



**ASHE-Census 2011**

Dataset briefing

**Research Fellowship 2025**

Thursday 9 October 2025



# ASHE-Census 2011

ASHE

- Annual Survey of Hours and Earnings
- 1% sample of PAYE jobs in GB
- Sample drawn from PAYE register in January of each year
- Survey reference date in mid-April of each year
- Conducted by ONS

Census  
2011

- Census 2011 for England and Wales
- All employees in England and Wales should be observed
- Census Day: 27<sup>th</sup> March 2011



➤ Personal information

- Age
- Gender
- Home postcode

➤ Employment information

- Wage
- Working hours
- etc

➤ Employer information

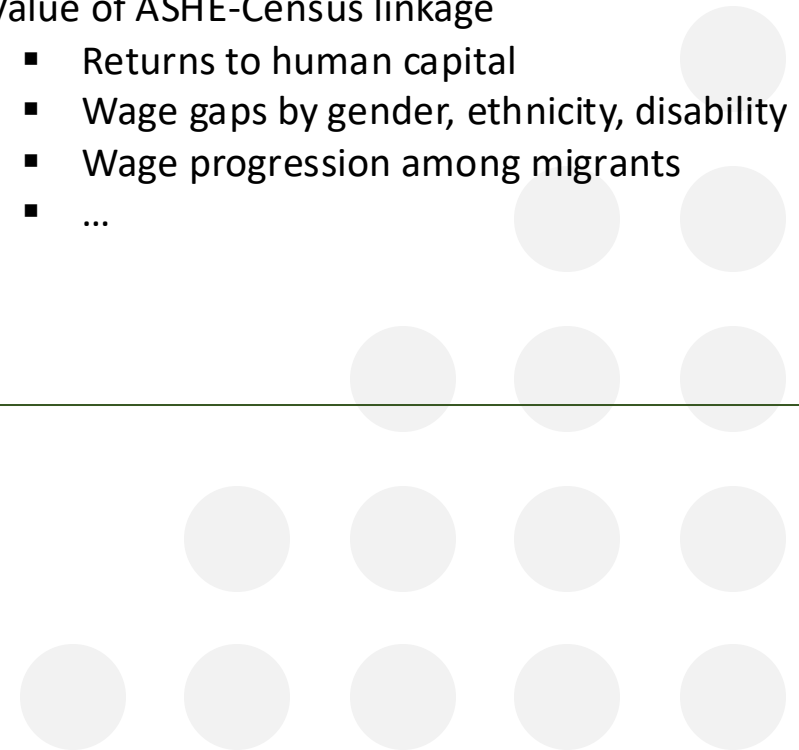
- Work location
- Legal status
- Size

➤ Additional personal characteristics

- Country of birth
- English language proficiency
- Ethnicity
- Religion
- Marital status
- Health and disability
- Educational and vocational qualifications
- Household circumstances

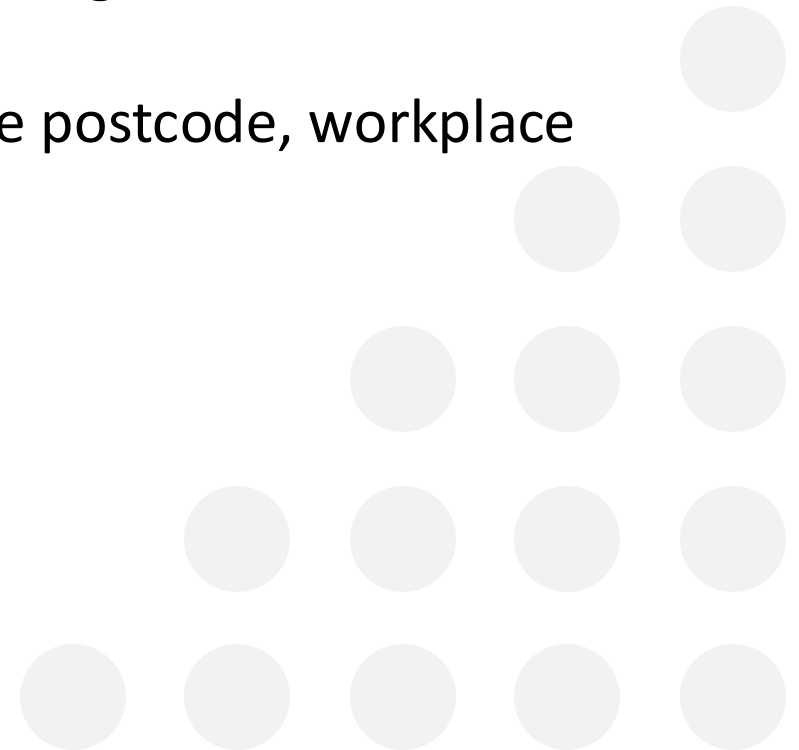
➤ Value of ASHE-Census linkage

- Returns to human capital
- Wage gaps by gender, ethnicity, disability
- Wage progression among migrants
- ...

