

# Scotland's labour market: 'job polarisation' and inclusive growth

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## 1. Introduction

The phenomenon of 'job polarisation', or the 'hollowing-out' of the labour market, is well documented across many advanced economies<sup>1</sup>. Job polarisation is the process by which the shares of total employment accounted for by both high skill/high wage (and non-routine cognitive/interactive) and low skill/low wage (or non-routine, non-skilled) jobs have expanded relative to that of middle-ranked jobs. Job polarisation is seen to be a major factor in rising household income inequality.

This paper focuses on Scotland's changing labour market, and in particular on recent trends in occupational structure and the impact these are having on job polarisation and on particular occupational groups, such as administration and lower skilled production. The paper also considers future labour market trends, and discusses potential approaches to address the negative impacts of jobs polarisation.

## 2. Scotland's changing labour market

To measure job polarisation, the methodology used in this paper (and commonly used in other research) is to rank occupations by their weekly median wage in a base year, and to then divide these into ten deciles, where decile 1 is the 10% of occupations paying the lowest median wage and decile 10 the highest. Changes in the number of jobs per occupation over time are then measured.

Figure 1 shows that over the 2001 to 2010<sup>2</sup> period the number of jobs in Scotland in medium skilled/medium paid occupations declined (by -62,500), and the number in both the lower (+46,000) and higher skilled (+118,500) occupation deciles increased, leading to a more polarised labour market (see Appendix One for a list of occupations in each decile). Jobs polarisation was evident in the period prior to the recession (2001 to 2008), so the downturn did not significantly impact the overall trend.

In terms of share of total employment, the proportion of all jobs in the middle deciles (deciles 3 – 6) declined by 4 percentage points, the proportion in the top three deciles rising by 3 percentage points and that in the lowest two deciles falling by 1 percentage point (Table 1).

While this pattern of job polarisation has been found throughout Europe, the growth in the number of lower skilled /lower paid service jobs has been greater in the UK than in many other European countries<sup>3</sup>.

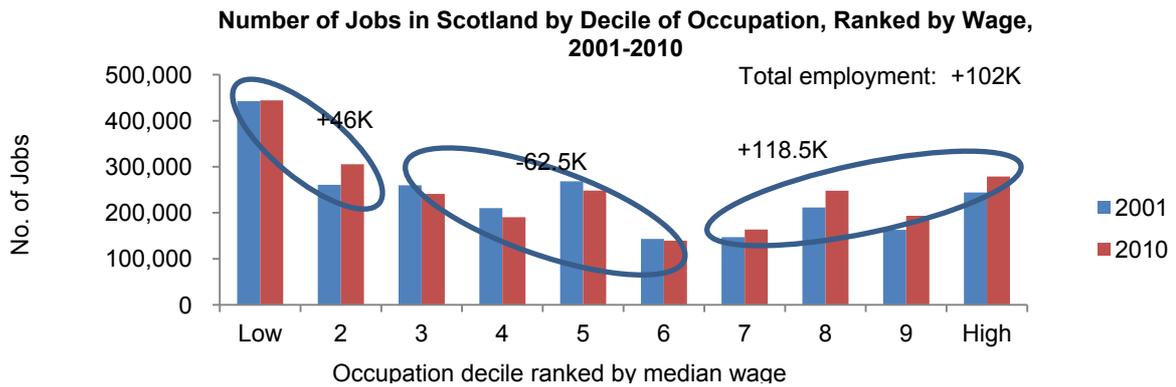
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<sup>1</sup> See for example [Are Middle-Paid Jobs in OECD Countries Disappearing? An Overview](#), ILO Working paper (2010) and the EU's [Employment polarisation and job quality in the crisis](#), EU (2013)

<sup>2</sup> Data for later years is based on a different occupational structure and so cannot be used to show long-term trends

<sup>3</sup> [Hollowing out and the future of the labour market](#), Department for Business, Innovation & Skills (2013)

**Figure 1: Job polarisation in Scotland, 2001-2010<sup>4</sup>**



Source: Stirling University (Annual Survey of Household Earnings and Labour Force Survey). Based on SOC 2000 classifications. See Appendix 3 for figure data

