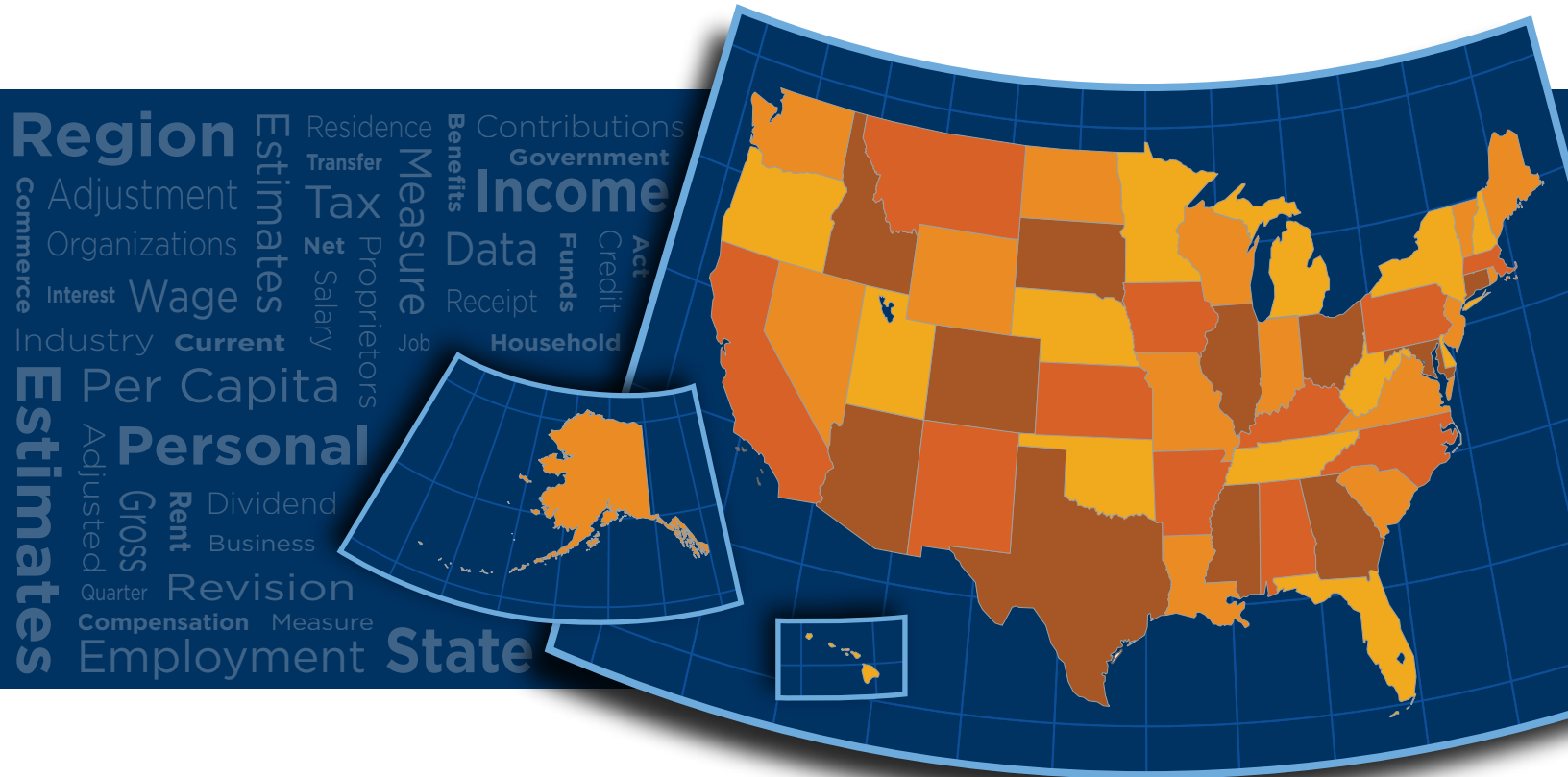


Local Area Personal Income and Employment: Concepts and Methods

Personal income and employment
for local areas—counties,
metropolitan statistical areas,
and other county aggregates

April 2024



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List of Abbreviations

The following provides a comprehensive list of the abbreviations used in this document:

Abbreviation	Description
ACF	Administration for Children and Families
ACS	American Community Survey
ACTC	Additional Child Tax Credit
AGI	adjusted gross income
AMT	Alternative Minimum Tax credit
AOTC	American opportunity tax credit
ARMS	<i>Agricultural Resource Management Study</i>
ARRA	American Recovery and Reinvestment Act of 2009
BEA	U.S. Bureau of Economic Analysis
BLS	U.S. Bureau of Labor Statistics
CARES	Coronavirus Aid, Relief, and Economic Security Act
CBP	<i>County Business Patterns</i>
CCAdj	capital consumption adjustment
CES	Current Employment Statistics
CFFR	<i>Consolidated Federal Funds Report</i>
CHIP	Children's Health Insurance Program
CMS	Centers for Medicare & Medicaid Services
COBRA	Consolidated Omnibus Budget Reconciliation Act
DMDC	Defense Manpower Data Center
EIP	Economic Impact Payments
EITC	Earned Income Tax Credit
ETA	Employment and Training Administration
FAADS	Federal Assistance Awards Data System
FEMA	Federal Emergency Management Agency
FIPS	Federal Information Processing Standards
GDP	gross domestic product
GDX	Geographic Distribution of VA Expenditures
GPO	Government Publishing Office (formerly Government Printing Office, until 2014)
HI	Hospital Insurance
IRS	Internal Revenue Service

Table continues

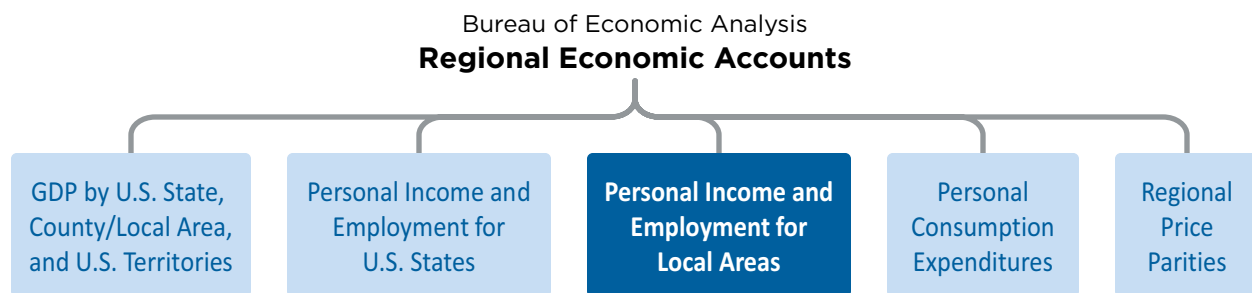
Abbreviation	Description
IRTF	Individual Returns Transaction File
ISA	income subject to adjustment
IVA	inventory valuation adjustment
JTW	journey-to-work
MSA	metropolitan statistical areas
NAICS	North American Industry Classification System
NASS	National Agricultural Statistics Service
NIPA	National Income and Product Accounts
NSF	National Science Foundation
OASDI	Old-Age, Survivors, and Disability Insurance
OMB	Office of Management and Budget
OPM	Office of Personnel Management
PBGC	Pension Benefit Guaranty Corporation
PPP	Paycheck Protection Program
PRF	Provider Relief Fund
PUMS	Public Use Microdata Sample
RRB	Railroad Retirement Board
SIC	Standard Industrial Classification
SNAP	Supplemental Nutritional Assistance Program
SOI	Statistics of Income
SPI	state personal income
SSA	Social Security Administration
SSI	Supplemental Security Income
<i>Survey</i>	<i>Survey of Current Business</i>
TSP	Thrift Savings Plan
QCEW	Quarterly Census of Employment and Wages
UCX	Unemployment Compensation for Ex-servicemembers
UI	unemployment insurance
UMWA	United Mine Workers of America
USDA	U.S. Department of Agriculture
VA	U.S. Department of Veterans Affairs
WIC	Special Supplemental Nutrition for Women, Infants and Children

Part I.

Introduction

- 1.1. This guide presents the conceptual framework, data sources, and statistical methods used by the Regional Income Division of the U.S. Bureau of Economic Analysis (BEA) to estimate personal income and employment for local areas, that is, for counties, metropolitan statistical areas, and other county aggregates.

Figure 1. U.S. Regional Economic Accounts



GDP Gross Domestic Product
U.S. Bureau of Economic Analysis

- 1.2. Personal income is the income received by, or on behalf of, all persons from all sources: from participation as laborers in production, from owning a home or business, from the ownership of financial assets, and from government and business in the form of transfers. It includes income from domestic sources as well as from the rest of the world. It does not include realized or unrealized capital gains or losses.
- 1.3. Persons include individuals, nonprofit institutions that primarily serve individuals, private noninsured welfare funds, and private trust funds.
- 1.4. Personal income for an area is the income received by, or on behalf of, all persons resident in the area regardless of the duration of residence, except for foreign nationals employed by their home governments in the United States.

