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Automation and the future of work

Submission to the House of Commons Business, Energy and Industrial Strategy Committee

Chartered Institute of Personnel and Development (CIPD)

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Background

The CIPD is the professional body for HR and people development. The not-for-profit organisation champions better work and working lives and has been setting the benchmark for excellence in people and organisation development for more than 100 years. It has over 145,000 members across the world, provides thought leadership through independent research on the world of work, and offers professional training and accreditation for those working in HR and learning and development.

Our membership base is wide, with 60% of our members working in private sector services and manufacturing, 33% working in the public sector and 7% in the not-for-profit sector. In addition, 76% of the FTSE 100 companies have CIPD members at director level.

Public policy at the CIPD draws on our extensive research and thought leadership, practical advice and guidance, along with the experience and expertise of our diverse membership, to inform and shape debate, government policy and legislation for the benefit of employees and employers, to improve best practice in the workplace, to promote high standards of work and to represent the interests of our members at the highest level.

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Introduction

Many businesses are struggling to adapt to new technologies, creating a large gap between the few leading the way with technology and those who are lagging behind. The increase in automation, however, has not been matched with an increase in productivity, but there isn't much reliable evidence to suggest why. When we investigate this we should look to people, not technology, for the answer.

Like any change in the workplace, we should treat the introduction of new technologies the same way with we would other major interventions; it must be complemented with employee engagement strategies, work organisation, skill-matching, and the quality of line management. If businesses get the people aspect right, they can minimise the adverse impact that technology will have on some jobs and maximise the chance that technology and automation will improve work.

To fill the evidence gap, the CIPD is conducting a survey of employers in association with the University of Warwick to gain new insights into what sorts of technologies firms have recently been investing in and why, whether they are making any complementary investments in their workforce, and how they are involving their workers in this process. We hope to publish the results before the end of 2018 and would be pleased to deliver a briefing to the Committee, if helpful.

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Our response

What impact has automation has on business productivity to date?

Rather like computers, we can see automation everywhere except in the productivity figures, at least since 2008. With the widely assumed increase automation we might have expected somewhat faster productivity growth and possibly slightly slower employment growth than in the past. Instead, over the past decade we have seen the reverse in all major economies, including the UK, with higher employment rates but productivity growth close to zero.

It is possible that the continued impact of the financial crash is masking the continued positive impact of automation on productivity, and that as and when these effects disappear than we can assume productivity will start to move back to its pre-crash trend. However, there is little evidence that the impact of the crash increased the incidence of zombie firms in the UK or reduced market competition which would have allowed more low productivity firms to survive[1].

There are other possibilities. The pace of automation may have slowed down, at least temporarily, as many of the most easily automatable processes and tasks in services have already been completed and employment has shifted towards jobs and tasks that are harder to automate. For example, employment in administrative and secretarial jobs fell by nearly 330,000 between 2001 Q1 and 2008 Q1 but increased by just over 120,000 between 2011 Q1 and 2018 Q1.

It is also possible that automation has continued and may even have speeded up for some jobs and some tasks but is being offset by changes elsewhere in businesses which has required employment to increase elsewhere. For example, overall employment in retailing has remained robust to March 2018 with falling employment for sales cashiers being offset by increased employment in higher skill jobs[2].

The OECD[3] has argued that many businesses are struggling to successfully adapt to the new digital technologies, creating an unusually large and persistent gap between a minority of "leader" businesses with strong productivity growth and a large majority of laggards. It is possible that the next rounds of automation require significant complementary investment in workforces, changes in working methods and changes in business models that firms find excessively risky in a time of unusually high global and national uncertainty.

In looking at the causes and consequences of automation we would emphasise the importance of looking at the complementarity of employee engagement, work organisation, skills acquisition and use, and managerial quality. It may be that the most significant barriers to making automation and

[1] https://www.gov.uk/government/consultations/business-productivity-review-call-for-evidence
[2] UKCES Working Futures 2017, industry tables.
[3] https://www.oecd.org/global-forum-productivity/events/GP_Slowdown_Technology_Divergence_and_Public_Policy_Final_after_conference_26_July.pdf

associated new technologies a success in the future will depend even more on getting these workforce issues right than overcoming technical or economic barriers. It will also be central to minimising the adverse impact that automation will have on some jobs and some individuals and maximising the scope for new technologies to improve work quality.

Are there specific demographic groups most risk? How far can these be mitigated by new roles in these industries?

