

The National Compensation Survey: Compensation Statistics for the 21st Century

For the first time, the Bureau of Labor Statistics will provide interrelated statistics on wage levels, benefit costs, rates of change in employer costs for compensation, benefit plan incidence, and detailed benefit provisions.

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What is employee compensation at the dawn of the 21st century? It is more than hourly wages paid to the 1880s farmhand. It is more than the salary paid to the 1920s stock broker or the defined benefit pension plan given to the 1950s auto worker. It is even more than the 401(k) plan available to the 1980s computer scientist and the stock options offered to the 1999 dot-com maverick. Compensation comprises all these things and more, and has evolved over the past century from fixed items granted by the employer to a range of items that may even include items chosen by the employee.

And what of the state of compensation statistics? Have they kept up with the change in compensation? And is there sufficient coordination between the various types of compensation data to meet the many information needs? This article describes new compensation data produced by the Bureau of Labor Statistics (BLS)—the National Compensation Survey (NCS). The NCS evolved from several existing programs, but takes those programs in new directions. The NCS provides statistically-valid, comprehensive, and inter-

related data on wages and employee benefits for all American workers.

Compensation data are used by a variety of individuals and groups—academics, government policymakers, labor unions, employers, researchers, and individuals. Data are needed to answer questions as diverse as how much to pay registered nurses in Dallas or what is a competitive dental care plan for clerical workers. The box on page 4 shows the types of questions that compensation professionals and others might be asking, along with the answers that NCS data can provide now, or will provide in the future. The remainder of this article discusses the origins and structure of the NCS program.

A historical perspective

Since it was established in the late 19th century, BLS has been conducting compensation surveys. Among the earliest BLS surveys were those designed to gather wage information for a specific purpose, such as to determine the effect of the 1890 tariff on wages in certain industries. Surveys of employee benefits date to the early 20th century, and typically took the form of case studies of new practices

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Design of the National Compensation Survey

The design of the National Compensation Survey focuses on three basic components: A selection of geographic areas; a selection of establishments within those areas; and a selection of occupations within those establishments.

Geographic areas. Data for the NCS are captured from a fixed set of geographic areas, rather than from all areas of the country. A sample of 154 metropolitan and nonmetropolitan areas throughout the 50 States and the District of Columbia was selected to represent the United States. These areas also were selected in such a way as to produce estimates for nine broad geographic divisions and four broader regions. The selection of areas was conducted in 1995, based on area definitions as determined following the 1990 census.¹

Establishments. Within each area, a scientific sample of establishments is chosen to represent all establishments in the area. An establishment is a single physical location, such as a plant, a warehouse, a corporate office, or a retail outlet. The sample is chosen from the State Unemployment Insurance files, which include all establishments that had employees in a certain period. The establishment sample includes private industries and State and local governments. The survey excludes the Federal Government, the military, agriculture, and private households.² Establishments are chosen using probability techniques, with the chance of selection proportional to establishment employment.

Occupations. Within each sampled establishment, a probability sample of occupations is selected; compensation data are collected for only these occupations. Occupations are classified into 1 of approximately 450 defined occupations—such as registered nurse, accountant, secretary, or waitress—based on duties and responsibilities.³ A factor evaluation also is conducted on each selected occupation, to determine the level of work within the occupation. The factor evaluation system used for this analysis is the Federal Government's Factor Evaluation System, which consists of these nine factors:⁴ Knowledge, supervision received, guidelines, complexity, scope and effect, personal contacts, purpose of contacts, work environment, and physical demands.

Wage rates are collected for all workers within the sampled occupation—for example, all entry-level accountants. Wages are defined as straight-time earnings, excluding overtime. Items included in the collection of wages are time-based payments, piece rates, commissions, hazard pay, and other items directly related to the work being performed.

Items excluded from wage collection are such payments as housing and meal allowances, nonproduction bonuses (not related to individual output), and payments from third parties (such as tips or payments to sales workers from third parties). Information on worktime also is captured—hours per day, hours per week, and weeks per year.

