Employment Projections

Wendy Martinez
Director, Mathematical Statistics Research Center
Office of Survey Methods Research
Bureau of Labor Statistics

Sackler Colloquium
December 2017
Preliminaries

- **Goal:** Complicated process – give a high-level overview of how BLS models Employment Projections.
  - Links
  - Resources

- **Disclaimer:** Any opinions expressed in this presentation are those of the author and do not constitute policy of the Bureau of Labor Statistics or the U.S. Federal government.

- **Acknowledge** help from colleagues at BLS – Michael Wolf, David Terkanian, Kathleen Green, James Franklin, Kathryn Laurence.
Main Points

- About the BLS
- Employment Projections and the Occupational Outlook Handbook – OOH
- Data Sets Used
- Industry and Occupational Classifications
- Process and Models
- Resources and References
About the BLS
Federal Statistical Agencies

Principal Statistical Agencies

1. Bureau of Economic Analysis
2. Bureau of Justice Statistics
4. Bureau of Transportation Statistics
5. Census Bureau
6. Economic Research Service
7. Energy Information Administration
8. National Agricultural Statistics Service
9. National Center for Education Statistics
10. National Center for Health Statistics
11. National Center for Science and Engineering Statistics
12. Office of Research Evaluation and Statistics (SSA)
13. Statistics of Income (IRS)
Federal Agency Principles

Accurate. . . Getting it right
Objective. . . Free from bias
Relevant. . . Information you can use
Timely. . . Getting it out quickly
Accessible. . . Meeting you where you are

National stats are a pure public good, must get best we can for the Nation’s data dollar
Bureau of Labor Statistics (BLS) Mission

Our Mission is to collect, analyze, and disseminate essential economic information to support public and private decision-making.

As an independent statistical agency, we serve our diverse user communities by providing products and services that are objective, timely, accurate, and relevant.

Website: www.bls.gov
Bureau of Labor Statistics

Statistical arm of the U.S. Department of Labor

Provides key economic data

- Employment and unemployment
- Consumer and producer prices
- Pay and benefits
- Productivity
- Workplace safety and health
Why We Do It

- Provide factual and reliable information, not opinions, for use in decision-making
- Provide policy-makers with accurate data
- Provide information to researchers
- Provide information to job seekers and businesses
- Provide information for the media
BLS Handbook of Methods

https://www.bls.gov/opub/hom/
Projections Methodology

https://www.bls.gov/emp/
Occupational Outlook Handbook

https://www.bls.gov/ooh/
Occupational Outlook Handbook

Occupational Information Included in the OOH

The Occupational Outlook Handbook (OOH) is a career resource offering information on the hundreds of occupations that provide the majority of jobs in the United States. Each occupational profile describes the typical duties performed by the occupation, the work environment of that occupation, the typical education and training needed to enter the occupation, the median pay for workers in the occupation, and the job outlook for the next 10 years for that occupation. Each profile is in a standard format that makes it easy to compare occupations.

Sections of Occupational Profiles

- Summary
- What They Do
- Work Environment
- How to Become One
- Pay
- Job Outlook
- State and Area Data
- Similar Occupations
- More Information

https://www.bls.gov/ooh/about/occupational-information-included-in-the-ooh.htm
Occupational Outlook Handbook

- Summary – Quick Facts
  - Pay (Occupational Employment Statistics – OES)
  - Typical Entry-Level Education
  - Work Experience
  - Number of jobs in the base year of projections
  - Job outlook – Projected percent change in employment over the period
  - Employment change – projected numeric change in employment over the period
Employment Projections Process

https://www.bls.gov/emp/ep_projections_methods.htm
Data Sources
Data Sources – Outside BLS

- Many sources of data are used in projections

- Census Bureau
  - Projections of resident population
  - https://www.census.gov/programs-surveys/popproj.html

- Bureau of Economic Analysis
  - Detailed measures of U.S. industry output and income
  - https://www.bea.gov/national/
Data Sources – BLS
Occupational Employment Statistics

