Using Wage Data from the National Compensation Survey

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U.S. Department of Labor
Bureau of Labor Statistics

Office of Compensation and
Working Conditions

January 2002

Contents

Introduction

The Bureau of Labor Statistics (BLS) National Compensation Survey (NCS) produces a wealth of wage data by locality and region, and for the Nation as a whole. Wage data are analyzed and published in the following formats:

- Hourly earnings (mean, median, and percentiles) for private industry and State and local government workers

- Hourly earnings by occupational group, detailed occupation, and work level within occupations

- Hourly earnings for selected worker and establishment characteristics, such as full- and part-time status, bargaining status, and establishment employment size

This booklet is designed to familiarize data users with the many ways in which these data can be used for both personal and professional reference and decisionmaking.

When making wage comparisons, keep in mind that differences in occupational pay can be influenced by a number of characteristics, such as the level of work or the industry of the employee.

NCS wage data are available on the Internet at **http:// www.bls.gov/ncs/ocs/home.htm**. If your wage questions are not answered fully by this booklet or on the Internet, contact your closest regional information office listed on the inside back cover of this brochure. Questions also can be addressed to the national office at (202) 691-6199 or by e-mail to *ocltinfo@bls.gov*.

Mean Hourly Earnings

Mean hourly earnings are computed by totaling the straight-time hourly pay of all workers and dividing by the total number of workers, weighted by hours. Mean earnings are the average pay for the occupation.

Means are listed in NCS publications in this format.

Table 2-1. **Mean hourly earnings**[1]**, all workers:**[2] **Selected occu**
National Compensation Survey, Dallas-Fort Worth, TX, March

Occupation[3]	Mean
All	$17.45
All excluding sales	17.66
White collar	21.69
White collar excluding sales	22.69
Professional specialty and technical	26.00
Professional specialty	26.52
Engineers, architects, and surveyors	29.70
Electrical and electronic engineers	29.19
Industrial engineers	24.09
Mechanical engineers	33.01

The use of mean wage data is widespread. In particular, mean data are useful to jobseekers, employers, employees, and students. The following are common ways in which mean data are used:

- **Jobseekers** can view the mean wage for their occupation and target a job search to jobs paying at or above the mean. Also, jobseekers frequently use these data during salary negotiations.

- **Employers** may need to hire new workers for their company. By viewing mean data, an employer can determine the average wage necessary to attract qualified workers.

- **Employees** may be renegotiating a salary or considering a job change. By viewing the mean wage for their occupation, employees are able to make educated job decisions.

- **Students** frequently plan their career path in high school and need to decide on a major to pursue in college. By viewing mean wage data, undecided students may narrow down their choices, using these data to determine a chosen occupation's income potential.

Hourly Earnings by Work Level

Have you ever wondered what the earnings potential is for your occupation? Or, does your company want to differentiate pay between a secretary with basic duties and skills and one with advanced duties and skills?

If the answer to one of these or a similar question is "Yes," then you should view NCS average hourly earnings by work level.

> **Work levels are listed in NCS publications in this format.**

Table 4-1.Selected occupations[1] and levels,[2] all workers:[3] Me
local government, National Compensation Survey, Denver-Bc

Occupation and level	To
	Mean
All	$18.14
All excluding sales	18.29
White collar	21.00
1	8.43
2	9.65
3	10.53
4	12.86
5	14.32
6	16.72
7	21.83
8	22.28
9	24.30
10	26.88
11	31.92
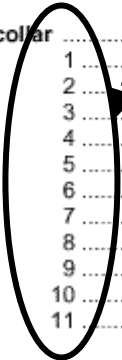
Work levels allow users to make wage comparisons, not only within one occupation, but also across occupations. Employers typically use these levels to differentiate pay among workers with varied duties and responsibilities. Employees and students use these levels to determine their earnings potential.

Work levels are determined by evaluating duties and responsibilities of a job, using nine leveling factors: Knowledge, supervision received, guidelines, complexity, scope and effect, personal contacts, purpose of contacts, physical demands, and work environment.

Users should first choose the most appropriate level within each of the nine leveling factors. Factor points can then be assigned to each leveling factor. The collection of these factor points equals an overall work level for the job.

There are 15 work levels (labeled 1 through 15). All levels, however, are not appropriate for all occupations. To determine the work level within an occupation, manually compute the level or use the Create Customized Table system (p. 12).

Computing work levels manually

Follow these steps to compute a work level (using the example of a dental hygienist):

1. Request the publication, *Evaluating Your Firm's Jobs and Pay,* by contacting your nearest information office (on the inside back cover of this brochure) or by accessing the the document online at **http://www.bls.gov/ncs/home.htm**.

