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Work in Wales, 2006-2017

Evidence from the Skills and Employment Survey

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Work in Wales, 2006-2017

Evidence from the Skills and Employment Survey

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Views expressed in this report are those of the researchers and not necessarily those of the Welsh Government

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Executive Summary

The promotion of prosperity for all is a key objective of Welsh Government policy. Making Wales a fair work nation is one way of achieving this goal. This is reflected in *Prosperity for All: the National Strategy*, the *Economic Action Plan* and the *Employability Plan*. The promotion of job-related well-being is a defining feature of fair work, and for this reason, it is not surprising that tracking and promotion of certain aspects of work are a feature of the *Well-being of Future Generations Act 2015*. Skills utilisation, workforce development and productivity are also areas where it is acknowledged improvements are needed.

In this context, there is a strong need for robust evidence to inform and shape policy development in these areas. Although many surveys help to provide us with a detailed understanding of the labour market in Wales, data on the quality or fairness of people's jobs and their experiences of work – beyond what they get paid – is in short supply. The Skills and Employment Surveys go some way to address this evidence gap.

This report draws on data taken from the most recent 2017 SES, combined with its 2012 and 2006 predecessors. These surveys provide a unique insight in to the working lives of the people of Britain both before and after the 2008-2009 recession. With the support of dedicated boosts to the survey samples for Wales, detailed, one-hour long, face-to-face interviews have been conducted with 1,449 workers living in Wales over these three waves. Utilising this data, this study examines how the experience of Welsh workers over the last decade has differed from other parts of Britain and how these experiences have themselves varied between particular socio-economic groups. Our main findings are as follows:

Job Skills

The results on job skills offer both positive and negative news for Wales. The good news is that jobs in Wales in 2017 are more skills demanding than jobs

elsewhere in Britain based on a number of key measures from the surveys. They require on average more learning time to get to grips with the tasks the job involves and more training time is needed for the type of work undertaken. The level of generic skills regarded as being essential for the performance of jobs in Wales is also higher than in other parts of Britain. However, the bad news is that jobs in Wales are less skills demanding in terms of the level of qualifications needed on entry and the over-qualification rate in Wales has changed little over the last decade or so, hovering at around 40 per cent.¹ That said, the 2017 findings suggest that there has been a rise in the proportion of individuals who say that they are able to use quite a lot or more of their skills at work when compared to previous years. This suggests that once in work, the skills of jobs and workers are becoming better aligned. This is reflected in a fall in the ‘real’ over-qualification rate in Wales, which factors in use of skills, from 16 per cent in 2006 to 10 per cent in 2017.

Training, Learning and Progression

Evidence from the SES series show that the incidence of training in Wales has risen by around five percentage points between each of the three surveys. This compares to flat or falling incidence rates across Britain. Despite a higher and rising incidence of training in Wales, the intensity of training has fallen. This is in line with evidence from the Labour Force Survey which suggests that training intensity across Britain has fallen much faster than training incidence over the last two decades and that focusing on incidence alone can be misleading. While doing better than Britain as a whole in terms of the incidence and intensity of training, the quality of training in Wales is neither better nor worse than elsewhere. However, a higher proportion of Welsh respondents strongly agreed that their job required them to learn on an on-going basis. Furthermore, this proportion grew more quickly

¹ This analysis should be considered indicative due to sample size limitations and the difficulties of measuring qualifications mismatch in practice.

in Wales than elsewhere. Despite these personal development opportunities, promotion prospects are poorer in Wales than in Britain as a whole.

Productivity

Poor productivity performance in the UK and Wales has been a cause for concern for many years. Data from the Skills and Employment Surveys offer the workers' perspective on the productivity debate in Britain and provide new insights for Wales. One of the main messages of the 2017 results is that relatively poor productivity performance in Wales cannot be put down to a lack of engagement by managers in getting the ideas of workers. On the contrary, workers in Wales are more likely to think that they have had a more meaningful impact on productivity than workers across Britain as a whole. That said, employees in Wales report being more poorly equipped in terms of both the tools they have to work with and the organisation of the work process. This points to the presence of a Welsh productivity puzzle that is not fully understood.

Fairness, Support and Organisational Commitment

The Skills and Employment Surveys provide valuable insights as to how fair employees perceive their own organisation to be. Perceptions of organisational fairness are demonstrated to be much higher in Wales than elsewhere. Compared to elsewhere in Britain, employees in Wales are more likely to report that they are treated fairly at work, that their immediate boss treats them with respect and is helpful to them in a number of ways. Employees in Wales also report that they are less likely to leave their current employment voluntarily than employees elsewhere are. Similarly, organisational commitment – such as working hard to make the organisation succeed and turning down another job to stay with the organisation – is higher in Wales than in Britain as a whole.

Insecurity at Work

Across all areas of Britain, the data demonstrates that anxieties surrounding insecurity at work were higher during the immediate aftermath of the recession compared to before. However, perceptions regarding risk of job loss are no higher in Wales compared to elsewhere in Britain. The risks of quick dismissal because of poor performance are perceived to be lower among Welsh workers. Fears regarding unfair dismissal, discrimination and victimisation by management among employees in Wales are lower when compared to London and the South East where such fears among workers have increased substantially. In terms of the cost of job loss, workers in Wales are, however, most likely to report that it would be very difficult to find a job as good as their current one.

Work Intensity

Working long hours and at high levels of intensity can be associated with significant costs to those involved, such as an increase in the risk of workplace accidents or an increased incidence of work related ill-health. The Skills and Employment Surveys suggest that workers in Wales have not benefited from the decline in long hours working that has occurred in other parts of Britain over the last five years. In addition, approximately half of workers in Wales in 2017 strongly agreed with the statement that their job required them to work very hard, placing Wales above the average for the wider economy. Furthermore, since 2012 Wales has shifted position from being a relatively low stress economy to a situation in 2017 where workers in Wales exhibit the highest levels of worry (24 per cent), being unable to unwind (26 per cent) and feeling used up at the end of the day (32 per cent).

Participation, Discretion and Well-Being at Work

Job-related well-being has become a popular topic with government now keen to measure well-being not just in terms of economic outcomes. This report reveals that in 2017, levels of task discretion in Wales were considerably higher than elsewhere in Britain, although the level of autonomy delegated to

teams in Wales was lower. Employee involvement in organisational decision-making was also higher in Wales in 2017, although employees in Wales were no more likely to perceive that they have higher levels of influence over their jobs. Compared to other areas of Britain, Wales exhibits the highest proportion of workers who reported low levels of enthusiasm and contentment during 2017, representing a deterioration in the relative position of Welsh workers since 2012. Despite these differences, workers in Wales in 2017 expressed levels of satisfaction with work that are broadly comparable to elsewhere in Britain.

Conclusions

This report presents some new evidence for Wales on the non-pay features of work. Jobs in Wales are in some respects better than jobs elsewhere, including relationships with managers, involvement in organisational decision-making and high levels of task discretion. More generally, the effects of the economic crisis upon job quality appear to have abated in Wales. However, the relative weakness of the Welsh economy remains apparent, with perceptions regarding the cost of job loss being higher in Wales than elsewhere. Workers in Wales also now appear to exhibit the highest levels of stress in Britain in 2017, a clear shift in the position of workers in Wales compared to earlier years. Levels of enthusiasm and contentment among workers in Wales have similarly declined. However, our findings with respect to organisational fairness, the helpfulness of managers and involvement in organisational decision making each resonate with previous evidence that suggests that the climate of employment relations is better in Wales. These mixed messages reflect the multi-dimensional nature of concepts such as fair work and the attendant need for policy development across different strands of Welsh Government, so that well-being through paid work can be fully enhanced.

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Glossary

Acronym	Definition
ACS	Address Contact Sheet
APS	Annual Population Survey
CAPI	Computer Assisted Personal Interviewing
CBI	Confederation of British Industry
CIPD	Chartered Institute of Personnel and Development
CQF	Credit and Qualifications Framework
GSR	Government Social Research
GVA	Gross Value Added
LFS	Labour Force Survey
MOD	Ministry of Defence
NUTS	European Union's Nomenclature of Units for Territorial Statistics
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PAF	Postcode Address File
RSP	Regional Skills Partnership
SES	Skills and Employment Survey
SOC	Standard Occupational Classification
TUC	Trades Union Congress
UKCES	UK Commission for Employment and Skills
WERS	Workplace Employment Relations Survey
WISERD	Wales Institute of Social and Economic Research, Data and Methods

1. Introduction

Research Motivation

- 1.1 This report provides valuable insights – taken from the workers’ perspective – on a number of policy-relevant issues and provides a counterpoint to employer focused labour market statistics such as those provided by the Employer Skills Survey and the Employer Perspectives Survey (Winterbotham *et al.*, 2016 and 2018; Shury *et al.*, 2017). These issues include the promotion of fair work; the enhancement of skills utilisation and development; and the identification of workplace innovation as a neglected source of productivity enhancement.
- 1.2 The promotion of fair work is high on the agenda with the former First Minister announcing in March 2017 that he wanted ‘to make Wales a “fair work nation” ... in which more people can have access to good work and a secure income ... [thereby creating] more and better jobs closer to home’ (First Minister’s Speech to the Welsh Labour Conference, Llandudno, 25 March 2017). The current First Minister reiterated this commitment in his campaign manifesto with references throughout to the importance of Fair Work, including the proposal to “take forward the Fair Work Commission² and the steps we need to take to make Wales a fair work nation”. The promotion of fair work, therefore, plays a key role in current Welsh Government thinking and policy formulation. It is a part of *Prosperity for All: the National Strategy* and it features in two recent 2018 plans – the *Economic Action Plan* and the *Employability Plan*. It is also the reason why the Fair Work Commission was established in July 2018 (Welsh Government, 2016b: 4; Welsh Government, 2017a).
- 1.3 A defining feature of fair work is the extent to which jobs promote or diminish job-related well-being (Felstead *et al.*, 2019). The enhancement of well-

² The [Fair Work Commission](#) was established in July 2018 by the former First Minister to make recommendations on fair work. Its purpose is to consider what the Welsh Government could be doing to promote fair work employment practices across Wales, develop indicators and measures of fair work, and identify data sources to help monitor progress.

being is already a feature of Welsh Government policy and is enshrined in the *Well-being of Future Generations Act 2015*. As a means of tracking progress towards the creation of ‘a prosperous Wales’, this report provides additional data on this issue, thereby complementing job satisfaction data taken from the National Survey for Wales (Welsh Government, 2017b). Reliance on job satisfaction as an indicator of job quality has come under criticism for its failure to isolate personal circumstances and outlook from respondents’ own evaluation of the job (e.g., Brown *et al.*, 2007; Piasna *et al.*, 2017). That said, there are other valid reasons for collecting data on job satisfaction. For example, low job satisfaction is associated with high quit rates which are costly to businesses and society at large, and so maximising job satisfaction is of importance and worthy of examination (Green, 2010).

1.4 The promotion of skills utilisation and development is also a key policy priority for Welsh Government. As recognised in the 2014 *Policy Statement on Skills* ‘raising the supply of skills does not automatically result in changes to workplace productivity’ and similarly in *Prosperity for All* ‘better matching of skills to jobs [has] ... a significant influence on productivity and growth’. Data presented in this report assesses how the matching and development of skills has changed in Wales and how this compares with parts other of Britain (Welsh Government, 2014; Welsh Government, 2017a: 37).

1.5 It is well known that the UK’s recent productivity performance has been sluggish and, as highlighted in the *Employability Plan*, Wales performs more poorly than other parts of the UK (Welsh Government, 2018a and 2018b). This report presents data based on new survey questions designed to reveal the scope workplace-level innovation may have in enhancing productivity. The results offer a new perspective on the extent to which workers’ ideas are being harnessed in Wales and how this differs from elsewhere in Britain.

Structure of the Report

1.6 The data on which this report are based come from hour-long face-to-face interviews carried out with a random sample of working individuals aged 20-65 years old living in Britain. These respondents took part in either the 2006,

2012 or 2017 Skills and Employment Survey (SES). The sample size for Wales was boosted in each of these three waves of the survey with additional funding secured from a variety of sources.³ The chapter that follows outlines the nature of this data source, the methods of data collection adopted, and the actions taken to minimise bias and present robust non-disclosive results in the rest of the report.

- 1.7 The 'skills' and 'quality' content of jobs are not readily measurable concepts since the concepts themselves have a number of dimensions and measurement instruments. This report therefore provides evidence on the various dimensions of these concepts and the ways in which they have been measured in the Skills and Employment Survey series. Despite this multiple measure approach, the findings presented here tend to reinforce one another and therefore give validity to the overarching messages that emerge.
- 1.8 Given its title it is not surprising that the Skills and Employment Survey has something to say about both skills and job quality. This is reflected in the report with Chapters 3, 4 and 5 focusing on skills related issues and Chapters 6, 7, 8 and 9 focusing on issues related to job quality or fair work. That said, there is some overlap with skills often regarded as a key feature of job quality and issues such as productivity having both a skills and job quality dimension (Felstead, 2018).
- 1.9 In all of the chapters we analyse the results in two ways, if data allow. First, we set the 2017 results alongside the results for 2012 and 2006 for Wales, the Rest of Britain, and London and the South East. Each of these three geographies are non-overlapping with the Rest of Britain comprising all areas of Britain except Wales, and London and the South East. For comparative purposes, we also present results for Britain as a whole. This allows us to place the Welsh results in both an historical and comparative

³ In 2006, the Future Wales Skills Partnership funded the boost, in 2012 the funds to boost the survey came from the Wales Institute for Social and Economic Research, Data and Methods (WISERD) and in 2017 the boost funds came from Welsh Government.

context in order to examine whether the skills and quality of jobs in Wales have improved or worsened in a period of economic austerity and recovery, both in absolute terms and in comparison with other parts of Britain.

Second, by pooling the Welsh samples across the three years, we are able to create an enhanced sample which enables us to examine how issues vary across a number of socio-economic categories such as gender, age, highest qualification, occupation, industry, sector and Regional Skills Partnership (RSP) area. In each chapter, graphical and tabular representations of the data are embedded in the text with a fuller set of tabular results appearing in the accompanying workbook. The substantive empirical chapters in the report are as follows.

- 1.10 Chapter 3 examines how the skills of jobs have changed in Wales over time and how this compares with patterns elsewhere as well as how the distribution of job skills within Wales varies by selected socio-economic characteristics. We examine what jobs require of workers before entry, on entry and early on in the job. Three proxies measure these – the qualifications required to get the job, the length of training required for that type of work and the learning time needed to do the job well once in post. The chapter also analyses the on-going cross-cutting skills demands of jobs, often referred to as ‘generic skills’. Arguably, these offer a more direct insight into the skills used at work. These data are derived from respondents’ self-assessment of the importance of a series of activities to the job they currently occupy. Particular attention is paid to trends and patterns in computing skills given their contemporary importance as evidenced by the Welsh Government’s *Review of Digital Innovation for the Economy and the Future of Work in Wales*⁴. Additionally, the chapter examines the extent to which qualifications are being used more effectively in Wales in 2017 than in 2012 and 2006, and how these results compare to other parts of Britain. Again, the results are presented for Wales, over time and in comparison with other parts of Britain, namely London and the South East and the Rest of Britain (that is, those living outside of Wales and

⁴ [Review of Digital Innovation for the Economy and Future of Work in Wales](#)

London and the South East). The Welsh results are also compared to those for Britain as a whole. Many of the tables and figures in this report and the accompanying spreadsheet make this four-way comparison.

- 1.11 A key route to the acquisition of abilities and competences at work is through the receipt of training or exposure to other learning opportunities. Chapter 4 examines the incidence of training, its intensity and its quality. Skills can also be acquired in less formal ways such as daily work experience and learning from other colleagues as the work is carried out. In addition, jobs may also require workers to help others learn, so that workers take on more of a teaching role in the workplace. All three surveys contain information on these aspects of workplace learning, facilitating an examination of how these patterns have changed over time. Two of the three surveys also allow insights into respondents' chances of promotion with their existing employer.
- 1.12 Most existing productivity studies are based on compilations of different macro-level time series data, matching official productivity data with plant-level management surveys and polls of employer behaviour. Our approach is different in that the survey data presented in this report gives the workers' perspective and provides a bottom-up, and complementary, perspective on what drives productivity and what could be done to spark its revival. However, the survey questions were only asked in 2017 and so trend data cannot be provided. Instead, Chapter 5 compares the drivers and obstacles to productivity growth in Wales with those in the Rest of Britain, London and the South East and Britain as a whole. The chapter also examines how these patterns vary within Wales by selected socio-economic characteristics.
- 1.13 Chapter 6 examines another topical feature of current policy debate, namely fairness at work. In this context, fairness refers to the use of procedures to reach outcomes that generate a sense that justifiable and reasonable decisions have been made. This is important because it affects the extent to which employees feel protected from arbitrary decision-making and hence guards them against unwarranted and unfair treatment. The chapter also examines how supportive line managers are to workers and what level of

respect they show to those in their charge. As with the productivity questions, however, we cannot track trends in the responses given since they were first asked of respondents in 2017 and not before. Nevertheless, the chapter examines how feelings of fairness, support and respect at work vary between different parts of Britain as well as between different socio-economic groups within Wales. The chapter also considers patterns in voluntary exit and organisational commitment which are associated with the way workers are treated. Here, data do allow some temporal comparisons, thereby allowing us to trace how organisational commitment has changed over the last decade.

- 1.14 Despite the severity of the 2008-2009 recession, unemployment rates did not rise to the same degree as that witnessed during previous economic crises and employment rates have since risen to their highest since records began. That said, the immediate response to the recession took the form of reductions in real earnings and hours worked rather than employment. Such changes can enhance levels of fear and anxiety at the workplace, not just in terms of concerns surrounding job security but also in relation to how the nature of employment might change. Recovery from the recession may result in a reversal of these trends. Chapter 7 examines this proposition by considering how the fear of job loss, anxiety about changes to the job and the risk of ill-treatment have changed in Wales compared to elsewhere over the last five years.
- 1.15 Work effort is a feature of many measures of good or fair work (e.g., OECD, 2017). This comprises two elements. One is the length of time spent carrying out work and the other is the intensity of the effort expended during that time. The former is often referred to as extensive work effort which can be relatively easily calibrated by counting the number of hours spent at work by day, week, month or year (Green, 2001; Felstead and Green, 2018). Data sources which measure the average number of hours spent at work have a long history stretching back well into the nineteenth century. Intensive work effort, on the other hand, is more difficult to calibrate, since it entails a mix of physical, mental and emotional demands at work, each of

which are difficult to measure. As a result, data on this aspect of work effort is much rarer, but they are collected by the surveys reported here. Chapter 8 presents data on three ways of measuring intensive work effort, all of which focus on objective indicators as reported by worker respondents. These have been asked in all three surveys used in this report and so temporal, comparative and intra-Wales comparisons are presented.

- 1.16 Chapter 9 examines issues of job control and participation at work in Wales. The surveys on which this report draws asked respondents about the amount of choice they have in carrying out their job as well as a series of questions about the personal influence they have over how they work. The analysis examines the levels of discretion at work in relation to the performance of tasks, the role of team working and the involvement of workers in organisational decision making. It is acknowledged that these factors can have an important bearing on job-related well-being with their interaction sometimes having detrimental effects that can, in turn, impact on workers' feelings and attitudes. Temporal, comparative and intra-Wales patterns are discussed.
- 1.17 Chapter 10 concludes the report by outlining the main findings of the report and suggests that there is much to be gained from investing further resources in collecting similar data in the future, but from much larger sample sizes than the Skills and Employment Survey can currently provide.
- 1.18 To complete the picture, Appendices A, B and C provide a summary description of the survey methods and outcomes used in the three surveys reported here as well as the weighting procedures used to compare Wales with other parts of Britain and all Britain estimates. However, particular attention is paid to SES2017 since the fieldwork details for Wales are reported here for the first time (for example, see Felstead *et al.*, 2013a for SES2012).

2. Methodology

Introduction

- 2.1 The aim of this chapter is to outline the main features of this survey series, the nature of the boosts for Wales and the protocols adopted in presenting the results reported here.

History of the Skills and Employment Survey Series

- 2.2 Britain has a long tradition of investing in major research infrastructure projects about working life. These produce results of great value to both the research and policy-making communities, and provide high quality, individual-level surveys for secondary analyses. The Skills and Employment Survey (SES) series provides an important source of information on changes in the work experiences of British workers over time. These include issues such as the skills of the job, the way work is organised, opportunities for skill and career development and feelings of insecurity. The series has also been a source of evidence of long-term trends in work motivation, organisational commitment and work stress (Felstead *et al.*, 2015).
- 2.3 The first survey in the series carried out in 1986 consisted of six local labour markets, none of which were in Wales. However, the 1986 data has been shown to be representative of British workers at the time (Gallie, *et al.*, 1998: 317). Since then, nationally representative surveys have been carried out every five years or so – in 1992, 1997, 2001, 2006, 2012 and 2017. The sample sizes of each survey have varied according to the level of funding secured. So, sample sizes have ranged from a low of 2,467 workers in 1997 to a high of 7,787 in 2006 (in 2017 the figure was 3,306).

Total sample sizes were as follows:

- 4,047 in 1986;
- 3,855 in 1992;
- 2,467 in 1997;
- 4,470 in 2001;
- 7,787 in 2006;
- 3,200 in 2012;
- 3,306 in 2017.

Boost Samples for Wales

2.4 The analysis for this project is based on three samples of individuals who were in paid work, aged 20-65 years old and living in Britain at the time of the survey (for comparability this excludes respondents living in Northern Ireland and the Highlands and Islands in 2006). These comprise:

- 6,704 workers in 2006 (407 of whom were in Wales);
- 3,200 workers in 2012 (587 of whom were in Wales);
- 3,306 workers in 2017 (455 of whom were in Wales).

Source of Data

2.5 Each sample was drawn from the Postcode Address File (PAF) using random probability principles subject to stratification based on a number of socio-economic indicators. Only one eligible respondent per address was randomly selected for interview (see Appendix A for details). Response rates were 62 per cent in 2006, 49 per cent in 2012 and 50 per cent in 2017.

Presentation Protocols

2.6 All three surveys examined in this report, were designed to be nationally representative of British workers aged 20-65 years old. To ensure that the analysis presented is representative of Wales, London and the South East, and the Rest of Britain, we examined the sex, age and occupational profiles of these three geographical samples. These distributions were compared

with results generated for the same areas, but produced by the Labour Force Survey (LFS) for the second quarter of the relevant year. Since the LFS has a substantially larger sample size and since it gleans information from every member of a household, it is more closely representative of the employed workforce. For the British-level, the same protocols were followed.

2.7 These comparisons were used to produce sex, age and occupational weights which when applied adjust for the under-representation of men, the young and certain occupational groups. Throughout the analysis, the data are weighted using the three weights separately derived for Wales, London and the South East, and the Rest of Britain for each of the years – 2006, 2012 and 2017. The findings presented, therefore, correct for both design effects and non-response rates by sex, age and occupational group (see Appendix B). The same procedure was also used to create a British-level weight resulting in representative results for Britain as a whole (see Appendix C). These two weights have been used throughout the report to ensure that the findings we present are robust.

2.8 Despite boosting the sample sizes in 2006, 2012 and 2017, the combined Welsh sample is still relatively small. We therefore restrict our within Wales breakdowns to large (sometimes consolidated) groups such as men and women, public and private sector as well as grouping categories such as 1-digit occupations and 1-digit industries. This provides for a robust evidence base and prevents the publication of data which is unintentionally disclosive in nature. This means that all the cells reported here exceed Government Social Research (GSR) minimum size requirements of three or more for survey data (GSR, 2014: 8-9). We apply the rule of 10 or more per cell, but most of the tables in this report and the accompanying workbook are based on cell sizes of 50 or more. The only situation where cell sizes do fall short of 10 is when the results of the 2017 survey are disaggregated. In this case, NA is entered to indicate the suppression of data. Only 4 of out 76 tables presented in the accompanying workbook fall into this category and even then relatively few of the cells in these tables have data suppressed.

2.9 The sample sizes for the Wales, Rest of Britain, London and the South East, and Britain as a whole are presented in Table 2.1. If data allow, the report examines trends and compares what has been happening in Wales against the situation in London and the South East, and the Rest of Britain. This is in line with our previous analysis and provides policy relevant insights into where Wales is doing better, worse or about the same as other parts of Britain (see Felstead *et al.*, 2013a; Felstead, 2009; MacKay and Davies, 2011).

Table 2.1: Sample Sizes: Britain, 2006-2017

	2006	2012	2017
Wales	407	587	455
London and the South East	1122	634	803
Rest of Britain (outside Wales and London and the South East)	5175	1979	2048
Britain	6704	3200	3306

2.10 The sample sizes for the breakdowns in Wales for each of the three surveys are presented in Table 2.2. However, it should be noted that the three surveys are pooled for this descriptive analysis, wherever possible (see column 5 in Table 2.2).

**Table 2.2: Sample Sizes by Selected Socio-economic Characteristics:
Wales, 2006-2017**

	2006	2012	2017	Total
<i>1. Gender</i>				
Men	200	265	203	668
Women	207	322	252	781
<i>2. Age</i>				
20-34	116	143	99	358
35-49	168	236	175	579
50-65	123	208	181	512
<i>3. Highest Qualification</i>				
Level 4 and above	142	212	201	555
Levels 3 and 2	159	271	199	629
Level 1 and below	105	103	53	261
<i>4. Occupation</i>				
Top 3 SOC's	150	206	186	542
Middle 3 SOC's	136	206	164	506
Bottom 3 SOC's	121	175	104	400
<i>5. Sector</i>				
Public and not for profit	176	216	163	555
Private	227	367	291	885
<i>6. Industry</i>				
Production	113	120	107	340
Services	287	467	346	1100
<i>7. Regional Skills Partnership</i>				
North Wales	111	202	90	403
South West & Mid Wales	155	196	147	498
South East Wales	141	189	218	548
All	407	587	455	1449

3. Job Skills

Introduction

- 3.1 A common way of looking at skills is to examine what abilities individuals have and at what level. Here, then, the focus is the individual whether in or out of work as well as those not yet of working age such as school children. A proxy measure of the potential skills available in the labour market is to profile the qualifications held by those of working age and hence potentially available for work. This type of evidence provides an insight into the stock of skills. Data taken from the LFS and the Annual Population Survey (APS) suggest that the available workforce in Wales is, on average, lower qualified than workforces in England and Scotland, but much better qualified than the workforce in Northern Ireland (Welsh Government, 2018c).
- 3.2 Wales's relatively lowly qualified workforce is a concern for two reasons. First, it acts as a drag on the Welsh economy resulting in the relatively poor productivity of Wales compared to other parts of the UK. Secondly, it acts to impede the development of individuals and the enhancement of their well-being. For these reasons, the Welsh Government's *Employability Plan* aims 'to eliminate the gap between Wales and the rest of the UK at all qualification levels in ten years' (Welsh Government, 2018a: 5). This target is measured using the highest level of qualification held by working age adults with evidence taken from the APS (Welsh Government, 2018b).
- 3.3 This chapter takes a different and complementary approach by measuring, tracking and comparing job skills as opposed to person skills as proxied by qualifications held. Job skills refer to the abilities workers need to carry out their jobs. They are embedded in the nature of the job, although the information comes from workers themselves. Job skills can be categorised as either 'broad skills' or 'generic skills'. We measure the former according to a series of job requirements needed before entry, on entry and during the early days in the job, while the latter are measured using a range of on-going

activities that form part of the job. Generic skills, then, refer to those that are used across a wide range of occupations and industrial situations, in contrast to occupation-specific or firm-specific skills that are needed in particular jobs. The chapter goes on to consider computing skills which, while having generic qualities, are analysed separately given their presumed importance in the 21st century. In addition, this chapter recognises that the supply of skills may not always be in alignment with employer demand. This may be reflected in skill shortages which arise where employers find it difficult to fill their vacancies with appropriately skilled applicants or else in an inability for workers to find jobs that make effective use of their available qualifications and skills (CIPD, 2018). The latter results in over-qualification and under-utilisation of skills that is the focus of the penultimate section of the chapter. The final section provides a short summary of the chapter's main findings.

Broad Skills

- 3.4 The 2006, 2012 and 2017 surveys examined in this report contain measures both of the qualifications held by the jobholder, and three separate measures of the broad skills required by the job. This approach recognises that skills are acquired in different ways, and that it is important therefore to have multiple measures rather than relying on one single measure. The survey series collected information on:
- the qualifications required to get the job;
 - the length of training for the type of work undertaken;
 - the time taken to learn to do the job well.
- 3.5 These broad skill measures have been used in previous surveys. By repeating the same questions, (word-for-word and prompt-for-prompt) comparisons over time can be made. In this report, we compare the answers given in three surveys carried out eleven years apart – in 2006, in 2012 and again in 2017.
- 3.6 The data presented here derive from three types of survey question. First, each respondent to the surveys was asked to judge what qualifications

would be required to get his or her current job in today's labour market. They were asked: 'If they were applying today, what qualifications, if any, would someone need to *get* the type of job you have now?' A range of qualifications were given. From this, the highest qualification level was ranked according to the Credit and Qualifications Framework for Wales (CQFW). The framework ranks qualifications according to the demands placed on learners (measured, for example, by learning hours) and the complexity of the tasks learners have to complete. There are eight qualification levels with a ninth representing entry level. In our case, survey responses are grouped into five categories, with the top category (level 4 and above) further sub-divided into degrees (CQFW Levels 6, 7 and 8) and professional qualifications (CQFW Levels 4 and 5). As a summary measure of the entire scale, the Required Qualification Index was derived ranging from zero to four, corresponding to levels 1, 2 and 3 in the CQFW schema with level 4 and above corresponding to levels 4-8 and no qualifications referring to the absence of the need for any qualifications (see Figure 3.1).

- 3.7 A second broad skill measure is based on responses to a series of questions on the length of training time required for the particular type of work carried out by respondents. It is based on the premise that the training time required for different jobs reflects various ability levels and knowledge demanded by contrasting types of work. Respondents were asked: 'Since completing full-time education, have you ever had, or are you currently undertaking, training for the type of work that you currently do?' If 'yes', 'How long, in total, did (or will) that training last?' If training was still on-going respondents were asked to estimate how long it would take. For the purposes of presentation, we examine the proportions reporting 'short' (less than three months) and 'long' (over two years) training times i.e. the points at either end of the continuum. We also use a summary measure of the complete range of options allowed, ranging from zero to six, entitled the Required Training Index. We report the average Training Time Index for various groups.

Figure 3.1: Credit and Qualifications Framework for Wales (CQFW)

CQFW Level	Examples	SES Levels
8	HE Doctoral and above	Level 4
7	HE Masters	
6	HE Honours	
5	HE Intermediate	
4	HE Certificate	
3	NVQ 3; GCE A Levels	Level 3
2	NVQ 2; GCSE A*-C Grades	Level 2
1	NVQ 1; GCSE D-G Grades	Level 1
Entry	3 bands of achievement	
		No Qualifications

Source: CQFW, 2017:1.

3.8 The third broad skill measure is similarly constructed. Respondents were asked: ‘How long did it take for you after you first started doing this type of job to learn to do it well?’ If they answered ‘still learning’, they were asked: ‘How long do you think it will take?’ Again, for the purposes of presentation, we examine the proportions at either end of the continuum – ‘short’ learning time denoting less than one month and ‘long’ denoting over two years. The Required Learning Index is a summary measure of all the answers given ranging from one to six. The premise is that the more skilled jobs take longer to learn.

3.9 Across Britain as a whole, the results suggest that while a fifth (20 per cent) of workers needed a level 4 qualification or above on entry to their current job in 2006, this had risen to approaching three out of ten workers (29 per cent) in 2017. However, at the other end of the spectrum, the fall in the proportion of jobs which require no qualifications appears to have reached a

plateau after a long run decline stretching back to 1986 when it was over a third of jobs (38 per cent) (Felstead *et al.*, 2013b). In 2017, the proportion of jobs requiring no qualifications was 23 per cent compared to 22 per cent in 2012. However, trends in learning and training time suggest that jobs across Britain may have become less skilled in recent times with falls in long training and long learning between 2006 and 2017. Training intensity has also fallen (Green *et al.*, 2016).

- 3.10 In this context, it is important to examine one of the most significant findings of previous analyses of this type, namely that job skills in Wales were lower than elsewhere in Britain (Felstead *et al.*, 2013a). This may, of course, help to explain the greater prevalence of low pay in Wales and lower average rates of pay. Furthermore, previous trend data suggested that the skill content of Welsh jobs fell between 1992 and 2006, while it rose elsewhere (Felstead, 2009).
- 3.11 However, these new results offer some good news and suggest that these trends may have been reversed in some, but not all, respects. Furthermore, this runs counter to the pattern of change for Britain as a whole. The 2017 survey shows that job skills in Wales are higher according to two out of the three broad skill measures – they require on average more learning time to get to grips with the job and more training time is needed for the type of work undertaken. This is a change to the situation in 2006 when this was not the case. What is more, training time has lengthened in Wales between 2012 and 2017, whereas in Britain as a whole it has shortened with jobs across Britain needing more than two years' training falling in prevalence and jobs that require no training rising (see Table 3.1). However, the bad news is that jobs in Wales require lower qualifications on entry – in 2017, for example, 28 per cent of jobs in Wales needed no qualifications compared to 22-23 per cent of jobs elsewhere in Britain. Wales has also failed to close the gap with the British average in terms of the proportion of jobs requiring degree level qualifications on entry, where a persistent gap remains.

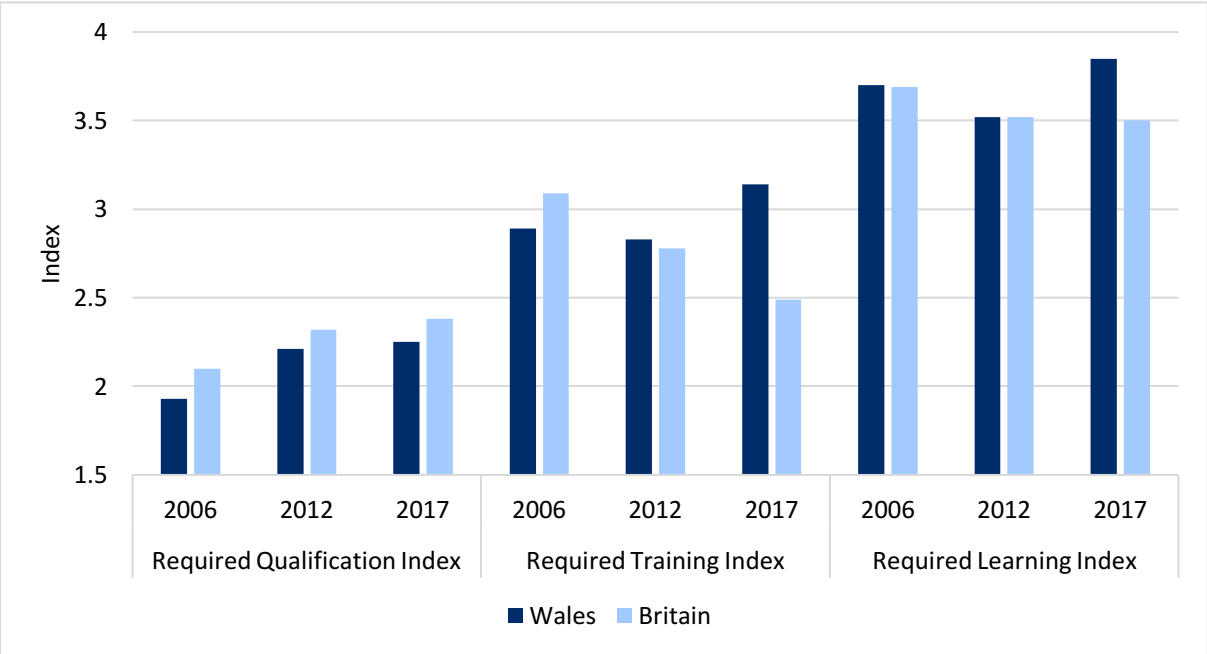
Table 3.1: Required Highest Qualification, Training Time and Learning Time: Britain, 2006-2017

	Degree Required (%)			No Qualifications Required (%)			More than Two Years' Training (%)			No Training (%)			More than Two Years' Learning (%)			Less than One Months' Learning Time (%)		
	2006	2012	2017	2006	2012	2017	2006	2012	2017	2006	2012	2017	2006	2012	2017	2006	2012	2017
Wales	13.1	19.0	22.8	31.8	21.5	28.3	27.9	25.1	29.2	59.0	61.5	55.1	26.3	24.1	30.5	18.4	22.8	17.9
Rest of Britain	17.5	22.4	24.7	29.8	25.5	23.1	30.4	23.5	20.2	55.8	60.3	64.8	28.2	23.3	22.6	19.5	22.5	21.4
London and the South East	26.3	35.7	37.9	22.7	14.9	22.2	26.7	21.7	15.4	58.1	64.9	68.9	25.3	24.4	20.1	17.3	24.6	24.0
Britain	19.8	26.3	28.7	27.8	22.4	23.0	29.6	23.1	19.4	56.2	61.5	65.5	27.7	23.8	22.4	18.7	22.8	22.0

3.12 These contrasting patterns are vividly illustrated in Figure 3.2 which shows trends in required qualification, training time and learning time indices. The advantage of these indices is that they include all respondents rather than focusing simply on the top and bottom of the scale. Figure 3.2 shows the persistence of the required qualification gap between Wales and Britain as a whole. This gap has moved upwards at roughly the same pace between 2006 and 2017 across both jurisdictions. This compares to falls in training and learning time across Britain, while there were rises in both across Wales during the same period.

Figure 3.2: Required Qualifications, Training and Learning: Britain and Wales, 2006-2017

Indices of Required Qualifications, Training Time and Learning Time



3.13 Table 3.2 also presents the data using the three broad skills indices as summary measures. This shows how trends in broad skills vary between those working full-time and those working part-time. In 2017, full-timers in Wales (and the Rest of Britain) were in jobs that required longer prior training times and longer learning times than their counterparts working in London and the South East. Having said that, the level of qualifications they required on entry was lower. This pattern also applies to 2006 and

2012. However, the fortunes of part-timers in Wales have changed markedly since then. Before 2017, their broad skills were much lower than those of their counterparts working in other parts of Britain on all three broad skill measures. In contrast, the 2017 results suggest that the skills of those working part-time in Wales have grown across all three indicators with the growth on two out of three indicators reaching levels of statistical significance (training $p < 0.1$ and learning $p < 0.05$).⁵ This is at a time when there has been little change in the broad job skills of part-timers across Britain. Furthermore, the 2017 results show that on two measures part-time jobs in Wales are higher skilled than part-time jobs in Britain as a whole, while the reverse is the case when broad skills are measured according to the level of qualification required on entry.