Several types of benefits data are collected: Employer costs, employee contributions, numbers of workers with access to and participating in benefit plans, and detailed benefit plan provisions. Data are collected for the following benefits: Paid vacation, paid holidays, paid sick leave, other paid leave, premium pay for overtime, shift differentials, nonproduction bonuses, health insurance, life insurance, short-term disability insurance, long-term disability insurance, defined benefit pension, defined contribution, Social Security, medicare, Federal unemployment insurance, State unemployment insurance, workers' compensation, severance pay, and supplemental unemployment benefits.

¹ New metropolitan area definitions are produced following each decennial census; minor revisions to those definitions are made periodically. The current design calls for NCS to reselect its sample of areas once every 10 years, after the new definitions are put in place. For a look at the current geographic sample, see Kenneth J. Hoffman, "New Sample Areas Selected for BLS National Compensation Survey Program," *Compensation and Working Conditions*, Spring 1997, pp. 27-31.

² Industries currently are defined by the Standard Industrial Classification system. The NCS is beginning to reclassify establishments using the new North American Industry Classification System (NAICS). Publications with industries defined using this new system are expected to be released in 2004.

³ Occupations currently are defined by the Census Occupational Classification system. The NCS is beginning to reclassify occupations using the new Standard Occupational Classification system. Publications with occupations defined using this new system are expected to be released in 2004.

⁴ For a discussion of the NCS Factor Evaluation System and its use as a predictor of wages, see Brooks Pierce, "Using the National Compensation Survey to Predict Wage Rates," *Compensation and Working Conditions*, Winter 1999, pp. 8-16.

undertaken by small numbers of employers.¹ Compensation studies up through the first half of the last century were designed to meet short-term needs; there was little relationship between one study and the next, and there were little or no trend data.²

In the 1950s, BLS began the first Occupational Wage Surveys, a program

that is a direct ancestor of the National Compensation Survey. These surveys typically were conducted in metropolitan areas throughout the country. Wage data were collected and published for selected jobs (such as secretary or truck driver) and for work levels within those jobs (used to differentiate duties and responsibilities). Over time,

this program was expanded to cover specialty jobs in selected industries and white-collar jobs nationwide. A benefit component, the Employee Benefits Survey, was added to the national pay survey in the late 1970s. This program provided the Bureau's first-ever comprehensive set of statistics on the availability and details of employer-pro-

Compensation question? Ask NCS

Here are some examples of the types of information that the NCS is designed to provide:

Q. A manufacturer estimated that its benefit costs increased 3 percent during 1999. Is that comparable to the experience of other employers in the manufacturing industry?

A. Employer benefit costs in manufacturing rose 3.4 percent for the 12 months ending December 1999. These data are from the quarterly Employment Cost Index, one of the products of the NCS.

Q. My defined benefit pension plan costs are about 2 percent of my total compensation costs. How does that compare with other small private establishments?

A. Defined benefit pension plan costs averaged 14 cents per hour worked, 0.8 percent of total compensation costs, for private employers with fewer than 100 workers as of March 2000, according to the Employer Costs for Employee Compensation data from the NCS.

Q. What are the average hourly wages for part-time bartenders in San Francisco?

A. The NCS occupational compensation survey in San Francisco indicated that the average wage rate for part-time bartenders was \$7.20 per hour in 1999.

Q. Our school system is considering providing paid holidays to teachers. How prevalent is such a practice among local government school systems?

A. Thirty-one percent of full-time teachers in State and local governments received paid holidays in 1998, according to NCS benefits data. Teachers typically are employed on a 9- or 10-month basis, for a specified number of school days. Holidays, school vacations, and other nonschool days are often considered unpaid.

Q. Our employees are asking for dental coverage as part of our health benefits. Is that a common benefit among large employers in the northeast? What services are typically covered?

A. NCS benefits data indicate that 58 percent of full-time employees in larger private establishments (those with 100 workers or more) in the northeast received dental care benefits in 1997. Nationally, these plans covered such items as preventive services (x-rays and cleanings) and restoration (fillings, crowns, and similar procedures). Plans often cover different dental services in different ways. For example, a plan might pay for 100 percent of the cost of x-rays and cleanings, after the patient pays a deductible. The same plan might pay for 80 percent of the cost of a filling and 50 percent of the cost of a crown.