2. Determine a level for each of the nine factors listed on pages 6 through 24 of the publication and record it on a leveling worksheet: (Blank worksheets follow this example.)

Leveling Example

Company job title: **Dental Hygienist**

Factor	Level	Points
Knowledge	4	550
Supervision received	2	125
Guidelines	2	125
Complexity	2	75
Scope and effect	2	75
Personal contacts	2	25
Purpose of contacts	1	20
Physical demands	1	5
Work environment	2	20

Total points = 1,020

Work level = 5

3. Determine the points associated with the selected factor:

Factor	1	2	3	4	5	6	7	8	9
Knowledge	50	200	350	550	750	950	1,250	1,550	1,850
Supervision	25	125	275	450	650	X	X	X	X
Guidelines	25	125	275	450	650	X	X	X	X
Complexity	25	75	150	225	325	450	X	X	X
Scope and effect	25	75	150	225	325	450	X	X	X
Personal contracts	10	25	60	110	X	X	X	X	X
Purpose of contacts	20	50	120	220	X	X	X	X	X
Physical demands	5	20	50	X	X	X	X	X	X
Work environment	5	20	50	X	X	X	X	X	X

4. Sum the points for each factor and match the total points with the following point ranges to determine an overall level:

Level	Low	High
1	190	254
2	255	454
3	455	654
4	655	854
5	855	1,104
6	1,105	1,354
7	1,355	1,604
8	1,605	1,854
9	1,855	2,104
10	2,105	2,354
11	2,355	2,754
12	2,755	3,154
13	3,155	3,604
14	3,605	4,054
15	4,055 and up	

Leveling worksheet

Company job title:

Factor	Level	Points
Knowledge	_____	_____
Supervision received	_____	_____
Guidelines	_____	_____
Complexity	_____	_____
Scope and effect	_____	_____
Personal contacts	_____	_____
Purpose of contacts	_____	_____
Physical demands	_____	_____
Work environment	_____	_____

Total points = _____

Work level = _____

Leveling worksheet

Company job title:

Factor	Level	Points
Knowledge	_____	_____
Supervision received	_____	_____
Guidelines	_____	_____
Complexity	_____	_____
Scope and effect	_____	_____
Personal contacts	_____	_____
Purpose of contacts	_____	_____
Physical demands	_____	_____
Work environment	_____	_____

Total points = _____

Work level   = _____

Leveling worksheet

Company job title:

Factor	Level	Points
Knowledge	_____	_____
Supervision received	_____	_____
Guidelines	_____	_____
Complexity	_____	_____
Scope and effect	_____	_____
Personal contacts	_____	_____
Purpose of contacts	_____	_____
Physical demands	_____	_____
Work environment	_____	_____

Total points =   _____

Work level   =   _____

Leveling worksheet

Company job title:

Factor	Level	Points
Factor	**Level**	**Points**
Knowledge	_____	_____
Supervision received	_____	_____
Guidelines	_____	_____
Complexity	_____	_____
Scope and effect	_____	_____
Personal contacts	_____	_____
Purpose of contacts	_____	_____
Physical demands	_____	_____
Work environment	_____	_____

Total points =   _____

Work level   =   _____

Computing work levels electronically

The Create Customized Tables system (formerly called "Public Data Query") is an electronic data access tool that allows a user to input specifications and receive instant data output. This is the easiest method to determine a work level and the wage that corresponds to an occupation. Follow these steps to use the Create Customized Tables system:

1. Access **http://www.bls.gov/ncs/home.htm** and click on "Create Customized Tables (one screen)."
2. Select how to view the data – occupations by area or areas by occupation
3. Select a geographical area – locality, region, or all U.S.
4. Select an occupation – up to 480 different occupations
5. Select a work level – if you are unsure of the work level, click "Get help choosing a work level" and you will be taken through the leveling criteria. Once you have responded to each of the nine factors (discussed in the previous section), the Create Customized Tables system will determine the level.
6. When a level has been determined, click "Accept Level." Sometimes a published level is not available for an occupation. When this occurs, you will see "modeled estimate" listed next to the level.
7. Select "Get data" to view wages for the selected area, occupation, and work level.

The Create Customized Tables system requires a Java-enabled browser and can take several minutes to load (depending on the speed of your computer's processor).

Here is an example of the query screen you will see online:

Here is an example of the data screen you will see online:

Hourly Wage Percentiles

Do you need to set a salary range for a newly created job? Would your company like to pay computer engineers more in order to stay competitive with the job market? Wage percentiles are available to help you with these types of issues.

