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[PCW0012]**

Their research interests focus on job quality, training, skills and learning, non-standard employment, occupation and employee well-being. Their research findings based on large-scale nationally representative samples of UK employees such as the Skills and Employment Surveys (SES) provide valuable insights to address the questions posed by the DWP in preparation for the changes in the world of work.

Highlights

- Q1: There is an urgent need for robust data to identify the main challenges the DWP faces as a result of the ‘Fourth Industrial Revolution’. The Skills and Employment Surveys (SES) which have tracked changes in the UK labour market over the last three decades represent one of the most reliable sources of evidence required for effective labour market policies. The continued support for SES is particularly important after Brexit as UK is no longer included in European labour market surveys.
- Q2: Research based on the SES suggests that new technologies will transform rather than replace whole occupations. To mitigate the consequences of automation, the focus should be on a micro-level understanding of job changes rather than macro-level forecasts of employment trends.
- Q3: Work provides individuals with a wide range of benefits besides the opportunity to earn a pay cheque. The scarring effect of unemployment on well-being can be reversed by reemployment but not by transition into economic inactivity. While a Universal Basic Income can significantly alleviate the financial strain and income insecurity experienced by those who lose their jobs, it is unlikely to fully replace the latent benefits provided by fair work.
- Q4: Not all types of career change lead to improved well-being. While upward occupational mobility has positive effect on job satisfaction, lateral and particularly downward occupational mobility result in dissatisfaction that lasts for many years after the transition. The government should consider publishing job quality statistics by occupation based upon high-quality representative data such as the SES to make the implications of career changes more transparent.
- Q6: The downward trend in the volume of workplace training has continued unabated since the end of the 1990s. Since 2001, training volume declined faster for those with lower-level qualifications (below GCSE/Level 2) and younger people than in the general workforce. Urgent government action is required to reverse the decline in workplace and to support workforce skill development.
- Q8: Working hours insecurity includes and goes beyond those on zero-hour contracts (ZHC). Up to 1.7m workers are acutely anxious about unexpected changes to their work hours, three times more than those on ZHC. Legislation on ‘reasonable notice’

of work schedules and other government initiatives should apply to all employees and not be limited to those on particular contracts.

Question 1: What are the main challenges that DWP faces as a result of the ‘Fourth Industrial Revolution’?

A key challenge will be tracking the impact that the Fourth Industrial Revolution (and the Covid-19 recession) has on job quality in the UK. We know that quality of jobs varies. Some allow workers greater voice, better work-life balance, enhanced promotion prospects and are more skilled. While others provide workers with lower job security, poorer management support, require higher levels of effort and are lower paid (Felstead *et al.*, 2019, Williams, Zhou and Zou, 2020). We also know that this can be influenced by the ways in which technology is used. Theories such as skills-biased technological change and effort-bias technological change point to the ways in which technology can impact on raising the skill levels and work intensity of jobs (Green *et al.*, 2018). Furthermore, we know that the UK government is committed to the goal of making: ‘all work in the UK economy should be fair and decent with realistic scope for development and fulfilment’ (HM Government, 2018: 5). Good work also features in discussions around raising productivity and levelling up prosperity across the UK, and is central to initiatives launched in Wales and Scotland on fair work (Scottish Government, 2016; Welsh Government, 2019; Felstead *et al.*, 2020a).

However, progress towards meeting this policy goal and the role played by technology can only be assessed using robust data that both measures job quality in a consistent way over time and collects data on the use of technology at work. The [Skills and Employment Survey](#) series offers a key data source in this respect. It consists of seven national surveys which question representative samples of workers about their jobs. When added together these surveys provide insights into the changing world of work and how these changes might be explained by technological and/or organisational changes.

The latest Skills and Employment Survey was carried out in 2017 and comprises 3,306 interviews with workers aged 20-65 across Britain. Across the seven surveys over 29,000 workers have been interviewed in a series which stretches back to 1986. Despite the success of the series – in terms of publications, impact and the funds generated – resources to support each survey have been individually negotiated and competitively won. The series is not underwritten by any particular funding stream, although a new survey has been carried out around every five years over the last 30 years.

Plans are in place to rerun the survey in 2022 or 2023, but securing the necessary funding is not guaranteed. But without data gathered by surveys such as the Skills and Employment Survey it will be difficult for DWP to track the effect that technological change (and the fall-out from the Covid-19 related recession) is having on the quality of jobs in Britain. The ESRC has been the main funder in the last three Skills and Employment Surveys with additional contributions coming from a range of central government departments, agencies, devolved administrations and others. Given this Call for Evidence, the DWP along with BEIS should be involved in discussions with the SES research team about how they might assist in providing funding support, thereby ensuring that the scale and distribution of the challenges posed by the Fourth Industrial Revolution can be assessed in the future.

