

# New insights on labour market dynamism from UK Linked Employer-Employee Data

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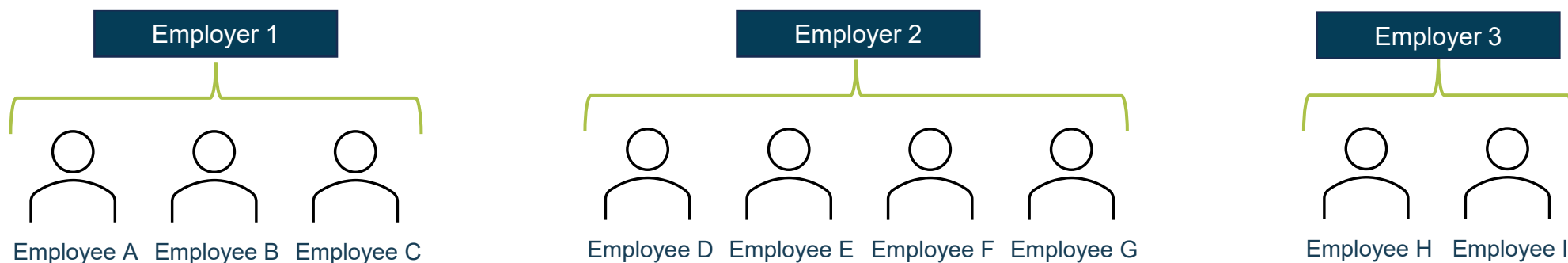
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# Linked Employer-Employee Data

- LEED links workers to firms and tracks both over time



With this data structure we can:

- Track workers *within* firms
- Track workers *across* firms

An analytical tool on its own but also a spine for onward linkage

# ONS-ESCoE collaboration



- Many countries have a comprehensive LEED infrastructure based on administrative payroll data
- Need for UK LEED was highlighted as early as **2006** (*Making LEED Relevant to Policy*)
- The **2016** Bean Review urged ONS to make greater use of admin data
  
- HMRC initially shared PAYE RTI payroll data with the ONS in **2019/2020**
- We published a roadmap for creating LEED from PAYE RTI in **June 2025** (*ESCoE TR 28*)
- Permissions to link PAYE RTI and IDBR achieved in **November 2025**
  
- **Currently** developing a LEED prototype and scoping its use for economic measurement
  - Quality assurance tool for existing labour market statistics based on surveys (e.g. WfJ, AWE)
  - Developing new labour market statistics (e.g. worker flows, earnings dynamics)
- **Future** ambition to make the data available outside ONS as a research resource

# The ONS/ESCoE LEED



## Longitudinal Business Database (L-WEP) Spine

Common Identifier:  
PAYE Scheme Reference

## HMRC PAYE RTI

- Longitudinally appended, **Quarterly** PAYE Scheme Reference Level spine of the Inter-Departmental Business Register (IDBR)

- **Calendarised Monthly** HMRC PAYE RTI data created by the ONS's Data Development Unit (DDU)

