THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Diversity and Productivity

Diversity and Productivity: from Education to Work
Annual Report 2022/23

UKRI Economic and Social Research Council

LSE The Inclusion Initiative

IFS Institute for Fiscal Studies

UCL Centre for Education Policy & Equalising Opportunities

The University Of Sheffield.

WARWICK THE UNIVERSITY OF WARWICK

Diversity and Productivity

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Introducing Diversity and Productivity from Education to Workforce (DAPEW)

The UK faces a productivity challenge with levels nearly 20 per cent lower than some of its competitors since the 2008 financial crisis. Simultaneously, the UK has a major diversity issue regarding individuals from under-represented groups being significantly less likely to access and succeed in the most productive education and career pathways. Understanding and addressing this diversity issue is vital to unlocking untapped national potential and resolving the productivity problem.

Diversity and Productivity from Education to Workforce (DaPEW) brings together leading researchers from multiple disciplines across a number of institutions in the UK to deliver innovative, academically vigorous, high impact research to better understand the link between diversity, inclusion and productivity in the UK. In addition, DaPEW aims to provide new insights into the potential barriers of under-represented groups in the workplace which inhibit them from reaching their full potential. By exploring both the education and skills perspective and the business perspective, DaPEW aims to unleash the "lost potential" of under-represented groups. We will collaborate with businesses and policymakers to develop and implement effective D&I policies, with the goal of boosting productivity and offering equal opportunities across all backgrounds.

The project aims to achieve this by:

i   Enhancing UK productivity by enabling organisations to build diverse workforces and providing new insights into optimising the productive potential of diverse teams;

ii Expanding education and career opportunities for individuals from under-represented backgrounds by providing insights into inclusive education policies and practices, therefore broadening the talent pool that firms can attract, appoint and promote;

iii Collaborating with policymakers and businesses to ensure our findings translate into practical improvements;

iv Producing high-quality research published in top academic journals, that adds clear value to the academic community, in addition to informing policymakers and the business community. Furthermore, ensuring that the data, code and learning from our work is freely available to support future research;

v   Empowering early career researchers to focus on diversity and inclusion research, equipping them with the skills and passion for impactful careers in this field.

We believe that the knowledge gained from DaPEW's research will drive positive action, fostering equal opportunities and boosting productivity across diverse backgrounds.

Our research is structured around two strands of work covering a number of innovative projects cutting across research methods and disciplines. The following section contains details about the research strands, including research questions and project lead information.

Strand 1

What is the relationship between diversity, inclusion, and productivity?

1.1 At what levels of seniority and across which occupations is diversity strongly linked to productivity?
This research question is led by Dr Giorgia Cecchinato and Dr Grace Lordan in collaboration with Citi.

The aim of this project is to investigate how diversity at various levels of seniority and across job types relates to firm-level productivity. Using Revelio Labs data, which aggregates and standardises millions of publicly available employment records, we thoroughly examine various dimensions of diversity throughout the company's hierarchy and across different occupations. Our analysis aims to understand the impact of diverse factors on firm productivity. We gauge firm productivity by leveraging accounting and market data, which encompass financial information and records essential for tracking transactions and understanding the financial markets. Additionally, we utilise patent data to gauge innovation levels, revealing the organisation's advancements and productivity in relation to novel ideas. This comprehensive approach allows us to gain valuable insights into both market and monetary productivity, contributing to a holistic understanding of the organisation's performance. The study covers U.S. and UK based firms, aiming to provide recommendations to enhance productivity through diverse workforces.

Annual Update: We have successfully extracted the Revelio Labs data and are currently modelling the relationship between diversity and firm outcomes. Watch this space for events where you can hear early discussions of our findings!

1.2 To what extent is organisational inclusion necessary to reap the gains from diversity?
This research question is led by Teresa Almeida, Dr Giorgia Cecchinato and Dr Grace Lordan in collaboration with Citi.

In this project we examine the extent to which organisational inclusion is necessary to benefit from diversity. While diversity can lead to innovative ideas, it can also result in conflict if there is a lack of an inclusive culture. An inclusive culture signifies an environment within a community or organisation where every individual regardless of background, identity or differences feel valued and respected. The study will create an "Inclusion Index" (II) that measures firm-level inclusivity, combining data from various external sources including employee reviews (Glassdoor), firm commitments to diversity and inclusion (annual reports), and a company's workforce statistics (Revelio Labs). By incorporating the II into analysis, we aim to understand how inclusion impacts the relationship between diversity and productivity.

Annual Update: We have successfully extracted multiple data sources and are currently modelling the relationship between diversity, inclusion, and firm outcomes. We are in the final stages of drafting a paper that links inclusion measured using employee sentiment data.

1.3 What are the barriers to personal productivity, as perceived by diverse professional workers in the UK?
This project is led by Dr Grace Lordan, Dr Angelica Puzio, Dr Aliya Rao and Dr Jasmine Virhia.

This project aims to understand the barriers to personal productivity as perceived by diverse professional workers in the UK. The researchers will conduct 90-minute semi-structured interviews with 200 professional workers, focusing on individuals from groups with quantifiably lower trajectories in the labour market or those who receive limited coverage from firm policies to aid their progression. The study prioritises two types of diversity: demographic and mental and physical health conditions. This is as an acknowledgment that past research has predominantly focused on white men, meaning the experiences and needs of other professional groups has not been well understood. This innovative study will shed light on key experiences that may otherwise remain invisible, providing valuable insights and contributing to a large database that can be used by other researchers.