Question 2: What do we know about the possible likely impact on the labour market? For example, Are some sectors or types of jobs more likely to be affected than others?, Are some groups of people more likely to be affected than others?, What new types of jobs and opportunities could become available?, Is it likely that there will be a reduction in the number of jobs available?

Advances in artificial intelligence, specially machine learning, have sparked considerable anxiety about widespread job loss from automation. In a widely cited paper, Frey and Osborne (2017), FO, estimated that up to a half of total US employment is in jobs at high risk of automation. While their occupation-based approach has come under criticism for ignoring the differences between jobs within the same occupations, the underlying list of 70 expert-coded occupations has been an important input for more nuanced task-based models of automation by, for example, the [OECD](#), [ONS](#) or [PwC](#). These task-based approaches aim to model automatability bottom-up by breaking down jobs into essential activities. A key finding from this research strand is that many more jobs than predicted by FO comprise hard-to-automate job tasks. As a result, the estimated employment share in highly automatable occupation is much lower. For example, the ONS found that 7.4% of all employment in Britain is in high-risk occupation.

Which approach should we trust more? If a task-based approach is appropriate we would expect to see that people's work changes mostly within occupations. Using data from the Skills and Employment Survey from 2001 to 2017, we find, firstly, that automation bottlenecks such as work task involving finger dexterity, complex problem-solving, public speaking, persuading and negotiating, or counselling, advising and caring have indeed changed predominantly within occupations. Secondly, the average importance of many job tasks in the Skills and Employment Survey Series changed only little from 2001 to 2017. Further analyses confirm that the job-level risk of automation is not associated with job insecurity or worker-reported workforce reductions but with changes in skills use and choice. The findings of predominantly within occupation change and, thus far, little direct employment effects are similar to results from the US (Freeman *et al.*, 2020).

In all our analysis of the Skills and Employment surveys suggest that new technologies will likely transform rather than replace whole occupations. In response to the calls for evidence, to mitigate the consequences from automation, the focus should be on a micro-level understanding of job changes rather than macro-level forecasts of employment trends.

Question 3: Is there a need to consider new, long-term approaches to addressing change in the labour market: for example, introducing a Universal Basic Income (UBI)?

Research shows that employment provides individuals with a wide range of benefits besides the opportunity to earn a pay cheque. For instance, it provides a time structure to the day, opportunities to interact with others outside the family, goals and purposes, enforced activities and social identity (Jahoda, 1982). The deprivation of the latent benefits of work plays a major role in explaining the destructive psychological impact of unemployment (Warr, 1987). Unemployed people often find it difficult to maintain a regular pattern of activity, with a consequent feeling of wasted or unproductive time. They may also lose regular contact with others outside the household, which increases their risks to social exclusion and marginalization (Gallie, 2004). Although taking a lead role in other activities such as homemaking following unemployment may confer some of the features of work (e.g., identity), many others (e.g., social status and enforced activity) are not replaced as readily.

Our research based on 18 years of longitudinal data from the British Household Panel Survey shows that unemployment has strongly negative effect on individuals' life satisfaction which lasts for many years after job loss. While recovery of well-being upon reemployment is fast, complete and enduring (even when people take lower paid jobs to return to work), transition into economic inactivity such as retirement and family care following unemployment is accompanied by persistent scars on subsequent wellbeing trajectories (Zhou, Zou, Woods and Wu, 2019). These findings underscore the importance of work and employment for protecting individuals' psychological health. While a Universal Basic Income (UBI) can significantly alleviate the financial strain and income insecurity experienced by those who lose their jobs, it is unlikely to fully replace the latent benefits provided by fair work. Besides income protection, people also need to engage in meaningful work activities which provide important 'vitamins' for mental well-being (Warr, 1987).

Question 4: Are DWP Work Coaches well equipped to advise people who are looking for work on new and emerging sectors and jobs? How could DWP improve the training and advice it offers to jobseekers?

Working in emerging sectors may require a career change and our research shows that not all types of career change lead to improved well-being. Switching occupation is generally more challenging than changing employer within the same occupation because the former can result in a loss of occupation-specific skills and professional networks (Zhou, Zou, Williams and Tabvuma, 2017). Our research based on large-scale UK longitudinal data shows that while upward occupational mobility has positive (albeit short-term) effect on job satisfaction, lateral and particularly downward mobility result in dissatisfaction that lasts for many years after the transition (Zhou, Wu, Zou and Williams, 2017).

These findings have a few implications. First, individuals should be advised to avoid overestimating the positive characteristics of other occupations and understanding those of their own. Unless the career transition involves upward occupational mobility, they are unlikely to find the grass greener on the other side. From a management perspective, the onus should be on employers at the recruitment stage to offer a fair representation of what the job involves, particularly when potential recruit is changing career. For government, the publication of key job quality indicators by detailed occupation categories based upon high-quality representative data such as the UK SES can make the implications of career changes more transparent to those pondering a career switch.

