Working Group 3: Skills

Meeting Summaries

June 2025

The
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Contents

Overview of the Skills Working Group 3

This Working Group focused on skills. Initially, the following sub-questions for the Working Group to explore were agreed with the co-chairs, in four themes:

- What skills and capabilities will individuals need to succeed in an increasingly technology/AI-driven business environment? What would it take to increase individuals' uptake of training opportunities? What skills are likely to enhance individuals' career progression and longer-term opportunities in the labour market? (Individuals)

- How should organisations be managed and structured to make the most of individuals' skills and capabilities? How can they ensure that work is as fulfilling as possible, while also achieving productivity improvements? Why has training declined? What would it take to improve uptake? (Organisations)

- Does 16-18 education need to be reformed to allow more breadth (in terms of subject content) and teaching time? What would a reformed 16-18 education system look like? How can post-18 education be diversified in terms of options available in tertiary education and apprenticeships? What should universities, business schools and other educational institutions focus on to develop a workforce in the UK that is fit for the future? What are the barriers? Are there lessons from other countries? (Educational institutions)

- What role should government play in enabling the changes to jobs, careers, and working styles that are underway (because of the digital technology revolution)? How should government look to close the 'Skills gap' in the UK, and could this help tackle regional inequality? (Government)

The group took an approach to skills policy broadly based on the questions "where are we going?" and "what hasn't worked?" The group has explored these questions by examining skills policy right across the life cycle, looking at individuals' interactions with the education system, workplaces, and government. Discussions have incorporated several different analytic lenses, including taking a geographic view, examining the distribution of education, skills, and the provision of resources. Through this process, the Group has sought to take the perspective of students, employees, firms, and policymakers into account.

The group were interested in what can be learnt from other skills systems, and in looking to the future, examining the potential impacts of technical change and innovation on skills development. The group rev the meetings that have taken place to date with a view to identifying the key messages that have emerged. Discussions have highlighted that low levels of literacy and numeracy are major issues in the UK's skills pipeline. Furthermore, investment in training in the UK has declined, with a lack of clear progression pathways and there are issues with incentives in the skills system.

The Working Group was co-chaired by Professor Sir Richard Blundell FBA, Professor Sandra McNally, and Professor Julian Birkinshaw FBA. Professor Julian Birkinshaw stepped down as a co-chair in Summer 2024, due to a move to a new role overseas. Other members of the Working Group are listed below:

Members and meetings

Fellow/Academic/ Policy official	Role
Professor Sir Richard Blundell FBA (co-chair)	David Ricardo Chair of Political Economy, University College London
Professor Sandra McNally (co-chair)	Professor of Economics, University of Surrey, Director of Centre for Vocational Education Research, Director of Education and Skills Programme at CEP, LSE
Professor Julian Birkinshaw FBA (co-chair)	Professor of Strategy and Entrepreneurship, London Business School
Professor Andy Dickerson	Professor at the Department of Economics, University of Sheffield, Skills and Productivity Board (SPB), Centre for Vocational Education Research (CVER).
Professor Patricia Findlay	Distinguished Professor of Work and Employment Relations, University of Strathclyde, Director of the Scottish Centre for Employment Research
Dr Omar Khan	CEO, TASO
Professor Lindsey Macmillan	Founding Director and Professor of Economics at the Centre for Education Policy and Equalising Opportunities (CEPEO), UCL, Research Fellow in the Education and Skills sector at the Institute for Fiscal Studies, Visiting Professor at the Centre for Analysis of Social Exclusion at London School of Economics.
Professor Peter Mandler FBA	Professor of Modern British History, University of Cambridge
Professor Manuel Souto-Otero	Professor of Education Policy at the School of Social Sciences, Cardiff University.
Professor Anna Vignoles FBA	Director, Leverhulme Trust
Professor Andy Westwood	Professor of Government Practice, University of Manchester, Head of Productivity Institute
Professor Alison Wolf CBE (Baroness Wolf of Dulwich)	Sir Roy Griffiths Professor of Public Sector Management

The first, introductory meeting of this Working Group was held on Thursday, 18 January 2024. Subsequent working group meetings were held on the following dates:

- **Routes through the education system: from Secondary to Further to Tertiary Education (chaired by Professor Sandra McNally), Tuesday 5 March, 2-4pm**: The overarching question for this session is how the routes through the secondary and tertiary education system could be better integrated to provide better-educated young people, able to fulfil their own potential and be more resilient to economic shocks in the labour market?

- **Skills in working life** (**chaired by Professor Sir Richard Blundell FBA), Thursday 2 May, 2-4pm**: There has been a general decline in both off-the job and on-the-job training. Public and private investment in adult skills have fallen sharply in real terms:

public funding for adult skills has fallen by almost a third since 2003/04, and average employer spending per trainee has fallen by 27% since 2011. This leads to the overall question: how should we develop skills to provide 'good jobs' and improved productivity across the working life?

- **Demand-side factors (chaired by Professor Julian Birkinshaw FBA), Thursday 13 June, 2-4pm**: This session will put the spotlight on the "demand side" of skills development, and in particular on the use and development of skills in the workplace.

Please see below summary notes of meetings:

1.   Meeting 1 summary note (Thurs 18 Jan): Scoping session

1.1 Introductions

On Thursday 18 January 2024 the British Academy convened the first meeting of the Skills Working Group. Members engaged in a wide-ranging discussion and offered valuable reflections on the key themes that the group could explore in the work going forward.

At the beginning of the discussion, each member introduced themselves, their work and the perspectives they would bring to the group, demonstrating a wide range of expertise across several academic disciplines.

Many participants identified as economists, with a broad interest in skills, including the way this policy area interacts with the labour market and with issues of economic growth, productivity and inequalities. Many had experience working on issues of mapping and identifying skills, including investigating skills gaps and skills mismatches. There was also experience in the group of working on the organisation of policy and institutions at the level of government. Other participants' research expertise was more focused on firms; on issues of employment relations and job quality and management and leadership within companies, and about how decisions on skills matters are taken at this level.

Several participants were also heavily involved in education research, including secondary and tertiary education, the latter encompassing higher education (HE) up to postgraduate level and further education (FE), and apprenticeships. This included work related to the intergenerational transmission of inequalities, young people's transition from education into work, widening access to HE and credentials and their utilisation in data. Many were also interested in how skills were developed and how systems and regulatory frameworks can support better skills development.

As well as their expertise as academics, many participants had considerable experience working on public-facing projects, alongside partners in the public and third sector in the UK and abroad, on matters relating to skills policy.

1.2 Background

Following members' introductions, the context of this programme was introduced by the British Academy's policy team, with an explanation that the programme came from discussions with the leadership of His Majesty's Treasury (HMT) and the Department for Business and Trade (DBT) around questions of economic strategy and the UK's economic framework. It was explained that the work was not about answering specific short-term questions, but rather to explore this space and to bring together academics and policy officials through the working group structure.

There were calls for clarification about whether the aim of the Working Group was to provide new, blue-sky thinking, or to focus on convincing officials of the validity of existing arguments, and indeed, restating key policy arguments about which there is academic consensus, potentially in new language. There was an indication that the balance should fall more towards the latter, but that this did not preclude more novel thinking emerging from discussions. It was explained that officials were looking for outputs to be delivered around autumn, and that this timing was not accidental with the anticipation of an election this year, followed by a new government entering office.

1.3 Main discussion

Introductory remarks made clear that skills policy should not be siloed from other policy areas, but rather seen as part of a **broader eco-system** that needs to be addressed holistically. This was reflected in discussions around the link between skills and growth and skills and inequalities, with many participants making the point that skills policy would need to be coordinated with other initiatives to tackle these challenges.

Further, it was suggested that it would be important for the group to focus on both the **supply and demand side** of skills policy. It was noted that there has been a tendency in policy to make changes to the skills demand landscape without acknowledging issues with supply. One participant noted that a potential strength of this working group is that it contains expertise across the demand and supply side of skills policy.

This led to discussion which took in a **comparative dimension**, considering skills policy in other countries, particularly Germany. It was noted that Germany has better high-quality workplace training and indeed that the supply and demand framework is not generally used in Germany because employers are seen as such an integral part of the skills training system.

More generally, it was noted that German employers are heavily integrated into the apprenticeships system and work closely with government. In contrast, it was noted that in the UK there is a challenge with a lack of embedded practice in certain sectors.

This was further reflected in discussions that considered differences between the **constituent countries of the UK**. As education is a devolved matter in the UK, some important differences exist, with both Wales and Scotland having a different regulatory environment for both HE and FE. Other differences include the fact that most young people in Scotland stay in school after the age of 16, with attendance at FE colleges far lower.

Contributors also noted that there were considerable regional differences within England, pointing to the success of London in high tech sectors and highlighting the supply and demand problems in skills outside of the greater South-East, with devolved institutions like the Metro Mayoralties being recently awarded expanded powers to take on this challenge.

Meanwhile, it was flagged that some **sectors** of the economy are structurally low-paid and the geographic distribution of such jobs, with higher proportions in certain regions, increases the importance of **place** as a lens of skills policy analysis.