Table 3.2: Required Qualification, Training and Learning Indices by Working Time: Britain, 2006-2017

	Full-time Jobs			Part-time Jobs		
	2006	2012	2017	2006	2012	2017
<i>Required Qualifications Index</i>						
Wales	2.09	2.43	2.38	1.38	1.49	1.81
Rest of Britain	2.12	2.31	2.41	1.64	1.79	1.90
London and the South East	2.45	2.76	2.70	1.86	2.37	2.19
Britain	2.22	2.44	2.50	1.70	1.96	1.99
<i>Training Index</i>						
Wales	3.14	3.15	3.35	1.97	1.77	2.44
Rest of Britain	3.35	3.11	2.67	2.67	2.16	2.09
London and the South East	3.05	2.75	2.40	2.68	2.08	1.71
Britain	3.21	2.99	2.62	2.67	2.12	2.01
<i>Learning Index</i>						
Wales	3.99	3.81	4.07	2.65	2.56	3.08
Rest of Britain	3.87	3.76	3.70	2.97	2.78	2.96
London and the South East	3.91	3.61	3.53	3.01	3.14	2.69
Britain	3.90	3.73	3.67	2.98	2.87	2.90

⁵ This means that the likelihood of the growth in the training and learning time reported by part-time workers in Wales happening by chance alone is low. More precisely, the odds of such eventualities occurring are less than one in ten and one in twenty respectively.

- 3.14 For other patterns, the report pools the three boosted samples for Wales to give a total sample of 1,449 respondents. This ensures that the cell sizes we report in the descriptive tables in this report and in the accompanying spreadsheet are non-disclosive and reasonably robust. Furthermore, given that a sample size of 1,449 is still relatively small we report the results by broad socio-economic categories (cf. Table 2.2). Therefore, for occupation we have constructed three groups: those in the top three occupational categories; those in the middle three; and those in the bottom three. This principal of broad categorisation is used throughout this report. Similar categorisations have been made for age, highest qualification, sector and industry.
- 3.15 Analysing broad skills in this way reveals a number of patterns in the Welsh data. It shows, for example, that men in Wales tend to occupy higher skilled jobs, especially when measured in terms of the length of training required for the type of work currently undertaken (see Table 3.3). Men are more likely than women to report being in jobs which require two years' or more learning with around three in ten (30 per cent) men reporting needing a lengthy learning period to get to grips with the job compared to around a quarter (25 per cent) of women who make similar claims. This is reflected in the Required Learning Index shown in Table 3.3.
- 3.16 On this evidence, we also find that those in the top occupational category have the highest score across all three broad skills indices, whereas those at the bottom scored the lowest. This means that, on average, 'Managers, 'Professionals' and 'Associate Professionals' (the top occupational category) are in jobs that require a level 3 qualification, have a training period of 6-12 months and take 6-12 months to learn to do well. This compares to 'Sales', 'Operative' and 'Elementary' jobs (the bottom occupational category) which, on average, need a level 1 qualification on entry, require a training period of less than 1-3 months and take 1-3 months to learn to do well. These contrasts are reflected in the indices reported in Table 3.3.

Table 3.3: Required Qualifications, Training and Learning Indices by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Required Qualification Index	Required Training Index	Required Learning Index
<i>1. Gender</i>			
Men	2.13	2.98	3.99
Women	2.05	2.91	3.38
<i>2. Age</i>			
20-34	1.96	2.95	3.34
35-49	2.17	2.94	3.78
50-65	2.13	2.96	3.94
<i>3. Highest Qualification</i>			
Level 4 and above	3.05	2.95	4.28
Levels 3 and 2	1.76	2.94	3.42
Level 1 and below	0.75	2.96	3.15
<i>4. Occupation</i>			
Top 3 SOCs	2.97	3.79	4.46
Middle 3 SOCs	2.12	3.35	3.85
Bottom 3 SOCs	0.76	1.28	2.46
<i>5. Sector</i>			
Public and not for profit	2.65	3.50	3.83
Private	1.76	2.62	3.63
<i>6. Industry</i>			
Production	2.02	3.16	4.20
Services	2.10	2.84	3.52
<i>7. Regional Skills Partnership</i>			
North Wales	2.01	3.25	4.04
South West & Mid Wales	2.07	2.58	3.48
South East Wales	2.17	3.07	3.67
<i>All</i>	2.09	2.95	3.70

Generic Skills

- 3.17 Generic skills refer to those which are used across a wide range of occupations and industrial situations, in contrast to occupation-specific or firm-specific skills that are needed in particular jobs. The overall approach taken to devising measures of generic skills from the three surveys analysed here adheres to the following principles. Respondents were asked a series of questions about particular activities their job might involve.

This section of the questionnaire was prefaced by the following: 'You will be asked about different activities which may or may not be part of your job. At this stage we are only interested in finding out what types of activities your job involves and how important these are'. Respondents were then asked: 'in your job, how important is [a particular job activity]'. Examples of the activities included 'caring for others', 'dealing with people', 'analysing complex problems' and 'planning the activities of others'. The questionnaire covered over 40 activities designed to span the tasks carried out in a wide range of jobs. The response scale ranged from 'essential' to 'not at all important', with 'very important', 'fairly important' and 'not very important' in between.

- 3.18 Additional skills areas were added to the 2006 questionnaire and these were retained in both the 2012 and 2017 questionnaires. Five additional items were added in total. Two of these focused on the importance of managing one's own feelings and the feelings of others while doing the job, so called 'emotional skills'. There were also two questions on 'aesthetic skills', which focused on the importance of 'looking the part' and 'sounding right' as part of the job. These items were introduced into the survey because it has been argued that there are a number of jobs, particularly in the service sector where it is common to interact with the public or with colleagues, where such attributes are becoming especially important (Nickson *et al.*, 2003; Korczynski, 2005; Payne, 2006). The fifth newly introduced question in 2006 concerned the use of foreign language skills in addition to English or Welsh. This was also retained in the 2012 survey, but it was dropped in 2017 in order to make room for other questions of greater policy relevance.
- 3.19 The report presents the results for Wales for each of these questions. However, in order to examine distributional patterns (within Wales and between different parts of Britain) and the change in patterns between 2006 and 2017, we report the proportion of respondents who said that these skills were 'essential' to their jobs. Labels are applied to the ten generic skills and have been chosen to be indicative of the survey questions they represent

(see Table 3.4 for a list). The derivation of these ten generic skills is supported by factor analysis and is an approach adopted in analysis of previous surveys in the series (see Felstead *et al.*, 2007: 27-29).

3.20 Some of the labels we use are more obvious than others. ‘Literacy’, for example, covers reading and writing activities and ‘numeracy’ covers a range of mathematical calculations that need to be completed in the job. Other generic skills are less immediately obvious, but hopefully the labels used are indicative of the type of activities covered. ‘Professional communication’ skills, for instance, capture elements of the job such as instructing others, making speeches and persuading others. It should also be pointed out that some questions were not asked of all sample respondents. Only those with managerial or supervisory responsibilities, for example, were asked about what management skills their jobs required them to exercise.

Table 3.4: Survey Question Origins of the Ten Generic Skills

Ten Generic Skills	Activity
Literacy	Reading written information such as forms, notices or signs
	Reading short documents such as short reports, manuals, articles or books
	Reading long documents such as long reports, manuals, articles or books
	Writing material such as forms, notices or signs
	Writing short documents (for example, short reports, manuals, articles or books)
	Writing long documents with correct spelling and grammar (for example, long reports, manuals, articles or books)
Numeracy	Adding, subtracting, multiplying or dividing numbers (note: using a calculator or computer, if necessary)
	Calculations using decimals, percentages or fractions (note: using a calculator or computer, if necessary)
	Using more advanced mathematical or statistical procedures (note: using a calculator or computer, if necessary)
Physical	Physical strength (for example, to carry, push or pull heavy objects)
	Physical stamina (to work for long periods in physical activities)
	Skill or accuracy in using your hands or fingers (for

Ten Generic Skills	Activity
	example, to mend, repair, assemble, construct, or adjust things)
Professional communication	Knowledge of how to use or operate tools, equipment or machinery Instructing, training or teaching people, individually or in groups Making speeches or presentations Persuading or influencing others Planning the activities of others Listening carefully to colleagues
Planning	Planning your own activities Organising your own time Thinking ahead
Client communication	Dealing with people Selling a product or service Counselling, advising or caring for customers or clients Knowledge of particular products or services
Problem-solving	Spotting problems or faults (the problems or faults could be with your own work, someone else's work or equipment) Working out the cause of problems or faults (the problems could be with your own work, someone else's work or equipment) Thinking of solutions to problems (the problems or faults could be with your own work, someone else's work or equipment)
Management (where applicable)	Analyse complex problems in depth Motivating the staff whom you manage or supervise Keeping a close control over resources Coaching the staff whom you manage Developing the careers of the staff whom you manage Making strategic decisions about the future of your organisation
Emotional	Managing your own feelings Handling the feelings of others
Aesthetic	Looking the part Sounding the part

3.21 Earlier results presented in this chapter have suggested that in some respects jobs in Wales are just as skilled, if not better skilled than jobs elsewhere, as can be seen by the time needed to train for this particular line of work and the time need to learn to do the job competently. As noted previously, this is counter to earlier work which has suggested that jobs in Wales were more lowly skilled in these respects than jobs elsewhere in

Britain and that this may account for the relatively poor rates of pay in Wales (e.g., Felstead, 2009). Measuring the skills content of jobs according to the importance of activities for effective work performance provides further indicative evidence for this new finding.

3.22 This is illustrated by Figure 3.3 which takes the ten generic skills for 2017 and plots the proportion of respondents reporting that each skill is essential for jobs in Wales, the Rest of Britain, London and the South East as well as Britain as a whole. This shows that, according to workers, the skills content of jobs in Wales in 2017 is higher than in other parts of Britain on all but one of the ten measures (the exception is professional communication). Furthermore, the importance of these skills has risen more strongly in Wales than in Britain as whole between 2012 and 2017 (see Figure 3.4). In fact, the generic skills growth in Wales has outstripped the average growth rate for all but one of the ten generic skills (managerial) in the last five years.

Figure 3.3: Generic Skills: Britain, 2017
Percentage Reporting Skill Essential for the Job

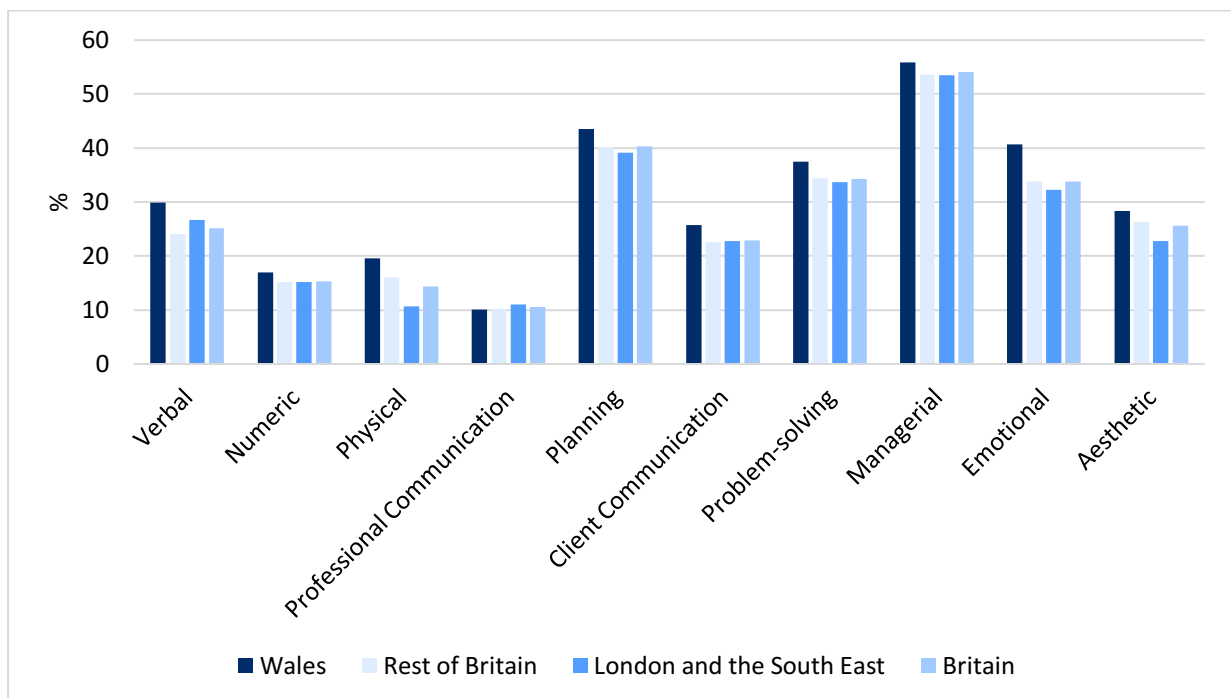
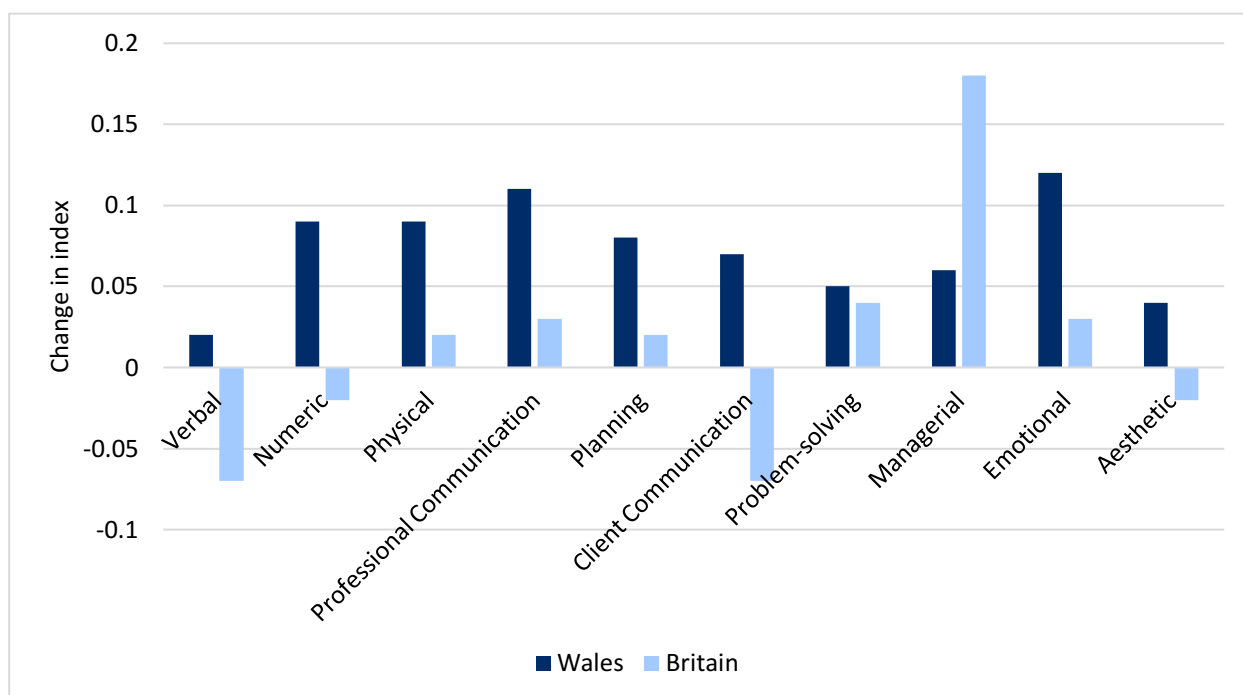


Figure 3.4: Changing Generic Skills: Britain and Wales, 2012-2017

Change in Generic Indices, 2012-2017



3.23 The patterning of generic skills within Wales by selected socio-economic group presents some expected findings. For example, those in the highest occupational group report the greatest use of all but one of the ten generic skills with three out of five of them reporting that planning (60 per cent) and managerial skills (61 per cent) are essential to their jobs and approaching half of them report that emotional (48 per cent) and verbal (46 per cent) skills are essential to their work role (see Table 3.5). It is also not surprising that emotional and aesthetic skills are essential for greater proportions of those working in services as opposed to production-related industries. A possibly surprising finding, given their contrasting industrial composition, is the closeness of the importance of generic skills to jobs in different parts of Wales, as measured here by the Regional Skills Partnership in which respondents reside. This suggests that industrial composition may not be the driving factor in explaining why generic skills vary.

Table 3.5: Generic Skills by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Percentages Reporting Generic Skills as 'Essential' for the Job									
	Verbal	Numeric	Physical	Professional Communicatio	Planning	Client Communicatio	Problem-solving	Managerial	Emotional	Aesthetic
<i>1. Gender</i>										
Men	28.8	17.9	27.2	10.1	40.7	27.2	39.6	53.2	31.0	24.1
Women	33.7	12.4	11.0	13.5	43.2	26.8	29.6	52.0	46.9	31.5
<i>2. Age</i>										
20-34	31.6	14.5	19.0	9.4	38.3	25.0	32.1	47.5	36.2	28.7
35-49	32.7	15.6	20.7	12.8	45.2	26.3	39.5	52.1	39.4	29.6
50-65	28.5	15.7	18.5	12.6	41.1	30.0	31.6	57.7	39.9	23.8
<i>3. Highest Qualification</i>										
Level 4 and above	48.0	22.2	12.1	19.0	56.7	25.5	44.5	53.1	44.1	30.7
Levels 3 and 2	24.4	12.0	23.8	7.6	36.2	30.0	30.9	50.4	37.6	26.6
Level 1 and below	11.3	8.7	25.0	6.1	24.3	23.8	23.8	58.8	28.6	23.4
<i>4. Occupation</i>										
Top 3 SOC	46.0	20.7	9.6	22.4	60.2	32.0	45.1	60.6	48.1	33.7
Middle 3 SOC	31.1	15.0	28.3	6.3	39.7	22.2	37.0	50.1	36.6	24.5
Bottom 3 SOC	10.0	8.0	22.9	3.1	18.7	25.8	17.7	30.3	27.3	22.7
<i>5. Sector</i>										
Public and not for profit	41.4	14.0	8.9	17.0	50.3	18.3	34.4	55.9	48.5	28.7
Private	25.2	16.2	25.8	8.7	37.2	32.2	35.3	50.8	33.0	27.0
<i>6. Industry</i>										
Production	27.6	20.8	37.9	9.4	39.7	19.5	45.0	48.0	25.8	16.4
Services	32.4	13.5	12.9	12.6	42.6	29.4	31.2	53.6	43.0	31.6
<i>7. Regional Skills Partnership</i>										
North Wales	33.1	15.9	25.1	12.9	39.4	27.3	38.2	57.4	39.2	25.3
South West & Mid Wales	29.1	15.6	18.6	12.1	43.4	29.3	33.0	51.7	38.6	29.3
South East Wales	31.5	14.7	16.6	10.6	42.2	24.8	34.3	50.5	38.2	27.5
<i>All</i>	31.1	15.3	19.5	11.7	41.9	27.0	34.8	52.7	38.6	27.6

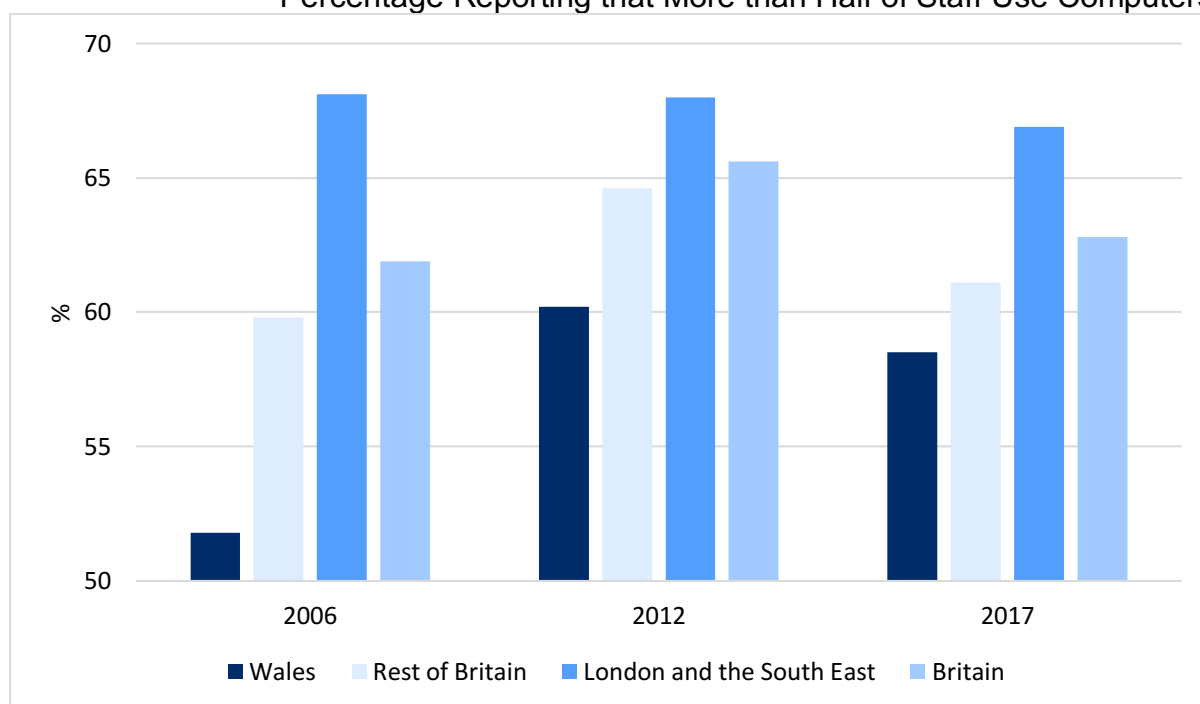
Computing Skills

- 3.24 Computing skills are also generic, but they have special significance given that they are now widely used in many businesses and sectors, they are becoming an essential skill in modern life in and outside of work, and there is robust evidence that their use at work increases pay (Green *et al.*, 2007). Correspondingly, computing skills are considered to be the most far-reaching 'generic skill'; that is, a skill that is used in various ways and at various levels in many different occupations. In this section of the chapter, therefore, we present temporal, comparative and intra-Wales comparisons.
- 3.25 Like other generic skills, respondents were asked: 'In your job, how important is using a computer?' The response scale ranged from 'essential' to 'not at all important', with 'very important', 'fairly important' and 'not very important' in between. From these answers we produce a Computer Use Index which takes values of 0-4 depending on the response option chosen with 4 equating to essential. Those who used a computer, whatever its importance (i.e. above a score of 0), were asked a follow-up question designed to assess what level of skills they drew upon to do so. They were given four options from which to choose. Alongside each summary label an illustration was given, so respondents were told that: 'advanced' computing skills involved 'using computer syntax and/or formulae for programming'; 'complex' skills involved 'using a computer for analysing information or design, including use of computer aided design or statistical analysis packages'; 'moderate' computing skills involved 'using a computer for word-processing and/or spreadsheets or communicating with others by 'e-mail'; and 'straightforward' skills involved 'using a computer for straightforward routine procedures such as printing out an invoice in a shop'. We present data on the proportions in the whole sample who said that their jobs required them to use advanced or straightforward computing skills. The surveys reported here also asked respondents: 'In your workplace, what *proportion* of employees work with computerised or automated equipment?' Respondents were given six proportions from which to choose ranging from 'more than three-quarters' to 'none'. The

2006, 2012 and 2017 surveys, therefore, contain three measures of computing skills: the prevalence of computing in the workplace; the importance of computers to the job; and the sophistication of computer use.

3.26 One possible explanation for the relatively low productivity of the Welsh economy is the relatively low use of computerisation in Wales. Computer use in workplaces is less prevalent in Wales than elsewhere in Britain. In 2017, 59 per cent of workers reported that more than half of those at their place of work used computers compared to two-thirds (67 per cent) of workers in London and the South East – this a statistically significant eight percentage point difference. Nevertheless, the gap has halved since 2006 when the gap stood at 16 percentage points (see Figure 3.5).

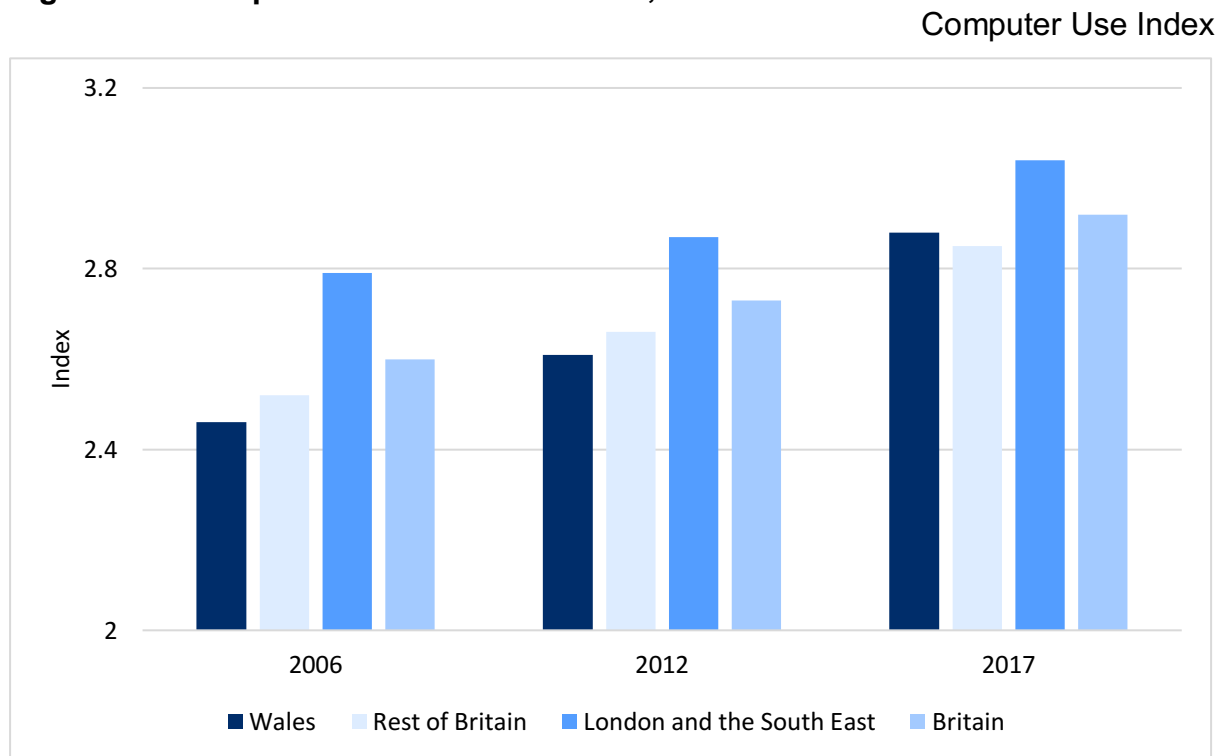
Figure 3.5: Estimated Workplace Computer Use: Britain, 2006-2017
Percentage Reporting that More than Half of Staff Use Computers



3.27 The gap between Wales and Britain has also closed in terms of reported individual computer use. Based upon analysis of the Computer Use Index, the gap between Wales and the British average has been steadily closing to the extent that by 2017 it had virtually disappeared (see Figure 3.6). For example, there was a three percentage point gap between the proportion of

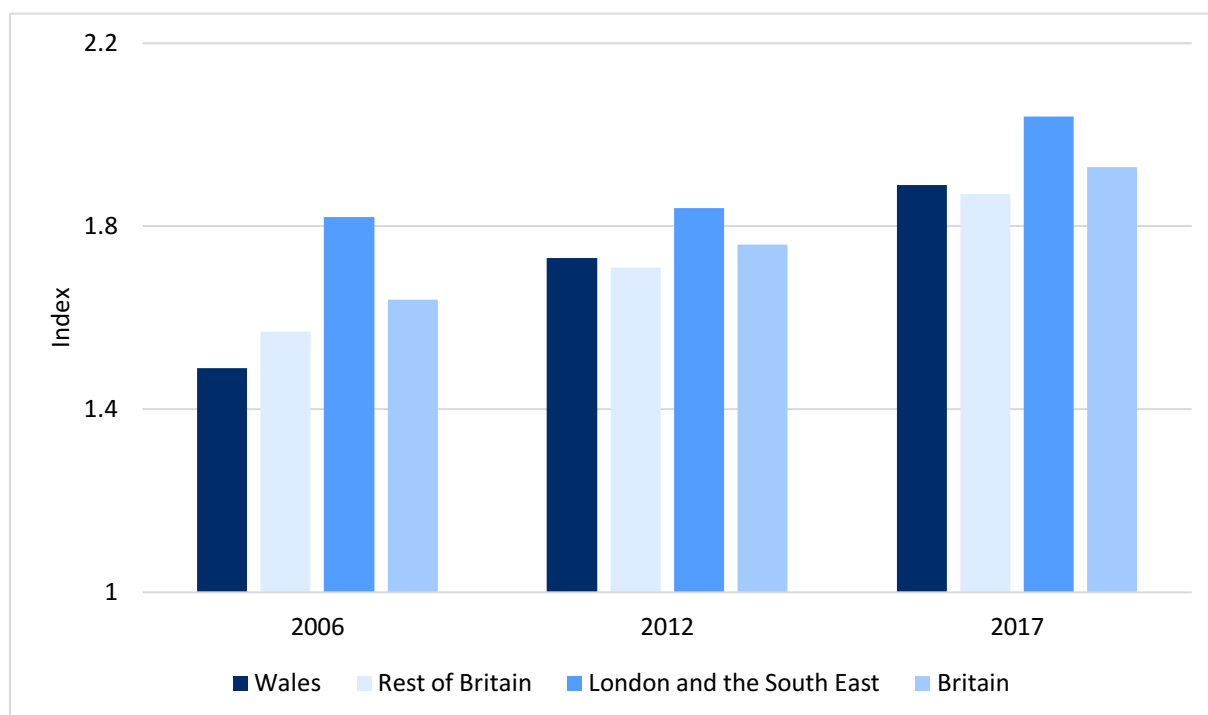
workers across Britain reporting that computers were essential to their jobs and the proportion of Welsh workers making a similar assessment. By 2017 the gap had disappeared. Nevertheless, computer use remains highest in London and the South East.

Figure 3.6: Computer Use at Work: Britain, 2006-2017



3.28 These patterns are remarkably similar for the sophistication of computer use with the differences evident in 2006 disappearing by 2012 (see Figure 3.7). This means that Wales can no longer be regarded as a laggard in this respect with the sophistication of computer use around the British average.

Figure 3.7: Sophistication of Computer Use at Work: Britain, 2006-2017
Sophistication of Computer Use Index



3.29 The patterning of results within Wales suggests that, for example, while women are more likely on average to use computers, they do so at a lower level of sophistication (compare Tables 3.6 and 3.7). To illustrate, over half (51 per cent) of women say that computers are essential to their job compared to 44 per cent of men. However, a greater proportion of men than women (8 per cent and 3 per cent respectively) say that they use advanced techniques such as computer programming and/or the use of syntax and proportionately fewer (23 per cent of men and 29 per cent of women living in Wales) say that they use straightforward techniques such as printing out invoices.

Table 3.6: Computer Use at Work by Selected Socio-economic Characteristics: Wales, 2006- 2017 Pooled

	Computers Essential to the Job (%)	Computers Not Used in the Job (%)	Computer Use Index
<i>1. Gender</i>			
Men	43.5	22.7	2.50
Women	51.2	16.6	2.75
<i>2. Age</i>			
20-34	46.4	17.7	2.66
35-49	48.7	20.0	2.63
50-65	45.9	21.8	2.56
<i>3. Highest Qualification</i>			
Level 4 and above	65.3	5.9	3.31
Levels 3 and 2	41.2	21.8	2.45
Level 1 and below	23.7	43.8	1.56
<i>4. Occupation</i>			
Top 3 SOCs	66.2	5.0	3.36
Middle 3 SOCs	42.2	22.7	2.42
Bottom 3 SOCs	26.4	37.5	1.81
<i>5. Sector</i>			
Public and not for profit	57.9	11.7	3.02
Private	40.8	24.7	2.38
<i>6. Industry</i>			
Production	38.5	28.4	2.25
Services	50.2	17.0	2.74
<i>7. Regional Skills Partnership</i>			
North Wales	46.6	21.4	2.57
South West & Mid Wales	44.4	19.9	2.57
South East Wales	50.2	18.7	2.70
<i>All</i>	47.2	19.8	2.62

Table 3.7: Sophistication of Computer Use at Work by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Advanced Computer Use (%)	Straightforward Computer Use (%)	Sophistication of Computer Use Index
<i>1. Gender</i>			
Men	7.8	22.7	1.69
Women	2.7	29.1	1.62
<i>2. Age</i>			
20-34	8.6	25.0	1.76
35-49	4.3	26.0	1.65
50-65	3.4	26.6	1.56
<i>3. Highest Qualification</i>			
Level 4 and above	8.1	12.5	2.19
Levels 3 and 2	4.3	36.4	1.47
Level 1 and below	NA	40.6	0.97
<i>4. Occupation</i>			
Top 3 SOC's	8.7	10.9	2.21
Middle 3 SOC's	4.8	30.9	1.53
Bottom 3 SOC's	NA	52.8	0.98
<i>5. Sector</i>			
Public and not for profit	4.3	18.7	1.89
Private	6.0	30.9	1.52
<i>6. Industry</i>			
Production	6.5	28.6	1.51
Services	5.0	25.1	1.71
<i>7. Regional Skills Partnership</i>			
North Wales	5.7	26.1	1.59
South West & Mid Wales	4.6	27.6	1.62
South East Wales	5.7	24.2	1.73
<i>All</i>	5.3	25.9	1.66

Qualification Mismatch

- 3.30 As the OECD (2013: 142) points out 'having skills is not enough; to achieve growth, both for a country but also for an individual, skills must be put to productive use at work'. At the UK level, skills under-utilisation has also featured in policy discussions with the now disbanded UKCES stating that 'the future employment and skills system will need to invest as much effort in raising employer ambition, in stimulating demand, as it does in enhancing

skills supply' (UKCES, 2009: 10). Welsh Government has also argued in its economic strategy *Prosperity for All* that 'better matching of skills to jobs [has] ... a significant influence on productivity and growth' (Welsh Government, 2017a: 37).

- 3.31 It is therefore widely recognised that the demand for skills may not always be in alignment with the supply of skills. This may be reflected in skill shortages which arise where employers find it difficult to fill their vacancies with appropriately skilled applicants. Respondents to employer surveys are therefore commonly asked questions about the incidence and cause of any hard-to-fill vacancies they reported. Despite the low reported level of skill shortage vacancies – affecting just 3-6 per cent of establishments in the UK since 2011 – skill shortages often make newspaper headlines especially when it is claimed they may hamper business expansion. Frequently, skilled trades such as chefs, mechanics and electricians are in shortest supply. However, employers' perceptions of deficiencies in the skills of the existing workforce are more prevalent. These deficiencies – often referred to as latent skills gaps – affect around one in six establishments (Winterbotham *et al.*, 2018: 11, 42 and 64). Looking further forward, the *CBI/Pearson Education and Skills Annual Report* finds that over three-quarters of businesses expect to increase the number of highly skilled roles over the coming years, but two-thirds of them are concerned that they will not be able to recruit sufficiently skilled people to fill them. Many of these jobs will require leadership and management skills (CBI, 2017 and 2018).
- 3.32 One of the major advantages of the 2006, 2012 and 2017 surveys reported here is that they record skills actually used in the workplace. Although it is possible to track accurately the qualifications held by those actually in employment (using the Labour Force Survey, see Sloane *et al.*, 2005), identifying the mismatch between the qualifications held by jobholders and the qualifications they require is only possible using data sets which collect both types of information. The 2006, 2012 and 2017 surveys are unique in this respect.

- 3.33 That said, there are a number of limitations to the data and analysis which must be acknowledged. Firstly, the analysis is based on qualifications, not skills, and there are limitations to the extent to which qualifications can be used as a proxy for skills. It may be the case that a person's level of qualification may not reflect their level of skill. This issue may be exacerbated by the second point – that qualifications can be in a range of subjects and linked to a range of occupations and that any mismatches may not be by level but by subject and / or occupation. The survey only collects information on the level of qualification and a more nuanced approach is not possible here. Matching of skills to jobs is about more than qualification level, it is also dependent on factors such as the specific skills required by the occupation and matching the form of education, training and experience to the needs of the job.
- 3.34 Furthermore, whilst the Welsh sample has been boosted, it remains relatively small, which limits the possibility of in-depth analysis within one survey year (as previously noted). Sample size limitations will increase the confidence intervals associated with the qualification demand estimates from the Skills and Employment Survey.
- 3.35 The above caveats must be borne in mind when interpreting the results of this analysis and the focus should be on trends and orders of magnitude rather than specific figures.
- 3.36 Using the Skills and Employment Survey data, we make estimates of the numbers of jobs (including vacancies) which require qualifications at various levels on entry and put these alongside the numbers of economically active people holding each level of qualification in Wales. We refer to the former as the 'demand' for qualifications, because it is an estimate of employers' demand for labour at each qualification level as perceived by current jobholders. We thus use the conventional assumption that, in a relatively flexible labour market, the actual number of jobs would not remain in the long term above employers' planned demand for qualified labour; and the inclusion of vacancies accounts for sectors where the demand exceeds the

current number of jobs as well as friction in the labour market as people switch jobs. In effect, 'demand' equates to the number of jobs occupied by level of qualification required by new entrants plus an estimate for unfilled posts at each of these levels.

