Earnings in Consolidated Metropolitan Statistical Areas

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The Bureau of Labor Statistics has surveyed Metropolitan Statistical Areas since 1948, beginning with the first locality wage survey of occupations. In late 1995, however, BLS began converting to surveys of Consolidated Metropolitan Areas. This article discusses the two area definitions, the reasons for the change, and the effect the change has had on survey results.

A Metropolitan Statistical Area (MSA) is defined by the Office of Management and Budget as a city with 50,000 or more inhabitants, or a Census Bureau-defined urbanized area with at least 50,000 inhabitants and a total metropolitan population of at least 100,000 (75,000 in New England). The geographic area of an MSA is usually defined in terms of counties. For example, the Green Bay, Wisconsin MSA is defined as Brown County. In New England, the area is defined in terms of cities and towns.

A Consolidated Metropolitan Statistical Area (CMSA) consists of adjoining MSA's having a combined population of 1 million or more. When combined into a CMSA, each component metropolitan area is referred to as a Primary Metropolitan Statistical Area (PMSA). For example, the Dallas-Forth Worth CMSA consists of the Dallas PMSA and the Fort Worth PMSA. This article compares earnings in PMSA's to earnings in CMSA's. No freestanding MSA's were included in this study.

Presently there are 18 CMSA's in the United States, made up of 73 PMSA's. Seven of the CMSA's consist of only 2 PMSA's each; at the other extreme, the Boston-Worcester-Lawrence CMSA consists of 10 PMSA's. Three PMSA's (Chicago, Houston, and Milwaukee) account for at least 90 percent of the employment within their respective CMSA, whereas four PMSA's in the New York-Northern New Jersey-Long Island CMSA (Danbury, Dutchess County, Newburg, and Waterbury) account for only about 1 percent each.[1]

This study includes 12 CMSA's and compares their average earnings to those of 17 PMSA's within them. For nine of the CMSA's, data are available for only the largest PMSA. For one of the CMSA's, data are available for two PMSA's, and for the other two CMSA's, data are available for three PMSA's.[2]

The chief reason that the Bureau converted from the study of PMSA's to CMSA's was that the President's Pay Agent, which uses Bureau survey data to recommend adjustments to Federal white-collar workers' wages, requested that the Bureau provide these data at the CMSA level.[3]

Another reason for the change was to make more efficient use of funds. Funding for occupational wage surveys was reduced and it became necessary to produce less costly survey results that represented large numbers of workers without any loss in data reliability. In most cases, a CMSA can be surveyed for little more than the cost of surveying the largest PMSA in the area, and the data then represent all PMSA's in the area.

The change was made with the realization that users might have data less specific to their geographic location, but the alternative would have been that many users would have no data relating to their location.

Comparing earnings

If wage comparisons are made between PMSA's and CMSA's for individual occupations, the results sometimes show considerable variation. For example, average wages of the lowest level of material handling laborers studied in the Denver PMSA in December 1994 were $9.50 an hour. The follow-up study of the Denver CMSA in January 1996 reported an average of $7.50, over 20 percent lower. Like-

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wise, the relationship between PMSA and CMSA earnings varied among occupations. The average for janitors in the Cleveland PMSA was 5 percent below the CMSA average, whereas light truckdrivers in the PMSA earned 3 percent more. In the same area, level-6 engineers earned 5 percent less in the PMSA, whereas level-4 engineers earned slightly more in the PMSA.

Therefore, occupations and levels were combined into three major categories: White collar, protective service, and blue collar. The white-collar category was divided into four subcategories: Professional, administrative, technical, and clerical. The blue-collar category was broken into two sub-categories: maintenance and toolroom, and material movement and custodial.[4]

The average wage for a particular category was computed for the CMSA by multiplying the average wage for each occupation in that category by the CMSA employment for that occupation. These products were then summed for the category and divided by the total employment of all occupations in that category. The average for the PMSA categories were similarly computed using PMSA occupational earnings times CMSA (not PMSA) employment. This eliminated differences between category averages caused by different distributions of workers among occupations in the two areas.