It was generally agreed that there are issues to address across different **educational stages**. A key component of this discussion was around the potential need for reform of the 16-18 system, which was identified as not having a strong interest group behind it in comparison to schools and HE. A key aligned area of interest expressed by several participants was around the lack of a coherent skills offer for the 50% of young people who do not go on to university. Contributions also highlighted the limits that high-stakes GCSE exams at 16 put on many young people's choices, with those going on to study A Levels having a relatively clear path

towards tertiary study, versus a much more disjointed pathway for those taking other routes. This led to calls for a clearer and more connected regulatory landscape, with a suggestion of changing the metrics placed on schools, to move away from the hard metric of GCSE exams at 16.

There was also mention of the **higher-level skills** needed to work in high-tech and high-productivity sectors, with a comment reflecting that the ability of UK universities to recruit UK-educated PhD candidates is currently very limited. There were also calls for universities to have a role in retraining individuals later in life and contributing to the skills landscape.

At the level of **firms**, calls were made for the importance of good quality work, with the example cited of Scotland's Fair Work Convention as a policy intervention in this space which could have useful lessons. This discussion touched on the issue of skills underutilisation and a lack of training opportunities in workplaces. It was reflected that one of the key questions would be identifying the workplaces that succeed in training their employees successfully and understanding why what they do works for skills development, so lessons can be drawn by other firms.

1.4 Ways of working

At the end of the meeting, and in a subsequent debrief attended by the group's co-chairs, it was agreed that the format of future meetings would most usefully involve members being invited by the co-chairs to give short provocations on a topic, to set the terms of the subsequent discussion. Members asked to give provocations will also be asked to provide written notes on what their provocations would contain.

Everyone will have the opportunity to also submit thoughts or references in writing, as it may not be possible to cover topics in as much depth as we would like within 2-hour meetings. All participants will be asked to submit reading recommendations ahead of any meeting, or subsequently, that would help shape discussion in future meetings.

It was decided that the most appropriate potential output of this working group would be to write up succinct think pieces, based around the discussions that took place at each meeting and members' written notes and references. These materials would then be compiled by the British Academy's policy team in collaboration with the co-chairs. It was also noted that HMT/DBT officials would likely join future meetings so the group would be able to engage with them in their discussions.

2.   Meeting 2 summary note (Tues 5 Mar): Routes through the education system

On Tuesday 5 March, this second meeting of the Skills Working group focused on the different routes through the UK's education system. The overarching question considered by the group in this session was how routes through the secondary and tertiary education system could be better integrated to produce better-educated young people, able to fulfil their own potential and be more resilient to economic shocks in the labour market.

To tackle this question, it had been decided to split the discussion into four parts, each starting with a prepared provocation.

2.1 Key Stage 4 and GCSE

This section began with a provocation which sketched out the features of the current 14-16 qualifications system, with a particular focus on the GCSE exams used in England, Northern Ireland, and Wales. Some of the benefits of the system for certain groups were outlined. For example, GCSE exams enable students to be assessed across a broad array of subjects and, for the top third of the cohort who do well, to be awarded grades that help inform their decisions about their future. GCSEs are also used by universities, helping highlight student potential and aiding the pre-results admissions process.

However, some of the more problematic features of the system were also outlined. This included the greater prestige afforded to the academic compared to the vocational pathway after the age of 16. Also, while the age of compulsory education participation has been extended to 18, GCSEs taken at 16 remain a crucial gateway on to further education (FE) and higher education (HE). It was noted that there are very few other countries which have high stakes exams that take place before the end of compulsory education. Furthermore, GCSE exams themselves are costly in teaching time, with a lot of learning for GCSE subjects focused on the examining element.

It was also highlighted that failure to achieve thresholds at 16 in English and Maths is driving subsequent educational participation in unhelpful ways. Over a third of each cohort fail to reach a pass grade in these subjects at the age of 16 and have a very low success rate in resits. Further, it was argued that even for those who do well in their GCSEs, very high stakes exams at both 16 and 18 push them to make 'risk-averse choices', with the GCSE exam signalling the end of breadth of study and a subsequent narrowing for all students.

The provocation ended by suggesting some possible solutions to the problems outlined, such as introducing a broader set of exams at 18, to include vocational courses. However, it was noted that the specialisation in the current system makes it far easier for universities to offer specialised degrees and that what universities require for their admissions processes will inevitably drive future decisions.

Following the provocation, subsequent discussion delved into more detail on some of the questions raised. Some participants further highlighted positive aspects of the GCSE system, noting the potential benefits for individuals of being able to 'drop' subjects at the start of Key Stage 4 and concentrate on what they were good at. It was noted from a historical perspective that one of the results of the move away from the School Certificate, which had required individuals to pass several subjects to obtain a single school-leaving qualification, to a system of individual certificates in individual subjects, was a widening of participation in post-16 education. However, it was also noted that baccalaureate-style alternatives to the

current system could include a mix of subjects based on student interest and aptitude, with the suggested exception of requirement for English and Maths to remain on the curriculum for all up to the age of 18.

The importance of core English and Maths learning was generally agreed, as were some of the problems with current outcomes in these subjects for both individuals and the economy. In the current system, one-third of each cohort do not achieve pass grades in English and Maths, despite the key need for literacy and numeracy skills in the labour market. Furthermore, the large number of individuals who leave full-time education without these qualifications effectively have a 'black mark' against their name in the labour market.

The role of GCSE exams in school accountability was also noted. For schools where the endpoint is at aged 16, GCSEs are the only public exams taken and are a key source of accountability, with some evidence for a positive impact of accountability measures on school standards. It was argued that while accountability is important, the current system is driving poor behaviours and negative outcomes – essentially putting accountability ahead of the needs of individuals and the economy. It was suggested that concerns about accountability should not be put before whether the curricula and assessment system is appropriate (i.e. the latter should drive the former and not the other way round).

A similar discussion focused on universities and particularly the impact of any changes to the current examination system to the specialised three-year degrees most common in the UK, apart from Scotland. It was noted that the subset of individuals who progress to highly academic degrees benefit from the specialised deep curriculum in the current system, but also that many felt locked into choices and that there would be a need to balance depth and rigour in a future system. There is a clear challenge for any replacement system to provide a framework for a broad menu of options, both academic and vocational, without developing a two-tier system. It was noted that the Advanced British Standard proposals currently under consideration would allow individuals to specialise more than in other baccalaureate models, with the potential to feed into a post-18 HE system with more or less specialised options, with potentially positive outcomes for both individuals and universities.

2.2 Further Education

The next section of discussion focused on Further Education (FE). Our provocation began by observing that younger people now made up the majority of learners in FE colleges, due to attendance in full-time-education now being compulsory for those aged 16-18. While acknowledging the importance of issues of funding for Adult FE, the main question posed by the provocation was around the position of the classroom vocational option in FE and apprenticeships. The provocation questioned whether there was another country with a high-status classroom vocational track, noting that the proposed T-Levels would only be effective for a small group of individuals able to access genuine workplace experience. It was further suggested that the only viable alternative in status to the academic pathway, with numbers taking A-Levels rising considerably in the last decade, would be good workplace training through apprenticeships. The provocation ended by challenging participants to accept that the UK is not going to achieve a high-status classroom-based vocational pathway. Instead, the goal should be to develop better and more desirable routes to apprenticeships for those aged 16-18.

Responses to the provocation included comments on the issues of the behaviour of firms, with participants highlighting the reluctance of businesses to engage with the T-Level programme and with employing younger people in general, despite incentives such as the Apprenticeship Levy. Despite individual good examples, it was agreed that employers generally preferred to recruit more highly qualified candidates with more education and that

this was a barrier to the development of apprenticeships, despite the existence of a strong, and positive, 'folk memory' of apprenticeships. One participant suggested that inertia remained in the system, with employers' attitudes fixed on A Levels as a 'gold standard'.

There were also cautionary comments around the possibility that those aged 16 should be made to choose between an academic pathway and university or a vocational pathway, with participants instead highlighting the importance of providing a broader curriculum for those aged 16-18. BTECs were noted as a classroom-based vocationally directed qualification, often taken in combination with A Levels, which enabled access to university, as well as the proposed T Level transition year to help 16-year-olds make decisions about their futures. However, it was also noted that BTECs on their own did not give significant further routes into the skills training system, beyond enabling access to HE.

Further discussion focused on the current apprenticeship system, particularly as a labour market question. It was noted that while the number of apprenticeships was higher in the years since 2010 than for many decades, the number had been declining in the past few years due to funding reductions. It was noted that there has been a shift from apprenticeships primarily in technical and industrial occupations to the business administration, retail, and caring sectors (in line with broader changes to the economy over decades), many of which were low paid, while the issue of place was also highlighted, with availability of apprenticeships very dependent on the economic makeup of local areas. It was also noted that in the service sector the sort of skills required, including maturity in interactions with others, might be more challenging for young people to develop than the manual skills more commonly associated with apprenticeships in the past. It was pointed out that the increase in adults undergoing apprenticeships may also be linked to this phenomenon, as well as a changing perception of apprenticeships away from being historically masculinised, with comments highlighting issues with male attainment.

The discussion concluded with participants' thoughts on inequality, with a point referring to the previous discussion noting that those who failed English and Maths at 16, who generally went on to low-skilled employment, came disproportionately from particular sections of society, including being more likely to be eligible for Free School Meals and more likely to live in certain parts of the country. This was noted as an area in which the UK is an outlier, performing particularly poorly in international terms. There was also discussion of the idea of social value in thinking about the role of firms in education and training.

