interest from current and prospective learners. In addition, some small financial support exists in form of Individual Training Allowance (with a value of £200 every year) to help childminders and other care workers (and it is a wide scheme available across different sectors and vocations) through their training. Previously the allowance had restrictions, and people already with a non-related degree or qualification could not claim it. This restriction has now been lifted, which helps career-changers with the cost of learning in the new field.

There are also positive practices seen in the sector in terms of changing the culture of the sector and making it more professional. As explained in section 4.2.5, the Scottish Government, along with the local authorities, is currently undertaking a recruitment campaign to debunk some of the myths and undervalued perceptions of the ELC sector and its workers. In addition, the Government is in the process of reviewing the national pay scale and other inconsistencies in relation to work conditions in the sector that emerged from the trials and communication with the sector. Although it is still a long way to go, it seems that thanks to the childcare extension policy the sector has been put in the public domain and such visibility can strengthen the change process. Importantly, professionals themselves recognise the necessity to professionalise the sector and present it in the best light for the benefit of themselves, as well as the children in their care. Some of the local authorities already agreed that their workforce is called ‘early years educators’, which suggest a qualitative shift which is believed to be significant in removing the historical stigma and a low-status of the workforce. There are already voices that think the sector has “turned the corner” (I/5) and that slowly greater focus is being put on the early child education now, unlike in the past. Research from the UK and other countries also helps in gathering momentum and assist the society “come to the realisation that early years are foundations to children’s learning and development.” (I/5).

An attempt to build a strong culture is closely associated with the provision of a quality childcare service. Nurseries and childminding service providers pride themselves on the quality of the service delivered which is assured by the high inspections rates by the Care Inspectorate and Education Scotland, and such a strong achieving culture makes the ELC “a very nurturing place to work and profession to work in.” (I/4). Also childminders are proud of the independent inspection results with “96% of them being rated as good and above.”(I/3). Care for quality also transpires through partnership, continuous learning initiatives, professionals from different workplaces come together to evaluate each other’s practice and exchange learning. One local

authority has recently introduced such an evaluation initiative, which entails a partnership with two nurseries evaluating each other's setting for development. This practice is recognised to offer "more inspiration through being able to go out and see other settings, build up your community of practice. It's a really good way of instilling the quality within your setting" said one of the employers participating in the initiative (I/5). The process is organised and led by a local authority and happens every three months, alongside other forum meetings which gather practitioners and deputy heads and enables them to share ideas and support a collective, municipality-wide development. This positive practice shows that the partnership set-up and open communication is an effective way of maintain and share good practices and further improve the sector.

4.4.2. Probability of automation in the next 10-15 years of the low skilled jobs in these sector:

4.4.2.1. Jobs or activities subject to automation in the next 10-15 years?

For all the interviewees, home care activities present little risk of automation (some agents estimate the probability of 10% automation in the next 10-15 years). This is mainly due to childcare requiring high levels of human interaction. The nature of the work in ELC work requires interpersonal and face-to-face- interactions, particularly with young children, "that's the key in the job we do", as it was concluded (I/4).

ELC is strongly placed to resist those pressures of automation because "You will always need early years childcare. It's one of those things. Like everybody needs to eat, everyone needs early years childcare." (I/5) As a fundamental societal function it supports other economic activities, but in order to free parents to go to work there is "a need for somewhere where they can leave children and know they will be trusted and cared for." (I/5). So far there is little concern that parents would be satisfied leaving their young children "under the care of robots" (I 2/1).

There was no evidence found that technological development could replace or endanger the ELC workers thus making this sector resistance to the substitution by automation. The union body dedicated to learning and training thinks that "automation will naturally have a role to play and can help the industry but it can't overtake everything." (I 2/2). Technological changes have a tendency to affect people who might be "concerned about the jobs they've been doing for long time but automation can bring an opportunity." (I 2/1). While some change in this regard might unfold in years to come, for now "the care sector remains very personal and difficult to automate; the technology will advance but human contact and personal care will still be necessary." (I/1).

On the whole the stakeholders were more concerned with the economic challenges and the sector's workforce development process rather than dangers of automation. Also a generational change in attitudes, whereby young women may be less willing to work in a highly-gendered environment, was suggested as a more threatening change than technology, if the public perception of professional status of ELC does not change in time. Particularly, millennial women are predicted to be much harder to persuade to work in low-status jobs.

4.4.2.2. Impact on training centres and the way of training of low skilled people

Not much evidence was generated here. Technology emerged as important part of the training but not as a substitution for the face-to-face and collective/group learning (see above).