Annual Update: We are now at the half-way point of our interviews, with plans to finish interviewing by the end of October 2023. If you would like to be interviewed, please do get in touch via diversityandproductivity.com

1.4 How can we get diverse teams working better together?
This research question is led by Teresa Almeida, Dr Dario Krpan and Dr Grace Lordan.

In this research we investigate how diverse teams can work better together to enhance productivity. The study entails conducting experiments involving 500 professional workers from diverse backgrounds, assessing two interventions: one centred around a meeting protocol that promotes inclusion and a diversity mindset, and the other providing coaching in inclusive leadership skills. To achieve this, each group of participants is randomly allocated a leader and given instructions to discuss a specific problem and pose solutions. The meeting protocol nudges the group to allow allocated time for each person to speak, highlighting the benefit of diverse perspectives. Finally, the chosen leader will receive inclusive leadership training which is deemed necessary for the future of work. Outcomes will be measured based on solutions proposed and overall group productivity. Group productivity will be measured in relation to the number of unique solutions posed, how original the solutions are and practicality of generated ideas. The most effective intervention will be validated in at least two large companies, ensuring real-world impact.

Annual Update: We have launched our experiments and have successfully recruited five firms. If you would like your firm to be involved, please do get in touch via diversityandproductivity.com

> **"** The talent pipeline is facing kinks in the hosepipe of life, and I think this project is going to look at that. One of the things I am fascinated by and I am excited to see is how this project will give us real evidence. **"**

Dawid Konotey Ahulu, 1000 Black Interns and Founder

1.5 How does occupational mismatch across diverse groups affect individual- and firm-level productivity?
This research question is led by Dr Oliver Cassagneau-Francis, Dr Lindsey MacMillan and Dr Gill Wyness.

This project aims to analyse the effects of occupational mismatch–a scenario in which an individual's skills, qualifications, or experience do not align with the requirements or demands of their current job–on both individual and firm-level productivity. The study examines two key aspects: under-matching, which occurs when an individual's skills, qualifications, or potential surpass the demands of their present job, and over-education, where an individual possesses a higher level of formal education than what is needed for the role. The researchers are developing a comprehensive metric called "occupational mismatch" that covers a wide range of situations where an individual's skills and qualifications don't precisely align with the requirements of their job. They plan to analyse this metric using administrative data that is linked to educational achievements. The goal is to understand the impact of various types of occupational mismatch on factors such as career progression, wages, and the overall performance of businesses. By studying these correlations, the research aims to shed light on the implications of occupational mismatch on both individual career trajectories and the success of businesses. They will examine how these relationships vary based on gender, ethnicity, free school meal eligibility, and geographic area.

Annual Update: We have developed the methodology for this project using survey data from the Next Steps cohort and are in discussions with the Department for Education about the linked administrative data we would like to use to better understand the determinants and consequences of occupational mismatch for different diverse groups.

1.6 How is individual productivity affected by diversity amongst colleagues?
This project is led by Dr Arun Advani, Dr Asma Benhenda and Dr Claire Crawford.

This project aims to understand how individual productivity is affected by diversity among colleagues, focusing on educational spill overs through the sharing of knowledge between individuals within an organisation and demographic diversity within firms and local areas. It utilises recent advances in Longitudinal Education Outcomes (LEO) data that tracks the educational and employment outcomes of individuals in the UK. Through the LEO data we can explore the benefits of expanding investment in certain types of education, recruiting individuals with specific qualifications, and attracting a highly educated workforce to local areas. The study will account for non-random selection using rich attainment information and background characteristics from LEO and planned linkage with Universities and College Admissions Service (UCAS) data. Administrative data linkages and coding are currently in progress, ensuring data accessibility for analysis.

Annual Update: The Department for Education and Office for National Statistics will shortly be releasing a new version of the LEO data which includes (pseudonymised) identifiers for the businesses in which individuals work each year, which we need for this project. We have our data application ready to submit as soon as the new version is released.

> "I personally believe you can't change what you don't measure so I love what Grace and the team are trying to do which is to introduce verified data sets to the market to be used for a variety of purposes."

Sophia Dancygier, Leader in Finance

Strand 2

How can we engender greater diversity in firms and their talent pipeline?

2.1 At what stage are we losing diverse talent along the pathway to senior professional jobs? How does this vary across employer recruitment, performance management and promotion processes?
This project is led by Professor Lindsey Macmillan, Dr Paul Martin and Dr Claire Tyler.

This project investigates the loss of diverse talent along the pathway to senior professional jobs and its implications for firms' recruitment strategy, performance management, and promotion processes. Using data from large professional service firms, the study explores diversity progression within firms, considering gender, ethnicity, and socioeconomic status.

This analytical approach will specifically concentrate on the progression of diversity within firms, centring on the meticulous analysis of performance management practices and the mechanisms driving promotions, all within a carefully selected subset of organisations. Multivariate binary regression models, which assess a range of factors connected to the level of success, analyse the correlation between these characteristics and the indicators of achievement in professional and managerial positions. The results of this research endeavor have the potential to significantly inform strategic decisions within organisations, contributing to the development of more equitable and inclusive pathways for diverse talent to flourish.

Annual Update: We have undertaken a pilot with one large employer to analyse their workforce data and are in discussions with several others. If you would like your firm to be involved please do get in touch via **diversityandproductivity.com**.