**Coverage:** All payrolled employees linked to the IDBR enterprises employing them

**Period:** 2014 to 2025

**Frequency:** Monthly

**Identifiers:** Workers (Demographic Index ID), Firms (Enterprise Reference Number)

# Supporting Production of Existing Statistics

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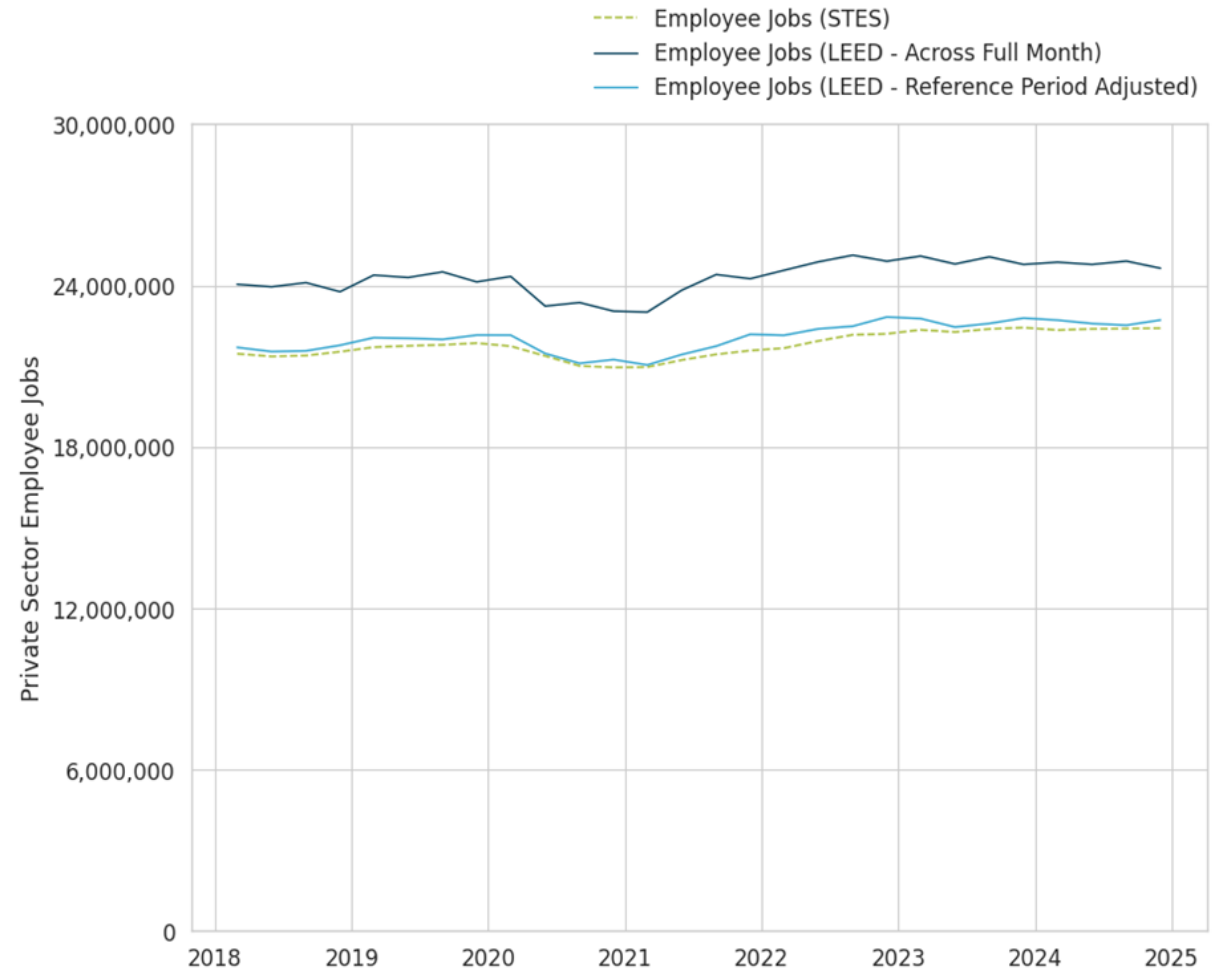
- LEED provides a consistent longitudinal framework that jointly captures workers, jobs, and employers
  - > Valuable resource for quality assurance of ONS business surveys on employment and earnings
- **The Short-Term Employment Surveys (STES)**
  - > Private sector employee jobs component of ONS's quarterly Workforce Jobs (WfJ) estimates
- **The Monthly Wages and Salaries Survey (MWSS)**
  - > Used to derive the UK's headline Average Weekly Earnings (AWE) estimates