2.3 Tertiary Education

The focus of our provocation on Tertiary Education was on the so-called 'missing middle', the gap between Level 3 (A Levels and equivalent qualifications) and Level 6 (undergraduate degrees). It was noted that there are disproportionately few individuals whose highest level of qualification is at Level 4 or Level 5, leading to a discontinuity in qualifications not matched by a discontinuity in skills need. Within the UK this was shown to be a particularly English problem, with the Scottish qualifications system better able to bridge the gap. The provocation disputed the notion that too many individuals were taking Level 6 qualifications, noting that evidence available points to continued demand for skills at this level into the future. Instead, it was maintained that the issue is too few individuals are progressing from Level 3 or below into Level 4 and Level 5.

The provocation gave several reasons for the gap, including the complexity of the qualifications landscape for those not taking the A Levels to university pathway, as well as difficulties around funding, with Advanced Learner Loans less generous for those taking Level 4 and Level 5 qualifications. However, the provocation ended by highlighting a tendency to spend too much time discussing qualifications, highlighting that firms instead need skills and

while the two are associated, they are not same. Further, there was a call not to see skills as a panacea, emphasising the need for other forms of capital for productive employment to address the fundamental problems of poor productivity.

Comments highlighted the importance of the relationship between skills and the credential role of qualifications; however, it was also argued that sometimes the education system is not best fitted to develop or recognise the skills employers need, with a need for alternative measures or ways of credentialing skills – including greater recognition of non-formal learning. It was also pointed out that there is a tendency in the UK to think of vocational training pathways as producing specialised and narrow skills, whereas in other countries, such as Germany, apprenticeships are regarded as offering broader and more portable skills.

Discussion also covered ongoing work to track the 'soft' skills employers value, such as communication and collaboration, including the Department for Education's Unit for Future Skills (UFS), which is currently working on a UK Skills taxonomy, similar to the existing O*NET system in the US and similar taxonomies in Australia and Canada. There was further discussion of the ways in which individuals could start to develop these skills within the education system. It was noted that the Extended Project Qualification (EPQ) had been identified as a qualification that helped prepare 16-18-year-old students for the skills required in HE. Within HE itself, the role of 'sandwich courses', where students spend a year working directly for an employer, was also discussed, although the potential downsides of employers' retaining a high proportion of graduates from these courses were noted.

Previous examples of qualifications at the 'missing middle' level were discussed, including Foundation Degrees. It was noted that the incentives in the HE sector had often encouraged universities to extend these into full degrees. Foundation degrees had largely replaced Higher National Diplomas (HNDs) in the decade preceding 2010, demonstrating that there had been considerable flux in qualifications in this space. Observations noted that within this area there are divergent policy goals, with some explicitly aiming to reduce the number of individuals taking degrees, as well as or instead of upskilling individuals at the lower end. Further policy questions were touched on, including whether universities or FE colleges would provide the learning in the missing middle and whether there would be sufficient funding for these qualifications.

2.4 Coordination between stages and more consistency across geography

The final section of the discussion covered the need for coordination and consistency across stages of the education system and across the UK, complementing much of the previous discussion. The initial provocation began by outlining the diversity across the UK, with four separate school systems and at least two entirely different qualification systems. It was noted that many assume that these are both key to successful outcomes; however, the provocation sought to question this assumption and to raise the question of what exactly is a successful outcome?

Further differences were noted between the UK's four nations, including highlighting the large percentage (approx. 25%) of HE delivered through FE colleges in Scotland, around 20% in Northern Ireland, but very low levels in England and Wales. It was pointed out that there is relatively high HE participation in Scotland, as well as a larger number of individuals studying Level 4 and Level 5 qualifications. However, it was outlined that overall attainment levels in Scotland are not higher than in England, and further that there was considerable differentiation between regions in England with limited variation in FE participation at this level. The provocation suggested that it was perhaps most likely that pre-existing inequalities are the main driver of outcomes, with advantaged students always able to find ways to

navigate through whichever system with success, leading to differential levels of achievement in education for relatively advantaged groups regardless.

The provocation concluded by returning to the issue of what made a successful outcome, arguing that access to HE is one and reiterating previous arguments around focusing on increasing the numbers of young people studying at level 4 and level 5 rather than reducing the numbers at level 6. It was noted that the level of 50% of young people attending university, a controversial target in the UK, was fairly typical of OECD countries and low compared to some, such as about 70% in South Korea. The provocation finally noted that in recent reports on potential reorganisation of education systems in the UK, there are a number of different stated outcomes and encouraged thoughts on what the UK should be aiming for in skills and education policy, including the best non-pecuniary outcomes.

Comments picked on the question of what a successful outcome would be, including highlighting the importance of considering what individuals want from work, including the pecuniary, but also opportunities to progress in work, often through training. It was noted that the UK has an unusually low level of training provided by firms which itself has declined, noting that other countries have a better skill investment strategy among their firms. It was highlighted that the next meeting of this Working Group would consider some of these issues in more detail.

Discussion also touched on the issue of the geographical availability of good work, and good job matches – picking up from previous discussions and again contrasting negatively with comparator countries such as Germany it was noted that there are many parts of the UK without firms that are investing in training. One participant raised a point around the expansion of HE to areas without current provision, suggesting building universities in places like Wakefield and Mansfield. It also was highlighted that many employers in certain sectors, such as the care sector, are marked by low pay and poor conditions, and there was suggested that greater regulation of the labour market of these sectors, for example by introducing level 4 and level 5 qualifications of relevance to raise the skill level of employees. It was noted that a previous attempt to impose a National Vocational Qualification (NVQ) Level 2 in Care had been largely unsuccessful, but that this did not preclude future attempts to upskill sectors that were currently characterised by low skill levels.

Regulation was another key topic, noting the different systems in operation across the UK, with the Office for Students (OfS) in England compared to the current moves in Wales towards a tertiary system through the Commission for Tertiary Education and Research (CTER). It was suggested that the current format of HE regulation in England might make it more difficult to make changes such as introducing more pre-degree qualifications. There was also a wider discussion around the different government departments with responsibility for this area and the overlapping policy priorities that needed to be joined up. One participant raised the question of whether England should be more like Scotland, and it was noted that the marked-out status hierarchy in England made it particularly difficult to change aspects of the system, and the way that it is regulated.

2.5 Addendum: additional comments

Working group participants, including those who had not been able to attend the meeting, were asked to provide written comments on a first draft of the summary note. These have been included below as a separate addendum, to distinguish them from the preceding note of the discussion that took place:

- The introduction of GCSEs made possible the significant historic growth in young people staying on in education after 16, and then going on to HE.

- Recent ONS data demonstrates that graduates from less advantaged areas mostly do not tend to leave those areas. Rather, the problem is that no-one is flowing into those areas. This is another good reason to build HEIs in 'left behind' areas. It is likely that their graduates will stay and they might even get additional inflow too.

- At several points in the discussion it was made implicit that piecemeal reform is not advisable and yet has been the norm over many years. Amending one part of the system, whilst leaving other parts intact, tends to make for more fragmentation and incoherence. Further, changes to structures need to be mirrored with changes in funding mechanisms.

- On the subject of depth versus breadth in secondary curricula and its impact on university admissions, one participant raised the question of whether there is any evidence that UK HE students who had experienced a broader curriculum, such as the International Baccalaureate or coming from other countries, do worse than otherwise comparable students who take A-levels, in the UK's specialised university degrees?

- While A levels are often considered a 'gold standard' in some types of employment, this did not necessarily affect wages, at least not in the short term. A recent study (Capsada and Boliver 2021) found that among individuals who did not go to university, the choice of upper secondary 'track' affects access to service class occupations, but found no net effect of upper secondary track on disposable income at age 25 after controlling for prior attainment at GCSE and subsequent participation in higher education.

3.   Meeting 3 summary note (Thurs 2 May): Skills in working life

On Thursday 2 May, the third meeting of the Skills Working Group took place, focusing on skills in working life. The overarching question considered by the group in this session was:

How do we develop skills to provide 'good jobs' and improved productivity across the working life?

To approach this question, the discussion was organised into three sections considering three broad sub-questions or themes, with a Working Group participant delivering a provocation to begin each section.

3.1 Provocation: Is there underutilisation of existing skills?

The first provocation focused on the question of underutilisation of existing skills. It was suggested that in many market economies including the UK, the aim of public investment in skills programmes was traditionally seen as increasing skills supply and thereby boosting demand, but that the reliability of this relationship had become far less accepted in the last couple of decades. This has led to increased discussion of skills underutilisation, particularly in terms of over-skilling, where there is a misalignment between the skills an individual holds and the skills required to do their job, although it was noted that this is hard to define and measure, with links to the related but separate debate around overqualification, where individuals hold higher qualifications than required for their job. It was noted that the qualifications profile of job holders, or surveys such as the European Work Conditions Survey, are often used to measure skills underutilisation.

The provocation continued by arguing that skills underutilisation was an issue, as it imposes costs on individuals, organisations, and wider society. Research shows that those with better skills matches have better job satisfaction and wellbeing. Further, particular groups, including minority and migrant workers and other categories of workers who are often discriminated against, are more likely to have underutilised skills. There is also a regional dimension, with the provocation highlighting that 39% of employees in Rochdale were recently found to be overqualified versus 5% in Hull, for example. It was noted that the level of self-reporting of the problem between employers and employees was broadly aligned, suggesting a shared acknowledgement of the issue. Concern was expressed at the UK in international comparison, performing poorly according to various, albeit subjective, measures, with Finland an example of a much higher performer.