2.2 How do education pathways differ for diverse individuals and areas? When is productive potential lost?
This research question is led by Dr Oliver Anderson, Dr Claire Crawford , Professor Andy Dickerson and Professor Steve McIntosh.

This research aims to explore how education pathways differ for individuals from diverse backgrounds and areas, exploring when productive potential may be lost. Using sequence analysis, the study will examine gender, ethnicity, socioeconomic status, care status, and geography. Our investigation will centre on the distinguishing factors between individuals who pursue more or less productive paths, specifically identifying critical points where the trajectories of individuals from diverse backgrounds begin to diverge. The research will leverage the comprehensive LEO dataset to explore the trajectories of understudied groups. For example, it aims to understand the experiences and trajectories of individuals who have been part of the care system, a group that has not been extensively studied in this context. Additionally, the research will examine geographical disparities by analysing how diverse groups encounter different obstacles based on their location or spatial context. By leveraging this dataset, the study seeks to uncover valuable insights into the challenges faced by these underrepresented groups.

Annual Update: Analysis on this project has progressed well and we anticipate having at least one working paper and blog to share soon. Watch this space to gain new insights into how the trajectories of individuals from diverse backgrounds differ between ages 16 and 30.

2.3 What drives mismatch in higher education course choices for diverse students, and what can education policy do to reduce these inequalities?
This project is led by Dr Jack Britton, Professor Monica Costa Dias and Dr David Goll and Dr Ben Waltmann.

This project aims to investigate the drivers of mismatch in higher education course choices for students from diverse backgrounds and propose education policies to reduce inequalities. The study will employ a framework to model university choices to illustrate the drivers of those patterns and conduct simulations of counterfactual policies aimed at promoting diverse education pathways. The information gathered will then be used to inform policy makers of useful strategies for increasing diversity in higher education. The model will be a two-sided matching model that includes students having preferences for different universities and subjects, as well as universities having preferences for the characteristics of students. The model also uses the richness of LEO data for precise estimation of parameters, and accounts for preference heterogeneity by gender, socioeconomic status, and ethnicity.

Annual Update: We published a paper exploring whether encouraging or enabling more pupils from poorer backgrounds to go to universities that do particularly well for their students would help increase intergenerational mobility and have nearly finished a second paper providing new estimates of ethnic earnings gaps among male university graduates, highlighting the importance of university subject choice in explaining these gaps.

2.4 Can alleviating constraints on subject choice generate greater diversity in education pathways?
This research question is led by Dr Arun Advani and and Elaine Drayton.

The initial phase of this project aims to investigate the impact of expanding the availability of specific subjects within the school curriculum, with the goal of encouraging a more diverse range of students to opt for high-return courses at the university level. This aspect of the project capitalizes on the fact that not all subjects are uniformly offered at the A-Level across all schools. Furthermore, this variation in secondary school curriculum offerings has shown a strong correlation with subsequent course selections in higher education, leading to increased diversity in university choices. The subsequent phase of the project involves a targeted intervention in collaboration with universities. This intervention focuses on providing information about subjects that were not studied at the A-Level to students in select schools, aiming to assess its impact on their inclination to choose these subjects at the university level. This intervention will be facilitated in person by university students who are currently pursuing the specific subject in question.

Annual Update: We have focused in on economics, for which there is significant variation in availability at A-level, including across school types. We have initial descriptives on how take up varies across individuals at different stages of the pipeline. We have also designed and started rolling out the information intervention, designed to provide insight into what economics is and what economists do, reaching 1500 students so far.

Highlights: Projects Progress

At what levels of seniority and across which occupations is diversity strongly linked to productivity?

This project investigates how diversity at various levels of seniority and across job types relates to firm-level productivity. We use Revelio Labs data, which compiles and standardizes public employment records, to examine how companies distribute their workforce across roles demanding creative, innovative, and strategic skills. We also investigate whether companies with a more diverse workforce in these roles exhibit superior performance. We measure firm productivity using accounting and market data, and innovation using patent data. The study covers U.S. and UK based firms, aiming to provide recommendations to enhance productivity through diverse workforces.

One of the strengths of our project is the exclusive data we have access to. The dataset includes individual rows for each employee of a company at each quarter, including their 4-digit occupation code (SOC code), a very detailed characterisation of their job type. To understand better the intersection between an employee's characteristics and its occupation within a company, Revelio Labs deduces information about various individual demographic attributes from sources like online public profiles, resumes, immigration records, and company-related information such as job listings. Among those characteristics, gender and ethnicity are inferred based on an employee's name using an AI algorithm. In total, we have observations regarding approximately 28.9 million individuals per year in average, ranging from 24 million in early 2012 and 32 million in 2023. When combined, we have data about employees from 1028 companies, 697 in the U.S. and 331 in the U.K.

The majority of the companies (214, approximately 20 per cent) are in the financial sector and in Tech (109, approximately 10 per cent), however the dataset also covers other major sectors, including Retail (65 companies), Energy and Utilities (34 and 45) and Manufacturing (54 companies). Using this data, one can easily look at diversity at different levels of detail, starting from the sector level down to the occupation and finally the skill level.

For instance, looking at company-level averages, the dataset presents a familiar narrative: in sectors such as Health Services (57.9 per cent) and the Retail Trade (46.1 per cent) companies have a relatively high percentage of female employees, while other sectors such as Industrial Services (21 per cent) or Energy and Non-Energy Minerals (23.3 per cent and 22.1 per cent respectively) have companies that are male-dominated. Similar patterns emerge when considering the shares of non-white employees, with noticeable disparities between more diverse sectors like Electronic Technology and Technology Services (40.2 per cent and 38 per cent respectively) and less diverse sectors like Finance (27.5 per cent) and Utilities (19.8 per cent).