# Supporting Production of Existing Statistics

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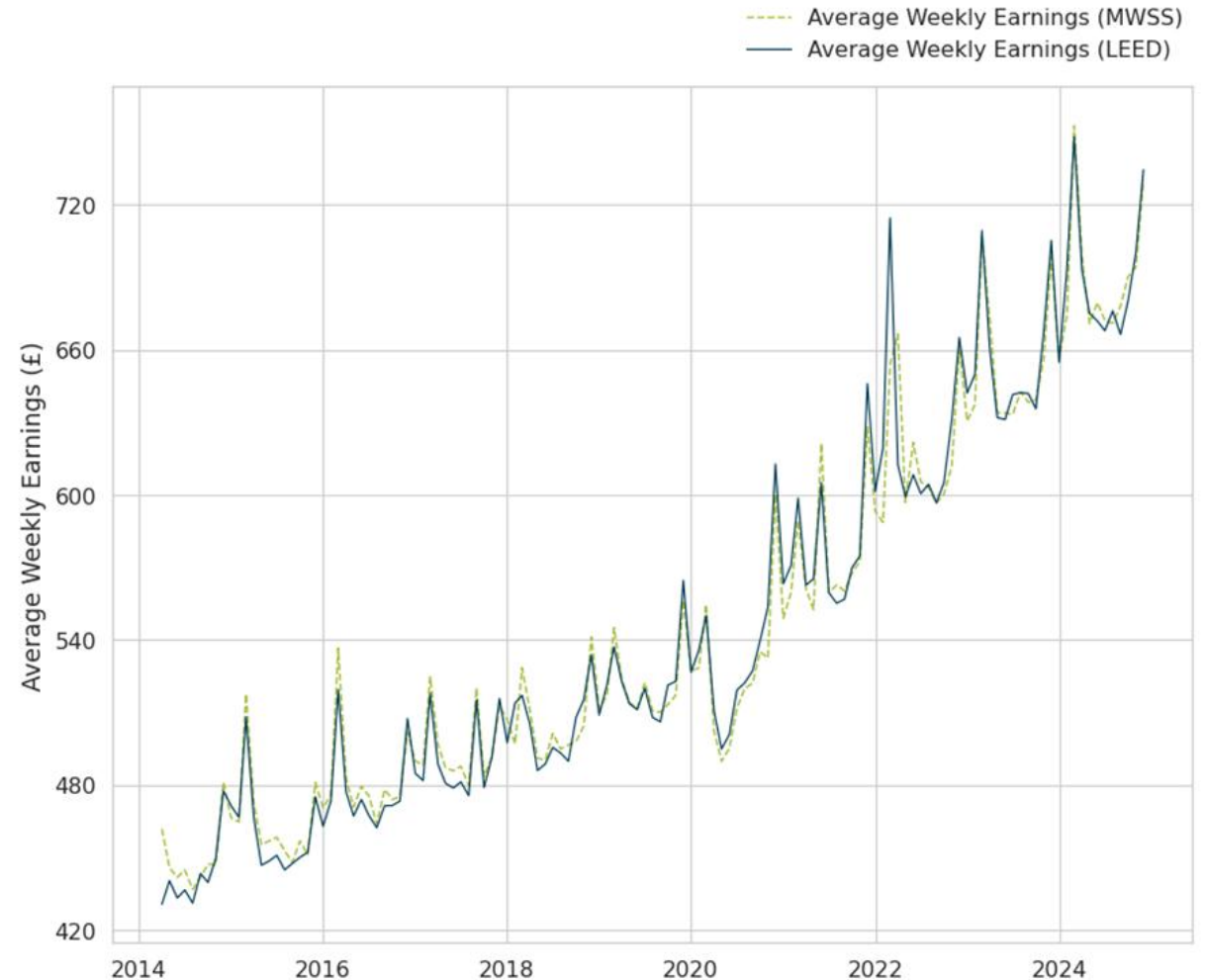
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- **Short-Term Employment Survey (STES)**
- Private Sector Employee Jobs (EJ) estimates from LEED closely track those produced from STES in levels and trends.
- At the firm level, differences between LEED-based estimates and those from STES are approx. normally distributed around zero.
- LEED not a perfect substitute: not able to replicate part-time/full-time breakdown in STES due to the absence of hours in PAYE RTI.
- But where employment changes reported in the STES differ from administrative PAYE returns, points to **potential misreporting or misclassification in the STES.**



# Supporting Production of Existing Statistics

- **Monthly Wages and Salaries Survey (MWSS)**
- Average Weekly Earnings (AWE) (total pay) can be broadly replicated using LEED.
- At the firm level, differences between LEED-based estimates and MWSS approximately normally distributed around zero
- LEED not a perfect substitute: PAYE RTI does not itemize bonuses so cannot replicate AWE measure of regular earnings.
- But LEED can **help to flag unusual wage movements in the MWSS** and confirm whether they reflect actual payroll dynamics
- LEED can also **extend measurement to small firms** (less than 20 employees)



