How Do Wages in Alaska Compare to Wages on the Mainland?

Average weekly wages for full-time employees studied in Alaska ranged from $427 for switchboard receptionists to $1,457 for attorneys. Alaskan wages were about 24 percent above comparable mainland averages. All sampled occupational groups in Alaska earned above the mainland average.

HILERY Z. SIMPSON

A primary purpose of the Occupational Compensation Survey (OCS) was to provide an accurate measure of local labor market pay levels in the United States for the purpose of setting locality based Federal wages and salaries.[1] Prior to OCS, the Federal Government usually paid an identical wage for an occupation regardless of geographic location. This system made it difficult to recruit workers in certain higher paying areas. In response to this, Congress passed the Federal Employees Pay Comparability Act in 1990 that mandated the Bureau of Labor Statistics (BLS) to collect the necessary wage comparability data.

The Act only applies to Federal workers within the contiguous 48 States (mainland). Federal wages in Hawaii, Alaska, Puerto Rico, and other areas such as Guam and the Northern Mariana Islands, are adjusted using a methodology based on the Consumer Price Index (CPI). In response to litigation about pay adjustments in the areas excluded from the Act, the Office of Personnel Management (OPM) contracted with BLS to conduct occupational wage surveys in Alaska, Hawaii, and Puerto Rico in 1996. This article presents selected survey results for the State of Alaska and the Anchorage Metropolitan Statistical Area (MSA).

This is the second of three articles dealing with a special wage study completed in 1996 for Hawaii, Alaska, and Puerto Rico. An article on wages in Hawaii appeared in the Summer 1998 issue of *Compensation and Working Conditions* and an article on wages in Puerto Rico will follow in the Winter 1998 issue.

Survey design

Standard OCS procedures were used to complete the surveys for Anchorage and Alaska. As a result, data are comparable between all published OCS geographic areas. The major objective of all OCS surveys was to describe the level and distribution of

Hilery Z. Simpson is an economist in the Division of Compensation and Data Estimation, Bureau of Labor Statistics. Telephone (202) 606-6246. E-mail: Simpson_H@bls.gov

occupational pay in a given labor market. In addition, the surveys provided information on the incidence of employee benefits among and within local labor markets. However, because the contract with OPM only included funds for the collection of wages and salaries, no benefit data were collected for either the Anchorage or Alaska surveys.

The OCS randomly sampled establishments employing 50 or more workers in goods-producing industries (mining, construction, and manufacturing); service-producing industries (transportation, communications, electric, gas, and sanitary services; wholesale and retail trade; finance, insurance, and real estate); and State and local governments.[2] Private households, the Federal Government, the self-employed, and agricultural employees are excluded from the survey. Unless specifically included in a Bureau job description, working supervisors, trainees, and part-time employees are also excluded.[3]

Establishments in the Alaskan surveys were randomly sampled using State unemployment insurance reports for the State of Alaska and the Anchorage MSA as of 1994. From these reports, establishments were classified into strata (groups) based on industry and employment size. The number of employees expected to be found (based on previous occupational pay surveys) determined the number of establishments sampled from a stratum in professional, administrative, technical, protective services, clerical, and blue-collar occupations. In other words, the larger the number of employees expected to be found in the 46 selected occupations, the larger the number of establishments sampled in that stratum. Establishment sampling was also increased for certain industry strata expected to have relatively high sampling errors.

A total of 663 establishments employing nearly 147,000 employees were found in the State of Alaska (inclusive of the Anchorage MSA) to be in scope of the two surveys.[4] Of those, 232 establishments employing 94,275 workers were studied in the Alaska survey, and 102 establishments employing 44,699 workers were examined in the Anchorage survey. Because the majority of sampled establishments in Alaska are located within the Anchorage MSA, there was much overlap between the two surveys in terms of establishments and workers surveyed. Data were gathered concurrently for the two surveys, starting in July 1996 and lasting through October 1996. The average payroll reference month was July 1996.

Wage data were collected for all employees in 46 pre-selected occupations[5] that met OCS definitions.[6] For example, the OCS definition of a word processor, in brief, is anyone whose primary duties are to produce such items as memos, forms, or graphs using word processing software packages. Excluded are typists who use non-editing typewriters, key entry operators, and employees requiring subject matter knowledge, even if their job title was word processor.

The purpose of using concise job descriptions is two-fold. First, it helps field economists classify workers into appropriate occupations. Second, it permits establishments to compare their employees' wages with the earnings of workers who do the same type of work. Because of the emphasis on comparability of occupational content, the Bureau's job description for an occupation may differ significantly from those used in individual establishments.