- OES is an annual survey of establishments.
- Produces employment and wage estimates for over 800 occupations and for some industries
- Nation, states, metropolitan, nonmetropolitan areas
- **For employment projections**, provides occupational distributions for nonfarm wage and salary industry employment
- https://www.bls.gov/oes/
Data Sources – BLS
Current Employment Statistics (CES)

- CES is a monthly survey of establishments
- Produces estimates of nonfarm employment, hours, and earnings of workers on payrolls
- National, state, DC, Puerto Rico, and more
- For employment projections, provides nonfarm wage and salary employment industry levels
- https://www.bls.gov/ces/
Data Sources – BLS
Quarterly Census of Employment and Wages

- QCEW publishes count of employment and wages by industry
- Covers more than 95% of U.S. jobs
- County, state, and national levels
- **For employment projections**, supplements OES and CES information on nonfarm wage and salary employment
- **For industry projections**, supplements the CES industry employment data.
- https://www.bls.gov/cew/
Data Sources – BLS
Current Population Survey (CPS)

- CPS is a monthly survey of households
- Conducted by Census Bureau for BLS
- **For employment projections**, CPS provides count of agricultural industry employment, self-employed workers, and workers in private households
- https://www.bls.gov/cps/
Classification Systems
Occupations and Industries
Occupational Classification

- Standard Occupational Classification System (SOC) classifies workers into categories
- For the purpose of collecting, calculating, or disseminating data.
- All workers are classified into one of 840 detailed occupations.
Occupational Classification

- There are
  - 461 broad occupations
  - 97 minor groups
  - 23 major groups

- Groups have similar job duties
- Some also have similar skills and education/training
- https://www.bls.gov/soc/
## Occupational Classification

### Preliminary 2018 SOC definitions

<table>
<thead>
<tr>
<th>Occupation Group</th>
<th>Occupation Code</th>
<th>Title</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>major</td>
<td>11-0000</td>
<td>Management Occupations</td>
<td></td>
</tr>
<tr>
<td>minor</td>
<td>11-1000</td>
<td>Top Executives</td>
<td></td>
</tr>
<tr>
<td>broad</td>
<td>11-1010</td>
<td>Chief Executives</td>
<td>Determine and formulate policies and provide overall direction of companies or private and public sector organizations within guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.</td>
</tr>
<tr>
<td>detailed</td>
<td>11-1011</td>
<td>Chief Executives</td>
<td>Plan, direct, or coordinate the operations of public or private sector organizations, overseeing multiple departments or locations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Usually manage through subordinate supervisors. Excludes First-Line Supervisors.</td>
</tr>
<tr>
<td>broad</td>
<td>11-1020</td>
<td>General and Operations Managers</td>
<td>Plan, direct, or coordinate the operations of public or private sector organizations, overseeing multiple departments or locations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Usually manage through subordinate supervisors. Excludes First-Line Supervisors.</td>
</tr>
<tr>
<td>detailed</td>
<td>11-1021</td>
<td>General and Operations Managers</td>
<td>Plan, direct, or coordinate the operations of public or private sector organizations, overseeing multiple departments or locations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Usually manage through subordinate supervisors. Excludes First-Line Supervisors.</td>
</tr>
<tr>
<td>broad</td>
<td>11-1030</td>
<td>Legislators</td>
<td>Develop, introduce or enact laws and statutes at the local, tribal, State, or Federal level. Includes only workers in elected positions.</td>
</tr>
<tr>
<td>detailed</td>
<td>11-1031</td>
<td>Legislators</td>
<td>Develop, introduce or enact laws and statutes at the local, tribal, State, or Federal level. Includes only workers in elected positions.</td>
</tr>
<tr>
<td>minor</td>
<td>11-2000</td>
<td>Advertising, Marketing, Promotions, Public Relations, and Sales Managers</td>
<td></td>
</tr>
</tbody>
</table>

Note that employment projections uses 2010 SOC
Industry Classification

- North American Industry Classification System (NAICS)
- Uses a production-oriented framework to group establishments into industries
- Based on their primary activity
- Establishments that do similar things in similar ways are classified together
- Introduced in 1997 and is revised periodically to reflect changes in US and North American economies
Industry Classification