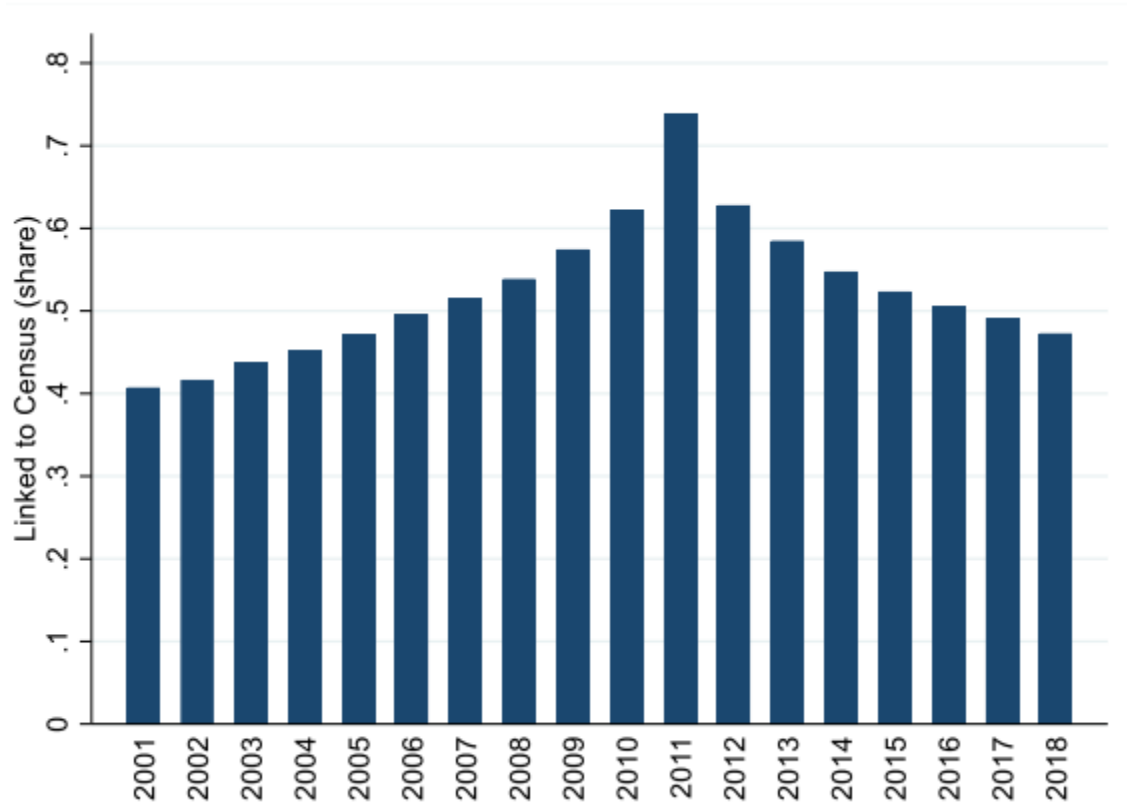


# Linkage

- ONS take all individuals with an E&W resident address in ASHE 2010, 2011 or 2012 and seek a match with individuals in the 2011 Census
  - Phase 1: Deterministic or probabilistic match on name, gender, DOB and home postcode.
  - Phase 2: Deterministic match on: gender, DOB, home postcode, workplace zone and SIC/SOC
- Linkage rate  $\approx$  74%



# Features of ASHE-Census 2011



120,000 linked records in 2011:

- 44,000 records belonging to employees with a degree-level qualifications
- 14,000 records belonging to employees born outside the UK
- 11,700 records belonging to members of non-white ethnic group
- 6,600 records belonging to employees with long-term health problem/disability

