Sample Design Considerations for the Occupational Requirements Survey

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Overview

- Introduction to National Compensation Survey (NCS)
- Summary of NCS Sample Design
- Introduction to the Occupational Requirements Survey (ORS)
- Sample Design Options for ORS
- Conclusion and Next Steps
Introduction to NCS

- Designed to produce:
  - Change of cost to the employer for wages and benefits
    - Employment Cost Index (ECI)
  - Level estimates of employer-cost of wages and benefits
    - Employer Costs for Employee Compensation (ECEC)
  - Incidence and provisions of employee benefits
    - Health, retirement, leave, etc.
Summary of NCS Sample Design

- National survey of establishments; private and state/local government
- Stratified sample design
  - Explicit stratification done by 5 aggregate industries and 24 geographic areas
  - Implicit stratification of 24 detailed industries
    - All detailed industries have a sampling target percentage
    - NCS over-samples education, hospitals, nursing homes, aerospace due to response rates and variances
Summary of NCS Sample Design

- Two stage sample design with PPS sampling at each stage
  - Establishments sampled within predetermined areas and industries
  - Jobs sampled within establishments
- About 10,000 private industry establishments sampled over 3 rotating panels, initiated by personal contact and updated quarterly for the next 3 years
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Introduction to ORS

Disability Programs

Can you do your past work?
Can you do any other work?
The Occupational Requirements Survey (ORS) - a test survey providing job related data including:

- Physical Demands
- Environmental Conditions
- Specific Vocational Preparation
SSA’s Occupations of Interest

- According to SSA, less than 240 occupations represent about 70% of previously held jobs seen in disability claims.
- Most of these occupations are already being collected in NCS!
## Comparison of NCS and ORS

<table>
<thead>
<tr>
<th></th>
<th>NCS</th>
<th>ORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Cost of Labor</td>
<td>Characteristics of work</td>
</tr>
<tr>
<td>Scope</td>
<td>All industries and occupations</td>
<td>All industries and occupations</td>
</tr>
<tr>
<td>Data provider</td>
<td>HR department, managers</td>
<td>HR department, managers</td>
</tr>
<tr>
<td>Sample Size</td>
<td>11,400</td>
<td>~ 30,000</td>
</tr>
<tr>
<td>Geographic Detail</td>
<td>National Census Divisions and 15 largest met areas</td>
<td>National</td>
</tr>
<tr>
<td>Occupational Detail</td>
<td>Major groups</td>
<td>Detailed Occupations</td>
</tr>
<tr>
<td>Estimates</td>
<td>Index, Level, Percentiles</td>
<td>Percent of workers with an ORS characteristic</td>
</tr>
</tbody>
</table>
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Sample Design Options for ORS

Approach used in developing the sample design

- Identify manageable set of viable designs
- Model and test designs by running simulations
- Refine, eliminate, supplement designs as necessary
- Select best design based on statistical criteria
Sample Design Options for ORS

1. Integrated design:
   - NCS as sub-sample of ORS
   - Other coordination of samples

2. Independent design:
   - Sample NCS and ORS separately
Integrated Sample Design

Pros:
- Efficient use of resources (\$, staff, systems)

Cons:
- Increased individual respondent burden
- May need to compromise goals of one/both survey/s
  - Strata definitions
  - Methods for sampling occupations
  - Sample distribution among industries
Integrated Sample Design

- Run 150 simulated samples
- Evaluate by:
  - Average sample count
  - Average employment (compare to frame)
    - By detailed industry (NCS target distribution)
    - By area
Integrated Sample Design Results

- Sampling ORS with NCS industry targets:
  - Maintains current NCS sample by industry
  - NCS industry distribution likely not ideal for ORS
    - Large amounts of sample allocated to hospitals and schools – not needed for ORS
Integrated Sample Design Results

- Sampling ORS with sample size allocated proportional to employment:
  - Fine for ORS
  - Challenging to implement for NCS
    - Small sub-frame
    - Industry distribution differs between frame and intended sample
    - Could not meet all NCS detailed industry targets
Independent Sample Design

Pros:
- Could customize each survey to meet goals
- Less individual respondent burden for most NCS respondents

Cons:
- More resources needed ($, staff)
- Increased effort to coordinate collection of establishments appearing in NCS and ORS
Independent Sample Design

- Run 150 simulated samples
- Evaluation
  - ORS average sample counts, employment
  - Investigate the number of establishments that appear in both NCS and ORS
Independent Sample Design Results

Observations

- Both ORS and NCS have favorable sample results
- About 6% of NCS would overlap with ORS
Further Sample Design Evaluation

- Evaluate the feasibility of the selected design(s) and make final determination
  - Feasibility Tests – small scale tests focused on specific issues
    - Efficiency test
    - NCS/ORS Joint collection test
    - Central office collection test
  - Pre-production Test
    - National test
    - Evaluate burden, cost and response rates
    - Compute test estimates and variances
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Conclusion

- Many considerations to juggle:
  - Cost
  - Burden, both for individual respondents and overall
  - Response rates
  - Accuracy of estimates
  - Effect on the ECI
Next Steps

- Research continues
  - Decide on an integrated design
  - Find an Independent sample design for ORS
  - Sampling state and local government
Next Steps

- A sample design is due by late April 2014 for a pre-production test
  - NCS as a sub-sample of ORS
  - NCS and ORS as separate, independent samples
- ORS moves into production in 2015
Contact Information

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