To look at how companies differ in the way they allocate diverse talent to different work activities, we use the "Work Activities" dataset from O*NET. This dataset collects data about general types of job behaviours associated with each Standard Occupational Classification (SOC) occupation. It ranges from physical activities such as "Controlling Machines and Processes" or technical activities such as "Working with Computers", to behaviours related to mental processes, such as "Making Decisions and Solving Problems" and "Thinking Creatively".

For each activity-SOC code, this data tells us the importance of each given activity for that SOC, with a scale from 1 to 5. Subsequently, we expand upon this classification by grouping occupations in the top third percentile for each activity, designating them as occupations that truly exemplify that activity. These occupation categories are then integrated with the Revelio dataset, enabling the calculation of the proportion of a diverse workforce engaged in occupations aligned with this activity.

This dataset enables us to assess whether a company's workforce diversity aligns with job roles that stand to gain from diverse perspectives. For instance, we can analyse the proportions of female employees (or non-white employees) in positions demanding creativity, innovation, and strategic thinking. As an example, our calculations revealed that, on average, 30.8 per cent of positions requiring creative thinking are filled by women, while for roles necessitating team-building and developmental skills, the share is slightly higher at 31.3 per cent within the company.

After creating this dataset, we combine it with company performance indicators to investigate the impact of a diverse workforce on a company's market performance as well as on its productivity and its capacity to innovate. For example, Return on Equity (RoE) tells us how effectively management is using a company's assets to create profits, while Forward Earning Per Share (EPS) tells us a company's potential to growth.

The analysis proceeds in two steps: first we want to understand which types of work activities predict company outcomes, and second, we want to understand whether allocating a more diverse workforce to those activities has a positive effect on the performance of a company. In the first step, we use a statistical model to help us select the work activities which actually have an impact on the company performance indicators. This model (called LASSO or "least absolute shrinkage and selection operator") tries to find a balance between dropping as many variables as possible and accurately predicting the outcomes. After a series of iterations, we are left with a selection of variables, in our case a selection of work activities, which are the best predictors of a company's outcomes.

In the second phase, we explore whether having a diverse group of employees involved in these key activities has an impact on companies' outcomes. Our hypothesis is that a diverse workforce contributes to a company outcome through specific work activities which involve creativity, collaboration, and strategic thinking. Previous work has focused on diversity within certain occupations that showcase these specific work activities – such as the percentage of female executives –, often overlooking others. In contrast, this research project broadens the lens to consider all occupations, evaluating how many diverse individuals are positioned in every job that exhibits these key characteristics.

Advancing Research on Organisational Inclusion and Organisational Performance

DAPEW believes that greater transparency in diversity, equity and inclusion (DEI) progress is crucial to understanding its relationship with firm performance and productivity. Recognising the scarcity of empirical evidence in this domain and the empirical limitations of using self-reported data, often cross-sectional measures, the research aims to use novel methods to address these gaps. Specifically, the DAPEW team is currently undertaking research exploring the use of unobtrusive measures drawn from data collected from outside of the firm.

In a working paper titled "Does Inclusion Pay? Using Employee Reviews to Measure Inclusion and its Relationship with Firm Performance," we draw on more than 2.8 million online employee reviews submitted on Glassdoor.com to develop a novel measure of inclusion. Using text-mining and natural language processing methods (NLP), we extract the perceptions of organisational inclusion and exclusion from the free-form text of the reviews.

We then derive sentiment scores to ascertain the positive and negative emotional tone of the text. As a result we develop quarterly metrics for both inclusion and exclusion in the context of firms, along with metrics related to gender, ethnicity/race, and instances of discrimination. In the research paper, we delve into the predictive capability of this measure by analysing its longitudinal connection with firm financial and innovation performance indicators. Initial findings indicate a non-significant relationship. This paper was presented at the 16th International Human Resource Management Conference in London in June 2023. Continuing this work, the DAPEW team is currently analysing other external data sources, with work currently ongoing to measure firm-level inclusion signals from company annual reports.

> This project is another step on the road to building a bank of data that businesses need to have.

