

Abolished Occupations—What Does the National Compensation Survey Tell Us?

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The National Compensation Survey (NCS) can be a source of information for analyzing abolished occupations. An abolished occupation is one that was in the NCS sample in one round and was later dropped from the survey because the employer discontinued the occupation, the employer went out of business, or the employer closed a worksite at a particular location. In the NCS, an occupation is an employee or group of employees classified by the employer as being in the same position and having identical status in terms of classification as full or part time, union or nonunion, time or incentive pay, and work level. An employer can lose most or all of the employees in an occupation and still not abolish the occupation; as long as plans exist to hire future workers, the NCS does not consider the occupation to have been abolished. This article analyzes data from the NCS on abolished occupations and shows, among other findings, that abolished occupations are more common in private industry than in government and more common in nonunion occupations than in union occupations.

The [National Compensation Survey \(NCS\)](#) is an ongoing establishment-based survey that collects data on employee compensation from a sample of establishments providing data on about 800 detailed occupations. Data for over 14,000 establishments are collected over a 6-month period for pay periods that include the 12th day of the month for the months of March, June, September, and December.

Several information series are produced from the data collected on these occupations; these include series on earnings and employer-provided benefits. The data on these occupations can be tracked over time. In the NCS sample, if an occupation that has been surveyed in the past no longer exists—or is abolished, according to NCS terminology—the occupation has no further role in calculation of survey estimates. From the data that are collected quarterly, we can observe which occupations have been abolished in this way over time and summarize their characteristics such as type of work performed, industry, earnings level, and ownership of the firm (private or state and local government.)

These are important observations in the labor market because an abolished occupation indicates that the employer is out of business, has closed a worksite, or is adjusting the purchase of labor. An employer who stays in business may abolish an occupation for any number of reasons. The goods or services produced by the occupation may no longer be profitable. The employer may be substituting capital for labor or substituting one kind of labor for another. Mergers can cause certain types of occupations to be abolished. Employers may choose to contract out certain services. The rate of occupation abolishment is thus a measure of change in the nature of work.

While layoffs may cause abolished occupations, an abolished occupation does not necessarily indicate that any employees have been laid off. In some cases, employers will transfer workers from an abolished occupation to another occupation. Thus, this article highlights changes in the type of work being performed rather than changes in the level of employment. (BLS produces considerable data on employment in other programs. For an overview, see <http://www.bls.gov/bls/employment.htm>.)

This article analyzes occupations on the brink of being abolished. For September 2007 data, for example, it examines occupations that were abolished before the December 2007 survey collection began. The study uses 13 quarters of NCS data, from September 2007 to September 2010, to calculate “abolishment rates” by ownership, occupational group, industry, and earnings level. An abolishment rate is defined as the percentage of workers in occupations that get abolished. For the industry data, the NCS results are also compared with results from the BLS Job openings and Labor Turnover Survey (JOLTS).¹

Some of the results include the following:

1. The state and local government average abolishment rate was 0.2 percent, compared with 0.9 percent in private industry.
2. The average abolishment rate for unionized occupations in private industry was 0.6 percent, compared with 0.9 percent for nonunionized occupations in private industry. Despite the lower abolishment rate, the rate of unionization in the private sector declined from 7.6 percent in 2008 to 6.9 percent in 2010.²
3. The private education and health services sector had both a low abolishment rate and a low rate of layoffs and discharges.³ One possible reason is that many healthcare occupations are expected to grow, suggesting a level of stability in the health services part of this sector. Of the 20 fastest growing occupations, 10 are healthcare occupations.⁴

Caveats On The Use Of Data On Abolished Occupations

The NCS defines occupations for the purpose of identifying units that can be used to track changes in compensation over time. By definition, NCS occupations do not combine the following categories of workers:

1. Full- and part-time workers
2. union and nonunion workers
3. time-paid and incentive-paid workers
4. workers at different work levels

For example, the NCS would consider full- and part-time nurses in the same establishment to be separate occupations, even if their work was essentially the same.

A work level is the measure of the required knowledge and nature of work of the occupation. The NCS would consider a senior engineer to be a different occupation than an entry-level engineer, for example, because of the difference in the required knowledge and nature of the work. Four factors are used in the NCS to categorize occupations into levels: knowledge, complexity, contacts, and physical environment. (For more information on occupation leveling, see <http://www.bls.gov/ncs/ocs/sp/ncbr0004.pdf>.)