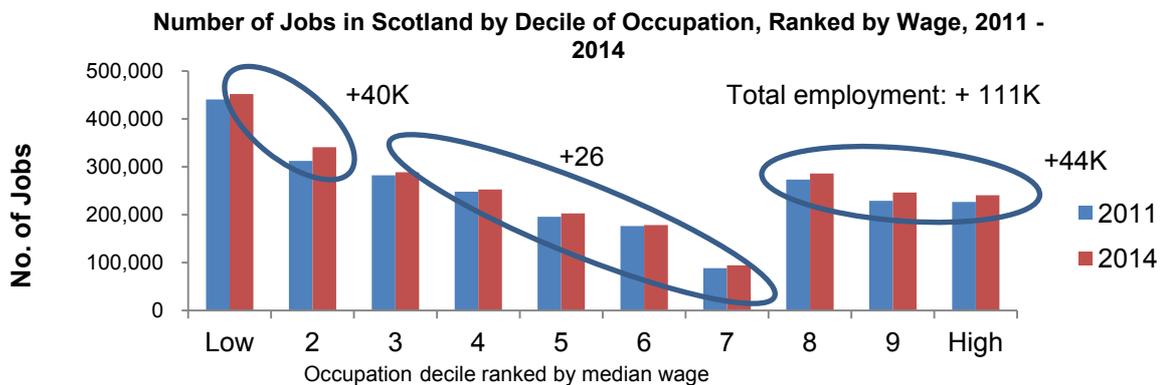
**Table 1: Proportion of jobs in Scotland by Occupation Decile (ranked by wage)**

	Deciles 1-2	Deciles 3-6	Deciles 7-10
2001	30%	37%	33%
2010	31%	33%	36%
Percentage point change	+1	-4	+3

Source: Stirling University (Annual Survey of Household Earnings and Labour Force Survey). Based on SOC 2000 Classifications.

Data from 2011 onwards is classified under a different occupational structure and cannot be directly compared with data from 2001-10. Over the period 2011-2014 (Figure 2), the number of jobs rose across all deciles, but the rises were highest in deciles 1 and 2 and in deciles 8 to 10 (see Appendix Two for a list of occupations in each decile). This suggests that the trend of job polarisation has continued in the post recession years.

**Figure 2: Job polarisation in Scotland, 2011-2014**



Source: Stirling University (Annual Survey of Household Earnings and Labour Force Survey). Based on SOC 2010. See Appendix 3 for figure data

<sup>4</sup> Excludes self employed

It is important to note that although intermediate jobs (ranked by wage) are declining in number, they are not disappearing completely. Large numbers of intermediate-level jobs remain (there were 1 million such jobs in deciles 3 to 7 in 2014) and, due to replacement demand (e.g. as people retire or move occupation), significant numbers of job openings / opportunities will still be available. However, the challenge is that, relative to higher and lower skilled occupations, the proportion of all jobs in intermediate level occupations is declining.

This changing labour market structure, in terms of employment share and numbers, has contributed to growing household income inequality over the 2000s (prior to the recession)<sup>5</sup>. In addition, the characteristics of jobs in lower paid occupations are also a cause of rising inequality. Lower paid occupations tend to have a higher proportion of part-time workers and self-employment (especially in elementary, sales and customer services occupations), and a higher proportion of workers on zero hours contracts (especially cleaners, care workers and call centre/customer services workers plus those in accommodation and food occupations)<sup>6</sup>.

### 3. The causes of jobs polarisation?

The most frequently cited reason for the hollowing-out of the labour market is technological change. The Scottish Government's latest Economic Strategy (SES, 2015) notes that technological change has been *'one factor which has changed the composition of the labour market. The process where labour is substituted for technology in many countries, including Scotland has tended to impact on semi-skilled jobs that are medium-paid. This has resulted in the share of people employed in high-paid and low-paid jobs increasing relative to those in medium-paid jobs, creating 'job polarisation'*<sup>7</sup>. SES also highlights that jobs polarisation has been one of the main factors driving income inequality across countries.

Technological advances and the falling cost of computing power has led to technology replacing jobs involving routine tasks that can be easily 'programmed' or automated, such as administrative and production jobs. These jobs are often found in the middle of the job distribution, when ranked by wages (see Appendices 1 and 2).

The changing characteristics of jobs are also a cause of polarisation. In a majority of OECD countries, the number of 'standard jobs' (defined as full time and permanent) has declined in the occupations in the mid-occupation deciles (in terms of wage), while non-standard jobs (defined as either part-time, self employed or temporary) have contributed to an increase in jobs at both ends of the occupational distribution. Scotland has experienced a significant increase in the number of people self-employed in recent years<sup>8</sup> (an increase of 83,000 between 2000 and 2014, 88% of the total growth in employment)<sup>9</sup>.

A further cause of job polarisation is 'offshoring', whereby firms take advantage of lower labour costs in other countries to 'offshore' part of their production process or service provision to cheaper locations. The most likely jobs to be offshored are lower skilled technical production jobs or administrative tasks (for example, customer call centres) – again activities that tend to be mid-paid occupations.