Stephen van Rooyen,
EVP and CEO, UK and Europe, Sky
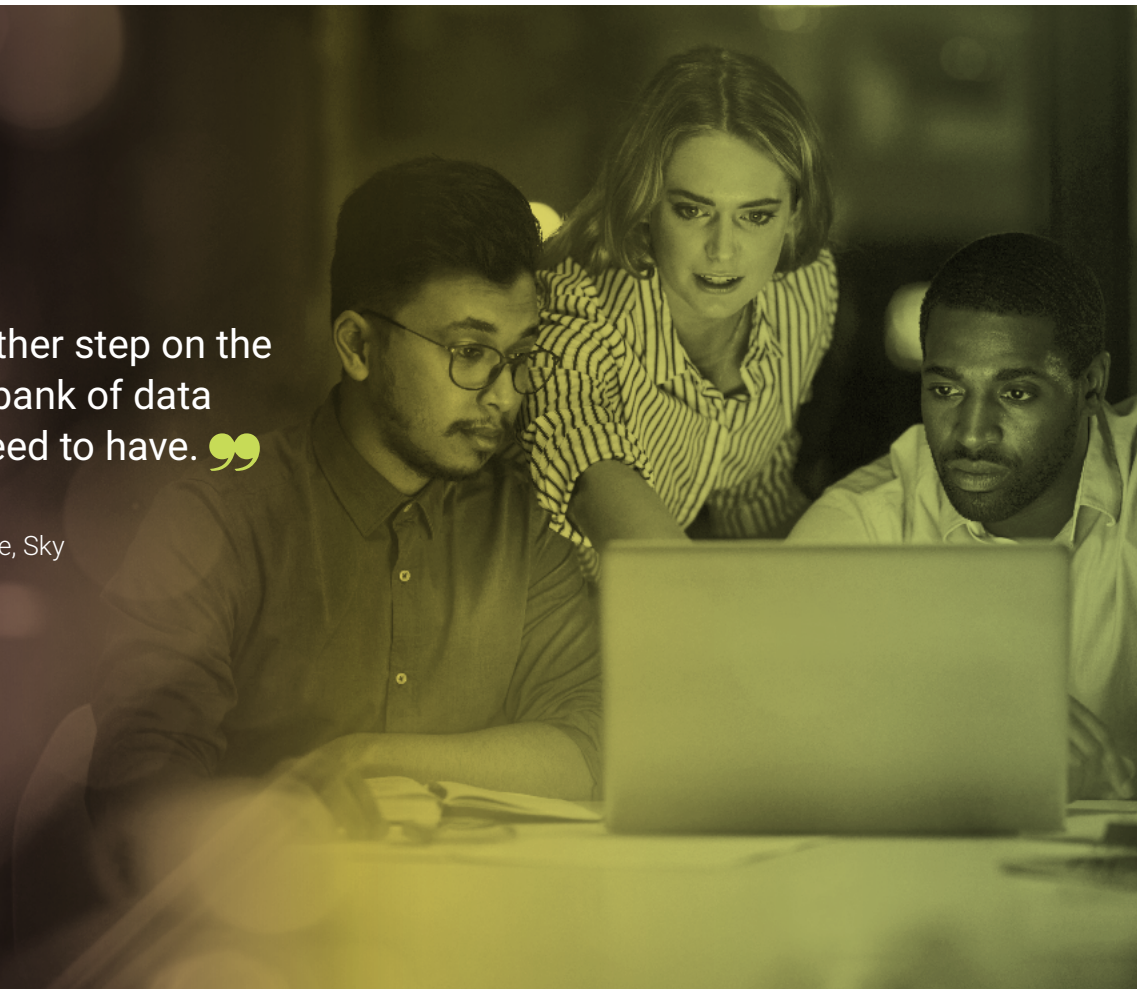
200 Diverse Voices: Cross-Sector Interviews

In professional work settings the environment can enable or disable an employee's productivity. Understanding what organisations can do to create environments conducive to productivity is thus crucial to ensuring these organisations are making the most of their workforces. From 200 participants across banking and finance, legal and professional services, technology and media, manufacturing, and public services we seek to develop new research-based interventions that can be tested and applied by organisations in a cost-effective way to increase productivity, whilst maximising diversity.

As past scholarship has predominantly focused on white men, the experiences of other professional work groups are not well understood (Opara et al., 2020). We are therefore focussed on capturing perspectives of individuals whose group has a quantifiably lower trajectory in the labour market or are "neglected" in the sense of low levels of coverage by firm policies to aid the group's progression.

We are mindful that the intersection of specific characteristics shape labour market trajectories and are prioritising two distinct types of diversity: demographic diversity and diversity in terms of mental and physical health conditions. These groups include Asian men and women, Black men and women, white men, and women from under-represented socioeconomic backgrounds, Disabled and/or neurodiverse people, those who are gender fluid or trans, blind or partially sighted, or diagnosed with mental health conditions.

Our investigation seeks to understand the headwinds and tailwinds that diverse groups experience regarding their productivity. This involves asking participants to share examples from throughout their career where they felt the most and least productive. Further identifying what types of support— whether from colleagues, leaders, or organisations—people have received to grow professionally and to enable their longer-term productivity allows us to assess levels of visibility, voice, and opportunity.

At the core of our investigation is understanding the alterations individuals wish to make within their organisations to enhance productivity, and the aspects of their current roles they perceive as unproductive. By asking participants at varying stages of their career to describe a peer or colleague who they think is highly productive, and what they think enables that productivity, we are provided with insights as to what participants value with regards to productivity. Therefore, highlighting the various situations in which factors contributing to and hindering productivity are present.

At the time of writing, 100 interviews have been completed and preliminary data analysis indicates that productivity is both positively and negatively impacted by those we are surrounded with at work (whether in-person or virtually). A lack of productivity is typically associated with outdated legacy systems which calls for a wider reassessment of the organisation of work post-pandemic, and how the productive potential of a diverse workforce is truly being maximised.

> While working with this data is very exciting and offers a wealth of information, to derive truly meaningful insights, we must address the frequently occurring measurement errors inherent to the nature of the data.

Giorgia Cecchinato, Postdoctoral Researcher in Data Science, The Inclusion Initiative, LSE.

Inclusion as a Catalyst for Diverse Team's Performance:
An Experiment in Online Collaboration

Inclusion is increasingly recognized as a critical organisational issue, essential for optimizing the performance of diverse workforces. However, the existing literature has largely overlooked the design of practices that foster inclusion within teams, especially in online environments. Most experimental work to date has been confined to controlled laboratory conditions, with student samples, predominantly focusing on co-located teams i.e., those who work within one physical location.