A further point raised in the provocation noted the difference between employers' demands for the skills and qualifications to get a job, versus the demands actually required to do a job, with the issue of over credentialisation leading to potentially unnecessary qualifications being required for jobs. Another issue raised was the way that employers manage or organise work, which does not always enable individuals' skills to be well-used, with the business model of low value-added sectors not allowing for skills utilisation.

Finally, it was asserted that skills underutilisation is an important issue from a policy perspective, with a desire to invest in skills and for individuals to use their skills, but a lack of policy levers apart from on the supply side to make a difference.

3.2 Discussion

In response to the provocation, one participant noted that skills underutilisation was a potentially difficult concept, as it is not desirable for individuals to only be suitable for the job they currently hold, with career progression and opportunity important, while acknowledging

that there are potential issues with poor job design at play. Further contributions highlighted that the concept was difficult to nail down, noting that graduates may, despite having skills at a certain level, become slightly misaligned to the types of skills employers want, with a call not to write off supply-side explanations completely. There was agreement that there is not an a priori problem with having more skills, just that without career development opportunities, individuals can feel trapped, with survey data suggesting that over-skilled workers do feel more positive when they see opportunities to develop in their role. It was noted that many employees want to innovate at work, and do things differently, but are in roles where there is no incentive to do so, with a flat hierarchy. On the other hand, positive examples were cited, such as employers with a skills-based pay system, pushing employees to use skills more appropriately.

Further, another participant raised the issue of the extent to which there are good data sets to analyse the phenomenon of skills underutilisation, noting that there can be inaccuracies in self-reporting, with higher-skilled individuals perceiving themselves to be under-skilled in some areas. It was acknowledged that this is a challenge, with self-reporting creating overestimation of skills underutilisation in some cases.

One participant raised what they referred to as the 'critical puzzle' of why employers do not invest in training, noting that while declining expenditure on training is not purely a UK phenomenon, the UK seems to be getting relatively worse than competitors, with high levels of misalignment and employers seemingly not doing much about it. Further participants also raised this issue, raising the question of how to change businesses' behaviour, encouraging demand by investing in skills. It was also noted that most people who undertake in-work training are those who have already had training or hold higher-level qualifications, arguably a misdirection of resources, although one comment noted that concentrating training on the more skilled has a short-term rationale for employers, because research shows that on average, they tend to master new skills faster.

It was noted that a regular feature of the debate within government is around whether the UK produces too many graduates, including in specific subjects, with the example given of too few studying engineering at Level 4 and 5 versus too many creative arts graduates. It was suggested that there could therefore be concerns about type of skills as well as level of skills, leading to the question of what the policy incentives in this area should be and what sort of skills utilisation should be encouraged.

Participants, however, noted that the goal should not only be creating a skills match, as this would neglect other key issues, including the adoption of technological change and encouraging organisations to move to higher value business models. It was cautioned that we should be wary of advancing an argument that encourages producing fewer skilled people just to achieve better skills alignment. A further point was made between supply and demand which noted, taking the example of engineers, that while there could be drives to train more engineers at FE and HE, there is no guarantee that these individuals will go on to become engineers, with many currently entering management and the finance professions, partly, it was noted, because they possess the mathematics skills required for these roles that are in short supply in the labour market. Relating to the point made about declining employer investment, it was noted in the case of engineering firms that their reliance on formal education to train their engineers and their disinclination or inability to pay their entry level positions more to compete with the financial sector, has contributed to this phenomenon.

It was noted that the regional dimension of skills underutilisation was exacerbated by the lack of suitable jobs even for those with the skills, meaning that increased training in certain areas would not solve the issue. A further point highlighted that despite this debate being prominent in Scotland for around 25 years, the underlying numbers had not improved. Relatedly, it was

also noted that UK-wide data from the 1960s, 70s and 80s showed 'overeducation' at roughly the same level as recent statistics on skills underutilisation, suggesting that this is a longstanding problem and that it is important to look at longer trends. Another participant suggested that things had changed geographically over time, with the proportion of graduates in non-graduate jobs increasingly larger outside London. It was argued that if there was overeducation, this would be found everywhere, but it is not, suggesting that there are geographical issues at play.

The expansion of HE was introduced as a factor into the discussion, noting that it has not just seen an increase in numbers but also a change in the type of people going into HE, with many who are far more constrained geographically. These new HE entrants are a very different group of the population, from a lower socio-economic background who are typically less mobile, which may result in regional mismatch after graduation. This is a challenge involving the workplaces and companies operating in certain areas. Other comments referred to the issue of the declining graduate premium outside London and the South East, as well as the oversupply of the so-called 'wrong' graduates in some regions, referring to recent work by Anna Stansbury, Dan Turner and Ed Balls, although it was noted that this had been misread by some as showing the graduate premium outside London was now non-existent, whereas in fact the paper shows it is still at around 30%, albeit declining.

It was noted that skills alignment is an important part of measuring job quality, but not the only part. While people want to use their skills in workplace, there are other important composite factors. Relatedly, it was noted that in terms of the UK's comparative international position, it is important not to separate the issue of skills underutilisation from other areas where the UK scores poorly for job quality measures, for example a sense of employee autonomy and control, encouragement for problem solving and others. It was argued that these other job quality concerns are connected and indeed are often found in the same sectors and industries, such as the low-level service sectors, that have high levels of skill underutilisation. However, one participant did sound a note of caution around international comparisons, noting that even in the 1990s when UK productivity growth was generally good, the UK was often cited as performing poorly in international league tables and surveys, suggesting that there are some difficulties with measures which may be more about employer-employee relations. This would suggest, it was argued, that management skills are highly important, with a relatively high proportion of people in the UK employed in small firms with low management skills, stymieing further skills development.

There was a consensus that abstract skills and social skills are particularly in demand and that these are hard to train for, with transferable skills being important in the UK. While the point made around the demand for the mathematics skills of engineers demonstrates that such cognitive skills are still important, it is perhaps the combination of these and more abstract skills that are becoming very valuable.

3.3 Provocation: How should skills adapt to the dual challenge of technical change and ageing?

The second provocation focused on the dual challenges of technological change and ageing. By way of introducing the topic, it was noted that the relationship between skills and technological change has traditionally been seen as collaborative, with technology primarily benefiting those with high level of skills already and enabling them to be more productive. However, the provocation argued that upskilling is important, but not sufficient. As technology is taking on more of the cognitive work in many roles, there is a need for employees to adapt to the challenges this brings. It was suggested that there is a lack of balance in the UK in some respects, with more students in HE while training is decreasing, unlike other countries such as Singapore, and the Netherlands, where a more holistic approach is taken. It was

suggested that human skills that are better protected from automation include softer skills, such as leadership, with a need for employees to know how to use and create value from technology. It was noted that human skills are more durable and become obsolete less quickly than some 'harder' technical skills. However, it was noted that it is hard to develop these softer skills in the initial education system, with a focus on literacy, numeracy, and digital skills, before increasing specialisation from level 3 onwards, a topic discussed in the previous Working Group meeting. These skills are also difficult to certify, which makes it hard to measure the stock of these skills in the labour market.

In terms of how to develop these skills, it was noted that there are specific implications for formal education, giving more visibility to these skills in the education system, which is challenging when teaching is arranged around subjects, not skills, requiring changes in pedagogy. This could include, as is common in Germany, educational institutions being in close contact with employers, with concerning trends in the UK of a decrease in this sort of collaboration, demonstrated by the HE business community and business interaction survey, associated with financial pressures from providers as well as a loss of EU funding that has not been replaced. The provocation also warned against a false dichotomy between 'softer skills' and cognitive and technical skills, which are also valued in the labour market.

When considering the needs of local employers, the provocation argued that technology could provide new tools to look at these needs but suggested that there should be a role for educational institutions in the diffusion of the skills to use technology through their curricula, noting evidence from Switzerland around how changes to the curriculum have led to the quicker introduction of more advanced technologies in mainstream companies. The provocation explained that the technical skills needed for the UK's green transition would require retraining at intermediate levels of education, with estimates from European research suggesting that the transition would not add considerable net employment, rather that it would require retraining workers in 'brown' jobs with skills for the green economy.

Finally, around the issue of ageing, the importance of intergenerational learning was noted, with a call to see older workers as a resource to help younger people develop those human skills which are generally seen as more difficult to develop. Taken together, it was argued that the UK has a challenge around the creation of a learning culture, with positives including a dynamic economy and research sector, but also many people with low basic skills, and increasing issues in schools with absenteeism and many questioning the value of education, which tempers hopes for lifelong learning, with individuals likely to associate this with previous experiences of education.

3.4 Discussion

Discussion of the provocation began with a query as to whether robust evidence existed that softer, human skills are in reality less likely to be affected by the development of AI, while noting that if this was the case, it would be very important to recognise, as these skills remain under certified and underexploited. It was noted in response that evidence around the quicker depreciation of technical skills mainly comes from the analysis of job adverts, while the evidence base is less strong for AI specifically, because of its rapid development in recent years. An additional point was made that it will also be a question of cultural acceptance, as well as the technological limits of AI, that will ultimately determine what tasks are protected from automation, as societies may decide that they want certain tasks to be completed by humans because of moral or ethical concerns, or purely due to preference. [A comment highlighted existing work on the different degrees of skill obsolescence across hard and soft skills].