<sup>5</sup> [Gini co-efficient in Scotland](#), Scottish Government

<sup>6</sup> [Zero Hours Contracts: Myth and Reality](#), CIPD (2013) and [Analysis of Employee Contracts that do not Guarantee a Minimum Number of Hours](#), ONS (2015)

<sup>7</sup> [Scotland's Economic Strategy](#), Scottish Government (2015)

<sup>8</sup> [In It Together: Why Less Inequality Benefits All](#), OECD (2015)

<sup>9</sup> [Businesses in Scotland](#), Scottish Government, Time Series 1

#### 4. Does jobs polarisation disproportionately affect particular groups?

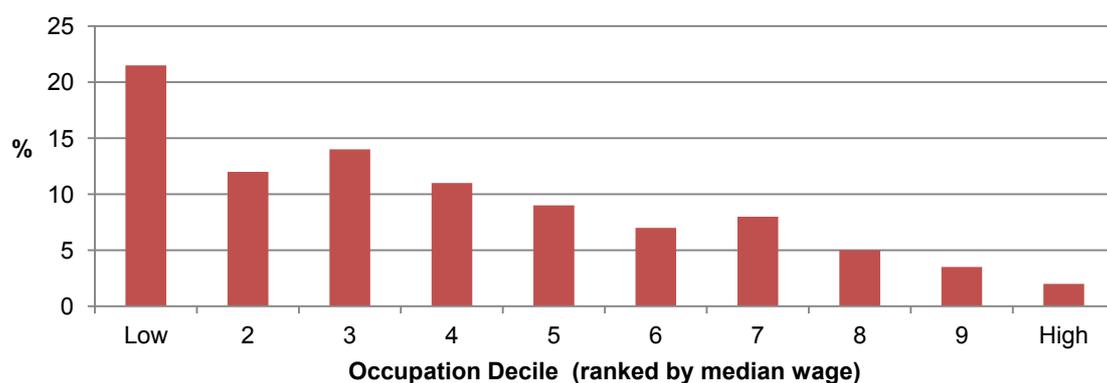
##### *Young people*

Recent research at the UK<sup>10</sup> level has considered the effects of job polarisation on young workers (and its findings are broadly consistent with the data for Scotland<sup>11</sup>). Data shows that lower paid occupations tend to have a higher proportion of young workers, for example over 20% of those employed in occupations in the lowest earnings decile were aged 16-24, compared to 2.2% of occupations in the highest paid decile.

This highlights a key difficulty for young people. Most enter the labour market in fairly low-paying occupations, where there has been a modest growth in employment. They may then aspire to move into better paying occupations but the 'bridge' between lower-level and higher-level jobs is disappearing, as the number of jobs in the middle wage occupations falls. So the chances to make that transition are becoming harder. The research's authors conclude that young people 'face an increasingly polarised labour market'.

According to the *Employer Skills Survey 2013*<sup>12</sup> the main obstacle to young people in Scotland getting new jobs and progressing into higher paid jobs is competition in the market place rather than perceptions that young applicants do not have the capability to perform in the job role. Where the choice not to recruit a young applicant was due to the young person not having the capabilities to do the job, the main things lacking were skills (65% of applicants) and experience (73% of applicants), and sometimes both (55% of applicants). This is also reflected in the *Employers Perspective Survey*<sup>13</sup> for Scotland in 2014 which identified relevant work experience as the most important factor in the recruitment of young people, with 66% of employers rating it as significant or critical.

**Figure 3: Proportion of jobs in occupation deciles taken by 16-24 Year Olds (UK, 2008)**



Source: "What should be done about rising unemployment in the UK?"

Note: Scottish trends likely to be very similar

<sup>10</sup> [What should be done about rising unemployment in the UK?](#) David N.F. Bell and David G. Blanchflower (2009)

<sup>11</sup> [Inequality in Scotland: New Perspectives](#), David Bell, David Eiser and Michael McGoldrick (2014)

<sup>12</sup> [UKCES Employer Skills Survey 2013 Scotland, UKCES \(2013\)](#)

<sup>13</sup> [Employer Perspective Survey 2014, UKCES \(2014\)](#)

These surveys highlight the important role that work experience (and ‘world of work’ skills) play, along with relevant skills, in helping young people transition into work, and transition between jobs/occupations. The *Employer Perspective Survey* also found that although employers are increasingly looking for work experience when recruiting young people, most do not offer such work placements themselves. This highlights the challenge that young people may struggle to get jobs without work experience, but cannot develop work experience without access to jobs or work placements to help build up evidence of work experience.