To address this gap, the DAPEW team has developed an innovative large-scale experiment. The research aims to investigate how diverse teams of professional workers, holding different perspectives, can achieve enhanced performance through an informational intervention promoting inclusive actions. To facilitate this study, we have developed a unique paradigm where each team collaborates online using video-conferencing tools to engage in a creative task after receiving an individual inclusion prompt.

A total of 2,500 professional workers from participating organisations will be assigned to 500 teams and tasked with working together. Their interactions and creative outputs will be captured as each team submits a written creative plan, and their virtual meetings are recorded for analysis.

This innovative project commenced with our first partner company in June 2023, and we are actively seeking further organisations to join the initiative. We are partnering with medium and large corporate firms across various sectors in the UK, with the capacity to enrol at least 300 professionals in the study. Employees from each company will participate jointly, randomly assigned to experimental conditions, and placed into one of the 500 five-person teams.

> I'm really excited, as there are a lot of assumptions around bias that we know we make that through this research we will be able to pinpoint and change.

Katherine Gansallo, Diversity and Inclusion Director, London Stock Exchange Group

How do education pathways differ for diverse individuals and areas? When is productive potential lost?

At a well-attended special session on education inequalities at the Royal Economic Society conference in Glasgow, early findings were presented on the differences in post-compulsory education and labour market trajectories between individuals from different socio-economic backgrounds. One of the interesting patterns these initial results highlighted was the significant ongoing investment being made in human capital development amongst individuals from all socio-economic backgrounds during their late teens and twenties. The routes they take differ: most individuals from higher socio-economic backgrounds (those situated in the uppermost 20 per cent of a socio-economic status index, calculated from factors like eligibility for free school meals and characteristics of the local neighbourhood) follow the "traditional" pathway through academic post-compulsory qualifications, into university and then onto work.

Although individuals from the lower socio-economic strata (in the bottom 20 per cent of the index) exhibit significantly more diverse qualifications and pathways, showing a heightened reliance on vocational education and training, it is noteworthy that around 20 per cent of individuals from both the most and least deprived quintiles of socio-economic status remain engaged in state-sponsored education or training at age 25. By age 30, this trend continues, with a higher proportion of individuals from lower socio-economic backgrounds (12 per cent) participating in state-delivered education or training compared to their counterparts from higher socio-economic backgrounds (8 per cent).

What drives mismatch in higher education course choices for diverse students, and what can education policy do to reduce these inequalities?

The first paper published from this project explored whether and how policy could be used to improve intergenerational mobility by encouraging or enabling more students from poorer backgrounds to go to universities that do particularly well for their students – in other words, reducing "educational mismatch" for disadvantaged students. Using a two-sided equilibrium matching model that considers students' preferences for various universities and universities' preferences for diverse student profiles, we found that radical solutions would be required for such policies to make a material difference to intergenerational mobility.

Providing large financial incentives (of £5,000 a year in additional maintenance grants) to students to take high return subjects such as engineering or economics, for example, would increase take-up of these subjects amongst poorer students and reduce the earnings gap between high attaining students from the richest (top 20 per cent) and the poorest (bottom 20 per cent) backgrounds from 21 per cent to 13 per cent at a cost of around £750 million per cohort. A more radical but also more cost-effective solution would be to adopt a "percent plan" – whereby universities would be obligated to offer priority admission to poorer students whose GCSE grades were within, for example, the top 10 per cent in their year in their secondary school. Our simulations suggest that this would dramatically reduce gaps in access to top universities and slash earnings gaps between the richest and poorest 20 per cent of students in the highest attaining quintile of GCSE scores from 21 per cent to just 6 per cent, at only a tenth of the cost of the subject-specific financial incentive option (£75 million per cohort). Dr Britton presented this work to around 50 analysts and policy specialists from the Department for Education and the Social Mobility Commission and it is currently being prepared for submission to a top tier economics journal.

Can alleviating constraints on subject choice generate greater diversity in education pathways?

The objective of this project is to implement pre-emptive measures targeting secondary school students, aiming to offer fresh perspectives on subjects that have previously been unexplored. By providing students access to information, our goal is to eliminate the obstacle that inhibits the selection of these subjects for university studies. We will examine the effect of supplying information about subjects not pursued at A-Level on students' interest in, and propensity to select, that subject for university study. Thus far, we have significantly exceeded our target for recruiting universities and schools to participate in an intervention to provide students with information on high return subjects that they might not otherwise have encountered. In the proposal, we hoped to recruit at least 11 partner universities, reaching at least 110 partner schools. To date we have managed to recruit 31 partner universities, which will give us access to more than 300 partner schools. Thus far, we have delivered the intervention in 48 partner schools, reaching over 2,600 students, and expect to reach up to 15,000 students by the end of the 2023/24 academic year. This means we should be powered to detect effect sizes of 10 per cent relative to the baseline rather than the 40 per cent of the baseline level originally expected on increases in plans studying economics at A Level (among current 15-16 year olds).