# Utilising LEED to Develop New Statistics



- LEED can be used to develop statistics on worker flows which improve our ability to track labour market conditions (see Davis et al., 2006, *Jnl of Econ Perspectives*)
- An example from the June 2025 ONS Labour Market Overview: “Feedback from our Vacancy Survey suggests some firms may not be recruiting new workers or replacing workers who have left”
- Currently using LEED to produce new experimental statistics, complementing (or replacing) what is available from the LFS / TLFS and LBD:
  - Hires, separations and job-to-job flows
  - Worker-level decompositions of earnings growth
  - Link between worker flows and productivity growth

The screenshot shows the 'J2J Explorer' tool interface. At the top, it says 'United States Census Bureau J2J Explorer' with a home icon and 'LEHD Home' and 'Help' links. Below the header is a 'Guided Entry' section with two main steps:

- 1. Start Here**

Frame your question by selecting from the three dropdowns below; then click one of the blue links on the right to go to your customized results.

  - Hires to:
  - National (50 states + DC):
  - All NAICS Sectors:
- 2. Then Choose an Analysis**

**Analysis of Job-to-Job Flows**

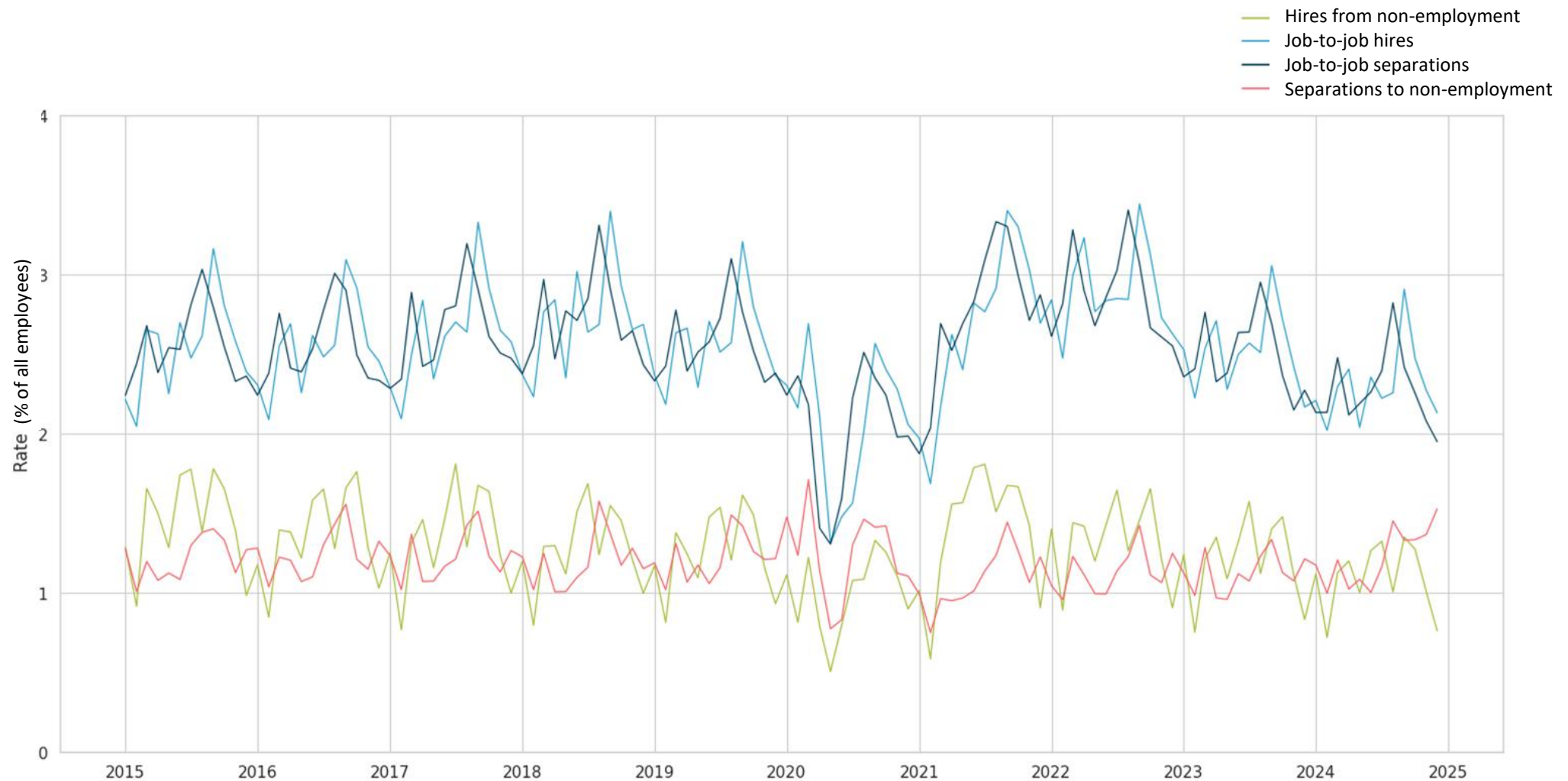
<b>From (Origin Job)</b>	<b>To (Destination Job)</b>
<a href="#">Which States?</a>	<input checked="" type="checkbox"/> National (50 states + DC)
<a href="#">Which Metro Areas?</a>	<input checked="" type="checkbox"/> All NAICS Sectors
<a href="#">Which Industries?</a>	