However, it is likely that the situation is different for qualified young people, especially graduates, who are more likely to enter employment towards the higher skilled/higher wage end of the occupation spectrum.

### Women

Analysis by the University of Stirling<sup>14</sup> shows a substantial decrease for the period 1984-2013 in the number of people who choose to stay at home, primarily to look after children. The report assumes that this relates mainly to women, and that many of the new entrants to the labour market over the past twenty years are women who may, through choice, be working part-time. As part-time jobs are more likely to be in lower wage, lower skilled occupations, this may result in women being more prevalent at the lower wage jobs end of the spectrum, with opportunities for progression to higher paid occupations limited.

The Joseph Rowntree Foundation report *Future of the UK Labour Market* also identifies women as the group most likely to experience low pay and to find themselves stuck in low-paying occupations<sup>15</sup>. Part of the reason for this lies in the industries in which they work, for example in hospitality and food service, retail and customer services, all of which have a high proportion of lower skilled/paid occupations.

**Figure 4: Male / Female employment by broad occupation 2014 (%)**



Source: NOMIS, Annual Population Survey. (LWLS = lower wage, lower skilled; HWHS = higher wage, higher skilled)

<sup>14</sup> [Inequality in Scotland: New Perspectives](#), David Bell, David Eiser and Michael McGoldrick (2014)

<sup>15</sup> [Future of the UK Labour Market](#), Joseph Rowntree Foundation (2014)

The latest data from the Annual Population Survey suggests that women make up the significant majority of employment in Sales & Customer Service (66%), Caring & Leisure (80%) and Admin & Secretarial (79%) occupations. In the higher skilled occupations, women do have a slight majority in Professional Occupations (53%) and a slight minority in Associate Professional & Technical occupations; however they are a significant minority in Managers, Directors and Senior Official occupations.

This suggests that women are more predominantly employed in a number of middle ranked occupations which are forecast to decline in number in the future, as discussed in Section 5.

#### 4. Potential impact of job polarisation on worker mobility

The Work Foundation's research paper *The Hourglass and the Escalator*<sup>16</sup> notes that one of the potentially damaging aspects of growing polarisation in the labour market is that it may create additional barriers to earnings mobility, as a high proportion of people stay in low wage/low skilled jobs. Estimates from the British Household Panel Survey (BHPS) suggest that around a third of those in the bottom ten per cent of earners in Britain in 2001/02 were still there in 2008/9, and that more than 60% remained in the bottom three deciles of earnings. The BHPS also shows that women and those with no qualifications were significantly more likely to remain stuck at the bottom of the earnings distribution (although those with no qualifications may be likely to remain there even if there were more medium skilled jobs). While there are fears that growing polarisation in the labour market may create even more barriers to occupational mobility as there are fewer jobs in mid-paid occupations, there has been no specific research undertaken on this key question.

However, research by the UK Commission for Employment and Skills (UKES) highlights that progression is more likely in low-and semi-skilled occupations in some sectors than compared to others. In particular, progression is more likely in construction, manufacturing, transportation and health service sectors, but less likely in lower-paying service sectors<sup>17</sup>. This may reflect a greater culture of training, such as the use of apprenticeships and the need for continuous professional development, in these sectors. The report also notes that workers in elementary occupations are significantly less likely to receive workplace training, further decreasing the ability to progress.

The *Hollowing out and the future of the labour market* report<sup>18</sup> also suggests that the large fall in the number of jobs in certain types of intermediate skilled/wage occupations, particularly in skilled production, has implications for worker mobility. Although the report did not find any research that has explicitly studied the effect that labour market hollowing-out has had on the probability of progression from low-level jobs, the researchers argue that progression within a firm to higher paid jobs, or progression within 'occupational types' in an industry (e.g. from elementary process/plant occupations to higher skilled plant & machine operatives) requires continued job tenure. However, a key feature of low-wage jobs is short tenure and high employee turnover. Rather than progression to higher occupation levels, the most frequent change in job status for those in low-pay jobs is movement into unemployment,

<sup>16</sup> [The Hourglass and the Escalator - Labour market change and mobility](#), The Work Foundation (2011)

<sup>17</sup> [The Role of Skills from Worklessness to Sustainable Employment with Progression](#), UKCES (2011)

<sup>18</sup> [Hollowing out and the future of the labour market](#), Department for Business, Innovation & Skills (2013)

as part of a 'low-pay-no-pay cycle'. Such insecurity reduces the opportunity to acquire skills and experience or the likelihood of receiving training, all of which further reduce the chances of future progression into higher paid jobs. The authors argue that the characteristics of the firm are also relevant, with progression more likely in larger companies than in SMEs.