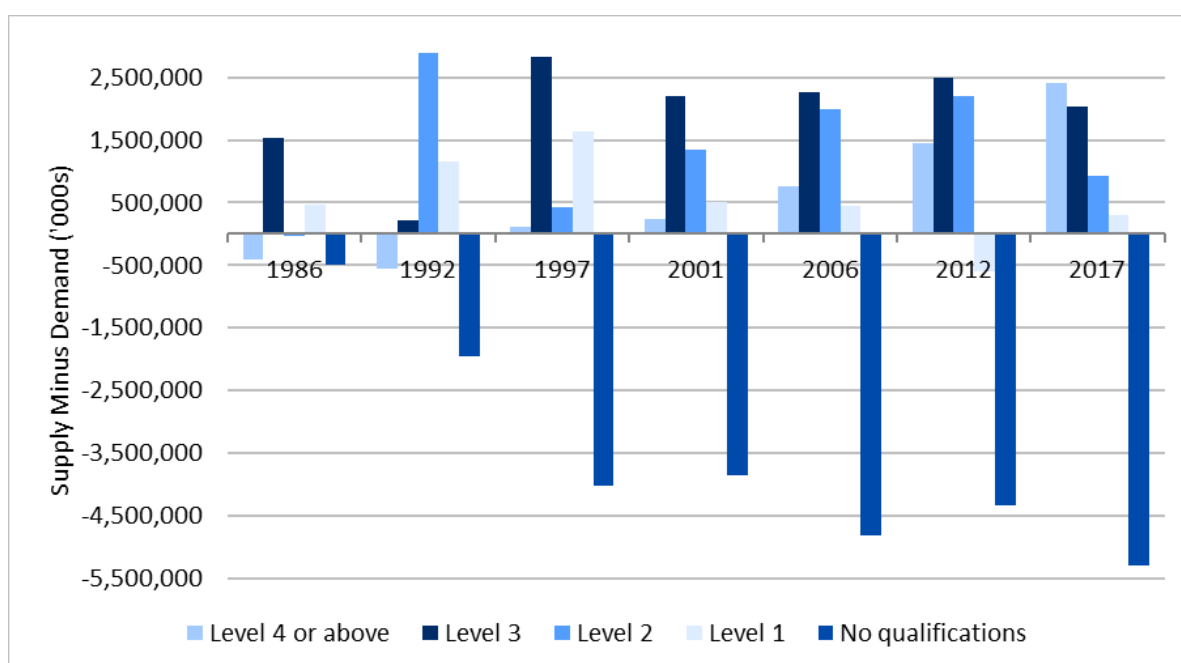
- 3.37 The estimates of demand for qualifications are based on the 2006, 2012 and 2017 evidence. The proportions of jobholders reporting the highest qualification needed to get the job they currently occupy are grossed up using the appropriate LFS estimate of the number of workers in Wales aged 20-65. It should be remembered that these demand estimates derive from the jobholders' perceptions of the required qualifications, rather than their employers' perceptions. Evidence from elsewhere suggests that line managers' perceptions of the qualification requirements of jobs are, on average, not substantially different from the perceptions of their subordinates (Green and James, 2003). Nevertheless, as noted above, qualifications are only loose measures of the demand for different skill levels.
- 3.38 The details of the calculation are as follows. In order to provide a complete picture of the demand for labour at each qualification level we need to take into account vacancies in the labour market and apportion these to each of the qualification levels. The data for these calculations are derived from two sources. The first source is the Vacancies Survey which is carried out every month and asks businesses (who have to take part in the survey by law) to report the number of 'unoccupied or soon to be vacated' posts for which recruitment activities – such as placing adverts or approaching potential recruits – have taken place (Machin, 2003). We take a three-month rolling average covering the months April-June in 2006, 2012 and 2017 (ONS, 2018). To produce a Welsh estimate we multiply this figure by the proportion of UK jobs held in Wales.
- 3.39 Our second source of data derives from the 2006, 2012 and 2017 SES surveys reported in this report and is used to produce estimates of the qualification level of vacancies and the qualification level of existing jobs.

To approximate the qualification levels of vacancies, we multiply the total number of vacancies available by the required qualification levels reported by respondents who have been in post for 12 months or less. The number of jobs requiring different qualification levels is estimated by doing the same calculation but using the total number of jobs in Wales as the multiplier. Then, by adding the number of jobs and vacancies at each qualification level, we estimate the total demand for labour in Wales according to the level of certification required on entry. It should be noted that job vacancies were just 3 per cent of jobs in 2017.

- 3.40 Estimates of the supply of qualifications are more straightforward. These are based on the second quarter results from the LFS 2006/2012/2017 and cover 20-65 year olds who were economically active at the time of interview. These data have been categorised in the same qualification groups as the demand data derived from the three surveys that make up the Skills and Employment Survey series as reported in Figure 3.1.
- 3.41 Whilst these broad-brush estimates are derived from sources including Official Statistics the resulting estimates themselves should not be considered 'official', although they do enable comparison of the demand and supply of qualifications to be made based on this survey and the views of workers it collects.
- 3.42 These protocols have been used to estimate the net balance of qualifications demand and supply shown in Figure 3.8. The results demonstrate that over-qualification for Britain as a whole is not new, but rather it has emerged and grown over the last quarter of a century (McGuinness, 2006). This excess arose, not because the numbers of jobs that do not require any qualifications rose, but because the number of people holding no qualifications fell substantially faster than the number of jobs which do not require qualifications. The number of people with no qualifications fell by 6.3 million between 1986 and 2017, reflecting successful expansion of the education system and the growth of qualifications over this period. Meanwhile, the British economy saw the

number of jobs requiring no qualifications for entry fall by 1.5 million (although the number of such jobs rose by 712,000 between 2012 and 2017). Figure 3.8 also shows how the differences between the supply of qualifications at all levels and the number of jobs at these levels has fluctuated over time. In addition to changes at the bottom of the labour market, there have been notable changes at the top. Dramatic changes have taken place at level 4 or above. Here, the undersupplies identified in 1986 and 1992 have turned into an oversupply of 2.4 million people in 2017.

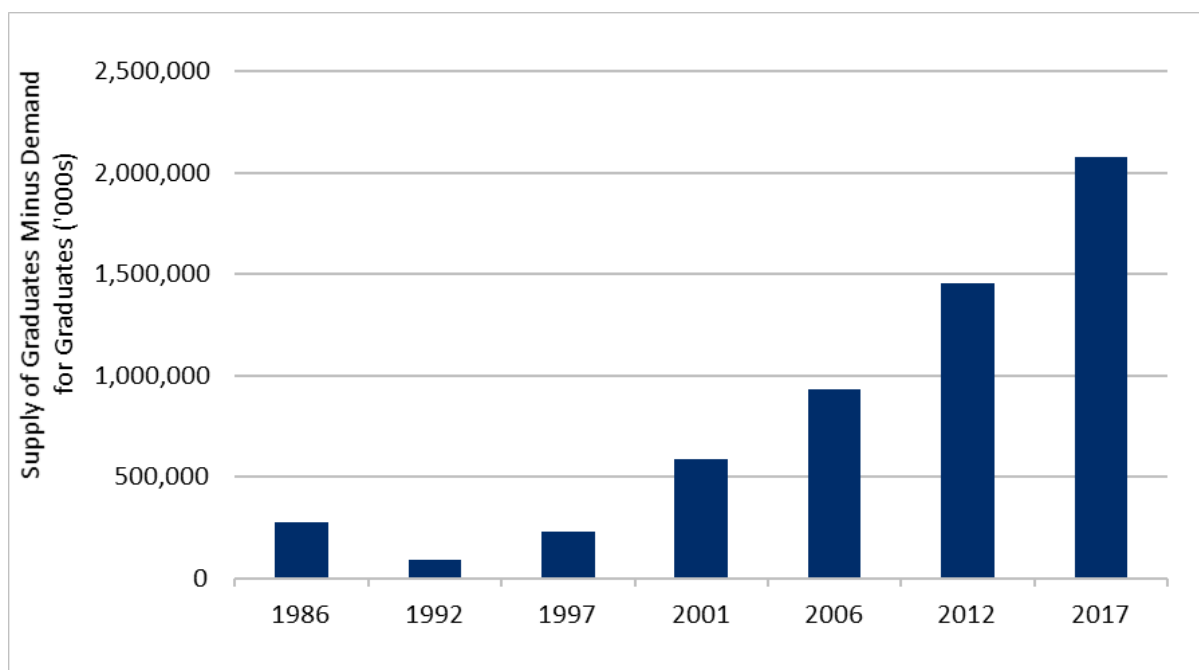
Figure 3.8: Qualification Mismatch: Britain, 1986-2017



Note: This figure refers to economically active 20-60 year olds.

3.43 Looking specifically at degrees, relatively small over-supplies in the mid-1980s to late 1990s have grown considerably since then. The 2017 survey suggests that there are 2.1 million more degree-holders than there are jobs which require a degree on entry (see Figure 3.9). However, as discussed in paragraph 3.33, the difficulties in matching of skills to jobs being, in practice, based on more than just qualification level should be borne in mind.

Figure 3.9: Demand and Supply Degree Mismatch: Britain, 1986-2017



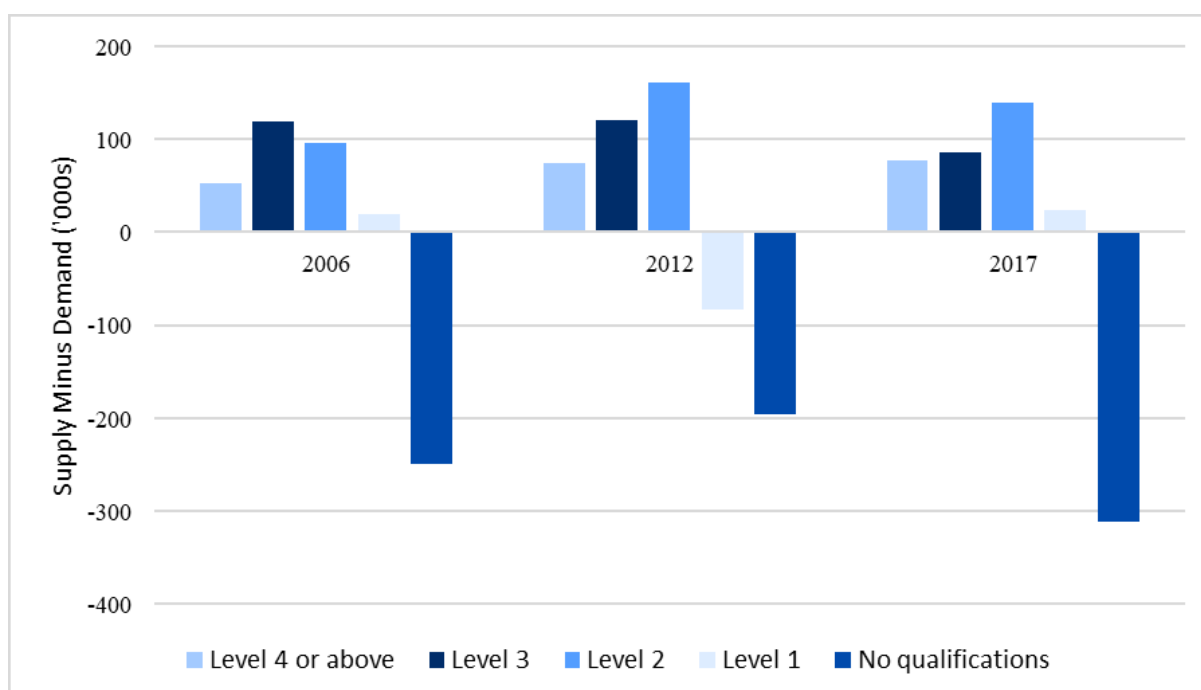
3.44 The equivalent graphical representation for Wales is presented in Figure 3.10. This shows that in 2017 there were more people in Wales with level 4 and above qualifications than there were jobs requiring this level of qualification. This difference appears higher than in 2006, but has changed little since 2012.⁶ On the other hand, the data suggests that Wales still has a higher proportion of jobs requiring no qualifications in comparison to the numbers in the workforce with no qualifications. Estimates from the Skills and Employment Survey 2017 would suggest there are around 5 times as many jobs in Wales that require no qualifications on entry than there are economically active people aged 20-65 in Wales who possess no qualifications.⁷ This would suggest that there are many more qualified people than there are suitably qualified positions for them to occupy. It is also notable that there was an increase in the number of no qualification jobs in Wales between 2012 and 2017, which is suggestive of the growth of

⁶ Note that the difference in 2006 and 2012 was not statistically significant at the 95 per cent level, but it was in 2017.

⁷ The economically active refer to those aged 20-65 who are in paid work or are looking for work and are available to take up offers of work (i.e. they are ILO unemployed). Official headline statistics on economic activity use different age ranges to those in the Skills and Employment Survey (20-65) so figures may differ.

poor quality jobs. Across Britain, there was also an increase in the number of no qualification jobs between 2012 and 2017 after a decline in such jobs over the last 30 years. In regard to no qualification jobs, the survey asks about the qualifications needed for the job – it is not able to pick up other requirements such as experience or skills that may not be aligned to specific qualifications.

Figure 3.10 Qualification Mismatch: Wales, 2006-2017

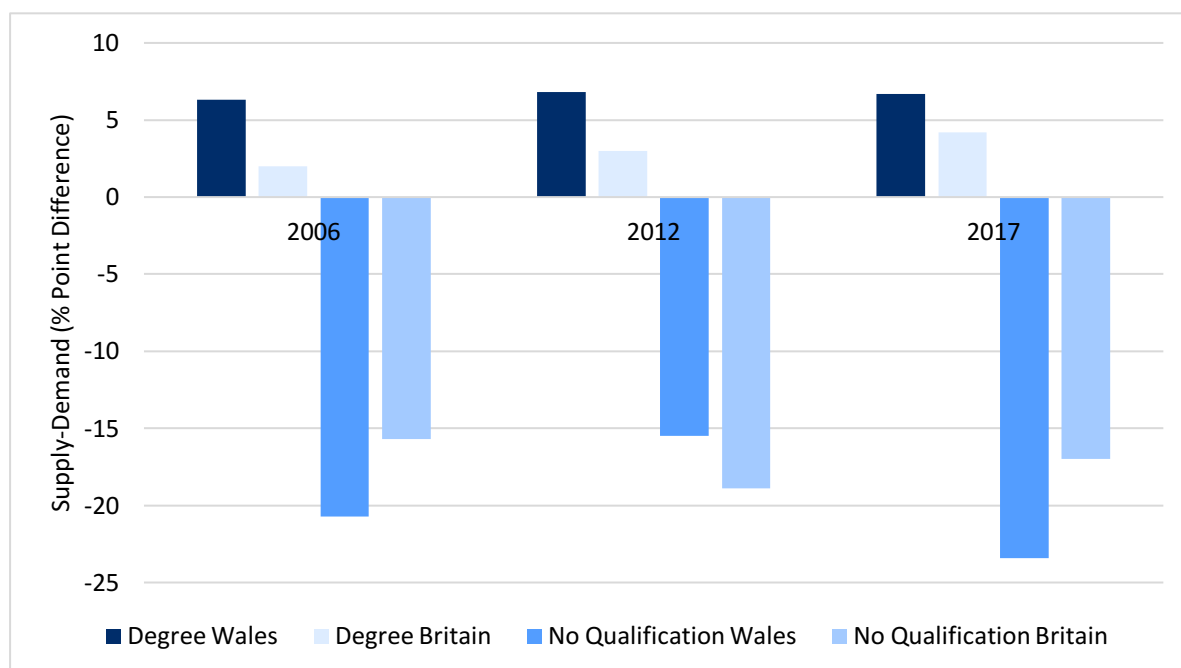


Note: This figure refers to economically active 20-65 year olds.

3.45 The pattern of qualification mismatch in Wales is, if anything, a little more pronounced with qualification mismatches greater than in Britain as a whole. While comparison of the absolute broad-brush figures reported above may be of some interest, the percentage point differences are more meaningful since they provide a comparative analysis which takes into account the different sizes of the two economies. Figure 3.11 presents the results for the top and bottom of the qualification hierarchy. It shows that there was a seven percentage point qualification gap at degree level in Wales in 2017 compared to a gap of four points for Britain as a whole. At the other end of the scale, the gap between the demand and supply of jobs/people in the ‘no qualifications’ category Wales was in the order of 23 percentage points in

2017 compared to a smaller gap of 17 percentage points in Britain as a whole. As before, relevant caveats should be considered when interpreting this analysis.

Figure 3.11: Demand and Supply Qualification Mismatches: Britain and Wales, 2006-2017

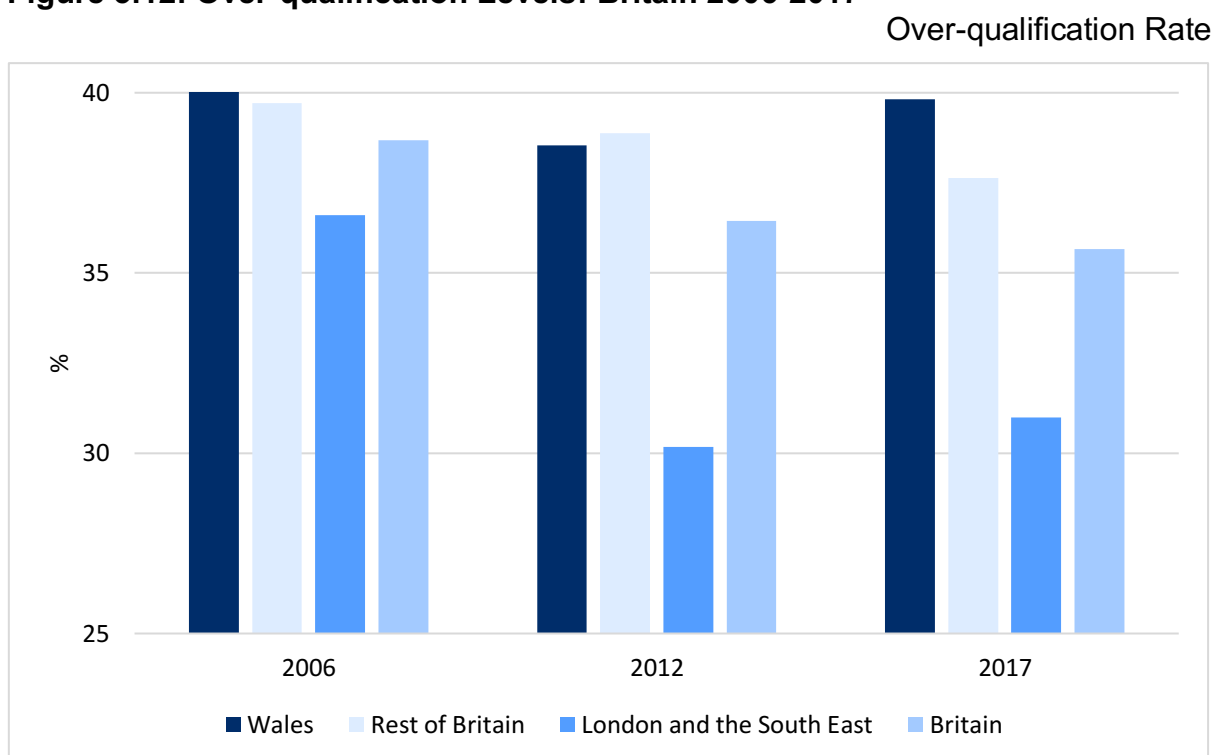


3.46 Imbalances in the *aggregate* supplies of workers and numbers of jobs at each qualification level are an important factor underlying mismatches at the *individual* level, in which workers may have qualifications which are too high for their jobs. To obtain a fuller picture of the utilisation of qualifications in the economy, we investigate the match between each individual's qualifications and their job's requirements, and how this match has changed over time. We focus on those who have qualifications above the level required of the jobs they currently occupy – we refer to these as the 'over-qualified'. The results provide further evidence on the Welsh Government's policy goal of 'better matching of skills to jobs' (Welsh Government, 2017a: 37).

3.47 Disappointingly, the 2017 evidence shows that in Wales, the over-qualification rate has changed little over the last decade or so – it has hovered at around 40 per cent (see Figure 3.12). However, elsewhere in

Britain – in London and the South East in particular – the over-qualification rate has fallen. This suggests that qualifications in Wales remain underused at work.

Figure 3.12: Over-qualification Levels: Britain 2006-2017



3.48 According to the pooled Welsh data the majority of some groups of workers are over-qualified. For example, over half of those aged 20-34 years old (51 per cent) and approaching three out of five of those working in the bottom three occupational categories (59 per cent) are over-qualified (see Table 3.8).

3.49 In order to take the analysis further we examine whether those ‘over-qualified’ (that is, they have qualifications which exceed the level of qualification required for the job) are also unable to use their skills at work effectively. For this stage in the analysis, those identified as over-qualified in this way are sub-divided according to the response given to the question: ‘How much of your past experience, skill and abilities can you make use of in your present job?’ Those answering ‘very little’ or ‘a little’ (and reporting

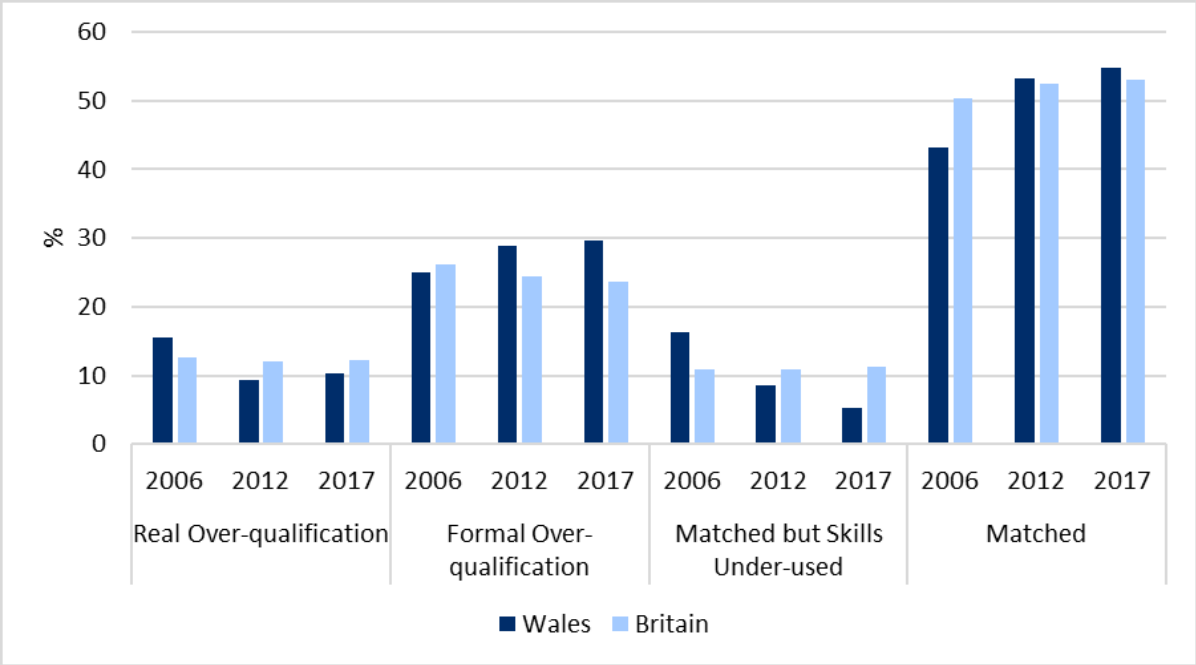
over-qualification) are classified as experiencing ‘real’ over-qualification. The remainder – that is, those responding ‘quite a lot’ or ‘almost all’ – are classified as experiencing ‘formal’ over-qualification (cf. Green and Zhu, 2010: 750-752). Those whose qualifications do not exceed those required for the job are similarly split into those under-using their skills at work (‘very little’ or ‘a little’ use of skills at work) and those whose skills are used at work (i.e. they report using ‘quite a lot’ or ‘almost all’ of their skills at work). These are referred to as ‘matched but skills under-used’ and ‘matched’ respectively.

Table 3.8: Over-qualification Levels by Selected Socio-economic Characteristics: Wales, 2006- 2017 Pooled

	Qualifications Above the Level Required for the Job
<i>1. Gender</i>	
Men	37.4
Women	42.2
<i>2. Age</i>	
20-34	50.5
35-49	37.6
50-65	31.2
<i>3. Highest Qualification</i>	
Level 4 and above	38.3
Levels 3 and 2	48.8
Level 1 and below	21.0
<i>4. Occupation</i>	
Top 3 SOCs	27.5
Middle 3 SOCs	39.0
Bottom 3 SOCs	58.7
<i>5. Sector</i>	
Public and not for profit	33.0
Private	43.6
<i>6. Industry</i>	
Production	37.5
Services	40.6
<i>7. Regional Skills Partnership</i>	
North Wales	36.7
South West & Mid Wales	40.7
South East Wales	40.8
<i>All</i>	39.7

3.50 The results show that ‘real’ over-qualification has declined since 2006 in Wales, falling from 16 per cent in 2006 to around 9-10 per cent in 2012 and 2017 (see Figure 3.13). Furthermore, the proportion of respondents whose qualifications match the requirements of their jobs while also reporting that their skills are underused has steadily fallen from a sixth of workers (16 per cent) in 2006 to one in twenty (5 per cent) in 2017. On this evidence, then, qualification mismatches in Wales are becoming less of an issue when assessed in terms of what skills are actually utilised at work. The fall in real over-qualification, and the rise in the proportion who report that *both* their qualification level matches that required on entry and that they are able to use quite a lot or more of their skills suggests that once in work the skills of jobs and workers are becoming better utilised. Moreover, these improvements are slightly higher than in Britain as a whole.

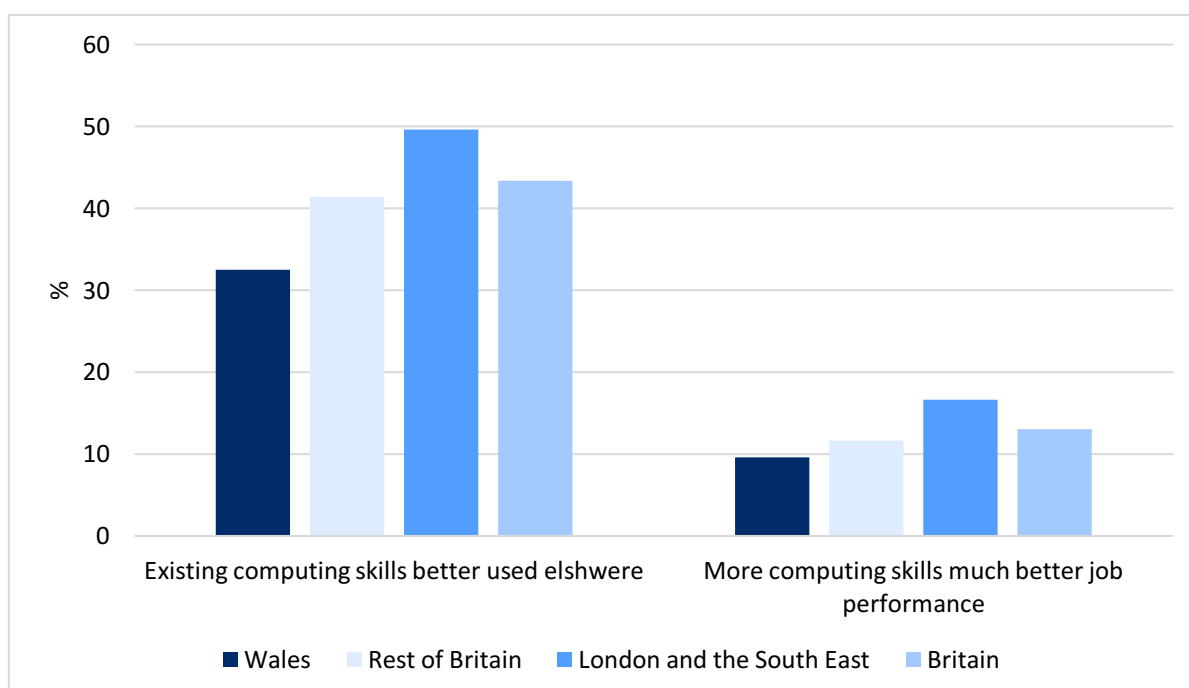
Figure 3.13: Real and Formal Over-qualification: Britain and Wales, 2006-2017



3.51 Finally, we consider whether there is a mismatch in computing skills with jobs requiring more of their workers than they can provide. We assess this

issue by drawing on data which was collected for the first time in 2017. Computer-using respondents were asked whether more computing skills would enable them to do their job better. Figure 3.14 reports the proportion who said that it would make a significant difference to work performance. Proportionally fewer respondents in Wales reported that it would make such a difference. This suggests that jobs in Wales are less skills demanding in terms of computing. Furthermore, those who did not use a computer were asked to report whether their computing skills would be better used elsewhere. Workers in Wales were proportionately less likely to report that their computing skills could be better used elsewhere. This suggests that alternative jobs also require lower levels of computing competence. This is in line with evidence presented elsewhere in this report which suggest that the prevalence of computers in Welsh workplaces is relatively low, but the supply of computing skills is on a par with those found in Britain in general according to LFS evidence on internet use (Prescott, 2018).

Figure 3.14: Computing Skills Use and Job Performance: Britain, 2017



Summary of Findings

3.52 These results on job skills provide a number of mixed messages with some positive and negative findings.

- The good news is that jobs in Wales in 2017 are more demanding than jobs elsewhere in two out of the three broad skill measures – they require on average more learning time to get to grips with the tasks the job involves and more training time is needed for the type of work undertaken. The generic skills content of jobs in Wales is also higher than in other parts of Britain on all but one of the ten measures (the exception is professional communication) and the importance of these skills has risen more strongly in Wales than in Britain as whole between 2012 and 2017.
- What is more, training time has lengthened in Wales between 2012 and 2017, whereas in Britain as a whole it has shortened with jobs across Britain needing more than two years' training falling in prevalence and jobs which require no training rising.
- However, the bad news is that jobs in Wales tend to require a lower level of qualification on entry – in 2017, for example, 28 per cent of jobs in Wales needed no qualifications compared to 22-23 per cent of jobs elsewhere in Britain. Wales has also failed to close the gap with the all Britain average in terms of the proportion of jobs requiring degree level qualifications on entry, where a persistent gap remains.
- The 2017 results suggest that the skills of those working part-time in Wales have grown across all three indicators. This is at a time when there has been little change in job skills of part-timers across Britain. Furthermore, the 2017 results show that on two measures part-time jobs in Wales are higher skilled than part-time jobs in Britain as a whole, while the reverse is the case when job skills are measured according to the level of qualification required on entry.
- The results for computing skills in 2017 are similarly mixed. On the one hand, they suggest that the prevalence of computers in Welsh workplaces

is relatively low, but the gap between Wales and other parts of Britain in terms of individual use of computers at work and the level of sophistication of use has virtually disappeared. In 2006 and 2012 these differences were pronounced.

- Disappointingly, the 2017 evidence shows that in Wales, the over-qualification rate has changed little over the last decade or so as it has hovered around 40 per cent. However, elsewhere in Britain – in London and the South East in particular – the over-qualification rate has fallen. Furthermore, the pattern of qualification mismatch in Wales is, if anything, a little more pronounced with qualification mismatches greater than in Britain as a whole. The results show that there was a seven percentage point gap at degree level in Wales in 2017 compared to a gap of four points for Britain as a whole. At the other end of the scale, the gap between the demand and supply of jobs/people in the ‘no qualifications’ category in Wales was in the order of 23 percentage points in 2017 compared to a smaller gap of 17 percentage points in Britain as a whole. This analysis should be considered indicative due to sample size limitations and the difficulties of measuring qualifications mismatch in practice.
- That said, the 2017 findings suggest that there has been a fall in real over-qualification and a rise in the proportion of matched individuals who say that they are able to use quite a lot or more of their skills at work. This suggests that once in work the skills of jobs and workers are becoming better matched.

4. Training, Learning and Progression

Introduction

- 4.1 Skills appropriate to the job are also developed while at work through training. To get statistical insights into this activity, respondents to surveys such as the Labour Force Survey (LFS) are asked whether they have participated in job-related training in a specified period before interview – such as the previous four weeks, thirteen weeks or the preceding calendar year. Follow-up questions about this training are then posed. These include the time spent being trained, where the training was undertaken and who bore the costs.
- 4.2 The incidence of training is regularly used as the key barometer with which to measure investment in skills development. Results from the LFS show that participation rates were highest across all four nations in the early 2000s and have been on the decline since well before the recession of 2008-2009 which, some feared, would prompt a cut in training activity (Felstead *et al.*, 2012). Notably, since 2002 training rates in Wales have been higher than those elsewhere in the UK every year – with the gap with England, for example, approaching two percentage points on occasion.
- 4.3 The greater importance of training in Wales is also reflected in estimates of employers' training expenditure. Data from the Employer Skills Survey 2015 suggest that employers spend £300 more per trainee in Wales than they do in the UK as a whole. Nevertheless, annual training expenditure varies within Wales from a high of £3,200 per trainee in South East Wales to a low of £2,000 in South West Wales (Winterbotham *et al.*, 2016: Table 5.6).
- 4.4 The aim of this chapter is to add to this stock of knowledge. We do so in five substantive empirical sections. The chapter therefore proceeds as follows. In the following section, we examine the incidence of training as reported by respondents who are presented with a list of activities which

they might undertake. This differs from the LFS approach which measures unprompted training events which respondents define as constituting training. The section also considers the frequency of these training activities. The chapter goes on to examine the quality of these training activities as reported by those taking part. It is also often said that development at work may not take the form of designated training events and may instead be part and parcel of the job. Several questions in the Skills and Employment Survey are designed to collect data on these more informal activities. These results form the basis of another section in the chapter. Evidence on progression and promotion within the organisation is presented in the penultimate section. The final section of the chapter provides a short summary of the chapter's main findings.

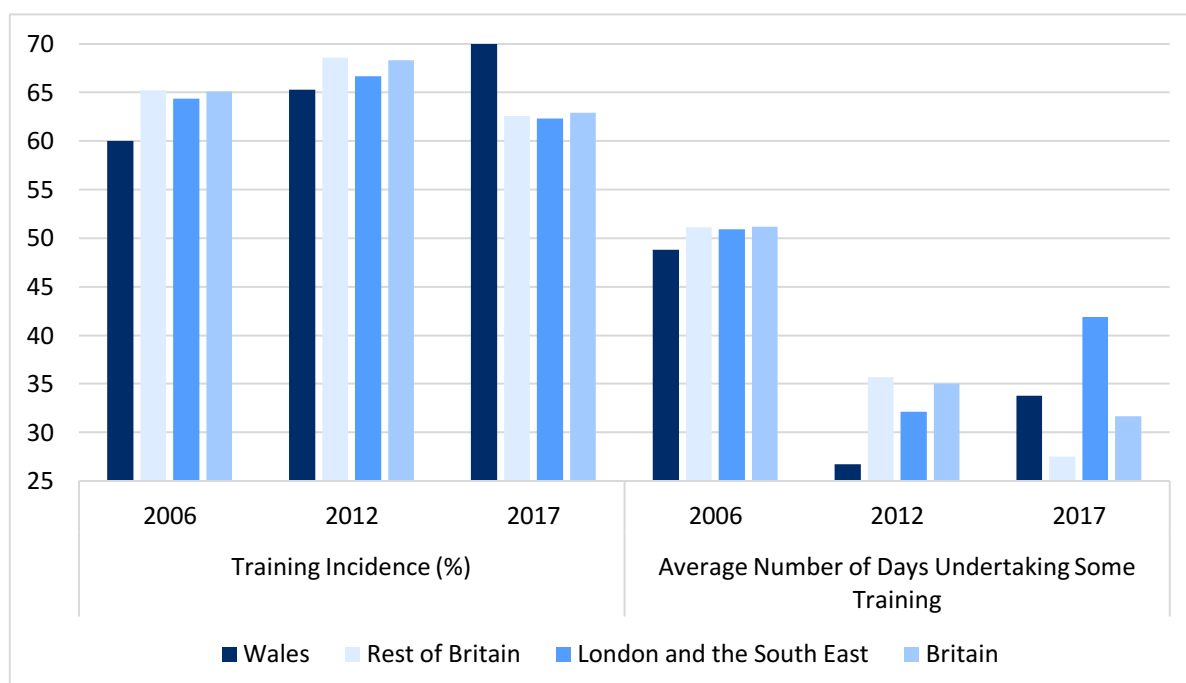
Training Incidence and Intensity

- 4.5 The three surveys examined in this report provide consistent data on several aspects of training. The incidence of training is captured, first, by whether or not workers participated over the previous year in each of several explicitly stated activities. Respondents to the 2006, 2012 and 2017 surveys were asked: 'In the last year (that is since [Month] 2017), have you done any of these types of training or education connected with your current job?' The card of options included the following: 'received instruction or training from someone which took you away from your normal job' (off-the-job); 'received instruction whilst performing your normal job' (on-the-job); 'taught yourself from a book/manual/video/computer/DVD/internet' (self-taught); 'followed a correspondence or Internet course (such as Open University (at a distance))'; 'taken an evening class' (out of hours class); 'done some other work-related training' (other work related); and 'none of these'. Using this information, we calculate the training incidence rate; that is, the proportion of respondents who said that they had taken part in any of these types of training in the year immediately before interview. It must be remembered, therefore, that the training used here takes a wider conception

of 'training' and captures activity over a longer time period than other data sources such as the LFS. The data are not therefore comparable.

4.6 The results show that the incidence of training in Wales has risen by around five percentage points between each of the three surveys with 70 per cent of respondents in Wales participating in training in the last year in 2017 (see Figure 4.1). This compares to a rise in training incidence across Britain between 2006 and 2012 followed by a fall in 2017.

Figure 4.1: Training Incidence and Intensity: Britain, 2006-2017



4.7 However, training incidence counts engagement with an activity, but it does not capture the intensity of the involvement. Respondents to the three surveys reported here were asked the number of days on which training activities took place. Here, we focus on participation in 'long training', defined as training that took place on 10 days or more in the previous year, 'short training' that happens on less than five days a year and estimates of the continuous number of days experiencing one or other of the training activities outlined above. These results show a fall in the average intensity of training activity across Britain, falling from 51 days in 2006, to 35 days in

2012 and a further fall to 32 days in 2017. Despite a higher and rising incidence of training in Wales, as elsewhere the intensity of training in Wales during 2017 is lower than that observed during 2006, although it has increased slightly since 2012 (see Figure 4.1). This is in line with other evidence based on the LFS which suggests that training intensity has fallen much faster than training incidence over the last two decades and that focusing on incidence alone can be misleading (Green *et al.*, 2016).

- 4.8 However, it should also be pointed out that these intensity estimates are high. This stems from the all-inclusive nature of the questioning and the fact that respondents were asked to report the number of separate days they were involved in each of the training activities they reported.
- 4.9 Training incidence and intensity is higher for some socio-economic groups than it is for others. Younger people, those with higher qualifications, occupants of higher skilled jobs and those who work in the public sector are the strongest beneficiaries (see Table 4.1). However, those residing in South West and Mid Wales get less.