# List of variables

- `_ashe`: variables from ASHE  
[Annual Survey of Hours and Earnings \(ASHE\) - Office for National Statistics](#)
  - `_cen`: variables from Census  
[Variables and classifications - Office for National Statistics](#)
  - `_link`: variables to describe the linkage
- ☐ Data dictionary can be found on
- [ADR data catalogue](#)
  - [ONS data catalogue](#)



# Limitations

- Linkage rates are slightly higher for:
  - Higher paid jobs
  - Those with standard hours
  - Held by middle-aged employees
  - Outside of London
- To address this, we construct an adjustment to the standard ASHE weight (*See user guide for details*)
- Some personal characteristics from Census 2011 may change overtime as Census 2011 are self-reported at one point in time

# Limitations

- No postcode provided
- Geography variables will be at local authority level
- Stand-alone dataset (no linkage with other datasets are allowed)



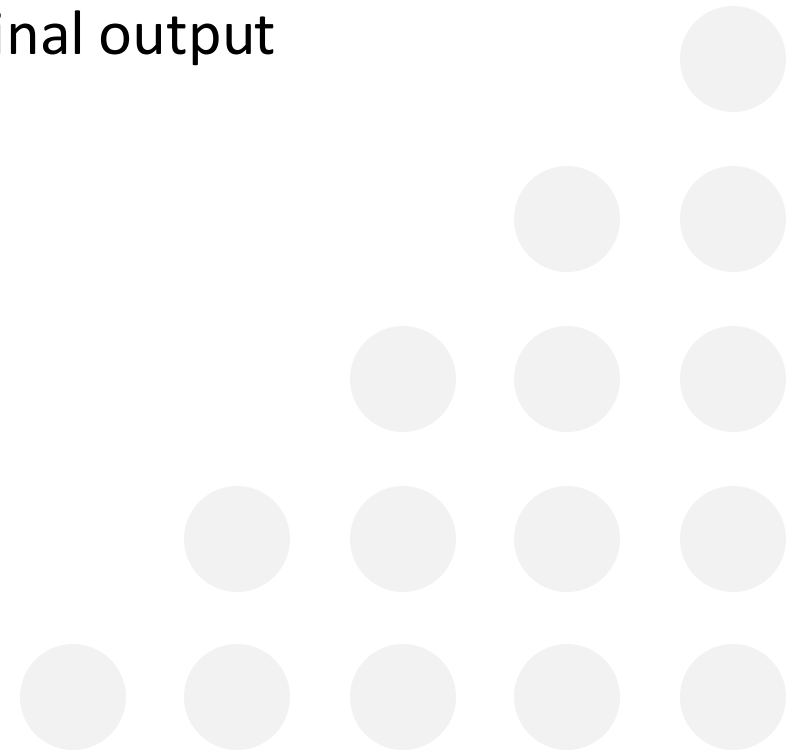
# How to access the data?

- Data/code will be made available through the ONS Secure Research Service
- How to access the linked ASHE-Census 2011 data
  - Apply to become an accredited researcher
  - Apply for an accredited research project
  - Access data securely through SRS (Safe rooms, SafePod, AOC)

<https://www.adruk.org/data-access/flagship-datasets/annual-survey-of-hours-and-earnings-linked-to-2011-census-england-and-wales/>

# ASHE-Census 2011 data output

- 2 files will be given:
  - Drop 1 : equivalent to phase 1 – year coverage 1997-2018
  - Drop 2 : equivalent to phase 1 & 2 – year coverage 2010, 2011, 2012
- Researchers run the code to combine 2 files to get the final output



# Research using ASHE-Census 2011

The Scandinavian  
**Journal of Economics**

Original Article | Open Access |

**Differences in labour market outcomes between immigrant and UK-born employees: evidence from linked data**

This article relates to:

This article relates to:

Ezgi Kaya

First published: 30 July 2025 | <https://doi.org/10.1111/sjoe.12600>

JOURNAL ARTICLE

**Ethnic minority and migrant pay gaps over the life-cycle**

Tessa Hall, Alan Manning , Rebecca Rose

*Oxford Review of Economic Policy*, Volume 40, Issue 3, Autumn 2024, Pages 556–578,

<https://doi.org/10.1093/oxrep/gra030>

**Published:** 22 November 2024



Journal of Cleaner Production

Volume 494, 25 February 2025, 145025



Working towards an environmentally sustainable and equitable future? New evidence on green jobs from linked administrative data in the UK