Payroll reference dates of the surveys ranged from July 1994 to November 1996. For areas where the PMSA was surveyed prior to the CMSA, the PMSA averages were updated using the Bureau's Employment Cost Index. The PMSA category averages were then divided by the CMSA averages and the results multiplied by 100 to reflect PMSA earnings as a percent of CMSA earnings.

Findings

Earnings in PMSA's were more often above their respective CMSA earnings than they were below. (See table 1.) However, the patterns were different when making comparisons for the white-collar categories than they were when making comparisons for the protective service and blue-collar categories. For the overall white-collar category and each of its four subcategories, PMSA earnings were more often below the CMSA earnings than above. The opposite was true for the protective service and blue-collar categories where they were more often above. In addition, the protective service and blue-collar categories showed larger differences between the PMSA and CMSA earnings than did the white-collar categories. Standard deviations, which measure dispersion from the average, ranged from 1 to 2 percent for the white-collar categories; and 2 to 4 percent for the protective service and blue-collar categories.

The material movement and custodial category generally showed more variation among areas than the other categories. The variation ranged from earnings 5 percent below the CMSA average in Cleveland, to 11 and 12 percent above in Seattle and Portland, respectively. The occupa-

tions that contributed most to this variation were janitors and truckdrivers. Janitor averages vary widely depending on the proportion of the workers employed by janitorial services, whereas the proportion of workers covered by union agreements heavily influences truckdriver averages.

Average earnings in a PMSA were nearer to the CMSA average when the PMSA made up a large proportion of the CMSA as opposed to when they made up a smaller portion. Three of the PMSA's studied had over 90 percent of their CMSA's nonagricultural employment. Within two PMSA's, Houston and Milwaukee, average earnings were within 2 percent of CMSA earnings for all occupational categories. In the third area, Chicago, earnings were within 3 percent for all categories except the maintenance and toolroom category, which had PMSA earnings 8 percent above the CMSA.

Four of the PMSA's had between 80 and 90 percent of their CMSA employment. In three of these, Cincinnati, Denver, and Philadelphia, earnings were within 5 percent of the CMSA average. In the fourth, Portland, Oregon, earnings were very near the CMSA in all but the material movement and custodial category, where they were 12 percent above the CMSA average. This raised the average for the overall blue-collar category 8 percent above that of the CMSA category.

The pattern for the four PMSA's with between 65 and 80 percent of the CMSA employment was very similar to the above four. Earnings in Cleveland and Dallas were within 5 percent for all categories. In the Boston PMSA, averages were within 3 percent for all categories except the protective service category where earnings were 12 percent higher in the PMSA than in the CMSA. In Seattle, averages were within 2 percent except for material movement and custodial workers who earned 11 percent more in the PMSA, raising the average for all blue-collar workers to 8 percent above the CMSA.

Three of the six areas making up the San Francisco-Oakland-San Jose CMSA each had roughly 30 percent of the CMSA employment. All occupational categories were within 4 percent of the CMSA average earnings in San Francisco and Oakland. In San Jose, administrative workers earned 6 percent less than the CMSA average, whereas custodial workers earned 8 percent more.

Lawrence and Worcester made up only 8 and 5 percent, respectively, of the Boston CMSA employment, and Gary provided 6 percent of the Chicago CMSA employment. Although they constituted only small parts of their CMSA's, their averages were reasonably close to the CMSA averages. For Gary, all categories were within 4 percent; for Lawrence all were within 6 percent; and for Worcester all were within 9 percent.

In summary, PMSA averages for individual occupations varied considerably from their respective CMSA averages, but when occupations were grouped, they were never more than 12 percent from the average.

[1] Proportionate employment sizes used in this analysis are based on December 1992 total nonagricultural employment, which was used in the probability selection of the areas.