Training Quality

- 4.10 Capturing the quality of training is more problematic. We do so here by examining multiple indicators covering how workers experienced their training. While no one indicator alone should be relied upon, collectively they are informative about perceptions of whether and how far skills have been improved through the training.
- 4.11 Indicators applying to the latest training spell including the following:
- whether the training 'improved my skills' 'a lot' as opposed to 'a little' or 'not at all';
 - whether the training was certified (that is, leads to a qualification);
 - whether the training 'made you think harder about different ways of doing your job' ('a great deal' or 'quite a lot');

- whether the training 'gave you more independence in how you do your job' ('a great deal' or 'quite a lot').

4.12 Indicators applying to all training through the year including the following:

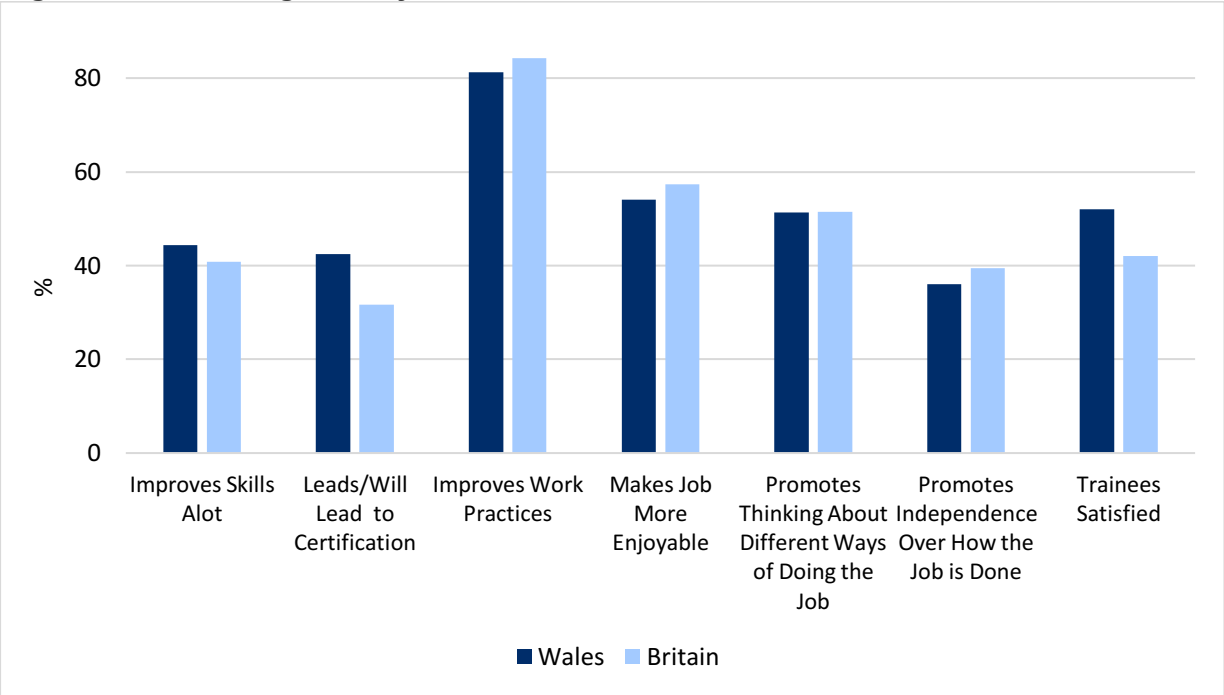
- whether the training 'helped me improve the way I work';
- whether the training 'made me enjoy my job more'.

Table 4.1: Training Incidence and Intensity by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Training Incidence (%)	Short Training (%)	Long Training (%)	Average Number of Days Undertaking Some Training
<i>1. Gender</i>				
Men	60.7	29.3	32.4	38.2
Women	68.1	33.5	32.8	40.8
<i>2. Age</i>				
20-34	70.2	27.6	42.0	57.9
35-49	63.6	32.2	31.5	32.9
50-65	58.9	34.6	25.0	29.7
<i>3. Highest Qualification</i>				
Level 4 and above	80.4	25.2	44.2	53.4
Levels 3 and 2	60.2	33.9	30.3	37.9
Level 1 and below	39.5	49.1	14.3	14.9
<i>4. Occupation</i>				
Top 3 SOC's	78.3	24.1	43.8	55.0
Middle 3 SOC's	65.0	34.8	32.6	37.9
Bottom 3 SOC's	43.2	44.4	17.1	19.6
<i>5. Sector</i>				
Public and not for profit	80.7	32.8	39.3	46.5
Private	54.4	30.4	28.6	35.2
<i>6. Industry</i>				
Production	54.0	25.6	28.2	38.8
Services	67.4	33.5	33.8	39.5
<i>7. Regional Skills Partnership</i>				
North Wales	65.6	29.4	33.4	46.6
South West & Mid Wales	60.1	34.5	27.9	29.7
South East Wales	67.0	30.3	36.3	43.1
<i>All</i>	64.2	31.4	32.6	39.4

4.13 Despite there being recorded differences between Wales and Britain as a whole (in favour of Wales) in terms of the incidence and intensity of training, there is little variation in the outcomes of training. On some counts, training in Wales is rated better (e.g. in terms of trainee satisfaction), while on other counts – such as making the job more enjoyable – it is rated poorer than in Britain as a whole. In most cases, the differences are modest, but trainee satisfaction and certified training are both significantly higher in Wales than in Britain as a whole (see Figure 4.2).

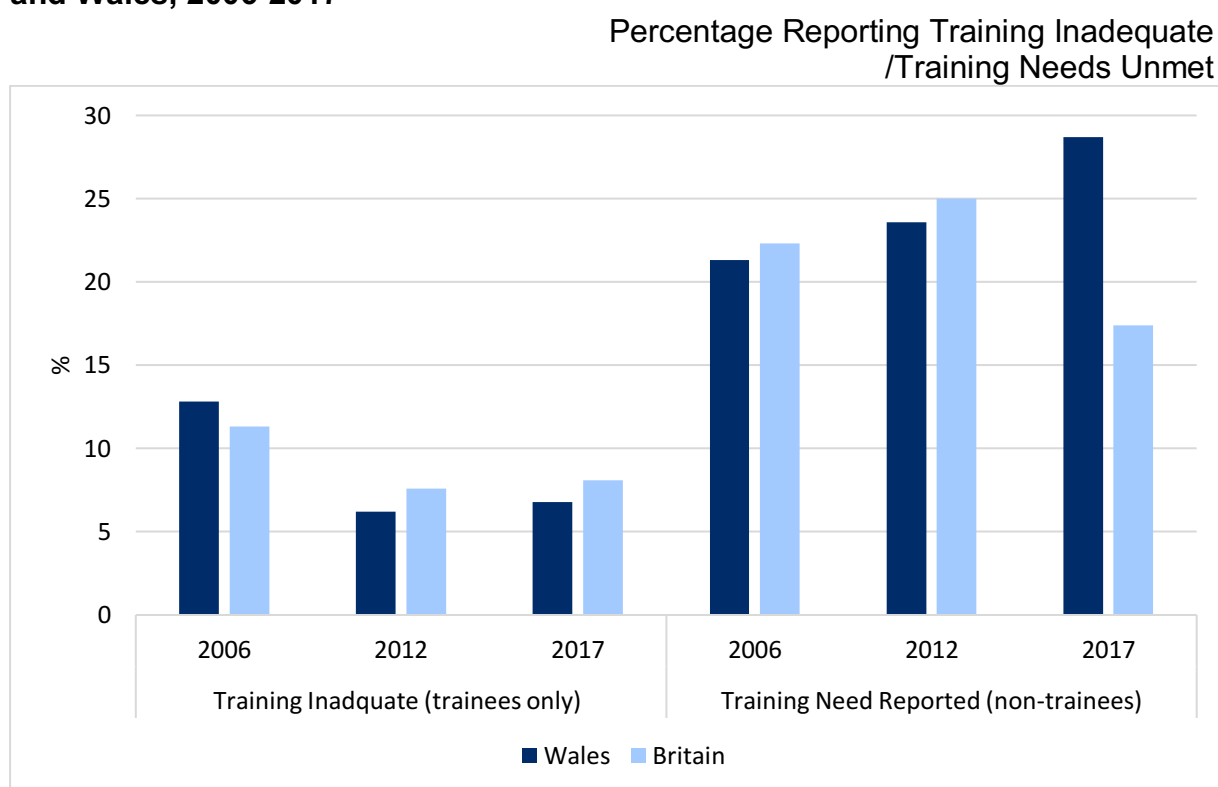
Figure 4.2: Training Quality: Britain and Wales, 2017



4.14 Another approach is to examine whether trainees thought that the training they received was ‘up to the job’ or adequate for their needs. To assess this, the surveys asked trainees (which equates to around two-thirds of the sample in all three waves): ‘Was the training you received over the last year in your current job adequate for keeping up to date with the skills required’. Those who had not undertaken training were asked: ‘Was there any time over the last year in your current job when training would have been useful for keeping up to date with the skills required’. Figure 4.3 presents the

results. Again, this suggests that despite the falling intensity levels, proportionately fewer trainees reported that the training they received was inadequate. However, in Wales a growing proportion of non-trainees were reporting a growing need for training – an eight percentage point rise between 2006 and 2017. However, it is unclear from the survey question whether this training need had or had not been communicated to the employer.

Figure 4.3: Trainee and Non-trainee Assessment of Available Training: Britain and Wales, 2006-2017



Learning at Work

- 4.15 It is increasingly becoming recognised that learning can take on many forms at the workplace well beyond traditional training events and activities. This includes other forms of learning activity – such as watching, listening and learning from others – which can only be undertaken on an on-going basis as an active participant in the workplace (Felstead *et al.*, 2005 and 2009; Boreham *et al.*, 2002; Fuller and Unwin, 2004). To gauge this form of

learning, respondents were asked whether they strongly agreed, agreed, disagreed or strongly disagreed with a number of statements. These included: 'My job requires that I keep learning new things'; 'My job requires that I help my colleagues to learn new things'; and 'I am able to learn new skills through working with other members of my work group' (asked of those who worked in teams). Here, we report the proportions who 'strongly agreed' with these statements.

- 4.16 In 2017 around two-fifths (40 per cent) of Welsh respondents strongly agreed that their job required them to learn on an on-going basis. An identical proportion (40 per cent) strongly agreed that they were required to help others acquire new skills. Learning from others was also a key feature of team working with two-fifths (40 per cent) of team members strongly agreeing that they learnt new skills from other members of their work group. These proportions have risen between 2006-2017, particularly in Wales (see Figure 4.4).
- 4.17 These forms of learning appear to favour those with high qualifications, those occupying high skilled jobs and those working in the public sector (see Table 4.2).

Figure 4.4: On-the-Job Learning Requirements of the Job: Britain and Wales, 2006-2017

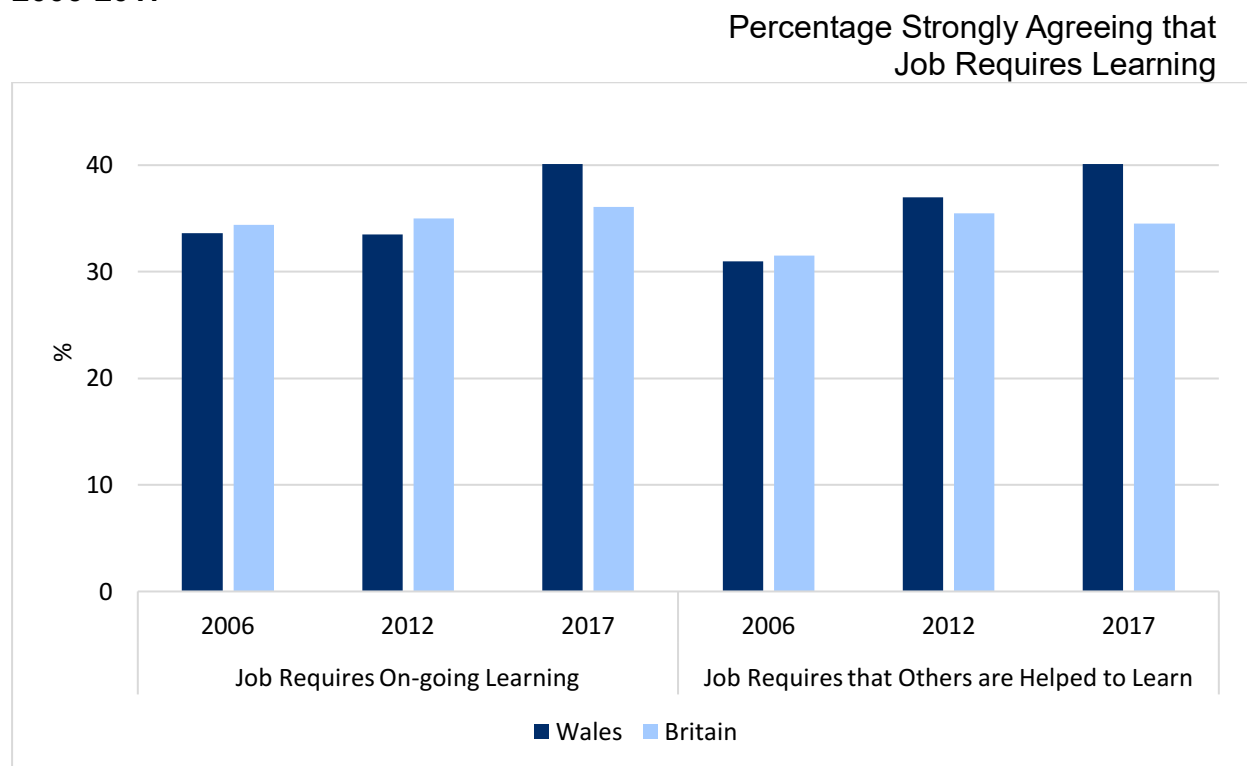


Table 4.2: Sources of On-the-Job Learning by Selected Socio-economic Characteristics: Wales, 2006-2017, Pooled

	Strongly Agree That:		
	Job Requires On-going Learning (%)	Job Requires that Others are Helped to Learn (%)	Job Requires Learning from Team Members ^a (%)
<i>1. Gender</i>			
Men	32.8	34.6	32.1
Women	38.4	35.6	26.8
<i>2. Age</i>			
20-34	38.1	34.7	32.2
35-49	36.9	36.9	31.3
50-65	31.1	33.1	23.1
<i>3. Highest Qualification</i>			
Level 4 and above	48.4	45.3	37.3
Levels 3 and 2	30.5	32.6	26.0
Level 1 and below	20.5	19.4	21.4
<i>4. Occupation</i>			
Top 3 SOC's	47.0	47.7	37.7
Middle 3 SOC's	37.4	30.4	30.7
Bottom 3 SOC's	17.0	23.2	18.4
<i>5. Sector</i>			
Public and not for profit	46.8	38.6	31.5
Private	29.0	33.0	28.1
<i>6. Industry</i>			
Production	32.1	33.4	28.0
Services	36.9	35.5	29.9
<i>7 Regional Skills Partnership</i>			
North Wales	31.4	29.0	25.8
South West & Mid Wales	38.5	35.0	28.3
South East Wales	35.4	39.1	32.9
<i>All</i>	35.5	35.1	29.5

Notes: ^a. Among those working where teams are present.

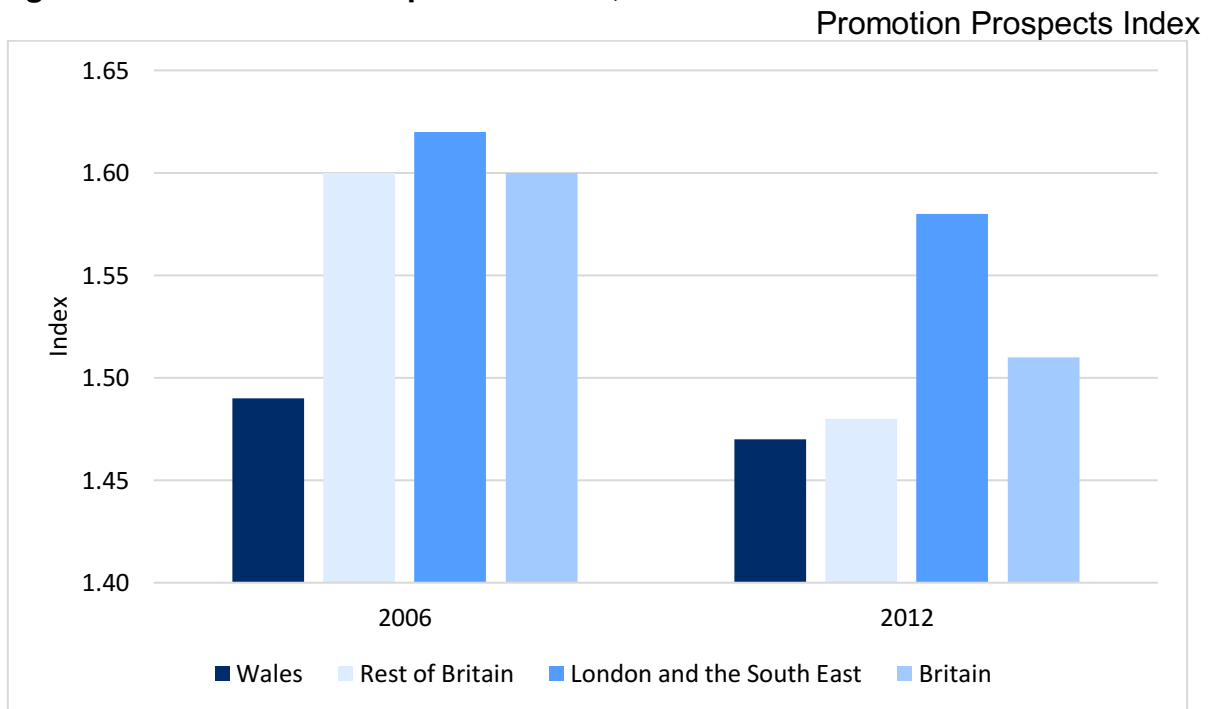
Promotion

- 4.18 A key aspect of good work or fair work is the opportunity for progression which training and learning may provide. Two of the three surveys analysed for this report (2006 and 2012) asked respondents: 'How high do you think *your* chances are of being given a significant promotion with your *present*

organisation in the next five years (assuming that you did want promotion)?' They were presented with five possible responses: '100 per cent/definite', '75 per cent/high chance', '50 per cent/fifty-fifty', and '25 per cent/low chance', and '0 per cent/no chance at all'. Those reporting that there was no chance at all that they might be promoted were asked whether this was because they were already in the highest type of job for people who do their sort of work. In order to summarise these results, we produce a Promotion Prospects Index which excludes those who cannot be promoted because they have reached the highest position possible. For this index, scores ranged from 0 to 4 with 4 indicating a definite chance of promotion.

- 4.19 The results show that promotion prospects are perceived to be poorer in Wales than in Britain as a whole. These results are presented in Figure 4.5. A fifth of workers (21 per cent) in Britain in 2012 rated their chances of promotion as very high, but in Wales it was three percentage points lower as illustrated by the much lower Promotion Prospects Index.

Figure 4.5: Promotion Prospects: Britain, 2006-2012



4.20 There is also variation within Wales according to socio-economic characteristics. Poorer promotion prospects were reported by older workers, those with low or no qualifications and those in lower skilled jobs as measured by occupational group (see Table 4.3).

Table 4.3: Chance of Promotion by Selected Socio-economic Characteristics: Wales, 2006-2012, Pooled

	Chance of Promotion			Promotion Index (excludes those in highest position)
	Already Highest Position Possible for Type of Work (%)	High Chance of Promotion (definite or high chance) (%)	No Chance of Promotion (%)	
<i>1. Gender</i>				
Men	20.5	21.8	19.7	1.52
Women	18.6	18.6	20.6	1.46
<i>2. Age</i>				
20-34	11.5	28.2	13.0	1.79
35-49	16.9	23.6	17.6	1.61
50-65	32.7	6.1	32.1	0.81
<i>3. Highest Qualification</i>				
Level 4 and above	17.7	22.6	15.3	1.62
Levels 3 and 2	20.2	19.6	18.9	1.49
Level 1 and below	21.7	17.0	31.6	1.22
<i>4. Occupation</i>				
Top 3 SOC's	18.7	25.6	13.0	1.72
Middle 3 SOC's	22.0	16.8	20.2	1.42
Bottom 3 SOC's	18.0	17.3	28.9	1.27
<i>5. Sector</i>				
Public and not for profit	14.9	18.2	20.0	1.45
Private	23.2	21.7	20.5	1.51
<i>6. Industry</i>				
Production	25.5	16.8	14.9	1.52
Services	17.7	21.3	21.5	1.49
<i>7 Regional Skills Partnership</i>				
North Wales	19.1	12.9	25.5	1.21
South West & Mid Wales	22.4	23.6	13.0	1.70
South East Wales	16.8	22.4	23.7	1.48
<i>All</i>	19.6	20.2	20.2	1.49

Summary of Findings

4.21 The report highlights the importance of going beyond focusing simply on the chances of getting training by also putting the spotlight on the length of training, the perceived utility by those in receipt of such training and the prevalence of other workplace learning opportunities.

- That said, the results show that the proportion of workers receiving training in the last year – known as the incidence of training – in Wales has risen by around five percentage points between each of the three surveys. This compares to a rise in training incidence across Britain between 2006 and 2012 followed by a fall in 2017.
- Despite a higher and rising incidence of training in Wales, the average length of time in training – referred to as the intensity of training – has fallen. This is in line with other evidence which suggests that training intensity across Britain has fallen much faster than training incidence over the last two decades and that focusing on incidence alone can be misleading.
- Training incidence and intensity is higher for some socio-economic groups than it is for others. Women, younger people, those with higher qualifications, occupants of higher skilled jobs and those who work in the public sector are the strongest beneficiaries. However, those residing in the South West and Mid Wales get less.
- Despite there being recorded differences between Wales and Britain as a whole (in favour of Wales) in terms of the incidence and intensity of training, the outcomes of training in terms of its perceived quality do not vary markedly.
- In 2017 around two-fifths of Welsh respondents strongly agreed that their job required them to learn on an on-going basis, a similar proportion said that they were required to help others acquire new skills and two-fifths of those who worked in a team strongly agreed that they were able to learn

new skills from other members of their work group. Since 2006 these proportions have risen more strongly in Wales than elsewhere.

- Findings from the 2006 and 2012 surveys indicated that promotion prospects are perceived by workers to be poorer in Wales than in Britain as a whole. A fifth of workers (21 per cent) in 2012 across Britain rated their chances of promotion as very high, but in Wales it was three percentage points lower. Promotion prospects were poorest among older workers, those with low or no qualifications as well as those in lower skilled jobs.

5. Productivity

Introduction

- 5.1 The latest figures for 2017 show that gross value added (GVA) per hour worked was highest in London and was 33 per cent above the UK average.⁸ The only other region with productivity above the UK average was the South East of England, with productivity 7 per cent above the UK average (ONS, 2019: Table A3). In Scotland, productivity in 2016 was marginally below the UK average (by 2 per cent), whilst in Wales and Northern Ireland, productivity was 16 per cent below the UK average.
- 5.2 The picture gets no better when patterns are examined within Wales by sub-region as defined by the European Union's Nomenclature of Units for Territorial Statistics (NUTS). There are 173 such NUTS3 sub-regions across the UK, 12 of these are in Wales. Productivity in all sub-regions in Wales is below the average for the UK. The sub-region with the highest level of labour productivity was Flintshire and Wrexham in North Wales, with a productivity level of 4 per cent below the UK average, followed by Central Valleys (Merthyr Tydfil and Rhondda Cynon Taf), at 6 per cent below the UK average. The lowest labour productivity performance is in the rural sub-region of Powys, with a productivity level 35 per cent below the UK average, the lowest level in the UK (ONS, 2019: Figure 12).
- 5.3 Welsh Government recognises the importance of productivity in its economic strategy, Prosperity for All: Economic Action Plan, with a total of 19 mentions. It also recognises the scale of the problem: 'Wales faces a productivity issue, with output per hour worked in Wales the lowest of all UK nations and regions' (Welsh Government, 2017a: 2).
- 5.4 This evidence reveals the scale of the problem (cf. HM Treasury, 2018; Haldane, 2018). However, most existing productivity studies are based on evidence which does not give the workers' perspective – compilations of

⁸ Note that figures in paragraphs 5.1 and 5.2 are based upon smoothed data to account for year on year variability of estimates.

different macro-level time series data, matching official productivity data with plant-level management surveys and polls of employer behaviour. Our approach is to survey workers in Britain in order to get a bottom-up, and complementary, perspective on what drives productivity and what could be done to spark its revival. However, these survey questions were only asked of respondents to the 2017 survey and so trend data cannot be provided. Instead each section of this chapter compares the drivers and obstacles to productivity growth in Wales with those in the Rest of Britain, London and the South East and Britain as a whole as reported in 2017. The chapter examines how these patterns vary within Wales by selected socio-economic characteristics. We also examine the various ways in which employees can (or cannot) make a difference to improving processes, products or services as well as providing estimates of what impact employees' ideas have had. In addition, the chapter considers the scale of any drag on productivity stemming from the provision of poor tools, equipment and/or a badly organised work process. The penultimate section of the chapter focuses on what future changes would make employees more productive as well as an estimate of what impact these changes would make to respondents' own productivity. The final section of the chapter provides a short summary of the chapter's main findings.

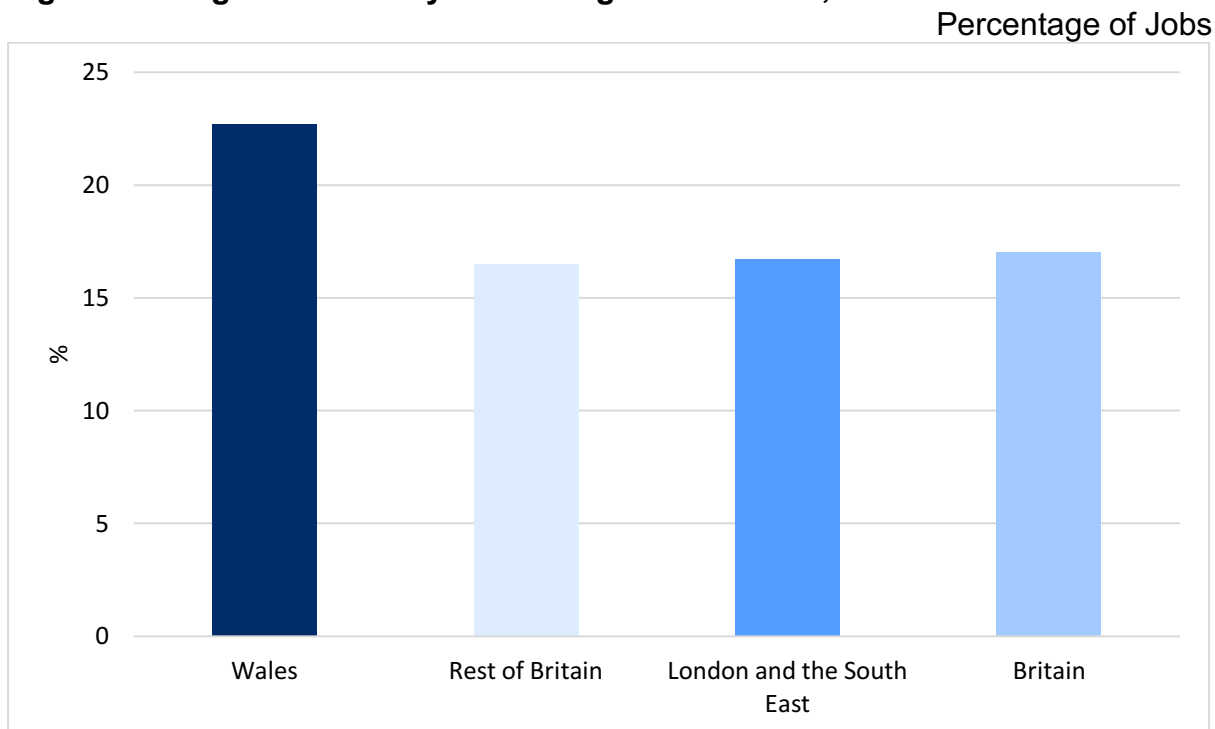
Existing Sources of Productivity Growth

5.5 SES2017 provides new, and previously uncollected, data on five sources of productivity growth as reported by employee respondents (the self-employed are excluded from the analysis) (see also Felstead *et al.*, 2018). First, employees who had been in the same job with the same employer for at least one year were asked whether they had ever – individually or as part of a work group – ‘taken the initiative in making improvements to work processes, products or services’ in their current job. If they had, they were asked if they had done so once or more often. Those answering more than once are referred to as occupying initiative taking jobs.

- 5.6 Second, data were collected on the extent to which innovation is built into jobs. To capture this, all respondents were asked how important three aspects of work were to their jobs: ‘keeping up-to-date and applying new knowledge’; ‘developing new or improved work processes, products or services’; and ‘developing plans to put new ideas into practice’. We define innovation-rich jobs as those where employees said that these three aspects of work were, on average, ‘essential’ to their jobs.
- 5.7 To capture employees’ ideas, employers sometimes set up formal mechanisms to collect their views about how to improve work processes, products or services. Therefore, those taking part in problem-solving groups and management consultation meetings were asked what contribution employees’ views had made. Responses were collected on a four-point scale. We define high impact as those who said that these views contributed ‘a great deal’ to improvements. These questions were restricted to employees who had been in the same job with the same employer for at least one year, thereby giving respondents a reasonable time period over which to make such judgements. They are the third and fourth source of productivity growth, referred to here as high impact groups and high impact consultations respectively.
- 5.8 Fifthly, employees may individually make suggestions. The survey, therefore, asked if respondents had ‘made suggestions to the people you work with, or to your managers, about ways of improving the efficiency with which work is carried out’ over the last year. If so, they were asked to estimate – in their opinion – the scale of the impact. Here, we report the proportion of employees who said that these suggestions made a ‘great deal’ of difference, labelled here as high impact suggestions. These judgements are, of course, speculative and are subject to social desirability bias. This applies to all of the five indicators. That said, all five indicators – averaged at the 2-digit industry level – correlate positively and significantly with logged industry variations in ONS productivity data for 2017 (Felstead *et al.*, 2018).

- 5.9 Ideas that may enhance productivity could therefore come from a number of sources. The development of ideas may be an in-built feature of the job, they may be the result of initiative taking by employees, they may arise from on-the-job suggestions made to colleagues and/or they may come through problem-solving groups and consultation meetings with management. To summarise these five sources of productivity growth, we create an index which counts the number of affirmative responses. The resulting index ranges from 0 to 5 and we take scores of 3 or more as an indicator of high productivity enhancing jobs, scores of 1 or 2 to indicate medium capacity to enhance productivity and scores of 0 as low capacity. The recall periods and survey sub-samples used for the different sources of productivity growth vary. One of the sources is based on a question which asks respondents to recall activity over the last year and three are based on questions asked of employees who have been in the same job with the same employer for at least one year. For consistency, therefore, the productivity enhancing index and three binary job indicators are based on a sub-sample of employees who have been in the same post for one year or more.
- 5.10 Using the summary measure of high productivity enhancing jobs, it is evident that Welsh workers perceive themselves to have made more impactful productivity enhancing interventions than those in other parts of Britain. There is a six percentage point gap between jobs in Wales which are classed as high productivity enhancing and the British average (see Figure 5.1).

Figure 5.1: High Productivity Enhancing Jobs: Britain, 2017



5.11 Analysis for Wales (see Table 5.1) suggests that the young, those with higher qualifications, those occupying more skilled jobs and those who work in services or who are employed in the public sector are more likely to be in high productivity enhancing jobs. The 2017 survey suggests that those living in South West and Mid Wales are least likely to occupy such high productivity enhancing jobs.

Table 5.1: Sources of Productivity Growth: Wales, 2017

	Initiative-taking Jobs	Innovation-rich Jobs	High Impact Groups	High Impact Consultations	High Impact Suggestions	High Productivity Enhancing Jobs
<i>1. Gender</i>						
Men	76.0	30.1	21.6	9.4	14.6	22.6
Women	82.2	33.5	20.6	13.2	12.4	23.0
<i>2. Age</i>						
20-34	62.3	34.8	24.3	10.7	6.9	29.3
35-49	86.0	31.7	17.3	9.5	16.3	20.8
50-65	82.1	28.8	22.8	13.3	17.1	21.1
<i>3. Highest Qualification</i>						
Level 4 and above	90.5	42.6	33.2	15.9	19.2	36.1
Levels 3 and 2	73.2	26.0	12.6	6.5	9.4	13.3
Level 1 and below	51.0	11.3	8.2	14.0	6.1	5.4
<i>4. Occupation</i>						
Top 3 SOC's	90.1	49.3	28.8	15.6	20.9	33.5
Middle 3 SOC's	83.8	28.1	17.0	9.5	12.3	20.4
Bottom 3 SOC's	54.2	11.7	13.6	6.3	4.5	7.3
<i>5. Sector</i>						
Public and not for profit	89.9	38.9	29.7	14.6	16.1	27.6
Private	72.4	27.7	16.1	9.3	12.1	20.0
<i>6. Industry</i>						
Production	79.3	26.3	10.0	13.1	12.3	19.4
Services	78.7	33.2	25.2	10.7	14.0	24.2
<i>7. Regional Skills Partnership</i>						
North Wales	77.5	32.1	29.4	11.1	18.8	23.0
South West & Mid Wales	75.5	32.5	13.6	10.2	15.0	16.5
South East Wales	81.8	31.3	22.7	11.9	10.7	26.7
<i>All</i>	79.0	31.8	21.1	11.3	13.5	22.7

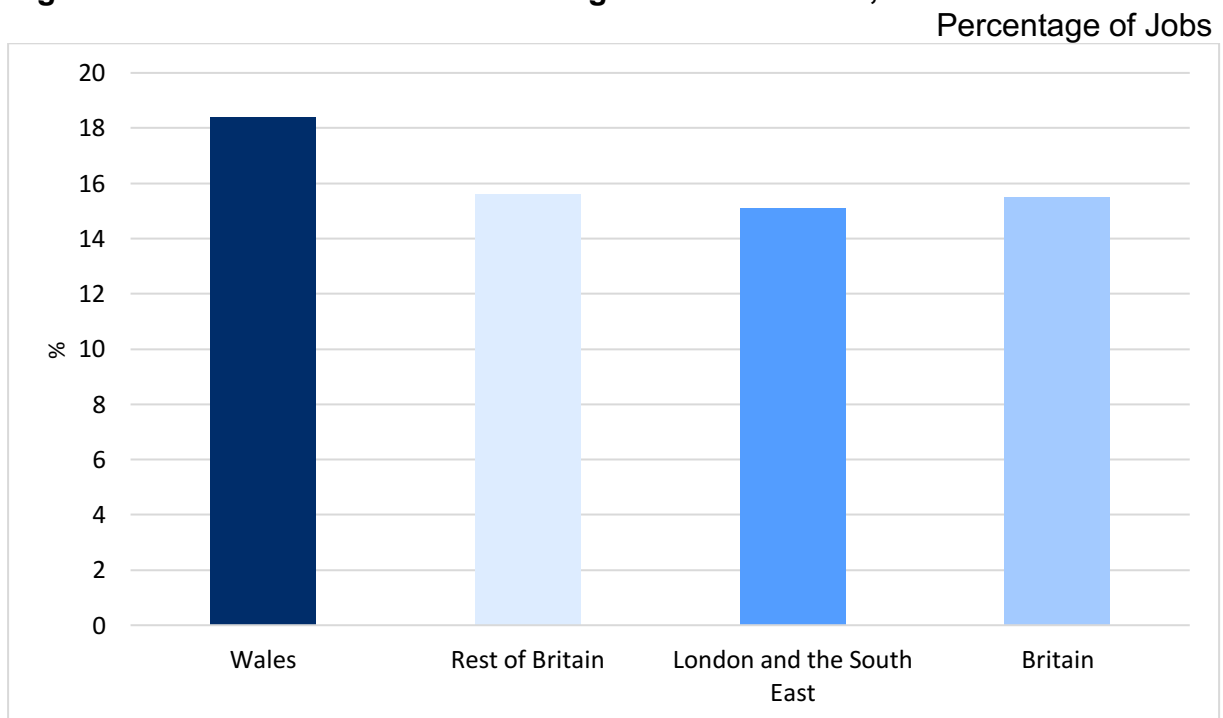
Note: The High Productivity Enhancing Jobs column is based on the responses to the previous five columns – see paragraph 5.10.

Tools, Equipment and Work Organisation

- 5.12 However, despite having good ideas if workers are equipped with poor tools equipment and/or a badly organised work process, these ideas are unlikely to result in an increase in productivity. Rather it may be a case of workers

making the best of a bad job. To get a sense of this drag on productivity, the 2017 survey asked respondents: ‘Do you agree or disagree that at your workplace you have the right equipment to do your job efficiently?’ A four-point response was offered. Respondents were also asked: ‘At your workplace, how well is work organised to enable you to work efficiently?’ A four-point response scale of ‘very well organised’, ‘quite well organised’, ‘quite poorly organised’ and ‘very poorly organised’ was offered. Those who reported that they did not have the right equipment (i.e. disagreed with the statement) and/or said that their work was poorly organised are classified as operating with poor tools and/or work organisation. Workers in Wales were more likely to report having poorer jobs in this respect – approaching a fifth (18 per cent) of employees were in this situation compared to the British average of 16 per cent (see Figure 5.2).