In addition to specific employee occupational classifications, occupations are further classified into grade levels. Just as the occupations are clearly defined, so are grade levels. For example, the definition of a level-1 accounting clerk states that the incumbent "performs very simple and routine accounting clerical operations...." The description then goes on to explain the level of supervision received and the specific procedures incumbents are expected to be able to complete, such as "verifying mathematical accuracy." At level-2, accounting clerks are expected to "perform one or more routine operations such as examining...transactions to ensure accuracy...." At the next level, they are expected to do double entry bookkeeping. Finally, accounting clerks level-4, the highest level surveyed, balance and reconcile accounts. (Actual published occupational and grade level definitions used are much more detailed than shown in this example.)

As these definitions illustrate, the responsibilities and knowledge needed to complete the work rises from one level to the next. The number of levels within an occupation depends upon its range of complexity. For example, the occupation of engineer has eight levels, while receptionist has one level.

The classification of workers within an occupation into various levels allows true comparability of duties and skills. This is particularly useful to wage and salary administrators and others who compare wage rates among establishments for workers who do the same work, not just workers who have the same job title.

Wages by establishment size

Establishments with more than 500 workers employed 46 percent of all Alaskan workers, 5-percentage points below the mainland average of 51 percent. Alaska had 48 large establishments, of which 40 were surveyed.

Previous BLS studies have shown that average occupational wages in larger establishments tend to be higher than in smaller establishments.[7] This was also the case in the Alaska and Anchorage surveys. (See table 1.)

Unless otherwise noted, wage data presented in the rest of this article are from all surveyed establishments regardless of size.

Different industry concentrations

Industry employment distributions differed between the State of Alaska and the mainland, particularly for the State and local government sector, as

CHART 1. **Percent of non-agricultural workforce by industry sector, Alaska and the mainland, 1996**

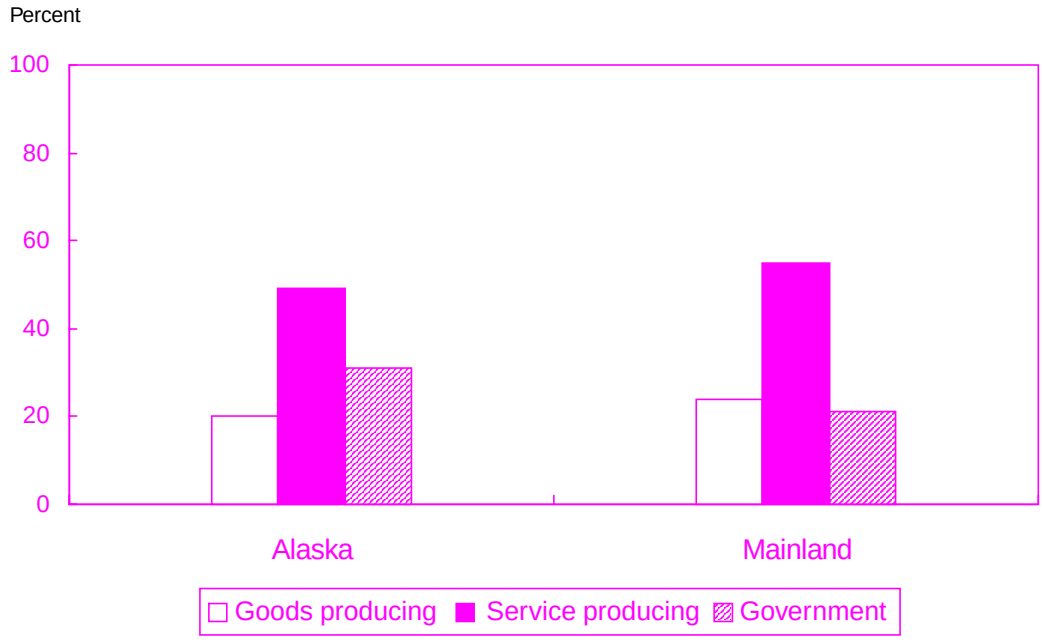


TABLE 1. **Average weekly and hourly wages in Alaska by establishment size, selected occupations, 1996**

Occupation	Mean	
	All establishments surveyed	Surveyed establishments employing 500 workers or more
Weekly		
Accountants	$943	$975
Attorneys	1,457	1,434
Engineers	1,371	1,430
Scientists	1,181	1,174
Computer programmers	860	830
Computer systems analysts	1,143	1,156
Personnel specialists	1,061	1,065
Accounting clerks	535	547
Hourly		
General maintenance workers	17.16	19.49
Maintenance electricians	22.56	24.15
Janitors	10.86	12.33

the tabulation below shows. (See also chart 1.)

