

THE GENESIS OF AN ESTABLISHMENT SURVEY: RESEARCH AND DEVELOPMENT FOR THE JOB OPENINGS AND LABOR TURNOVER SURVEY AT THE BLS

Charlotte Mueller and Mary Anne Phillips, Bureau of Labor Statistics

Charlotte Mueller, Bureau of Labor Statistics, 2 Massachusetts Ave., NE, Washington, DC 20212

Key words: survey development, pilot test, labor supply and demand, vacancy, job opening, hires, separations

All opinions expressed in this paper are those of the authors and do not constitute policy of the Bureau of Labor Statistics.

1. THE BEGINNING OF JOLTS

A new survey will be making its debut at the Bureau of Labor Statistics (BLS) in 2001: The Job Openings and Labor Turnover Survey (JOLTS). JOLTS will fill a gap that currently exists in employment data. When used in conjunction with the existing employment count and unemployment rate, the job openings and turnover data will provide a more robust view of the U.S. economy.

Though the JOLTS survey is just beginning, BLS has produced labor market data for many years. One survey, the Current Employment Statistics (CES) survey, collects employment, hours worked, and earnings from about 400,000 nonfarm business establishments each month. The CES employment estimate receives particular attention from policymakers. Another survey, the Current Population Survey (CPS), collects data on the employment status of U.S. citizens age 16 years and older from a sample of 50,000 households each month. The most notable estimate produced by the CPS is the unemployment rate. JOLTS, also a monthly survey, has a sample of 16,000 nonfarm business establishments in the United States. JOLTS will complete the employment/unemployment picture by measuring the demand for labor from the employer's perspective, that is, how many vacant jobs are available. The JOLTS labor turnover data will be useful in its own right, but also will aid in the analysis of the job openings data.

The purpose of this paper is to outline the many steps taken by BLS to develop the current JOLTS program. Only basic information will be presented at each step. More information on the JOLTS program can be found in several other papers written in 2000: Clark, Cohen, and Hyson (2000), Crankshaw and Stamas (2000), Goldenberg and Phillips (2000), and Mueller and Wohlford (2000).

2. FROM CONCEPT TO PUBLICATION

Step 1: Received Authorization

The reintroduction of a JOLTS program at BLS was proposed by the BLS Commissioner, Katharine G. Abraham, who recognized that job openings and turnover data will fill a void in economic statistics. The request for funding for JOLTS was approved by Congress in July 1998. Staff hiring began in the fall of 1998.

Step 2: Reviewed History

The JOLTS program is not the first BLS survey to collect job openings and labor turnover data. Therefore, the JOLTS team began by reviewing the history of past surveys and looking at the scope, data elements, definitions, and reference periods. These past surveys collected and published data on hires and separations from 1954 through 1981. Data on counts of job openings were collected from 1969 to 1973, but this effort was discontinued due to funding cuts.

Programs designed to determine the feasibility of collecting job openings data by occupation were conducted by BLS in 1965-1966, 1979-1980, and 1990-1991. Each time, the occupational detail data proved too costly to collect on an ongoing basis.

This review of past surveys was helpful to assist the JOLTS staff in formulating the basics of the current JOLTS program, including data elements, definitions, reference periods, and the survey questionnaire.

Step 3: Conducted Feasibility Study and Pilot Test

The next step was to determine if the JOLTS data were in fact obtainable. BLS contracted with a private firm, Westat (Rockville, MD), to conduct a feasibility study during the summer of 1998. Personal visits with the establishments during the study helped determine whether establishments could provide the type of data JOLTS wanted to collect. The letter sent to the sampled establishments stated that this was an exploratory study to determine the feasibility of collecting the data, and that the respondents would be asked to provide the data when called. (Levin, et al. 1998)

Once it was determined the data were available, BLS again contracted with Westat to conduct a one-year pilot test from fall 1998 to fall 1999. The pilot test included 386 establishments of different sizes and industries. The goal of the pilot test was to explore respondents' understanding of the data elements and definitions, to refine the survey questionnaire, and to test whether the JOLTS data could be collected by telephone.

