

Quarterly Census of Employment and Wages (QCEW) Overview

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The Quarterly Census of Employment and Wages (QCEW) program compiles a quarterly count of employment and wages for employers that are subject to unemployment insurance laws. QCEW does not include self-employment such as farmers and industries such as railroads that are not covered by the Unemployment Insurance (UI) Act. So “covered employment” within Illinois refers to employers in the state covered by the Illinois UI Act. These employers are required to report information such as their employment and total wages paid each quarter of each year.

The proportion of employment covered in Illinois is more than 97 percent all employment. Quarterly QCEW reports produced by Illinois are augmented with federal government employment within the state to make the published reports more complete. The QCEW program is sometimes referred to as ES-202, which was the form number that was originally used for the program.

Each employer’s UI account information in the QCEW data system includes data fields such as UI account number; unit number (some employers have multiple units (establishments) under the same UI account number)); NAICS industry code (6 digits); county code; community area (or zone) code, which is a sub-county geographical code; and ownership (Federal, State, Local Government, or Private sector).

Industry coding known as NAICS (North American Industry Classification System) has been in effect since 2001. The previous industry coding system was known as SIC (Standard Industrial Classification). As one example, employment data totals are not comparable between SIC-coded manufacturing and NAICS-coded manufacturing. NAICS coding was initiated because of the creation of the North American Free Trade Agreement (NAFTA), which required industry code standardization between the U.S., Canada, and Mexico.

The first two digits of the NAICS code define the major industry sector of the employer. This information is used for the UI tax rate allocation and for monthly payroll employment data. The community area (or zone) code is generally used only for the sub-county breakouts reported in the Where Workers Work publication. It should be noted that an employer can have multiple establishments within an account

Purposes of QCEW Data

One of the main purposes of data from the QCEW program is that it acts as the foundation for the other BLS/State cooperative employment statistics programs. For example, the Current Employment Statistics (CES) program conducts an employer survey each month to provide monthly employment estimates for the state and sub-state areas. CES uses the QCEW employer database as a framework from which its employer sample is drawn. This allows the BLS to produce monthly CES employment (Payroll) estimates that provide information on current conditions, along with monthly unemployment rates from the Local Area Unemployment Statistics (LAUS) program. The monthly news is more commonly quoted because of its timeliness. The QCEW is the “raw data” underlying the monthly estimates.

CES also uses QCEW for benchmarking. LAUS can use QCEW employment data as an input for residential employment estimates and unemployment estimates for agricultural workers. The Occupational Employment Statistics (OES) program also uses the QCEW data to select its sample for employer surveys. OES also uses QCEW as a benchmark for total employment for business establishments and the industry structure helps to determine the types of occupational employment within these industries.

QCEW data is used for many other purposes in the world of economics data. State economists use the QCEW as the underlying data to predict short term and long term industry and occupation projections. The Bureau of Labor Statistics use the QCEW data for the Job Openings and Labor Turnover Survey (JOLTS) and Business Employment Dynamics (BED) program.

The U.S. Department of Commerce, Bureau of Economic Analysis uses QCEW data for the calculation of Gross Domestic Product (GDP) and Personal Income. Other economic uses include state revenue projections; economic forecasting; local economic development indicators; federal fund allocations (HUD, USDA, and HCFA/CHIP); and sampling for various price, wage, and safety programs.

Publications using QCEW Data

QCEW data is used for a number of reports that are made available to the public. The QCEW data system is very large so a data extract is created each quarter that includes only those data elements considered necessary for producing the published reports needed for a particular quarter. This is essentially a snapshot of data values in the QCEW data system at the time the data extract is created. It is possible that the QCEW program staff may make edits to the QCEW data system after the data extract is created and these edits will not be included in any yet to be produced reports.

Quarterly QCEW reports are made available to the public within seven months after the end of the quarter. This period allows the QCEW program to process the quarterly UI tax reports submitted by employers.

As part of the quarterly report production process, a data extract file is created prior to production of the reports. Differences between the data extract and edits made to the QCEW data system after the extract creation date are generally negligible. Once a data extract is created, it is generally used from that time forward for production of any report that utilizes QCEW data for that particular quarter.

The quarterly employment report product is generally referred to as "Illinois at Work". Currently, this is comprised of two separate reports.