Q. What types of disability benefits are generally provided to warehouse employees?

A. Disability benefits can come from several different sources, such as sick leave, short-term disability benefits, long-term disability insurance, and retirement plans. Among full-time blue-collar and service employees (which would include warehouse employees) in larger private establishments, 38 percent were covered by a sick leave plan, 58 percent by short-term disability benefits, 28 percent by long-term disability insurance, and 50 percent by a defined benefit pension plan (3 out of 4 of which had disability provisions). NCS data provide some insight on the relationships between these benefits as well. For example, defined benefit pension plans often begin to pay disability benefits only after long-term disability insurance benefits have been exhausted.

Q. We are negotiating with the union over cost-of-living increases in our defined benefit pension plans. How widespread are such features in private sector pension plans and how do they typically work?

A. The NCS benefits survey of larger private establishments indicates that 50 percent of full-time workers have a defined benefit pension plan, and of those participants, only 3 percent have a cost-of-living increase. Such increases are found more often among State and local government plans. Where cost-of-living adjustments do exist, they typically are tied to an inflation indicator, such as the BLS Consumer Price Index (CPI). The plan provides an annual pension increase equal to the percent increase in the CPI, but often capped at a certain amount, such as 3 percent per year.

Q. Our union is in negotiations with our employer over wage increases for craft employees. What types of increases have these workers received over the past 2 years?

A. Data from the Employment Cost Index, a product of the NCS, indicate that wages among private sector precision production, craft, and repair occupations increased by 6.8 percent for the 2-year period ending December 1999.

Q. My employer requires me to pay a greater monthly premium for our company's fee-for-service health plan than for HMO coverage. Is my situation unique?

A. Data from the NCS benefits survey indicate that employee contributions are required more often for those covered by HMO plans than for those covered by fee-for-service plans:

	Percent of participants required to contribute	
	Fee-for-service plans	HMOs
Single coverage	67	74
Family coverage	77	86

However, when contributions are required, average employee contributions per month are higher for fee-for-service plans than for HMOs:

	Average employee contribution per month	
	Fee-for-service plans	HMOs
Single coverage	\$41.69	\$34.28
Family coverage	132.37	125.79

Q. I employ truck drivers and assemblers in Oklahoma City and Louisville. I'm considering expanding my business to Kalamazoo. What is the typical wage for these occupations in Kalamazoo, compared with Oklahoma City and Louisville?

A. Average wages from the NCS in these areas are as follows:

	Truck drivers	Assemblers
Oklahoma City	\$17.62	\$15.50
Louisville	15.01	18.78
Kalamazoo	14.05	9.92

Q. Our company coordinates its defined benefit pension plan with Social Security. We are considering amending the pension plan to drop this feature. What effect will that change have on our plan costs?

A. Defined benefit plan costs are influenced by many factors, including the demographics of plan participants and the results of plan investments. At the present time, the NCS can provide data on employer costs for defined benefit plans as a whole, but not by type of plan. In the future, separate cost data can be calculated for those plans that coordinate with Social Security and those that do not.

Q. My employer has a reputation for paying high wages but providing limited benefits. Is that type of wage-benefit trade-off typical?

A. Currently, NCS data can provide information on what employers pay in wage and benefit costs, but not the relationship between the two. In the future, benefit cost data will be available by wage range, which will indicate whether employers paying higher wages in turn have higher benefit costs.¹

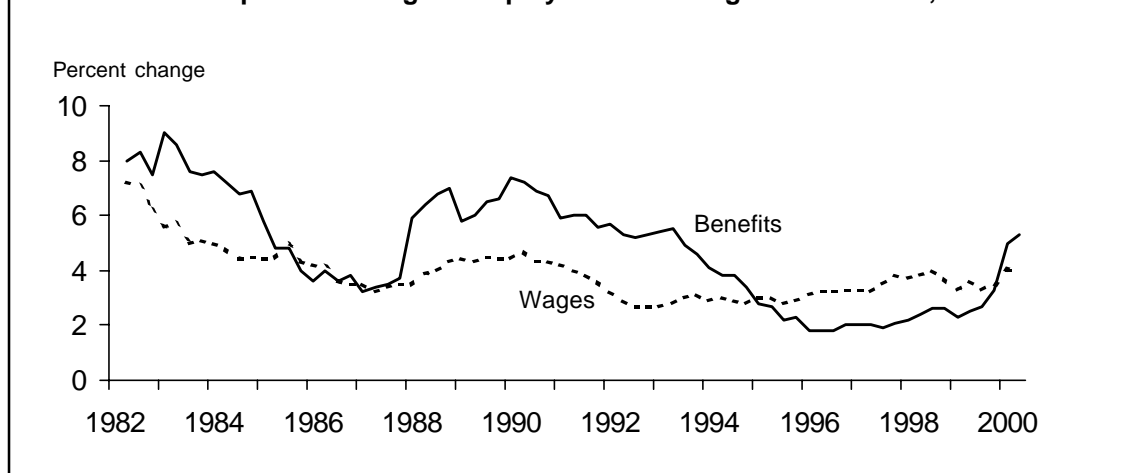
Q. Our software firm has grown to the point that we must now expand our accounting department. We are interested in setting up a system of entry-level, journey, and senior accountants, and setting appropriate pay levels. Are data available on wages for different levels of work within an occupation?