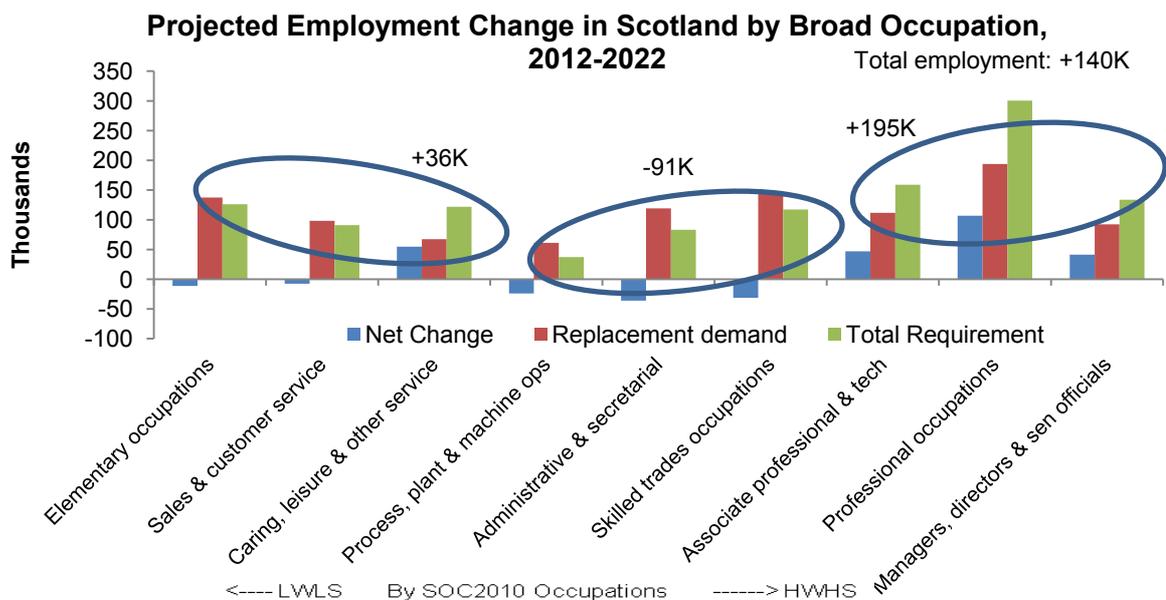
However, another perspective is that the growth in higher paid occupations may offer more opportunities for those in mid-ranked occupations to progress, for example from mid-management to senior management, or from science technician to science professional.

## 5. Will job polarisation continue?

Research by UKCES<sup>19</sup> has assessed employment and occupation prospects over a ten year horizon, 2012 to 2022. Data is available to forecast net change in employment and 'replacement demand', and the occupation analysis is based on skill levels rather than wage levels. In Scotland, for the period up until 2022, key forecast trends are:

- Jobs growth in each of the highest skilled (and so highest paid) occupations (manager, professionals and associate professional/technicians)
- A decline in the number of jobs in some of the more intermediate skilled occupations, such as skilled trades, process & plant operatives and admin/secretarial
- A fall in the number of jobs in some lower skilled occupations (elementary and sales/customer services) with a rise in others (e.g. caring, leisure and other services occupations where jobs increases are expected).

Figure 5: Forecast employment change by occupation in Scotland, 2012-2022



Source: UKES (LWLS = lower wage, lower skilled; HWHS = higher wage, higher skilled)  
See Appendix 3 for figure data

<sup>19</sup> [Working Futures 2012-2022](#) and [Scotland Report](#), UKCES (2014)