- Uses a six-digit hierarchical coding system
- Twenty industry sectors
- Approximately 25% are mostly goods-producing
- Most are entirely service-providing
- https://www.bls.gov/bls/naics.htm
Industry Classification

Goods-Producing

Natural resources and mining
  Sector 11 (Agriculture, forestry, fishing and hunting)
  Sector 21 (Mining)

Construction
  Sector 23 (Construction)

Manufacturing
  Sector 31-33 (Manufacturing)

Service-Providing

Trade, transportation, and utilities
  Sector 42 (Wholesale trade)
  Sector 44-45 (Retail trade)
  Sector 48-49 (Transportation and warehousing)
  Sector 22 (Utilities)

Information
  Sector 51 (Information)
Employment Projections – Process & Models
Employment Projections Process

- Every 2 years – BLS issues projections
  - Population and labor force
  - Aggregate Demand
  - Industry output and employment
  - Occupational employment

- Current BLS projection is to 2026 – released Oct 2017

- Uses Census population projections from 2014
1. Labor Force Projections

- This step yields projected labor force based on
  1. future size and composition of the population and
  2. trends in labor force participation

- Categorized by Age (5-year groups), Gender, Race, and Ethnic Groups (136 categories)

- Census Bureau provides projections of resident population – affected by Births, Deaths, and Net Immigration

- BLS converts these projections to the civilian non-institutional framework
1. Labor Force Projections

- Conversion is from the resident population concept of the decennial census.
- First, projected population under 16 is subtracted from the total resident population.
- Next, the population of the Armed Forces (based on age, gender, race, and ethnicity) is subtracted.
- Last, the institutional population is subtracted for all categories.
1. Labor Force Participation

- Conversion from resident population is needed to match labor force participation rates from Current Population Survey (CPS)

- Labor participation rates are projected:
  1. Participation rates are smoothed using robust nonlinear method – based on running medians
  2. Smoothed rates transformed to logits
  3. Logits are linearly regressed against time and extended to target year
  4. Transformed back to rates
1. Labor Force Participation

- Projected participation rate for each category (age, gender, race, and ethnicity) is multiplied by the corresponding projection of the non-institutional population.
- Result is the labor force projection for that group.
- Groups are summed to provide the total civilian labor force.
- Labor force participation is important exogenous variable in modeling BLS macroeconomic projections.
2. Aggregate Economic Growth

- Yields projections of the macro-economy:
  - GDP – Gross Domestic Product
  - Major categories of demand and income
  - Total employment

- Values of demand for industry sectors are used in the next stage of the process

- BLS uses the MA/US model, licensed from Macroeconomic Advisors, LLC.
2. Aggregate Economic Growth

- MA model assumes
  - Consumption follows a life-cycle model – consumption is a constant percentage of anticipated life income
  - Investment is based on a neoclassical model
- Model designed to reach a full-employment solution in the target years – BLS view of economy.
  - Any unemployment is frictional – workers leave for better jobs
  - Unemployment is not a consequence of deficient demand – enough demand for all who wants to work
2. Aggregate Economic Growth

- Critical variables are needed for MA model
- BLS determines these through research and modeling
  - Labor force projections from step 1 are primary constraint
  - Energy prices – from EIA
  - Assumptions about fiscal and monetary policy
- Inputs and assumptions are reviewed by panel of Federal economists.
2. Aggregate Economic Growth

- Projections (outputs) from this model
  - Total employment
  - Output
  - Productivity
  - Prices
  - Interest Rates
  - Other variables for US economy

- Important for next step in projection process
  - Nonfarm payroll employment
  - Productivity
  - GDP
3. Final Demand

- Demand is key to explain future jobs.
- Previous step yields projections of demand sectors.
- This step disaggregates these into
  - Detailed categories and types of commodities purchased within category
  - Categories and commodities are supported by BEA’s data.
- BLS estimates more detailed projections of GDP.
- Publishes final demand matrix – around 155 demand categories by 205 commodity groups
4. Industry Output