Further comments reflected that automation was not a new phenomenon, but that unlike previous forms, AI will result in the automating of highly trained and skilled jobs, with analysis suggesting economics is the degree most commonly held by those in the jobs anticipated to be most affected by AI. However, it was acknowledged that it is difficult to predict future skills needs, with a comment highlighting that a recent ONS survey of businesses had found 80% are not using AI at all, and only 10% using Large Language Models (LLMs), seen as the aspect of AI technology with the potentially biggest effect on jobs. This shows, it was suggested, that we are currently at the beginning of the adoption curve on AI with a lot of uncertainty and that therefore businesses need to be better at skills planning, potentially through improving management skills.

Relatedly, another comment noted that the literature in Management and Business Studies around AI had highlighted that the uptake of individual use of AI by employees had been considerable in some roles, for example in those requiring coding skills. It was noted that there had been a recent Harvard Business School and Boston Consulting Group study suggesting productivity benefits at individual levels of around 30-40%, although there were cautions that this seemed relatively high and also that this study had shown AI could be harmful for certain types of senior decision making. It was suggested that perhaps at this point, the improvements around AI have been at the level of specific tasks, rather than AI leading to wholesale job redesign. There was also the observation that perhaps what is most key is what is hardest to evaluate, namely what AI cannot do, including anything 'truly creative' and tasks needing social relational skills. As a result, maybe a lot of jobs won't be rendered obsolete, especially at senior levels, with senior leaders paid to exercise their judgement.

It was posited that with this uncertainty around AI, came an increased desirability of concentrating on 'low regret' skills, which we could be confident would be valuable in the longer term, with work by the NFER on the Skills Imperative 2035 indicating that this included primarily human skills including creative thinking. On the issue of measuring these skills, it was noted that the upcoming UfS skills taxonomy (the Standard Skills Classification), may be useful in this regard, although it was noted that previous skills taxonomies have not always been highly effective in other contexts.

As well as the technological aspect, one participant noted a related but different phenomenon, namely the development of business models in which soft skills are disregarded, giving customer service as an example, whereby a number of businesses have opted to automate customer service functions, when before this would have been invested in as part of competition with other firms. It was further noted that there was something of a distinction between internal and external facing soft skills, with the former including attributes such as teamwork, still widely valued. Indeed, it was noted that it is still very difficult to do work without good communication skills and working with other people.

In discussion around retraining and reskilling for the green transition, it was observed that this area will be very difficult for policymakers to get right, with comments focusing on previous examples of re-skilling, for example in the coal industry in the UK in the 1980s and the US automotive industry, where there have been considerable difficulties with a transition away from a particularly dominant industry. One participant noted a recent interview they had conducted with an executive in a German manufacturing company investing in training its workforce to produce electric vehicles, commenting that even with considerable investment and pre-existing expertise amongst its employees, it was proving to be a highly challenging process.

Another participant noted that the fact that the evidence has shown the more educated are generally more effective at training might give policymakers pause for thought when considering questions such as how many graduates the UK should have. Singapore was cited as an example of a country with both good rates of training and high levels of initial education, although there were cautions against comparison owing to the specific circumstances of Singapore, including size and the role of the state and the high proportion of the population being of migrant origin and therefore likely educated elsewhere. One comment mentioned the role in Singapore, as well as in France, of Individual Learning Accounts for training, with all citizens in the former over the age of 25 able to access credits to spend on education and training programmes. Nonetheless, it was noted that the success of Singapore in training so many more people than the UK might suggest that the effectiveness of training is not necessarily just about 'ability', but that more education can have a positive impact on outcomes.

The discussion around graduates continued as one participant queried the extent to which the 'graduate premium' in employment is often down to signalling, suggesting that graduates will have the ability to develop soft skills 'on the job' more effectively. It was noted that in UK, HE students work in a relatively autonomous way, which is generally a beneficial attribute for employers. A further comment was whether the term should be 'screening' rather than signalling, noting that the Institute of Graduate Employers charts the proportion of graduate jobs specifying a degree subject and that this had been declining year on year for decades, to a current level of approximately 15%. However, while there had also been something of a trend of companies dropping the requirements for their new entrants to have a degree at all, research has suggested that those who get these jobs do still tend to be degree-holders.

3.5 Provocation: How should the funding of training be developed?

The third and final provocation focused on the area of funding training. Noting that this was a big question and a big set of issues, the provocation began by setting out the intention to tackle the topic in terms of the policy options available rather than theoretically, and to look at how funding for training might develop in this respect over the next few years.

The first part of the provocation focused on the issue that the current system is complicated, has faced many changes and been subjected to significant cuts. It was argued that this complexity is a problem that applies within and between what are essentially multiple systems of post-16 education and training in England. It was highlighted that FE funding is still not quite at 2010 levels in England, with all areas of the 16-19 and post-19 system facing challenges, at the same time as the funding challenges seen in the HE system, with the result that all the significant institutions involved in this space are under financial pressure. However, it was noted that one area that is slightly different is apprenticeships, with the OBR forecasts suggesting there had been a significant increase in Apprenticeship Levy receipts across the current Parliament. It was highlighted that this is the only part of the system that shares cost between the state and employers, however issues remain, with the drift towards higher-level apprenticeships and very low achievement rates across all areas and a lack of engagement from employers.

The second part of the provocation described what the policy options might be to improve this set of systems, noting the important context of considerable implied spending cuts over the next few years based on the current Government's plans, suggesting the state contribution to this area would likely be under significant pressure. Considering Labour it was suggested that a lot of their plans may depend on when they decided to run a Spending Review and the context of the party's fiscal rules. It was suggested that the big question

facing Labour on training may not be so much on the details of how costs are shared, but more results-oriented and focused on how to get systems to deliver certain wider policy objectives, for example around increasing green skills and housebuilding. In short, the provocation predicted that a Labour government would likely view the policy framework for managing training as being governed by how to target particular skills and outputs.

3.6 Discussion

One comment on the provocation focused on the idea of targeting, suggesting that it may be difficult, for the reasons discussed earlier in the meeting around a lack of clarity on future advances, to target higher skills, for example. It was acknowledged that while many in the sector would ideally like a new government to think about whole systems and making changes at this level, it was perhaps more likely that a hypothetical new Labour government would come at it from a different perspective, in the context of their 'Five Missions' and wider industrial strategy, by looking at prioritising certain interventions in the economy. It was suggested that if this was to be the case, thinking would need to happen around whether such targeting can work effectively, what are the mechanisms and how to implement them. For example, in the construction sector, there are predictions of significant skills shortages in this area, which would significantly hamper Labour's building mission, so this may be an area that they would look to target immediately.

It was also suggested that there could be a role for geographical targeting, to address the matching issue raised in the discussion around skills underutilisation. This led to a discussion around Britain's poor performance in its second cities in comparison to countries such as France and Germany, with the suggestion that a targeting strategy could go some way to reversing this trend. Further comments suggested that rather than talking in terms of local skills planning, there was a need to ensure that skills is part of broader economic planning. However, caution was added, with a plea not to forget the national, structural issues in talk of targeting, for example with FE and HE funding.

The discussion moved onto the issue with short-term flexible training funding. Concerns were expressed that this could be somewhat incompatible with public funding, which requires a degree of inflexibility to prevent public money being spent unwisely, with the example cited of some businesses spending the apprenticeship levy on poor training. It was argued that businesses must invest themselves in training, otherwise there are too few incentives there for them to prioritise good quality training. Support was expressed for the idea around tax credits proposed as part of the Resolution Foundation's Economy 2030 programme. Previous policy interventions, such as the Train to Gain scheme, had been implemented badly and therefore disregarded, when perhaps a more sensible approach would be to pilot interventions and evaluate their effectiveness, accepting that there would likely be no immediate 'silver bullet' to solve these issues.

There was also consideration of the question of who is paying for training in the UK, with one participant citing a recent Learning and Work Institute Report, which put together figures on how much is spent on training by different stakeholders. This found that individuals spent by far the most on training in UK, around three times the amount of the Apprenticeship Levy. It was noted that in many cases individuals are in the best place to decide what they need to study and where, but that there should still be discussions around quality assurance of training, and guidance to help individuals choose training that will meet the objectives they have.

This led to further discussion around the idea of incentives, and how the whole training system should be incentivising employees and, in the context of the discussion around targeting, what the groups' position might be on the direction this should take. One participant questioned what the current system does to incentivise people to make the right choices for themselves and their careers, noting that the seeming irreversibility of decisions that people make within the education and training system that led them down particular tracks. While noting that there had been examples of this within universities in the form of higher-level apprenticeships, there was a call for requiring institutions to make it easier for there to be movement between sectors. It was noted that it is currently very difficult to become 're-qualified' at the same level if you already hold a qualification.