Figure 5.2: Poor Tools and/or Work Organisation: Britain, 2017



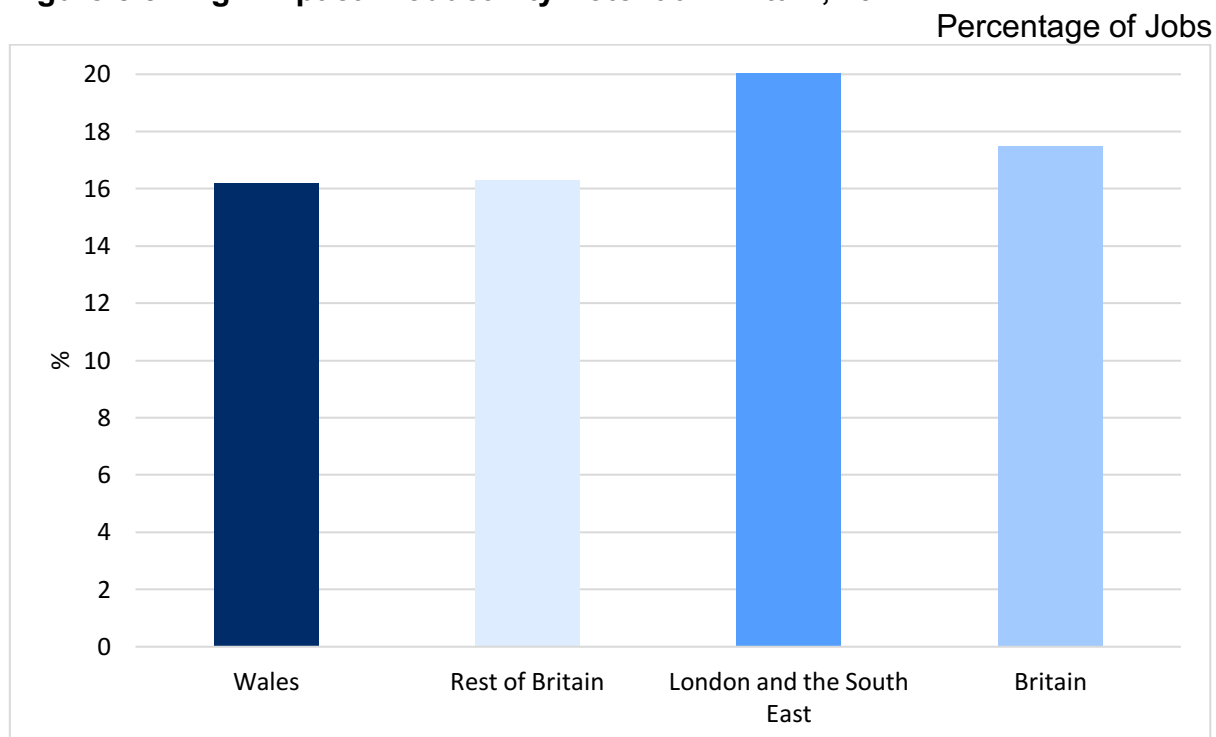
Workers’ Ideas of Potential Productivity Enhancements

5.13 Employees were also asked: ‘What changes, if any, would make you personally more productive in your current job?’ and ‘what impact would

these changes have?’ They were offered a four-point response scale with the top category ‘a great deal more productive’. This response is taken to indicate a high impact productivity potential. We split the remainder in two. Those who reported changes that would make them ‘quite a lot’ or ‘somewhat more productive’ are defined as in jobs which offered medium impact productivity potential. However, employees who failed to identify any changes or else ones which would only make them ‘a little more productive’ were in jobs with low impact productivity potential. The survey question, therefore, provides future-orientated data unlike the backward-looking questions reported earlier. For the purposes of simplicity, we report those who offered high impact productivity potential suggestions.

- 5.14 Across Britain around a fifth (18 per cent) of employees identified changes with high impact productivity potential. However, two-fifths (42 per cent) were not able to identify any changes at all. The proportion identifying changes with high impact productivity potential was not noticeably different in Wales (see Figure 5.3), as was the proportion who were not able to identify any changes at all (43 per cent in Wales versus 42 per cent in Britain as a whole).

Figure 5.3: High Impact Productivity Potential: Britain, 2017



5.15 Proportionately more women than men reported making future orientated productivity enhancing suggestions as did those with higher qualifications as well as those working in higher skilled occupations, the public sector and service-orientated jobs (see Table 5.2).

Table 5.2: High Productivity Enhancement Potential: Wales, 2017

	High Productivity Enhancement Potential (%)
<i>1. Gender</i>	
Men	11.3
Women	21.2
<i>2. Age</i>	
20-34	14.0
35-49	16.6
50-65	18.1
<i>3. Highest Qualification</i>	
Level 4 and above	19.2
Levels 3 and 2	15.5
Level 1 and below	7.5
<i>4. Occupation</i>	
Top 3 SOC's	24.5
Middle 3 SOC's	15.4
Bottom 3 SOC's	5.0
<i>5. Sector</i>	
Public and not for profit	20.6
Private	13.6
<i>6. Industry</i>	
Production	6.3
Services	19.0
<i>7. Regional Skills Partnership</i>	
North Wales	15.6
South West & Mid Wales	13.1
South East Wales	18.5
<i>All</i>	16.2

5.16 We also collected verbatim responses on the nature of the suggested changes. Suggestions were many and varied, specific and general. These included the following from across Wales:

- 'If I didn't have an interfering colleague and if my team was better structured. I think I could have greater responsibility and more training. There's more potential there' (50 year old female administrator working for a social housing association).

- ‘More involvement in decision making, which would save time and make things better’ (63 year old male process supervisor working for a gas importer).
- ‘Returning to strategic clinical management and a balanced approach to clinical governance as opposed to a target driven culture – greater professional autonomy is needed’ (59 year old female speech and language therapist working for the NHS).
- ‘Not to be constrained by strange ideas about jobs from directorate’ (58 year old female senior lecturer working in a university).
- ‘Management working on the ward to experience how the job is done’ (42 year old female nurse working in an NHS funded nursing home).
- ‘More time in work to do training, rather than doing it after work in own time’ (33 year old male data infrastructure specialist working for a facilities management company).

Summary of Findings

5.17 These findings offer the workers’ perspective on the productivity debate in Britain, but more particularly for the purposes of this report they offer new insights for Wales. It is recognised that poor productivity performance in Wales weakens living standards, hence its frequent mention in policy documents such as *Prosperity for All: Economic Action Plan* (Welsh Government, 2017a).

- One of the main messages of the 2017 results is that relatively poor productivity performance in Wales cannot be put down to lack of engagement with workers and getting their ideas.
- High productivity enhancing jobs – those which get workers ideas about how to improve work processes, products or services, and which are reported to make a great deal of differences – are more rather than less prevalent in Wales than in Britain as a whole. Approaching a quarter of

jobs (24 per cent) in Wales are high productivity enhancing compared to well below a fifth (17 per cent) of jobs in Britain as a whole.

- That said, employees in Wales are poorer equipped both in terms of the tools they have to work with and the organisation of the work process. In 2017, approaching a fifth (18 per cent) of employees in Wales reported having to cope with inadequate tools and equipment and/or poor work organisation compared to less than a sixth (16 per cent) of employees in Britain.

6. Fairness, Support and Organisational Commitment

Introduction

- 6.1 The goal of making Wales a fair work nation has enshrined the notion of fairness in Welsh Government policy thinking. This is reflected in many policy documents where frequent reference is made to fairness and in actions taken such as the setting up of the Fair Work Commission.⁹ There are two main aspects to this concept. The first is that workers feel that they receive just payment for their efforts. If pay varies, but not on the basis of the efforts and the quality of the outputs produced, then feelings of unfairness are likely to arise as the principle of a ‘fair day’s work for a fair day’s pay’ is violated. Large and persistent gender pay gaps suggest that violation of this principal is widespread. This type of unfairness has prompted action by the UK government. Under the *Equality Act 2010 (Gender Pay Gap Information) Regulations 2017* all large organisations have to report and publish a specific set of figures about the gender pay gap in their organisations. Closing the gender pay gap is also a policy goal of the Welsh Government and is one of the 46 well-being indicators used to assess its progress in tackling this type of unfairness (Welsh Government, 2016a). Furthermore, interventions such as the government’s National Living Wage and the independently set Real Living Wage place a floor below which wages should not fall by law and voluntary agreement respectively. These interventions institutionalise what is regarded as fair reward (Heery *et al.*, 2017).
- 6.2 The second aspect of fairness focuses on the consistent and even-handed use of procedures in decision making. This is important because it affects the extent to which employees feel protected from arbitrary decision making

⁹ The [Fair Work Commission](#) was established in July 2018 by the former First Minister to make recommendations on fair work. Its purpose is to consider what the Welsh Government could be doing to promote fair work employment practices across Wales, develop indicators and measures of fair work, and identify data sources to help monitor progress.

and hence guards them against unwarranted and unfair treatment. Treating employees with respect and understanding their needs and abilities through supportive management also reinforces the notion of fair treatment at work. Other aspects of fair employment practices, often referred to as good work, are considered in the chapters which follow (cf. Taylor, 2017; HM Government, 2018).

6.3 Newly introduced questions to the Skills and Employment Survey 2017 allow us to gain an insight into the procedural aspect of fairness and related issues. As with the productivity questions reported in the previous chapter, we cannot track trends in the responses given. Instead in each section of the chapter, we compare what we find in Wales to the situation in the Rest of Britain, London and the South East and Britain as a whole. The chapter also examines how these patterns vary within Wales by selected socio-economic characteristics. The following section examines patterns of procedural fairness strictly defined. The chapter also considers the level of respect employees are shown by their superiors and the level of managerial support employees are offered at work. The penultimate section of the chapter examines some of the possible outcomes of fairness at work such as reduced employee turnover and heightened levels of organisational commitment. The final section of the chapter provides a short summary of the chapter's main findings.

Fairness

6.4 Rather than focus on specific issues (such as pay) the Skills and Employment Survey 2017 provides an overall measure of organisational fairness. It asks respondents to what extent they agree or disagree with three statements. These are:

- 'Overall I am treated fairly by my organisation';
- 'For the most part, this organisation treats its employees fairly';
- 'Most of the people who work in your organisation would say that they are often treated unfairly' (this was reverse scored in the analysis).

- 6.5 These three items tap perceptions of fairness in different ways. The first focuses on the individual's experience of their personal treatment by the organisation, the second on their own perception of the treatment of employees in general and the third on their perception of others' views about fairness. Respondents were offered a five-point response option ranging from strongly agree to strongly disagree. To summarise we scored the responses given from 0 to 4 with 4 being strongly agree and therefore indicating the highest level of organisational fairness. From this we created an index ranging from 0-4.¹⁰
- 6.6 The results are presented in Table 6.1. They show that employees are most likely to consider the organisation fair in its treatment of themselves (35 per cent) and least likely in their reports on how others viewed the organisation (23 per cent). The results for Wales stand out in that levels of perceived fairness here are much higher than elsewhere with a six percentage point gap for individual fair treatment and a five percentage point gap for the fair treatment of others. However, there was little variation by selected socio-economic characteristics, apart from those in the South West and Mid Wales reporting even higher levels of perceived organisational fairness.

¹⁰ These items were estimated to be highly correlated, with the Cronbach's alpha of 0.80 for the combined index being above the recommended level of 0.70.

Table 6.1: Fairness at Work: Britain, 2017

	Percentage Strongly Agree That:			Fairness Index
	I am treated fairly	Other employees are treated fairly	Other employees think the organisation is fair	
Wales	40.4	32.8	23.3	3.01
Rest of Britain	34.8	28.5	23.2	2.97
London and the South East	33.3	24.8	23.1	2.93
Britain	34.6	27.7	23.0	2.96

Respect and Managerial Support

6.7 Another aspect of fairness is how immediate superiors treat those in their charge, both in terms of the level of respect they give and the level of help or support they are offered. When done well, this makes employees feel safe as well as valued at work and generates business benefits (see below). To tap into these feelings, we asked respondents: ‘To what extent do you agree or disagree that your immediate boss respects you as a person?’ Respondents were asked to choose one of four options shown on a card: ‘strongly agree’, ‘agree’, ‘disagree’ or ‘strongly disagree’. To summarise the response, we allotted scores of 0-3 depending in the answer given with strongly agreed scored as 3. Once again, the results suggest that fair employment practices in Wales are perceived to be more prevalent than elsewhere. Approaching three out of five employees (56 per cent) in Wales strongly agree that their immediate boss treats them with respect compared to less than one in two employees (47 per cent) in Britain as a whole with ten percentage points separating Wales and London and the South East (see Table 6.2).

Table 6.2: Respect at Work: Britain, 2017

	Percentage Strongly Agree That: Immediate boss respects worker	Respect Index
Wales	56.2	2.48
Rest of Britain	47.3	2.39
London and the South East	46.1	2.34
Britain	47.4	2.38

6.8 The survey also asked employees about the help and support they received from line managers in terms of:

- ‘enabling you to learn how to do your job better’;
- ‘supporting you when you are under pressure’;
- ‘recognising the extent of your abilities’.

6.9 For these questions, respondents were asked to choose from the following: ‘a great deal of help’; ‘quite a lot of help’; ‘of some help’; ‘a little help’; and ‘of no help at all’. These three items are summarised in the Managerial Helpfulness Index with responses scored as 0-4 according the level of reported helpfulness.¹¹

6.10 The results are shown in Table 6.3. Once again, the results for Wales stand out with much higher levels of reported managerial support. Over a third of employees in Wales report that their manager is helpful in a number of ways compared to just over a quarter of employees in Britain as a whole.

¹¹ These three items have high inter-correlations and have a Cronbach’s alpha of 0.88 which suggest they provide a good measure of an underlying common concept.

Table 6.3: Managerial Support at Work: Britain, 2017

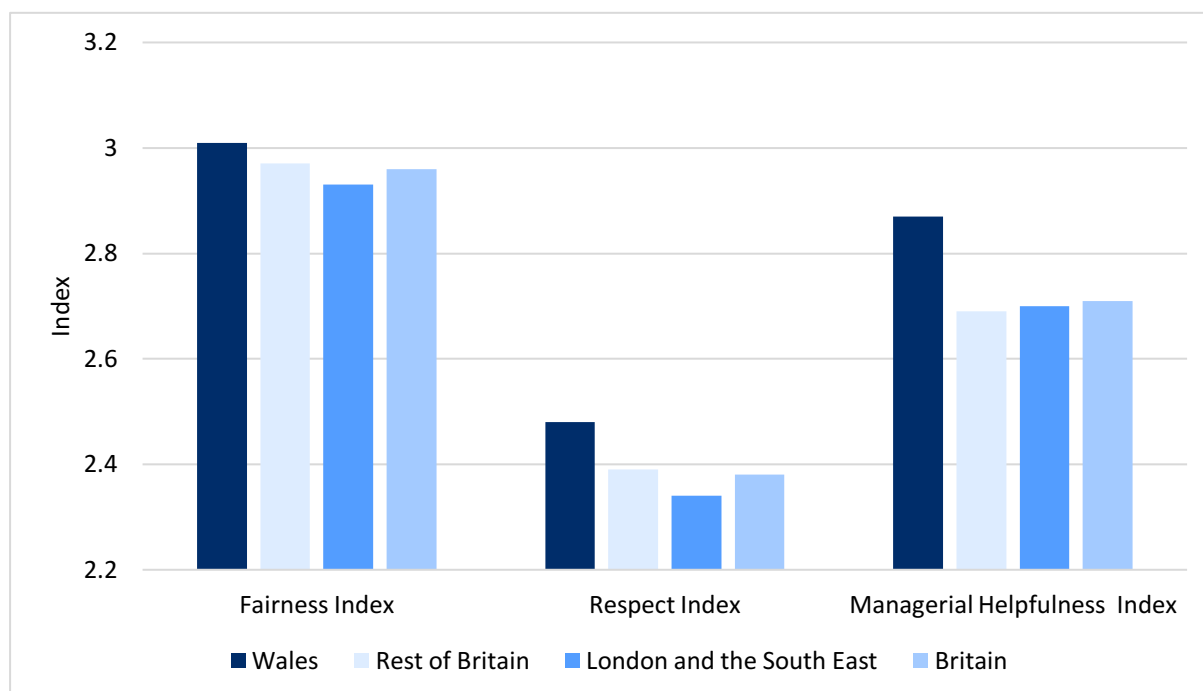
	Manager is a Great Deal of Help in:			Managerial Helpfulness Index
	Enabling you to learn how to do your job better (%)	Supporting you when you are under pressure (%)	Recognising the extent of your abilities (%)	
Wales	37.3	36.7	37.0	2.87
Rest of Britain	25.7	28.2	28.1	2.69
London and the South East	25.1	22.7	24.2	2.70
Britain	26.2	27.3	27.5	2.71

- 6.11 However, while patterns vary within Wales, the results for different Welsh socio-economic groups is – without exception – above the average for Britain as a whole (cf. Table 6.3 with Table 6.4). That said, there are some variations within Wales. So, the young, the better qualified, the more skilled (as measured by occupational group) and those working in services and/or the public sector report higher levels of managerial support than their respective comparators (see Table 6.4).
- 6.12 Figure 6.1 further serves to highlight that Wales does seem to be exceptional with its businesses treating workers better than those who work elsewhere in terms of our indices of fairness, respect and managerial support. All three indices are higher than the British average and in two out of three cases there are much higher than they are for those who work in London and the South East.

Table 6.4: Managerial Support at Work: Wales, 2017

	Manager is a Great Deal of Help in:			Managerial Helpfulness Index
	Enabling you to learn how to do your job better (%)	Supporting you when you are under pressure (%)	Recognising the extent of your abilities (%)	
<i>1. Gender</i>				
Men	35.1	30.4	37.6	2.83
Women	39.5	43.3	36.4	2.91
<i>2. Age</i>				
20-34	46.5	45.5	38.1	3.08
35-49	33.0	34.4	36.9	2.87
50-65	32.4	30.2	36.0	2.65
<i>3. Highest Qualification</i>				
Level 4 and above	36.9	36.4	39.5	2.94
Levels 3 and 2	36.3	36.0	33.0	2.81
Level 1 and below	40.9	38.6	41.4	2.79
<i>4. Occupation</i>				
Top 3 SOC's	34.4	35.6	37.4	2.97
Middle 3 SOC's	36.5	38.3	36.1	2.86
Bottom 3 SOC's	42.1	36.6	37.5	2.74
<i>5. Sector</i>				
Public and not for profit	36.4	36.5	35.1	2.95
Private	37.9	36.9	38.3	2.82
<i>6. Industry</i>				
Production	34.5	30.5	37.6	2.77
Services	38.3	38.8	37.0	2.90
<i>7. Regional Skills Partnership</i>				
North Wales	29.9	30.0	33.9	2.70
South West & Mid Wales	35.6	39.7	34.3	2.85
South East Wales	40.9	37.1	39.8	2.94
<i>All</i>	37.3	36.7	37.0	2.87

Figure 6.1: Fairness, Respect and Managerial Support: Britain, 2017

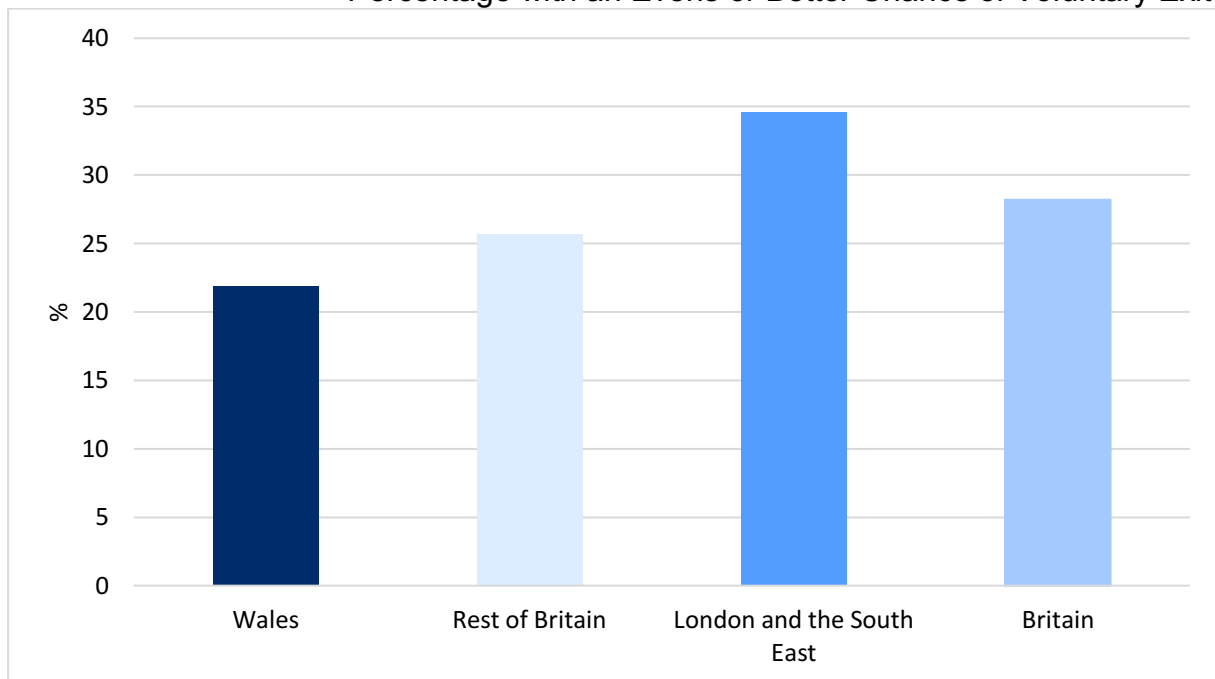


Voluntary Exit and Organisational Commitment

6.13 The results in this chapter suggest that procedural fairness is higher in Wales than elsewhere. This section examines some of the beneficial effects this may have, albeit at a descriptive level. Voluntary exit, for example, is lower in Wales than elsewhere. Respondents were asked: ‘How likely are you to *voluntarily* leave your current employer in the next 12 months?’. The word *voluntarily* was emphasised in the question in order to get respondents to think about their own intentions regardless of their employers’ plans and/or the state of the business. Respondents were given five response options: ‘very likely’, ‘quite likely’, ‘evens’, ‘quite unlikely’ and ‘very unlikely’. For the purposes of presentation, we focus on those who said that they had an evens or better chance of voluntarily leaving their employer. In line with the results so far presented in this chapter, employees in Wales reported that they were less likely to leave their current employment voluntarily. There is an eight percentage point gap between the proportion of employees in Wales reporting an evens or better chance of voluntary exit and the proportion in Britain as a whole (see Figure 6.2).

Figure 6.2: Voluntary Exit: Britain, 2017

Percentage with an Evens or Better Chance of Voluntary Exit



6.14 Greater fairness, respect and managerial support is also likely to be associated with higher levels of organisational commitment which is formally defined as ‘feelings of attachment to goals and values of the organisation, one’s role in relation to this, and attachment to the organisation for its own sake rather than for its strictly instrumental value’ (Cook and Wall 1980: 40). From this definition, survey questions have been developed which tap employees’ attitudes towards their organisations and the nature of the behaviours employees exercise within the organisation. The three surveys reported here asked respondents seven questions widely used to derive levels of organisational commitment – four relating to employee attitudes and three relating to employee behaviours. Respondents were asked to indicate, on a four-point Likert scale, their level of agreement or disagreement with the seven statements below.

- ‘I am willing to work harder than I have to in order to help this organisation succeed’ (shortened to work hard in Table 6.5);

- 'I feel very little loyalty to this organisation' (shortened and reverse score as loyal in Table 6.5);
- 'I find that my values and the organisation's values are very similar' (shortened to similar values in Table 6.5);
- 'this organisation really inspires the very best in me in the way of job performance' (shortened to inspiring organisation in Table 6.5);
- 'I am proud to be working for this organisation' (shortened to organisational pride in Table 6.5);
- 'I would take almost any job to keep working for this organisation' (shortened to take almost any job in Table 6.5);
- 'I would turn down another job with more pay in order to stay with this organisation' (shortened to turn down higher paid job in Table 6.5).

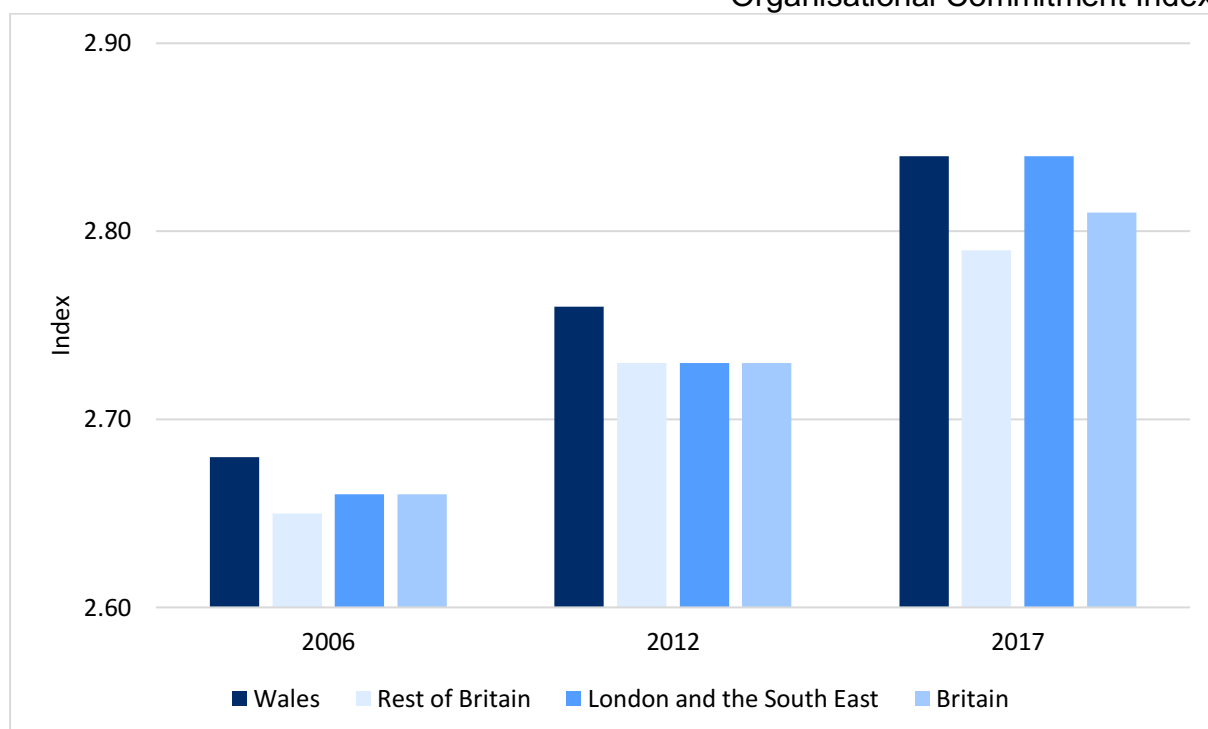
6.15 For the analysis, we first awarded values of 4 for 'strongly agree', 3 for 'agree', 2 for 'disagree' and 1 for 'strongly disagree' for the responses given. Then, we created an Organisational Commitment Index by adding the scales and dividing by seven.¹²

6.16 The results suggest that organisational commitment in Wales has been higher than the average for Britain in 2006, 2012 and 2017 (see Figure 6.3). Furthermore, in 2006 and 2012 organisational commitment was also higher than in the Rest of Britain and London and the South East, while in 2017 it was again higher than the Rest of Britain, but on a par with London and the South East.

¹² Statistical tests confirm that the resulting measure captures a reasonable proportion of the inter-correlation between the seven-item index (the Cronbach's alpha is 0.83).

Figure 6.3: Organisational Commitment: Britain, 2006-2017

Organisational Commitment Index



- 6.17 What is somewhat surprising is the lack of variation within Wales by selected socio-economic group. The Organisational Commitment Index, for example, differs little between the sexes, by age group and by level of qualification. The biggest variation is between those in different occupational groups (see Table 6.5).
- 6.18 British-level analysis of the data suggests that there is a strong association between perceived fairness and a range of other indicators relating to job performance and sense of well-being at work (Gallie *et al.*, 2018). Those with a high sense of organisational fairness are more likely than those with a low sense of fairness to help colleagues at work. They are more likely to be willing to work harder than they have to in order to help the organisation succeed and they are more likely to have a high level of satisfaction with their jobs and to feel enthusiastic while at work. To the extent that employees can affect productivity, a belief in the fairness of the organisation is likely then to be conducive to a greater willingness to put in the discretionary effort required to enhance organisational performance.

Table 6.5: Organisational Commitment by Selected Socio-economic Characteristics: Wales, 2006-2017, Pooled

	Work Hard	Loyal	Similar Values	Inspiring Organisation	Organisational Pride	Take Almost Any Job	Turn Down Higher Paid Job	Organisational Commitment Index
<i>1. Gender</i>								
Men	83.3	79.6	76.6	67.3	80.3	32.4	38.1	2.73
Women	83.9	82.6	77.3	68.2	83.0	31.5	31.6	2.75
<i>2. Age</i>								
20-34	86.0	81.9	75.2	65.3	79.8	33.2	28.8	2.72
35-49	84.3	81.3	76.8	67.5	81.9	31.9	37.1	2.75
50-65	80.1	79.9	79.2	70.7	83.3	30.6	38.7	2.75
<i>3. Highest Qualification</i>								
Level 4 and above	86.8	84.0	78.1	69.0	84.3	21.7	34.9	2.77
Levels 3 and 2	84.1	80.2	77.2	65.0	79.2	33.7	32.8	2.71
Level 1 and below	75.7	77.2	73.1	71.7	81.6	50.2	40.8	2.73
<i>4. Occupation</i>								
Top 3 SOC's	87.6	83.7	81.6	75.1	86.4	24.9	40.4	2.82
Middle 3 SOC's	85.9	82.6	80.0	67.8	82.5	32.8	33.3	2.76
Bottom 3 SOC's	76.0	76.1	67.3	58.0	74.4	39.9	29.7	2.60
<i>5. Sector</i>								
Public and not for profit	82.9	81.8	79.3	69.2	86.7	26.8	34.0	2.75
Private	84.0	80.4	75.5	66.4	77.9	35.7	35.8	2.73
<i>6. Industry</i>								
Production	82.1	79.9	77.1	64.8	76.9	37.4	32.9	2.74
Services	83.8	81.5	77.4	68.8	83.2	30.6	35.7	2.75
<i>7. Regional Skills Partnership</i>								
North Wales	82.5	81.3	77.9	71.6	81.9	33.1	35.6	2.75
South West & Mid Wales	84.0	79.0	75.1	67.1	82.0	32.3	34.7	2.74
South East Wales	83.9	82.8	78.1	65.9	81.1	30.9	34.7	2.74
All	87.5	84.1	84.1	75.3	88.2	33.1	33.1	2.84

Summary of Findings

6.19 Evidence of increased inequality, and the growth in precarious and low paid employment in recent times has prompted interest in progressive interventions such as local grassroots campaigns for the Real Living Wage and calls for ‘something for something’ public procurement. Underlying all these interventions is a desire to deliver fairer outcomes. This section of the report presents the following findings on how fair employees perceive their own organisation.

- The perception of organisational fairness is much higher in Wales than it is elsewhere. For example, around two-fifths (40 per cent) of Welsh employees strongly agree that they are treated fairly at work compared to around a third of workers (35 per cent) in Britain as a whole.
- Approaching three out of five employees (56 per cent) in Wales report that their immediate boss treats them with respect compared to less than one in two employees (47 per cent) in Britain as a whole.
- Over a third of employees in Wales report that their manager is helpful in a number of ways compared to just over a quarter of employees in Britain as a whole.
- Employees in Wales report that they are less likely to leave their current employment voluntarily possibly because of the lack of good alternatives (see section 7.5). There is an eight percentage gap between the proportion of employees in Wales reporting an evens or better chance of voluntary exit and the proportion in Britain as a whole.
- Organisational commitment – such as working hard to make the organisation succeed and turning down another job to stay with the organisation – is higher in Wales than in Britain and it has been in all three of the surveys analysed in this report.

7. Insecurity at Work

Introduction

- 7.1 Both Wales and Britain as a whole continues to recover from the worst downturn since the 1930s. In terms of lost output, the 2008-09 recession has been more severe than those experienced during the early 1980s and 1990s. Despite this, unemployment rates have remained lower and employment rates have remained higher than those observed in previous recessions. Throughout the 2008-2009 recession, the rate of unemployment among the working age population in Wales was slightly higher than in other parts of the UK. However, this differential was generally less than 1 percentage point and recent estimates continue to suggest that unemployment within Wales remains broadly comparable to that of the UK (ONS, 2018b). Such figures seem at odds with other measures of performance for the Welsh economy, such as estimates of productivity which suggest that output per capita in Wales is approximately 75 per cent of the UK average (ONS, 2018c). Part of the answer to this puzzle relates to other adjustments made by employers, such as reductions in real earnings and hours worked and a rise in underemployment (Bell and Blanchflower, 2013). Adjustments of this type have been particularly noticeable features of the Welsh economy, which has observed large increases in the incidence of involuntary part-time employment (i.e. those working part-time because they were unable to find a full-time job) and in the proportion of people reporting that they would either like another job or that they would like to work longer hours in their present job since 2008 (Davies and Parken, 2017).
- 7.2 Such changes can enhance levels of fear and anxiety at the workplace and affect how workers view their future employment prospects. Concern about losing employment with an organisation is the most widely discussed aspect of fear at the workplace. As well as having detrimental effects on health, job security has also been demonstrated as being important in terms of supporting motivation at the workplace. However, it must also be acknowledged that job

security may also have adverse effects on productivity at the workplace if those in work felt that their jobs were so secure that they were immune from the consequences of poor performance. However, fear at work can take many forms. Anxieties about unfair treatment at work or loss of job status may also increase during periods of weak demand. This chapter is organised around these themes. The following section examines job insecurity and cost of job loss over the period of the 2008-2009 recession. For this, we use measures that focus on respondents' estimates of the probability of certain scenarios occurring. We also examine the prevalence of quick dismissal for poor performance – again, an objective measure of the job. The penultimate section presents data on other anxieties and worries held by workers. These questions provide a combined measure of events occurring and the anxieties this might prompt. As a result, it picks up on subjective feelings that vary from person to person based on personality and/or personal circumstances. The final section concludes with a summary of the chapter's main findings.

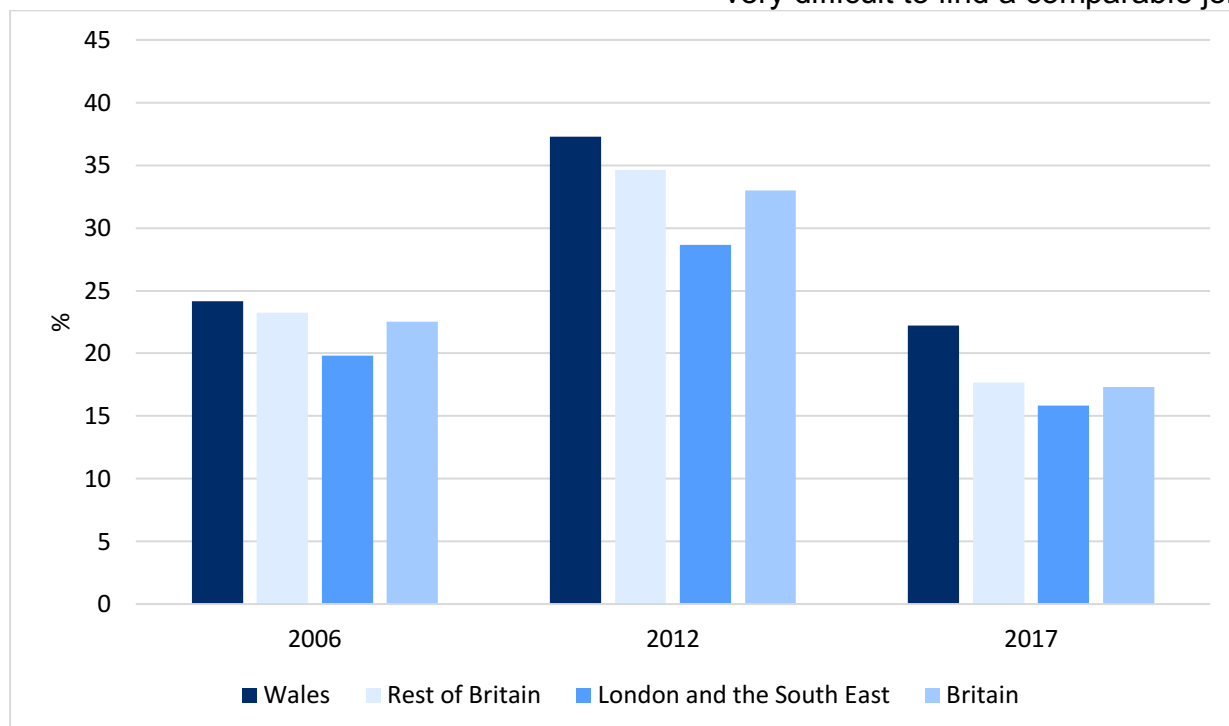
Likelihood and Costs of Job Loss

- 7.3 The three surveys analysed in this report include a battery of questions that ask respondents to provide an assessment of their job security. In each survey, respondents were firstly asked to provide an assessment of how easy or difficult they felt it would be for them to find a job as good as their current one. We refer to responses from this question as an indication of the cost of job loss. Figure 7.1 presents information on the proportion of workers who report that it would be 'very difficult' to find a comparable job. Across Britain as a whole, between 2006 and 2012 the proportion of workers who report that it would be very difficult to find a comparable job increased from 23 per cent to 33 per cent. By 2017, perceptions regarding the costs of job loss had subsided to levels that are actually lower than they were in 2006 (17 per cent) prior to the recession. Figure 7.1 however reveals that there are perceived differences in the cost of job loss between different areas of Britain. Workers in Wales consistently perceive the cost of job loss as being relatively high. Furthermore, workers in Wales reported a steeper rise in the cost of job loss

between 2006 (24 per cent) and 2012 (37 per cent). Despite a decline over the last five years, the gap in the perceived cost of job loss between Wales (5 percentage points) and other part of Britain remains in 2017.