- Creation of an input-out (I-O) model.
- GDP reflects only sales to final purchasers.
- Industries rely on other industries to supply intermediate products or services.
- The input-output model derives an industry-level estimate of the output to produce a given level of GDP.
4. Industry Output

- BLS model uses expanded BEA annual I-O tables.
- Step involves four tables:
  - *Use* table shows the use of commodities by industry. A direct requirements table is derived from this table.
  - *Make* table shows the commodity output of each industry. A market share table is derived from this table.
- Initial estimates of the tables are based on historical relationships and the projected final demand tables (step 3).
- Reviewed by economists
4. Industry Output

- Relationship derived by BEA converts projection of commodity demand into a projection of industry output.

\[ g = D(I - BD)^{-1} e \]

- \( g \) = vector of domestic industry output by sector
- \( B \) = Direct requirements table
- \( D \) = Market shares table
- \( e \) = vector of final demand by commodity sector
5. Industry Employment

Now that we have the projected industry outputs (step 4), we need to get the employment in industries necessary to produce them.

Combines data from
- Current Employment Statistics (CES) – establishments - # of jobs
- Current Population Survey (CPS) – households - # of workers

Note that employment projection (EP) measures total employment as a count of jobs, not individual workers.
5. Industry Employment

- One model – *industry employment* as a function of industry output/demand (step 4), wage rate relative to output price, and time.

- Another model – *average weekly hours* as a function of time and the unemployment rate.

- An identity relating average weekly hours, total hours, and employment yields:
  - Count of wage and salary jobs by industry
5. Industry Employment

- Employment is projected as number of jobs and hours worked for
  - Wage and salary workers
  - Self-employed

- Final estimates of projected employment for approximately 200 industries are used as inputs to determine employment projections (step 6).
## 5. Industry Employment

![Table: Industry Employment](https://www.bls.gov/emp/ep_table_207.htm)

### 5.1 Industry Employment Details

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employment</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012 NAICS</td>
<td>2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2026</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016-26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016-26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Output</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2026</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006-16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016-26</td>
</tr>
</tbody>
</table>

### 5.1.1 Nonagriculture Wage and Salary

- **Mining**
  - NA
  - 21: 619.7
  - 21: 626.1
  - 21: 716.9
  - 21: 6.4
  - 21: 90.8
  - 21: 0.1
  - 21: 1.4
  - 21: 386.5
  - 21: 473.5
  - 21: 630.7
  - 21: 2.0
  - 21: 2.9

- **Oil and Gas Extraction**
  - 211: 134.5
  - 211: 180.0
  - 211: 214.0
  - 211: 45.5
  - 211: 34.0
  - 211: 3.0
  - 211: 1.7
  - 211: 203.9
  - 211: 355.1
  - 211: 483.1
  - 211: 5.7
  - 211: 3.1

- **Mining, except Oil and Gas**
  - 212: 220.3
  - 212: 181.1
  - 212: 168.6
  - 212: -39.2
  - 212: -12.5
  - 212: -1.9
  - 212: -0.7
  - 212: 118.4
  - 212: 97.8
  - 212: 117.3
  - 212: -1.9
  - 212: 1.8

- **Coal Mining**
  - 2121: 78.0
  - 2121: 50.5
  - 2121: 47.1
  - 2121: -27.5
  - 2121: -3.4
  - 2121: -4.3
  - 2121: -0.7
  - 2121: 50.5
  - 2121: 38.1
  - 2121: 46.3
  - 2121: -2.8
  - 2121: 2.0

- **Metal Ore Mining**
  - 2122: 32.2
  - 2122: 39.1
  - 2122: 36.9
  - 2122: 6.9
  - 2122: -2.2
  - 2122: 2.0
  - 2122: -0.6
  - 2122: 24.7
  - 2122: 29.6
  - 2122: 36.2
  - 2122: 1.8
  - 2122: 2.0

