

BLS area wage surveys will cover more areas

Earnings data for blue- and white-collar occupations will be published for 90 areas instead of the current 70, but about two-thirds of the areas will be surveyed on a 2-year rather than 1-year cycle

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The Bureau of Labor Statistics will restructure the probability sample of labor markets for its area wage survey program to reflect changes in the number and geographic boundaries of the Nation's metropolitan statistical areas. The new area sample will be phased in over a 4-year period beginning in January 1987, and will contain 90 areas when fully implemented. The 32 largest areas in terms of nonfarm employment will be surveyed annually, and two groups of 29 areas will be surveyed in alternate years.

Currently, 70 areas are surveyed annually. Of these areas, 56 will remain in the program; geographic boundaries, however, will change for 34 of them.

This article gives a brief description of the Bureau's area wage survey program and the changes to be made in the probability sample of areas surveyed. The article covers area wage survey program objectives and program evolution from initial 1947-48 studies of pay for office clerical occupations in 11 large cities. It also describes the metropolitan area concept used in the program, reasons for changes in the area sample, the method for selecting the new sample, and the differences between the old and new area samples.

Program background

The Bureau's area wage survey program is designed to shed light on the level and structure of occupational pay

rates within a local labor market by studying occupations common to many industries.¹ The areas surveyed are a representative cross-section of the wide variety of local labor markets found throughout the United States. The surveys, relating to specific payroll periods, focus on pay relationships among occupations, industries, and areas of the country. Successive survey findings are also useful in reviewing pay changes over time.

Using a standard set of job descriptions, the Bureau designs surveys which cover narrowly defined occupations selected from four categories—office clerical (such as secretaries, typists, and accounting clerks); professional and technical (for example, computer programmers and electronics technicians); maintenance, toolroom, and powerplant (maintenance electricians and stationary engineers); and material movement and custodial (order fillers and guards). Estimates of average straight-time hourly or weekly earnings and distributions of workers by their earnings are developed for each of approximately 50 occupations studied. (Fifteen of the occupations—for example, word processors, computer systems analysts, and guards—are divided into two work levels or more.)

In addition, every third year the surveys yield information on the prevalence of provisions for cost-of-living adjustments in pay rates; minimum entrance salaries for inexperienced typists and other inexperienced clerical workers; pay differentials for work on late shifts; work schedules; extent of collective bargaining agreement coverage; holiday, vaca-

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tion, and other paid leave provisions; and the incidence of health, insurance, retirement, severance pay, and supplemental unemployment benefits. Data typically are developed separately for production and office workers; information on shift pay differentials, however, is restricted to production workers in manufacturing.

Findings for each area wage survey are published in a separate BLS bulletin.² To aid in interarea pay comparisons, average area pay levels in four employment groups—office clerical, electronic data processing, skilled maintenance, and unskilled plant jobs—are related to pay levels for all metropolitan areas combined, in index form, that is, all metropolitan area pay levels = 100. Results are published in an annual summary release.³ Results of the individual surveys, after appropriate weighting to account for areas not surveyed, are also combined to develop pay levels for the narrowly defined occupations in all metropolitan areas combined; separate data are presented for major industry divisions and for four broad geographic regions.⁴ Also, special articles appear in the *Monthly Labor Review*, with in-depth analyses of specific survey findings.⁵

The area wage survey program has grown considerably since it started in fiscal year 1948 as part of a restructuring of the Bureau's occupational wage survey activities. That year's surveys provided information on salaries in office clerical occupations in 11 large cities. In 1950, the geographic scope of the surveys expanded from cities to the larger metropolitan areas as defined by the U.S. Bureau of the Budget (now the Office of Management and Budget). A year later, professional and technical, maintenance, and custodial and material movement occupations were added.⁶

These developments roughly coincided with the outbreak of the Korean conflict. Resources for area wage surveys were expanded as a result of this emergency in order to provide data for administering wage stabilization policies. During the 1950's, between 11 and 40 areas of various sizes were studied in a given year, with the number depending on resources available for the program.

Current program emerges

In fiscal year 1960, the current program emerged when there was a conversion from studies in judgmentally selected areas to a statistically selected sample of areas chosen to represent all metropolitan areas in the contiguous 48 States. Consequently, findings of individual areas could be combined, after appropriate weighting, to yield national and regional estimates. The sample selected for fiscal 1960 contained 60 areas, representative of the 188 areas then in the scope of the program. A year later, the sample included 80 areas, and gradually grew to 85 areas, representing the 229 areas in scope for 1969.⁷

The major thrust of the 1960's expansion was a need for nationwide estimates of office clerical pay in private industry for use in evaluating Federal white-collar salaries. Data obtained for plant jobs in the individual areas surveyed also

were used by the Department of Defense and other agencies in setting pay rates for their blue-collar "wage board" employees.