During the pilot test, Westat and BLS staff met regularly to discuss issues that arose. Feedback from the interviewers conducting the phone calls was especially helpful. In response to some of the issues, one or two investigative questions were asked in addition to the basic JOLTS questions for several months. The information obtained from these questions was very helpful. One special question investigated the ease with which establishments could provide a count of job openings based on the 15th of the month rather than the last business day. Another question asked for the source of each data element (payroll books, personnel files, internal reports, human resource software, etc.). A follow-up question asked what human resources software the establishment used. Other questions asked about timing for availability of data, payroll frequency, definitions of data elements, and whether respondents had ever provided an estimate rather than actual data.

The findings from this pilot test were invaluable to the development of all aspects of the survey. Overall, this test showed that respondents were willing and able to provide the job openings and turnover data by telephone, and could do so relatively easily once they learned how to collect the data within their establishment. (Levin, et al. 2000)

Step 4: Researched Other Data Series

As the pilot study continued at Westat, here at BLS we investigated other existing data series that collected data similar to JOLTS data. We studied the following series:

National New Hires Directory: Congress passed legislation in 1996 that required employers to report all new hires to their state. The states send the data to the national directory of new hires maintained by the Office of Child Support Enforcement at the Department of Health and Human Services (HHS). This undertaking was designed to combat unemployment insurance fraud and to locate parents owing child support. We analyzed the data, tabulated by week by state, looking for monthly and seasonal patterns. Since the system was fairly new when we did this in 1999, state reporting

problems were a constraint, with hires reported in clumps rather than on a smooth flow basis. The JOLTS staff will follow this series since the JOLTS hires count should trend with the HHS new hires count.

Pennsylvania new hires data: The Commonwealth of Pennsylvania agreed to provide the JOLTS staff with their new hires data directly, at a summary level with confidential information deleted. These data were particularly useful since the hires were reported and tabulated by date of hire. (The national directory was labeled by the week the state data were processed in the national office, not the actual date of hire.) The Pennsylvania data enabled us to look for patterns in hiring throughout the month and year. We discovered that hires tended to be concentrated on Mondays and the first day of the month. Further analysis will be performed as Pennsylvania provides JOLTS with more data. As with the national new hires series, the JOLTS hires count should trend with the Pennsylvania new hires data.

Initial UI claims: As a proxy measure of separations, JOLTS staff looked at initial claims filed for state Unemployment Insurance (UI) benefits, which many former employees seek to provide partial wage replacement. The main drawback to using initial UI claims data as a proxy for separations is that it is an underestimate. There may be a lag between when a person leaves a job and when he files for unemployment benefits because he thinks he can quickly find other work. Or, eligible persons may not apply at all for benefits because they do not plan to return to the workforce, instead choosing other options such as retirement or further schooling.¹ Though initial UI claims is imperfect for comparing against the JOLTS separations count, the two figures should trend together.

Help-Wanted Advertising Index (HWI): Produced by The Conference Board, this index measures the change in the number of help-wanted advertisements in 51 major U.S. newspapers, serving as a proxy for the change in job openings. The HWI differs from JOLTS in several ways, including that the HWI does not account for jobs advertised in other ways such as on the Internet or at job fairs. Still, the HWI is expected to trend with the JOLTS job openings count. (Clark, Cohen, and Hyson 2000)

¹ More information about UI claims can be obtained from the BLS Local Area Unemployment Statistics (LAUS) survey.

The Job Absence and Turnover Report: Produced quarterly by the Bureau of National Affairs, this series measures permanent separations, whether voluntary or involuntary. The sample size varies monthly. Again, this figure is expected to trend with the JOLTS separations rate.

Step 5: Debated the Fundamentals

As the JOLTS staff read background material, researched other data series, and analyzed pilot test results, we debated the fundamental aspects of the JOLTS survey. Should the sample unit be the establishment or the UI account? What should the scope be? Will the estimates be published using the Standard Industrial Classification (SIC) system or the North American Industry Classification System (NAICS)? Should hires and separations be broken out? If so, how? What are the exact definitions of the data elements? What should the reference period be for each data element?

To more fully answer these questions, we studied additional sources, including:

Other current BLS surveys: CES and CPS. See Section 1 above.

Previous BLS JOLTS-type surveys: See Section 2, Step 2 above.

Other data series: See Section 2, Step 4 above.