In some cases, occupations classified as abolished by the NCS would not be reflected in the layoff numbers in the JOLTS data. An establishment might change a part-time occupation to a full-time occupation, for example. The NCS would classify the part-time occupation as abolished in some cases, while JOLTS would not consider this scenario a layoff as long as the same employee stayed in the occupation.⁵

Also, an employer might lay off a large number of workers but not abolish an occupation. For example, an employer might lay off a large percentage of a call center staff because of reduced call volume but maintain the same structure and occupations to handle the calls that are left. The JOLTS program would record the employment losses but the NCS program would not record any abolished occupations. NCS data are not used for measuring change in employment.

The NCS counts an occupation as abolished only if the occupation is permanently abolished. An occupation that is temporarily vacant would not be counted as abolished.

Differences In Occupation Abolishment Rates By Ownership

In private industry, the average abolishment rate was 0.9 percent, compared with 0.2 percent in government occupations. The abolishment rate for government occupations ranged from a low of less than 0.1 percent in September of 2007 to a high of 0.4 percent in September of 2009. The abolishment rate for private sector occupations ranged from a low of 0.6 percent for September of 2010 to a high of 1.2 percent for both December of 2008 and December of 2009.

As can be seen in table 1, abolished occupations are mostly a phenomenon of the private sector. Therefore, the remainder of this article focuses on abolishment rates of occupations in the private sector.

Table 1: Percent of Workers in Occupations that Were Abolished Broken Out by Establishment Ownership, National Compensation Survey, September 2007 — September 2010

Year	Month	Private industry	State and local government
2007	September	0.8	<0.1
2007	December	1.1	0.2
2008	March	0.9	0.2
2008	June	1	0.2
2008	September	0.9	0.3
2008	December	1.2	0.2
2009	March	1	0.2
2009	June	0.7	0.2
2009	September	0.8	0.4
2009	December	1.2	0.3
2010	March	0.8	0.2
2010	June	0.7	0.3
2010	September	0.6	0.1
	Period average	0.9	0.2

Abolishment Rates Of Union And Nonunion Occupations In The Private Sector

Within private industry, the average abolishment rate for union occupations is 0.6 percent, compared with a 0.9-percent rate for nonunionized occupations. According to the NCS definition, the occupation is classified as a union occupation if it is covered by a collective bargaining agreement that includes the right to bargain over wages. A nonunion occupation is any occupation not meeting the criteria of a union occupation. Table 2 shows the averages by quarter in private industry:

Table 2: Percent of Workers in Occupations that Were Abolished Broken Out by Union and Nonunion, Private Industry, National Compensation Survey, September 2007 — September 2010

Year	Month	Union	Nonunion
2007	September	0.5	0.9
2007	December	0.5	1.2
2008	March	0.5	0.9
2008	June	0.5	1.0
2008	September	0.6	1.0
2008	December	1.3	1.2
2009	March	0.5	1.0
2009	June	0.5	0.7
2009	September	0.4	0.9
2009	December	0.8	1.2
2010	March	0.6	0.8
2010	June	0.9	0.7
2010	September	0.8	0.6
	Period average	0.6	0.9

Abolishment Of Multiple Occupations Within An Establishment

The NCS does not collect data for every occupation in an establishment; instead, it usually samples four, six, or eight occupations, depending on the size of the establishment.⁶ Because multiple occupations are sampled, the NCS can provide information about the number of sampled occupations that an employer abolished in a given quarter. Because the abolishment of multiple occupations may indicate an event that affected the whole establishment, this study focuses on the difference in rates for abolishment of a single sampled occupation versus abolishment of multiple sampled occupations.

In private industry, a sample of 13 studied quarters showed that 62 percent of workers in abolished occupations were working for employers that abolished more than one sampled occupation in the quarter in question. In state and local government, the percentage was 28 percent. These data have to be used with some caution, however. It is possible in many cases that an employer abolished multiple occupations in the same quarter but only one of these occupations was in the NCS sample. Thus, these data can be considered a lower bound—that is, the actual percentage of workers in abolished occupations who worked in establishments with multiple abolished occupations in the same quarter may be higher than the figures of 62 and 28 percent for private industry and government, respectively.