Sector	*Percent employment*	
	Alaska	*Mainland*
Services	49	55
Goods producing	20	24
State and local government	31	21

Occupational pay data

The occupational pay data presented in this article are for full-time workers who work a regular weekly schedule as established by their employer (approximately 40 hours, on average, in Alaska). The published data exclude premium pay for overtime, weekends, holidays, and late shifts. Also excluded are nonproduction bonuses and lump-sum payments. Pay increases under cost-of-living clauses and incentive payments (production bonuses), however, are included.

Unless otherwise noted, the pay data presented are for employees in private industry, as well as State and local governments. Average pay data were published in Alaska for 38 selected occupations; however, data for only 16 occupations are presented in this article. Occupations are included based on their prevalence in the local economy, their comparability with mainland averages, and their suitability to illustrate a point.[8]

The earnings data presented are the mean weekly or hourly wages of all sampled workers in an occupation. Mean wages were computed by totaling the pay for all workers in each occupation and level and then dividing by the total number of employees in each category. Median wages, the point at which half the workers earned less and half earned more, as well as middle ranges were

TABLE 2. **Average weekly wages for various occupations and levels, 1996**

Occupation and level	Anchorage	Alaska	Mainland	Ratio[1]
Professional				
Accountants				
2	$746	$760	$626	121
3	972	958	811	118
4	1,116	1,198	1041	115
Engineers				
1	-	892	675	132
2	948	971	805	121
3	1,125	1,124	959	117
4	1,436	1,423	1,167	122
5	1,732	1,696	1,411	120
6	1,994	1,960	1,659	118
Technical				
Computer programmers				
2	739	764	639	120
3	856	878	788	111
Systems analysts				
1	978	976	779	125
2	1101	1108	940	118
3	1260	1262	1111	114
Clerical				
Accounting clerks				
2	450	439	379	116
3	510	531	464	114
4	607	654	549	119
General clerks				
2	456	470	342	137
3	494	558	429	130
4	583	582	493	118
Receptionists	424	427	355	120

[1] Ratio is Alaska to mainland wages.
Note: A dash indicates that data are not available.

also published, but are not included in this article.

Professional occupations

Accountants. Like most other occupations surveyed, accountants were paid more in Alaska than in the 48 contiguous States.[9] The average weekly pay of accountants in the Anchorage MSA, the State of Alaska, and on the mainland are presented in table 2.

To be classified as an accountant, the employee must perform professional accounting work requiring knowledge of financial transactions. Public accountants are considered a separate occupation.

As seen in many of the occupations surveyed, the difference in pay between Alaska and the mainland average varied by grade level. Generally, the higher the grade level, the closer the relative Alaskan wage was to the comparable mainland average. Similar results were also found in the Anchorage survey.[10]

Engineers. With the exception of entry-level workers, who earned 32 percent more than the mainland average, wages of Alaskan engineers were roughly 20 percent greater than the mainland average. (See table 2.) For example, while a level 2 engineer earns roughly $1,000 less per week than a level 6, the ratios of the Alaska-to-mainland average pay for both grade levels are similar.

To be categorized as an engineer, workers must hold a Bachelor of Science degree in engineering (or in rare instances, equivalent experience or education) and perform professional work including development, design, or testing of facilities, systems, or devices. As the knowledge required increases, the level of supervision required decreases.

Engineers in private establishments are paid approximately $300 per week more than State and local government engineers in Alaska. This was the largest pay gap between private and government establishments for any professional occupation studied.

Technical Occupations

Computer programmers. The primary duty of computer programmers is to convert specifications into a sequence of detailed computer instructions. Even though the national market for people with these skills has become increasingly tight in recent years, differences in Alaska and mainland pay were less, on average, than other professional occupations studied. For example, a level-3 programmer earned 11 percent more in Alaska, yet the average difference in pay between Alaska and the mainland for all occupations studied was 24 percent. A possible reason for the relatively smaller pay gap might be the limited number of establishments in Alaska, relative to the mainland, that can use the skills of a computer programmer.

Computer systems analysts. While computer programmers usually write code that follows a set of specifications, computer system analysts are more likely to analyze overall business and scientific problems and develop the needed specifications. As illustrated in table 2, analysts' earnings in Alaska are greater than the mainland average, yet lag behind the average pay gap at the higher grade levels.