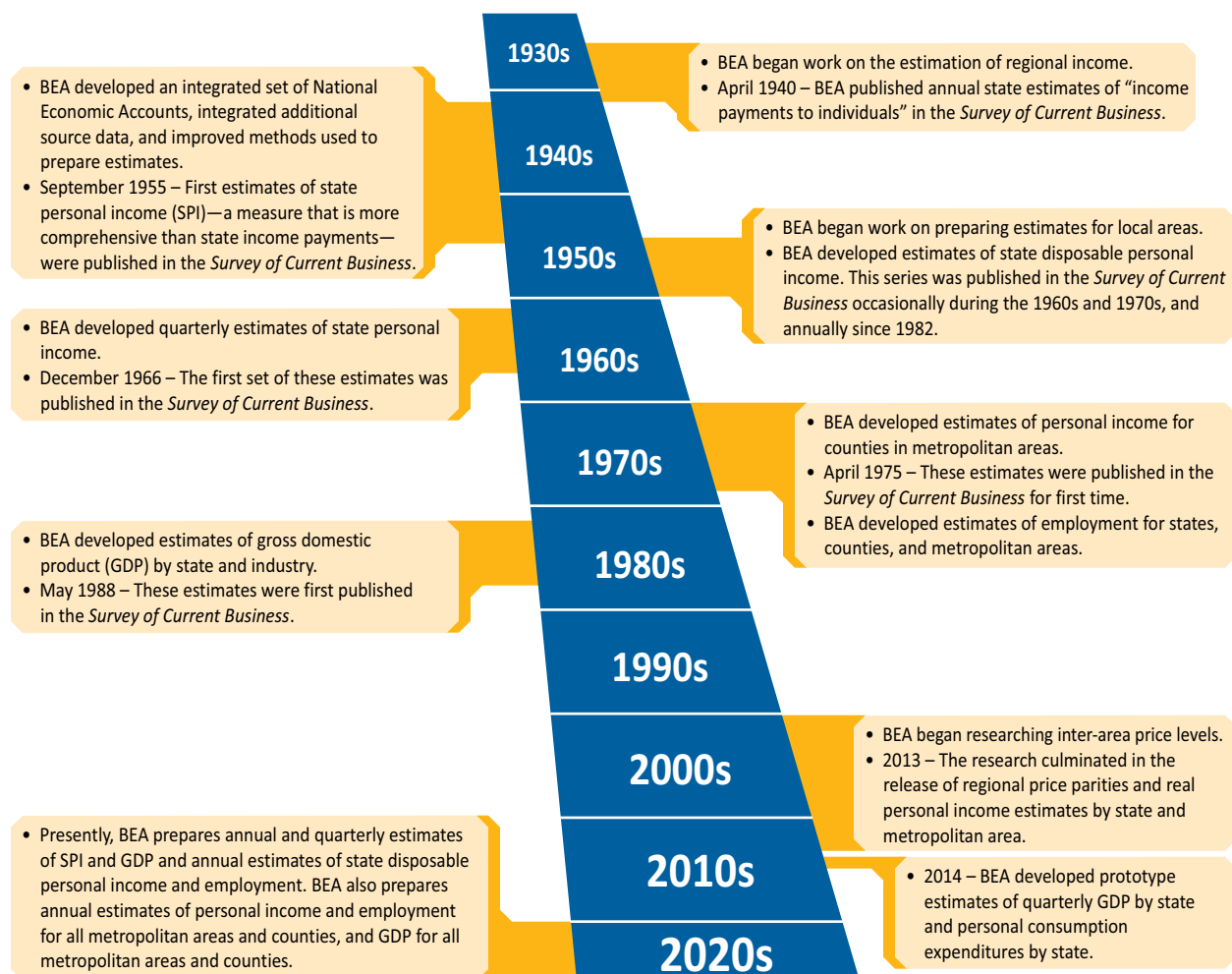
- 1.5. Alternatively, personal income can be defined as the sum of wages and salaries; supplements to wages and salaries; proprietors' income; dividends, interest, and rent; and personal current transfer receipts, less contributions for government social insurance.
- 1.6. Because the personal income of an area represents the income that is received by, or on behalf of, all the persons who live in that area, and because estimates of the earnings component of personal income are made on a place-of-work basis, state and county personal income includes an adjustment for residence. The residence adjustment represents the net flow of compensation (less contributions for government social insurance) of intercounty commuters.
- 1.7. The county estimates of personal income are conceptually and statistically consistent with the national estimates of personal income in the National Income and Product Accounts (NIPA). County estimates sum to state totals which, together with the estimate for the District of Columbia, sum to a national total which equals the NIPA estimate except for some small differences in the treatment of U.S. residents working abroad, the income of foreign residents working in the U.S., and the use of more current source data.