A second issue is that employers may have definitions of an occupation that differ from those of the NCS. The NCS considers full-time and part-time workers to be in separate occupations, even if they perform the same functions. Thus, an employer might say it abolished one occupation, whereas NCS data would indicate it abolished multiple occupations.

The causes of abolishment of multiple occupations in the same establishment may include establishments going out of business, closing of workplaces, and reorganization of a business. The data show that in private industry, the cause of 40 percent of the abolishment rate was the establishment going out of business.

Abolished Occupations By Occupational Group

Table 3 shows occupation abolishment rates by occupational group within private industry.

Table 3: Percent of Workers in Occupations that Were Abolished Broken Out by Occupational Groups, Private Industry, National Compensation Survey, September 2007 to September 2010

Year	Month	Management, Business, and Financial	Professional and Related	Natural Resources and Construction	Production and Transportation	Sales and Office	Service
2007	September	0.7	0.3	0.7	1.3	0.8	0.9
2007	December	1.7	0.6	0.7	1.1	1.2	1.4
2008	March	1.4	0.6	0.6	0.6	1.1	0.8
2008	June	1.3	0.8	1.2	0.9	1.2	0.6
2008	September	0.8	0.7	1.0	1.3	0.9	1.0
2008	December	1.8	1.2	0.7	1.5	1.7	0.4
2009	March	1.2	0.8	1.0	1.1	1.1	0.6
2009	June	0.9	0.7	1.1	0.8	0.7	0.4
2009	September	1.6	0.6	0.6	0.7	0.9	0.8
2009	December	1.7	0.8	1.0	1.4	1.5	0.9
2010	March	0.9	0.8	0.6	0.5	0.8	0.9
2010	June	1.2	0.5	0.6	0.8	0.7	0.7
2010	September	1.0	0.5	0.5	0.6	0.7	0.6
	Period average	1.2	0.7	0.8	1.0	1.0	0.8

Among occupational groups, professional and related workers tended to have a low abolishment rate for most quarters between September 2007 and September 2010 as compared with that of management, business, and financial workers. One factor that lowered the abolishment rate for both the professional and related, and service, occupational groups was the low abolishment rate among healthcare occupations. Healthcare practitioners and technical occupations (which are included in the professional and related category) had an average abolishment rate 0.5 percent. Healthcare support occupations (which are included in the service occupations category) also had an average abolishment rate of 0.5 percent.

Industry Data And Comparison With JOLTS Data

The BLS [Job openings and Labor Turnover Survey \(JOLTS\)](#) has data on layoffs and discharges for many categories, including overall private industry, and for a number of large industries. It might be expected that layoff and discharge rates would correlate with the NCS data on abolished occupations.

This study looks at NCS data in any given quarter on occupations that were abolished in the following quarter. To do an accurate comparison with JOLTS data, 3-month averages for JOLTS data were compared with the NCS data, as can be seen in tables 4 and 5. Because the NCS reference date is the 12th of the month, the closest possible reference period for the JOLTS data includes the reference month and the next 2 months. In table 4, for example, in the row representing the NCS data for September 2007 to November 2007, the JOLTS data consist of the 3-month average for September, October, and November. The NCS data, which are quarterly, reflect the occupations in the September sample that were abolished between September and December. The JOLTS data for September, October, and November thus provide the closest available time period for comparison with the NCS data for the period from September 12th to December 12th.

Table 4 shows the NCS and JOLTS layoff and discharge rates for all of private industry. The overall average shows that the abolishment rate is about half the rate for layoffs and discharges. The two sets of rates do show correlation with a p-value of 0.056.⁷ The correlation coefficient was 0.54.

Table 4: Job Openings and Labor Turnover Survey and National Compensation Survey Data on Layoffs, and Discharges and Abolished Occupations in Private Industry, September 2007 to September 2010(1)

All private industry	Percent of workers laid off or discharged- JOLTS	Percent of workers in Occupations that were abolished --NCS
September 2007- November-2007	1.7	0.8
December 2007-February 2008	1.7	1.1
March 2008-May 2008	1.3	0.9
June 2008-August 2008	1.6	1.0
September 2008-November 2008	1.8	0.9
December 2008-February 2009	2.4	1.2
March 2009-May 2009	1.8	1.0
June 2009-August 2009	1.8	0.7
September 2009-November 2009	1.8	0.8
December 2009-February 2010	1.8	1.2
March 2010-May 2010	1.3	0.8

Footnotes:
 (1) Data are not seasonally adjusted.