OECD research[4] has suggested that younger workers may especially be at risk as they disproportionately fill low skill entry jobs most at risk of being eliminated by automation. However, older workers in routine and process jobs may be even more vulnerable. The British Social attitudes Survey[5] suggests that perceptions of job insecurity changed little between 2005 and 2015 for most people but there was a significant decline for older workers between 55 and 64 of 14 percentage points to 53 per cent saying they felt secure and for those in what the survey describes as routine and semi routine jobs by 11 percentage points to 60 per cent. This fall will be driven by many factors, not just automation, but these are the sort of jobs most vulnerable to automation and these groups are also the least likely to get intensive help to retrain.

What are businesses doing to offer training to staff, either as a result of or in support of automation? Should Government have a role in retraining workers affected by automation?

There are no robust measures of training effort directly related to automation, though examples of good practice are widely available. However, training effort and investment by the private sector has declined significantly over the past 20 years, so greater automation has not led to greater aggregate investment in training. The UK lags other major European economies in terms of investment in vocational education and training[6]. We cannot however safely conclude that training to cope with automation has therefore also declined, as firms may have switched training expenditures over time away from areas they judge they no longer need to invest in towards current priorities.

The lack of robust evidence in this area is part of a wider problem on the impact of automation and other new technologies more generally on the workplace. The CIPD commissioned Loughborough University to undertake a systemic review of recent academic papers and articles on the impact of new technologies, including AI, robotics and automation on the service sector[7]. They found that

[4] https://www.oecd-ilibrary.org/fr/employment/automation-skills-use-and-training_2e2f4eea-en
[5] http://www.bsa.natcen.ac.uk/latest-report/british-social-attitudes-33/work.aspx
[6] https://www.cipd.co.uk/Images/from-inadequate-to-outstanding_2017-making-the-UK-skills-system-world-class_tcm18-19933.pdf
[7] https://www.cipd.co.uk/knowledge/work/technology/artificial-intelligence-workplace-impact

only 40 per cent included original material and over 50 per cent consisted of literature reviews: the review concluded that robust evidence was embryonic, that often scenarios about the future were little more than speculation, and as most of the work had been done in transport and healthcare it could not be easily extrapolated to the rest of the economy.

Despite the unsatisfactory nature of the existing evidence base, one finding seems to be that workers attitudes and motivations are important in getting the best out of new systems. The extent to which workers trust new workplace systems seems to have some impact on how effectively it is used. Engaging workers in the introduction of new technology is therefore important if automation and associated investments are to feed through into enhanced productivity.

To help fill the evidence gap, the CIPD is conducting a survey of employers in association with the University of Warwick to gain new insights into what sorts of new technologies firms have recently been investing in, why they are doing it, what if any complementary investments are they making in their workforces and whether they engage or consult their workers. We will also test out the role of HR and workforce planning, to see whether it is typically involved before or after automation takes place. We hope to publish the results by the end of 2018.

In terms of the question on whether government should have a role in retraining workers affected by automation, the answer has to be yes, as it highly unlikely that employers will be able to provide the level of training and upskilling required and there will also be demand for re-training for workers who have been made redundant or are returning to work following a period out of employment. There is also a need to support access to training for individuals who work in non-standard employment and are less likely to benefit from employer-funded training.

Furthermore, given it is likely the biggest impact of new technology will be on tasks rather than roles, there is more government can do, working in partnership with employers, professional and representative bodies and trade unions at a national, sectoral and local level, to improve the quality of leadership and people management and development practices. The quality and sophistication of employers' people management practices is likely to decide the extent the introduction of new technology delivers value for the organisation and has a positive or negative impact on job quality, skills development/utilisation and employee wellbeing.

CIPD research[8] shows that almost two thirds (64%) of workers believe they will need to participate in formal learning or training during the course of their working lives. Among workers that expect to need to develop new skills, four in ten (40%) cite the impact of automation and new technology as a key reason, while 30% believe the type of work they do could become outdated or obsolete.

However the most commonly cited reason workers say it is likely they will need to access formal development and learning in the future, is the length of time they expect to be working and the likelihood of needing to develop new skills as they get older. Just over two thirds (67%) of workers report this is a reason for needing to develop new skills.

[8] https://www.cipd.co.uk/knowledge/work/trends/gig-economy-report

It is this combination of the UK's ageing workforce and the potential impact of new technology on the workplace that together will mean creating opportunities for people to re-skill or up-skill at different points in their working lives will become increasingly important.

The biggest current obstacle to developing new skills cited by more than a third (36%) of workers is that they will be unlikely to be able to afford to develop new skills, while 24% of workers say they are unlikely to be able to find the time to invest in developing new skills because of work commitments. A further 24% say that their employer and/or digital platform is unlikely to provide opportunities for them to go on training or learn new skills.

