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**EMPLOYMENT QUALIFICATIONS IN THE SERVICES SECTOR:
A note on the possible use of a two stage sample survey**

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Introduction

This brief paper has been prompted by a reference to the possible collection of linked employer-employee data in the Conclusion section of the paper titled 'Summary Results of the Questionnaire On Employment Qualifications Within Business Services' (pages 14 and 15), presented by participants from the Nordic countries at the 9th Meeting of the Voorburg Group, Sydney, Australia, in October 1994 and the discussion that followed at the meeting.

2. The Nordic countries' paper noted the importance of being able to relate data on employment qualifications to those describing the structure and performance of industries in the services sector. The authors, in reflecting on the data item content of an employment module for inclusion in establishment (or business) surveys of service industries, noted that:

"we could... request (qualifications) data on employment from the businesses direct, which means that the employment module in the model surveys should be enlarged."

3. Information about individuals' qualifications and labour force experience has traditionally been obtained from household surveys. This paper outlines Australia's experience with a survey that involves the collection of information relating to employees' characteristics using an establishment (or employer) survey. In recent years, and in particular during the past twelve months, there has been considerable statistical activity in a number of countries to obtain more extensive data on the nature and extent of formal training provided by businesses and other employing organisations to their employees, and to link these employer-based data to information about the training received by employees and their employment outcomes.

The ABS Survey of Employee Earnings and Hours: A Possible Model Employer-Employee Survey

4. The ABS annual (or May) employer Survey of Employee Earnings and Hours (SEEH) is designed to provide statistics on the distribution of employees according to weekly earnings, and the composition of weekly earnings and hours for various categories of employees (eg. adult, junior, full-time, part-time; managerial, non-managerial) and their principal occupations. Statistics are compiled on average weekly earnings of employees and hours paid for, classified by major and minor occupation groups (as defined in the Australian Standard Classification of Occupations).

5. The annual May SEEH uses a two stage sample selection. The first stage involves the selection of a stratified sample of about 7000 non-Agriculture employers from the ABS's register of businesses. The statistical unit for this stage is the State/Territory component of the ABS's "management unit". The management unit is the highest-level accounting unit within a business, having regard for industry

homogeneity, for which accounts are maintained. In nearly all cases it coincides with the legal entity owning the business. In the case of large diversified and/or multi-location businesses, however, there may be more than one management unit each coinciding with a "division" or "line of business". Also, the business may conduct operations in more than one State or Territory, thereby giving rise to a number of individual statistical units for the one organisation within the scope of the annual SEEH. The statistical units for the survey are stratified by State/Territory, private/public sector, industry and size of employment and a simple random sample is selected from each stratum.

6. The SEEH's second stage unit is the employee. The selected statistical units (as defined above) with less than 10 employees are required to complete details for every employee. Those with 10 or more employees are required to follow a selection routine in accordance with instructions supplied by the ABS to select a random sample of their employees. The sampling fractions to be applied by responding employers depend on the employment size of the selected statistical unit. Up to a maximum of 200 employees per selected first stage unit are selected in the second stage. In the 1994 May SEEH, data for about 76,000 employees were obtained in the survey, a very large sample survey of individuals.

7. The SEEH sample of employees drawn each year is independent of the sample drawn in the previous year. If we could achieve a substantial overlap between completed questionnaires for selected employees in successive surveys, ie form a large matched sample (as in the United Kingdom's single stage annual New Earnings Survey), we would obtain more reliable estimates of changes in average earnings between the two surveys. Further, and perhaps of more interest, if it were possible to sustain a matched sample of individual employees over a period of time, longitudinal studies of the panel of employees could be carried out. This would provide a quite valuable insight into the changing nature of the skilled labour force over time.

8. The annual SEEH is conducted on the basis of a mail out/mail back questionnaire. The selected employer, having carried out the second stage selection process on behalf of the ABS, is required to identify individual employees and provide information about them based on its records. This is an important aspect of the SEEH enumeration strategy, as it necessarily limits the range of information that can be gathered about individual employees to that which an employer can reasonably be expected to hold and be prepared to provide (on a confidential basis) to the ABS. More detailed information on individual employees, including qualifications and information on skills acquired through training, would most likely not be held extensively by employers. In our view, information on employees' formal qualifications and training experiences would only be capable of collection if the employer gained the cooperation of the selected employee by arranging, for example, for the detailed information required to be provided by the employee in a self completed/mail back questionnaire. An alternative, preferable in terms of survey response rates, would be for the employer to agree to a workplace interview of each selected employee by a trained ABS interviewer, to collect the information required.

Other Possible Model Employer-Employee Surveys

9. The two-stage sample survey methodology used in the ABS's SEEH has the capacity to enable information about employees to be directly related to information about the structure and performance of businesses and other organisations in the industry in which employees work.

10. An article on employer-provided training, in the May 1995 issue of the U.S. Department of Labour, Bureau of Labor Statistics' *Monthly Labour Review* (page 4) includes a brief note on the BLS's plans to conduct a survey of employer-provided training during 1995. The two stage survey has three basic objectives, described as follows;

- "(i) to collect information from *employers* to conduct estimates of the intensity of formal training they offer including number of hours involved; number of participants; and training program costs.
- (ii) to collect information from *employees* that will enable estimates to be produced in the amount and proportion of time spent in formal and informal (on-the-job) training activities.
- (iii) to conduct industry-based estimates of the wage and salary costs of time spent in training and the decomposition of these costs by broad occupation groupings."

11. The BLS survey (of about 1,800 establishments) is designed to be enumerated on the basis of a personal visit, rather than a mail-out/mail-back questionnaire being sent to selected establishments. As part of the second and third objectives, the Bureau proposes, at the time of the personal visit to the selected establishment, to select two employees and ask them to answer some basic background questions, as well as to fill out a training activity log for one week. The outline of the proposed BLS employer-employee survey concludes with the observation that "the collection of information from employees at establishments is both innovative and experimental, and will provide a more complete picture of the nature of the training... offered by establishments".

12. A recently published methodology report, titled "Toward Improved Workplace Training: A Linked Examination of Firm and Worker Impacts" prepared by Ekos Research Associates Inc. (Ontario, Canada, February 1995) outlines a research methodology based on a "funnelled"-design. -It proposes that analysis of training impacts be based on a linked database that includes data obtained from a survey of employers (about 2500) and, for a subset of those employers, a sample of their employees (about 1500). About half of the employers will be drawn from a sample of organisations that participated in a 1993 survey conducted by Ekos Research Associates. For these respondents - organisations, not individuals - the researcher will also have panel data that will allow for longitudinal analysis of organisations' training experiences.

Conclusion

13. In recent years, there has been a growing interest in the role that a skilled workforce and the outcome of employee job skills training (both formal and informal) play in improving the performance and competitiveness of businesses and other employer organisations.

14. Two North American survey proposals, described in the literature as "linked employer-employee" surveys, which are currently underway or being developed, and the ABS's extensive experience with the 2 stage annual SEEH, point to the capability of such a methodology to obtain more detailed information on the qualifications and skills profile of employees engaged by businesses and, more generally, the capacity to relate information about employees, eg. their qualifications, training experiences, occupations etc., to that of employers in the industry in which they work.

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