[2] The areas studied were: Boston-Worcester-Lawrence CMSA, with the Boston PMSA, Lawrence PMSA, and Worcester PMSA; Chicago-Gary-Kenosha CMSA, with the Chicago PMSA, and Gary PMSA; Cincinnati-Hamilton CMSA, with the Cincinnati PMSA; Cleveland-Akron CMSA, with the Cleveland PMSA; Dallas-Fort Worth CMSA, with the Dallas PMSA; Denver-Boulder-Greeley CMSA, with the Denver PMSA; Houston-Galveston-Brazoria CMSA, with the Houston PMSA; Milwaukee-Racine CMSA, with the Milwaukee-Waukesha PMSA; Philadelphia-Wilmington-Atlantic City CMSA, with the Philadelphia PMSA; Portland-Salem CMSA, with the Portland-Vancouver PMSA; San Francisco-Oakland-San Jose CMSA, with the San Francisco PMSA, Oakland PMSA, and San Jose PMSA; and Seattle-Tacoma-Bremerton CMSA, with the Seattle-Bellevue-Everett PMSA.

[3] The Federal Employees Pay Comparability Act of 1990 calls for the Bureau of Labor Statistics to conduct "an annual appropriate survey" to be used in setting locality pay rates for Federal General Schedule (white-collar) workers. Under the act, the President appoints an agent to make recommendations to him. Presently the President's Pay Agent consists of the Director of the Office of Personnel Management, the Director of the Office of Management and Budget, and the Secretary of Labor.

[4] The occupations studied were as follows: Professional-accountant, public accountant, attorney, and engineer; Administrative-budget analyst, buyer/contracting specialist, computer programmer, computer systems analyst, computer systems analyst supervisor/manager, personnel specialist, and personnel supervisor/manager; Technical-computer operator, drafter, and engineering technician; Clerical-accounting clerk, general clerk, order clerk, key entry operator, personnel assistant, secretary, switchboard operator-receptionist, and word processor; Protective service-corrections officer, firefighter, and police officer; Maintenance and toolroom-general maintenance worker; maintenance electrician, maintenance electronics technician, maintenance machinist, maintenance machinery mechanic, maintenance motor vehicle mechanic, maintenance pipefitter, skilled multi-craft maintenance worker, and tool and die maker; Material movement and custodial-guard, janitor, material movement and storage worker, and truckdriver.

Table 1. Earnings in Primary Metropolitan Statistical Areas as a percent of earnings in Consolidated Metropolitan Statistical Areas, 1994-96

(Earnings in Consolidated Metropolitan Statistical Areas = 100)

PMSA	White collar					Pro-tective service	Blue collar		
	All	Profes-sional	Adminis-trative	Technical	Clerical		All	Mainte-nance	Custodial
Boston	100	100	100	97	100	112	101	103	100
Chicago	101	101	102	99	102	103	103	108	101
Cincinnati	100	99	99	100	101	101	101	103	100
Cleveland	100	100	100	98	100	102	98	101	95
Dallas	100	98	102	99	104	103	102	104	100
Denver	99	101	97	104	95	101	102	104	101
Gary	96	-	96	101	96	-	97	98	97
Houston	100	100	100	101	101	100	100	99	100
Lawrence	99	99	99	101	98	105	105	104	106
Milwaukee	100	100	100	100	100	99	101	102	100
Oakland	100	101	99	101	98	102	100	99	100
Philadelphia	99	100	100	97	100	98	100	99	100
Portland	101	102	101	99	100	102	108	99	112
San Francisco	99	99	99	100	97	101	104	104	103
San Jose	97	-	94	99	98	-	102	99	108
Seattle	100	102	99	102	100	100	108	102	111
Worcester	94	-	93	91	95	-	100	93	105
Standard deviation	1.31	1.17	2.07	1.82	2.28	3.36	3.08	2.77	4.75

NOTE: Dashes indicate data do not meet publication criteria.