Workers who report they are engaged in the gig economy are significantly more likely to cite all of the above issues as obstacles that will prevent them from developing new skills in the future. Workers aged between 50 and 59 years old are also more likely than other workers to cite all of these obstacles as reasons they will be unable to develop new skills in the future.

Given these barriers to development and growing need for people to access training and development opportunities during the course of their working lives, policy makers need to review current skills policy and consider whether it is fit for purpose in light of the likely impact of new technology, our ageing workforce and the need to boost productivity and competitiveness post Brexit.

CIPD analysis on UK skills policy and key outcomes published in 2017 suggests that two decades of under-investment and failed policy on skills in the UK has contributed to the country lagging well behind its competitors in Europe and most of the OECD on at least four key measures, including literacy and numeracy, learning and development, and digital skills.

The report *From 'inadequate' to 'outstanding': making the UK's skills system world class*[9] warns that the UK is sleepwalking into a low-value, low-skills economy:

The analysis highlights multiple failings in the UK's skills system, including:

- England and Northern Ireland together rank in the bottom four OECD countries for literacy and numeracy among 16-24 year olds
- Out of 19 countries, the UK ranks bottom of the class on young people's computer problem-solving skills
- UK employers spend less on training than other major EU economies and less than the EU average, and the gap has widened since 2005. In 2010, the cost per employee was €266 in the UK, against €511 across the EU
- The UK lies fourth from the bottom on the EU league table on participation in job-related adult learning, with evidence showing a marked deterioration since 2007

[9] https://www.cipd.co.uk/knowledge/work/skills/uk-skills-system-report

To build strength and stability into the UK skills system, the CIPD is calling for the Government to:

1. Make additional skills funding for the workplace a priority

The CIPD believes that some government funding could be redirected from existing, related programmes of work and put towards training and development in the workplace and life-long learning. The Government could, for example, divert £1bn (5%) of the National Productivity Investment Fund and about £2bn of the total funds raised by the Apprenticeship Levy, which the Institute of Fiscal Studies estimates is not currently forecast to go towards apprenticeships.

2. Put skills at the heart of the Industrial Strategy

Improving skill levels is not just about the supply of skills but how skills are used in the workplace and helping to build employer demand for investment in skills. It's vital that the Government's Industrial Strategy provides a stronger focus on tackling the demand side of the skills challenge facing the UK. For example, more can be done through sector deals and by providing high quality business support at a regional and/or local level to help and encourage employers to invest in improving leadership and people management capability and boost workplace training and development and enhance other workplace practices,

3. Reframe the Apprenticeship Levy as a training levy

The Apprenticeship Levy should be reframed as a training levy to make it more flexible to employers' needs and to boost individuals' skills.

What other actions should the Government be taking to support those affected by automation, such as 'robot tax'?

Automation has many benefits, but it can reduce employment firms, industries and places. It can also change the nature of tasks in existing jobs and may increase mis-match between the skills of workers and jobs (either because their skills are not upgraded or because the job has been de-skilled). The "sector deals" built into the Industrial Strategy are the most obvious mechanism. The deals should be required to assess and develop sector specific actions to deal with the impact of automation and minimise adverse impacts on the workforce through the joint efforts of businesses, trade unions, the government, and other stakeholders.

However, it would be hard in practical terms to design cross sectoral support schemes that specifically dealt with the impact of automation as distinct from all the other factors that cause job loss and render existing skills redundant. In a dynamic economy there will always be considerable employment disruption as industries rise and fall and as business grow and succeed or fail and contract or close. It would be better to build robust, flexible and effective policies that assist workers to cope with change from all sources during their working lives. Although the concept of

life-long learning has been promoted for many years, the current reality leaves much to be desired, especially for older workers where there is at present very little support.

The idea of a robot tax to support such schemes or offer compensation to displaced workers seems to stem from a dystopian view of the future, with some suggesting that if workers are not given shares in the companies that make robots they will be reduced to the status of slaves[10]. We can see no evidence that is remotely likely over the next twenty years. Our literature review described above concludes that in the service sector robots are far more likely to be found alongside humans rather than supplanting them altogether. Slowing the flow of new technology into the workplace by making it more expensive seems a perverse response to a global slowdown in productivity growth and would come with potentially high costs through less productivity and innovation and less opportunity to improve the quality of work.

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[10] https://wol.iza.org/articles/who-owns-the-robots-rules-the-world/long