A Brief History

- 1.8. In the mid-1930s, BEA began work on the estimation of regional income as part of the effort to explain the processes and structure of the nation's economy. As a result, it published annual state estimates of "income payments to individuals" in the [April 1940](#) issue of the *Survey of Current Business (Survey)*. These income payments were calculated as the sum of wages and salaries; other labor income and relief; entrepreneurial withdrawals; and dividends, interest, net rents, and royalties.
- 1.9. During the 1940s and early 1950s, BEA developed an integrated set of National Economic Accounts, sought additional source data, and improved the methods used to prepare the estimates. One result of this work was the development of state personal income (SPI)—a measure that is more comprehensive than state income payments. Estimates of SPI were first published in the [September 1955 Survey](#).
- 1.10. SPI differs significantly from state income payments in five ways:
 1. SPI consists of six major components (supplements to wages and salaries and personal current transfer receipts replaced other labor income and relief, and the component, contributions for government social insurance, was added as an explicit deduction);
 2. SPI includes more component detail and a broader range of income-in-kind and imputed income items than state income payments;
 3. SPI includes the income of nonprofit institutions that primarily serve individuals, private noninsured welfare funds, and private trust funds (collectively called quasi-individuals);

4. SPI includes employer contributions (both actual and imputed) to pension funds—as part of supplements to wages and salaries—instead of the benefits paid by the funds; and
 5. SPI includes personal current transfer receipts from business.
- 1.11. In addition, in the mid-1950s BEA began work on preparing estimates for local areas. It prepared estimates for a few counties in Mideast and Plains states.
- 1.12. In the late 1950s, BEA developed estimates of state disposable personal income. This series was published occasionally in the *Survey* in the 1960s and 1970s and has been published annually since 1982.

Figure 2. History of the Regional Accounts



U.S. Bureau of Economic Analysis

- 1.13. During the 1960s, BEA developed quarterly estimates of state personal income. The first set of these estimates as a continuous time series was published in the [December 1966](#) issue of the *Survey*. In addition, BEA prepared a personal income series for metropolitan areas and for nonmetropolitan counties for selected years from 1929 to 1962.
- 1.14. In the early 1970s, BEA developed estimates of personal income for counties in metropolitan areas. These estimates were published for the first time in the [April 1975](#) *Survey*. Later in the 1970s, it developed estimates of employment for states, counties, and metropolitan areas.
- 1.15. In the 1980s, BEA developed estimates of gross domestic product (GDP) by state and industry. These estimates were first published in the [May 1988](#) *Survey* as gross state product.
- 1.16. In the 2000s, BEA began researching inter-area price levels. The research culminated in the release in 2013 of regional price parities and real personal income estimates by state and metropolitan area.
- 1.17. In 2014, BEA developed prototype estimates of quarterly GDP by state for 2005–2013 and prototype estimates of personal consumption expenditures by state for 1997–2012.
- 1.18. In 2018, BEA developed prototype estimates of GDP by county 2012–2015.
- 1.19. Presently, BEA prepares annual and quarterly estimates of state personal income and GDP and annual estimates of state disposable personal income and employment. It also prepares annual estimates of personal income and employment for all metropolitan areas and counties and GDP for all metropolitan areas and counties.

Uses of the Local Area Estimates

- 1.20. Local area estimates of personal income and its components—per capita personal income, employment, and GDP by county—are widely used by both the public and the private sectors to measure and track economic well-being over time and to make comparisons across counties and metropolitan areas in the level and composition of economic activity and the value added by an area's industries. These estimates provide a framework for the analysis of local area economies, and they serve as a basis for decision-making.
- 1.21. Federal agencies use these estimates in econometric models, such as those used to project energy and water use. They also use the estimates as a basis for allocating funds and for determining matching grants. For example, in fiscal year 2021, \$692.1 billion in federal funds was distributed based on BEA's state and local personal income and GDP statistics.

- 1.22. State governments use the estimates of personal income and GDP to measure the economic base of planning areas. They also use the estimates in econometric models for various planning purposes and to project tax revenue and the need for public utilities and services. Currently, 20 states have set constitutional or statutory limits on state government revenue and spending that are tied to state personal income or to one of its components. These states account for more than one-half of the personal income of the United States.¹ Most of the states use the quarterly estimates of state personal income to project tax collections.
- 1.23. University schools of business and economics use the estimates for theoretical and applied economic research. Some of these schools distribute the estimates in abstracts or similar reports to various state and local government agencies, regional councils of governments, private research groups, businesses, and libraries.
- 1.24. Economic development associations use the estimates in their analytical studies to present economic growth opportunities in localities to businesses. Businesses use the estimates for planning activities, such as evaluating markets for new or established products and determining areas for the location, expansion, and contraction of their activities.

Place of Residence and Place of Measurement

- 1.25. In regional economic accounts, income can be recorded by place of production (where earned) or by place of residence (where received). Since personal income is a measure of the income received by persons, the estimates of state and county personal income reflect the residence of the recipients. Income as recorded in the data sources used to estimate personal income, however, is not always recorded by place of residence. The concept of place used by the data sources varies by component of income. The methods used to adjust the source data to a place-of-residence basis, if that is necessary, are described in detail in the following chapters.²
- 1.26. Estimates of wages and salaries, employer contributions for employee pension and insurance funds, and contributions for government social insurance (by employers and employees) are mainly based on source data that are reported by place of work.³ These data are reported by industry in the state and county in which the employing establishment is located. The residence adjustment of these data is discussed in chapter VII.