Figure 7.1: Cost of Job Loss: Britain, 2006-2017

Percentage reporting that it would be very difficult to find a comparable job

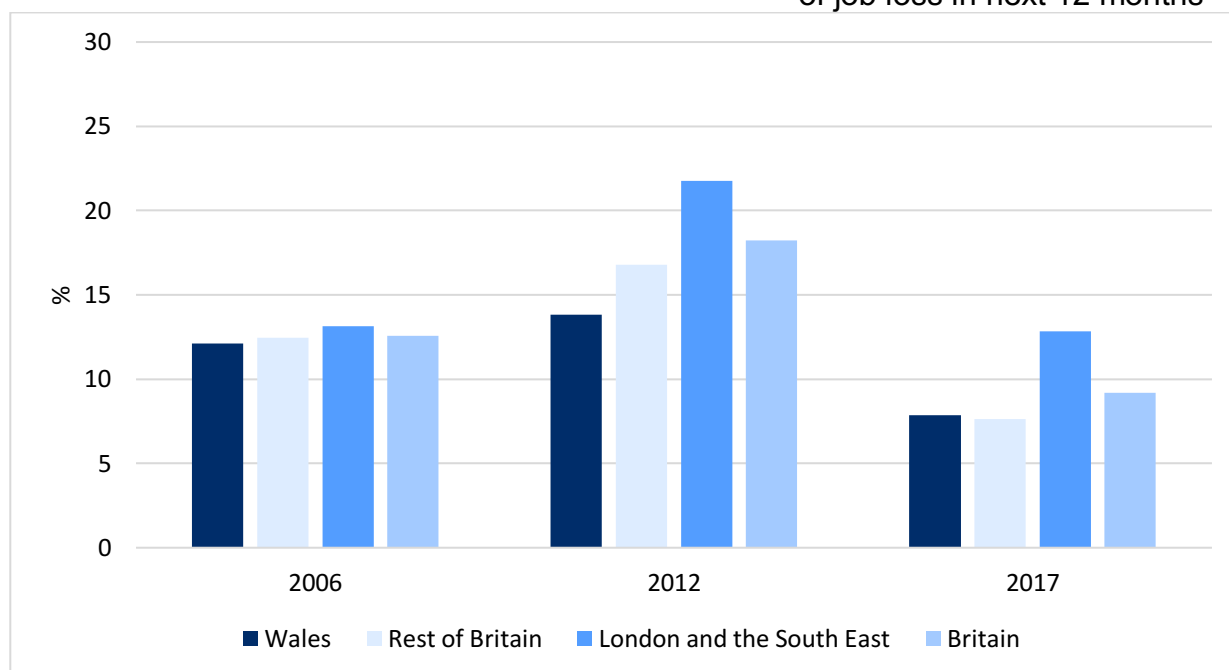


7.4 Respondents were also asked: ‘Do you think there is any chance at all of you losing your job and becoming unemployed in the next twelve months?’ Those who indicated that there was at least some chance of them losing their jobs in the year ahead were asked to rate the chances that this would happen. Figure 7.2 shows the proportion of all workers who rated their chances of unemployment as evens or higher. It can be seen that across all areas of Britain, the post-recession period was associated with an increase in the perceptions of workers regarding job loss, with the proportion of workers who rated the chances of this happening as being ‘evens or higher’ increasing from 13 per cent in 2006 to 18 per cent in 2012. As with costs of job loss, by 2017 perceptions regarding the likelihood of job loss (9 per cent) have abated to

levels that are actually lower than they were in 2006. Workers in Wales did not appear to exhibit the increases in perceptions of job loss that were observed elsewhere during this period, particularly compared to London and the South East where the fear of job loss increased to 22 per cent in 2012 from 13 per cent in 2006. In 2017, only 8 per cent of workers in Wales rated their likelihood of job loss as being 'evens or higher'. This is very different to those in London and the South East where the equivalent figure was 13 per cent of workers rating their chances of job loss as evens or higher.

Figure 7.2: Likelihood of Job Loss: Britain, 2006-2017

Percentage with an evens or higher chance of job loss in next 12 months



7.5 Whilst workers in Wales therefore exhibit a relatively optimistic view regarding the likelihood of job loss compared to workers elsewhere, the perceived costs associated with job loss appear higher. However, there are some variations within Wales. In common with elsewhere, costs of job loss are perceived to be higher among older workers and among those with low levels of educational attainment. Within Wales, those in low skilled occupations also perceive the costs associated with job loss as being relatively high. There is less evidence of systematic variation in the likelihood of job loss, although those in Wales

who are working in relatively low skilled occupations, in the private sector and in the productive industries each report a higher likelihood of job loss (see Table 7.1).

Table 7.1: Cost and Likelihood of Job Loss by Selected Socio-economic Characteristics: Wales, 2006- 2017 Pooled

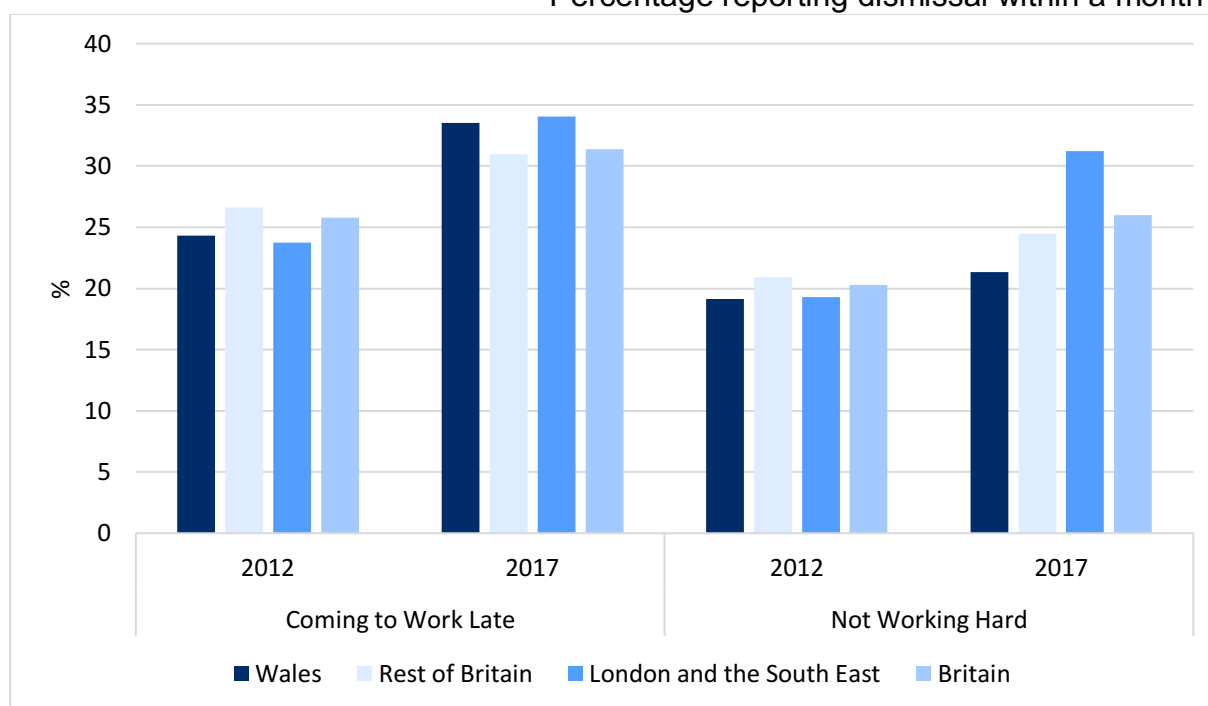
	Evens or Higher Chance of Job Loss in Next 12 months (%)	Very Difficult to Find a Comparable Job (%)
<i>1. Gender</i>		
Men	12.0	27.9
Women	10.5	25.1
<i>2. Age</i>		
20-34	8.6	19.8
35-49	13.6	26.1
50-65	10.9	34.1
<i>3. Highest Qualification</i>		
Level 4 and above	12.7	21.2
Levels 3 and 2	10.8	28.7
Level 1 and below	9.4	33.1
<i>4. Occupation</i>		
Top 3 SOC's	10.2	25.4
Middle 3 SOC's	9.3	23.3
Bottom 3 SOC's	15.1	32.3
<i>5. Sector</i>		
Public and not for profit	9.3	26.7
Private	12.5	26.7
<i>6. Industry</i>		
Production	14.1	29.0
Services	9.7	25.9
<i>7. Regional Skills Partnership</i>		
North Wales	10.8	26.7
South West & Mid Wales	10.0	28.4
South East Wales	12.8	24.8
All	11.3	26.6

Dismissal for Poor Performance

- 7.6 Whilst job security could be beneficial to both employees and employers in terms of creating an environment where motivation and acquisition of skills is supported, it must also be acknowledged that job security may also have adverse effects on productivity at the workplace if those in work felt that their jobs were so secure that they do not need to perform. In the 2012 and 2017 surveys, exploration of this issue was made possible through the addition of two questions. Respondents to these two surveys were asked how long it would take somebody within their organisation *and* doing their kind of jobs to be dismissed because of persistently arriving late at work and similarly for persistently not working hard enough.
- 7.7 In Figure 7.3, we consider the proportion of employees who said that they would be dismissed within a month for these reasons. Figure 7.3 reveals that the duration of time it would take to be dismissed because of not working hard is perceived by workers to be longer in Wales than it is for other parts of Britain. In 2017, approximately one in five employees in Wales (21 per cent) indicate that people in their organisation could be dismissed within less than a month as a result of not working hard. This is compared to a third of employees in London and the South East (31 per cent) and one in four employees (25 per cent) in other areas. It is also apparent that the perceived risk of quick dismissal among employees in Wales has remained relatively stable. However, employees in London and the South East reported an increase in the chance of dismissal for not working hard enough rising from 19 per cent to 31 per cent between 2012 and 2017. In terms of the repercussions for coming to work late, across Britain the perceived risk of quick dismissal as a result of late arrival has increased between 2012 (26 per cent) and 2017 (31 per cent). Estimates for both 2012 and 2017 are broadly comparable across the different parts of Britain.

Figure 7.3: Job Loss through Poor Performance: Britain, 2012-2017

Percentage reporting dismissal within a month



7.8 The risks of quick dismissal as a result of not working hard are therefore perceived to be lower among employees in Wales whilst the risks associated with coming to work late are broadly comparable to elsewhere. Nonetheless, there are variations among employees within Wales. Younger workers, those with lower levels of educational attainment, those employed in low skilled occupations, those working in the private sector and those employed in the productive industries each perceive the risks of quick dismissal associated with both coming to work late and not working hard enough as being relatively high.

Other Fears and Anxieties at Work

7.9 Concern about losing employment with an organisation is the most widely discussed aspect of fear at the workplace. In this section, however, we consider two other dimensions of fear. First, fear may consist of anxiety about unfair treatment at work. Such anxiety may manifest itself, for example, through worry about discrimination or victimisation at work. Secondly, fear at work may take the form of anxiety about loss of job status. Such anxiety may

manifest itself through concern about having to take a pay cut, being moved to another job in the organisation that offers less opportunity to utilise acquired skills, is intrinsically less interesting or is associated with lower levels of autonomy.

Table 7.2: Job Loss through Poor Performance by Selected Socio-economic Characteristics: Wales, 2012-2017 Pooled

	Would be Dismissed in Less than a Month for:	
	Coming to Work Late (%)	Not Working Hard (%)
<i>1. Gender</i>		
Men	32.7	21.1
Women	25.9	19.6
<i>2. Age</i>		
20-34	35.5	27.9
35-49	26.4	15.6
50-65	26.3	18.3
<i>3. Highest Qualification</i>		
Level 4 and above	20.1	11.7
Levels 3 and 2	35.5	24.6
Level 1 and below	37.9	35.6
<i>4. Occupation</i>		
Top 3 SOC's	18.3	9.0
Middle 3 SOC's	28.7	22.3
Bottom 3 SOC's	45.1	33.9
<i>5. Sector</i>		
Public and not for profit	17.8	8.4
Private	36.5	27.9
<i>6. Industry</i>		
Production	38.0	24.1
Services	27.0	19.3
<i>7. Regional Skills Partnership</i>		
North Wales	31.8	24.8
South West & Mid Wales	29.0	20.9
South East Wales	28.2	17.4
All	29.3	20.3

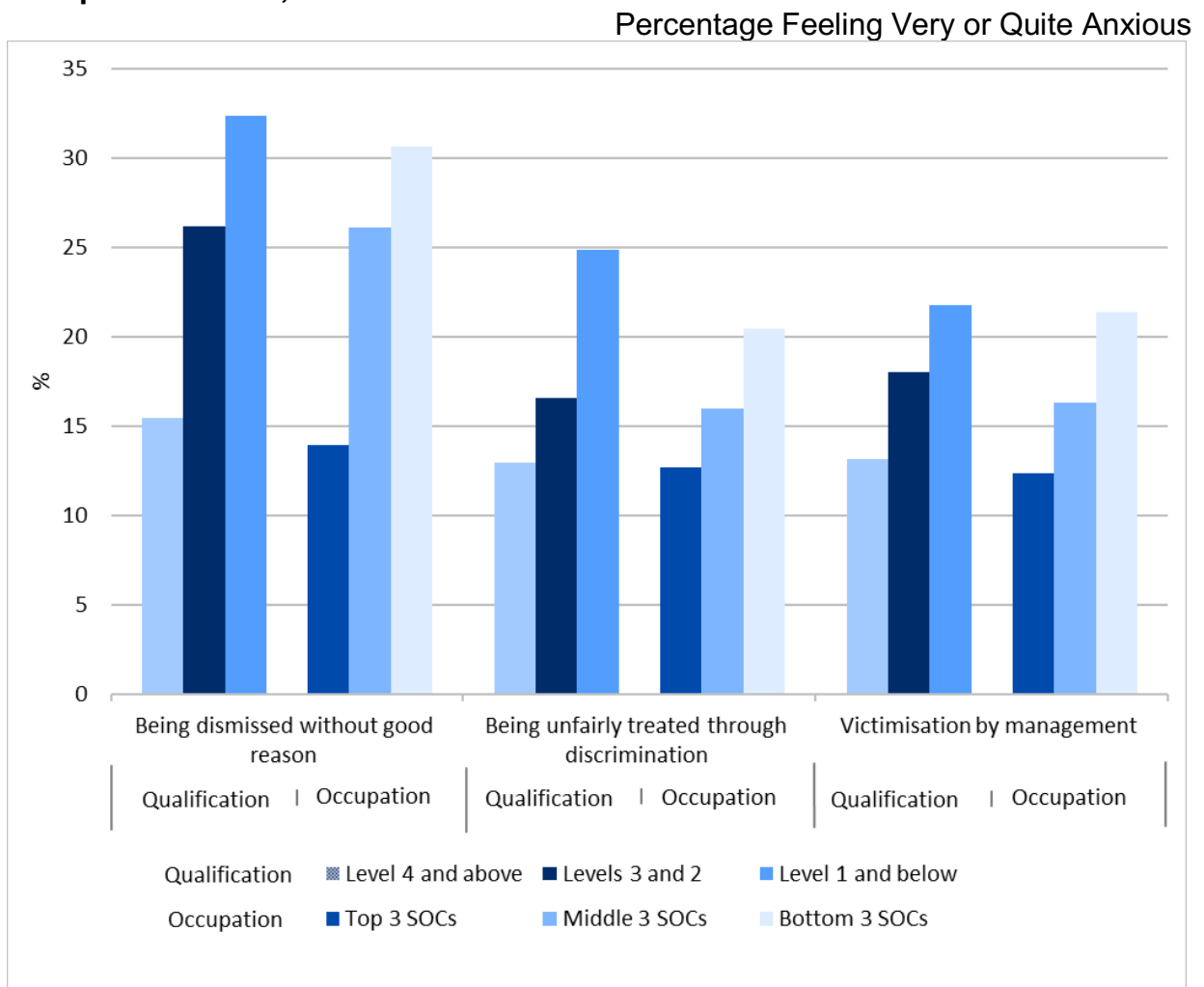
7.10 Table 7.3 presents information on the levels of fear with respect to unfair treatment in Britain. The indicators of fear of unfair treatment are a set of three items where respondents to both the 2012 and 2017 surveys are asked about their levels of anxiety with respect to ‘being dismissed without good reason’, ‘being unfairly treated through discrimination’ and ‘victimisation by management’. Table 7.3 reports the proportion of employees who indicated that they were either ‘very’ or ‘quite anxious’ about unfair treatment. Data for 2017 reveals that approximately one in four employees (20 per cent) indicate that they are anxious about being dismissed without good reason. Approximately one in six employees (16 per cent) indicate that they are anxious about being treated unfairly through discrimination. One in six (17 per cent) are fearful about being victimised by management. In 2012, levels of fear surrounding unfair treatment among employees did not appear to vary geographically. However, in 2017 this is no longer the case. Whilst fears of unfair treatment across each measure have declined in both Wales and the Rest of Britain, fears have increased among employees in London and the South East. As a result, data for 2017 for Wales reveals that fears of dismissal (23 per cent), discrimination (14 per cent) and victimisation (15 per cent) are considerably lower than those observed among employees in London and the South East.

Table 7.3: Anxieties and Worries about Work: Britain, 2012-2017

	Percentage Feeling Very or Quite Anxious About:					
	Being dismissed without good reason (%)		Being unfairly treated through discrimination (%)		Victimisation by management (%)	
	2012	2017	2012	2017	2012	2017
Wales	22.8	22.6	19.3	13.5	17.9	15.1
Rest of Britain	23.5	17.8	18.4	14.5	18.8	14.8
London and the South East	23.4	26.5	17.4	21.6	18.1	21.4
Britain	23.5	20.3	18.2	16.4	18.7	16.6

7.11 Differences in levels of fear that exist between different groups of workers in Wales are generally minor. However, a consistent picture does emerge in relation to occupational position and educational attainment. Figure 7.4 reveals that levels of fear of unfair treatment are considerably higher among both employees with lower levels of educational attainment and among those who are employed in low skilled occupations. Fear of unfair treatment with respect to dismissal and discrimination in Wales also appears to be higher among those employed in the private sector. In particular, those in the private sector exhibit higher levels of fear in relation to being dismissed without good reason.

Figure 7.4: Anxieties and Worries About Work by Educational Attainment and Occupation: Wales, 2012-2017 Pooled



7.12 Table 7.4 presents information on concerns surrounding job status loss. Once again, respondents to the 2012 and 2017 surveys were asked about their levels of anxiety with respect to ‘future changes to my job that may give me less say over how it is done’, ‘future changes to my job that may make it more difficult to use my skills and abilities’, ‘future changes that may reduce my pay’ and ‘being transferred to a less interesting job in the organisation’. In addition, respondents to the 2017 survey were also asked about their levels of anxiety respect to ‘unexpected changes to my hours of work’. Table 7.4 reports the proportion of employees who indicated that they were either ‘very’ or ‘quite anxious’ about job status loss. In Wales, the greatest concern regarding loss of job status relates to a reduction in pay and less say in how their jobs are done. In both cases, approximately three out of ten employees report that they are anxious about future changes that may reduce their pay and future changes to their job that may give them less say over how it is done. Approximately one in four employees in Wales report being anxious about changes that may make it more difficult for them to use their skills and abilities and unexpected changes to their hours of work (2017 data only). Outside of London and the South East, levels of concern surrounding job status loss have generally declined between 2012 and 2017. Whilst levels of concern among Welsh employees in 2017 closely reflect those for Britain as a whole, they are lower than those observed among those working in London and the South East.

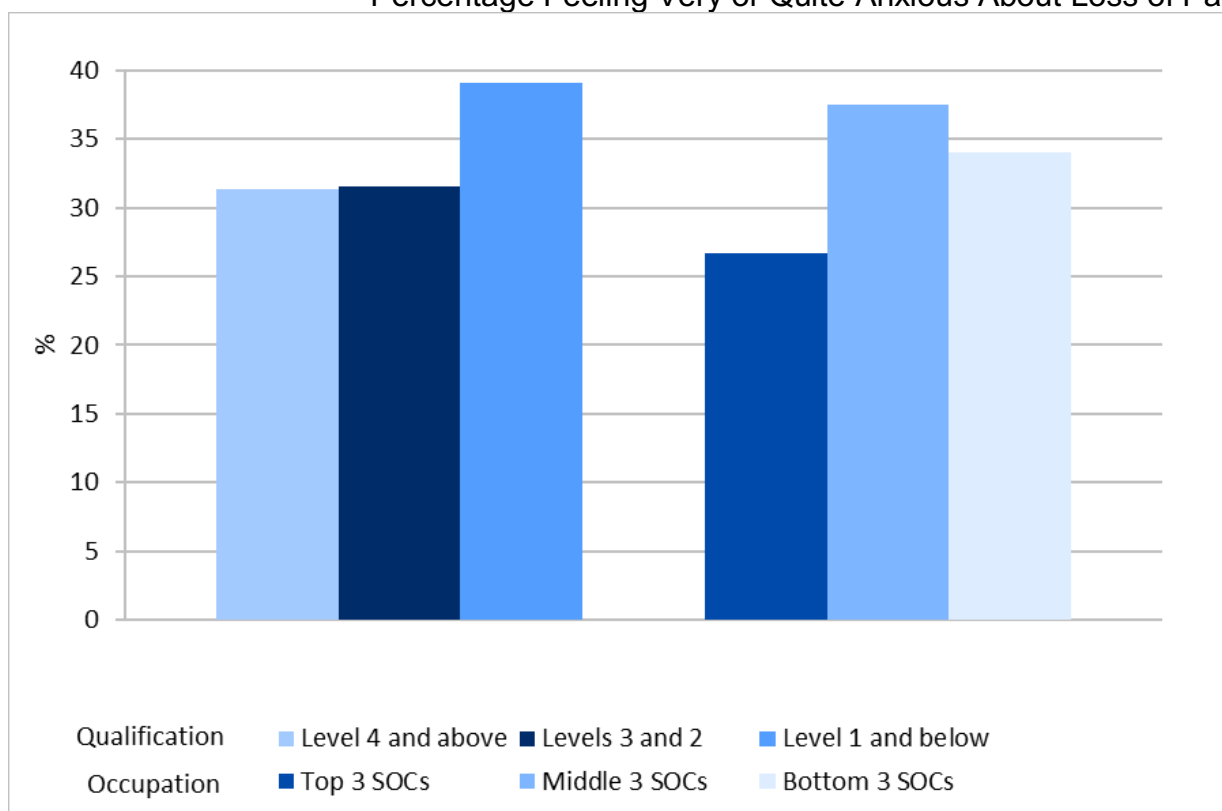
Table 7.4: Concerns Regarding Loss of Job Status: Britain, 2012-2017

	Percentage Feeling Very or Quite Anxious About Future Changes that may Result in:									
	Less say		Lesser skills use		Reduced pay		Less Interesting Job		Changes to Hours	
	2012	2017	2012	2017	2012	2017	2012	2017	2017	
Wales	28.3	28.0	23.0	22.9	36.4	29.1	25.1	20.2	24.8	
Rest of Britain	30.5	23.5	23.9	19.9	37.5	26.1	22.4	17.4	23.0	
London and the South East	31.9	32.0	24.4	26.8	34.7	32.8	22.7	25.4	31.0	
Britain	30.9	26.3	24.2	22.0	36.9	28.1	22.7	19.8	25.3	

7.13 Within Wales, differences in the level of concern surrounding job status between different groups of workers are relatively minor. Figure 7.5 reveals that concerns surrounding reductions in pay are highest among employees with the lowest levels of educational attainment. Relatedly, concerns regarding reductions in pay are lowest among those who are employed in managerial and professional occupations, entry to which will generally be associated with higher levels of educational attainment. Across Britain as a whole, concerns regarding changes in hours were more likely to be expressed by women, younger workers, those with the lowest levels of educational attainment, those employed in lower skilled occupations and those working in the private sector. Although data is only available for 2017, these patterns were also present among Welsh workers.

Figure 7.5: Concerns Regarding Reduced Pay by Educational Attainment and Occupation: Wales, 2012-2017, Pooled

Percentage Feeling Very or Quite Anxious About Loss of Pay



Summary of Findings

7.14 The Skills and Employment Surveys have provided information about levels of fear and anxiety at the workplace, tracing how workers have viewed their employment prospects over time. Across all areas of Britain, the data demonstrates that anxieties surrounding insecurity at work were higher during the immediate aftermath of the recession compared to before.

- Whilst perceptions regarding risk of job loss are no higher in Wales compared to elsewhere, workers in Wales are increasingly more likely to report that it would be very difficult to find a job as good as their current one.
- The risks of quick dismissal as a result of poor performance are perceived to be lower among Welsh workers. During 2017, a fifth of Welsh employees felt

that they could be dismissed within less than a month as a result of low effort compared to a third in London and the South East.

- Fears regarding unfair dismissal, discrimination and victimisation by management among employees in Wales are broadly comparable to other areas of Britain, except London and the South East where such fears among workers have increased since the aftermath of the 2008-2009 recession.
- Concerns surrounding job status loss have generally declined between 2012 and 2017. Within Wales, employees are most concerned (30 per cent) about future changes that may reduce their pay and which give them less say over how it is done. Although lower than London and the South East, concerns among Welsh employees are, however, higher than elsewhere.

8. Work Intensity

Introduction

- 8.1 Work has long been acknowledged as an important social determinant of health and well-being. There is strong evidence to suggest that being in work is good for both physical and mental well-being (Waddell and Burton, 2006). Work provides more than simply a source of income for many in employment, giving benefits such as intrinsic interest and a sense of belonging. Working hard can also bring additional benefits in terms of higher earnings and opportunities for promotion. However, working long hours and at high levels of intensity can be associated with significant costs to those involved, such as an increase in the risk of workplace accidents or an increased incidence of work related ill-health. Significant costs can also be imposed upon the families of those working intensively in terms of family breakdown. It is therefore important to understand what factors influence the wellbeing of workers.
- 8.2 A significant body of research which attempts to measure and examine the determinants of work-related health has therefore emerged across academic disciplines (see Davies, Jones and Lloyd-Williams, 2016 for a review). A central theme within this literature has been the association between current working conditions, including physical and psychosocial risks, and health. Studies have used a wide range of (predominately self-reported) measures of general physical and psychological health (Martens *et al.*, 1999, Pikhart *et al.* 2004) and measures that can be more directly attributed to work (Benavides *et al.*, 2000, Benach *et al.*, 2004) including accidents/injuries (Ghosh *et al.*, 2004) and more recently, broader measures such as mental health (Cottini and Lucifora, 2010). Perceived stress at work is widespread in the UK (Smith *et al.*, 2000) and has been identified by the World Health Organisation as a worldwide epidemic (Leka *et al.*, 2003).
- 8.3 The effect of the aftermath of the 2008-2009 recession on the well-being of workers is unclear. Of particular interest in the UK has been the rise of non-standard forms of employment as a key feature of economic recovery since

2008. Often referred to as precarious employment, the increase of flexible working patterns, zero-hour contracts, false-self-employment (e.g. the Deane Review, 2016) and the growth of the so-called gig economy have provided mechanisms for employers to reduce their labour costs and shift the risks of business to their workers. Such forms of 'precarious employment' are themselves associated with increased risks of ill health (Benach and Muntaner, 2007). Alternatively, reductions in demand may have resulted in a reduction in the pace of work among those who retained their jobs. To explore these issues, this chapter considers how hard workers report that they are working. The next section examines work intensification in terms of the incidence of long hours working and the speed at which people report that they work. Following this, we then consider levels of job strain, stress and exhaustion from work. The chapter concludes with a summary of the chapter's main findings.

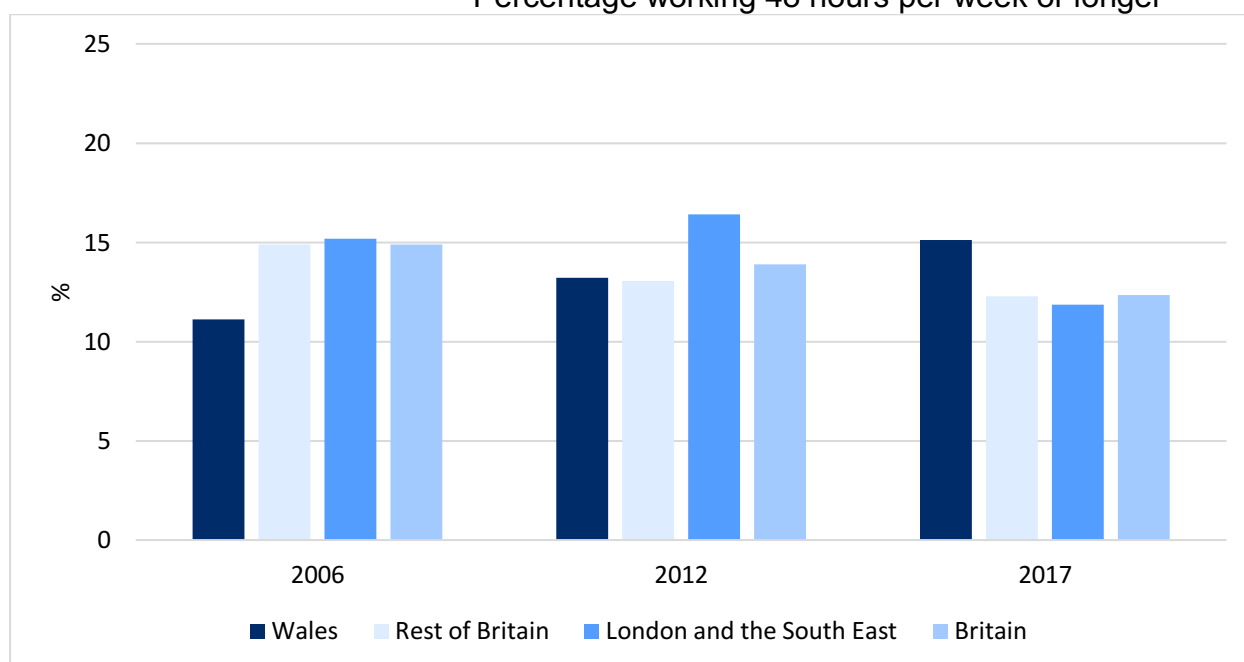
Work Effort

- 8.4 In terms of understanding how hard people work, it is useful to make the distinction between extensive and intensive work effort (Felstead and Green, 2017). Extensive work effort considers the issue of how much labour is supplied by the individual. At the most basic level, this encapsulates the decision as to whether participate in employment at all. Among those in work, extensive work effort will relate to length of hours worked, encapsulating decisions regarding whether to work full or part time or whether to work overtime, whether it be paid or unpaid. By contrast, intensive work effort refers to the level of intensity with which people work on the job. Whilst surveys of the labour market generally contain detailed information on working hours, there is much less information regarding intensive levels of effort among those in employment.
- 8.5 In terms of extensive work effort, each of the three surveys ask respondents about their working hours. Information is collected on usual weekly hours; that is, the usual number of hours worked per week including both paid and unpaid

overtime. An individual is defined as working long hours if they work longer than 48 hours per week. Figure 8.1 indicates that, across Britain as a whole, the incidence of 'long hours' working has declined gradually between 2006 (15 per cent) and 2017 (12 per cent). This decline has been particularly apparent within London and the South East, which has experienced a four percentage point reduction in 'long hours' working between 2012 and 2017. By contrast, the incidence of 'long hours' working in Wales appears to have risen over time, from 11 per cent in 2006 to 15 per cent in 2017, higher than that observed elsewhere.

Figure 8.1: Long Hours Working: Britain, 2006-2017

Percentage working 48 hours per week or longer



8.6 The Skills and Employment Surveys each ask respondents about a number of issues that also pertain to the level of intensive effort they put in to their job. Respondents are asked to what extent they agree with the following statements: 'My job requires that I work very hard' and 'I work under a great deal of tension'. The distribution of responses to these questions are provided in Figure 8.2. It can be seen that during 2017, approximately half of workers (49 per cent) in Wales strongly agree with the statement that their job requires

them to work very hard. This represents an increase of 6 percentage points since 2012 and places Wales above the average for Britain as a whole (46 per cent). In terms of the proportion of workers who agree with the statement that their work requires them to work under a great deal of tension, the analysis suggests that levels of tension at the workplace do not vary greatly between different areas of Britain and have remained relatively stable between 2006 and 2017.

Figure 8.2: Effort and Tension at Work: Britain, 2006-2017

Percentage of workers who strongly agree

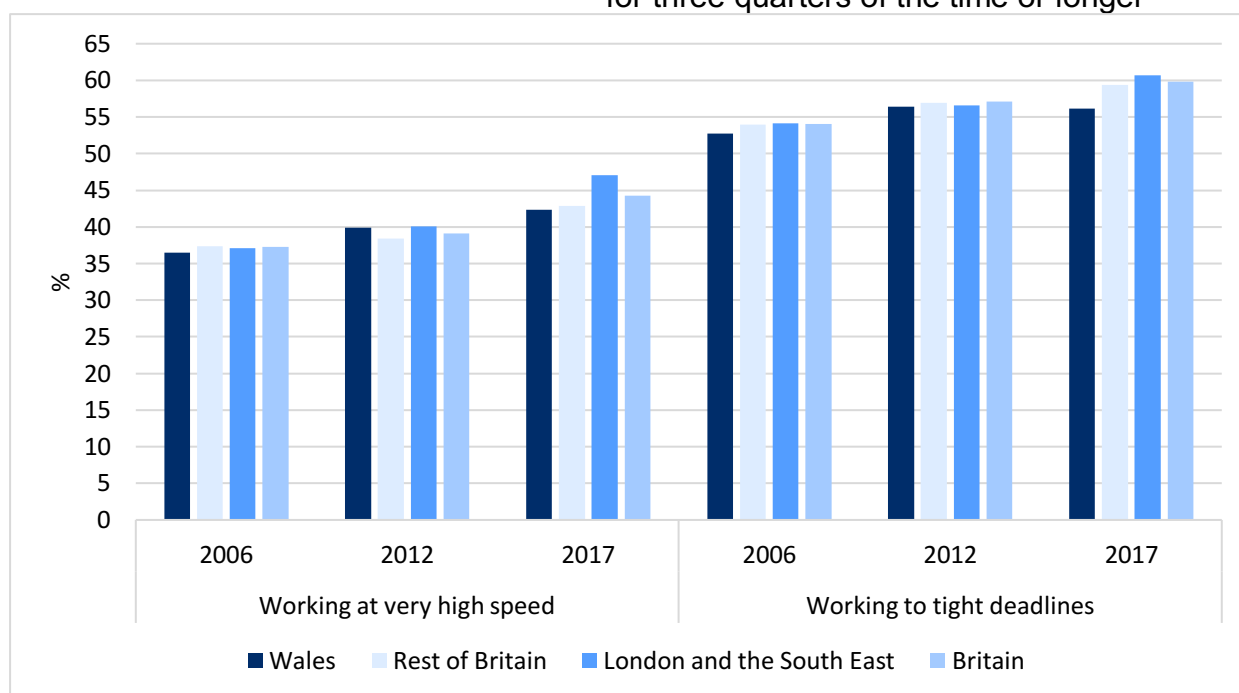


8.7 Two further questions in the surveys ask respondents ‘How often does your work involve working at very high speed?’ and ‘How often does your work involve working to tight deadlines?’. Figure 8.3 reports the proportion of respondents who report that they work under these conditions for three quarters of the time or above. The analysis reveals that across all areas of Britain, these two measures of work intensity have increased since 2006. Within Wales, during 2017 approximately four out of ten workers (43 per cent) report that they work at very high speed for more than three quarters of the time, whilst over half (56 per cent) report that they work to tight deadlines. Nonetheless, these figures are lower than those reported within London and

the South East (47 per cent and 61 per cent respectively), an area which has exhibited above average increases in these measures since 2012.

Figure 8.3: Working at Speed: Britain, 2006-2017

Percentage working under these conditions for three quarters of the time or longer

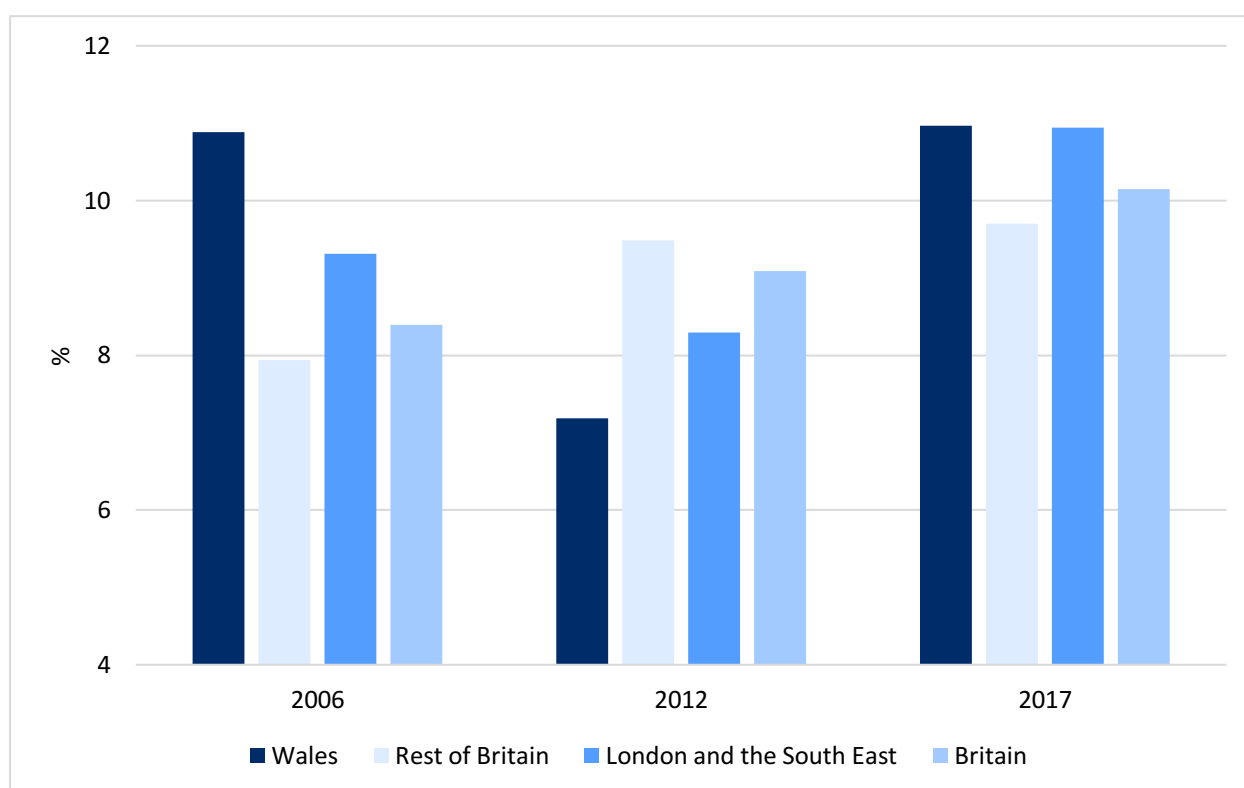


8.8 Previous research has established that the effects of work intensity have to be considered in the context of the level of autonomy that can be exercised by those in employment (Karasek, 1979). The negative health outcomes of work intensity occur most often when the worker has to face high levels of psychological demand, but has low levels of autonomy at work. The adverse effects of high levels of work intensity can be mitigated against if accompanied by a higher degree of control. The survey contains a number of questions that identify the amount of discretion workers have over the tasks that they perform. We define 'high strain' jobs as those in which respondents 'strongly agree' with the statement that 'my job requires that I work very hard' and where they report having, on average, 'not much' influence over work intensity; task selection; task execution; and quality standards. Figure 8.4 presents data on the proportion of workers who are regarded as being employed in high strain jobs.