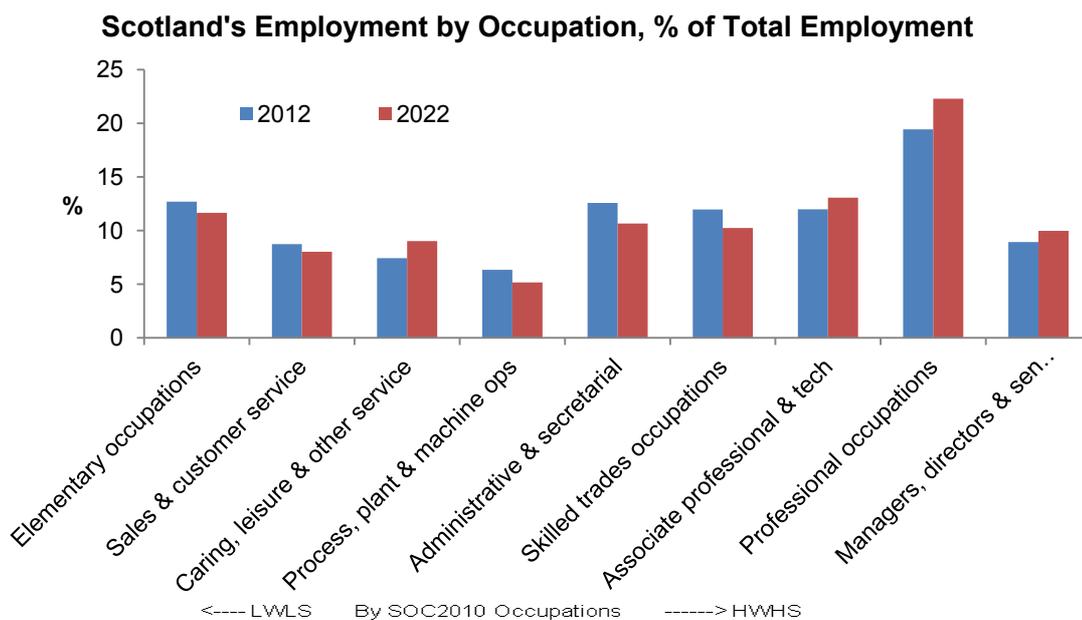
Figure 5 suggests that the trend in recent years of a decline in the number of medium-skilled and waged jobs, and a rise in the number of higher skilled and waged jobs, is likely to continue. However, the projections also suggest that the number of jobs in some of the lower skilled/lower paid occupations, such as elementary occupations and sales/retail, will also fall.

As highlighted earlier, although the number of jobs in the more intermediate skilled and paid occupations is expected to decline, replacement demand will mean that there will still be job openings / opportunities for these types of job.

In terms of Scotland's overall occupational structure, the percentage share of the three highest skilled/paid occupations is expected to rise by 5 percentage points (to 45%), to fall by 5 percentage points (to 26%) for the intermediate skilled/paid occupations, and remain stable (at 29%) for the lower skilled/paid occupations.

Therefore, future projections suggest continued job polarisation in Scotland's labour market.

**Figure 6: Scotland's changing employment structure, 2012-2022**



Source: UKES (LWLS = lower wage, lower skilled; HWHS = higher wage, higher skilled)

## 6. Growth sectors and job polarisation

In-depth data on the breakdown of occupations by sector is not currently publicly available for Scotland, but information has been published for England and Wales based on the 2011 Census, and it is assumed that the pattern will be very similar for Scotland.

In Table 2 below, the proportion of growth sector<sup>20</sup> employment by low / medium / high skill occupational group is shown with low defined as 0-10% of sector occupations, medium as 11-20% of sector occupations and high as 21% plus. Those occupations where job numbers are expected to decline in Scotland up to 2022, and that account for 11% or more of a sector's overall employment, are highlighted. In addition to the Growth Sectors, retail has also been included as an example of a locally-traded sector that is highlighted in Scotland's Economic Strategy as an emerging policy focus.

The data suggests that sectors most likely to be negatively affected by future changes in Scotland's occupational structure are Food & Drink, Tourism, Energy, Textiles, Engineering and retail, all of which have higher proportions of occupations that are expected to decline in numbers up to 2022 (Table 2).

**Table 2: Estimated percentage occupational split, by growth sector**

	< Lower wage/lower skilled				Higher wage/higher skilled >				
	Elementary	Sales and customer service	Caring, leisure and other service	Process, plant and machine operators	Skilled trades	Admin & secretarial	Associate professional & technical	Professional	Managers directors and senior officials
Chemicals	Low	Low	Low	Med	Low	Low	Med	Med	Med
Construction	Low	Low	Low	Low	High	Low	Low	Low	Med
Creative Industries	Low	Low	Low	Low	Low	Low	High	High	Med
Energy	Med	Low	Low	Med	Med	Low	Med	Med	Med
Financial Services	Low	Low	Low	Low	Low	High	High	High	Med
Food & Drink	Med	Low	Low	High	High	Low	Low	Low	Med
Life sciences	Low	Low	Low	Low	Low	Low	Med	High	Med
Engineering	Low	Low	Low	Med	Med	Low	Med	High	Med
Textiles	Low	Low	Low	High	High	Low	Low	Low	Med
Tourism	High	Low	Low	Low	Med	Low	Med	Low	Med
Retail	Low	High	Low	Low	Low	Low	Low	Low	Med

*Note: Occupations within each sector Low = 0-10% of total sector jobs in the occupation, Med = 11-20%, High = 21+%*

*This table shows occupational categories rather than wage level deciles. It assumes that wages and skills rise from LWLS at Elementary to HWHS for Managers, Directors & Senior Officials*

*Source: NOMIS Census data 2011, England & Wales*

## 7. Conclusions

This paper seeks to provide a deeper understanding of the changing nature of Scotland's contemporary labour market.

