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The use of real time data to enhance the Earnings and Labour Costs release

9th Annual NERI Conference

Earnings and Labour Costs release

Quarterly release based on data collected by the EHECS survey

Data is collected from enterprises with 3+ employees in NACE sectors B–S, including

- No. persons employed on first and last day of quarter
- For all employees for the quarter

Total wages

Total paid hours, whether worked or unworked.

Total refunds received



Statistics included

- Earnings

- Average weekly and hourly earnings

- Gross wages and salaries payments

- Other labour costs

- Average hourly other labour costs

- The costs to the employer, in addition to wages and salaries, of employing labour.

- Incl. social contributions, BIK, expenses

- Amounts received by enterprises intended to refund part/all costs of wages, salaries, training are deducted from an enterprise's labour cost

- Registered employment



Issues faced

- Lower response rates than previous quarters
- Churn of employment over the quarter was not captured by survey data
- Enterprises and payroll companies had difficulties correctly recording government income support payments
- Alignment of employment with LFS



Strategy

Use administrative data sources to assist in processing survey data, coherence and additional insight

Processing

- **PUP datasets** - created a factor for average employment for the sectors most impacted by persons availing of PUP in quarters where ELC data could not capture employment churn
- **TWSS & EWSS datasets** - allowed for correction of reporting errors and omissions of income support payments

Coherence & additional insights

- **PMOD datasets** used to check coherence of changes in average weekly earnings by NACE sector
- **PMOD datasets** used to provide additional insight for users in relation to the labour market



PMOD & the Labour Market Insight Bulletin Series

- Produced Labour Market Bulletins to complement the standard ELC release
- Provided additional insight for users and provided context to the results in the ELC release



Additional insights

- % change in the number of active employments between two quarters
- % change in earnings by sector between two quarters
- Analysis of earnings for employments active in more than one quarter



Additional insights continued

- Analysis of the impact of TWSS and EWSS schemes

% of employments directly supported by scheme

Subsidy payments as % of total earnings



Conclusion

- Administrative real time data greatly enhanced the ELC release
- Allowed us to stick to our standard methodology while remaining relevant
- Continued to be able to meet our Eurostat reporting obligations
- Publication of coherent ELC estimates during the pandemic, supported by administrative data sources
- Additional insights for users
- Positive feedback from our users





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Use of Revenue data for Structure of Earnings Statistics

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Structure of Earnings

- Analysis of earnings by characteristics of employees and their employer
- Distribution of earnings



Background

- National Employment Survey (NES)
- Large scale employer survey
- Reference years 2003, 2006-2009
- Discontinued after 2009 for budgetary reasons





Earnings Analysis Using Administrative Data Sources (EAADS)

- First published in 2017 for reference years 2011-2014
- Updated in 2019 for reference years 2011-2018
- Currently working on 2019 and 2020
- Published annually going forward

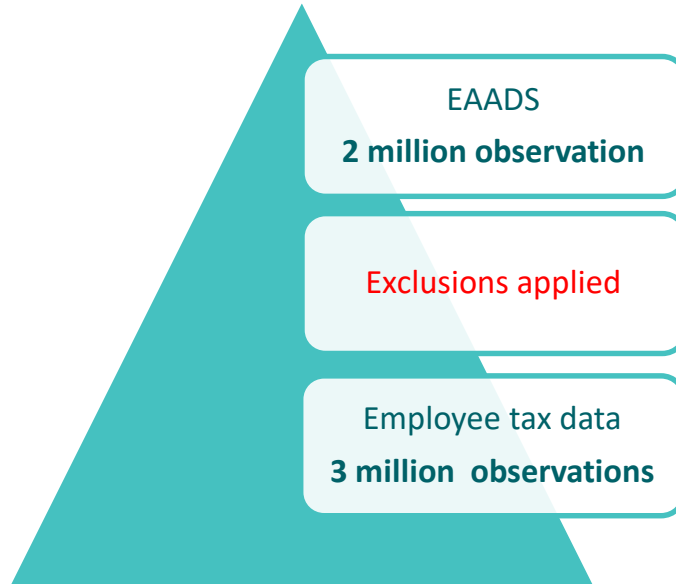


Earnings Analysis using Administrative data (EAADS)

Admin data source	Key variables
Revenue – employee tax data	Gross Annual Pay, Weeks worked
Dept. of Social Protection	Sex, Age, Nationality, Region lived
CSO Business Register	Economic sector, firm size