**Analysis of Hires Over Time**

  - [Are hires coming from nonemployment or another job?](#)

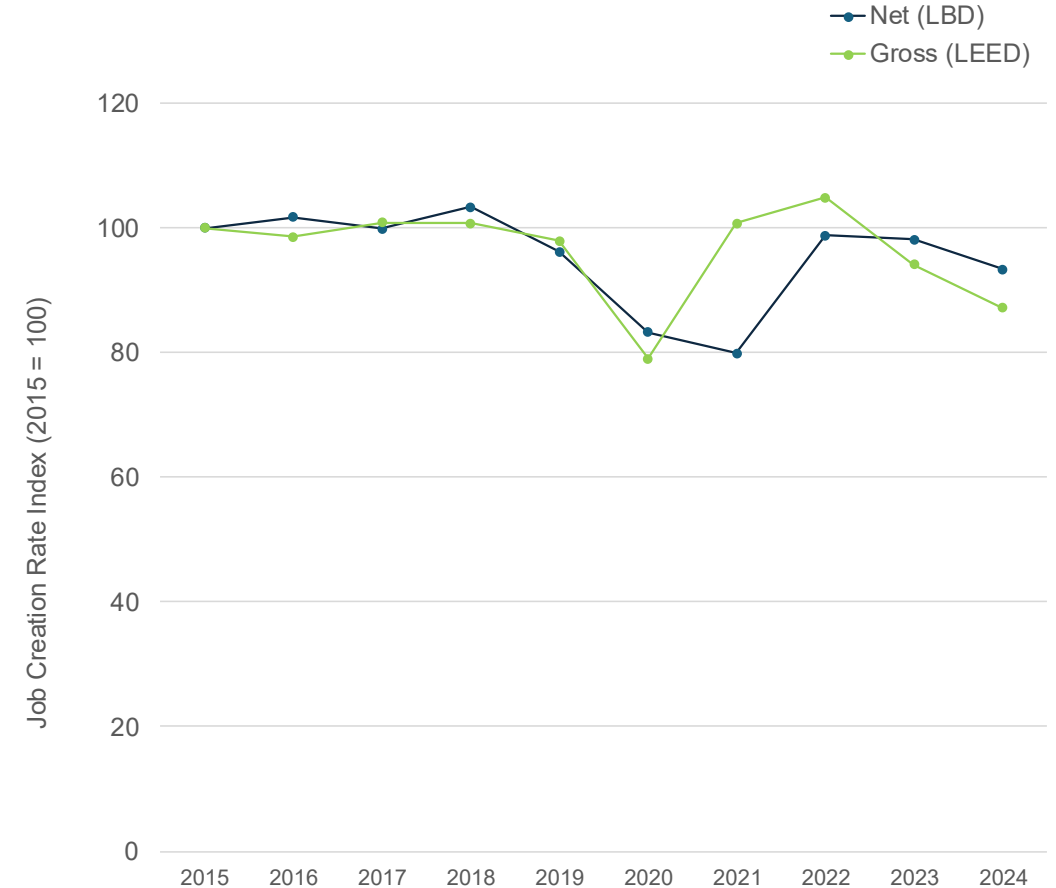
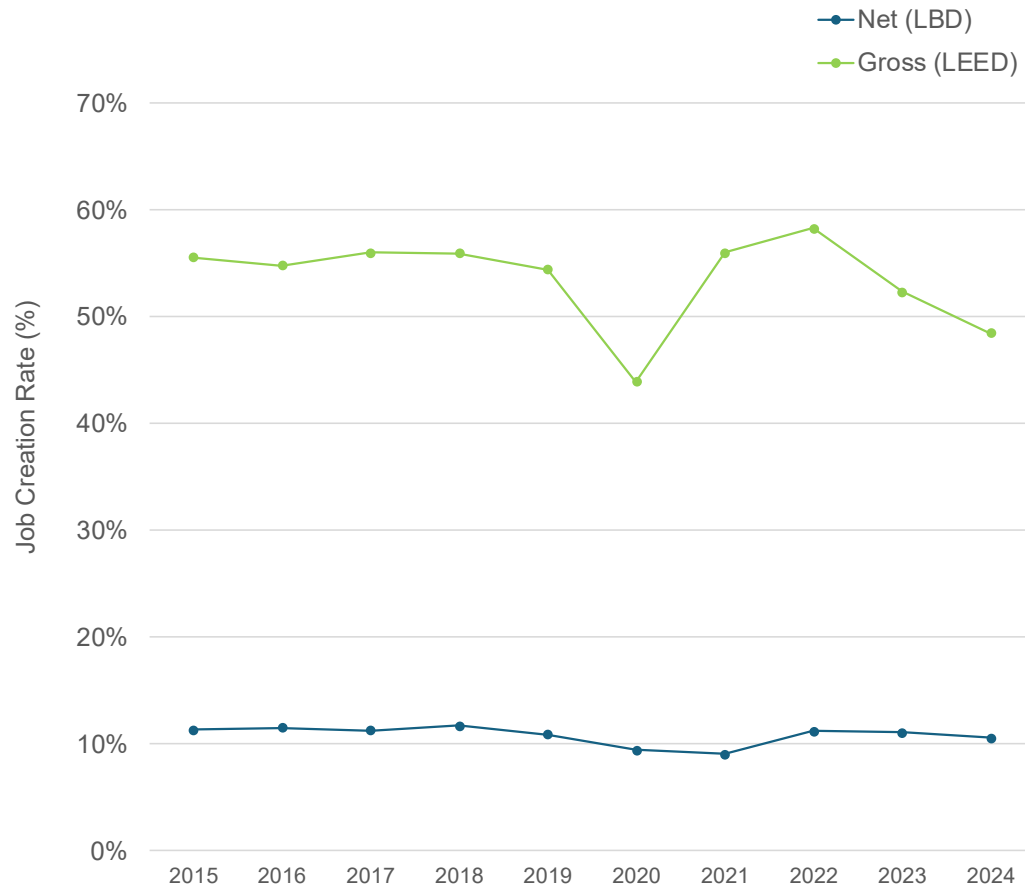
# Hires and Separations