4.4.2.3. *Impact on organisations*

No significant evidence was generated here.

4.5. Stakeholder Interviews

ORGANISATION	Type of organisation	Expert position
Scottish Union Learning STUC	Trade Union sister-body (with learning and skills remit) National Trade Union body	1. Director 2. Development Officer
Unison Glasgow City Council	Trade Union Local authority	1. Researcher at Bargaining and Campaigns team (Education, Schools and Early years specialism) 2. Head of Organising 3. Chair of Education Issues Group (lay member, Glasgow city council/Early Team leader)
Nursery in Stirling District	Public sector nursery	1. Head of nursery
Scottish Childminding Association	Professional body	1. Services Manager
Stirling Council	Local authority	1. Senior Early Years Training and Improvement Officer

SECTION 5. SOME CONCLUSIONS ABOUT THE IDENTIFIED OPPORTUNITIES

5.1 Opportunities through employment growth

About a third of the population have low qualifications in Scotland. This group also had lower employment and occupation rates together with higher unemployment and long-term unemployment. There is a much lower employment rate of low skilled women compared to low skilled men. The employment rate amongst all age groups in Scotland is higher than across the EU28, while the unemployment rate is lower.

The UK Commission for Employment and Skills also predicts that the future of jobs and skills in the Scottish labour market will be either associated with service and health/caring work or in professional, technical occupations such as IT. So the sectors most likely to provide opportunities for lower skilled people are mainly in the caring sectors.

5.1.1 Early Learning and Care sector

The Early Learning and Care (ELC) sector offers many employment opportunities at the present and future times due to new Scottish government policies to extend the amount of free childcare to parents, as well as the continued promotion of the return to work of parents, especially mothers, when their children are still quite young. The ELC sector in Scotland is estimated to need around 20,000 new jobs to deliver the government's promised services by 2020. Occupational Projections of Skills Investment Plan for the wider 'Caring, leisure & other service occupations' in years 2016-2024 estimated 91,171 as a total labour requirement, including replacement jobs (see also UKCES Working Futures figures in the Annex).

Most ELC employees (especially at the lowest qualification levels) currently are young females or women returning to work after looking after their own children. As the sector requires a variety of vital and quite diverse roles, including managerial and professional, but also lower skilled at entry level and support roles, this sector seems suitable for employment of low qualified people. It also offers scope for improved skills development among low qualified staff. In addition, the extension of the care provision for early years appears to be planned on inclusive principles and aims to offer opportunities for disadvantaged and excluded groups of individuals; including those with no or low formal qualification. Lastly, the nature of jobs in the ELC is an example of work areas more difficult to replace by automation.

5.1.2 Issues in taking the ELC opportunities for the low skilled or low qualified

First, currently the ELC sector reflects a wider societal perceptions which places a low value on caring responsibilities, which means that the ELC workers are perceived as low skilled, have a *lower status* (in comparison to other professionals such as teachers), is *heavily gender segregated*, and is often provided in unpaid forms (by mothers, or kin-carers). *The Scottish*

expansion offers opportunities for redesigning the sector in a way that would uplift its professional status and help the sector and its workers to overcome the value and respect problems.

Second, the Scottish Government support for *free childcare provision could potentially undermine the role of childminders* in ELC provision and cut their hours of work, particularly when differences across local government exist in terms of approach to the integrated provision. This could result in some child minding becoming an unviable work opportunity (e.g. if free care is given in the middle of the day and child minding is only required for an hour or two at the start or end of the day). Specific issues include:

5.2 Opportunities for action

5.2.1 Recruiting

The principal challenges facing the ELC sector is recruiting and retaining an adequate, high quality, diversified and committed workforce to meet current and projected need. The right candidates for this type of work include career changers, returners and older workers, and those who have attitudes, skills and aptitudes to pursue a career in ELC is a problem. The sector must also be able to provide support and learning opportunities to experienced staff and support them to adapt to changes and avoid retention problems.

Professionalism is a significant issue to be addressed and a vital mechanism to attracting a more diverse staff. Better career guidance is required to improve the professionalism of the role, but local authorities, the Scottish government as well as individual care workers, educators and childminders all have a role to play in transforming the public perception of ELC. Using terms such as early educators may also help influence public perceptions of their role. They are essential to help the sector move beyond the current stereotypical and gender-segregated views of ELC. However at the moment it still struggles with attracting males. *The profession should make concerted efforts to become less gender stereo-typed and major efforts need to be made to attract males to the profession as well as increasing other forms of diversity.*

5.2.2 Skills development and training context in the ELC

While there is much good practice and a positive culture on which the sector can continue to build, issues arising from the interviews suggest a number of areas for improvement.