1. National Conference of State Legislatures, *State Tax and Expenditure Limitations January 2020*.

2. The concept of place of residence for nonprofit institutions serving households, private noninsured welfare funds, and private trust funds entails difficulties beyond those encountered for individuals. In some cases, a separate national control total for their income may not exist. In other cases, the place in which their income is recorded in the source data is not adequate for the purposes of state personal income. In general, their income is allocated along with similar types of income received by individuals.

3. The estimates of personal contributions for supplementary medical insurance and for veterans' life insurance are based on source data that are reported by place of residence.

- 1.27. Estimates of nonfarm proprietors' income and the estimates for contributions for government social insurance by the self-employed are based on source data that are reported by place of filing, that is, the tax-filing address of the recipient. This address is often that of the proprietor's residence; therefore, these data are treated as if they were reported by place of residence.
- 1.28. Estimates of farm proprietors' income are based on data that are reported by the principal place of production, which is usually the county in which the farm has most of its land and in which most of the work is performed. Because most farm proprietors live on, or near, their land, the place of production is treated as if it were the same as the place of residence.
- 1.29. Estimates of monetary dividend and interest income are based on federal income tax data sources that are compiled by the tax filing address of the recipient.
- 1.30. The source data for the dividend and interest income of pension plans imputed to participants in the plans do not adequately report the place of residence of the participants. The national controls are divided into portions for currently-employed and retired participants and then allocated to states and counties using separate geographic indicators. The portion imputed to currently employed participants is allocated to states and counties based on wages and salaries adjusted to a place of residence basis. The portion imputed to retirees and other beneficiaries is allocated to states and counties based on indicators such as pension benefit payments by place of residence.
- 1.31. Estimates of rental income of persons are based on place of residence data from the American Community Survey (ACS).
- 1.32. Estimates of current transfer receipts of individuals from governments are based on source data that are generally reported by the place of residence of the income recipient. However, the source data for the estimates of state unemployment insurance compensation and workers' compensation from state-administered funds are based on source data reported by the state that pays the compensation. BEA adjusts these payments data to reflect the residence of the recipient.

Relation of Personal Income in the NIPA and in the County Personal Income Accounts

- 1.33. The level of U.S. personal income in the NIPAs differs slightly from the national total in the county personal income accounts because of differences in coverage and in timing of the availability of source data (table A).
- 1.34. The differences in coverage stem from different concepts of residence. For county personal income, residents include all persons who reside in a county, regardless of the duration of residence, except for foreign nationals employed by their home governments in the United States. For NIPA personal income, a U.S. resident has a center of economic interest in the United States and resides, or

expects to reside, in the United States for a year or more. In addition, U.S. residents include all U.S. citizens who reside outside the United States for less than 1 year and U.S. citizens residing abroad for 1 year or more who meet one of the following criteria: owners or employees of U.S. business enterprises who reside abroad to further the enterprises' business and who intend to return within a reasonable period; U.S. Government civilian and military employees and members of their immediate families; and students who attend foreign educational institutions. Foreign residents are those persons residing and pursuing economic interests outside the United States and foreign nationals employed by their home governments in the United States.

Table A. Relation of Personal Income in the NIPA and the Local Area Personal Income Accounts

[Billions of dollars]

	2020	2021	2022
Personal income, NIPAs	19,629.0	21,407.7	21,840.8
Plus adjustments for:			
Coverage differences	-23.1	-19.2	-18.8
Federal workers abroad	-34.7	-34.1	-39.1
Wage and salary disbursements	-23.9	-23.3	-26.4
Supplements to wages and salaries ¹	-8.3	-8.6	-10.1
Dividends, interest, and rent ²	-5.0	-4.6	-5.3
Less: Personal contributions for social insurance	-2.5	-2.4	-2.7
Rest-of-the-world difference	11.6	14.9	20.3
Wages of private foreign nationals in U.S.	12.9	16.3	21.8
Wages of private U.S. residents abroad	-1.3	-1.4	-1.5
Use of more current source data	5.4	5.5	-0.3
Wage and salary disbursements	0.0	0.0	0.0
Farm proprietors' income	5.4	5.5	-0.3
Personal current transfer receipts	<0.1	<0.1	<0.1
Statistical discrepancy³	-1.3	-1.2	-1.5
Equals: Local area personal income	19,610.0	21,392.8	21,820.2

NIPAs National income and product accounts

1. Employer contributions for government social insurance and for employee pension and insurance funds for federal workers stationed abroad.
2. Investment income received by federal retirement plans that is attributed to federal workers stationed abroad.
3. Includes revisions made in the NIPAs that are not yet reflected in local area personal income concerning wages of border workers and foreign nationals working for international organizations.

