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Job Numbers

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A considerable amount of confusion surrounds the reporting and estimation of job numbers at the occupational level. There are various layers of complexity, including multiple occupational coding systems, differing survey respondent sources, sample sizes, survey questions and level of details reported. It is relevant for the consumer of this kind of data to understand these complexities to enable best use of these available resources. What may be sufficient for career exploration or career guidance/planning may not be adequate for adjudication of disability claims, whether in workers compensation, insurance long term disability, Social Security or other litigated settings.

Government Data Sources

Employment numbers for occupational groups are available from several federal government sources. Click the hyperlinks to deeply explore the various government sites

Bureau of Census - Current Population Survey (CPS)

CPS data is collected from household survey. The CPS reports data nationally only. CPS data uses the CENSUS occupational classification system that has 535 unique civilian code groups. These 535 Census groups are directly related to the Standard Occupational Classification (SOC) . During the household survey, questions are asked about the number of hours worked per week and the occupation performed. Work performed 35 or more hours per week is considered full-time.

Department of Labor - Occupational Employment Survey (OES)

OES data is collected directly from employers. OES data is available at the national, state, and sub-state (regional) level by county or multiple county metropolitan statistical areas (MSA) or multiple county non-metropolitan areas. OES data is reported using the more comprehensive <u>Standard Occupational Classification (SOC)</u>, which has 840 code groups, 820 of which describe civilian occupations. Employment numbers reported in the OES survey do not reflect self-employed persons. Many prefer the OES data because it is readily available at both national and regional levels. OES estimates are reported at the national level by total number of employed persons in an occupation and by industry sectors (North American Industry Classification Codes - NAICS) in which employers reported employment of such occupations.

Department of Labor - Occupational Employment Projections

National long term employment projections are prepared by SOC group every other year for purposes of planning and training, primarily for career exploration. Economists at the BLS examine current and historical industrial and occupational trends. Knowing the past and current data, economists project what will happen in all sectors of the economy during the next 10 years. The economists translate these economic trends and anticipate what the impact will likely be on occupations due to influences such as automation, off-shoring, obsolescense, growth, and replacement needs. This leads to interesting variation in long term projections for an occupation on an industry-by-industry basis, where substantial growth for an occupation may be expected in one industry, but decline projected for the same occupation in a different industry.

Estimation Methods

In venues such as the adjudication of disability claims by the Social Security Administration (SSA), SkillTRAN has observed that its customers use various methods to estimate employment numbers at the DOT level. Every DOT occupation has (at least) one SOC code associated with it. Most SOC codes include multiple DOT occupations. <u>Only 143 SOC codes have one DOT code</u>. In these pure situations, the reported OES employment numbers can be cited for the SOC group with confidence. For all the remaining 98.9% of the DOT codes, there is a need to subdivide the aggregated OES/SOC data by some method. One of three methods are used:

- 1. Total Group. Report only the total OES group employment number
- <u>Equal Distribution</u>. Equally divide the total OES group employment number by the total number of DOT occupations in that SOC group.
 <u>Proportionate Distribution</u>. Use the national proportion of employment reported in the OES survey attributable to the industry or industries in which the DOT occupation is likely to be found.

Option 1 is valid only for the 1.2% of the DOT occupations in which there is a 1:1 ratio of SOC to DOT code (143 SOC groups). Option 2 requires the assumption that all of the DOT occupations in an SOC group do occur with equal frequency. While this may be reasonable for some SOC groups in which there are just a few DOT occupations, it is highly unlikely to hold true when many DOT occupations share a single SOC code. It is more likely to lead to significant over- or under-estimation for a specific DOT occupation.

Option 3 examines the industry context in which a specific DOT occupation is likely to occur, using available government-reported OES industry proportions to estimate employment for a specific DOT.

There is considerable discussion within the vocational expert and claimant representative communities about methods used to estimate numbers at the DOT level. Comparing estimation methods 2 and 3 for the group of sedentary, unskilled occupations, one study by SkillTRAN shows that option 2 shows 350% more employment when compared to option 3 estimates. With such a wide disparity between these options, a current research effort has begun by a significant number of vocational experts to better establish employment numbers, particularly for this important group of 137 sedentary, unskilled DOT occupations. Some of these occupations may no longer exist at all due to automation, outsourcing, off-shoring, combination with other occupations, or obsolescence.

SkillTRAN Industry-Context Methodology

SkillTRAN reports each of the data sources on its own, allowing the user to choose which data source(s) are needed. In its own proportional distribution industry-context methodology, SkillTRAN uses a hybrid approach to the issue, considering all of these various resources, each of which contributes unique data elements to the mix. Two of the core data sources are the OES survey and National Long Term Employment Projections. Both are based on the SOC code and report total employment for an occupation as well as employment in the specific industries in which employers have reported employment in that occupation. The industry employment proportion is the "occupational density" for that occupation in a specific industry. SkillTRAN further adjusts the number by equal distribution if there are other DOT occupations in that that SOC group that are also likely to be found in that industry. SkillTRAN posted its original methodology in 2008 when it first introduced its industry-context method

Important TakeAways

- 1. SkillTRAN uses data from existing government sources SkillTRAN is not the original source of job number data.
- 2. These existing government data sources are estimates, not actual numbers.
- 3. On its own initiative, SkillTRAN read each DOT occupation, examined related occupational codes and data, and assigned relevant NAICS industry codes to each DOT occupation indicating where such is likely to be found employed.
- SkillTRAN's Job Browser Pro uses only the industries relevant for a DOT to pull up the relevant data from the government data that often includes hundreds of industries.
 Job Browser Pro acts as a fancy "spreadsheet" to extract the relevant industries from the existing government data, performs simple math calculations as needed, and shows summary results.
- 6. The government data has relative standard error (RSE) values. Rather than report it as a fraction or percentage, Job Browser Pro presents the RSE as a more functional confidence interval (CI).
- 7. Numbers estimated by the Job Browser Pro at the DOT level are estimates, not actual numbers of existing jobs. 8. Temporary employment agencies and self-employment have not been historically included as an industry employer. However, in certain occupations, both temp agencies and self-employment are highly significant.
- 10. While the age of the DOT is of great concern (80% of the DOT was last updated nearly 40 years ago in the 1977 edition), it remains the only detailed source of occupations (n=12,761 unique definitions) and their requirements as observed by DOL job analysts. It remains in use in many disability and rehabilitation systems today. Click here for details
- 11. Learn about all of these data resources to be able to understand the issues, methods, and inevitable questions that arise when estimating employment numbers at the DOT level.
- 12. Read about Peer Review of SkillTRAN in a related article.

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