

Wage & Employment Dynamics (WED) linked dataset

*WED Public Engagement Strategic Group
research priorities for the
WED dataset*

December 2021



1. Introduction

A clear understanding of the public's interests and concerns in relation to how public sector data is used for research is essential to ensuring that the research is truly in the interests of those it intends to benefit. In addition to making sure public sector data is used ethically and responsibly, ADR UK-funded researchers should engage the public on how and why their data is used at every stage of research. This is to ensure their work demonstrates trustworthiness. Understanding the public's needs, interests and concerns in relation to the use of their data, and shaping research to address their research priorities, is crucial for maximising the public benefit of administrative data research.

On 28 September 2021, members of the Wage & Employment Dynamics Public Engagement Strategic Group (WED PESG) came together for their inaugural meeting. The meeting aimed to inform members about the Wage & Employment Dynamics (WED) project; its progress thus far; and plans for the future. It also provided an opportunity to discuss their research priorities for newly linked WED dataset (see Box 1). Members of the WED PESG include representatives from charitable foundations, equalities groups, recruiters, trade unions and groups representing businesses. Strategic engagement with employers, employees as well as organisations who have substantial experience of working with, and on behalf of them, allow WED researchers to develop an understanding of research priorities regarding the WED dataset. A list of attendees from the WED PESG, WED research team and ADR UK is given in Appendix 1. This report covers the key messages arising from discussions at the stakeholder event.

Box 1: Overview of the WED linked dataset

The WED linked dataset brings together de-identified information on earnings (including modes of income), employment status, businesses, and demographic characteristics of people across Britain at a level of detail unlike ever before. The WED dataset links three existing data sources:

- **The Annual Survey of Hours and Earnings (ASHE)** – a longitudinal survey which measures earnings going back to 1997.
- **The Business Structure Database (BSD)** – which is a snapshot in time of all the firms in the UK registered for VAT and/or Pay As You Earn (PAYE).
- **2011 Census data** – which provides a detailed snapshot of the population and its characteristics.

The de-identified WED linked dataset will soon be made available to external researchers via the Office for National Statistics (ONS) [Secure Research Service \(SRS\)](#), to facilitate research in to the dynamics of earnings and employment in Britain. Researchers will need to be [approved](#) and submit a successful application to access the data.

2. The research value of the WED linked dataset

The meeting began with an introduction to the WED linked dataset and progress of the data linkage project so far from Principal Investigator, Professor Felix Ritchie, of the University of the West of England (UWE). In his introduction, Professor Ritchie explained how the bespoke data linkage is filling crucial knowledge gaps to better understand the workforce in Britain. He described how these findings can be used to determine how services and policies can improve for employers, employees, self-employed and the unemployed.

The WED data linkage project was launched in October 2019 and has successfully linked ASHE, BSD and Census data. Over the past year, in an extension to the original project, the WED team have successfully negotiated with Her Majesty's Revenue & Customs (HMRC) to allow de-identified pay-as-you-earn (PAYE) and self-assessment data on individuals to be linked to Annual Survey of Hours and Earnings (ASHE). This data will be made accessible to researchers via the Office for National Statistics (ONS) Secure Research Service (SRS).

ASHE is a large longitudinal survey with detailed information on employee earnings going back to 1997. It is a central dataset in the provision of pay statistics and is used extensively in analysis to support the work of the Low Pay Commission. The new HMRC data fills in the knowledge gaps beyond the information provided in the ASHE data, including information on self-employment or other modes of income. It also will allow researchers to better understand patterns of earnings and employment between these annual periods. The direct effect of this data linkage is to greatly increase the value in both the HMRC and ASHE datasets, which previously were only available via separate secure research services run by HMRC and ONS.

Building on the value of the bespoke linked dataset, WED researcher Professor Alex Bryson, University College London, stated the primary purpose of the WED linked dataset is to put to use newly linked, quality assured data that people did not previously have access to. This aims to fundamentally transform UK research and policy analysis across a vast range of topics. Professor Bryson stated that reaching out to the public and stakeholders who have a direct interest in using this newly linked, more accurate data, is crucial to shed light on policy issues that can benefit from research findings. The WED team are currently pushing the boundaries of the WED linked dataset to produce their own research as a way to demonstrate its value, with focus presently on wage gaps that have never been able to be explored in the same way before.

3. Areas of research interest and a plan for dissemination

3.1 Understanding regional and social disparities

Following the introduction was a roundtable discussion, stakeholders raised the importance of understanding social and regional disparities. They were reassured, that the WED dataset currently contains de-identified postcode data of where employees live and where they are employed, which can inform analysis of regional wage disparities. However, WED Programme Manager, Damian Whittard, UWE explained, that this location information can be subject to errors if the data is collected by paper questionnaires. By focusing on responses collected electronically, the WED team were able to use a number of approaches to improve the quality of the ASHE data. This was highlighted as being particularly important in the context of regional earnings differentials, due to their relevance to the levelling-up policy agenda.

3.2 Wage inequalities and pay progression

The WED research team asked for views on the ethical use of the dataset, such as how communities would view this data linkage and what can be done to reassure concerns? A

“Better linked data is always a positive.”

