



Industry and Occupation Rankings Methodology

FOR FURTHER INFORMATION:

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Industry Rankings

Approach

Industries and occupations were ranked using a range of employment and wage variables. This approach ensures industries and occupations with favorable attributes across multiple indicators would perform better than other industries and occupations. The performance variables chosen for this analysis include:

- Projected employment change (numeric),
- Projected employment change (percentage),
- Historic employment change (percentage),
- Historic wage change (percentage),
- Current employment level,
- Current wage level,
- Employment location quotient, and
- Wage location quotient

Industries were ranked across each performance variable and then averaged together to calculate an overall score. All performance variables, with the exception of the location quotient variables, were assigned equal weighting. The employment and wage location quotient variables were combined into one variable, reducing the significance of each by half. The industries that received the best overall scores were identified as potential in-demand industries for Local Workforce Development Area (LWDA) selection. Industry rankings were created for two-digit NAICS and three-digit NAICS industries.

Projected Employment Change (numeric and percentage)

The estimates include numeric and percentage change from the latest long-term employment projections produced by the Arizona Office of Economic Opportunity. Projection estimates are available for the state, counties and 11 of the 12 LWDAs (Nineteen Tribal Nations is not available due to lack of data).

Historic Employment Change (percentage)

Employment estimates were produced by the U.S. Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) program. This estimate includes the average employment percentage change over the past three years. This analysis uses data from the most recent three-year period available through the BLS QCEW program.

Historic Wage Change (percentage)

Wage estimates were produced by the U.S. BLS QCEW program. This estimate includes the average weekly wage percentage change over the past three years. This analysis uses data from the most recent three-year period available through the BLS QCEW program.

Current Employment Level

Employment estimates were produced by the U.S. BLS QCEW program. This estimate includes current employment level for the most recent quarter available through the BLS QCEW program. An industry sector was excluded from consideration as in-demand industry if the industry has fewer than 50 jobs.

Current Wage Level

This estimate includes the average weekly wage for the most recent quarter available through the BLS QCEW program. An industry with an average wage in the bottom 25th percentile on an area was excluded from the analysis.

Employment Location Quotient

An employment location quotient (LQ) is a powerful indicator which allow a local region to identify which industries they hold a competitive advantage in. An employment LQ compares the industry employment concentration of a region with the employment density of that industry nationwide. This estimate helps

identify which industries have a large or small presence within a state or local area. This estimate includes the location quotient estimate for the most recent quarter available through the BLS QCEW program.

Wage Location Quotient

Similar to an employment LQ, a wage LQ allows for wages within one industry to be compared across different geographic areas. An industry with an above-average wage LQ is an indication that industry employees in that area receive higher wages than employees working in the same industry elsewhere. This estimate includes the location quotient estimate for the most recent quarter available through the BLS QCEW program.

Occupation Rankings

In-demand occupations were selected based on the following variables:

- Projected employment change (percentage),
- Projected employment change (numeric),
- Annual job openings
- Hourly wages, and
- The Occupational Information Network (ONET) score

Each variable was ranked separately and individual rankings were averaged together to create an overall occupational ranking. Equal weighting was given to each variable during the averaging process.

Projected Employment Change and Annual Job Openings

Projected occupational employment change and annual job openings data were produced by OEO. The estimates include employment change and annual job openings for each occupation from the latest long-term employment projections data.

Hourly Wages

Occupation wage data were produced by the OEO Occupational Employment and Wages Statistics (OEWS) program. The estimates include average hourly wage estimates from the latest annual OEWS release. Hourly wage estimates were calculated by dividing annual wage estimates by 2080. Occupations with wages in the bottom 15% for each local area and each education category were excluded from consideration.

ONET Score

ONET provides an estimated level or value of the required knowledge, skill and ability values for each occupation. Each occupation was assigned a score by summing the knowledge, skill and ability estimates together.

Industry and Occupation Relationship

For an occupation to qualify as "industry related" the occupation had to be meaningfully present in an industry.

Meaningfully present was defined in one of two ways:

1. Core Occupations: Each occupation was ranked by its share of employment level across industries. Occupations with the highest share of employment level within each industry were defined as core occupations.
2. Support Occupations: All other occupations were defined as support occupations.

Occupations that were present in an industry, but represented an insignificant portion of industry employment, were defined as "not-industry related." For 2-digit NAICS industries, an occupation was required to represent at least 0.2% of an industry's total employment. For a 3-digit NAICS industry, an occupation had to represent at least 0.5%.

A significant share of an occupation's total employment also had to be present in an industry for the occupation to qualify as an "industry related" occupation. For 2-digit NAICS industries, at least 2.0% of an

occupation's total employment had to be present in an industry. For 3-digit NAICS industries, at least 1.0% of an occupation's total employment had to be present in an industry.

A significant share of an occupation's total employment must also be present in an in-demand industry for the occupation to qualify as an in-demand occupation. For 2-digit NAICS industries, at least 2.0% of an occupation's total employment had to be present in an in-demand industry. For 3-digit NAICS industries, at least 1.0% of an occupation's total employment had to be present in an in-demand industry.

Occupational Rating Structure

If an occupation met the requirements outlined above, it was given an overall rating from 1 to 5 (5 being the best) based on educational requirements, projected employment growth, job openings, wages, and ONET score rankings. Occupations were rated by educational attainment to prevent occupations requiring a Bachelor's or Doctoral Degree from dominating the 5 star ratings. As an example, this means that 1/5 of all occupations requiring a H.S. diploma will be rated as 5 star, 1/5 of all occupations requiring a H.S. diploma will be rated as a 4 star, etc. This logic applies across all education levels.

Other Considerations

Industry and occupation rankings were produced for both two-digit NAICS and three-digit NAICS industries. More industry detail is available using the three-digit NAICS industries, but note that data may be suppressed for confidentiality purposes for small industries.

Some jobs types are present in multiple industries. Because of this, occupational titles can be present within more than one industry sector. An occupation title's star rating will be the same regardless of the industry it is found within.

Management occupations were excluded from consideration because of the level of experience typically required for the positions.

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