Damian Whittard <sup>a, b</sup> , Peter Bradley <sup>b</sup>, Van Phan <sup>a</sup>, Felix Ritchie <sup>a</sup>

**Accounting for Firms in Ethnic Wage Gaps Across the Earnings Distribution**

Van Phan, Carl Singleton, Alex Bryson, John Forth, Felix Ritchie, Lucy Stokes and Damian Whittard

IZA DP No. 17679

**The Disability Pay Gap Within and Across Firms**

**John Forth**

*University of London, IZA and ESCoE*

**Melanie Jones**

*Cardiff University, IZA and ESCoE*



Economic and Social Research Council

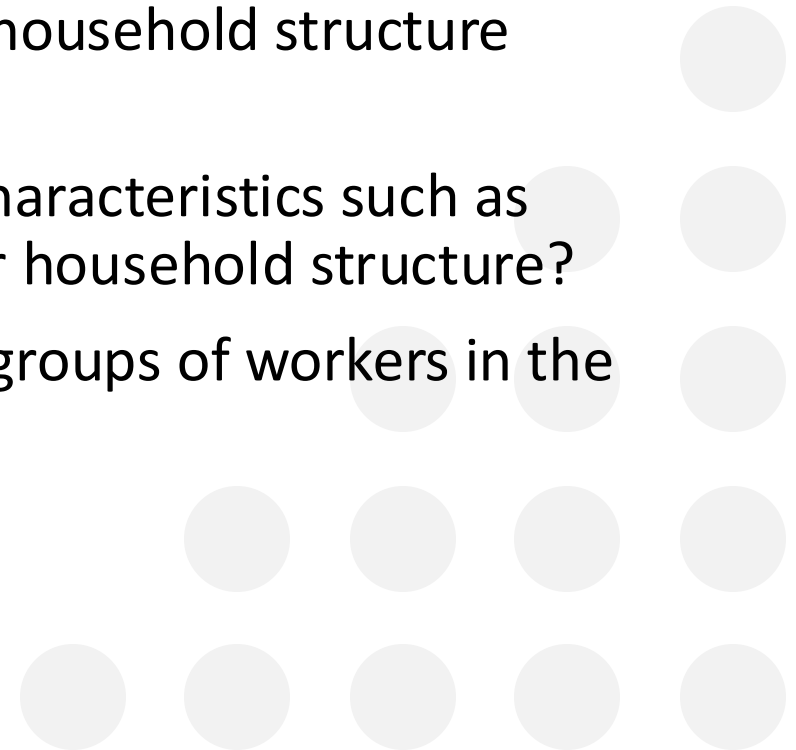
# Identify research objectives

- Define clear research questions
  - Explore the advantage of the ASHE (employer-employee dataset)
  - Explore the advantage of the Census 2011 (e.g. personal characteristics not in ASHE)
- Assess data suitability
- Don't rely on ASHE-Census 2021 linkage



# Key research priorities

- What is the role of employers in wage inequality among different groups of employees? (e.g. by gender, ethnicity, disability status, age, migration status etc)?
- How do personal characteristics such as education and household structure affect wage progression?
- How is wage progression and job mobility affected by characteristics such as gender, ethnicity, disability, age, migration, education or household structure?
- How do changes to the minimum wage affect different groups of workers in the labour market?



# Support

- Website - [www.wagedynamics.com](http://www.wagedynamics.com)
- Documentation/ code/ research
- SRS code repository
- Enquiries desk - [wagedynamics@uwe.ac.uk](mailto:wagedynamics@uwe.ac.uk)
- Knowledge Hub (Peer to peer support) - [WED Research Group - \(khub.net\)](http://WED Research Group - (khub.net))
- Access to Stakeholder Groups (Academic, Government & Public Sector)
- Community of interest
  - PhD & Fellowship Research Events
  - Conference Special Sessions
  - ONS & WED Research Symposium
  - Blogs
- One to one support