The most recent change in the program occurred after the Office of Management and Budget made major changes in its list of metropolitan areas, based on results of the 1970 Census of Population. The Bureau selected a new 70-area sample and introduced it in July 1974.⁸ These 70 areas will continue as the area sample through December 1986, representing the 262 metropolitan areas (excluding those in Alaska, Hawaii, and Puerto Rico) recognized and defined by the Office of Management and Budget as of February 1974.

Changing metropolitan area definitions

With few exceptions, area wage surveys have been conducted since 1950 in metropolitan areas as defined by the Office of Management and Budget or its predecessor, the Bureau of the Budget.⁹ Standard metropolitan area definitions were first developed by the Bureau of the Budget shortly before the 1950 census, primarily to provide a common set of geographic definitions for Federal statistical agencies.

The metropolitan area concept recognizes that large population concentrations often extend beyond the borders of a single city. Under this concept, a metropolitan area consists of one county or more, containing the area's main population center, and may also include adjacent counties that have close economic and social ties to the central counties. (In New England, metropolitan areas are composed of cities and towns rather than counties.) Areas are designated and defined by the Office of Management and Budget based on a set of criteria developed by the interagency Federal Committee on Standard Metropolitan Statistical Areas.

The number of recognized metropolitan areas has grown substantially, from 172 in 1950 to 288 as of January 1, 1980. In part, this growth stems from changes in the criteria for designating metropolitan areas that have been made at the time of each population census since 1950.¹⁰ Although these changes have not significantly altered the basic metropolitan area concept, they have resulted in the recognition of new areas and in changes in the boundaries of existing areas. However, most of the growth in the number of metropolitan areas is the result of population growth and increased urbanization in the United States.

The most recent revision in standards for designating and defining metropolitan areas was published in the *Federal Register* on January 3, 1980.¹¹ The new standards introduced revised terminology. The existing term, "Standard Metropolitan Statistical Area" (SMSA), was replaced by "Metropolitan Statistical Area" (MSA) and "Primary Metropolitan Statistical Area" (PMSA). Areas such as San Antonio, TX (Bexar, Comal, and Guadalupe Counties), which are not closely related to other metropolitan areas, and are typically surrounded by nonmetropolitan counties, are

called MSA's. PMSA's are components of larger "Consolidated Metropolitan Statistical Areas" (CMSA's). For example, Seattle (King and Snohomish Counties) and Tacoma (Pierce County) are PMSA's that jointly form the Seattle-Tacoma, Washington CMSA. CMSA's, not studied in the area wage survey program, have replaced the former "Standard Consolidated Statistical Areas" (SCSA's).

Restructuring the program

Using the new standards and data from the 1980 census, the Office of Management and Budget defined a total of 326 MSA's and PMSA's in the contiguous 48 States, as of October 31, 1984.¹² As a result, BLS' area sample for its area wage surveys became outdated.

A principal consideration in planning for a revised sample of areas was maximizing the usefulness of survey results, given the level of resources available for area wage surveys. The Bureau and its business and labor advisory groups explored three alternatives: (1) a 70-area sample of the 326 metropolitan areas within the scope of the program, each area to be surveyed annually; (2) a 70-area sample of the 155 areas with populations of 250,000 or more, surveyed annually; and (3) a 90-area sample of all 326 areas, the 32 largest areas of the United States to be surveyed annually and two groups of 29 smaller areas each to be surveyed in alternate years. Each of these options, requiring about the same level of resources annually, was designed to represent areas differing in employment size, industrial composition, and geographic location. Provision for probability sampling permitted the development of national and regional estimates each year as in the past.

The third option was chosen because it provides information for the largest number of areas with the resources available. Also, the burden on individual respondents is reduced by rotating between the two groups of 29 areas.

To select the sample of 90 areas, all 326 MSA's and PMSA's as of October 1984 were grouped into 90 statistical "cells." One area in each of the cells was then selected to represent all areas in the cell. The 32 largest areas in terms of nonagricultural employment were the sole occupants of their cells and thus were automatically included in the sample.

The 294 remaining areas were grouped into 58 (90 minus 32) cells according to the following criteria, which are listed in descending order of importance:

- Broad geographic region—Northeast, South, Midwest, and West;
- Similarity of manufacturing industries (with emphasis on similarity of average earnings of production workers);
- Approximate equality of total nonagricultural employment; and
- Boundaries of BLS regional offices.