EAADS - Employments





Exclusions

- Employments not active in reference month (October) are excluded
- NACE sectors A, T and U excluded
- Self employed and pension payments excluded
- Low paid secondary employments excluded
- Outliers removed





Earnings Analysis using Administrative data (EAADS)

- **Key Statistics:** Mean and Median, Weekly and Annual Earnings by:

Employee characteristics	Enterprise characteristics
Sex	Economic Sector
Age	Firm size
Nationality	
Region lived	





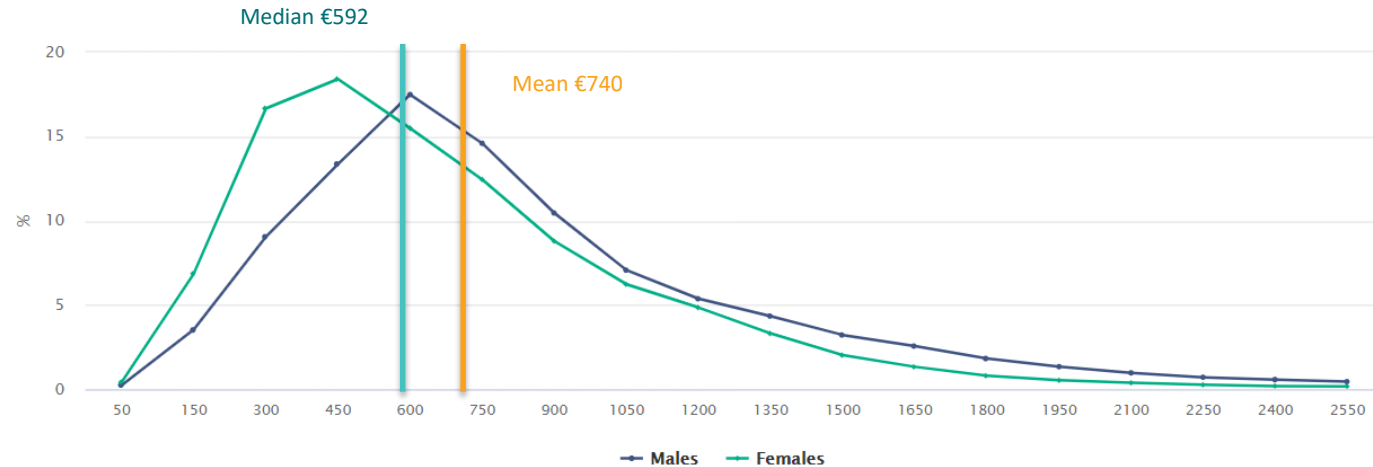
Distribution of Earnings

- Average Earnings - Median as well as Mean
- Earnings at each percentile
- Proportion of employments at different levels of earnings
 - By sex, age, sector