A. The NCS publishes wage data by occupation and work level. Work level is determined by a point factor evaluation system. (More information on this system may be found in the box on page 3.) Data from the NCS wage survey in the New York metropolitan area include wage data for accountants and auditors at grade 5 (equivalent to entry level), and grade 11 (equivalent to journey level). Data are not available for accountants at grade 13 (equivalent to senior level), but data are available for management-related occupations grade 13, which is a grouping that includes accountants and auditors. Average wages for these occupations and work levels as of July 1999 were as follows:

Accountants and auditors grade 5	\$17.61
Accountants and auditors grade 11	32.64
Management-related occupations grade 13	70.43

¹ For a detailed analysis of the relationship of employer wage and benefit costs, see Brooks Pierce, "Compensation Inequality," Working Paper 323 (Bureau of Labor Statistics, June 1999).

CHART 1. Annual percent change in employer cost for wages and benefits, 1982-2000



vided benefits. Previous benefit studies typically were case studies of plans or their features.

Interest in measures of change in employer costs for wages and benefits in the 1970s led to the development of the Employment Cost Index (ECI), a quarterly measure of compensation cost changes. Previous studies had examined the levels of employer wage and benefit costs. The ECI, introduced in 1975, was the Bureau's first attempt to provide a single measure of change in employer compensation costs. Since 1986, these data on employer cost trends also have been used to produce annual levels of employer compensation costs and estimates of the proportion of those costs attributable to various types of compensation.

A sample of outputs from these surveys is presented in table 1. There are some seemingly similar data in these various series, but there is a lack of coordination among these products that can limit their usefulness for certain analysis. The NCS is designed to coordinate these compensation statistics. (See the box on page 3 for information on the design of the NCS.)

Survey outputs

There are four basic products of the National Compensation Survey—occupational wage estimates, employer compensation cost trends and levels, benefit availability, and benefit details.

Occupational wages are published for local areas, geographic regions, and the Nation as a whole. Data are published by major industry group, public sector versus private sector, full time versus part time, union status, and establishment size categories. Table 2 provides a sample table from the NCS Minneapolis-St. Paul survey.

Indexes and rates of change for employer compensation costs—the Employment Cost Index—are published quarterly. This series, a principal Federal economic indicator, dates to 1975 and is a major indicator of wage-push inflation. Data are published for wage costs, benefit costs, and total compensation (wage plus benefit) costs. Publication variables include occupational group, industry division, union status, and broad geographic area. Chart 1 provides data on the trends in wage and benefit costs over the past several years.

The same sample of establishments and occupations used to produce the Employment Cost Index also is used to produce data on the amount that employers spend on wages and benefits. This series, known as Employer Costs for Employee Compensation, provides data on employer costs for wages and benefits. In contrast to the ECI, these costs are presented as dollars and cents per hour worked and as the ratio of the cost of each item to the total cost of all compensation. For example, in March

2000, employers spent \$21.16 per hour worked for wages and benefits; of this total, \$1.25, or 5.9 percent of total compensation, was spent on health insurance. Table 3 provides an example of these outputs for all civilian workers as of March 2000.