The number of jobs in both the lower skilled/paid and higher skilled/paid occupations has risen, and the number in the intermediate skilled/paid occupations has fallen, contributing to jobs polarisation and to

<sup>20</sup> These are sectors identified by the [Scottish Government](#) and [Scottish Enterprise](#) where Scotland has a distinct comparative advantage.

growing income inequality, and negatively affecting specific groups such as young people and women. These trends have been driven by global technological changes, and so affect many other advanced economies. Labour market projections for Scotland suggest these trends will continue, and are likely to impact on a number of Scotland's Growth Sectors.

Job polarisation appears to have a disproportionate effect on already disadvantaged groups – specifically young people and women as they tend to make up a higher proportion of workers in low wage, low skill occupations. It also has implications for potential career progression for those in lower paid occupations, due to the decline of mid-range occupations (although there may be increasing opportunities for those in mid-range occupations to progress into higher ones).

The UKCES report *Growth Through People: Evidence and Analysis* highlights that improving workplace productivity should be recognised as the key route to increasing pay and prosperity<sup>21</sup>.

Workplace innovation is a key driver of improved workplace practices and productivity, and BIS research has shown that workplaces with 'very satisfied' employees have higher labour productivity, higher quality of output, and higher overall performance<sup>22</sup>. There is a significant amount of evidence to support the argument that job design ('good jobs'), employee health, and an employee's ability to perform productively at work, are closely linked<sup>23</sup>. However, data suggests that only 12% of Scottish employers are 'higher performance working' employers (defined as 'a general approach to managing organisations that aims to stimulate more effective employee involvement and commitment in order to achieve high levels of performance'), the same proportion as the UK as a whole<sup>24</sup>. This suggests that there is very considerable scope to increase the number of employers in Scotland adopting high performance working practices that in turn could boost productivity levels and increase wage levels.

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<sup>21</sup> [Growth Through People: Evidence and Analysis](#), UKCES (2014)

<sup>22</sup> [Does Worker Wellbeing Affect Workplace Performance?](#) Department for Business, Innovation & Skills (2013)

<sup>23</sup> [Good jobs](#), The Work Foundation (2009)

<sup>24</sup> [UKCES Employer Skills Survey 2013 Scotland](#), UKCES (2013)

### Appendix One: Standard Occupation Classifications 2000

Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
housekeeping	elementary construction	personal services	plant and machine operatives	construction operatives	librarians and related professional	public service and other assoc professions	managers in other service industries	transport associate professionals	corporate managers & senior officials
food preparation trades	customer service	administrative : records	administrative: government & relate	construction trades	mangers in farming, horticulture, forestry etc	conservation associate professional	therapists	production managers	legal professionals
childcare & related personal services	transport drivers and operatives	textiles and garment trades	building trades	printing trades	electrical trades	artistic and literary	protective service	business & finance assoc professionals	health professionals
elementary security	elementary goods storage occupation	administrative : general	administrative: communications	sports and fitness	science and engineering technicians	health associate professionals	IT service delivery	engineering professionals	protective service officers
hairdressers and related occupation	agricultural trades	mobile machine drivers & operatives	process operatives	metal forming, welding and related	metal machining, fitting, instrument mkrs	sales & related assoc professionals	media associate professionals	financial institution and office manager	functional managers
sales assistants and retail cashier	healthcare & related personal service	assemblers and routine operatives	elementary administration	vehicle trades	managers in distrib, storage and retail	design associate professionals	research professionals	quality and customer care managers	business & statistical professional
elementary sales	elementary process plant occupation	animal care services	skilled trades n.e.c	sales related	social welfare assoc professionals	public service professionals	health and social services managers	architects, town planners, surveyor	teaching professionals
elementary cleaning	elementary agricultural	leisure & travel service occupation	secretarial and related	administrative : finance	managers in hospitality and leisure	draughtspersons & building inspectors	legal associate professionals	science professionals	info & communication technology
elementary personal service									

Occupations highlighted in green posted an increase in employment over 2001-2010, while those in red posted a decline