Distribution of earnings – by Sex

Figure 3.2 Distribution of employees (%) by weekly earnings and sex 2018

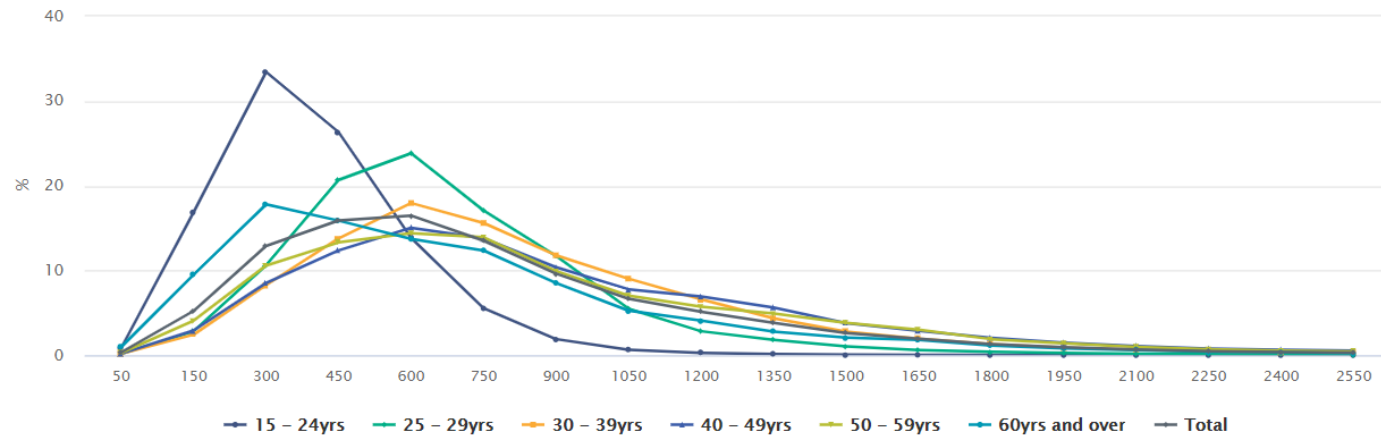


Source: CSO Ireland



Distribution of earnings – by Age

Figure 3.3 Distribution of employees (%) by weekly earnings and age group 2018



Source: CSO Ireland





Ad-hoc queries

- Regularly provide tabular output to users in response to ad-hoc queries:
 - Cross tabulation of characteristics
 - Specific age groups of interest
 - Different classifications for region, nationality, firm size
 - Proportion of employments





Potential analysis

- Further cross tabulation of the main characteristics
- Employee v Employment earnings
- Separate analysis of seasonal work, or secondary employments
- Cohort analysis – track individuals over time



Variables not on Admin data

- Some important variables not available on Admin data
 - Hours worked
 - Full-time/Part-time status
 - Occupation
 - Education
- Considering potential sources for these and other variables



LFS/EAADS

- Developed for Econometric analysis of Public/Private sector pay differential
- Matched sample created with variables required by model
 - Incl. hours worked, FTPT, Occupation and Education
- Results are weighted and calibrated to EAADS totals
- Data for 2011 - 2018
- RMF available to researchers



Summary

- Revenue and other Administrative data are rich source for analysis
- Further outputs & more detailed analysis possible
- Potential to expand outputs and analysis if information on additional variables can be sourced
- Welcome user input on analysis required





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Monthly Employment Series

John Mullane

Using Real-Time Reporting to
Enhance Statistics and Research

9th Annual NERI Conference





Aims of the project

- Measure of persons in employment using administrative data
- Macro-economic view of employment
- Different to standard measure of employment
- ILO definition criteria different to this series
 - LFS and PMOD series will likely differ in magnitudes





Conditions

- Individual receives at least 1 payment during reference month
- Exclude self-employed and pensioners
- Retain all NACE codes
- Business Register (CSO) NACE classifications to be used





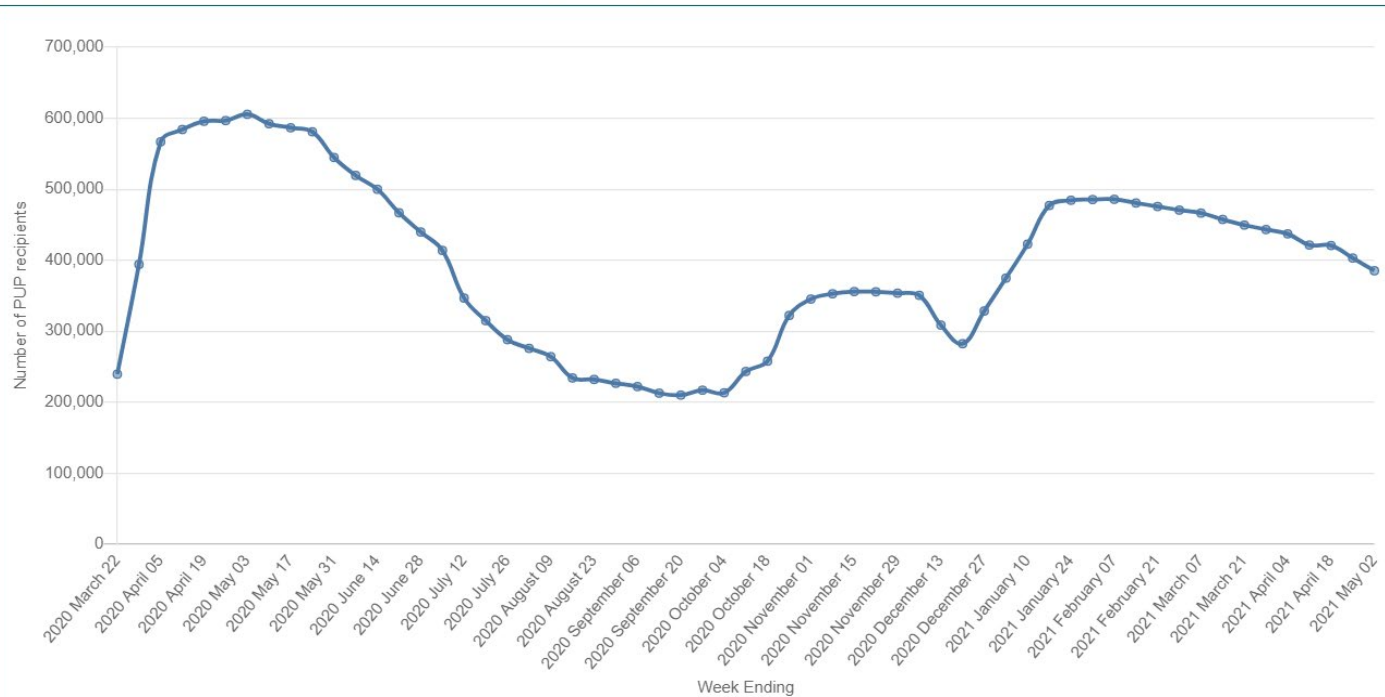
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Visualising data (examples using existing publications)