Hires, Separations and Job-to-Job Flows, Monthly, 2015 to 2024, UK



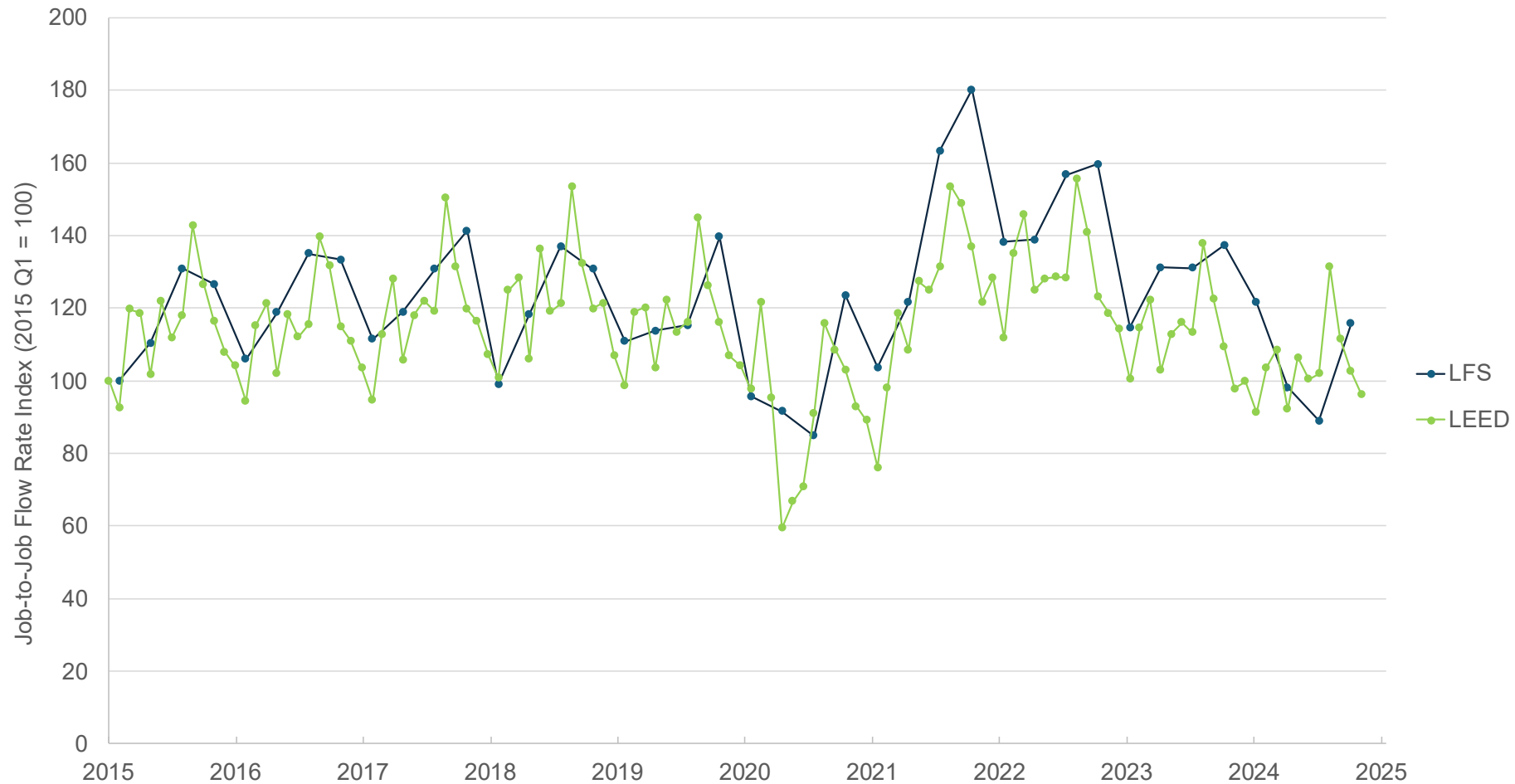
# Capturing the 'Missing Dynamism'

Job Creation Rate in Levels and Index terms, LEED vs LBD, Annual, 2014 to 2024, UK