- **Nonmetallic Mineral Mining and Quarrying**
  - 2123: 110.1
  - 2123: 91.5
  - 2123: 84.6
  - 2123: -18.6
  - 2123: -6.9
  - 2123: -1.8
  - 2123: -0.8
  - 2123: 43.5
  - 2123: 29.6
  - 2123: 34.1
  - 2123: -3.8
  - 2123: 1.4

- **Support Activities for Mining**
  - 213: 264.9
  - 213: 265.0
  - 213: 334.3
  - 213: 0.1
  - 213: 69.3
  - 213: 0.0
  - 213: 2.4
  - 213: 72.0
  - 213: 38.8
  - 213: 50.8
  - 213: -6.0
  - 213: 2.7

- **Utilities**
  - 22: 548.5
  - 22: 556.2
  - 22: 559.6
  - 22: 7.7
  - 22: 3.4
  - 22: 0.1
  - 22: 0.1
  - 22: 426.8
  - 22: 393.1
  - 22: 453.1
  - 22: -0.8
  - 22: 1.4

### Reference

https://www.bls.gov/emp/ep_table_207.htm
6. Occupational Employment

- Output is National Employment Matrix – describes
  - Employment of detailed occupations
  - Within detailed wage and salary industries
  - Different classes of workers

- Comprehensive count (thousands) of ...
  - Nonfarm wage and salary jobs – largest group
  - Self-employed workers
  - Agricultural industry workers
  - Workers in private households

- Base year and projected year (10 years out)
6. Occupational Employment – Base Year

- Nonfarm wage and salary employment –
  - Occupational Employment Statistics (OES)
  - Current Employment Statistics (CES)
  - Quarterly Census of Employment and Wages (QCEW)

- Agricultural, self-employed, private houses
  - Current Population Survey (CPS)
  - CPS uses Census Occupation Classification (fewer)
6. Occupational Employment – Projected Year

- Projected wage and salary employment uses framework that divides industry employment (step 5) between occupations based on expected structural changes in the demand for occupations within an industry.

- BLS economists utilize
  - Scholarly articles
  - Expert interviews
  - News stories
  - Historical data
  - Externally produced projections

- Identify factors likely to cause change in demand for occupation within industries.
6. Occupational Employment – Projected Year

- Factors affecting demand for occupations in an industry
  - Technological innovation
  - Replacement of product or service
  - Organizational restructuring of work
  - Changes to establishment size
  - Offshore and domestic outsourcing
  - Expected changes in other segment of same industry.
6. Occupational Employment – Projected Year

- Projections for self-employment are created using a modified process.
  - Initial projection at occupation-by-industry level
  - Aggregated to occupational level for analysis

- Estimate occupational separations - regression using worker characteristics
  - Labor force exits
  - Occupational transfers
Things to Consider
Assumptions

- Projections are developed using
  - Statistical and econometric models – project historical relationships
  - Subjective analysis – projects behavior on past experience

- Major assumptions
  - Social and demographic trends will continue
  - Major armed conflicts will not develop
  - No major natural disasters
  - U.S. economy will be at approximately full employment
  - Existing laws/policies will hold
Projections vs. Forecast

- BLS employment projections are not forecasts
- Projections focus on underlying trends not actual outcomes
- BLS concerned with long-term growth path of aggregate economy.
- Projection provides a plausible scenario to understand long-term trends
- Likely outcomes – not definitive outcomes
- BLS does evaluate projections when data are available.
Resources
BLS Handbook of Methods

https://www.bls.gov/opub/hom/
Projections Methodology

https://www.bls.gov/emp/
Video on Employment Projections

- Here is a YouTube video explaining employment projections.
- [https://www.youtube.com/watch?v=J_1dAHx_748](https://www.youtube.com/watch?v=J_1dAHx_748)
More Publications Using EP

*Career Outlook*, previously the *Occupational Outlook Quarterly*, supplements the *OOH* to present occupation and industry data and provide career information in an interesting way to the same nontechnical audience. BLS is trying to use data visualization in interactive ways. For example:

- This “Data on display” chart presents occupational, wage, and projections data for business majors.
- Q&A interviews and “You’re a what?” articles describe occupations through one person’s experience.