Between 2006 and 2017, the proportion of workers employed in high strain jobs in Britain has increased slightly from 8 per cent to 10 per cent. During 2017, 11 per cent of workers in Wales were classified as being employed in high strain jobs. Although broadly comparable with the average for Britain as a whole, this four percentage point increase for Wales since 2012 is larger than that observed elsewhere.

Figure 8.4: Working Under Strain: Britain, 2006-2017

Percentage working in high strain jobs



8.9 Workers in Wales therefore provide a mixed picture regarding their levels of work intensity. There are also variations within Wales (see Table 8.1). Long hours working is observed to be much more prevalent among men (20 per cent); older workers (14 per cent), and those working in North Wales (18 per cent). In terms of the characteristics of jobs held, working long hours is more prevalent among those working in managerial, professional or associate professional occupations (19 per cent), the private sector (17 per cent) and within the production sector of the economy (24 per cent). Aside from long

hours, reported levels of work intensity are generally higher among those with higher levels of educational attainment; those employed within higher level occupations and those employed within the production sector. Younger workers in Wales are more likely to report that they work at high speed, whilst those employed in the public sector report working under high levels of tension. The prevalence of high strain jobs in Wales is demonstrated to be higher among women, those employed in low skilled occupations, the public sector and those working within services.

Table 8.1: Working Intensity by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Long Hours (%)	Work very hard (% strongly agree)	Work under Tension (% strongly agree)	Work at Very High Speed (% $\frac{3}{4}$ s+ of time)	Work to Tight Deadlines (% $\frac{3}{4}$ s+ of time)	High Strain Jobs (%)
<i>1. Gender</i>						
Men	20.0	44.4	19.3	37.8	59.1	7.3
Women	4.8	51.7	21.5	40.3	49.6	13.1
<i>2. Age</i>						
20-34	9.4	45.6	19.4	43.8	54.3	10.2
35-49	14.2	51.5	20.2	38.7	57.0	9.8
50-65	14.2	45.4	21.6	34.6	51.6	10.2
<i>3. Highest Qualification</i>						
Level 4 and above	12.4	55.0	25.1	41.1	62.1	9.4
Levels 3 and 2	13.4	44.0	17.8	38.5	52.2	10.7
Level 1 and below	12.4	42.3	16.3	36.4	44.9	9.9
<i>4. Occupation</i>						
Top 3 SOCs	18.5	58.7	26.3	39.5	63.6	9.1
Middle 3 SOCs	10.4	43.8	18.2	37.4	52.2	7.7
Bottom 3 SOCs	7.4	37.5	14.6	40.3	44.8	14.3
<i>5. Sector</i>						
Public and not for profit	6.1	53.6	23.4	39.4	55.0	11.8
Private	16.9	44.7	18.7	38.8	54.3	9.1
<i>6. Industry</i>						
Production	23.5	45.2	22.7	46.2	66.4	6.8
Services	8.8	48.9	19.4	36.5	50.3	11.4
<i>7. Regional Skills Partnership</i>						
North Wales	17.9	47.6	21.4	37.2	50.8	9.1
South West & Mid Wales	12.2	48.9	19.5	40.2	51.9	10.6
South East Wales	9.8	47.1	20.5	39.2	59.6	10.2
All	12.8	47.9	20.4	39.0	54.6	10.0

Job Stress and Exhaustion from Work

- 8.10 As well as work intensity, the surveys also collected data on job stress. Table 8.2 presents data from three questions about the frequency of experiencing 'worry about job problems', 'difficulty to unwind at the end of a workday', or 'feeling used up at the end of a workday'. Table 8.2 reports the percentage of workers who responded either 'much of the time', 'most of the time' or 'all of the time' to these questions. Across each of these measures, since 2006 Wales has shifted position from being a relatively low stress economy to a situation in 2017 where workers in Wales exhibit the highest levels of worry (24 per cent compared to 22 per cent for Britain), of being unable to unwind (26 per cent compared to 20 per cent) and of feeling used up (32 per cent compared to 28 per cent).
- 8.11 To summarise these three questions, a 'high stress' index has been constructed by taking the average of the responses given to each. Figure 8.4 presents data on the proportion of workers who achieve a score on this index that is equivalent to them responding 'much of the time', 'most of the time' or 'all of the time' to each of these questions. On the basis of this index, in 2006 only 8 per cent of workers in Wales reported high levels of stress. By 2017, this has increased to 20 per cent. Across other areas of Britain, whilst levels of job stress increased between 2006 and 2012, they remained relatively stable thereafter at 16 per cent.
- 8.12 Table 8.3 demonstrates how levels of job stress vary between different groups of workers in Wales. Focussing upon the overall measure of job stress, high stress jobs are demonstrated to be more prevalent among those with levels of educational attainment equivalent to level 4 or above (29 per cent) and those working in managerial, professional or associate professional occupations (20 per cent). The prevalence of high stress jobs does not appear to relate to either sector or industry of employment. In terms of personal characteristics, those aged 50-65 years (10 per cent) and those residing in North Wales (10 per cent) report the lowest levels of job stress.

Table 8.2: Job Stress and Exhaustion from Work: Britain, 2006-2017

	Worry about job problems (% much of the time)			Difficulty to unwind at the end of a workday (% much of the time)			Feeling used up at the end of a workday (% much of the time)			High levels of job stress (%)		
	2006	2012	2017	2006	2012	2017	2006	2012	2017	2006	2012	2017
Wales	13.6	18.3	23.6	10.4	16.5	26.1	20.3	23.7	31.8	8.3	13.4	20.3
Rest of Britain	16.1	20.1	20.8	15.1	18.5	19.4	23.2	25.4	27.9	12.3	15.0	15.7
London and the South East	17.8	26.5	22.7	16.0	24.5	20.3	22.7	27.4	28.6	11.1	20.8	16.8
Britain	16.5	21.8	21.7	15.2	20.0	20.1	22.9	25.8	28.4	11.8	16.4	16.3

Table 8.3: Job Stress and Exhaustion from Work by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Worry about job problems (% much of the time)	Difficulty to unwind at the end of a workday (% much of the time)	Feeling used up at the end of a workday (% much of the time)	High levels of job stress (%)
<i>1. Gender</i>				
Men	17.5	16.0	21.9	12.4
Women	17.7	16.9	27.3	13.7
<i>2. Age</i>				
20-34	18.9	17.1	26.8	13.8
35-49	18.8	17.5	26.4	14.8
50-65	14.8	14.3	19.6	9.9
<i>3. Highest Qualification</i>				
Level 4 and above	25.7	21.9	29.0	17.4
Levels 3 and 2	14.3	14.7	22.3	12.0
Level 1 and below	8.4	9.3	19.8	6.3
<i>4. Occupation</i>				
Top 3 SOCs	29.7	24.4	29.0	19.9
Middle 3 SOCs	11.1	11.4	20.7	8.7
Bottom 3 SOCs	8.3	11.3	22.6	8.5
<i>5. Sector</i>				
Public and not for profit	18.9	17.1	24.1	12.8
Private	16.9	16.0	24.7	13.2
<i>6. Industry</i>				
Production	17.3	14.8	23.8	10.7
Services	17.5	16.9	24.3	13.6
<i>7. Regional Skills Partnership</i>				
North Wales	14.5	12.1	20.2	10.2
South West & Mid Wales	18.8	16.2	22.3	12.2
South East Wales	18.6	19.5	29.3	15.6
All	17.6	16.4	24.4	13.0

Summary of Findings

- 8.13 Working long hours and at high levels of intensity can be associated with significant costs to those involved, such as an increase in the risk of workplace accidents or an increased incidence of work related ill health. Perceived stress at work is widespread in the UK and beyond. A noticeable feature of the

economic recovery has been the increased reliance of business upon precarious forms of employment as a response to the economic crisis. This chapter has provided new evidence on perceptions of work intensity among workers during the economic recovery.

- Workers in Wales do not appear to have benefited from the decline in the incidence of long hours working between 2012 and 2017 that has been witnessed in other parts of Britain. In 2017, 15 per cent of workers in Wales report working long hours.
- In 2017, half of workers in Wales reported that their job required them to work very hard. This represents an increase of 6 percentage points since 2012 and places Wales above the average for the wider economy.
- Workers in Wales are, however, no more likely to report that they work at very high speed or to tight deadlines. Workers within London and the South East have registered the largest increases in these measures since 2012.
- Since 2012, Wales has shifted position from being a relatively low stress economy to a situation in 2017 where workers in Wales exhibit the highest levels of worry (24 per cent), of being unable to unwind (26 per cent) and of feeling used up at the end of the day (32 per cent). Elsewhere, stress levels have remained relatively stable between 2012 and 2017.

9. Participation, Discretion and Well-Being at Work

Introduction

- 9.1 Satisfaction with work has also become a popular topic with government now keen to measure well-being not just in terms of economic outcomes. Work undertaken in the UK by the Office for National Statistics under its programme to measure national wellbeing has demonstrated that employees who are looking for a different or additional job exhibit lower levels of happiness and satisfaction with life; a reduced sense that what they do in life is worthwhile, and increased levels of anxiety than other employees (ONS, 2013). The pitfalls of analysing job satisfaction are however well documented. Responding to job satisfaction ratings within social surveys requires a cognitive process of judgement encompassing comparisons with what might be expected and the alternatives that are realistically available. Nonetheless, dissatisfaction with work has been shown to be predictive of economic outcomes, including quitting behaviour among employees (Green, 2010) and workplace productivity (Bockerman and Ilmakunnas, 2012). Two key non-pecuniary aspects of job quality that are likely to be important determinants of well-being at work relate to the involvement of employees in decision making and the levels of discretion with which individuals can undertake their jobs. Both involvement in decision making and the ability to exercise greater choice and discretion at work may be expected to engender increased levels of commitment among employees, thereby enhancing both their productivity and well-being at work (Avgoustaki and Frankort, 2018).
- 9.2 The surveys on which this report draws asked respondents about the amount of choice they had in carrying out their job as well as a series of questions about the personal influence they had over how hard they worked, what tasks they did, how tasks were to be completed and what standards they had to achieve. Teamwork has also been regarded as being associated with higher levels of discretionary work effort and an increased scope for workers to use and develop their skills. In addition to these, the involvement of employees in

organisational decisions has also been viewed as important in terms of fostering high levels of commitment. The chapter therefore proceeds as follows. Firstly, we examine levels of task discretion among employees and which groups of workers in Wales have the most (least) discretion in how they carry out their jobs. Next we consider the degree to which workers are involved in organisational decision making. We also present information on subjective job-related well-being that places particular emphasis upon levels of satisfaction with work.

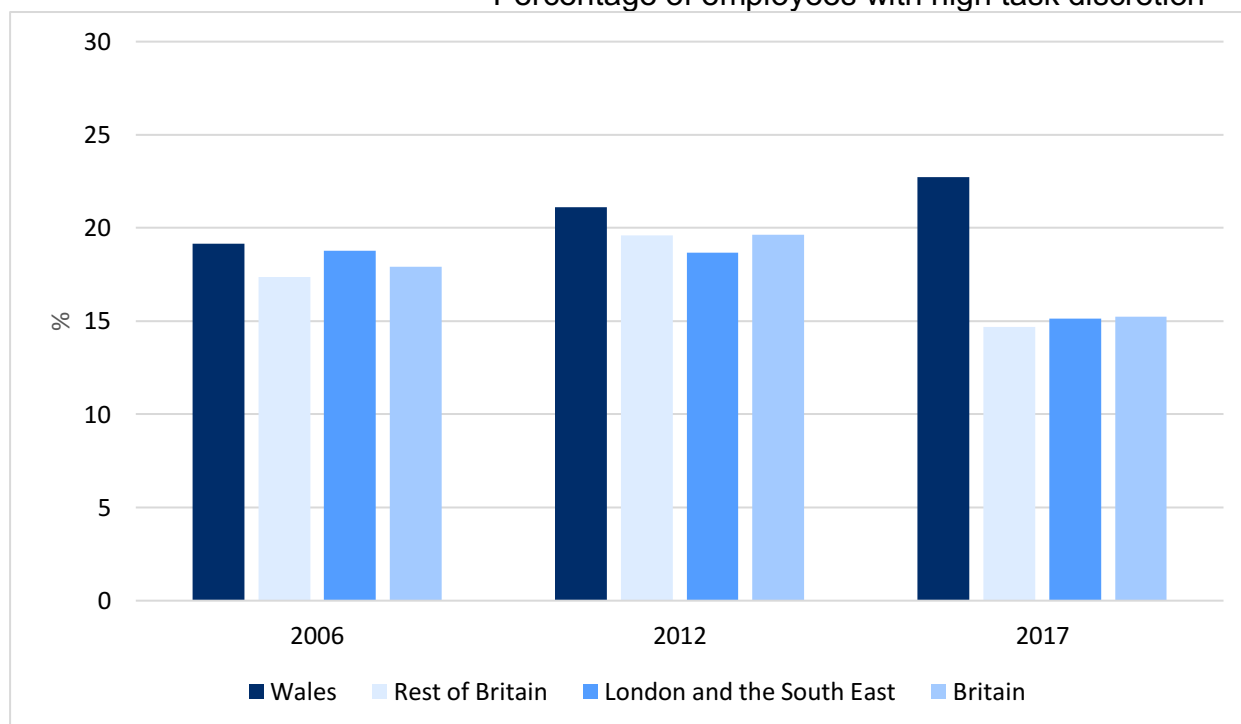
Task Discretion

- 9.3 The 2006, 2012 and 2017 surveys carry an identical set of questions that allow us to construct a consistent measure of discretion at work over the eleven year period for jobs in Wales. These four questions allow us to assess how much personal influence workers have over specific aspects of their work. Respondents were asked: 'How much influence do *you personally* have on how hard you work?' The options were 'a great deal'; 'a fair amount'; 'not much'; and 'none at all'. The same question format was used to determine employee influence on: 'deciding what tasks you are to do'; 'deciding on how you are to do the task'; and 'deciding the quality standards to which you work'. Although these questions were asked of the entire sample, the self-employed will generally have more control over their working environment than employees will. To assist with making comparisons across different parts of Britain that do exhibit varying levels of self-employment, we present results solely for employees. Nonetheless, we acknowledge that these questions will still be relevant to the self-employed, particularly among those who may be based at the workplace of a client.
- 9.4 To provide an overall picture from the different items measuring task discretion, a summary measure was constructed which identifies those respondents who reported that they had 'a great deal of influence' across each of the four questions. We regard such workers as perceiving that they have high levels of task discretion in their jobs. The proportion of employees who

perceive that they have high levels of task discretion is presented in Figure 9.1. It can be seen that during 2017, almost a quarter of employees in Wales (23 per cent) report that they have high levels of task discretion. This figure has gradually increased since 2006. By contrast, levels of task discretion have dropped markedly across other areas of Britain since 2012. As a result, in 2017 levels of task discretion are considerably higher in Wales compared to the average levels reported by employees within the wider economy (15 per cent).

Figure 9.1: Task Discretion: Britain, 2006-2017

Percentage of employees with high task discretion



9.5 With respect to teamwork, each of the surveys asked workers whether they usually worked on their own or whether their work involves working together as a group with one or more other workers in a position similar to theirs. In addition, for those who worked in teams, their scope for making decisions was explored through a set of questions on the level of control exercised by the team over key features of their work. Respondents who reported working as part of a group were asked: 'Earlier, you said you work as part of a group.

Thinking about the group in which you spend most time, and excluding the supervisor if there is one, how much influence do the others in this group have on how hard you work?' The options were 'a great deal'; 'a fair amount'; 'not much'; and 'none at all'. This question was repeated for the same remaining categories as those asked of respondents in respect of their own individual task discretion. An average influence score was created and teams that had a score equivalent to 'a great deal' or 'a fair amount' of influence were taken as working within semi-autonomous teams. Three additional questions were then asked in order to determine the level of self-management in teams. These questions asked how much influence team members had over selecting group members, selecting group leaders and setting targets of the group. Self-managed teamwork is defined as those working in semi-autonomous teams that also have a score equivalent to a 'great deal' or a 'fair amount' with respect to these management items.

- 9.6 The distribution of these responses is summarised in Table 9.1. It can be seen that reported levels of team working are relatively uniform across Britain, with approximately 6 out of 10 employees reporting that they work in a team. Whilst reported levels of team working have remained stable over the last decade, levels of autonomy within teams has increased. In 2006, 14 per cent of employees in Britain worked in semi-autonomous teams. By 2017, this figure had increased to 22 per cent. However, it can be seen that this increase is being driven in particular by patterns of team working observed among employees in London and the South East. Employees in London and the South East have exhibited a 10 percentage point increase in semi-autonomous teamwork (from 19 per cent to 29 per cent) and a 7 percentage point increase in self-managed teamwork (from 7 per cent to 14 per cent). Unlike other areas of Britain, levels of autonomy among employees working within teams in Wales appears to have declined slightly between 2012 and 2017 although, in common with other areas, this has increased since 2006. As a result, levels of autonomy among team workers are now lower in Wales compared to the average levels reported by employees within the wider economy.

Table 9.1: Team Working: Britain, 2006-2017

	Works in a Team (%)			Works in a Semi-Autonomous Team (%)			Works in a Self-Managed Team (%)		
	2006	2012	2017	2006	2012	2017	2006	2012	2017
Wales	60.4	57.2	65.0	13.0	19.3	18.0	4.1	8.8	5.9
Rest of Britain	58.5	62.7	61.2	14.2	16.6	18.7	3.2	5.6	6.1
London and the South East	62.5	63.6	62.6	13.6	18.8	29.3	4.5	7.3	14.3
Britain	59.5	63.0	61.8	14.0	17.6	21.7	3.6	6.2	8.5

9.7 Table 9.2 demonstrates how levels of job discretion and teamwork vary between different groups of workers in Wales. Focussing upon the overall measure of high job discretion, high discretion jobs are found to be lowest among younger workers (14 per cent), those with levels of educational attainment equivalent to level 1 or below (12 per cent) and those working within low skilled occupations (14 per cent). Whilst levels of job discretion do not vary by sector of employment, in terms of industry those employed within the Services Sector exhibit lower levels of discretion (19 per cent) compared to those working in Production (27 per cent). Levels of teamwork are found to be highest among younger workers (66 per cent), those with the lowest levels of educational attainment (67 per cent) and those working within low skilled occupations (63 per cent). Variations in levels of autonomy in team working among these groups follow broadly similar patterns. An interesting point of difference is observed in terms of the relatively low levels of autonomy in team working reported by those working in low skilled occupations compared to their high levels of team working overall.

Table 9.2: Task Discretion and Team Working by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	High Task Discretion (%)	Works in a Team (%)	Works in a Semi-Autonomous Team (%)	Works in a Self-Managed Team (%)
<i>1. Gender</i>				
Men	20.8	62.4	18.7	6.7
Women	20.6	59.7	13.1	4.7
<i>2. Age</i>				
20-34	14.0	65.8	16.5	4.6
35-49	23.6	61.8	16.9	7.1
50-65	24.1	54.7	13.9	5.1
<i>3. Highest Qualification</i>				
Level 4 and above	22.0	57.8	15.3	4.6
Levels 3 and 2	23.0	61.7	15.3	6.5
Level 1 and below	12.3	66.8	18.9	6.3
<i>4. Occupation</i>				
Top 3 SOCs	26.8	59.0	17.4	7.2
Middle 3 SOCs	19.1	61.3	17.8	5.0
Bottom 3 SOCs	14.4	63.4	12.1	4.6
<i>5. Sector</i>				
Public and not for profit	20.3	64.1	18.7	7.0
Private	21.0	58.5	13.9	4.8
<i>6. Industry</i>				
Production	27.2	63.9	17.1	6.5
Services	18.8	60.2	15.6	5.6
<i>7. Regional Skills Partnership</i>				
North Wales	21.0	62.2	19.9	7.7
South West & Mid Wales	22.1	60.9	12.7	4.6
South East Wales	19.0	60.4	16.3	5.4
All	20.7	61.0	15.9	5.7

Organisational Participation

9.8 The surveys include a suite of questions relating to the degree to which workers are involved in organisational decision-making. An overview of responses to these questions from workers in Wales is provided in Table 9.3. An initial question on organisational participation asked whether management organise meetings that provide information about what is happening in the

organisation. In Wales during 2017, three-quarters of those in employment (75 per cent) reported that managers arranged such meetings – some 10 percentage points higher than that reported among employees within the wider British economy (65 per cent). Respondents to the surveys were also asked whether the employee belonged to a ‘group of employees who meet regularly to think about improvements that could be made within the organisation’ – referred to as Quality Circles. In Wales during 2017, almost half of those in employment (45 per cent) reported that they belonged to such a group. Once again, this figure is far higher than that reported among employees within the wider British economy (37 per cent). Employees were then asked about how much say they had in decisions that affected the way they did their jobs. Those employees who responded ‘a great deal’ or ‘quite a lot’ are regarded as having a measure of organisation influence. The final columns of Table 9.3 reveal that levels of organisational influence do not vary greatly between different areas of Britain and have remained relatively stable between 2006 and 2017.

- 9.9 Responses to these questions among different sub-groups of the working population in Wales are presented in Table 9.4. It can be seen that those with the highest levels of educational attainment, those employed in managerial and professional occupations and those employed in the public sector are more likely to report that managers arrange consultative committees and that they participated in Quality Circles. The availability of such mechanisms may help to explain why those with higher levels of educational attainment and those employed within managerial and professional occupations are also more likely to report that they have some influence over decisions that affect how they did their jobs. However, this is not always the case. For example, men and older workers in Wales are more likely to report that they have some measure of organisational influence, despite being no more likely to report the presence of Consultative Meetings or Quality Circles. In contrast, those employed in the public sector in Wales report lower levels of Organisational Influence despite the increased availability of consultative institutions. Organisational Influence is also higher within the productive industries.

Table 9.3: Organisational Participation at Work: Britain, 2006-2017

	Managers Arrange Consultative Meetings (%)			Participate in Quality Circles (%)			Have Influence on Decisions that Affect Job (%)		
	2006	2012	2017	2006	2012	2017	2006	2012	2017
Wales	68.1	73.3	75.1	43.4	39.8	44.5	34.0	31.0	31.8
Rest of Britain	71.1	71.2	62.6	41.7	39.7	36.6	30.1	25.2	29.1
London and the South East	69.9	74.3	67.5	41.0	36.3	35.3	35.2	30.5	31.1
Britain	70.9	72.4	65.0	41.9	38.9	37.2	31.8	26.7	30.0

Table 9.4: Organisational Participation at Work by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Managers Arrange Consultative Meetings (%)	Participate in Quality Circles (%)	Have Influence on Decisions that Affect Job (%)
<i>1. Gender</i>			
Men	67.8	44.8	36.2
Women	74.9	41.1	29.2
<i>2. Age</i>			
20-34	70.9	43.3	26.4
35-49	74.9	43.1	34.3
50-65	67.1	42.3	37.5
<i>3. Highest Qualification</i>			
Level 4 and above	80.7	52.8	36.3
Levels 3 and 2	71.2	38.8	31.2
Level 1 and below	50.8	29.3	27.6
<i>4. Occupation</i>			
Top 3 SOC's	84.5	55.9	39.7
Middle 3 SOC's	68.7	37.3	30.6
Bottom 3 SOC's	57.1	31.8	26.0
<i>5. Sector</i>			
Public and not for profit	81.9	48.4	28.3
Private	63.6	38.9	35.8
<i>6. Industry</i>			
Production	66.0	43.8	39.1
Services	73.0	42.8	30.5
<i>7. Regional Skills Partnership</i>			
North Wales	65.9	43.7	34.8
South West & Mid Wales	73.0	40.4	34.2
South East Wales	73.2	44.9	29.8
All	71.3	42.9	32.7

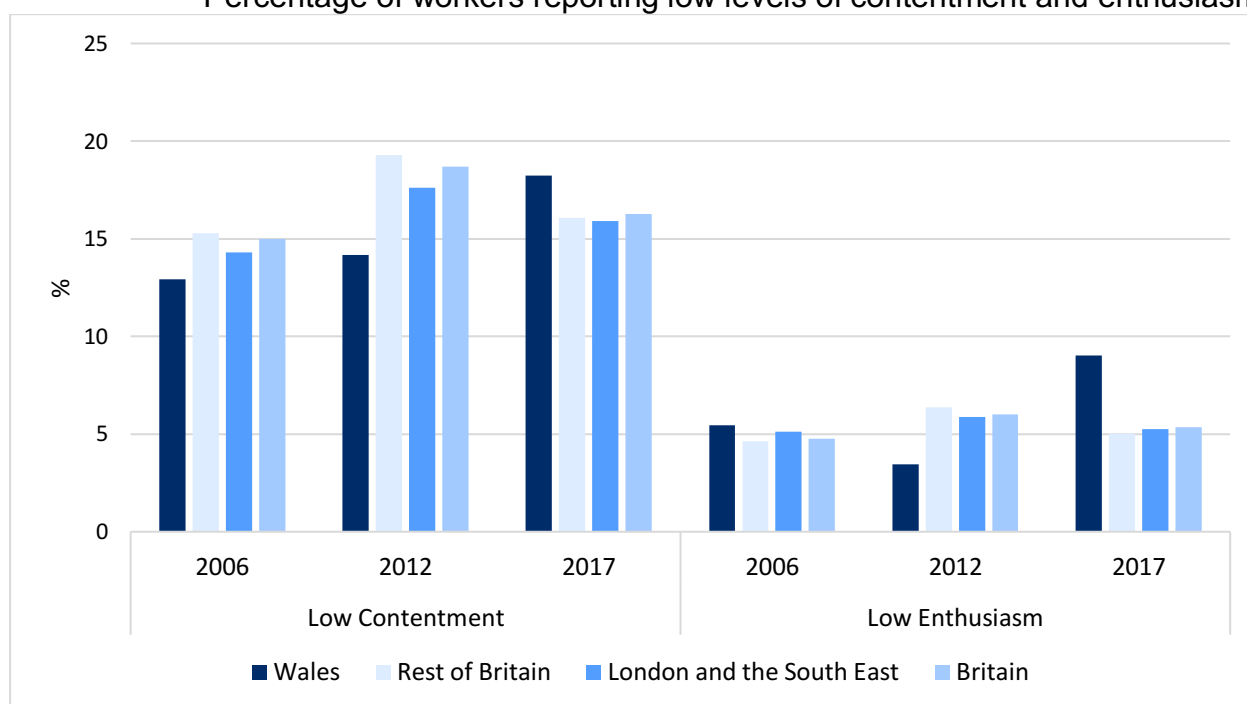
Job Enthusiasm, Contentment and Satisfaction

- 9.10 In the final section of this chapter, we present information on three further measures of subjective job-related well-being. As opposed to a simple ‘catch all’ question related to overall levels of satisfaction with work, the analysis uses a more sophisticated concept of job related well-being using Warr’s (1990) enthusiasm-depression and contentment-anxiety scales. These measures were based upon a series of questions that were introduced with the words ‘Thinking about the past few weeks, how much of the time has your job made you feel each of the following?’, each followed by an adjective describing a different feeling. The adjectives used for the enthusiasm scale included ‘depressed’, ‘gloomy’, ‘miserable’, ‘smiley’, ‘cheerful’ and ‘optimistic’. The enthusiasm scale ranges from the feeling of ‘depression’ (low pleasure, low arousal) to its opposite, ‘enthusiasm’ (high pleasure, high arousal). The contentment scale ranges from ‘anxiety’ (low pleasure, high arousal) to its opposite, ‘contentment’ (high pleasure, low arousal). The adjectives used for the contentment scale included ‘tense’, ‘uneasy’, ‘worried’, ‘calm’, ‘contented’ and ‘relaxed’. Indices were derived by taking the average of the responses to each question set, having first reversed the coding of negative items. Those who on average reported that their jobs either never or only occasionally made them feel enthusiastic or contented were defined as exhibiting low levels of enthusiasm or contentment.
- 9.11 Figure 9.2 presents information on these measures of enthusiasm and contentment. Compared to other areas of Britain, Wales has moved to a position where in 2017 it exhibits the highest proportion of workers who report low levels of enthusiasm (9 per cent) and contentment (18 per cent), representing a deterioration in the relative position of Welsh workers compared to earlier years and consistent with earlier findings related to work intensity and stress. Table 9.5 presents information on enthusiasm and contentment for different groups of Welsh workers. Those workers that exhibit the lowest levels of enthusiasm in Wales include those employed within low skilled occupations, those employed in the private sector and those residing in South East Wales.

Greater variation between population sub-groups is observed in terms of those who report low levels of contentment. Women, younger workers, the more highly qualified, those employed in managerial and professional occupations, those working within the Services Sector and those residing in South East Wales are each more likely to report that they experience lower levels of contentment.

Figure 9.2: Enthusiasm and Contentment at Work: Britain, 2006-2017

Percentage of workers reporting low levels of contentment and enthusiasm



9.12 A third measure of job satisfaction was obtained from the combined responses to questions about 14 separate domains of work encompassing pay, promotion prospects, relations with the boss, job security, opportunity to use abilities, ability to use initiative, quality of management, hours, fringe benefits, the work itself, the amount of work, variety in the work, training and the friendliness of co-workers. A combined measure of job satisfaction was derived by taking the average of the responses to each question set, upon which measures of low and high job satisfaction were derived. From this, we derived measures of low and high job satisfaction. The measure of low job satisfaction indicates that a worker is, on average across the 14 domains of work, dissatisfied with their

job. Conversely, the measure of high job satisfaction indicates a worker is, on average, either completely or very satisfied with their job.

Table 9.5: Enthusiasm and Contentment at Work by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Jobs either never or only occasionally make workers feel:	
	Contented (%)	Enthusiastic (%)
<i>1. Gender</i>		
Men	12.5	6.0
Women	17.2	6.1
<i>2. Age</i>		
20-34	16.9	6.4
35-49	16.5	6.0
50-65	10.3	5.8
<i>3. Highest Qualification</i>		
Level 4 and above	19.6	6.4
Levels 3 and 2	12.9	5.4
Level 1 and below	9.2	6.5
<i>4. Occupation</i>		
Top 3 SOC's	21.0	6.0
Middle 3 SOC's	9.4	4.0
Bottom 3 SOC's	12.5	8.6
<i>5. Sector</i>		
Public and not for profit	16.3	4.4
Private	13.7	7.0
<i>6. Industry</i>		
Production	9.7	7.0
Services	16.2	5.8
<i>7. Regional Skills Partnership</i>		
North Wales	11.5	4.2
South West & Mid Wales	13.2	5.7
South East Wales	18.5	7.6
All	14.8	6.0

9.13 Figure 9.3 presents data on these two measures of job satisfaction for these Welsh workers. It can be seen that workers in Wales are consistently more likely to report very high levels of job satisfaction compared to other parts of

Britain across each of the surveys. However, the gap has narrowed over time. In 2017, over one in five Welsh workers reported that they were very or completely satisfied with their jobs. However, it must also be noted that Welsh workers were also more likely to report that they were dissatisfied with their jobs (9 per cent) compared to other areas of Britain (7 per cent). In terms of variations in job satisfaction among different groups of the Welsh population (see Table 9.6), those with low levels of educational attainment, those employed in the private sector and those working in low skilled occupations were most likely to report high levels of job satisfaction. However, those in low skilled occupations were also particularly likely to report being dissatisfied with their jobs (13 per cent), highlighting the wide differences in the experiences of employment among those within the same broad population groups.

Figure 9.3: Job Satisfaction: Britain, 2006-2017

Percentage of workers expressing low and very high levels of job satisfaction



Table 9.6: Job Satisfaction by Selected Socio-economic Characteristics: Wales, 2006-2017 Pooled

	Low Job Satisfaction (%)	Very High Job Satisfaction (%)
<i>1. Gender</i>		
Men	8.0	21.1
Women	8.0	21.9
<i>2. Age</i>		
20-34	8.6	22.2
35-49	9.4	20.8
50-65	5.4	21.7
<i>3. Highest Qualification</i>		
Level 4 and above	8.2	19.2
Levels 3 and 2	8.6	21.9
Level 1 and below	6.1	24.9
<i>4. Occupation</i>		
Top 3 SOCs	5.9	20.8
Middle 3 SOCs	6.6	21.3
Bottom 3 SOCs	12.5	22.7
<i>5. Sector</i>		
Public and not for profit	6.9	18.9
Private	8.7	23.3
<i>6. Industry</i>		
Production	6.8	23.3
Services	8.1	21.0
<i>7. Regional Skills Partnership</i>		
North Wales	7.9	24.4
South West & Mid Wales	7.2	24.0
South East Wales	8.7	17.3
All	8.0	21.5

Summary of Findings

- 9.14 Satisfaction with work has become a popular topic with government now keen to measure well-being not just in terms of economic outcomes. Dissatisfaction with work has been demonstrated to be related to poorer outcomes at the workplace, including the ability of employers to retain workers and productivity. Two important determinants of well-being at work relate to the involvement of employees in decision making and the ability to exercise discretion.

- In contrast to Wales, employees across other areas of Britain report declining levels of task discretion since 2012. As a result, in 2017 levels of task discretion in Wales are considerably higher than elsewhere. However, the levels of autonomy delegated to teams in Wales is lower than elsewhere.
- Employee involvement in organisational decision making is higher in Wales. Workers report the higher presence of consultative meetings and that they are more likely to be a member of a Quality Circle or similar group that discusses organisational improvements. Despite this, employees in Wales are no more likely to perceive that they have higher levels of influence over their jobs compared to workers elsewhere.
- Compared to other areas of Britain, Wales exhibits the highest proportion of workers who report low levels of enthusiasm and contentment during 2017, representing a deterioration since 2012 when Welsh workers exhibited relatively low levels of both.
- In terms of overall satisfaction with work, workers in Wales exhibit both the highest levels of low job satisfaction (9 per cent compared to 7 per cent in Britain) and very high job satisfaction (21 per cent compared to 18 per cent in Britain).

10. Conclusions

- 10.1 The promotion of good quality work for all is a key objective of the Welsh Government. It is a part of *Prosperity for All: the National Strategy* and it features in two plans published in 2018 – the *Economic Action Plan* and the *Employability Plan*. Work is also of fundamental importance to well-being and as such it is a key feature of the *Well-being of Future Generations Act 2015*. There is therefore a strong need for robust evidence to inform and shape policy development in this area. Although many sources of data help to provide us with a detailed understanding of the labour market in Wales, data on the quality of people’s jobs and their experiences of work – beyond what they get paid – is in short supply. In this context, this report presents new evidence for Wales from the Skills and Employment Surveys that goes some way to address this evidence gap. It has examined non-pay features of work to provide a unique insight in to the working lives of the people of Wales both before and after the 2008-2009 recession as well as how these compare to those living elsewhere in Britain.
- 10.2 The results presented in this report show that, contrary to popular belief, jobs in Wales are in some respects better than those that are held by those living elsewhere. Our main findings are as follows:

Job Skills

- 10.3 The results on job skills offer both positive and negative news for Wales. The good news is that jobs in Wales in 2017 are more demanding of skills than jobs elsewhere based on a number of measures in the survey. They require on average more learning time to get to grips with the tasks the job involves and more training time is needed for the type of work undertaken. The level of generic skills regarded as being essential for the performance of jobs in Wales is also higher than in other parts of Britain. However, the bad news is that jobs in Wales are less skills demanding in terms of the level of qualifications needed on entry and the over-qualification rate in Wales has changed little over the last decade or so, hovering at around 40 per cent and 4 percentage points higher

than that observed across Britain as a whole in 2017 (36 per cent).¹³ That said, the 2017 findings suggest that there has been a rise in the proportion of individuals who say that they are able to use quite a lot or more of their skills at work when compared to previous years. This suggests that once in work, the skills of jobs and workers are becoming better aligned. This is reflected in a fall in the ‘real’ over-qualification rate in Wales, which factors in use of skills, from 16 per cent in 2006 to 10 per cent in 2017.

Training, Learning and Progression

10.4 Evidence from the Skills and Employment Survey series show that the incidence of training in Wales has risen by around five percentage points between each of the three surveys. This compares to flat or falling incidence rates across Britain. Despite a higher and rising incidence of training in Wales, the intensity of training has fallen. This is in line with evidence from the Labour Force Survey which suggests that training intensity across Britain has fallen much faster than training incidence over the last two decades and that focusing on incidence alone can be misleading. While doing better than Britain as a whole in terms of the incidence and intensity of training, the quality of training in Wales is neither better nor worse than elsewhere. However, proportionately more Welsh respondents strongly agreed that their job required them to learn on an on-going basis. Furthermore, this proportion grew more quickly in Wales than elsewhere. Despite these personal development opportunities, promotion prospects are poorer in Wales than in Britain as a whole.

Productivity

10.5 Poor productivity performance in the UK and Wales has been a cause for concern for many years. Data from the Skills and Employment Surveys offer the workers’ perspective on the productivity debate in Britain and provide new insights for Wales. One of the main messages of the 2017 results is that

¹³ This analysis should be considered indicative due to sample size limitations and difficulties of measuring qualifications mismatch in practice.

relatively poor productivity performance in Wales cannot be put down to especially poor management practices in Welsh workplaces. On the contrary, workers in Wales are more likely think that they have had a more meaningful impact on productivity than workers across Britain as a whole. That said, employees in Wales report being more poorly equipped both in terms of the tools they have to work with and the organisation of the work process. This points to the presence of a Welsh productivity puzzle that is not fully understood.

Fairness, Support and Organisational Commitment

10.6 The Skills and Employment Surveys provide valuable insights as to how fair employees perceive their own organisation. Perceptions of organisational fairness are demonstrated to be much higher in Wales than elsewhere. Compared to elsewhere in Britain, employees in Wales are more likely to report that they are treated fairly at work, that their immediate boss treats them with respect and is helpful to them in a number of ways. Employees in Wales also report that they are less likely to leave their current employment voluntarily than employees elsewhere. Similarly, organisational commitment – such as working hard to make the organisation succeed and turning down another job to stay with the organisation – is higher in Wales than in Britain as a whole. However, this is nothing new with similar findings in 2006, 2012 and 2017.

Insecurity at Work

10.7 Across all areas of Britain, our data demonstrates that anxieties surrounding insecurity at work were higher during the immediate aftermath of the recession compared to before. However, perceptions regarding risk of job loss are no higher in Wales compared to elsewhere in Britain. The risks of quick dismissal as a result of poor performance are perceived to be lower among Welsh workers. Fears regarding unfair dismissal, discrimination and victimisation by management among employees in Wales are broadly comparable to other areas of Britain, but are lower when compared to London and the South East where

such fears among workers have increased substantially. In terms of the cost of job loss, workers in Wales are, however, more likely to report that it would be very difficult to find a job as good as their current one.