All private industry	Percent of workers laid off or discharged-JOLTS	Percent of workers in Occupations that were abolished --NCS
June 2010-August 2010	1.5	0.7
September 2010-November 2010	1.5	0.6
Period average	1.7	0.9

Footnotes:
 (1) Data are not seasonally adjusted.

Table 5 shows JOLTS layoffs and discharges and NCS abolishment rates for selected industries. Construction had the highest rate of layoffs and discharges of any of these industries. In contrast, the abolishment rate in the construction industry was close to the overall average for private industry. The education and health services industry had both a low abolishment rate and a low rate of layoffs and discharges.

Table 5: Job Openings and Labor Turnover Survey and National Compensation Survey Data on Layoffs and Discharges, and Abolished Occupations in Industry Groups within Private Industry, September 2007 to September 2010(1)

Period	Construction		Manufacturing		Trade, Transportation, and Utilities		Information	
	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS
September 2007-November 2007	3.4	1.1	1.4	1.3	1.4	0.6	0.6	0.5
December 2007-February 2008	4.1	0.9	1.2	0.9	1.7	1.0	0.9	2.5
March 2008-May 2008	3.0	1.2	1.1	0.9	1.1	0.8	0.7	0.7
June 2008-August 2008	3.1	1.7	1.2	1.5	1.4	0.8	0.8	1.6
September 2008-November 2008	4.7	0.6	1.6	1.2	1.5	1.0	1.3	1.1
December 2008-February 2009	6.7	0.8	2.8	1.7	2.4	1.4	1.7	1.6

See footnote at end of table.

Period	Construction		Manufacturing		Trade, Transportation, and Utilities		Information	
	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS
March 2009-May 2009	4.8	1.3	2.1	1.1	1.5	1.1	1.1	1.1
June 2009-August 2009	4.3	1.2	1.6	0.8	1.3	0.7	1.2	0.5
September 2009-November 2009	4.8	0.7	1.8	0.9	1.4	0.6	0.7	4.6
December 2009-February 2010	6.6	1.5	1.5	1.6	1.8	1.0	1.3	1.8
March 2010-May 2010	4.0	0.8	1.0	0.8	1.0	0.4	0.7	1.2
June 2010-August 2010	3.7	0.8	1.1	1.1	1.2	0.7	0.8	1.1
September 2010-November 2010	4.6	0.4	1.3	0.9	1.1	0.4	0.7	0.4
Period average	4.4	1.0	1.5	1.1	1.4	0.8	1.0	1.4

See footnote at end of table.

Table 5: Job Openings and Labor Turnover Survey and National Compensation Survey Data on Layoffs and Discharges, and Abolished Jobs in Industry Groups within Private Industry, September 2007 to September 2010(1)
(continued)

Period	Finance		Professional and Business Services		Education and Health Services		Leisure and Hospitality	
	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS
September 2007-	1.2	0.8	2.5	1.0	0.7	0.6	2.7	1.0

Footnotes:
(1) Data are not seasonally adjusted.

Period	Finance		Professional and Business Services		Education and Health Services		Leisure and Hospitality	
	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS
November 2007								
December 2007-February 2008	1.3	1.2	2.5	1.3	0.8	0.3	1.8	1.8
March 2008-May 2008	0.9	1.3	2.0	1.0	0.9	0.4	1.4	0.9
June 2008-August 2008	1.2	1.3	2.1	1.2	1.1	0.3	1.7	0.8
September 2008-November 2008	0.9	1.2	2.4	1.2	0.7	0.4	2.4	1.1
December 2008-February 2009	1.7	2.1	3.2	0.9	0.9	1.0	1.9	0.3
March 2009-May 2009	1.3	0.9	2.5	1.0	0.8	0.8	1.7	0.6
June 2009-August 2009	1.3	1.0	2.2	0.7	1.3	0.4	1.9	0.7
September 2009-November 2009	1.0	1.4	2.2	1.0	0.7	0.3	2.7	0.8
December 2009-February 2010	1.0	1.7	2.3	1.6	0.8	0.7	1.6	0.7
March 2010-May 2010	0.8	1.1	2.0	0.9	0.7	0.6	1.4	1.2
June 2010-August 2010	0.7	1.4	1.9	0.6	1.3	0.2	1.6	0.6
September 2010-November 2010	0.8	1.2	1.9	0.8	0.7	0.5	2.3	0.8

Footnotes:
 (1) Data are not seasonally adjusted.