> **"** DAPEW is addressing many of the kinks in the pipeline that diverse talent face when pursuing professional careers. I am honoured to be the principal investigator on this project that has the potential to both remove these barriers and improve productivity in the UK. After all, we know that diversity in knowledge work when heard improves innovation and productivity. **"**

Dr Grace Lordan, Principal Investigator of DAPEW

DAPEW Staff
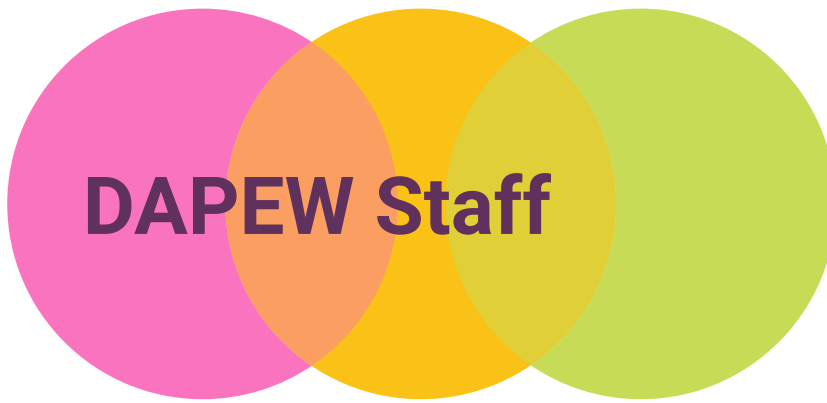
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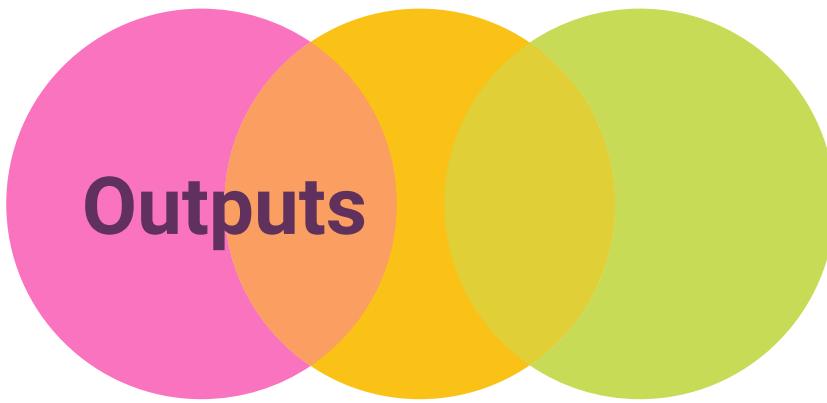
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Outputs

Within the next 12 months you can expect to see articles that convey the findings of one year of DAPEW. Please register for our newsletter on our website (**diversityandproductivity.com**) so you are the first to know when they are released. In the meantime, below are op-eds, events and other resources that have been created because of the work being done within DAPEW.

DAPEW Op-eds

Improving diversity and performance is easy to say but hard to do

Author: Ken Mayhew (2023), LSE Business Review

Summary: The arguments for a diversified workforce are clear. But more research is needed to capture the benefits of diversity for organisational performance. Ken Mayhew writes that if diversity is to enhance the performance of organisations, giving agency and voice to all employees is what matters. A key question is how widespread and strong voice and agency actually are in the modern labour market.

### Research helps address ethnic disparities in degree awards

*Authors: **Leslie Gutman**, Fatima Younas (2023), LSE Business Review*

Summary: There is a gap in degrees for Black, Asian and Minority Ethnic (BAME) students at UK universities. This is often referred to as an "attainment gap", as if the students were responsible for the inequality. However, many systemic factors – including institutional structures, racism and discrimination – contribute to student success. In this piece, the authors describe their research to creating positive change.

Supporting Productivity with a "Remote-first" Approach

*Authors: Yolanda Blavo, **Grace Lordan**, **Jasmine Virhia** (2023), California Management Review*

Summary: The article discusses the effectiveness of adopting a "remote-first" approach to support productivity in organisations. It emphasizes the importance of maintaining collaboration, communication, and engagement among remote and hybrid teams. The authors highlight the challenges and benefits of remote work, including reduced commute times and increased flexibility. The piece also highlights the need for clear communication, reliable technology, and a focus on outcomes rather than micromanagement. It concludes by suggesting that a well-balanced remote-first strategy can lead to improved productivity, job satisfaction, and overall success for both employees and organisations.

Outputs
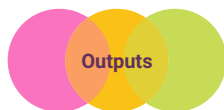
Which educational policies are most effective for equalising opportunities?

*Authors: **Lindsey MacMillan, Gill Wyness** (2023), Economics Observatory*

Summary: The UK is facing challenges in productivity, skill shortages, and educational inequalities, especially in the post-pandemic era. To address these issues, investment in education and skills is vital from early years to adulthood. Accessible childcare for all families is crucial to ensure equal skill development in children and reduce disparities between socio-economic groups. Addressing these issues through evidence-based policies can create a brighter future for the UK. The authors advocate for low-cost priorities and ambitious reforms to bridge gaps and create a fairer, more productive society.

Why ending favouritism is the key to building a diverse workforce

*Author: **Grace Lordan** (2022), Financial Times*

Summary: Can diversity bring better outcomes in business? The lazy answer is simply "yes", given the question is so complicated. The truth is that diversity is linked to better business outcomes, particularly when the job involves innovation, creativity and the assessment of risk: think investment banking, asset management and venture capital. This article, and Grace's wider work, focuses on diversity in these sectors and in professional services. Which educational policies are most effective for equalising opportunities?

How Empathy and Competence Promote a Diverse Leadership Culture

*Authors: Teresa Almeida, **Grace Lordan** (2022), MIT Management Sloan*

Summary: The article explores how empathy and competence contribute to fostering a diverse leadership culture. It discusses the importance of leaders' abilities to understand and relate to the experiences of diverse employees. The authors suggest that empathy, combined with competence, can create an environment where diversity thrives, and employees feel valued. It highlights how leaders' empathy can lead to better decision-making and improved relationships within diverse teams, ultimately enhancing organisational performance.