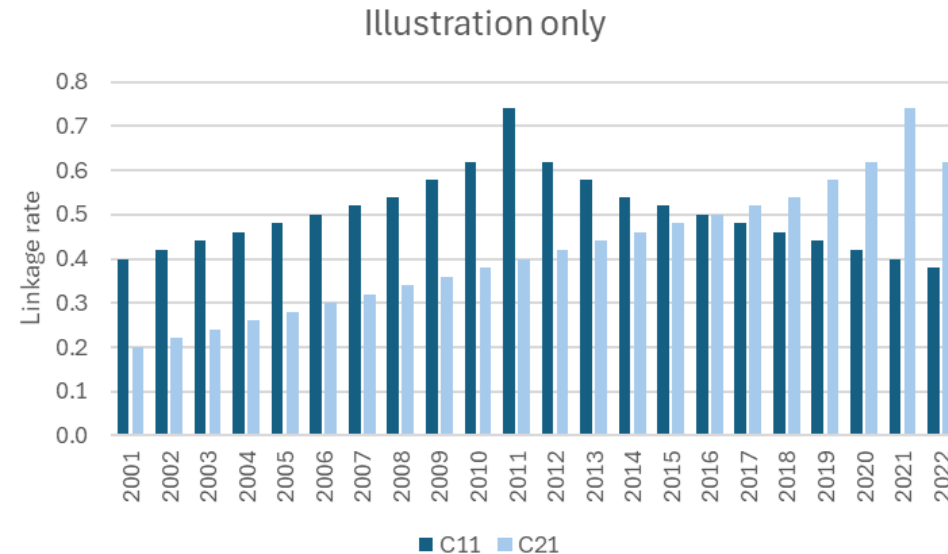


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and Social  
Research Council



# Forthcoming: ASHE-Census 2021

- UKRI-funded project to link ASHE to the 2021 Census for England and Wales
- Aim = Longitudinal ASHE-Census (ASHE + Census 2011 + Census 2021)



- Good news: Initial linkage outcomes -> Census 2021 linkage rate is higher, and flatter

# Forthcoming: ASHE-Census 2021

- Timetable:
  - ONS delivered Drop 1 of the ASHE-Census 2021 linkage to WED in April 2025
  - WED team now working with ONS to QA the linkage & prepare documentation
  - Aim to have ASHE-Census 2011 + Census 2021 available to users by March 2026
  - Training and user support delivered after that
- Extra data come with Census 2021 linkage
  - Household data: everyone belonging to the Census household of an ASHE sample number
  - Extra year of ASHE: the initial version of ASHE-Census 2021 that we are working with goes to 2022.

# Q&A

[wagedynamics@uwe.ac.uk](mailto:wagedynamics@uwe.ac.uk)

[www.wagedynamics.com](http://www.wagedynamics.com)



<b>Date and time</b>	<b>Title of webinar</b>
Thursday 23 October 13:00 - 14:00	<b>Opportunity briefing</b>
Wednesday 5 November 12:00 - 13:00	<b>Writing a good funding application</b>
Thursday 13 November 12:00 - 13:00	<b>Community catalyst research agendas</b>
Monday 13 October 12:00 - 13:00	<b>Education and Child Health Insights from Linked Data (ECHILD) - England</b>
Wednesday 15 October 12:00 - 13:00	<b>Ministry of Justice &amp; Department for Education linked dataset - England</b>
Tuesday 28 October 13:00 - 14:00	<b>Grading and Admissions Data for England (GRADE)</b>
Thursday 30 October 12:00 - 13:00	<b>Annual Survey of Hours and Earnings (ASHE) linked to PAYE and Self-Assessment data - England, Scotland and Wales</b>
Tuesday 4 November 12:00 - 13:00	<b>Nursing and Midwifery Council Register linked to Census 2021 - England and Wales</b>
Tuesday 4 November 13:00 - 14:00	<b>Longitudinal Education Outcomes (LEO) - England</b>
Thursday 6 November 12:00 - 13:00	<b>Annual Survey of Hours and Earnings (ASHE) linked to Migrant Workers Scan - England, Scotland and Wales</b>
Friday 7 November 12:00 - 13:00	<b>Data First: Family Court linked to Cafcass and Census 2021 - England and Wales</b>
Monday 10 November 13:00 - 14:00	<b>Administrative Data   Agricultural Research Collection - England and Wales:</b>
Wednesday 12 November 10:00 - 11:00	<b>Data First: Cross-Justice System - England and Wales:</b>
Tuesday 18 November 12:30 - 13:30	<b>RAPID: Population interactions with employment, benefits and pensions - UK</b>



[Pre-announcement: Funding opportunity coming soon for ADR UK Research Fellowships - ADR UK](#)

[adrfellowsips@esrc.ukri.org](mailto:adrfellowsips@esrc.ukri.org)