Clerical occupations

Clerks. Alaskan accounting and general clerks and receptionists were among the lowest paid occupations studied. The wages of general clerks have a tendency to be higher than the other occupations in this group; they also had the largest pay difference relative to the mainland. For example, the wages of level-2 accounting clerks were 116 percent of the mainland average for the same occupation, while

TABLE 3. **Average weekly wages for protective services occupations, 1996**

Occupation	Anchorage	Alaska	Mainland	Ratio[1]
Corrections officers	$914	$901	$529	170
Firefighters	1114	901	690	131
Police officers level 1	1131	1102	700	157

[1] Ratio is Alaska to mainland wages.

level-2 general clerks earned 137 percent of the mainland average. (See table 2.) General clerks are responsible for a combination of clerical tasks such as maintaining records and compiling information at each grade level; accounting clerks are expected to perform one or more simple accounting tasks in an entry level position, while a level-4 accounting clerk maintains ledgers and reconciles accounts. These differences in responsibilities might explain why lower level general clerks earn more than accounting clerks at the equivalent level, while high level accounting clerks earn more than high level general clerks.

Receptionists. This was the lowest paid occupation found in the Alaska survey, averaging $427 per week. Workers in this occupation primarily use telephone switchboards to relay calls and greet visitors. Like many of the other occupations studied, they earned roughly 20 percent more than the mainland average.

Protective services occupations

Police, firefighters, and corrections officers. Employed almost exclusively by State and local governments, protective services workers earned much more in Alaska, on average, than on the mainland. As shown in table 3, workers in all three protective services occupations earned wages that were substantially above the equivalent mainland average.

As on the mainland, Alaskan police officers earned more than their protective services colleagues, and close to $400 per week above the mainland average. Corrections officers, however, enjoyed the largest wage advantage noted in the survey for Alaskan workers, earning a wage that was 170 percent of the mainland average. Alaskan firefighters earned 131 percent of the mainland average.

Blue-collar occupations

Maintenance workers. Pay rates between maintenance workers in Anchorage and Alaska varied more than in the other occupations studied. (See table 4.) A possible reason for this difference could be the large number of highly paid blue-collar occupations employed in the oil industry outside of Anchorage.

Skilled multi-craft maintenance workers were among the highest paid blue-collar occupations studied. Workers in these journey-level jobs perform maintenance and repair work in two or more craft trades such as masonry, plumbing, or carpentry. General maintenance workers, on the other hand, perform work related to the repair and upkeep of buildings, equipment, and related fixtures. Although a worker needs to have practical skill and knowledge in two or more trades to be included in this category, journey-level experience is not required. As expected, general maintenance workers are paid less than journey-level skilled multi-craft workers.

Truckdrivers. Drivers of heavy trucks and tractor-trailers earned more in Alaska than their mainland counterparts.[11] (See table 4.) As expected, the hourly wages of Alaskan truckdrivers, like those on the mainland, varied by the size of truck driven. As the size of the vehicle increased (and often the driver's level of required experience and education) so too did the hourly wage rate.