In addition to data on benefit cost, NCS provides information on the percent of employees participating in each of several types of benefit plan; the percent of employees with access to a given benefit will be available in the future. Participation is defined as the percent of workers who are actually covered by a benefit, having met all conditions and made all required contributions. Access is the percent of workers who are in occupations that have the benefit available. Benefit access includes those who are covered by the benefit, those who are not covered because they have not met some condition (such as a length-of-service requirement), and those who have declined coverage (typically because they have chosen not to pay a required contribution for the benefit).³ These estimates of benefit counts will be produced with the same reference period as the employer cost data, permitting the first-ever comparisons of benefit incidence and employer cost. (See table 4.)

Beyond counts of workers, NCS provides extensive details on plan provisions, with emphasis on health care

and retirement income plans. For health care plans, detailed provisions include the types of care covered, amounts of deductibles and co-insurances, limits on hospital stays and doctor visits, as well as details on dental, vision, and prescription drug coverages. Retirement income details include contributions and benefit payouts, retirement ages, survivor protection, and provisions for employees who leave their employer before retirement age. See table 5 for a sample of the type of benefit provision detail provided by NCS.

For each occupation, data will be available on wage rates, employer benefit costs, benefit availability, and detailed benefit provisions. These data will be used to produce new tabulations that relate these variables to each other. For example, wage data and benefit provisions can be related to provide insight as to the richness of benefit plans for those earning differing wage levels. Are higher-paid employees also given more generous benefit plans? Employer benefit cost data also will be

linked to benefit provisions to permit comparisons of costs for different plan types. For example, what is the trend in employer costs for fee-for-service plans versus health maintenance organizations? Finally, all of these data will be combined into a database to allow more sophisticated analyses of compensation trends, including regressions of benefit plan provisions against employer cost. For instance, do second surgical opinion features really reduce employer health care premiums? All NCS compensation data will be available for a series of variables, such as industry, occupation, union status, location, size of establishment, full-time/part-time status, and profit versus nonprofit organizations.

NCS data are available through a variety of media. Initial releases of key economic indicators are available through U.S. Department of Labor news releases. For example, the Employment Cost Index is released on the last Thursday of January, April, July, and October each year. Other data, such as the local wage data, are first

available in BLS bulletins. More-detailed analyses of NCS data are published in two BLS periodicals—the *Monthly Labor Review* and *Compensation and Working Conditions*. Finally, all data are available at the BLS Internet site: <http://stats.bls.gov>.

THE BUREAU OF LABOR STATISTICS has provided data on wages since it was established in the late 19th century, and has provided data on benefits since the early 20th century. Series that provide a consistent look at wages by occupation date from the 1950s and detailed benefits data date from the 1970s. Now, for the first time, BLS has combined many of its compensation measures into a single, integrated, comprehensive program detailing the wages, benefits, and establishment practices available to American workers. Interrelated data on wage levels, benefit costs, rates of change in employer costs for compensation, benefit availability, and benefit plan details will now be available from a single source—the National Compensation Survey. ■

¹ BLS studies of employer-provided benefits throughout the 20th century are chronicled in William J. Wiatrowski, "Family-related benefits in the workplace," *Monthly Labor Review*, March 1990, pp. 28-33.

² Information on early wage studies con-

ducted by the Bureau of Labor Statistics may be found in Joseph P. Goldberg and William T. Moye, *The First Hundred Years of the Bureau of Labor Statistics*, Bulletin 2235 (Bureau of Labor Statistics, 1985.) See also Harry M. Dooty, "A century of wage statistics: the BLS contribution," *Monthly Labor*

Review, November 1984, pp. 16-28.

³ For a discussion of the variety of benefit measures available from BLS compensation surveys, see William J. Wiatrowski, "Counting the Incidence of Employee Benefits," *Compensation and Working Conditions*, June 1996, pp. 10-18.