The county-level report is a tabulation of employing establishments (units), employment, and total wages paid by covered employers in Illinois (in addition to federal government employment), by county, and by 2-digit NAICS industry for a particular quarter. Separate tables for "Unclassified" and "Statewide" are on the last page of the report. An employer can be assigned the county code of "Unclassified" if the employment is not located consistently within one county of the state. The "Statewide" table is the sum of all 102 counties and "Unclassified".

The statewide-level report is a tabulation of employing establishments (units), employment, and total wages paid by covered employers in Illinois (in addition to federal government employment), by 3-digit NAICS industry for a particular quarter.

A report for county-, EDR-, and state-level average weekly wages is now produced quarterly. This report uses employment and total wage data from the county-level employment report to calculate average weekly wages.

“Where Workers Work” (WWW) is produced once a year using data from the first quarter each year. This report utilizes the community area (or zone) code so that employment tabulations can be provided at a sub-county level for the six-county Chicago metropolitan region. The origin of this report dates back to the 1950’s. The WWW report is generally released around November of each year (based on data for March of that same year). Since it provides employment data at the community level throughout the six-county region and neighborhood data within the city of Chicago, many customers utilize the data for different purposes. It should be noted that not every community in the Chicago six-county region has a unique community area (zone) code within the QCEW data system that can be utilized for tabulating employment for that community.

Other products produced once a year (based on first quarter data) include reports on the number of establishments, by employment size, by major industry sector; and the number of establishments, by employment size, by ownership. Custom reports can be done utilizing QCEW data for a fee when certain conditions are met.

Issues with QCEW Data

Note on the IDES LMI Web site on QCEW Web page: *QCEW data are not designed as a time series. QCEW data are simply the sums of individual establishment records and reflect the number of establishments that exist in a county or industry at a point in time. Establishments can move in or out of a county or industry for a number of reasons--some reflecting economic events, others reflecting administrative changes. For example, economic change would come from a firm relocating into the county; administrative change would come from a company correcting its county designation.*

Generally the more detailed geography and industry-level data you seek, the more issues you are going to come across using QCEW data. As mentioned previously, the data extract used for these reports is a “snapshot” pulled from a larger database. As part of the program process the Bureau of Labor Statistics (BLS) obtains their QCEW file slightly before the state creates its data extract to produce reports. So, the federal and statewide QCEW report data tend to have small differences. (Illinois takes a later snapshot than the BLS in order to incorporate as many updates as possible from employers.)

One situation is an employer with multiple work sites. The employer may report all of the employment from one address (could be an office headquarters). QCEW staff work to get the employment reported by work site but this is a work-in-progress and never truly “done”.

For instance, an employer could report its employment from each of its worksites. Then, that employer is purchased by another employer and the employment is then reported under a different UI account, which could possibly be a central address (not broken out by work site) that was different from the previous employer's address.

In all of these cases, the total number of employees and the location where they may be working might not have changed, but several changes may have taken place in the source data that is used to produce reports.

QCEW program staff constantly work to verify that location addresses and industries are coded correctly. They utilize a "refiling" (random) process on a sample of employers each year. The employer can update their contact and other information, which is then updated in the QCEW data system. Input is received from a number of sources, including contractors that work with the BLS, and through the staff's own inspection of employer Web pages. Many of these changes are made only to the current year/quarter in the QCEW data system even if it is possible that the changes occurred multiple periods beforehand.

So since industry codes and addresses are both changing regularly within the data, shifts in data cells can be seen across rows and columns in detailed reports such as Where Workers Work (that in many cases cancel each other out). Thus the number of QCEW data issues due to non-economic code changes can be reduced by increasing the size of the geographical region that is studied as well as including employers within a more inclusive definition of industries.

Below is an example of using QCEW data with broad industry definitions over three sub-state regions for Illinois (White Collar Services, Blue Collar Services and Goods Producing used as three private sector industry categories over three sub-state areas – each comprising multiple counties).