TABLE 4. **Average hourly wages for selected blue-collar occupations, 1996**

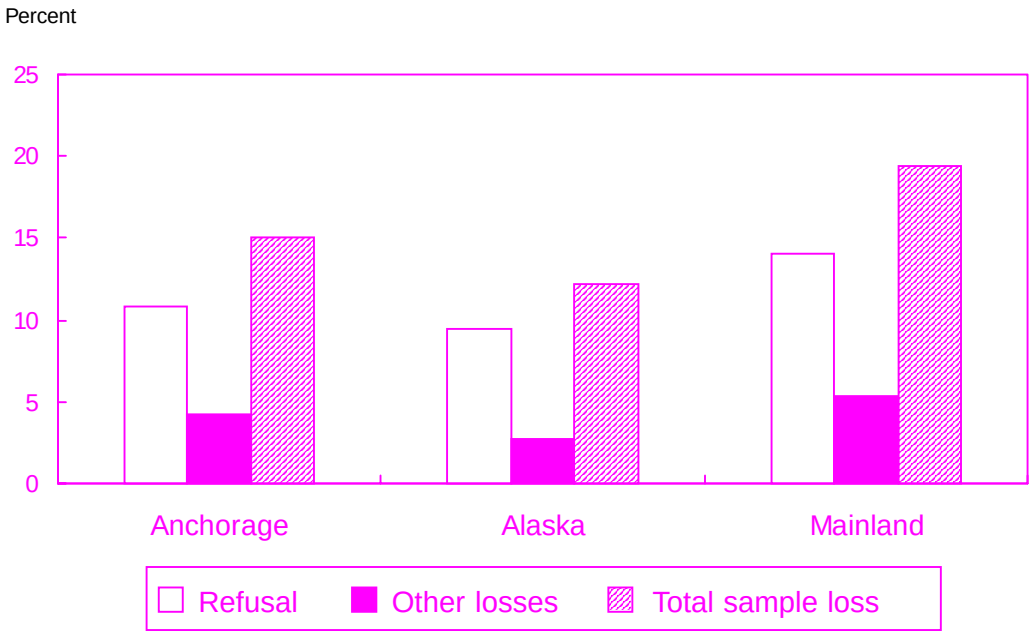
Occupation and level	Anchorage	Alaska	Mainland	Ratio[1]
Maintenance workers:				
General				
1	$11.32	$15.05	-	-
2	18.56	20.17	-	-
Electricians	-	22.56	18.74	120
Motor vehicle	18.59	19.98	15.91	126
Skilled multi-craft	19.44	23.07	-	-
Truckdrivers				
Heavy	-	15.85	13.38	118
Tractor-trailer	17.11	16.51	14.24	116

[1] Ratio is Alaska to mainland wages.
NOTE: A dash indicates that data are not available.

Summary

Wage progression within most of the sampled occupations was less in Alaska than for comparable occupations on the mainland. Alaskans in every occupation studied earned more than their counterparts on the mainland, but entry and lower grade levels had a tendency to earn more relative to their counterparts in the 48 contiguous States than did higher grade levels within the same occupation. There are many examples of this phenomenon. For example, entry level engineers in Alaska earned 132 percent of the average mainland wage and level-6 engineers, the highest grade published, earned 118 percent of the mainland average. Similar results were found in each of the professional and technical occupations studied. In addition, general clerks and truckdrivers had the same pattern. The only occupation with published levels that did not follow this tendency was accounting clerk; wages in this occupation

CHART 2. **Sampled establishment loss rates for Anchorage, Alaska, and the mainland, 1996**



were the highest, compared to the mainland average, for the most experienced grade level.

Average occupational wages in Alaska tended to have a smaller range in pay between the lowest and highest skilled employees than on the mainland. For example, the average mainland weekly pay for entry level engineers was $675, while experienced engineers (level 6) earned almost 2.5 times as much, or $1,659. Experienced engineers in Alaska, in comparison, earned 2.2 times as much as entry level engineers. Similar results are seen for many of the occupations studied. The specific cause for Alaska's lower spread in occupational wages is unknown.

Additional survey information

Publishing data by occupation and grade level. Although the list of occupations and grade levels are known prior to collection, the occupations and grade levels which meet the necessary requirements for publication are determined only after the survey is completed. For a specific occupation or grade level to be published, it must: (1) Be sampled from at least three establishments, (2) have a minimum of 6 weighted workers; and (3) not have a single establishment contribute more than 60 percent of the workers in that occupation or grade level.

The prevalence of an occupation in the surveyed area is the primary factor determining which occupations will meet publication requirements. For example, a State or MSA with large numbers of engineers is more likely to have all eight levels of engineers published than an area with relatively few engineers. In the Alaska survey, 34 of the 46 occupations had at least one level published, and 9 occupations had all possible levels published.

Occupational pay information is published for both private industry and State and local governments when possible. Within private industry, more detailed information is presented to the extent that the surveys' establishment sample can support such detail. In the Alaska and Anchorage surveys, data are also published for occupations regardless of establishment size (50 or more workers) and for occupations within establishments that employ 500 or more workers.

Survey nonresponse. Sample loss rates were lower in the Alaska and Anchorage surveys than for OCS in general. (See chart 2.) Wage data were not collected from 9.5 percent of the sampled establishments in Alaska and 10.8 percent in Anchorage, primarily due to lack of cooperation. The relative sample weights originally assigned to the establishments that chose not to participate were redistributed among the participating establishments. This ensures that published average wages take into account industry variations, among other factors. In addition to refusals, a small percentage of establishments were also excluded from the survey because they were out-of-business or out-of-scope at the time of collection.[12]

In addition to establishment losses, certain participating respondents refused to provide wage data for each

occupation requested. The proportion of employees for whom wages were not available was less than 5 percent in both surveys. No weight adjustments were made for those establishments providing partial data.