Figure 2.1 Number of recipients of the Pandemic Unemployment Payment (PUP) each week

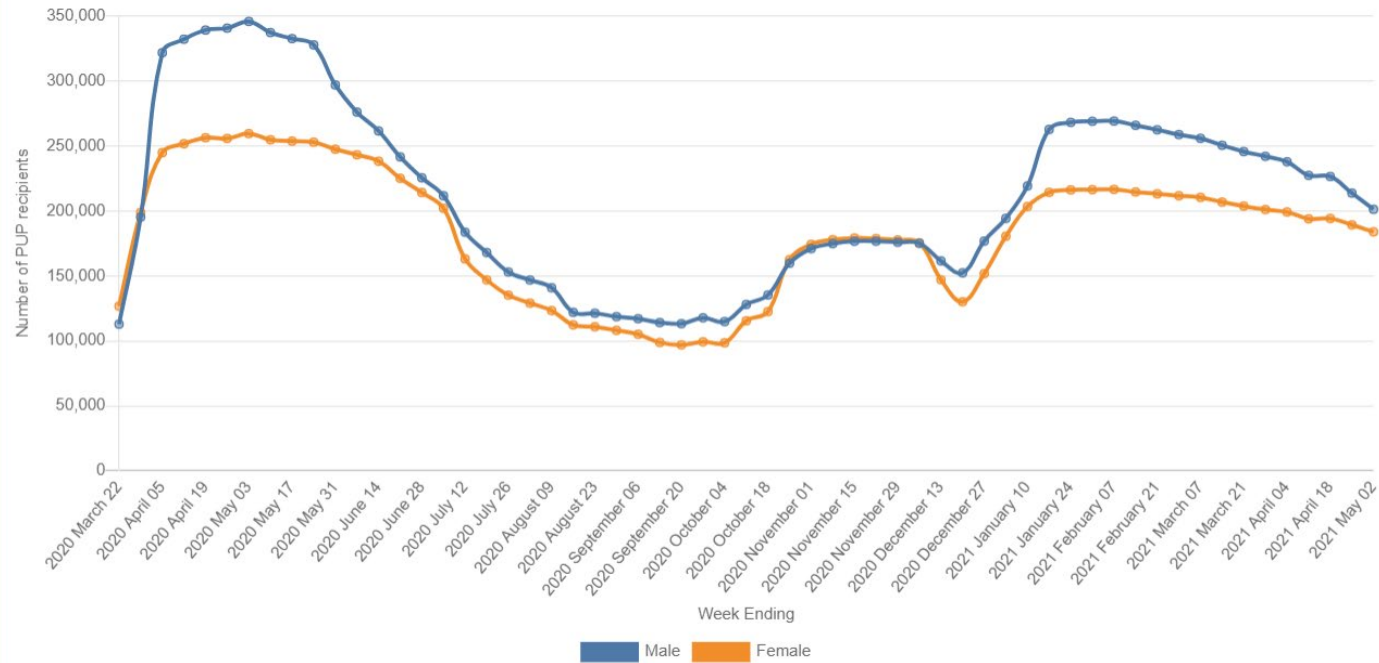


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<https://data.cso.ie/table/LRW13>