TABLE 1. Examples of historical data from BLS compensation surveys, 1952-2000

Item	BLS estimate
Occupational compensation data¹	
Mean wages for:	
Hand bookkeepers, New York, 1952 (men)	\$79.00/week
Hand bookkeepers, New York, 1952 (women)	\$68.00/week
Oilers, New York, 1952	\$1.63/hour
Light truck drivers, New York, 1952	\$1.81/hour
Payroll clerks, San Francisco, 1965 (men)	\$127.00/week
Payroll clerks, San Francisco, 1965 (women)	\$104.00/week
Millwrights, San Francisco, 1965	\$3.63/hour
Civil engineers, Boston, 1999	\$29.60/hour
Computer programmers, Boston, 1999	\$23.51/hour
Payroll and timekeeping clerks, Boston, 1999	\$13.78/hour
Employee benefits data²	
Percent of workers with:	
Health insurance, 1979	97
Defined benefit pension, 1979	87
Health insurance, 1997	76
Defined benefit pension, 1997	50
Defined contribution plan, 1997	57
Employer cost for compensation per hour worked³	
Straight-time wages, 1968	\$3.13
Benefits, 1968 .....	.76
Insurance .....	.09
Employer retirement plan .....	.11
Social security .....	.13
Straight-time wages, 2000	\$15.36
Benefits, 2000	5.80
Insurance	1.36
Employer retirement plan .....	.77
Social security .....	.98

¹ Data are for full-time employees in private establishments.

² Data are for full-time employees in larger private establishments.

³ Data from 1968 are for all employees in private establishments; data from 2000 are for employees in private establishments and State and local government.

TABLE 2. Occupational wage data, Minneapolis-St. Paul, MN-WI, November 1999

Occupational group	Mean hourly wages	Median hourly wages
All workers		
All occupations	\$18.65	\$16.30
White-collar occupations	21.92	19.23
Registered nurses	24.22	24.25
Private industry		
All occupations	18.16	15.41
White-collar occupations	21.81	18.78
Registered nurses	23.60	23.21
State and local government		
All occupations	20.85	19.24
White-collar occupations	22.29	20.57
Registered nurses	26.42	24.93
Full-time workers		
All occupations	19.92	17.78
White-collar occupations	22.91	19.88
Registered nurses	24.83	24.49
Part-time workers		
All occupations	10.58	9.00
White-collar occupations	13.16	11.75
Registered nurses	23.10	23.21

TABLE 3. Employer costs per hour worked for employee compensation and costs as a percent of total compensation, civilian workers, March 2000

Compensation component	Cost per hour	Percent of total compensation
Total compensation	\$21.16	100.0
Wages and salaries	15.36	72.6
Total benefits	5.80	27.4
Paid leave	1.42	6.7
Vacation .....	.65	3.1
Holiday .....	.48	2.3
Sick leave .....	.21	1.0
Other leave .....	.07	.3
Supplemental pay .....	.55	2.6
Premium pay for overtime .....	.22	1.0
Shift differential .....	.05	.2
Nonproduction bonuses .....	.28	1.3
Insurance	1.36	6.4
Life insurance .....	.05	.2
Health insurance	1.25	5.9
Short-term disability .....	.04	.2
Long-term disability .....	.03	.1
Retirement .....	.77	3.6
Defined benefit .....	.43	2.0
Defined contribution .....	.34	1.6
Legally required benefits	1.67	7.9
Social Security .....	.98	4.6
Medicare .....	.25	1.2
Federal unemployment insurance .....	.03	.1
State unemployment insurance .....	.09	.4
Workers' compensation .....	.33	1.6
Other benefits .....	.03	.1

TABLE 4. Percent of full-time and part-time employees participating in selected employee benefit programs, private sector establishments with 100 employees or more, 1997

Benefit program	Full-time employees	Part-time employees
Paid holidays	89	40
Paid vacations	95	44
Paid personal leave	20	9
Paid funeral leave	81	34
Paid jury duty leave	87	37
Paid military leave	47	9
Paid family leave	2	1
Unpaid family leave	93	54
Paid sick leave	56	18
Short-term disability	55	18
Long-term disability	43	4
Life insurance	87	18
Medical care	76	21
Dental care	59	16
Vision care	26	9
Outpatient prescription drug coverage	73	20
All retirement programs	79	34
Defined benefit	50	17
Defined contribution	57	23

TABLE 5. Percent of employees with health care benefits by coverage for selected services, full-time employees, private sector establishments with 100 employees or more, 1997

Service	All covered employees	Employees with HMO coverage	Employees without HMO coverage
Hospital room/board	100	100	100
Inpatient surgery	100	100	100
Office visits	100	100	100
Skilled nursing home care	78	84	76
Home health care	85	93	81
Hospice care	60	43	69
Outpatient mental health	95	99	93
Routine physical exams	63	97	47