How would minimum entry grades affect opportunities in higher education?

*Authors: **Claire Crawford**, **Gill Wyness** (2022), Economics Observatory*

Summary: The UK government is consulting on the introduction of minimum eligibility requirements for access to student loans. Claire Crawford and Gill Wyness argue that if such a reform is introduced, it is likely to prevent many who miss getting the required grades from going to university. The article weighs the pros and cons of this approach, considering fairness, inequality, and potential consequences. It stresses the need for evidence-based decisions before enacting such policies.

Economics in the UK has a diversity problem that starts in schools and colleges

*Authors: **Arun Advani**, Rachel Griffith and Sarah Smith (2019), VoxEU*

Summary: The future of UK economics is looking predominantly male and disproportionately privately educated. This column introduces #DiscoverEconomics – a campaign to increase diversity in economics led by the Royal Economic Society and with the support of a wide range of institutions involved in economic research, communication and policymaking, including the Bank of England, the Government Economic Service, the Society of Professional Economists and many leading research institutions. The campaign aims to attract more women, ethnic minority students, and students from state schools and colleges to study the subject at university.

Events

Over the last twelve months we have been busy showcasing the work of DAPEW at various conferences and events. Here are some highlights:

Events

LSE's EDI Welcome week
September 2023

Dr Jasmine Virhia will be introducing the work and discussing how academic research can centre around EDI. This presentation will be given to UG and PG Management students and centre around the multi-disciplinary and multi-method approach of DaPEW.

European Association for Social Psychology
July 2023

Dr Jasmine Virhia gave a "blitz presentation" on the DAPEW project in an Organisational Psychology session. This presentation involved preliminary findings and in particular, discussed how much of our productivity is impacted by the people we are surrounded with!

"What Works Centres Roadshow: Administrative Data Research UK Flagship Data"
6 June 2023

Presented "pathways" analysis to individuals working for evidence quarter, what works centres and other organisations (by invite and registration). Event supported by ADR UK. During the session, participants had the opportunity to explore linked administrative data research and discuss common goals, requirements, and possibilities for maximizing data utilization. Oliver Anderson presented a compelling case study, focusing on the Longitudinal Education Outcomes (LEO) linked dataset, which showcased the potential of such research endeavours.

"What Works Centres Roadshow: Administrative Data Research UK Flagship Data"
10-12 June 2023

Presented pathways analysis at the Tenth Meeting of the Society for the Study of Economic Inequality (ECINEQ) in Aix en Provence. During the event, participants had the opportunity to explore linked administrative data research and engage in discussions about common goals, requirements, and possibilities for maximizing data utilization. Oliver Anderson delved into the research which focused on economic inequality and poverty, encompassing a broad spectrum of topics, from income distribution to wealth inequality. Oliver shared valuable insights into the causes and consequences of inequality, providing potential solutions to address these challenges.

Events

Pathways Analysis Meetings with Department of Education Officials
May 2023

Meeting to discuss pathways analysis with Department for Education (DfE) officials, specifically analysts working on *special educational needs*.

Meeting to discuss pathways analysis with DfE officials, specifically analysts working on *children's social care.*

Meeting to discuss pathways analysis with DfE officials, specifically, analysts working on *exclusions.*

Meetings to discuss pathways analysis with DfE officials, specifically, analysts working on *attendance and absence.*

Diversity and Productivity from Education to Workforce Launch
26 April 2023

This event in collaboration with the London Stock Exchange provided a chance for individuals to get involved in the project. The discussion centred on the background of DAPEW and what industry leaders thought the impact of the research could mean for industry.

The speakers included:

Arlene Mc Dermott, Head of Business Management at London Stock Exchange

Sophia Dancygier, Leader in Finance

Dawid Konotey-Ahulu, Co-Founder at Redington, Mallowstreet and 10000 Interns Foundation

Katherine Gansallo, Diversity and Inclusion Director at London Stock Exchange Group

Stephen van Rooyen, Chief Executive Officer, UK and Ireland and Group Chief Commercial Officer

The Productivity Puzzle: can diversity and inclusion unlock the key to growth?
7 March 2023

Weak productivity in Britain is an acute problem. Explanations have included insufficient necessary skills, an overinvestment in unnecessary skills at the university level, capital shallowing and too little creative destruction. In this webinar the speakers explored a different explanation.

They asked whether a failure to recruit and operationalise diverse talent is an underlying root cause of slow growth. Chaired by Dr Grace Lordan the panel discussed the theory and evidence behind the link between diversity and productivity.

The speakers included:

Dr Claire Crawford, Associate Professor of Economics in the UCL Centre for Education Policy and Equalising Opportunities and a Research Fellow of the Institute for Fiscal Studies.

Belton Flournoy, Managing Director at Protiviti.

Dr Aliya Hamid Rao, sociologist, and an Assistant Professor in the Department of Methodology at the London School of Economics.

Daniel Jolles, Research Assistant in Behavioural Science at The Inclusion Initiative at the London School of Economics.

Academic and Impact Board

Rooyen
ve Officer, UK
Group Chief
Officer

DAPEW is lucky to have both an academic and an impact advisory board guiding our work. This helps make sure the research we produce is both rigorous and relevant. If you would like to nominate someone to be part of our board please do get in touch!

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