EXAMPLE: (tables originally utilized in 2016 Illinois Economic Report – tables now updated with 2016 average annual data)

Exhibit 26 - Average Annual Employment & Proportional Shares of Statewide Employment										
		Avg. Annual Employment		Employment Diff		Emp as % of Statewide Total		Emp as % of Corr. Statewide Ind. Group Tot.		
		2001	2016	2001-2016	PDiff	2001	2016	2001	2016	
Chicago 9-county	Goods Producing	726,617	521,220	-205,397	-28.3%	12.6%	9.0%	66.0%	64.7%	
Chicago 9-county	White Collar Services	1,240,206	1,387,638	147,432	11.9%	21.5%	24.0%	75.5%	76.5%	
Chicago 9-county	Blue Collar Services	1,586,438	1,740,702	154,264	9.7%	27.5%	30.1%	72.0%	73.7%	
Chicago 9-county	Public	481,028	486,930	5,902	1.2%	8.3%	8.4%	58.8%	61.3%	
Chicago 9-county	Total	4,034,288	4,136,489	102,201	2.5%	70.0%	71.6%	70.0%	71.6%	
Small Metro	Goods Producing	230,766	174,640	-56,126	-24.3%	4.0%	3.0%	21.0%	21.7%	
Small Metro	White Collar Services	285,638	311,514	25,876	9.1%	5.0%	5.4%	17.4%	17.2%	
Small Metro	Blue Collar Services	421,061	430,215	9,154	2.2%	7.3%	7.4%	19.1%	18.2%	
Small Metro	Public	233,860	212,349	-21,511	-9.2%	4.1%	3.7%	28.6%	26.7%	
Small Metro	Total	1,171,324	1,128,717	-42,607	-3.6%	20.3%	19.5%	20.3%	19.5%	
Non-Metro	Goods Producing	143,083	110,002	-33,080	-23.1%	2.5%	1.9%	13.0%	13.7%	
Non-Metro	White Collar Services	117,536	115,629	-1,907	-1.6%	2.0%	2.0%	7.2%	6.4%	
Non-Metro	Blue Collar Services	196,504	189,437	-7,067	-3.6%	3.4%	3.3%	8.9%	8.0%	
Non-Metro	Public	103,116	95,565	-7,551	-7.3%	1.8%	1.7%	12.6%	12.0%	
Non-Metro	Total	560,238	510,633	-49,605	-8.9%	9.7%	8.8%	9.7%	8.8%	
Statewide	Goods Producing	1,100,466	805,862	-294,603	-26.8%	19.1%	14.0%	100.0%	100.0%	
Statewide	White Collar Services	1,643,379	1,814,780	171,401	10.4%	28.5%	31.4%	100.0%	100.0%	
Statewide	Blue Collar Services	2,204,002	2,360,353	156,351	7.1%	38.2%	40.9%	100.0%	100.0%	
Statewide	Public	818,003	794,844	-23,160	-2.8%	14.2%	13.8%	100.0%	100.0%	
Statewide	Total	5,765,850	5,775,839	9,989	0.2%	100.0%	100.0%	100.0%	100.0%	
% of U.S. Total										
United States	Goods Producing	24,865,272	20,855,718	-4,009,554	-16.1%	19.2%	14.7%			
United States	White Collar Services	34,708,207	43,475,547	8,767,340	25.3%	26.8%	30.6%			
United States	Blue Collar Services	49,731,326	56,173,356	6,442,030	13.0%	38.4%	39.6%			
United States	Public	20,330,999	21,365,445	1,034,446	5.1%	15.7%	15.1%			
United States	Total	129,635,804	141,870,066	12,234,262	9.4%	100.0%	100.0%			

Data Source: Quarterly Census of Employment and Wages (QCEW)

Note: Employer records coded with "Unclassified" county code have been removed from statewide analysis