One area was randomly selected from each cell. An area's chance of selection was proportionate to its share of the total

nonagricultural employment in the cell. For example, an area with a quarter of the employment in its cell had a 1-in-4 chance of selection. A statistical technique known as Key-fitting was used to obtain as much overlap as possible between areas in the current and new samples.¹³

Exhibit 1 shows the result of the 90-area selection. Fifty-six of the areas in the new sample have been surveyed since 1974; 34 have not. Geographic boundaries stayed the same in 22 of the 56 retained areas; in the remaining 34, new boundaries resulted in nonagricultural employment increases or decreases of fewer than 10 percent in 23 areas; between 10 and 20 percent in 8 areas; and decreases of more than 25 percent in Dallas, Huntsville, and San Francisco. (Decreases in Dallas and San Francisco reflect splits of the former Dallas-Fort Worth and San Francisco-Oakland areas. Two counties formerly in the Huntsville, AL, metropolitan area are now nonmetropolitan counties.)

The new sample, reflecting population shifts in the United States, contains a slightly higher proportion of Southern and Western areas than does the current sample. Among the additions to the area wage survey program are Phoenix, AZ, Riverside-San Bernardino, CA, and Tampa-St. Petersburg-Clearwater, FL, which now rank among the 25 most populated areas.

Implementing the new sample

The 90-area sample will be phased into the area wage survey program over a 4-year period, beginning in January 1987. Each year, surveys will be conducted in 61 areas—the 32 largest areas and half of the smaller areas.

In the largest areas, wage and benefit data will be obtained from surveyed establishments through personal visits by BLS field representatives once every 3 years. In the intervening years, collection (primarily by mail or telephone) will be limited to wage information.

The smaller areas will be divided into two groups of 29 areas. The groups will be surveyed in alternating years. Thus, an individual area will be studied twice in a 4-year cycle: a survey of wages and benefits will be conducted by personal visit one year; and a survey of wages only will be conducted by mail and telephone 2 years later.

As new areas enter the program, those no longer in the sample will be dropped. For areas retained in the program, changes in the geographic boundaries of metropolitan areas will be reflected in the year an area is surveyed by personal visit.

Most of the areas to be dropped from the area wage survey program will still be surveyed by BLS, but not as part of its own program. Each year the Bureau conducts about 100 locality wage surveys for the Employment Standards Administration of the U.S. Department of Labor.¹⁴ Results from these surveys are used in administering the Service Contract Act, which sets minimum wages by occupation for employees of firms providing services to the Federal Government. □

Exhibit 1. Revised area sample for BLS area wage surveys

Northeast	South	Midwest	West
Areas retained in program			
Boston, MA ¹ Buffalo, NY Hartford, CT Nassau-Suffolk, NY ¹ Newark, NJ ¹ New York, NY ¹ Philadelphia, PA-NJ ¹ Pittsburgh, PA ¹ Portland, ME Poughkeepsie, NY Scranton-Wilkes-Barre, PA ³ Trenton, NJ Worcester, MA York, PA	Atlanta, GA ¹ Baltimore, MD ¹ Corpus Christi, TX Dallas, TX ^{1,2} Gainesville, FL Houston, TX ¹ Huntsville, AL Jackson, MS Louisville, KY-IN Memphis, TN-AR-MS Miami-Hialeah, FL ¹ New Orleans, LA ¹ Richmond-Petersburg, VA San Antonio, TX Washington, DC-MD-VA ¹	Chicago, IL ¹ Cincinnati, OH-KY-IN ¹ Cleveland, OH ¹ Columbus, OH Davenport-Rock Island-Moline, IA-IL Detroit, MI ¹ Gary-Hammond, IN Indianapolis, IN Kansas City, MO-KS ¹ Milwaukee, WI ¹ Minneapolis-St. Paul, MN-WI ¹ Omaha, NE-IA St. Louis, MO-IL ¹ South Bend-Mishawaka, IN Toledo, OH	Anaheim-Santa Ana, CA ¹ Billings, MT Denver, CO ¹ Fresno, CA Los Angeles-Long Beach, CA ¹ Portland, OR Sacramento, CA Salt Lake City-Ogden, UT San Diego, CA ¹ San Francisco, CA ¹ San Jose, CA ¹ Seattle, WA ¹
Areas new to program			
Bergen-Passaic, NJ ^{1,4} Danbury, CT Lawrence-Haverhill, MA-NH Middlesex-Somerset-Hunterdon, NJ Monmouth-Ocean, NJ Pawtucket-Woonsocket-Attleboro, RI-MA ⁶ Rochester, NY	Augusta, GA-SC Austin, TX Bradenton, FL Charleston, SC Charlotte-Gastonia-Rock Hill, NC-SC Florence, SC Little Rock-North Little Rock, AR Longview-Marshall, TX Mobile, AL Nashville, TN Orlando, FL San Angelo, TX Shreveport, LA Tampa-St. Petersburg-Clearwater, FL ¹ Wilmington, DE-NJ-MD	Appleton-Oshkosh-Neenah, WI Champaign-Urbana-Rantoul, IL Decatur, IL Elkhart-Goshen, IN Joliet, IL Kokomo, IN St. Cloud, MN	Boise City, ID Oakland, CA ^{1,5} Phoenix, AZ ¹ Riverside-San Bernardino, CA Visalia-Tulare-Porterville, CA
Areas dropped from program			
Albany-Schenectady-Troy, NY Paterson-Clifton-Passaic, NJ Providence-Warwick-Pawtucket, RI-MA	Chattanooga, TN-GA Daytona Beach, FL Greensboro-Winston-Salem-High Point, NC Greenville-Spartanburg, SC Jacksonville, FL Norfolk-Virginia Beach-Portsmouth, VA-NC Oklahoma City, OK	Dayton, OH Green Bay, WI Saginaw, MI Wichita, KS	
¹ Surveyed annually. All other areas will be surveyed twice in a 4-year cycle.		⁴ Formerly included in New York, NY-NJ, and Paterson-Clifton-Passaic, NJ.	
² Formerly included Fort Worth, TX.		⁵ Formerly included in San Francisco-Oakland, CA.	
³ Formerly titled Northeast Pennsylvania.		⁶ Formerly included in Providence-Warwick-Pawtucket, RI-MA.	