Period	Finance		Professional and Business Services		Education and Health Services		Leisure and Hospitality	
	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS	Percent of workers laid off or discharged-JOLTS	Percent of workers in jobs that were abolished -- NCS
Period average	1.1	1.3	2.3	1.0	0.9	0.5	1.9	0.9

Footnotes:
(1) Data are not seasonally adjusted.

Abolished Occupations And Pay Levels

The abolishment rate does not appear to correlate with pay levels. As table 6 shows, the abolishment rates in six different earnings ranges showed essentially identical results.

Table 6: National Compensation Survey Data on Abolished Occupations by Earnings Percentile, September 2007 to September 2010

Earnings percentile	Percent of workers in Occupations that were abolished --NCS
Lowest 10 percent	0.9
10th percent to 25th percent	0.9
25th percent to 50th percent	0.9
50th percent to 75th percent	0.9
75th percent to 90th percent	0.9
90th percent or greater	0.9

Conclusion

The NCS can be a source of information for analyzing abolished occupations. While the NCS is designed to measure the level and change in compensation, tracking occupations over time reveals the characteristics of abolished occupations. Employers will often eliminate multiple occupations in the same quarter. This practice raises the possibility that many of these occupations are abolished in connection with establishments going out of business, general reorganizations, or plant shutdowns, although the data are inconclusive on this point.

The data show that the abolishment rate is higher in private industry than in government and higher in nonunion occupations than in union occupations. The data also show that healthcare occupations have a low abolishment rate. Partly because of this low rate, professional and related occupations had a lower abolishment rate than the management, business, and financial occupations.

Comparisons with data from the Job Openings and Labor Turnover Survey (JOLTS) data do not yield any clear trends. The education and health service industry in the private sector had a low rate of layoffs and discharges and abolished occupations. With other industries, however, this pattern did not always hold. Industries with high turnover did not necessarily have high abolishment rates.

A possible area for future research is whether occupations that provide a service through personal interaction with the customer are at lower risk for abolishment. The low rate of abolished occupations in the education and health services sector suggests that possibility. More research would shed light on this and similar questions.

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End Notes

1 See <http://www.bls.gov/oco/cg/cgs035.htm> and <http://www.bls.gov/oco/cg/cgs034.htm#outlook>.

2 These data are from the unionization data from Current Population Survey of the Bureau of Labor Statistics. See http://www.bls.gov/news.release/archives/union2_01212011.htm for the most recent data.

3 Layoffs and discharges are defined as “Involuntary separations initiated by the employer.” See <http://www.bls.gov/jlt/jltdef.htm#4> for more information.

4 Data on this subject come from the Employment Projections Program of the Bureau of Labor Statistics. See <http://www.bls.gov/oco/cg/cgs035.htm> and <http://www.bls.gov/oco/cg/cgs034.htm#outlook>.

5 The rules about abolishment vary based on the situation at initial collection. If an establishment has both full-time and part-time workers doing the same work at initial collection, NCS would classify the full-time workers as a separate occupation than the part-time workers. If only one of these two occupations is chosen in the sample, the occupation would later be considered abolished if the establishment changed the full-time or part-time status of that sampled occupation. For example, if just the full-time occupation was selected and the full-time occupation was later changed to a part-time occupation, NCS would classify the occupation as abolished. However, if there were only full-time (or only part-time) workers in an occupation at initial collection and the full-time/part-time status of the occupation later changed, the occupation would not be considered abolished. These rules also apply for union/nonunion and time/incentive occupations.

6 NCS will sample up to 20 occupations for government units and 32 occupations for aircraft manufacturing units.

7 A p-value gives the probability that a statistic is significantly different from the null hypothesis.