[Local area personal income was released November 16, 2023.](#)

- 1.35. In general, the NIPA measure of personal income is broader than county personal income.
- NIPA personal income includes the earnings of federal civilian and military personnel stationed abroad and the property income received by the federal pension plans of these workers. The regional measure of personal income does not include this income.
 - NIPA personal income includes all income earned by U.S. citizens living abroad for less than a year. County personal income excludes the portion earned while individuals live abroad.
 - NIPA personal income includes the income of foreign nationals only if they live and work in the United States for a year or more. County personal income includes the income of resident foreign nationals working in the United States—including migrant workers—regardless of length of residency.
- 1.36. Both NIPA and county personal income:
- Include the wages and salaries of U.S. citizens employed by international organizations and foreign embassies and consulates located within the geographic borders of the United States.
 - Include the wages and salaries of foreign nationals residing in the United States for a year or more and working at international organizations located in the United States.
 - Exclude the income of foreign nationals employed by their home governments in the United States.
 - Exclude the income of private U.S. citizens living outside the country for a year or more.
- 1.37. Annual estimates of personal income in the NIPAs also diverge from the national totals of county personal income because of differences in the timing of the availability of source data. Some data that were not available when the NIPA estimates were prepared may become available afterwards when county personal income is estimated.

Industrial Classification

- 1.38. Up through 2000, the Standard Industrial Classification (SIC) was used (with some slight modifications) for the industrial classification of private industry wages and salaries, compensation, earnings, and employment. The *Standard Industrial Classification Manual, 1967* was used for the years 1969–1974, the 1972 *Manual* was used for the years 1975–1987, and the 1987 *Manual* was used for 1988–2000 for states and for counties.⁴

4. Executive Office of the President, Office of Management and Budget (OMB), Statistical Policy Division, *Standard Industrial Classification Manual, 1967* (Washington, DC: U.S. Government Printing Office (GPO), 1967); *Manual, 1972* (GPO, 1972); *Manual, 1987* (GPO, 1987).

- 1.39. Since 2001, the North American Industry Classification System (NAICS), with some slight modifications, has been used for the private sector.⁵ The 2002 edition of NAICS was used for the years 2001–2006, the 2007 edition was used for the years 2007–2010, the 2012 edition is used for the years 2012–2016, and the 2017 edition is used for subsequent years. A new, 2022 edition was not applied to 2022.
- 1.40. Applied to some input source data, the new 2022 NAICS incorporated observable changes at the three-digit level. Because the reclassification would thus have resulted in inconsistent time series totals for three-digit industries between 2021 and 2022, BEA converted all 2022 data based on NAICS 2022 back to NAICS 2017. This allowed BEA to maintain a consistent, comparable time series through 2022.
- 1.41. In addition, BEA converted state earnings and employment estimates that were originally compiled on an SIC basis to an NAICS basis for 1998–2000 to provide users with a longer time series on the current industrial classification system.
- 1.42. The introduction of a new edition of the classification system can potentially break the consistency of the time series estimates for an industry. Fortunately, for the industries for which BEA publishes regional income and employment statistics, only a few industries, listed below, are potentially affected by the revisions to NAICS.
- 1.43. For the public sector, the income and employment are classified by level of government—federal, state, and local. Estimates for the federal government are subclassified into civilian and military.
- 1.44. The different treatment of the private and public sectors means that BEA’s state and local government industry includes public education, public hospitals, and other types of government services while BEA reports only private schools in its educational services industry (corresponding to the three-digit NAICS industry 611) and only private hospitals in its hospitals industry (corresponding to industry 622).
- 1.45. Concordances between the line codes and industry names used by BEA and those in the NAICS and SIC manuals are presented in an appendix.

5. OMB: *North American Industry Classification System, United States, 2002* (Lanham, MD: Bernan Press, 2002), OMB: *North American Industry Classification System, United States, 2007* (Lanham, MD: Bernan Press, 2007) and OMB: *North American Industry Classification System, United States, 2012* (Lanham, MD: Bernan Press, 2012).

Revisions to NAICS

- 1.46. Of the industries BEA publishes in its regional personal income and employment statistics, the following are potentially affected by revisions to NAICS.

Revisions to NAICS Codes

NAICS Code	Descriptions changed from NAICS 2002 to NAICS 2007:
321, 327–339	Durable goods manufacturing
333	Machinery manufacturing
3364–3369	Other transportation equipment manufacturing
337	Furniture and related product manufacturing
339	Miscellaneous manufacturing
311–316, 322–326	Nondurable goods manufacturing
314	Textile product mills
315	Apparel manufacturing
326	Plastics and rubber products manufacturing
516	Internet publishing and broadcasts
517	Telecommunications
518	ISPs, search portals, and data processing
519	Other information services
52	Finance and insurance
525	Funds, trusts, and other financial vehicles
53	Real estate and rental and leasing
531	Real estate
54	Professional and technical services
56	Administrative and waste services