A recent feature article uses OES and QCEW data that invites readers to map the districts of Panem from the “Hunger Games” series. The maps aren’t interactive, but the article nonetheless shows how BLS occupation and industry data can have contemporary applications that are actually fun. This article has garnered lots of media attention, and the author has ideas for similar types of articles that we hope to develop in the near future.

States use BLS projections to develop their own occupational projections. These data are available through [ProjectionsCentral.com](http://ProjectionsCentral.com), which also provides links to each state’s projections site.

Monthly Labor Review (on bls.gov) publishes relevant articles.
OES Data

https://www.bls.gov/oes/#data

May 2016 data
- Occupation Profiles
- National (HTML) (XLS)
- State (HTML) (XLS)
- Metropolitan and nonmetropolitan area (HTML) (XLS)
- National industry-specific and by ownership (HTML) (XLS)
- All data (XLS) (TXT)
- Research estimates by state and industry

All OES Data, 1988-2016

OES Charts

OES Chart Tools
Create up to 6,000 unique charts highlighting data for industries, areas, or occupations of interest. Overview charts highlight selected data for May 2016. Interactive charts allow users to customize charts to present employment and wage data for any state, metropolitan or non-metropolitan area, industry, or any occupation. Charts showing locations quotients can be used to compare employment in a particular state or area relative to the US average. To get started, click on the chart image to the right.
OES Data Maps

- https://www.bls.gov/oes/current/map_changer.htm
QCEW Data

https://beta.bls.gov/maps/cew/us

QCEW Data Files

The Quarterly Census of Employment and Wages (QCEW) program provides several different types of data files. These files are available for download. Data classified using the North American Industry Classification System (NAICS) are available from 1990 forward, and on a more limited basis from 1975 to 1989. NAICS-based data files from 1990 to 2000 were re-constructed from data classified under the Standard Industrial Classification (SIC) system. NAICS-based data files from 1975 to 1989 contain only totals by-ownership. NAICS data can be downloaded from the NAICS-Based Data Files table below.

Data classified using the Standard Industrial Classification (SIC) system is available from 1975 through 2000. SIC data can be downloaded from the second table below titled SIC-Based Data Files.

Release Day Access

At 10:00 A.M. on QCEW release days, updated QCEW data are available for the current and prior year are available on our supplemental table page.

At 11:00 A.M. on QCEW release days, updated QCEW data for the current and prior year, as well as for the full ranges of QCEW history are available from the links in the table below.

Related Documentation: QCEW Data Guide; Documentation Guide; Open Data Access Guide;

NAICS-Based

This table contains links to data classified using the North American Industry Classification System (NAICS). The data are stored in several different formats. Each format is listed at the top of the table. By Industry files from 1975 to 1989 contain only ownership totals. If data are available, then the year will be visible as a link. Annual averages are provided only when an entire year's data are available. An "N/A" is present when an entire year is not available.

Associated Codes and Titles

Industries Areas Ownership Size Classes Aggregation Levels

QCEW NAICS-Based Data Files (1975-2013)

<table>
<thead>
<tr>
<th>Excel Files</th>
<th>CSVs By Area</th>
<th>CSVs By Industry</th>
<th>CSVs Single Files</th>
<th>CSVs By Size</th>
<th>Legacy Flat Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>County High-Level</td>
<td>Quarterly</td>
<td>Annual Averages</td>
<td>Quarterly</td>
<td>Annual Averages</td>
<td>Quarterly</td>
</tr>
<tr>
<td>2017</td>
<td>2017</td>
<td>N/A</td>
<td>2017</td>
<td>N/A</td>
<td>2017</td>
</tr>
</tbody>
</table>
Contact Information

Wendy Martinez
Supervisory Research Mathematical Statistician
Office of Survey Methodology Research
www.bls.gov/osmr
202-691-7400
martinez.wendy@bls.gov