Exhibit 27 - Average Annual Wages & Proportional Shares of Statewide Wages													
		Avg. Annual Wages		Avg. Annual Wages Diff		% Share of Total Wages		Total Wages		Wages as % of Statewide Total		Wages as % of Corr. Statewide Ind. Group Tot.	
		2001	2016	2001-2016	PDiff	2001	2016	2001-2016	PDiff	2001	2016	2001	2016
		Chicago 9-county	Goods Producing	\$47,178	\$72,696	\$25,519	54.1%	20.0%	15.2%	\$3,610,812,651	10.5%	15.4%	11.8%
Chicago 9-county	White Collar Services	\$55,781	\$80,613	\$24,832	44.5%	40.3%	44.8%	\$42,681,458,143	61.7%	31.0%	34.8%	84.1%	83.6%
Chicago 9-county	Blue Collar Services	\$30,667	\$41,719	\$11,052	36.0%	28.3%	29.1%	\$23,968,916,501	49.3%	21.8%	22.6%	79.5%	79.8%
Chicago 9-county	Public	\$40,589	\$56,533	\$15,944	39.3%	11.4%	11.0%	\$8,003,094,167	41.0%	8.8%	8.6%	63.6%	65.3%
Chicago 9-county	Total	\$42,544	\$60,413	\$17,869	42.0%	100.0%	100.0%	\$78,264,281,462	45.6%	77.0%	77.7%	77.0%	77.7%
Small Metro	Goods Producing	\$41,931	\$63,890	\$21,960	52.4%	26.2%	21.3%	\$1,481,631,181	15.3%	4.3%	3.5%	19.8%	20.4%
Small Metro	White Collar Services	\$35,297	\$56,090	\$20,793	58.9%	27.3%	33.4%	\$7,390,684,488	73.3%	4.5%	5.4%	12.3%	13.1%
Small Metro	Blue Collar Services	\$20,781	\$29,636	\$8,855	42.6%	23.7%	24.4%	\$3,999,925,940	45.7%	3.9%	4.0%	14.3%	14.0%
Small Metro	Public	\$35,753	\$51,304	\$15,552	43.5%	22.7%	20.8%	\$2,533,285,755	30.3%	3.8%	3.4%	27.3%	25.9%
Small Metro	Total	\$31,477	\$46,314	\$14,837	47.1%	100.0%	100.0%	\$15,405,527,364	41.8%	16.5%	16.3%	16.5%	16.3%
Non-Metro	Goods Producing	\$34,007	\$50,992	\$16,985	49.9%	33.7%	28.8%	\$743,468,441	15.3%	2.2%	1.7%	10.0%	10.3%
Non-Metro	White Collar Services	\$25,636	\$39,195	\$13,559	52.9%	20.9%	23.3%	\$1,518,958,087	50.4%	1.4%	1.4%	3.7%	3.4%
Non-Metro	Blue Collar Services	\$19,131	\$29,563	\$10,432	54.5%	26.0%	28.8%	\$1,840,999,542	49.0%	1.7%	1.7%	6.1%	6.2%
Non-Metro	Public	\$27,120	\$38,736	\$11,617	42.8%	19.4%	19.0%	\$905,360,323	32.4%	1.3%	1.2%	9.1%	8.8%
Non-Metro	Total	\$25,765	\$38,077	\$12,312	47.8%	100.0%	100.0%	\$5,008,786,393	34.7%	6.5%	6.0%	6.5%	6.0%
Statewide	Goods Producing	\$44,365	\$67,825	\$23,460	52.9%	21.9%	17.0%	\$5,835,912,273	12.0%	21.9%	17.0%	100.0%	100.0%
Statewide	White Collar Services	\$50,065	\$73,764	\$23,700	47.3%	36.9%	41.6%	\$51,591,100,718	62.7%	36.9%	41.6%	100.0%	100.0%
Statewide	Blue Collar Services	\$27,750	\$38,541	\$10,791	38.9%	27.4%	28.3%	\$29,809,841,983	48.7%	27.4%	28.3%	100.0%	100.0%
Statewide	Public	\$37,509	\$52,997	\$15,488	41.3%	13.8%	13.1%	\$11,441,740,245	37.3%	13.8%	13.1%	100.0%	100.0%
Statewide	Total	\$38,666	\$55,683	\$17,017	44.0%	100.0%	100.0%	\$98,678,595,219	44.3%	100.0%	100.0%	100.0%	100.0%
% of U.S. Total													
United States	Goods Producing	\$41,015	\$62,089	\$21,074	51.4%	21.7%	17.0%	\$275,055,767	27.0%	21.7%	17.0%		
United States	White Collar Services	\$47,252	\$70,938	\$23,687	50.1%	34.9%	40.5%	\$1,444,070,280	88.1%	34.9%	40.5%		
United States	Blue Collar Services	\$25,985	\$36,846	\$10,861	41.8%	27.5%	27.2%	\$777,499,145	60.2%	27.5%	27.2%		
United States	Public	\$36,549	\$54,221	\$17,672	48.4%	15.8%	15.2%	\$415,377,170	55.9%	15.8%	15.2%		
United States	Total	\$36,219	\$53,621	\$17,403	48.0%	100.0%	100.0%	\$2,912,002,362	62.0%	100.0%	100.0%		

Data Source: Quarterly Census of Employment and Wages (QCEW)

Note: Employer records coded with "Unclassified" county code have been removed from statewide analysis