NAICS Code	Descriptions changed from NAICS 2007 to NAICS 2012
321	Wood product manufacturing
337	Furniture and related product manufacturing
443	Electronics and appliance stores
451	Sporting goods, hobby, book and music stores

NAICS Code	Descriptions changed from NAICS 2012 to NAICS 2017
N/A	There were no changes in descriptions from NAICS 2012 to NAICS 2017

Geographic Detail

- 1.47. BEA publishes local area personal income and employment for counties, micropolitan statistical areas, metropolitan statistical areas (MSAs), metropolitan divisions (parts of MSAs), combined statistical areas, states, and the metropolitan and nonmetropolitan portions of states. Counties consist of counties and county equivalents, such as the parishes of Louisiana, the boroughs, municipalities and Census areas of Alaska, the District of Columbia, and the independent cities of Maryland, Missouri, Nevada, and Virginia. The estimates for Kalawao County, Hawaii and the small independent cities of Virginia—generally those with fewer than 100,000 residents—are combined with estimates for adjacent counties.
- 1.48. Statistical areas (micropolitan, metropolitan, and combined) and metropolitan divisions are defined (geographically delineated) by the Office of Management and Budget and the definitions are updated as new information warrants.⁶ The local area personal income and employment estimates for these areas are based on the definitions in the [Office of Management and Budget Bulletin No. 20-01](#) issued March 6, 2020. When OMB adds a new statistical area, BEA creates a time series for it starting in 1969 even though it may not have had any urban area at the time. Similarly, when OMB changes the definition of a statistical area, BEA recreates the time series for that area, using the same definition (the new one) for every year in the time series. For example, when OMB first defined the Gainesville, FL MSA it consisted of the single county of Alachua. The current definition of the Gainesville, FL MSA consists of Alachua and Gilchrist counties. BEA's estimates of personal income and employment for the Gainesville, FL MSA also consist of the same two counties every year from 1969 to the present.
- 1.49. A micropolitan statistical area is an area consisting of a core county or counties in which lies an urban area having a population of 10,000 but less than 50,000, plus adjacent counties having a high degree of social and economic integration with the core counties as measured through commuting ties.⁷
- 1.50. A metropolitan statistical area (MSA) is an area consisting of a core county or counties in which lies an urban area having a population of at least 50,000, plus adjacent counties having a high degree of social and economic integration with the core counties as measured through commuting ties.
- 1.51. A metropolitan division is a county or group of counties within a metropolitan statistical area that contains an urban area with a population of at least 2.5 million.

6. See 2010 Standards for Delineating Metropolitan and Micropolitan Statistical Areas published in the Federal Register, Vol. 75, No. 123, June 28, 2010, pp. 37245–37252, and a correction published in the Federal Register, Vol. 75 No. 129, July 7, 2010, p. 39052.

7. Micropolitan statistical areas, MSAs, metropolitan divisions, and combined statistical areas are defined by the OMB. See the *Federal Register*, Vol. 75, No. 123, June 28, 2010 pp. 37245–37252 and *OMB Bulletin No. 13–01* February 28, 2013.

- 1.52. A combined statistical area consists of two or more adjacent metropolitan or micropolitan statistical areas that have social and economic ties as measured by commuting, but at lower levels than are found among counties within metropolitan and micropolitan statistical areas.
- 1.53. The metropolitan portion of a state consists of all counties that are parts of metropolitan statistical areas.
- 1.54. The nonmetropolitan portion of a state consists of all counties that are outside of metropolitan statistical areas.

FIPS Codes

- 1.55. BEA uses Federal Information Processing Standards (FIPS) codes to uniquely identify states, MSAs, and counties with the following modifications (see the Appendix for further details):
 1. Kalawao County, Hawaii is combined with Maui County and the combined area is designated 901. (Kalawao does not have its own local government; it is administered by the State of Hawaii.)
 2. The independent cities of Virginia with populations of less than 100,000 have been combined with an adjacent county and given codes starting at 901. In the name of the combined area, the county name appears first and is followed by the city name(s).
 3. The metropolitan portion of each state is designated 998 and the nonmetropolitan portion is designated 999.
- 1.56. Over time some important changes have occurred:
 1. Alaska
 - » Estimates up to and including 1978 reflect Alaska Census Divisions as defined in the 1970 Decennial Census.
 - » Estimates for 1979 forward reflect Alaska Census Areas as defined by the Census Bureau
 - » Estimates for 1988 forward separate Aleutian Islands Census Area into Aleutians East Borough and Aleutians West Census Area.
 - » Estimates for 1991 forward separate Denali Borough from Yukon-Koyukuk Census Area and Lake and Peninsula Borough from Dillingham Census Area.
 - » Estimates from 1993 forward separate Skagway-Yakutat-Angoon Census Area into Skagway-Hoonah-Angoon Census Area and Yakutat Borough.
 - » Estimates for 2008 forward separate Skagway-Hoonah-Angoon Census Area into Hoonah-Angoon Census Area and Skagway Municipality.