In a more detailed discussion of apprenticeships, it was argued that the current Levy system is not working efficiently, currently being used to a large extent for apprenticeships at level 4 and above, which are very expensive. One participant questioned the use of this implicit tax subsidy for qualifications with a high financial return for the individual, suggesting that perhaps these qualifications could be financed through the grants and loan model familiar in HE. This would then save the Apprenticeship Levy for school leavers at level 2 and level 3 with few academic qualifications, where apprenticeships can make a significant difference to outcomes. There was also a call to prevent the Apprenticeship Levy from taking on too wide a scope, suggesting it should be reserved for apprenticeships, which are firm-based training, as a specific aspect of the system. Further, it was suggested that cutting out the higher-level apprenticeships would leave more money in the Apprenticeship Levy to be used at these lower levels, particularly for SMEs, who are currently not always getting enough of the money available. It was noted that this switch might be difficult, as the move to higher level has been supported by businesses as well, although it was observed that this would be covered in the groups' forthcoming meeting focusing more on what was going on in firms, including the need to move the focus from getting people into any work and reintroducing the importance of appropriate job matches.

Another major policy that the group discussed was the Lifelong Learning Entitlement (LLE), with a participant raising the question of how it was going to work and suggesting it is one of the biggest innovations in funding training in recent years. It was suggested that while it may not cover all of the smallest training needs, it could enable a more flexible approach to adult retraining. A potential criticism raised whether the LLE will to some extent replace rather than supplement employer investment in training and the danger of dead weight in the LLE was raised. It was also noted that the current funding regime in HE is designed to increase access and participation and that this was an important consideration for any new funding system, with an opportunity to expand and change the age and socio-economic profile of those studying at level 4 and 5. This was framed in terms of linking the funding argument to a new public argument around the need for lifelong skills, expanding the public consent for the HE system to include the potential scenario of studying for a new level 4 or 5 qualification in your fifties despite already having a degree.

However, it was acknowledged that this is currently undermined by the lack of level 4 or level 5 qualifications actually held by individuals today. This makes it challenging, as it is hard to have a national conversation around qualifications that very few people have heard of or understand. A potential solution suggested was to try and focus on particular industries and sectors where these qualifications are used successfully and for those areas to promote these qualifications better. It was noted that in Scotland, where there is more FE-HE articulation there is better awareness of level 4 and level 5 qualifications as avenues to HE, but that they were not necessarily seen as flexible qualifications, with a sense that FE in

Scotland is increasingly a funnel to HE, with over 50% of FE students going on to HE. Upcoming work by TASO was flagged showing the earnings premia and employment returns from HE split by FSM status, gender and ethnicity, with comparisons between HE providers as well as levels 3, 4 and 5, with similar work published in 2020 by the CVER.

Further comments suggested that there is demand from older workers, for example in their fifties, for opportunities to retrain to work into their sixties and seventies, and that this is an important megatrend to confront, with a call not to neglect this area in the face of an understandable focus on training in the early part of careers. One participant noted that this is an area that the UK has had some success in, for example in comparison to France, which partly explains the tendency to early retirement in France. It was suggested that the real key was to be able to effectively match those looking at extending their working lives with the right skills, with an example given of women coming back to the workplace after having children, bringing considerable human capital.

The discussion closed with a suggestion of the need to underline the importance of institutional capacity in these discussions, with any of the policy interventions considered requiring this to react and respond. This in turn links to the issues of mainstream funding for FE and HE and the need for a system where institutions are incentivised to build the capacity to be flexible in this respect. Further, the need to see the skills and human capital debate as connected to the rest of the economy was highlighted as key to growth and productivity. There is, it was suggested, currently a lack of coordinated thinking about the profile of qualifications and training provided in a university, for example, and the local strengths in R&D and innovation and where this investment is.

4.   Meeting 4 summary note (Thurs 13 June): Demand-Side Challenges and Opportunities for Skills Development

On Thursday 13 June, the fourth meeting of the Skills Working Group took place, focusing on demand-side challenges in skills development. The overarching question considered by the group in this session was:

What skills (and other attributes) do employers value in their employees? And how can these be developed effectively in today's business environment?

To approach this question, the discussion was organised into three sections considering three broad sub-questions or themes, with a Working Group participant delivering a provocation to begin each section.

4.1 Provocation: What are employers looking for in their employees?

The first provocation began by noting important challenges to keep in mind when thinking about skills demand. Firstly, how to classify skills, with the lack of an accepted taxonomy across employer surveys, job adverts and academia causing issues around clarity and comparability. A further issue relates to the complexity derived from the different meaning of the "same" skill in different occupational contexts with, for example, 'advanced communication skills' looking different for a journalist compared to an engineer. It was suggested that, perhaps, a certain degree of imbalance between supply and demand of skills is not necessarily negative, with a complete balance perhaps a sign of low skills equilibrium and little push for further improvement.

In terms of which skills are in demand, the US literature, including the work of Deming, highlights the increasing importance of social skills and decision making. This has been reflected in statements by business leaders, including the CEO of JP Morgan, indicating that attitude and personality traits are more important than specific degree subject when recruiting graduates. A UK reference point is the Employer Skills Survey, which has shown difficulties in recruitment increasing by five times from 2011 to the latest edition in 2022 due, in part, to a lack of applicants, but also a lack of personal skills, as well as technical and practical skills (skills shortages).

The Employer Skills Survey suggests that, overall, technical skills face the greatest shortages; however, if you disaggregate the many different types of technical skill, things look different and the important role of soft skills in contributing to skills shortages becomes very clear. Soft skills that are particularly important, as shown by the CIPD surveys and the Pissarides Review, include communication, planning and organisation, teamwork, problem solving and resilience. It should be kept in mind that skills needs shift over time and sometimes very quickly, with demand for cyber security and AI skills increasing in recent years, while telemarketing, previously one of the most valuable IT skills, has disappeared.

To conclude, it was highlighted that employers do not recruit on individual skills, but on bundles of skills, about which we know much less. Also, it was noted that much of the research in this area focuses on the point of recruitment, but examining skills in the workplace itself is also very important. UK companies continue to struggle to account for the skills they already have within their organisation.

4.2 Discussion

The Chair raised the well-known quote 'hire for attitude, train for skill', a view taken by many high-end recruiters, and speculated that this may betray an assumption that all their applicants already have a decent level of formal qualifications. It was suggested that taking

softer attributes into account in recruitment leads to organisations having to consider the balance between applicants who are a complete cultural fit and those bringing a different perspective. Companies such as JP Morgan have claimed to seek diversity when recruiting not only in terms of gender, ethnicity and other characteristics, but also in diversity of thought. It was highlighted that the capacity to network, and moral traits such as ethics, have become increasingly important in many jobs.

One participant made links with the Working Group's previous discussions, with issues around skills measurement tying in with the importance of accreditation and training. The need to think about the development of accreditation methods was highlighted, as without this it is difficult for individuals to have their skills recognised elsewhere in the labour market. There are gaps, in particular, regarding accreditation and recognition of soft skills. Regarding training, the rise of AI was cited, with a need to support the development of skills less threatened by AI. Another comment noted that research on skills obsolescence shows technical skills become obsolete at a faster rate than soft skills because of rapid changes in, for example, new technologies.

On the idea of bundles of skills, it was suggested that one way of achieving this in a workplace is through an individual possessing a range of skills, but another is to have a range of skills across a team, which could be a more successful model. It was further emphasised that there is currently very little insight into skills across teams, with no data on employers' thinking about their teams' skills. There was also a suggestion that some managers may be wary of full skills transparency within teams, as this may drive inequality between teams in the internal talent market, with high performing employees naturally drawn towards higher-skilled teams, leading to concentrations of talent.

It was suggested that caution should be exercised regarding companies who claim to hire for attitude not skill, noting that employability rates and wages vary significantly by the degree subject of graduates. Similarly, another participant suggested that an issue with skills surveys is that there is little clear evidence that employers have a good idea of the skills their employees possess, and highlighted the need to include employees' voices on the skills they think they have that are under-used. Employers' surveys may be more useful for telling us the skills employers want, rather than about actual skills gaps. It was also suggested that accreditation, providing information to both employers and employees, could mitigate this, including through micro-credentials, although these are not geared towards soft skills.

Building on this, it was noted that while soft skills are hard to credentialise, the clear alternative measure is in the return to an individual from experience, which is often taken as a proxy for ability, as skills are developed through use. It was suggested that attempts to introduce credentials in soft skills are in danger of sounding vacuous. It was also noted that accreditations, once achieved, are thought to apply to the whole of the labour market, even though an individual could be, for example, a very good problem-solver in relation to a specific area of expertise but not another.

A further comment raised the question of the apportionment of training for skills between the education system and the workplace, referencing Yuija Li and David Grusky's argument that the apparent growing pay-off to higher skills is in fact the new allocation of jobs to people with certain types of educational background. It was posited that in fact most skills are generated in the workplace. It was suggested that employers are ultimately looking for people who can be trained for very specific occupations. There was an additional reflection that many companies are looking for recruits who already have the skills they want rather than being prepared to train for these, which could contribute to perceived skills shortages.

The issue of the extent to which skill development should be built into the qualifications offered in Higher Education was identified as a fundamental issue, noting that many would not regard HE as being about the development of skills. Nonetheless, with around 50% of the population completing a degree and employers requiring certain skills from graduates, there was a call to consider what a broad curriculum in HE could look like that would enable people to develop skills, whether or not these are accredited.