**Appendix Two: Standard Occupation Classifications 2010**

Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Food preparation & hospitality trades	Childcare & related personal services	Other administrative	Administrative : Government & related organisations	Managers & directors in retail & wholesale	Managers & proprietors in agriculture related servs	Managers & directors in transport & logistics	Managers & proprietors in other services	Production managers & directors	Chief executives & senior officials
Hairdressers & related services	Animal care & control services	Secretarial & related	Administrative : Finance	Managers & proprietors in hospitality & leisure services	Librarians & related professionals	Managers & proprietors in health & care services	Conservation & environment professionals	Health & social services managers & directors	Functional managers & directors
Cleaning & housekeeping managers & supervisors	Caring personal services	Agricultural & related trades	Administrative : Records	Welfare & housing associate professionals	Science, engineering & production technicians	Draughtspersons & related architectural technicians	Nursing & midwifery professionals	Natural & social science professionals	Financial institution managers & directors
Sales assistants & retail cashiers	Housekeeping & related services	Textiles & garments trades	Building finishing trades	Sports & fitness	Design	Information technology technicians	Welfare professionals	Engineering professionals	Senior officers in protective services
Sales supervisors	Customer service	Other skilled trades	Plant & machine operatives	Conservation & environmental assoc profs	Public services & other associate professionals	Health associate professionals	Media professionals	Information technology & telecommunications professionals	Research & development managers
Elementary process plant	Process operatives	Leisure & travel services	Assemblers & routine operatives	Metal forming, welding & related trades	Administrative : Office managers & supervisors	Artistic, literary & media	Protective service	Therapy professionals	Health professionals
Elementary cleaning	Elementary agricultural	Sales related	Construction operatives	Vehicle trades	Metal machining, fitting & instrument making trades	Legal associate professionals	Business, finance & related associate professionals	Business, research & administrative professionals	Teaching & educational professionals
Elementary security	Elementary sales	Road transport drivers	Mobile machine drivers & operatives	Construction & building trades	Electrical & electronic trades	Skilled metal, electrical & electronic trades supervisors	Sales, marketing & related associate profs	Architects, town planners & surveyors	Legal professionals
Other elementary services	Elementary storage	Elementary construction	Elementary administration	Printing trades	Construction & building trades supervisors	Customer service managers & supervisors	Other drivers & transport operatives	Quality & regulatory professionals	Transport associate professionals

Occupations highlighted in green posted an increase in employment over 2011-14, while those in red posted a decline.

## Appendix 3: Data Tables

Data for Figure 1: Job polarisation in Scotland, 2001-2010

	Decile of occupation wage										Total
	Low	2	3	4	5	6	7	8	9	High	
<b>2001</b>	442644	260967	259731	210113	268365	143395	146935	211428	163125	244278	2350980
<b>2010</b>	444362	305461	240967	190288	248375	139510	163857	248033	193545	278967	2453363
<b>Change</b>	1717	44494	-18764	-19825	-19990	-3886	16922	36605	30420	34689	102383
<b>% change</b>	0.4	17.0	-7.2	-9.4	-7.4	-2.7	11.5	17.3	18.6	14.2	4.4

Source: Stirling University (Annual Survey of Household Earnings and Labour Force Survey). Based on SOC 2000 classifications.

Data for Figure 2: Job polarisation in Scotland, 2011-2014

	Decile of occupation wage										Total
	Low	2	3	4	5	6	7	8	9	High	
<b>2011</b>	440803	312268	282256	248214	195608	176295	88300	273251	229021	226579	2472594
<b>2014</b>	452026	341108	288885	252551	202731	178440	94242	286071	246496	240657	2583207
<b>Change</b>	11223	28839	6629	4337	7123	2145	5942	12821	17475	14079	110613
<b>%change</b>	2.5	9.2	2.3	1.7	3.6	1.2	6.7	4.7	7.6	6.2	4.5

Source: Stirling University (Annual Survey of Household Earnings and Labour Force Survey). Based on SOC 2010.

Data for Figure 5: Forecast employment change (000s) by occupation in Scotland, 2012-2022

	Net Change	Replacement demand	Total Requirement
Elementary occupations	-11	137	126
Sales & customer service	-7	98	91
Caring, leisure & other service	55	67	122
Process, plant & machine ops	-24	61	37
Administrative & secretarial	-36	119	83
Skilled trades occupations	-31	148	117
Associate professional & tech	47	112	159
Professional occupations	107	194	301
Managers, directors & senior officials	41	92	134
<b>Total</b>	<b>140</b>	<b>0</b>	<b>140</b>

Source: UKES