Question 6: What is DWP's role in ensuring that young people have the skills they need to get into and progress in work?

With the job-level pressures of automation, the pandemic's economic consequences and the impact of Brexit on employers' ability to rely on migrant labour, developing workforce skills has acquired an increasing greater urgency.

However, between the end of the 1990s and the beginning of the current decade, the volume of workplace training shrunk by about half (Green *et al.*, 2016). This downward trend has not abated: since 2011, the volume of workplace training fell in the range from 10 per cent to 19 per cent (Green and Henseke, 2019), according to data from the Skills and Employment Survey, the Labour Force Survey, Understanding Society and the Employer Skills Survey.

We also investigated how training changes within specific groups in the labour market. Our analysis for the years since 2011 shows that the amount of training received declined by 20 per cent faster for those with lower-level qualifications (below GCSE/Level 2) than in the workforce. Young workers, aged 16-34, also fared poorly and experienced a decline of 16 per cent in the volume of training going their way. At the same time there is no firm evidence for an increase in training quality, which might help to offset the decline in volume. If anything, shorter training spells account now for a majority of workplace training.

While the government cuts to the adult skills budget may have exacerbated the fall in the volume of younger people's training, it would be wrong to attribute the entire decline in adult training since 2011 to the government's reductions. Nonetheless, in response to the call, urgent coordinated action including by the government and DWP is necessary to reverse the long-term decline in training. Specifically, young people report strong benefits from training as one would expect from life course skills theory (Green and Henseke, 2019). More and better focused careers education could be particularly valuable to support young's transition into the labour market.

Question 8: As the workplace changes, will it be necessary to change the legal definition of employment to ensure that people continue to have the appropriate legal status and protections? Might any other legal changes be needed?

Even before the Covid-19 pandemic, labour market insecurity was widespread. This was most visible in the growth of zero-hours contracts (ZHCs), the increase in levels of underemployment and the rise of the gig economy. Each was the focus of sustained media attention. For example, ZHCs rarely featured in newspaper articles or internet searches prior to 2013, but since then they have been the source of regular commentary. ZHCs have also prompted interest from government about ways of mitigating some of their worst effects following the Taylor Review and the UK government's Good Work Plan (Taylor, 2017; HM Government, 2018).

However, research based on the Skills and Employment Survey 2017 (referred to in response to Question 1) suggests that Zero Hours Contracts are the tip of the insecurity iceberg (Felstead *et al.*, 2020b). The results suggest that, before Covid-19, 4.9% of employees – or 1.2 million people – experienced cuts to their weekly working hours at short notice. This is double the number of 640,000 employees who were employed on a ZHC and were of a similar age. This represents 2.6% of the employee population or around one in forty jobs.

The survey also asked how anxious employees were about 'unexpected changes to my hours of work' – this could be movements up or down in the number of hours worked and/or changes to when work is carried out. We found there were about three times as many employees (7.0% or 1.7 million people) who were acutely anxious about unexpected changes to hours of work than there were employees engaged on a ZHC. The proportion and numbers reporting mild to acute anxiety levels are higher still (25.1% or 6.2 million people). Taken together these estimates have been recognised by the UK government as providing '[a benchmark estimate of the scale of the issue](#)'. Also anxiety over unexpected changes to working hours goes hand-in-hand with other features of poor work. The pay of these workers tends to be lower, work intensity higher, line management support weaker, and the threat of dismissal and job loss greater. In addition, the job-related well-being of such employees tends to be lower and their organisational commitment weaker.

This evidence suggests that the short-term gains employers may reap from insecure working hours may be outweighed by the longer-term losses incurred from lower levels of organisational commitment and worker well-being. On this basis, there is a business case for shifting the balance so that workers are given greater security over hours of work. The UK government has consulted on how this might be done (BEIS, 2019). This follows an investigation by the Low Pay Commission (Low Pay Commission, 2018) carried out at the suggestion of the *Taylor Review* and its recommendation that the ‘Government must take steps to ensure that flexibility does not benefit the employer at the unreasonable expense of the worker’ (Taylor, 2017: 44). The evidence of our research suggests that what is referred to by the *Taylor Review* as ‘one-sided flexibility’ includes and goes beyond those on ZHCs. The actions taken by the UK government, such as introducing legislation on ‘reasonable notice’ of work schedules, must therefore apply to all employees and not be limited to those on particular contracts. So, in direct response to the Call for Evidence question other legal changes beyond the definition of employment need to be made to ensure we truly do ‘build back better’.

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