4.3 Provocation: How do we define and develop non-technical skills?

The second provocation began by noting that the key issue with non-technical or soft skills is that they are hard to define, hard to measure and hard to develop and that there are questions over whether they should be defined by employees or employers. In business schools, techniques for 360-degree feedback are taught, demonstrating an open and non-hierarchical approach to rating individuals on competencies. It was noted that many skills are context-specific, with soft skills often hard to transport from one workplace to another.

The provocation touched on management, noting that while this is not a profession as such, the required soft skills of a manager could be usefully identified. There was discussion of research on management techniques, the key attributes identified as: managing yourself, managing others (task) managing others (people) and managing context. It was explained that within business schools, these are the kind of attributes that are believed to be important to develop, as this is what employers want from managers. However, it is generally challenging to identify whether students have developed these skills – reiterating the difficulty of measuring skills.

It was noted that the so-called '70, 20, 10' principle, despite having no academic work behind it, has become a truism in the leadership world. This is the idea that of the capabilities needed to succeed in the workplace, 10% come from formal training, 20% from interactions with colleagues and 70% from on-the-job learning. It was noted that while this is a simplification, there are complementarities between how an individual learns from others and how they develop their own skills.

The provocation ended by considering the rise in AI, which has become essential for certain tasks in some workplaces, even though Generative AI at least tends to 'excel at mediocrity'. As a result, it can bring all employees up to an acceptable level in most areas of knowledge work, with out of the box creativity, relationship management and personal development requiring human input. A recent PwC commissioned report on The Potential Impact of Artificial Intelligence on UK Employment and the Demand for Skills, demonstrates the continuing importance of leadership skills in the context of advances in AI.

4.4 Discussion

The discussion began with one participant raising the need to 'square the circle' of non-technical skills being considered vital, yet difficult to accredit and to teach in contexts other than on-the-job. Further, the discussion in previous sessions around the decline in firm-provided training at all levels was referenced, as while employers may want these skills, they are generally not currently willing to invest in their development. It was suggested that overall employers still rely on the 'learning by doing' mentality, with an exception mentioned being the Armed Forces, who invest heavily in employees who take on management tasks in a way that is uncommon in private companies. Work by John Van Reenen was cited demonstrating that management quality may be significantly worse in UK and in some long-tail, low productivity firms in particular. It was suggested that this could be due to those in some companies doing well due to establishing good relationships, rather than through skill, and the question was raised as to whether other systems with more formal and systematic processes may lead to better outcomes.

There has been considerable investment in measuring social skills in the workplace, including by Google DeepMind, raising the possibility of a future role for AI in summarising measurement of successful social skills. Another way of measuring social skills was in the World Management Survey, which had conducted phone observations to score individuals on management quality. One comment raised whether skills are important for all jobs, rather than just for managers, and relatedly, whether high returns for soft skills are mostly due to higher pay for managers. This led to a discussion of how, if more employees take on more management responsibilities, this will impact the future structure of the workplace, as some have pointed to the UK having too many managers as being part of its productivity problem. It was suggested that most employees use management skills for at least part of their work, including self-management. An area of the labour market which is quite different is the gig economy, where an individual will deliver a piece of work on contract in isolation, whereas in other contexts the task would be carried out in a workplace surrounded by other employees, with the note that there is less need for soft skills in this scenario.

There was discussion around the extent to which soft skills are also developed in the formal education system, including school and university. It was suggested that this is something the UK does reasonably well, although long-standing rhetoric around the need 'oven-ready' graduates was noted, alongside concerns about perceived skills gaps between graduates and employers' needs and the need for better ways of measuring and evidencing skills in this space. It was explained that in Germany, prior to the Bologna Process leading to the introduction of three-year degrees, employers would complain that degrees were too long, and graduates were entering the workplace with out-of-date knowledge. However, after this change, there were complaints that degrees were too short and graduates emerging were not ready. Overall, it was agreed that the education system can help to develop both hard and soft employability skills.

One caveat raised for the UK, however, was that soft skills are developed differentially, with independent schools conferring an advantage in this regard. There was also caution raised around accreditation, with the suggestion that while this may make soft skills more measurable and accountable, they would likely be disproportionately achieved by certain groups, which may increase socio-economic gaps. It was further noted that the evidence suggested those from disadvantaged backgrounds were more likely to be sifted when coming face-to-face with potential employers in interviews.

The context-specific nature of soft skills identified in the discussion, while usually seen as a downside for workers due to limiting their bargaining power, seems not to always be the case, suggesting that this requires a different way of thinking about skills in the labour market. Research suggests that occupations expanding are those that require social skills, across all areas, not just management. Building on the discussion of soft skills being developed in context, it was noted that studies had shown that many executives moving, not just between industries but between companies in the same sector, found it difficult to transfer their soft skills.

A final point raised the question of how much related ultimately to individuals' ability to learn and basic intellect, citing the number of qualified doctors who end up working in financial services because they learn quickly, rather than due to the specific skills they have learnt. It was suggested that in trying to classify skills, it may be that the exercise becomes charting the life courses of those who are responsive and can learn quickly.

4.5 Provocation: What interventions can employers and policymakers put in place to increase employee engagement, employee skill utilisation and workplace productivity?

The final provocation provided suggestions for effective interventions on the broader skills agenda, rather than purely soft skills as had been the focus of the discussion up to that point, further noting that soft or 'core' skills could usefully be regarded as complementary to other types of skills, rather than as a separate set of skills.

The first point made was that any effective intervention needs to be local rather than national. Currently, productivity and job quality are not evenly distributed and SMEs, likely with greater problems in this area than larger firms, do not have the resources to develop the skills they need. Overall, the need is greatest where the provision is poorest, and it is unlikely employers will be able to resolve these issues alone, suggesting public provision will need to play an important role in this space. Presenting a positive view of some existing elements of the system, it was suggested that Local Skills Improvement Plans (LSIPs) could be a basis for further development, noting that they are often driven by local chambers of commerce and result in local employers engaging with local training providers. There was a suggestion that centralisation in Whitehall would not be the best approach to this issue, with a far better chance of orchestrating positive change at the local level.

Recognition of skills requires credentialisation, and there is already a proliferation of standards and qualifications, with a need for less complexity. There is a danger that adding another layer in this space would be moving in the wrong direction. This includes not just the nature of qualifications and the recognition of skills, but funding mechanisms, which as well as having faced considerable cuts, also have complicated incentive structures. Therefore, any kind of intervention in this area, it was argued, needs to be simple and easy to access for employers and employees, stopping the constant change which has occurred in education and training to implement a system that would be stable over time. As well as this, it was asserted that any system needs to be properly funded, as adults' skills and FE funding and provision have fallen considerably in the last decade, with the result that while employers are reducing their input into training, the state has also essentially withdrawn from this space.

Finally, there is a problem around skills perception gaps between employers and employees. It was acknowledged that all workplaces tend to have some form of performance review, but that getting employees to understand and contextualise their skills requirements takes time and effort. It was suggested that before people can be helped to expand their skills, there needed to be acknowledgement that neither employers or employees have consistent ways of assessing and measuring skills, with the result that individuals often have latent skills that are not realized. Therefore, enabling employers to identify the pre-existing skills within the workforce would be an important step to be taken before advocating a whole new system.

4.6 Discussion

The discussion began with one participant citing positive examples of local interventions in Scotland, with the Young Workforce Framework emerging through local chambers of commerce. However, it was noted that many local organisations face capacity issues, with questions around how representative chambers of commerce are of businesses in an area and noting that employer organisations tend to be very small and focused mostly on regulation and on member engagement. It was suggested that they are not as well-developed a vehicle for representing employer voices in the UK as in some other countries. An alternative suggestion was engaging with sectoral organisations, which might be more effective in this space, but again, it was caveated that these are not as strong as in other countries.

This developed into a comparative discussion of labour market regulation in countries such as Germany and Switzerland, with the traditional view being that increasing regulation to the levels of those nations would remove the UK's competitive advantage of being a less regulated labour market. There was a question about how some of the advantages accrued in terms of the strength of employer organisations by these other systems could be brought to the UK without losing the appeal of the UK labour market. However, it was suggested that importing organisational structures from elsewhere is often very difficult and there was a need to work with what the UK has, even though in an ideal world the starting point would not be where the UK currently is.

It was noted that the UK had spent decades trying to get better industrial sector representation into the skills system, without success. It was suggested that the use of occupational licensing in other countries, such as France, produced higher productivity in certain roles, such as in the hospitality sector. While it was acknowledged that it is difficult to import different working cultures, it was also pointed out that in the UK, many professional roles are occupationally licensed, and that perhaps a reason for the lack of enthusiasm for this at the lower-skilled, lower wage end of the economy could be that some firms do not want to take on the extra costs in training or regulation that may be required to improve productivity. It was added that in the UK, the Apprenticeship Levy is paid by just 2% of employers, with no other country in the world having a training levy system like this.

The question was raised about whether the UK has more workplace turnover than other countries with more regulation, with the suggestion of potential trade-offs between workplace freedom and encouraging employers to accept more regulatory burden, although it was noted that there are many factors external to organisations which affect turnover. Overall, the UK was noted to be around the OECD average on turnover, but with competitor nations such as Germany and the Netherlands having significantly longer average tenures. There was also a suggestion that the UK's more flexible labour market can benefit foreign-qualified workers, with some literature highlighting the quicker closing of the gap between migrant and UK-born workers compared to other European countries. The UK labour market has a large proportion of migrant labour, with many able to take advantage of a certain lack of regulation.