¹ The surveys include establishments in six broad industry divisions: manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. Major exclusions from the survey are construction, extractive industries, and government. Establishments employing 50 workers or more are included except in the 13 largest areas where the minimum establishment size is 100 workers in manufacturing; transportation, communication, and other public utilities; and retail trade.

² See, for example, *Area Wage Survey: New York, New York–New Jersey, Metropolitan Area, May 1985*, Bulletin 3030–32 (Bureau of Labor Statistics, September 1985). Summaries of each of the 70 surveyed areas are also reported in a single volume. See *Area Wage Surveys: Selected Metropolitan Areas, 1984*, Bulletin 3025–72 (Bureau of Labor Statistics, June 1985).

³ See *Wage Differences Among Metropolitan Areas, 1984*, Summary 85–7 (Bureau of Labor Statistics, June 1985).

⁴ See *Occupational Earnings in All Metropolitan Areas, July 1984*, Summary 85–4 (Bureau of Labor Statistics, May 1985).

⁵ See, for example, John E. Buckley, “Wage differences among workers in the same job and establishment,” *Monthly Labor Review*, March 1985, pp. 11–16. An annual report compares wage levels in the areas surveyed. A more detailed description of the area wage survey program, including a discussion of uses and limitations of survey findings, is in *BLS Handbook of Methods*, Vol. I, Bulletin 2134–1 (Bureau of Labor Statistics, December 1982), pp. 67–73.

⁶ Test surveys including blue-collar jobs were conducted successfully in 1949 in six cities.

⁷ The program also included surveys in two nonmetropolitan areas—Boise, Idaho, and Burlington, Vermont—located in States without metropolitan areas. In addition, several surveys not part of the regular area program were conducted under contract.

⁸ See Virginia L. Ward, “Area sample changes in the area wage survey program,” *Monthly Labor Review*, May 1975, pp. 49–50.

⁹ The Chicago survey was limited to Cook County and the New York survey to the five boroughs until 1963.

¹⁰ At times, changes have been made between census years.

¹¹ They are also contained in the *Statistical Reporter*, December 1979, pp. 33–45. For background information, see Federal Committee on Standard Metropolitan Statistical Areas, “Documents Relating to the Metropolitan Statistical Area Classification for the 1980’s,” *Statistical Reporter*, August 1980, pp. 335–84.

¹² MSA definitions generally do not change except after the decennial census. Each year, however, a few new MSA’s may be announced, usually because of population growth.

¹³ See Nathan Keyfitz, “Sampling with Probabilities Proportional to Size: Adjusting for Changes in the Probabilities,” *Journal of the American Statistical Association*, No. 46, 1951, pp. 105–09.

¹⁴ See, for example, *Area Wage Survey: Fort Wayne, IN, June 1985* (Bureau of Labor Statistics, August 1985).