Percentiles are listed in NCS publications in this format.

t jobs[1], all workers:[2] Selected occupations, private
Galveston-Brazoria, TX, January 2000

		Private industry		
10	25	Median 50	75	90
$6.45	$8.63	$13.90	$21.79	$30.99
6.46	8.75	14.04	21.74	31.80
8.59	12.00	18.24	27.79	40.16
9.76	13.01	19.14	28.84	41.80
14.00	18.91	24.77	32.30	40.19
18.49	21.22	27.01	34.22	41.37
20.01	26.27	30.99	38.18	43.39

Percentile data give users an overall picture of the wage distribution within an occupation. Percentiles (10th, 25th, 50th, 75th, and 90th) represent positions in an occupation's earnings distribution. For example, at the 50th percentile - the median - half of the workers receive the same as, or more than the wage rate shown and half receive the same as, or less than the rate shown. At the 25th percentile, one-fourth of the workers earn the same as, or less than, the rate shown. The 10th, 75th, and 90th percentiles follow the same logic.

Percentiles are highly useful in common compensation-related tasks, such as analyzing current pay rates and setting pay ranges.

Analyzing current pay rates

Wage percentiles allow users to compare an individual wage rate against the distribution of wages in a given occupation.

Here are descriptions of two common situations that will help you understand how wage percentiles can be used to analyze current pay rates:

Question 1: Your company, ABC Boots, in Austin, TX, currently pays its secretary a rate of $8 an hour. The secretary believes that she is making far less than other secretaries in the Austin area. How do you determine if this is true?

Answer 1: To determine if the secretary is being underpaid as compared to other secretaries in the area, you will need to access percentiles data. Here are the steps you should follow:

1. Access the most recent Austin survey online:
   http://www.bls.gov/ncs/ocs/compub.htm#TX

2. Choose a table that best applies to your situation.
   (6-1 for all workers, 6-2 for private industry, 6-3 for State and local government, 6-4 for full-time workers, or 6-5 for part-time workers)

3. Find the listing for secretaries, which is similar to the following:

	10	25	Median 50	75	90
Secretaries	10.39	10.95	13.94	16.02	18.09
Receptionists	8.00	8.25	10.60	11.94	14.42

4. Compare your secretary's wage of $8 to the percentiles.

5. Determine that $8 is below the 10th percentile ($10.39 per hour).

By comparing your secretary's individual wage rate to the wage percentiles, you are able to determine that your secretary is being paid less than 90 percent of the secretaries in Austin.

Question 2: Your company, ABC Software, in Raleigh, NC, wants to hire the best computer programmers possible. The company recruiter tells you that she does not know the current median wage rate for computer programmers. Furthermore, she does not know which wage to advertise in a job advertisement. How can you help her?

Answer 2: Wage percentiles give users a view of the entire range of wages for a particular occupation in a given area. To determine the best wages to advertise, follow these steps:

1. Access the most recent Raleigh survey online:
   http://www.bls.gov/ncs/ocs/compub.htm#NC

2. Choose a table that best applies to your situation.
   (6-1 for all workers, 6-2 for private industry, 6-3 for State and local government, 6-4 for full-time workers, or 6-5 for part-time workers)

3. Find the listing for computer programmers, which is similar to the following:

	10	25	Median 50	75	90
Engineering technicians	11.54	12.31	16.86	20.89	22.58
Computer programmers	17.16	24.86	28.88	33.78	41.12
Technical and related, n	9.77	9.77	9.99	16.73	20.14

At this point, you will need to make some decisions. As can be seen from the data, 50 percent of computer programmers in the Raleigh metropolitan area make less than $28.88 per hour (the median) and 50 percent make more. To attract the best candidates possible, your company may want to consider setting the target above the 50-percent mark.

Setting pay ranges

Wage percentiles help identify the boundaries for setting a pay grade or range structure. Companies frequently use the 25th and 75th wage percentiles to set pay ranges for jobs. The 25th percentile is used as a salary minimum while the 75th is used as a salary maximum. The median, or 50th percentile, can then be used as the middle of the pay range. Alternatively, the company can set the middle of the pay range above the median to attract workers to positions that are difficult to fill.