Respondent debriefings: BLS JOLTS staff personally visited some respondents from the Westat pilot test sample to evaluate their understanding of our definitions and their conformation to those definitions, and to get feedback on the updated survey questionnaire. The survey form was updated to reflect the results of these helpful debriefings. (Goldenberg and Phillips 2000)

BLS Commissioner Abraham: Having written her doctoral dissertation on structural/frictional unemployment versus deficient demand in the labor market, the BLS Commissioner is another source of expertise for the JOLTS program. (A later article by the Commissioner, Abraham (1983), discusses some of the topics covered in her dissertation.) During development of the survey, JOLTS staff provided the Commissioner with updates on the progress of the survey, and discussed issues and solutions with her. She provided input and supplied names of other economists to contact.

Outside economists: The Commissioner suggested we contact several practicing economists, including research economists and academics. They provided valuable comments on breakouts of hires and separations, definitions, reference periods, and questionnaire design.

After collecting input from all these sources, we solidified the details of the JOLTS program, the results of which are presented below in Section 3.

Step 6: Designed the Questionnaire

JOLTS staff designed and redesigned the survey questionnaire (data collection form) in a nonlinear process of evaluating, testing, and responding to feedback. This was an on-going process, taking nearly a year. Additional input from the respondent debriefings (discussed above in Step 5) pointed to areas in need of clarification. The end result was three data collection forms: one for education units (SICs 821 and 822), one for temporary help agencies and professional employer organizations (SIC 7363), and another for all other units. (Goldenberg and Phillips 2000)

Step 7: Designed Other Supporting Materials

During the development process, we created supporting documentation to introduce JOLTS to respondents, the press, and other interested parties:

- A pamphlet introducing JOLTS to respondents
- Several letters to the respondents that introduce the survey, emphasize confidentiality of BLS data, and coax hesitant respondents
- A Frequently Asked Questions (FAQ) pamphlet
- A one-page press piece announcing JOLTS to the media
- Memos announcing JOLTS to the BLS regional and State offices
- A JOLTS page on the BLS web site

Also, a JOLTS enrollment package was designed to send to each new respondent. The package contains the introductory letter, the introductory pamphlet, a data collection form, and the FAQ brochure.

Step 8: Began Data Collection

JOLTS data collection began in April 2000 at the BLS data collection center in Atlanta, Georgia. Collection is by Computer Assisted Telephone Interview (CATI) for the first six months of each sample unit's time in the survey. After six months of CATI reporting, the respondent is encouraged to report via Touchtone Data Entry (TDE). As the data have been collected, preliminary estimates have been run, the data analyzed, and mock press releases written. No data, however, will be released until 2001.

Other Important Tasks

There are many other steps in creating a new survey, but discussion of those is beyond the scope of this paper. They include: creating a data collection center; developing computer systems and data collection software; and statistical issues such as sample design, sample selection, and estimation. These topics are covered in other papers presented at the August 2000 Joint Statistical Meetings: Crankshaw and Stamas (2000), and Mueller and Wohlford (2000).

3. JOLTS: THE EXPERIMENTAL SERIES

After all the above steps, the JOLTS product for the experimental series was finalized. For the first two years of publication, JOLTS is classified as an experimental series, during which time each aspect of the survey will be evaluated, and any needed changes will be made. The final product for the experimental series is detailed below.

Scope:

The geographic scope is all 50 states plus the District of Columbia. Establishments of all employment sizes covering all nonfarm industries are represented. All ownership types are also represented: private; and Federal, State, and local government.

Survey forms:

As discussed above, JOLTS created three separate data collection forms. The first is the basic form, which will be used by most establishments. A second form is for education units which have special issues with teacher contracts, substitute teachers, sabbaticals, and other considerations. A third form is directed at the practices of temporary help agencies and professional employer organizations.

Data elements:

JOLTS collects the employment, and the number of Job Openings, Hires, and Separations. The separations data is further broken out into Quits, Layoffs and Discharges, and Other Separations. The added respondent burden to break out hires data into new hires, rehires, and recalls seemed to outweigh the benefits.

Definitions and reference periods:

All data elements, their definitions, and their reference periods are carefully described in detail on the back of the data collection forms, and summarized on the front of the forms where respondents are urged to record their data. Below is a summary of the data element definitions and reference periods.

Employment: In keeping with government standards, employment is collected for the pay period that includes the 12th of the month. JOLTS will count all employees including part-time, full-time, seasonal, etc., who worked any time during the pay period, or who were on paid leave any time during the pay period.