First, there is a need for flexible FE and training options and sufficient capacity to enable people to take the new opportunities in the sector.

With the cuts in public funding, less part-time childcare courses have been available, which prevents people with jobs or other (e.g. caring) responsibilities to enrol and attend. Such reductions in terms of part time places in the FE sector may particularly disadvantage those with low formal skills or education levels from entering the sector.

Second, *there is a need to maintain quality standards for ELC staff and their training.*

Some voices from the sector raised concerns about the fast-track approach to workforce training, whereby courses or placements are getting shorter to meet the demand for ELC workers, but which could undermine the quality of training. This problem is also linked with a wider dilemma whether ELC workers should always first gain knowledge and appropriate qualification before they interact with children, or work and get qualification later or at the same time.

Third, *training must be suitably available for public, private and third organisations and not primarily focused on the public sector.*

While workplace training is offered more commonly in the public sector, this means that ELC workforce in the private sector might not have the same developmental opportunities. Childminders also feel that many local authorities haven't provided sufficient support for childminders to get qualified because the focus has been on their [own] employees.

Some improved training standard expectations and practices should include: paid-release for training; an ongoing lifelong learning perspective for all staff; involvement of all social actors (employers, NGOs, public sector and unions) in supporting a strong training framework for staff in the sector; a strong role of a mentor throughout all career transitions, such as a move from high school to college, or from college to the labour market and the workplace; and a 'fair work' ethos in the sector.

5.2.3 Specific training

To nurture and develop the appetite for *life-long learning* and develop children's learning skills, the ELC workforce have to continue investment in training and learning for themselves and be adaptive to changing skills need.

Motivations include having *qualifications as mandatory* (after 5 years), and encouragement and support from employers. Suitable types of training, e.g. bite sized courses, and accreditation can also help. However, a lack of increased pay after training can inhibit motivation.

Confidence skills, resilience, adaptability, creative pedagogy, resourcefulness are thus focal *skills to be developed and nurtured across the sector*. The low level of numeracy skills and ability and training to pass on numeracy skills to children is a major issue that needs to be tackled with much more effort and resources than in the past. Otherwise many children will continue to be disadvantaged in lifelong opportunities and career options. Skills gaps identified specifically amongst childminders are in relation to the Curriculum for Excellence delivery that requires a formal assessment of children.

It is important to maintain levels of public funding for those seeking to and upgrade in the sector and expand them in relation to the growth of the sector and to encourage greater employer contributions to training. For career changers, or people coming from different career pathways, there should be a concerted effort to remove financial barriers and obstacles, especially when

needing to retrain while looking after their own families, or where the place of work or training is far from home and access might become an issue.

Finally, although workers in the ELC sector often have low qualifications and are perceived to be low skilled as a result, they actually need many high level social and other skills to help the children develop. Ironically, these (often formally unrecognised) skills mean that it will be hard for automation or machine learning to replace such workers and little significant threat was perceived from technology to their direct employment in the medium future.

ANNEX - Evidence

Employment needs Scotland 2014-24 - UKCES Working Futures Programme

TOTAL JOB OPPORTUNITIES BY SECTOR	Scotland (2014-2024)		
	Net employment change	Replacement needs	Total need
Agriculture, forestry and fishing	-16,000	25,000	9,000
Mining and quarrying	1,000	13,000	14,000
Manufacturing	-11,000	65,000	54,000
Electricity, gas, water supply	2,000	13,000	15,000
Construction	0	61,000	61,000
Wholesale and retail trade, repairs of motor vehicles	7,000	145,000	152,000
Transportation and storage	4,000	44,000	48,000
Accommodation and food service	15,000	86,000	101,000
Information and communication	8,000	26,000	34,000
Financial and insurance activities	11,000	51,000	62,000
Professional, scientific and technical activities	31,000	77,000	108,000
Administrative and support service activities	32,000	88,000	120,000
Public administration	2,000	50,000	52,000
Education	-13,000	85,000	72,000
Human health and social work activities	33,000	162,000	195,000
Other service activities	9,000	73,000	82,000
Activities of households as employers	n/a	n/a	n/a

Other' includes other services and 'Arts and entertainment'

Source: UK Government - UKCES Working Futures Programme:

<https://www.gov.uk/government/publications/ukces-labour-market-projections-for-scotland-2014-to-2024>

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