Here is an example of setting a pay range for an accountant in Louisville, KY:

1. Access the most recent Louisville survey online:
   http://www.bls.gov/ncs/ocs/compub.htm#KY

2. Record the wage percentiles for accountants:

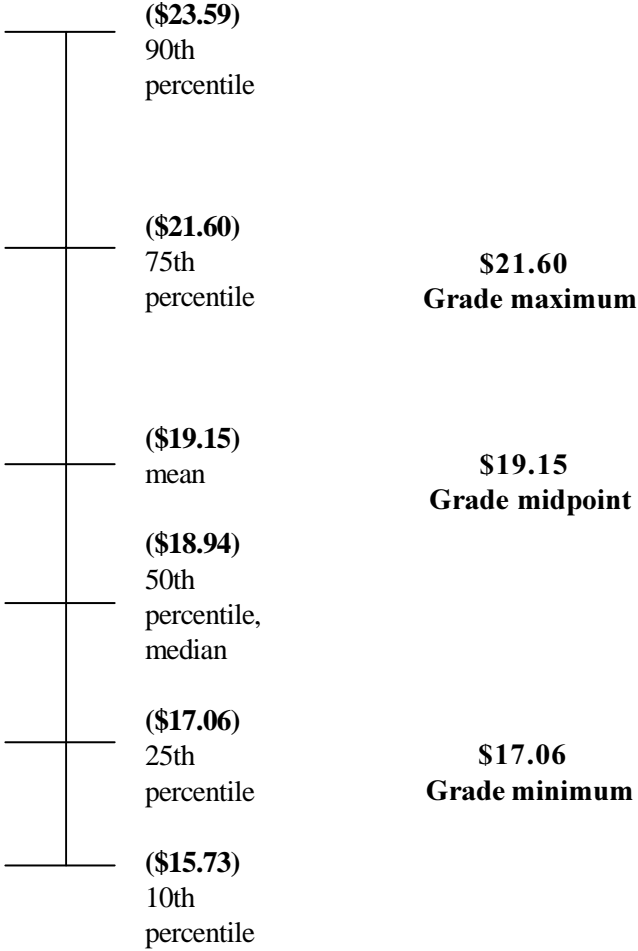| 10	25	Median 50	75	90
15.73	17.06	18.94	21.60	23.59

3. Record the mean hourly wage for accountants from the same publication:

Mean
19.15

4. Fill in the wage listed for each percentile on the wage distribution scale; set a pay grade for accountants based on this distribution scale:

Sample Wage Distribution for a Louisville Accountant	Sample Salary Grade for a Louisville Accountant

($23.59)
90th percentile

($21.60)
75th percentile

$21.60
Grade maximum

($19.15)
mean

$19.15
Grade midpoint

($18.94)
50th percentile, median

($17.06)
25th percentile

$17.06
Grade minimum

($15.73)
10th percentile

Geographical Wage Comparisons

Locality wage data often are requested by private firms and individuals for use in researching issues related to relocation. How can you compare occupational wages across metropolitan areas?

This can be done using the Create Customized Tables system or through viewing publications at **http://www.bls.gov/ncs/ocs/ compub.htm**

Here are two examples of how to compare occupational wages across multiple areas.

Question 1: Mr. Smith owns The ABC Company of Los Angeles, CA. He is considering opening a new shipment facility in either Rockford, IL, or New York, NY. His company primarily employs order clerks. Which location should he choose?

Answer 1: First, Mr. Smith obtains the mean wages for order clerks in Rockford and New York:

Table 2-1. **Mean hourly earnings**[1]**, all workers:**[2] Sele
National Compensation Survey, Rockford, IL, April

Order clerks ....|	12.33

Table 2-1. **Mean hourly earnings**[1]**, all workers:**[2] Sele
National Compensation Survey, New York-Northern

Order clerks ....|	19.27

Mr. Smith can see that in Rockford, on average, order clerks make $12.33 an hour. In New York, order clerks make an average of $19.27 an hour. The ABC Company can now factor these wage differences into their decision.

Question 2: Gloria, an ABC Company order clerk, has been offered a position at the new facility in Rockford. She presently makes $8.36 an hour working in Los Angeles. Gloria is not sure if she should move. What should she do?

Answer 2: Gloria should obtain the mean hourly earning for order clerks in Los Angeles and Rockford:

Table 2-1. **Mean hourly earnings**[1], **all workers:**[2] Sele National Compensation Survey, Los Angeles-River

Order clerks	11.87

Table 2-1. **Mean hourly earnings**[1], **all workers:**[2] Sele National Compensation Survey, Rockford, IL, April

Order clerks	12.33

Gloria can see that her earnings potential in Rockford is only 46 cents per hour less than that in Los Angeles. She also learns from these data that she is making $3.51 below the average of $11.87 in Los Angeles. Gloria can now use this information to make an educated decision about relocating.

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