Job Openings: Job openings are collected as of the last business day of the month, as defined by the establishment itself. A job is considered open if it meets three criteria: (1) the job exists and work is available, (2) the establishment is actively recruiting to fill the job, and (3) the work could start within 30 days, regardless of whether or not a suitable candidate can be found in that time.

Hires: Hires are collected for the entire month. Hires include new hires, rehires, and recalls from layoffs lasting more than seven days.

Separations: Separations are collected for the entire month. Separations are broken out into Quits, Layoffs and Discharges, and Other Separations, each of which is carefully defined on the back of the form. The three categories cover all types of separations including voluntary, involuntary, and miscellaneous separations such as death, retirement, and permanent disability.

Data collection:

JOLTS data are collected at the BLS data collection center in Atlanta using CATI and TDE. Alternate reporting methods include fax, mail, and permanent CATI. Most units remain in the sample for 18 months. (Mueller and Wohlford 2000)

Estimation and publication:

Starting in 2001, JOLTS will publish an experimental series of levels and rates for Job Openings, Hires, Quits, Layoffs and Discharges, Other Separations, and Total Separations. Estimates will be published at the aggregate national level, with private industry broken out into nine combined NAICS sectors. Government will be published at the national level, and Federal Government will be broken out from State and local government. Estimates also will be published for four Census regions. (Crankshaw and Stamas 2000; Mueller and Wohlford 2000)

4. WHAT'S NEXT FOR JOLTS?

Through the remainder of 2000, JOLTS staff will continue producing estimates, analyzing data, and writing mock press releases as more months of data are collected. During the survey's two-year experimental series designation, JOLTS staff will continue enrolling

new sampled establishments into the survey; collecting data; practicing data editing, processing, and analysis; computing and reviewing estimates; and writing press releases. (Mueller and Wohlford 2000) During this two-year period, we will closely monitor all aspects of the survey including response rates, respondent comprehension of definitions and reference periods, and, of course, the data. Changes to the sample design, survey questionnaire, definitions, reference periods, forms, and letters can be accommodated during this experimental series time frame.

Based on the experience of previous JOLTS-type surveys and comments received already during the development of the JOLTS survey, we anticipate requests for data by occupation and finer geographic and industry detail. There are currently no plans to collect data by occupation, which would require a large increase in sample size and respondent burden. However, finer geographic and industry detail will be reviewed for future consideration.

Especially while the survey is new, it is important for the JOLTS staff to be available to answer the public's questions and requests. We will operate a telephone information line (202/691-5870) and an email group JOLTSINFO@BLS.GOV to meet our users' needs. We also have a JOLTS home page, www.bls.gov/jlthome.htm, within the BLS web site.

5. REFERENCES

Abraham, K. G. (1983), "Structural/Frictional vs. Deficient Demand Unemployment: Some New Evidence," *American Economic Review*, September 1983, 73(4), pp. 708-724.

Clark, K. A., Cohen, J., and Hyson, R. (2000), "Measuring the Demand for Labor in the United States: The Job Openings and Labor Turnover Survey," Joint Statistical Meetings, August 2000.

Crankshaw, M., and Stamas, G. (2000), "Sample Design in the Job Openings and Labor Turnover Survey," Joint Statistical Meetings, August 2000.

Goldenberg, K., and Phillips, M. A. (2000), "Now That the Study is Over, What Did You Really Tell Us? Identifying and Correcting Measurement Error in the Job Openings and Labor Turnover Survey Pilot Test," International Conference on Establishment Surveys - II, June 2000.

Levin, K., Gimbel, C., Hagerty, T., Heltemes, S., Becher, A., and Kydonieffs, L. (1998), *Job Openings and Labor Turnover Statistics (JOLTS) Feasibility Study; Report of Site Visit Findings*. Westat, Rockville, MD, October, 1998.

Levin, K., Hagerty, T., Heltemes, S., Becher, A., and Cantor, D. (2000), *Job Openings and Labor Turnover Study (JOLTS) Pilot Study: Final Report*, Westat, Rockville, MD, January, 2000.

Mueller, C., and Wohlford, J. (2000), "Developing a New Business Survey: Job Openings and Labor Turnover Survey at the Bureau of Labor Statistics," Joint Statistical Meetings, August 2000.