WED PESG member

response from a member of the WED PESG was that ‘better linked data is always a positive’, emphasising the need for more accurate data to make better informed decisions. There was also interest in acquiring data that can speak to the disability employment gap. Another WED PESG member discussed their institution’s work on anti-racism research at local ethnic minority

level and expressed interest in more data related to local service providers and local authorities. The WED team confirmed that given the number of observations in the dataset, it would be possible to provide insight on potential workplace discrimination at such levels. The group’s consensus seemed to be that one of the best ways to allay potential concerns with the data linkage is to demonstrate positive real-world impact of this data with privacy and anonymity being maintained.

3.3 Occupational transitions

From the point of view of recruitment and employment, stakeholders argued that better understanding occupational transitions, or who makes certain employment transitions and who does not, can shed light on potential existing barriers to employment and how employment transitions relate to skills training. A member of the WED PESG explained that this is information employers typically ask, both when employment is high and people want to tap into other sectors, and when employment is low, to better understand what happened historically and how to better support levels of employment.

3.4 The value of accessible outputs

WED researchers acknowledged the need for accessible outputs that can be of use beyond academia. On the plan for dissemination, Professor Bryson expressed that important academic outputs will be generated by this project, but an equally important aspect is dissemination that is accessible to a non-academic audience, such as blogs and policy papers. Damian Whittard, echoed this view, stating, ‘the aim of this work is to produce a public good’. The WED encouraged accredited researchers from organisations belonging to and beyond the WED PESG to apply for accreditation to analyse the WED dataset, to further explore its potential.

“The aim of this work is to produce a public good.”

Damian Whittard, University of the West of England

A member of the WED PESG highlighted that many working within private sector space would not be eligible for accreditation and expressed encouragement at the WED team’s commitment to producing and widely disseminating accessible outputs, ‘because this [research] will be of interest to a lot of stakeholders’.

4. Next steps

As a result of suggestions by the WED PESG members present for this meeting, two new organisations have been invited to join the WED PESG. Research interests expressed in this meeting have fed into the WED research agenda, which is currently exploring wage inequalities. There are plans for a second meeting with the WED PESG to take place early next year.

Following this discussion, intended outputs from the WED research team include:

- The cross-sectional weighting of the ASHE survey to account for non-random response bias.
- Longitudinal weighting of ASHE data to account for attrition over time.
- The publication of accessible outputs: as of November 2021, the WED team has preliminary findings that will be shared via blogs on the ADR UK and WED websites. A series of short video Q&A sessions with the team will also be shared from November 2021 to boost engagement.
- A number of publications submitted to academic journals: *Exploring the workplace location problem in the Annual Survey of Hours and Earnings; UK wage inequalities; Understanding wage growth*)

During the meeting, the WED PESG members were consulted on training requirements and will be invited to join the ASHE training programme. Developed by the WED team, the training programme will commence in November 2021 with online sessions tailored towards people with interest, new users and expert users of the ASHE dataset.

Acknowledgements

The Wage & Employment Dynamics project is led by [University of the West of England \(UWE\)](#), [University College London \(UCL\)](#), [City, University of London](#), [University of Reading](#) and the [National Institute of Economic and Social Research \(NIESR\)](#), working with the [Office for National Statistics \(ONS\)](#). It is funded by [ADR UK \(Administrative Data Research UK\)](#).

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Appendix 1: List of attendees, ordered alphabetically by organisation

Chair: [Arusha McKenzie](#), WED Project Officer

WED project partners	Representatives
Administrative Data Research UK	Christine Boase, Strategic Lead for Campaigns & Communication
Administrative Data Research UK	Shayda Kashef, Public Engagement Manager
Administrative Data Research UK	Grainne Wrigley, Communications & Engagement Officer
City, University of London	Dr. John Forth, WED Researcher
National Institute of Economic and Social Research	Lucy Stokes, WED Researcher
University College London	Professor Alex Bryson, WED Researcher
University College London	Dr. Claire Crawford, WED Researcher
University of Reading	Dr. Carl Singleton, WED Researcher
University of the West of England	Professor Felix Ritchie, WED Principal Investigator
University of the West of England	Damian Whittard, WED Programme Manager
University of the West of England	Arusha McKenzie, WED Project Officer
University of the West of England	Van Phan, WED Researcher
WED PESG Members	Representatives
Business Disability Forum	Sam Boyle, Policy Officer
Cardiff Metropolitan University	Dr Aylwin Yafele, Head of Department for Business Management and Law; Chair of the Race, Equality Charter Working Group
Indeed	Pawel Adrjan, Economist
Joseph Rowntree Foundation	Andrea Berry, Senior Analyst
Trades Union Congress	Alex Collison, Policy & Campaigns Support Officer

Appendix 2: Areas of interest for future research using the WED linked dataset identified by the WED PESG

Regional and social disparities

- How do regional disparities impact wage progression?
- What insights can be drawn from linking disability data and regional data?
- What insights can be drawn from linking ethnicity data and regional data?
- What are the differences between ethnic groups, and why aren't pay differences between ethnic groups lessening despite an increase in qualifications and targeted programmes?

Low-wage progression

- How can we better respond to the disability employment gap and issues related to intersectionality?
- Can we acquire current (post 2011) disability data to better understand disability inequality?
- How do regional disparities impact wage progression?

Occupational transitions

- What sort of occupational transitions are being made?
- Can the relationship between employers and employees help us better understand occupational transitions?
- What role does skills training play in occupational transitions?