There was also a discussion around the lack of recognition of latent skills in employees. It was suggested that the Group could benefit from the perspective of Work Psychologists, who may argue that workplace structures can make it difficult for those latent skills to be realized and that the way around this could be through more supportive forms of management or leadership. This raises the question as to why more of this is not happening in UK workplaces, with a command-and-control style of organisation continuing to pervade most organisations. It was agreed that giving workers more autonomy and discretion over their work is good for productivity, however it was again suggested that the quality of management in the UK is below average, with another comment that it would be difficult to imagine an effective local intervention to improve this. Further evidence was cited from employers' surveys, which show considerable variation at local authority level in terms of skills underutilisation.

A wider discussion took on the difference between management and managerialism, with the suggestion that the latter is more autocratic and less focused on getting the best out of individuals. It was suggested that while there is an increasingly good understanding of positive management techniques, in aggregate many organisations lapse back into traditional styles, while those on the positive end of distribution tend to have invested heavily in training high quality individuals in key roles.

The discussion ended with some comments linking the topics covered with those discussed in other Working Groups, particularly Working Group 2's work on R&D and Innovation, with

the reflection that the topic of the discussion in this meeting had essentially been workplace innovation. It was noted that there was a link here with thinking about technology and the connection between investments in technology systems and in human or workplace innovations, with productivity gains accruing only to companies investing in both. This demonstrates the need to get managers at the frontier of technology in firms, to help the diffusion of technology and ideas. Working Group 4's work on sustainability and social value had resulted in a meeting on 'good jobs', with the observation that much of this Group's discussion had been around what makes 'good' jobs.

There was also a note that the Group could usefully cover self-employment in a future meeting or discussion, including looking at the reasons for becoming self-employed and the role of the self-employed as innovators. It was pointed out around that around four million are self-employed, a large group who somewhat fall through the cracks in terms of who sees their training or development as their responsibility, with potential negative impacts on the skills of the self-employed.

5.   Reading list

Please see below a live reading list, containing recommended readings provided by the co-chairs and subsequently added to by participants. Additions to this list are actively welcomed:

Recent reading relevant to theme of working group

- Aghion, P. et al. (2023) Social skills and the individual wage growth of less educated workers, Institute for Fiscal Studies.

Brown, P. and Souto-Otero, M., 2020. 'The end of the credential society? An analysis of the relationship between education and the labour market using big data'. Journal of Education Policy, 35(1), pp.95-118.

- Cominetti, N. et al., (2022) Train in Vain?: Skills, tasks, and training in the UK labour market, The Resolution Foundation.
- Costa, R., Liu, Z., McNally, S., Murphy, L., Pissarides, C., Rohenkohl, B., Valero, A., & Ventura, G. (2023) Learning to grow: How to situate a skills strategy in an economic strategy, Resolution Foundation.
- Dickerson, A., Rossi, G., Bocock, L., Hilary, J. and Simcock, D. (2023). An analysis of the demand for skills in the labour market in 2035, Working Paper 2, The Skills Imperative 2035, National Foundation for Economic Research.
- Doshi, V, Spencer, H, Rodrik, D. (2023) Creating a Good Jobs Economy in the UK, Resolution Foundation.
- Farquharson, C., McNally, S., Tahir, I. (2022) Education Inequalities: IFS Deaton Review of Inequalities, Institute for Fiscal Studies.
- Layard, R., McNally, S., Ventura, G. (2023) Applying the Robbins Principle to Further Education and Apprenticeships, Resolution Foundation.
- OECD, (2019) Skills Matter: Additional Results from the Survey of Adult Skills, OECD Skills Studies.
- Resolution Foundation & Centre for Economic Performance, LSE. (2023) Ending Stagnation: A New Economic Strategy for Britain, Resolution Foundation.
- Souto-Otero, M., 2021. 'Validation of non-formal and informal learning in formal education: Covert and overt'. European journal of education, 56(3), pp.365-379.
- Tahir, I. (2023). Investment in training and skills, Institute for Fiscal Studies.
- Taylor, A., Nelson, J., O'Donnell, S., Davies, E. and Hillary, J. (2022). The Skills Imperative 2035: what does the literature tell us about essential skills most needed for

work? Working Paper 1, The Skills Imperative 2035, National Foundation for Economic Research.

- Vecchi, M., Robinson, C. (2023) Vertical and Horizontal Mismatch in the UK: Are Graduates' Skills a Good Fit for Their Jobs?, National Institute of Economic and Social Research.
- Willets, D. (2023) How higher education can boost people-powered growth, Resolution Foundation.
- Xu, X. (2023) The changing geography of jobs, Institute for Fiscal Studies.

Further reading of particular relevance to the discussion in the second meeting, as described above:

Augar Review (2019). Independent panel report to the Review of Post-18 Education and Funding. HMSO.

Burgess, S., D. Wilson and J. Worth (2013). A natural experiment in school accountability: The impact of school performance information on pupil progress. *Journal of Public Economics* (106): 57-67

Conlon, G., S. Hedges and P. Patrignani (2018), Further analysis of the earnings differentials associated with BTECs. CVER Briefing Note 6. Centre for Vocational Education Research, LSE.

- Cavaglia, C., S. McNally, and G. Ventura (2020). Do Apprenticeships Pay? Evidence for England' *Oxford Bulletin of Economics and Statistics*. 82(5): 1094-1134.
- Cavaglia, C. S. McNally and G. Ventura (2022). The Recent Evolution of Apprenticeships: participation and pathways. CVER Discussion Paper. No. 39. London School of Economics.
- Chowdry, H., C. Crawford, L. Dearden, A. Goodman, and A. Vignoles (2013). Widening participation in higher education: analysis using linked administrative data, *Journal of the Royal Statistical Society Series A: Statistics in Society* 176
- Dilnot, C., L. Macmillan, and G. Wyness (2023). The path increasingly travelled: Vocational entry qualifications, socioeconomic status and university outcomes. *British Educational Research Journal*, 49(6): 1142-1160
- Machin, S., S. McNally and J. Ruiz-Valenzuela. (2020). Entry Through the Narrow Door: The Costs of Just Failing High Stakes Exams. *Journal of Public Economics* 190.
- Patrignani, P., A. Battiston and G. Conlon (2019), BTECs, higher education and labour market outcomes using the Longitudinal Education Outcome (LEO) dataset. CVER Research Discussion Paper 024. Centre for Vocational Education Research, LSE.
- Social Mobility Commission. (2023). Labour market value of higher and further education qualifications: a summary report.

Further reading of particular relevance to the discussion in the third meeting, as described above:

- Jack Britton & Hector Espinoza & Sandra McNally & Stefan Speckesser & Imran Tahir & Anna Vignoles, (2020) Post-18 education – who is taking the different routes and how much do they earn?, CVER Briefing Notes 013, Centre for Vocational Education Research.
- Costa, R., N. Datta, S. Machin, and S. McNally (2020) Investing in People: The Case for Human Capital Tax Credits. CVER Briefing Note 7. Centre for Vocational Education

Research, London School of Economics.Dell'Acqua, Fabrizio, Edward McFowland III, Ethan Mollick, Hila Lifshitz-Assaf, Katherine C. Kellogg, Saran Rajendran, Lisa Krayer, François Candelon, and Karim R. Lakhani. (2023) "Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality." Harvard Business School Working Paper, No. 24-013.

- Evans, S. (2022), Raising the bar: Increasing employer investment in skills, Learning to Work Institute.
- Li, J., A. Valero, and G. Ventura (2020). Trends in job-related training and policies for building future skills into the recovery. CVER Discussion Paper 33. Centre for Vocational Education Research, London School of EconomicsStansbury, A. Turner, D. and Balls, E. (2023) Tackling the UK's regional economic inequality: Binding constraints and avenues for policy intervention, M-RCBG Associate Working Paper No. 198, Harvard Kennedy School.

- Schultheiss, T. and Backes-Gellner, U. (2023) Different degrees of skill obsolescence across hard and soft skills and the role of lifelong learning for labor market outcomes, Industrial Relations, Volume 62, Issue 3, pp.257-287.

Further reading of particular relevance to the discussion in the fourth meeting, as described above:

- Luke Bocock, Juan Manuel Del Pozo Segura and Jude Hillary (2024), The Skills Imperative 2035: Rethinking skills gaps and solutions, NFER.
- Deming DJ. (2017) The Growing Importance of Social Skills in the Labor Market. Quarterly Journal of Economics. (4) :1593-1640.
- Liu, Y., & Grusky, D. B. (2013). The Payoff to Skill in the Third Industrial Revolution. American Journal of Sociology, 118(5), 1330–1374.

- Manktelow, J and Birkinshaw, J (2018) Mindtools for managers: 100 ways to be a better boss. John Wiley & Sonc, Inc., Hoboken, New Jersey.

- World Economic Forum (2016), The Future of Jobs Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution

- M. J. Atkins (1999) Oven-ready and Self-basting: taking stock of employability skills, Teaching in Higher Education, 4:2, 267-280.

- Van Reenen, J. Bloom, N. Sadun, R. (2022) Improving productivity through better management practices, LSE Blogs.
- Skills Development Scotland (2023), Skills and experiences to grow and succeed in a rapidly changing world
- Skills Development Scotland, Meta Skills Progression Framework