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Use of ACS to Improve Occupation Earnings Estimates: An Initial Reaction

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Worklife Resources

A well reasoned and researched article entitled "Use of ACS to Improve Occupation Earnings Estimates," by David S. Gibson, MBA, MRC, is published in this edition of the *Rehabilitation Professional*. Mr. Gibson is a Senior Analyst for Vocational Economics, Inc.

The paper is divided into seven major headings. It addresses the need for information often used by vocational experts, economists and others, to more clearly delineate occupational earnings by gender and educational attainment. It describes the differences in data collection and extraction between the Bureau of Labor Statistics *Occupational Employment Survey* (OES) and the *American Community Survey (*ACS) from the U.S. Census Bureau. The article addresses the most current data and methodology.

The article discusses the varying granularity of occupational descriptions of both surveys, the OES describing 803 occupational groupings, and the ACS describing 474. The smaller grouping of the ACS necessarily requires occupational categories which are necessarily wider in scope with regard to description and therefore may not be as specific as those of the OES. This of course may increase the analyst's acceptable level of error when applying an occupation to description of the marketable skills of an individual job seeker, with educational attainment or specific human capital which may or may not be central to the occupation.

Another significant difference between the OES and ACS surveys is the sample size. The OES, working with the state workforce agencies who gather the data, targets approximately 200,000 establishments, meaning "employers", not "employees", encompassing more than 600 metropolitan and non-metropolitan areas. It thus depends upon the expertise of state workforce agencies and the businesses within its jurisdiction to provide accurate descriptions, earnings, and categorizations. Annual earnings in the OES are then based on reported hourly wage rates multiplied by 2080 hours per year. Some earners, of course, may be misclassified, or may not be working in full time year round jobs. The OES data further excludes many farm occupations. All self-employed workers, regular bonuses, overtime and premium pay, which may be a normal part of earnings, are also excluded in the OES, thus introducing further variance.

The ACS samples households and individuals. It includes more than 3 million observations each year, allowing more accuracy and cross-tabulations of data, assuming of course that the individuals in households completing the survey understand and accurately answer the Survey questions. This kind of non-sampling error can significantly impact the results and conclusions of the survey. Non-sampling error includes intentional and non intentional bias in reporting earnings. ACS does include earnings from farming, overtime, bonuses and self employment. Thus, the methodology of sampling businesses (OES) versus the sampling of the population (ACS) can confound comparisons.

The major purpose of the Gibson article is to tabulate the differences between OES and ACS with regard to educational attainment and gender, and how to improve estimates for use in applications for a number of professionals, including vocational experts and economists. In this reader's opinion the article is a significant contribution to our literature. The article provides nine tables (Figures 1-9), which reveal a wealth of information regarding earnings by educational attainment as well as the earnings gender gap in these occupational groups, even when controlled for education and occupation. The results clearly show the continuing gender gap in pay by occupation at virtually every level of educational attainment and within each occupational group. Across *all occupations* from "<High School" to "PhD/Professionals", the gender gap is relatively constant over all six educational catego-

ries, rising from a gap of 23% at less than high school to 29% at the Master's level, and 27% at the PhD/Professional level.

The paper notes that the distribution of data in the ACS sample size, across 474 occupations, 2 genders, and 6 educational levels, necessarily restricts the study to larger metropolitan areas. This may limit some use in less populated metro areas and smaller cities. Caution is therefore advised in its application.

Overall, despite the data limitations we would agree with the author that "... we believe the composition of wage and self employed earnings merged with the ability to isolate an occupation more specifically makes the ACS a superior tool. In some cases, where the OES provides a more specific occupation level or geography than the ACS, use of both surveys through imputation may be appropriate." (Gibson, page 51)

We agree, and further compliment the author, David S. Gibson, MBA, MRC, for bringing to publication a fine piece of research which is very pertinent to forensic vocational analysis.