Data quality. Estimates of relative standard errors[13] for these surveys vary among occupational work levels, and depend upon such factors as the frequency with which the job occurs, the dispersion of salaries for the job, and the survey design. The tabulation

Relative standard error (in percent)	*Percent of published occupational work levels in Anchorage*	*Percent of published occupational work levels in Alaska*
Less than 1	2.4	2.9
1 to 3	42.9	35.3
3 to 5	42.9	52.9
5 and over	11.9	8.8

show the distribution of the published work levels for one relative standard deviation from both surveys.

The sampling errors mentioned above are measurable, but nonsampling errors are not. Nonsampling errors stem from many sources, such as the inability to obtain information from some establishments, difficulties with survey definitions, and the inability of respondents to provide accurate data. While very difficult to measure, such errors are expected to be minimal due to the high response rate, the extensive training of field economists who collect the data, and constant, rigorous review of both the occupational definitions and the collected data. ■

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[1] In July 1997, BLS concluded 6 years of locality pay and Service Contract Act surveys collected under the umbrella of the Occupational Compensation Survey (OCS) program. The OCS program was discontinued as the first step in phasing in the new National Compensation Survey (NCS) program. For additional information on NCS, see Beth Levin Crimmel, "COMP2000: Designing a New Wage Survey," *Compensation and Working Conditions*, December 1996, pp. 9-11.

[2] For these surveys, an establishment is an economic unit which produces goods or services, a central administrative office, or an auxiliary unit providing support services to a company. In manufacturing industries, the establishment is usually at a single physical location. In service producing industries, all locations of a company in a Metropolitan Statistical Area or nonmetropolitan county are usually considered an establishment. In government, an establishment is generally defined as all locations of a specific government entity.

[3] Working supervisors, apprentices, learners, beginners, and trainees, as well as part-time, temporary, and probationary workers are excluded, unless specifically included in the job description.

[4] Includes all workers in all establishments with total employment at or above the minimum limitations.

[5] The selected occupations are as follows: *Professional occupations*—accountants, public accountants, attorneys, engineers, registered nurses; *administrative occupations*—budget analysts, buyers, computer programmers, computer systems analysts, computer systems analysts supervisors/managers, personnel specialists, personnel supervisors/managers, tax collectors; *clerical occupations*—accounting clerks, general clerks, order clerks, key entry operators, personnel assistants, secretaries, switchboard operators/receptionists, word processors; *protective service occupations*—corrections officers, firefighters, police officers; *technical occupations*—computer operators, drafters, engineering technicians, civil engineering technicians, licensed practical nurses, nursing assistants; *maintenance and powerplant occupations*—general maintenance workers, maintenance electricians, maintenance electronics technicians, maintenance machinists, machinery maintenance mechanics, motor vehicle maintenance mechanics, tool and die makers; *custodial and material movement occupations*—forklift operators, guards, janitors, material handling laborers, order fillers, shipping and receiving clerks, truckdrivers, and warehouse specialists.

[6] See, for example, Appendix B. Occupational Descriptions, *Occupational Compensation Survey: Pay Only, State of Alaska*, Bulletin 3085-32, Bureau of Labor Statistics, July 1996.

[7] See, for example, Robert W. VanGiezen, "Occupational Pay by Employment Size," *Compensation and Working Conditions*, Spring 1998, pp. 28-36.

[8] Occupations and occupational levels with fewer than 100 workers were not included in this article.

[9] *Occupational Compensation Survey: Pay Only, State of Alaska*, Bulletin 3085-32, Bureau of Labor Statistics, July 1996; and *Anchorage, Alaska, Metropolitan Area*, Bulletin 3085-30, Bureau of Labor Statistics, July 1996.

[10] Estimates of sample error were not available for many of the Anchorage jobs discussed in this article. For this reason, most data comparisons made in this article for Anchorage jobs were not evaluated for statistical significance.

[11] BLS categorizes truckdrivers by the type and rated capacity of the vehicle they drive as follows: Light trucks—under 1.5 tons, usually 4 wheels; heavy trucks—over 4 tons, usually 10 wheels; and tractor trailers—separable cab and trailer, usually 18 wheels.

[12] Out-of-scope establishments primarily include those in agriculture, private households, and the self-employed.

[13] The standard error indicates the precision with which an estimate from a particular sample approximates the average result of all possible samples. The relative standard error is the standard error divided by the estimate. The smaller the relative error, the greater the reliability of the estimate.