Work Intensity

10.8 Working long hours and at high levels of intensity can be associated with significant costs to those involved, such as an increase in the risk of workplace accidents or an increased incidence of work related ill-health. The Skills and Employment Surveys suggest that workers in Wales have not benefited from the decline in long hours working that has occurred in other parts of Britain over the last five years. In addition, approximately half of workers in Wales in 2017 strongly agreed with the statement that their job required them to work very hard, placing Wales above the average for the wider economy. Furthermore, since 2006 Wales has shifted position from being a relatively low stress economy to a situation in 2017 where workers in Wales exhibit the highest levels of worry (24 per cent), of being unable to unwind (26 per cent) and of feeling used up at the end of the day (32 per cent).

Participation, Discretion and Well-Being at Work

10.9 Job-related well-being has become a popular topic with government now keen to measure well-being not just in terms of economic outcomes. This report reveals that in 2017, levels of task discretion in Wales were considerably higher than elsewhere in Britain, although the level of autonomy delegated to teams in Wales was lower. Employee involvement in organisational decision making was also higher in Wales in 2017, although employees in Wales were no more likely to perceive that they have higher levels of influence over their jobs. Compared to other areas of Britain, Wales exhibits the highest proportion of workers who reported low levels of enthusiasm and contentment during 2017, representing a deterioration in the relative position of Welsh workers since 2012. Despite these

differences, workers in Wales in 2017 expressed levels of satisfaction with work that are broadly comparable to elsewhere in Britain.

Concluding Comments

- 10.10 This report presents some new evidence for Wales on the non-pay features of work. Jobs in Wales are in some respects better than jobs elsewhere. Proportionately more workers in Wales, for example, report that they receive a good deal of help from their line manager, they are treated with more respect, they regard their employer to be fair and they have a greater ability to contribute to decisions regarding improvements to work processes, products or services. That said, they require lower qualifications to enter work and once in work they have to cope with poorer tools and equipment, and have poorer promotion prospects. Similarly, it is good news that employees in Wales report high levels of involvement in organisational decision making and high levels of task discretion in 2017. More generally, across several of our measures of job quality, the effects of the economic crisis appear to have abated in Wales in a way not seen elsewhere particularly among workers based in London and the South East.
- 10.11 The difficulties associated with analysing and interpreting measures of job quality derived from social surveys are well documented (Brown *et al.*, 2012). Responding to such survey questions requires a cognitive process of judgement, with job quality often being assessed in the context of comparisons with what might be expected and the alternatives that are realistically available. It is therefore important to consider the context within which such assessments are formed. The relative weakness of the Welsh economy remains apparent within our analysis. Perceptions regarding the cost of job loss are higher in Wales, potentially reflecting the perceived scarcity of work in Wales. Average pay in Wales is also of course lower – according to official data workers in Wales get paid around 90 per cent of the UK average and around 70 per cent of what workers in London might expect to receive (ONS, 2018d). Such observations provide a possible insight as to why job satisfaction has previously been found to

be generally higher in Wales than in other parts of Britain (Sutherland, 2008; Jones and Sloane, 2009; Sutherland, 2016) and are of practical significance to those who are tasked with measuring levels of well-being among those living and working in Wales.

- 10.12 Whilst the relative scarcity of work may be of importance to our understanding of some of the subjective assessments of job quality provided by workers in Wales, the surveys analysed in this report also point to some real differences in the nature of employment in Wales. Respondents to the 2017 survey were asked to rank what job aspects were most important to them. In Wales, 87 per cent of workers regarded relationships with managers as being very important or essential. This came third out of fifteen aspects of jobs rated as most important by respondents, behind only job security and liking the work (both 88 per cent). Managerial relations were ranked ahead of the opportunity to use one's abilities (84 per cent), pay (77 per cent) and good training provision (77 per cent). Our findings with respect to organisational fairness, the helpfulness of managers and involvement in organisational decision making each resonate with previous evidence that suggests that the climate of employment relations is better in Wales compared to other parts of the UK (Drinkwater and Ingram, 2005; Beynon *et al.*, 2012; Huggins and Thompson, 2015; Bryson and Davies, 2019).
- 10.13 The overarching message of this report, then, is that Wales does well on some aspects of job quality as measured by the Skills and Employment Survey, but performs more poorly on others. This provides further support for those who argue against single metric of fair work (e.g., OECD, 2017; Carnegie UK Trust, 2018; Felstead *et al.*, 2019). Instead, these mixed messages reflect the multi-dimensional nature of the concept and the attendant need for policy development across different strands of Welsh Government, so that well-being through paid work can be fully enhanced.

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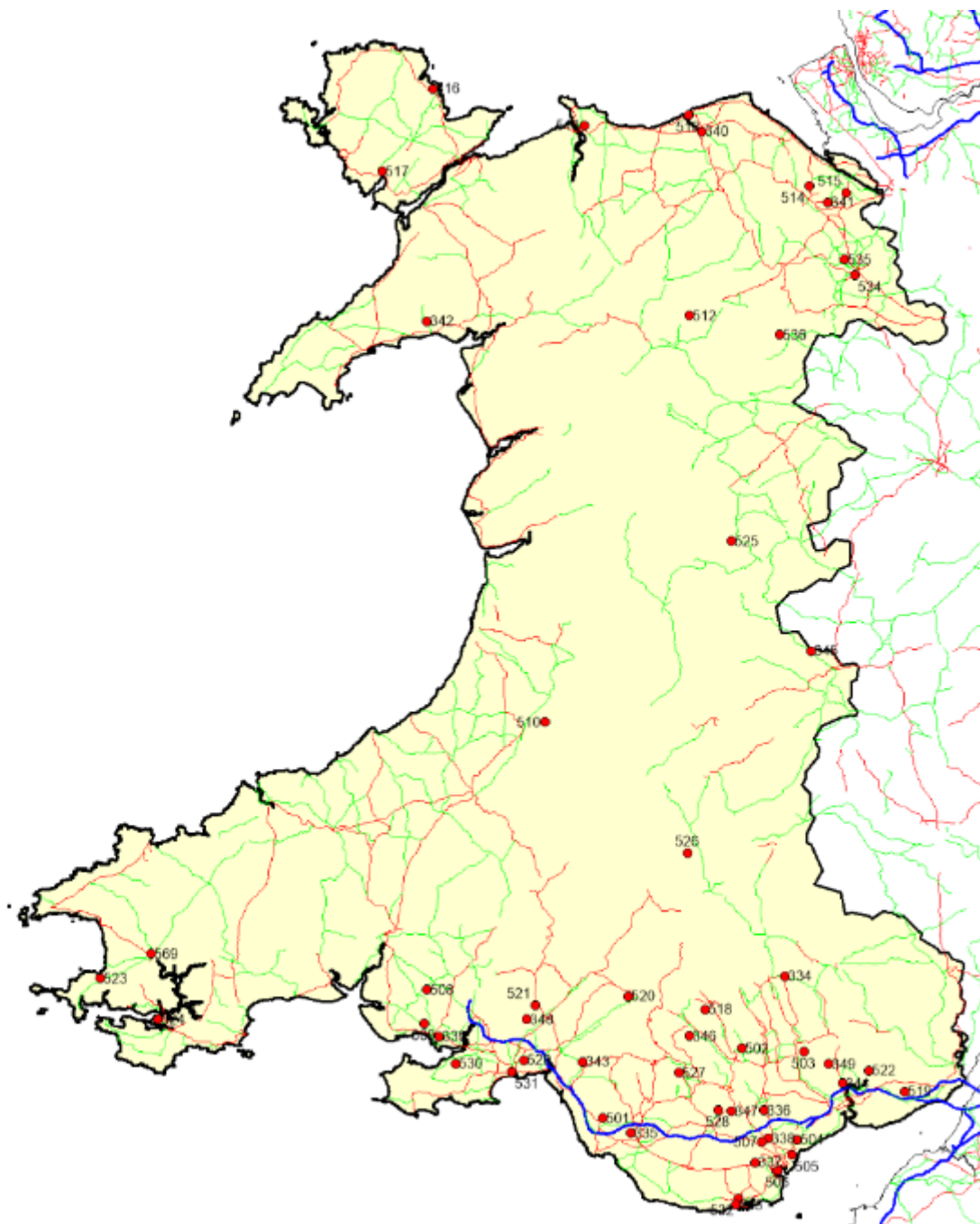
Appendix A: Fieldwork Activities and Outcomes for Wales

- A.1 The three surveys reported here are part of a series of nationally representative sample surveys stretching back to 1986. There are seven surveys in the series, but this report focuses only on those which had a Welsh boost – the surveys carried out in 2006, 2012 and 2017. These surveys comprise:
- 6,704 workers in 2006 (407 of whom were in Wales);
 - 3,200 workers in 2012 (587 of whom were in Wales);
 - 3,306 workers in 2017 (455 of whom were in Wales).
- A.2 This Appendix provides details on the fieldwork activities and outcomes of each of these surveys with a particular focus on how the Welsh sample.

Skills and Employment Survey 2017 (SES2017)

- A.3 The fieldwork for this survey was carried out by GfK after a competitive tendering process managed by Cardiff University. The sample selection for SES2017 was based on a conventional multi-stage design which ensured that postcode sectors were spread throughout Britain and reflected the socio-economic composition of the country. The sampling frame used was the most up-to-date small user Postcode Address File (PAF). The same sampling framework was used in 2012 and 2006. Within each of the chosen postcode sectors, addresses were drawn from a random start point with the interval determined by the number of addresses sought per sample point. A total of 178 interviewers were briefed and 338 initial sample points were issued. This comprised 302 points for the British sample and 36 points for the Welsh boost. A total of 17,103 addresses were initially issued, of which 1,836 were for the Welsh boost. A total of 23 Welsh sampling points were issued as part of the British sample, giving a total of 59 sampling points in Wales (see Figure A1). Together with the boost sample and the addresses issued as part of the main British sample, 2,601 addresses were sampled in Wales.

Figure A1: SES2017 Welsh Sample Points



A.4 For the main fieldwork, a total of 18 webinar briefings were carried out, in May and June 2017 with a final 'mop up' session in August 2017. The master briefing took place on 11th May 2017 and was attended by two members of the research team who also took an active part in the session by introducing the background to the survey and providing clarification when required. Both the Welsh and

'research team supported' briefings took place early on in the programme, thereby ensuring that clarifications and amendments were incorporated into subsequent sessions (or versions of the on-screen script). A total of 25 interviewers were used in Wales and they were briefed across three sessions.

- A.5 Once in the field, interviewers first had to determine whether there was an eligible individual to interview at each of the addresses they were given. For our purposes, they needed to be in work and aged 20-65 years old. When the interviewer was faced with a choice about selection, the procedure was based on a 'Kish grid', a table of randomly-generated numbers individually prepared for each address. In aggregate, the effect of using a Kish grid is to give each eligible person an equal chance of selection. It was used to make up to two selections. The first is the dwelling unit, where the postal delivery point contains more than one unit. Secondly and more often, it is used to select one eligible adult per dwelling unit. The process of selection was fully documented on an 'Address Contact Sheet' (ACS), a paper document used by the interviewer to record all attempts to contact those at the address. As a measure to protect the identity of sample members, the ACS was returned by interviewers to the office, separately from the computer data file.
- A.6 As there are differences in the probability of selecting each individual, depending on the number of dwelling units at the address and the number of eligible adults in the selected dwelling unit, Kish weights are used in the analysis. The data set supplied contained a Kish weight designed to take into account the differential probabilities of sample selection according to the number of dwelling units at each issued address and the number of eligible interview respondents. In other words, those from households with more eligible members for interview were given a higher weight than those from smaller households.
- A.7 In order to achieve the targeted number of interviews – in the light of corrected estimates of eligibility – a reserve sample was selected. The reserve sample was not selected at the same time as the main stage sample, but used the same principles. One reserve sample point comprising 51 addresses was issued in Wales taking the total number of addresses issued to 2,652. The main phase of

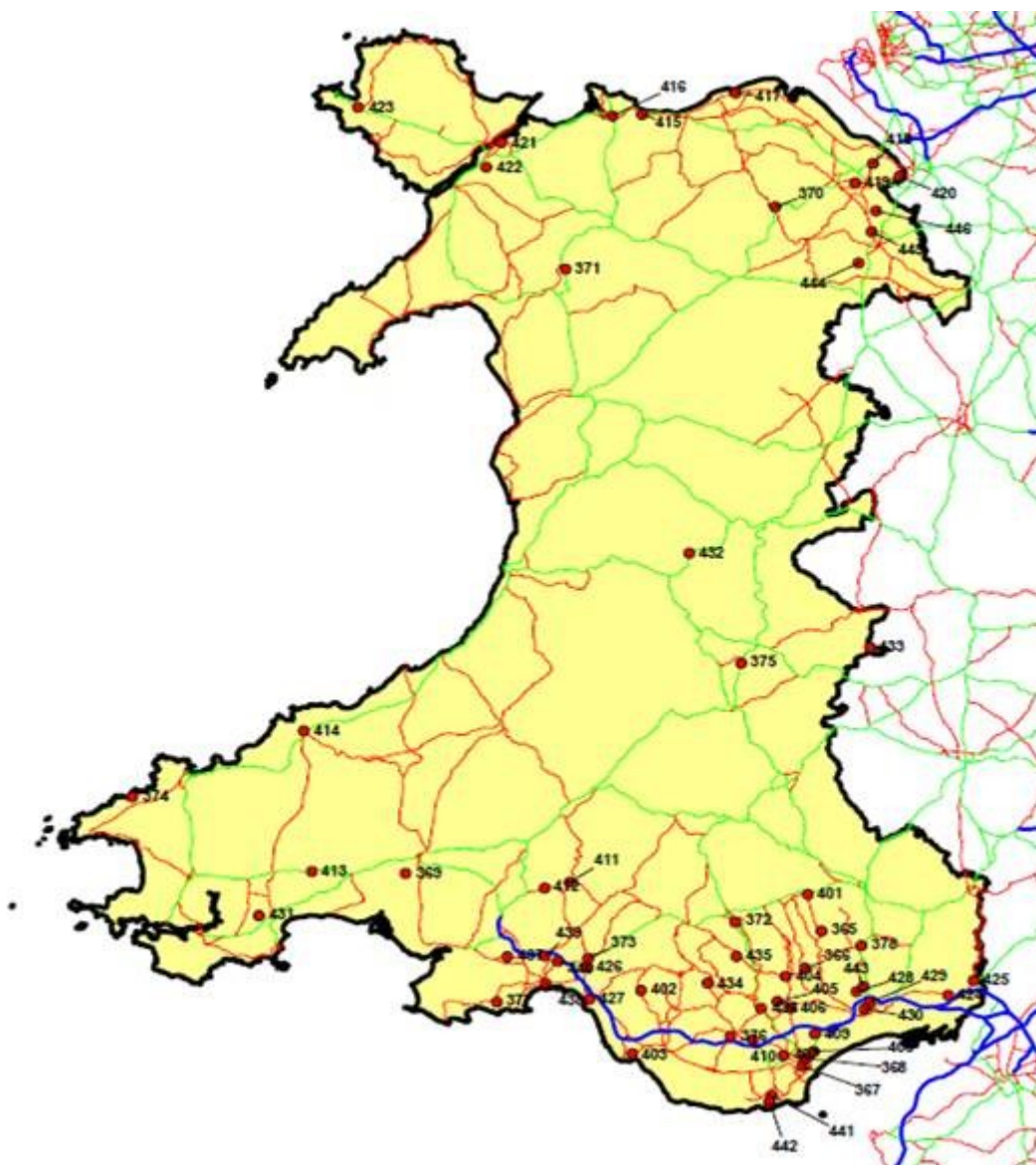
interviewing was completed in 2017. The additional points were completed in January 2018.

- A.8 In addition to allocation of addresses to interviewers at the outset of the project, selected cases were 're-issued', usually to a very experienced interviewer, both to ensure that reasonable response rates were achieved in more difficult areas and to maximise the overall response rate. Feedback from the original issue determined whether it would be appropriate to re-issue those addresses again, using information collected on the contact sheet. Rather than quickly re-issuing individual outcomes to available interviewers, time was spent matching cases up to the more successful interviewers on the project. A small team of re-issue interviewers was utilised. The re-issue strategy involved assessing cases on a micro level to establish the anticipated success rate with the preferred choice of interviewer. A total of 177 addresses were reissued in Wales which resulted in 10 more interviews out of a total of 455 conducted across Wales as a whole.
- A.9 The survey data were collected by computer-aided personal interviewing (CAPI). This means that a computer version of the questionnaire appeared on the interviewers' laptop computer. Interviewers read out the questions from the screen and entered the responses given by selected respondents. All interviewees were asked whether they would like the interview in English or Welsh. Those requesting Welsh were contacted by a Welsh-speaking interviewer and a fully translated CAPI script was used for this purpose. One interview was carried out in Welsh. Interviews took place in respondents' homes and lasted, on average, 59 minutes. At the end of each interview, respondents were given a £10 gift voucher redeemable at a number of well-known high street stores.
- A.10 To get insights into the fieldwork performance on the ground members of the research team have separately accompanied an interviewer in the field; on three occasions these took place in Wales. In addition, throughout the fieldwork period GfK supplied the research team with a weekly account of fieldwork performance.

Skills and Employment Survey 2012 (SES2012)

- A.11 Like SES2012, the fieldwork for this survey was carried out by GfK-NOP after a competitive tendering process managed by Cardiff University. The sample selection followed the same principles as those outlined for SES2017. Initially, a total of 247 interviewers were briefed and 324 sample points were issued. This comprised 278 points for the British sample and 46 points for Wales (see Figure A2). A total of 14,866 addresses were initially issued, of which 2,438 were for the Welsh boost. Further addresses were issued as part of the British sample. Together with the reserve sample addresses 3,375 were issued in Wales.
- A.12 For the main fieldwork, a total of 16 briefings were carried out, three in January and the remainder in February 2012 with a final 'mop up' briefing in early March 2012. On seven occasions, at least one member of the research team was in attendance and participated in the briefing by introducing the background to the survey and providing clarification when required. There were three briefings for the Welsh sample with a member of the research team in attendance on all three occasions. Both the Welsh and 'research team supported' briefings took place early on in the briefing programme, thereby ensuring that clarifications and amendments were incorporated into subsequent sessions (or versions of the on-screen script). A total of 38 interviewers were used in Wales.
- A.13 Once in the field, interviewers first had to determine whether there was an eligible individual to interview at each of the addresses they were given. A 'Kish grid' was used for this purpose in line with the procedure outlined for SES2017 (see above).
- A.14 In order to achieve the targeted number of interviews – in the light of corrected estimates of eligibility – a reserve sample was selected. The reserve sample was not selected at the same time as the main stage sample, but used the same principles. A total of five reserve sample points and 3,375 addresses were issued in Wales, with three-quarters of interviews carried out in the first three months of 2012. All Welsh interviews were completed by the end May 2012.

Figure A2: SES2012 Welsh Sample Points



A.15 In addition to allocation of addresses to interviewers at the outset of the project, selected cases were 're-issued', usually to a very experienced interviewer, both to ensure that reasonable response rates were achieved in more difficult areas

and to maximise the overall response rate. In Wales, a total of 433 addresses were reissued which resulted in 36 interviews out of a total of 587.

- A.16 Interviewees were asked whether they would like the interview in English or Welsh. Those requesting Welsh were contacted by a Welsh-speaking interviewer and a fully translated CAPI script was used for this purpose. A total of two interviews were carried out in Welsh. Interviews took place in respondents' homes and lasted, on average, 59 minutes. At the end of each interview, respondents were given a £10 gift voucher redeemable at a number of well-known high street stores.
- A.17 To get insights into the fieldwork performance on the ground members of the research team have separately accompanied an interviewer in the field; on three occasions these took place in Wales. In addition, throughout the fieldwork period GfK-NOP supplied the research team with a weekly account of fieldwork performance.

Skills Survey 2006 (SS2006)

- A.18 The fieldwork for this survey was carried out by BRMB after a competitive tendering process managed by the University of Kent. The sample selection followed the same principles as those outlined for SES2017 and SES2012; that is, a multi-stage stratified sample of household addresses were selected and workers aged 20-65 years old were randomly selected for interview from these household addresses. However, less detail can be presented on fieldwork activities and outcomes for the Welsh sample alone since these are no longer available and there is no historic Welsh report on which we can draw.
- A.19 A total of 23,348 addresses were selected, including an estimated 1,448 Welsh addresses of which 676 were drawn to boost the Welsh sample. These addresses were taken from 449 postcode sectors with 13 for the Welsh boost. In order to maximise interview numbers in each of the survey areas, a reserve sample was selected. 104 such addresses were issued for the Welsh boost.

- A.20 All interviewers working on the survey in Britain undertook to complete an 'assignment' of 52 addresses. All interviewers attended one of a series of briefing sessions on the survey, which were held at various locations around the country. These briefings were each conducted by one of BMRB's researchers, following an agreed briefing plan and using a common set of materials.
- A.21 Briefings were conducted in several stages. The first round of briefings started on 6 March 2006 and was completed on 16 March 2006. A second round was held between 18 April 2006 and 21 April 2006. A few ad-hoc briefings were also arranged in the summer months between June and September 2006. The fieldwork began in March 2006 and finished 12 months later, with three-quarters of the interviews completed by August 2006.
- A.22 In addition to allocation of addresses to interviewers at the outset of the project, selected cases were 're-issued', usually to a very experienced interviewer, both to ensure that reasonable response rates were achieved in more difficult areas and to maximise the overall response rate. A total of 6,674 addresses were re-issued across the entire sample. This produced interviews with 1,242 respondents. Interviews lasted an average of 58 minutes.

Appendix B: Weighting Procedures for the Welsh Report

- B.1 SES2017 is the seventh in a series of nationally representative sample surveys of individuals in employment aged 20-60 years old (although the 2006, 2012 and 2017 surveys additionally sampled those aged 61-65). Not all of these surveys had a boosted Welsh sample. We have chosen to focus only on the 2006, 2012 and 2017 surveys in this report because only these surveys boosted the sample size for Wales and the first survey in the series carried out in 1986 consisted of six local labour markets, none of which were in Wales. However, the 1986 data has been shown to be representative of British workers at the time (Gallie, *et al.*, 1998: 317)
- B.2 The data files for all three of these surveys were supplied with design weights. These were provided by the market research companies responsible for the fieldwork. They ensure that the data were representative of the target population by correcting for differential probabilities of selection. Unequal selection probabilities can occur at three points in the design process:
- The selection of one dwelling per address;
 - The selection of one household per selected dwelling;
 - The selection of one eligible adult per (selected) household.
- B.3 In many datasets, these are referred to as 'Kish weights'. We use the Kish weights to produce the sample distributions produced below (see Tables B.1, B.2 and B.3). The distribution of the samples for Wales, London and the South East, and the Rest of Britain were examined according to the same standard socio-economic variables. These distributions were compared with results generated for the same areas but produced by the Labour Force Survey (LFS) for the second quarter of that year. Since the LFS has a substantially larger sample size, and since it gleans information from every member of households, it can be argued that the LFS sample is likely to be closely representative of the employed workforce.
- B.4 Tables B1, B2 and B3 present these comparisons. The base is those in employment and aged between 20 and 65 years old inclusive. We compare the

representation of the Kish weighted survey results against the results given by the LFS for the second quarter of that year. We compare the results by sex, age and occupation. These results are then used to produce sex, age and occupational weights which when applied adjust for the under-representation of men, the young and certain occupational groups. To make occupational comparisons, we used the classification system in place at the time: for 2017 and 2012 we used SOC2010; for 2006 we used SOC2000.

B.5 Throughout this report the data are weighted using the three weights separately derived for Wales, the Rest of Britain, and London and the South East. The findings presented here, therefore, correct for both design effects and non-response rates by sex, age and occupational group. This ensures that the findings we present are robust.

Table B1: Representativeness of the Skills and Employment Survey 2017
(a) *Wales*

	SES2017 with design weight applied	LFS Quarter 2, 2017	SES2017 with design and non-design weights applied
<i>Sex</i>			
Male	43.7	52.7	52.9
Female	56.3	47.3	47.1
<i>Age</i>			
20-29	15.3	21.9	21.6
30-39	19.9	22.3	22.6
40-49	27.0	23.1	22.5
50-60	30.7	26.9	27.3
61-65	7.2	5.8	6.1
<i>SOC 2010 Occupations</i>			
Managers, Directors and Senior Official	8.1	9.8	9.9
Professionals	16.8	17.7	17.1
Associate Professionals	15.8	13.5	13.5
Administrative & Secretarial	7.7	11.1	10.5
Skilled Trades	15.0	12.0	13.4
Caring and Leisure	14.3	10.1	8.9
Sales and Customer Service	7.4	7.6	7.7
Plant & Machine Operatives	7.7	7.7	8.1
Elementary	7.0	10.6	10.9

(b) *Rest of Britain*

	SES2017 with design weight applied	LFS Quarter 2, 2017	SES2017 with design and non-design weights applied
<i>Sex</i>			
Male	46.1	52.6	52.8
Female	53.9	47.4	47.2
<i>Age</i>			
20-29	17.1	22.1	22.0
30-39	24.7	22.9	22.9
40-49	25.1	24.0	23.7
50-60	26.8	25.6	25.9
61-65	6.3	5.4	5.6
<i>SOC 2010 Occupations</i>			
Managers, Directors and Senior Official	8.7	9.8	9.7
Professionals	19.7	19.5	19.0
Associate Professionals	15.9	13.9	13.8
Administrative & Secretarial	9.1	10.4	9.5
Skilled Trades	10.4	11.2	12.3
Caring and Leisure	10.5	9.8	9.2
Sales and Customer Service	7.2	7.6	7.9
Plant & Machine Operatives	7.8	7.4	7.9
Elementary	10.8	10.4	10.7

(c) *London and the South East*

	SES2017 with design weight applied	LFS Quarter 2, 2017	SES2017 with design and non-design weights applied
<i>Sex</i>			
Male	53.8	53.7	54.2
Female	46.2	46.3	45.8
<i>Age</i>			
20-29	19.8	21.8	20.7
30-39	25.4	26.3	26.8
40-49	24.4	24.3	24.7
50-60	25.9	22.7	23.0

61-65	4.8	4.9	4.9
<i>SOC 2010 Occupations</i>			
Managers, Directors and Senior Official	10.1	12.7	12.4
Professionals	20.7	23.6	23.8
Associate Professionals	16.5	16.8	16.5
Administrative & Secretarial	9.4	10.2	10.1
Skilled Trades	11.2	9.0	9.0
Caring and Leisure	10.2	8.5	8.6
Sales and Customer Service	8.0	6.4	6.7
Plant & Machine Operatives	4.4	4.8	4.9
Elementary	9.6	8.1	8.2

Note: The findings reported here are weighted by a combination of a design weight and a non-response weight. The first column of data shows how the survey varies by sex, age and occupational group after the design weight has been applied. This takes into account the number of dwellings per address, the number of eligible household members and the over-sampling of some parts of Britain. The second column of data shows the expected distribution of the sample according to the most contemporaneous LFS carried out in the second quarter of 2017. This is used to correct for non-response bias in the sample. Here weights are added for sex, age and occupational group. The third column shows the distribution of the survey after applying both the design weight and the non-response weight. All the LFS point estimates shown in the second column fall within the 95 per cent confidence intervals which surround the weighted survey estimates.

Table B2: Representativeness of the Skills and Employment Survey 2012

(a) *Wales*

	SES2012 with design weight applied	LFS Quarter 2, 2012	SES2012 with design and non-design weights applied
<i>Sex</i>			
Male	46.3	53.2	52.5
Female	53.7	46.8	47.5
<i>Age</i>			
20-29	17.2	20.5	20.0
30-39	21.6	22.9	23.3
40-49	26.8	27.1	26.8
50-60	27.3	23.6	23.9
61-65	7.1	6.0	6.0
<i>SOC 2010 Occupations</i>			
Managers, Directors and Senior Official	6.0	9.0	8.8
Professionals	16.1	18.1	17.2
Associate Professionals	14.2	12.7	12.9

Administrative & Secretarial	10.5	10.3	9.8
Skilled Trades	12.5	13.5	15.2
Caring and Leisure	11.6	10.0	9.4
Sales and Customer Service	7.6	8.0	7.9
Plant & Machine Operatives	11.6	8.3	8.8
Elementary	10.0	10.2	10.0

(b) Rest of Britain

	SES2012 with design weight applied	LFS Quarter 2, 2012	SES2012 with design and non- design weights applied
<i>Sex</i>			
Male	46.2	53.0	53.0
Female	53.8	47.0	47.0
<i>Age</i>			
20-29	17.0	20.7	20.5
30-39	21.0	22.5	22.7
40-49	29.9	27.6	26.9
50-60	25.8	24.0	24.3
61-65	6.3	5.3	5.6
<i>SOC 2010 Occupations</i>			
Managers, Directors and Senior Official	9.1	9.7	10.0
Professionals	15.8	18.6	18.0
Associate Professionals	14.1	12.9	13.5
Administrative & Secretarial	11.4	11.4	10.6
Skilled Trades	13.0	11.4	12.6
Caring and Leisure	12.8	9.5	8.5
Sales and Customer Service	7.0	8.2	7.9
Plant & Machine Operatives	6.7	7.5	8.1
Elementary	10.0	10.8	10.9

(c) London and the South East

	SES2012 with design weight applied	LFS Quarter 2, 2012	SES2012 with design and non- design weights applied
<i>Sex</i>			
Male	51.4	54.4	54.4
Female	48.6	45.6	45.6
<i>Age</i>			
20-29	18.9	21.8	22.0
30-39	23.5	26.1	25.8
40-49	25.5	26.5	26.1
50-60	25.2	20.8	20.9
61-65	7.0	5.0	5.1
<i>SOC 2010 Occupations</i>			
Managers, Directors and Senior Official	14.6	11.9	11.9
Professionals	24.6	23.2	23.1
Associate Professionals	16.3	16.9	17.4
Administrative & Secretarial	8.5	11.1	10.5
Skilled Trades	7.3	9.3	9.4
Caring and Leisure	8.1	8.1	7.7
Sales and Customer Service	6.7	6.6	6.6
Plant & Machine Operatives	4.8	4.5	4.4
Elementary	9.0	8.5	8.9

Note: The findings reported here are weighted by a combination of a design weight and a non-response weight. The first column of data shows how the survey varies by sex, age and occupational group after the design weight has been applied. This takes into account the number of dwellings per address, the number of eligible household members and the over-sampling of some parts of Britain. The second column of data shows the expected distribution of the sample according to the most contemporaneous LFS carried out in the second quarter of 2012. For this report, we have used the most recent LFS which contains an updated census-based weight. This produces figures slightly different from those used in Felstead *et al.*, (2013). The LFS data are used to correct for non-response bias in the sample. Here weights are added for sex, age and occupational group. The third column shows the distribution of the survey after applying both the design weight and the non-response weight. All the LFS point estimates shown in the second column fall within the 95 per cent confidence intervals which surround the weighted survey estimates.

Table B3: Representativeness of the Skills Survey 2006*(a) Wales*

	SS06 with design weight applied	LFS Quarter 2, 2006	SS06 with design and non- design weights applied
<i>Sex</i>			
Male	47.7	53.2	52.5
Female	52.3	46.8	47.5
<i>Age</i>			
20-29	18.0	20.1	19.9
30-39	23.5	24.5	24.9
40-49	29.0	27.4	26.8
50-60	25.8	23.5	23.7
61-65	3.8	4.6	4.7
<i>SOC 2000 Occupations</i>			
Managers	11.6	14.1	14.0
Professionals	12.5	11.2	11.1
Associate Professionals	13.7	13.6	13.5
Administrative & Secretarial	11.9	11.5	10.9
Skilled Trades	12.5	12.9	14.4
Personal Services	9.1	9.1	8.4
Sales	3.9	6.8	6.4
Plant & Machine Operatives	11.5	10.2	10.7
Elementary	13.3	10.7	10.6

(b) Rest of Britain

	SS06 with design weight applied	LFS Quarter 2, 2006	SS06 with design and non- design weights applied
<i>Sex</i>			
Male	49.8	53.6	53.6
Female	50.2	46.4	46.4
<i>Age</i>			
20-29	16.0	20.5	20.5
30-39	25.4	25.1	25.3
40-49	29.6	27.3	27.5
50-60	25.9	22.8	22.3

61-65	4.1	4.3	4.5
<i>SOC 2000 Occupations</i>			
Managers	15.0	14.8	14.7
Professionals	11.3	12.9	12.6
Associate Professionals	14.8	13.9	13.8
Administrative & Secretarial	12.9	12.0	11.7
Skilled Trades	11.4	11.4	12.0
Personal Services	8.4	8.0	7.8
Sales	6.7	7.0	7.0
Plant & Machine Operatives	8.9	8.8	9.1
Elementary	10.8	11.2	11.4

(c) London and the South East

	SS06 with design weight applied	LFS Quarter 2, 2006	SS06 with design and non- design weights applied
<i>Sex</i>			
Male	49.2	54.5	54.3
Female	50.8	45.5	45.7
<i>Age</i>			
20-29	17.9	22.4	22.1
30-39	30.3	26.9	27.0
40-49	26.7	26.0	25.8
50-60	21.3	20.6	20.9
61-65	3.9	4.1	4.2
<i>SOC 2000 Occupations</i>			
Managers	17.5	18.3	18.5
Professionals	15.1	15.8	15.2
Associate Professionals	19.4	17.3	17.9
Administrative & Secretarial	11.7	12.7	12.1
Skilled Trades	9.7	9.2	10
Personal Services	7.6	7.2	6.5
Sales	5.9	5.7	5.5
Plant & Machine Operatives	5.4	5.2	5.5
Elementary	7.7	8.8	8.9

Note: The findings reported here are weighted by a combination of a design weight and a non-response weight. The first column of data shows how the survey varies by sex, age and occupational group after the design weight has been applied. This takes into account the number of dwellings per address, the number of eligible household members and the over-sampling of some parts of Britain. The second

column of data shows the expected distribution of the sample according the most contemporaneous LFS carried out in the second quarter of 2006. For this report, we have used the most recent LFS which contains an updated census-based weight. This produces figures slightly different from those used in Felstead *et al.*, (2013). The LFS data are used to correct for non-response bias in the sample. Here weights are added for sex, age and occupational group. The third column shows the distribution of the survey after applying both the design weight and the non-response weight. All the LFS point estimates shown in the second column fall within the 95 per cent confidence intervals which surround the weighted survey estimates.

Appendix C: Weighting Procedures for British-Level Results

- C.1 For each survey, weights were computed to take into account the differential probabilities of sample selection according to the number of dwelling units at each issued address, the number of eligible interview respondents, the over-sampling of the boost areas (if appropriate) and the slight under-representation of certain groups. To do so, we compared survey distributions across a number of socio-economic indicators with the distributions produced by the Labour Force Survey for the relevant year (the most up-to-date Office for National Statistics' (ONS) weights were used). The weights used to produce the British-level results presented here use weights designed to correct for non-response rates by sex, age and occupational group for the three surveys.
- C.2 In the following, we outline the design effects, non-response rates and trimming protocols used to derive the British-level weights used to produce results for 2017, 2012 and 2006.

Design Weights

- C.3 The data files for all three surveys were supplied with design weights. These were provided by the market research companies responsible for the fieldwork. They ensure that the data were representative of the target population by correcting for differential probabilities of selection. Unequal selection probabilities can occur at three points in the design process:
- The selection of one dwelling per address;
 - The selection of one household per selected dwelling;
 - The selection of one eligible adult per (selected) household.
- C.4 In many datasets these are referred to as 'Kish weights'. However, in the case of the 2006, 2012 and 2017 surveys, we additionally weight the samples inversely proportional to the LFS estimates for the boost areas as all three survey were boosted in some way. So, Wales was over-sampled in all three

surveys given additional funding to boost the Welsh sample size. To take this into account, Welsh respondents were given a weight of less than one (that is, the LFS estimate divided by the Kish weighted sample estimate). Similar adjustments were made for other over-sampled areas. For completeness, this applies to the following:

- East Midlands over-sampling in 2006;
- Scottish over-sampling in 2006;
- Wales over-sampling in 2006, 2012 and 2017 (as outlined above).

Non-response Rates

- C.6 Although the samples were designed to ensure that they were representative of workers in Britain at the time of the survey, we first checked whether the sample was broadly representative. We compared the data against some standard socio-economic variables, and compared each of the seven surveys against the spring/second quarter LFS for that year. Since the LFS has a substantially larger sample size, and since it gleans information from every member of households, it can be argued that the LFS sample is likely to be closely representative of the employed workforce.
- C.7 Table C1 presents these comparisons. The base is those in employment and aged between 20 and 65 inclusive. We compare the representation of the Kish weighted survey results (adjusted for boosts, where necessary) against the results given by the LFS for the second quarter of that year. We compare the results by sex, age and occupation. These results are then used to produce sex, age and occupational weights which when applied adjust for the under-representation of men, the young and certain occupational groups. To make occupational comparisons, we used the classification system in place at the time: for 2006 we used SOC2000; for 2012 and 2017 we used SOC2010.

Table C1: Representativeness of the Three Surveys, 2017, 2012 and 2006 for Britain

	SES2017	LFS, Q2 2017	SES2017	LFS, Q2 2012	SS06	LFS, Q2 2006
<i>Sex</i>						
Male	48.2	53.0	47.6	53.8	49.6	54.0
Female	51.8	47.0	52.4	46.2	50.4	46.0
<i>Age</i>						
20-29	17.7	22.0	17.5	21.8	16.5	21
30-39	24.7	24.1	21.7	23.2	26.5	25.7
40-49	24.9	24.0	28.6	27.2	28.9	26.9
50-60	26.7	24.6	25.7	22.7	24.1	22.2
61-65	5.9	5.2	6.5	5.2	4.1	4.3
<i>Occupation (SOC2010 for 2017 and 2012 and SOC2000 for 2006)</i>						
Managers, Directors and Senior Official Professionals	9.1	10.8	10.4	10.4	15.4	16.0
Associate Professionals	19.9	20.9	18.1	20.2	12.2	13.8
Administrative & Secretarial	16.1	14.9	14.9	14.3	15.8	15
Skilled Trades	9.1	10.4	10.5	11.2	12.6	12.2
Caring and Leisure	10.8	10.5	11.6	10.8	11.1	10.7
Sales and Customer Service	10.6	9.4	11.7	9.0	8.2	7.8
Plant & Machine Operatives	7.4	7.2	6.8	7.6	6.4	6.5
Elementary	6.9	6.5	6.3	6.5	8.1	7.7
	10.3	9.6	9.7	10.0	10.1	10.4