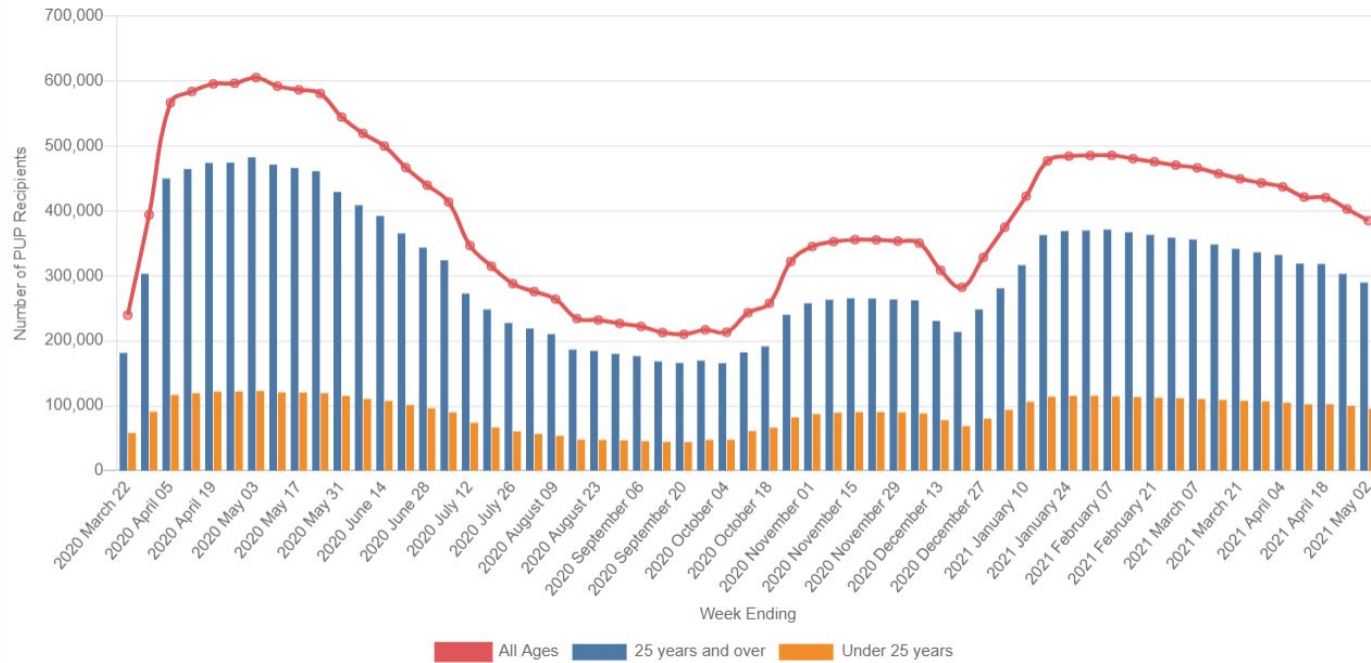
Figure 2.2 Number of recipients of the Pandemic Unemployment Payment (PUP) each week by sex



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Figure 2.3 Number of recipients of the Pandemic Unemployment Payment (PUP) each week by age group



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Communicating data



Variables of interest

- Personal characteristics
 - Sex, Age, Citizenship, Region
- Employer characteristics
 - NACE sector, Size of enterprise



Metrics and Properties of data

- Data present from Jan 2019
- Seasonal adjustment of data when a longer series exists
- Definitions of employment will be different to those on LFS (ILO)
 - Growth rate of number of employees
 - Year on year growth of number of employees





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Feedback





Next Steps

- Employment/Employee level analysis
 - Employment level for employer characteristics
 - Employee level for personal characteristics
- Index/Volumes
- Inclusion/exclusion criteria
- Content for initial publication



National Statistical Institutes employment indexes/series'.

- *UK*
- Release:
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/earningsandemploymentfrompayasyouearnrealtimeinformationuk/march2021>
- Methods:
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/articles/newmethodsformonthlyearningsandemploymentestimatesfrompayasyouearnrealtimeinformationpayertidata/december2019>
- *Estonia:* <https://www.stat.ee/en/find-statistics/covid-19-impact-estonia/short-term-labour-market-statistics>
- *USA:* <https://www.bls.gov/ces/>





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