Australian Government | Jobs and Skills Australia

Nowcast of Employment by Region and Occupation

What is NERO

The Nowcast of Employment by Region and Occupation (NERO) is an estimate of the number of employed persons in 355 different occupations across 88 different regions each month. These detailed estimates are produced by a machine learning model.

Previously, data with this level of detail was only readily available every five years as part of the ABS Census of Population and Housing. While NERO estimates and Census data are conceptually and methodologically different, both are invaluable assets to understanding Australia's labour market.

What can you use NERO for?

NERO is a valuable tool for understanding occupational distribution and trends for workforce planning. It can help you answer questions such as:

- Which regions of Australia employ the most Electricians?
- Which regions of Australia have experienced the strongest growth of employment of Registered Nurses over the past year, or the past five years?
- For the Ballarat region (or indeed any other region), which are the largest employing occupations, and which are the strongest growing occupations over the past year, or the past five years?

With an estimate of all occupations for every region, NERO provides a detailed understanding of the workforce distribution in your area. This can help track regional occupation drains and gains across time.

Understanding changes in occupation composition over time helps users unpack local labour markets dynamics. For example, tracking the growing employment numbers for Professional occupations in a region can show in detail the advancing role of the knowledge economy. Whether a regional economy thrives on primary industry, tourism or high-tech manufacturing, NERO can help gauge changing economies at very detailed levels.

How does NERO work?

NERO was developed using an emerging method called **Nowcasting.** This method inputs real-time data to a machine learning model to estimate current trends. This month-by-month snapshot of employment in different occupations facilitates timely comparative analysis. NERO is not a forecast, but rather more akin to a "current reading of the weather" in meteorology.

NERO's estimates of employment, covering 355 occupations across 88 regions in Australia follows the occupation and region classifications of the Australian and New Zealand Standard Classification of Occupations' (ANZSCO) 4-digit level and the Australian Statistical Geography Standard's (ASGS) Statistical Area 4 (SA4) regions.

Caveats

NERO estimates employment based on what it has “learned” from historical data. If changes to regional employment patterns exist outside of the historical dataset, NERO may not capture this effect.

NERO estimates have been smoothed to provide a long-term indication of trends in local labour markets. As a result of the smoothing process, the estimates may not capture short(er) term labour market dynamics. JSA therefore encourages the use of a combination of data sources with NERO to analyse current trends in the labour market, such as the Internet Vacancy Index (IVI), Recruitment Experiences and Outlook Survey (REOS), and ABS data.

Individually estimated values should not be added to other values to create aggregated geographic or occupation groupings. NERO is designed specifically for estimating employment numbers at the ANZSCO 4-digit and ASGS SA4 level. The scale and direction of changes in values over time is more important than the exact number. If less detailed data is required, ABS Labour Force Survey and Census data may be more appropriate sources.

Further information

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