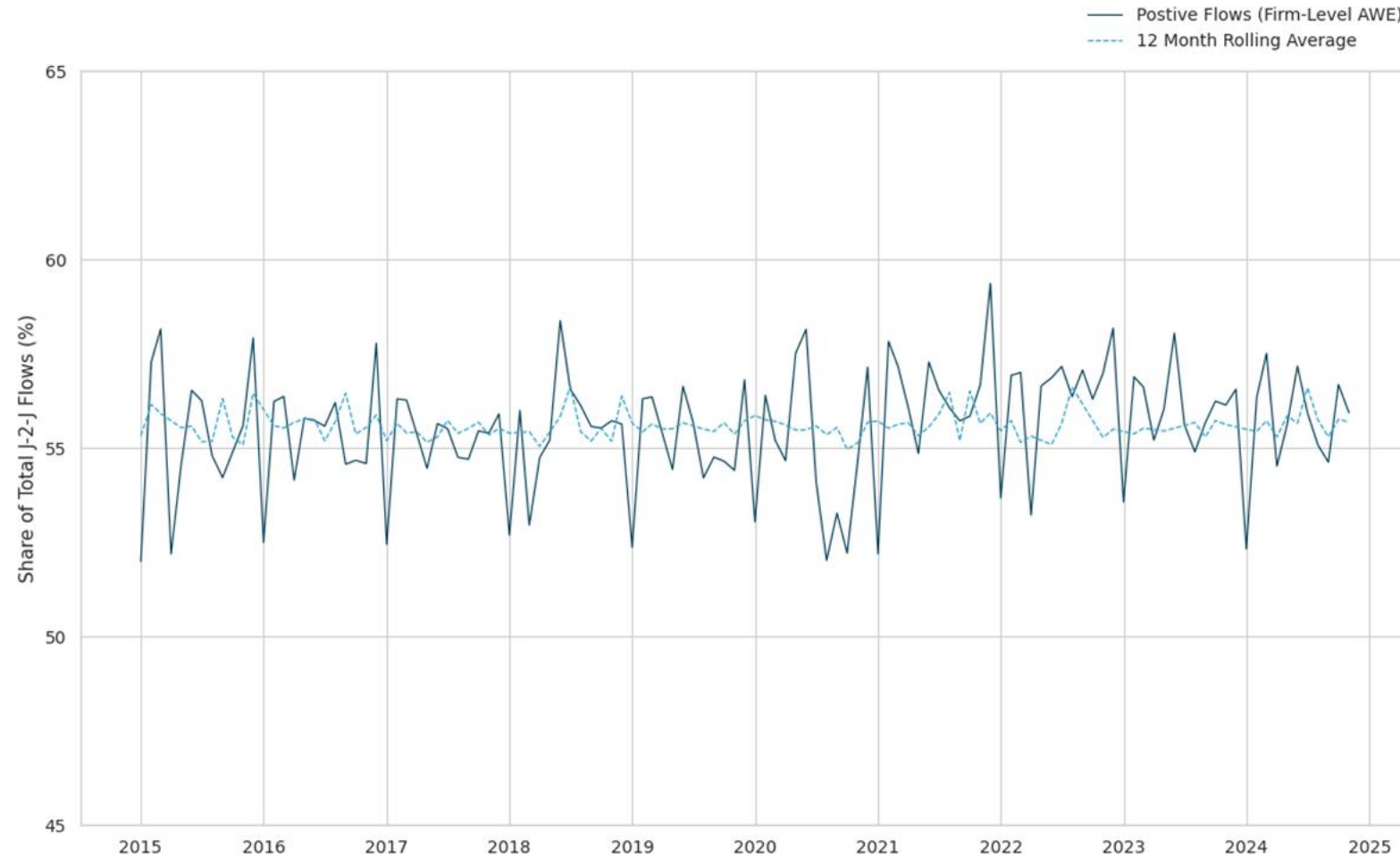


# Allows granular analysis of J2J flows

Job to Job Flow Rate, Index (2015 Q1 = 100), LEED vs LFS, 2015 to 2024, UK



Share of Job-to-Job Flows into Higher Wage Firms, Monthly, 2015 to 2024, UK



# Summary and Next Steps



- Considerable progress in the last 12 months - informed by the LEED roadmap
- LEED prototype created and entering regular production within ONS
- The power of admin data is being realized: ability to track workers and firms at scale over time.
- Coherence work with STES and MWSS in progress - will lead to improvements in statistical production, supporting the ONS Labour Market Statistics transformation plan.
- Experimental Statistics on Hires, Separations and Job-to-Job flows undergoing QA – will improve ONS’s measurement of labour market activity.

## **Next steps:**

- Refining our methodology for apportioning employees to IDBR Reporting Units and Local Units – more precise allocation of workers to detailed industry sectors and geographies
- Exploring opportunities for onward linkage with Business Tax data, Trade data and Employee data
- Potential to sample workers and firms to look inside the ‘black box’ of the firm

# References

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# Progress updates

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