- » Estimates for 2009 forward (a) separate Wrangell-Petersburg Census Area into Petersburg Census Area and Wrangell City and Borough, and (b) transfer a part of Prince of Wales-Outer Ketchikan Census Area to Ketchikan Gateway Borough, transfer a part (Meyers Chuck Area) to the new Wrangell City and Borough, and rename the remainder Prince of Wales-Hyder Census Area.
 - » Estimates for 2013 forward separate most of the Petersburg Census Area and a small portion of the Hoonah-Angoon Census Area into Petersburg Borough. The remainder of the Petersburg Census Area was transferred to the Prince of Wales-Hyder Census Area. Petersburg Borough retains the same federal information processing standards (FIPS) code as the former Petersburg Census Area, creating a break in the time series between 2012 and 2013.
 - » Estimates for 2020 forward separate Valdez-Cordova Census Area into Chugach Census Area and Copper River Census Area.
2. La Paz County, Arizona was separated from Yuma County on January 1, 1983. The Yuma MSA contains the area that became La Paz County through 1982 and excludes it beginning with 1983.
 3. Cibola County, New Mexico was separated from Valencia County in June 1981, but data for Valencia includes Cibola through the end of 1981.
 4. Menominee County, Wisconsin was formed as a new county from Oconto and Shawano counties in 1961. However, since a large part of Menominee is an Indian reservation and there was little economic activity in the county, estimates of Menominee are combined with Shawano County through 1988 and the combined area designated 901. Separate estimates for Menominee and Shawano Counties begin in 1989.
 5. Broomfield County, Colorado was created from parts of Adams, Boulder, Jefferson, and Weld counties effective November 15, 2001. Estimates for Broomfield County begin with 2002. The Denver-Aurora-Lakewood, CO MSA contains the parts of Boulder and Weld counties that became Broomfield County beginning with 2002. (Since Adams, Jefferson, and Broomfield counties are in the Denver-Aurora, CO MSA, the transfer of parts of Adams and Jefferson to Broomfield had no effect on the MSA estimates.) The estimates for Boulder, CO, MSA include the part of Boulder County that was separated to form Broomfield County through 2001 and the estimates for Greeley, CO MSA include that part of Weld County that was separated to form Broomfield County through 2001.

Per Capita Personal Income

- 1.57. Per capita personal income is calculated as the personal income of the residents of a given area divided by the resident population of that area. In computing annual per capita personal income for states and counties, BEA uses the Census Bureau's annual midyear (July 1) population estimates. For quarterly estimates of per capita income for states BEA uses mid-quarter population estimates based on unpublished Census Bureau data.
- 1.58. Annual per capita personal income statistics for 2020 through 2022 and quarterly per capita personal income estimates for the third quarter of 2020 forward use Census population figures which are based on the 2020 decennial counts. Annual per capita personal income statistics from 2010 through 2019 and quarterly estimates for the second quarter of 2010 through the first quarter of 2020 are based on intercensal population statistics developed by BEA that are tied to the Census Bureau decennial counts for 2010 and 2020. BEA developed intercensal population statistics because these data are not yet available from the Census Bureau.
- 1.59. BEA produced intercensal population figures to create consistent time series that are used to prepare per capita personal income statistics. BEA used the Census Bureau's application of the [Das Gupta method](#), modified to account for an extra leap year day, to produce the intercensal population figures that will be used until Census releases its official intercensal population data.
- 1.60. Local area per capita personal income estimates should be used with caution for several reasons. In some instances, an unusually high or low per capita personal income is the temporary result of unusual conditions, such as a bumper crop or hurricane. In other instances, the income levels of certain groups atypical of the resident population may cause a longer term high or low per capita personal income that is not indicative of the economic well-being of the area. For instance, a major construction project—such as a defense facility, power plant, or dam—may substantially raise the per capita personal income of an area for several years because it attracts highly paid workers whose incomes are measured at the construction site.⁸ This high per capita income may not be indicative of the economic well-being of the permanent residents of the area (or, in many cases, of the construction workers themselves, because they frequently send a substantial portion of their wages to their dependents living in other areas).
- 1.61. Conversely, the presence of a large institutional population—such as that of a college or a prison—will tend to keep the per capita personal income of an area at a lower level because the residents of these institutions have little income attributable to them at these institutions. This lower per capita personal income is not indicative of the economic well-being of the other residents of the area (or, in some cases, of the institutional populations, because some of these populations, such as college students, typically receive support from their families living in other areas).

8. Typically, construction wages and employment are measured at the home office, not the construction site. Exceptions are made for major construction projects.

- 1.62. The per capita personal income estimates can also be misleading in areas where population changes rapidly. Population is measured at midyear, whereas income is measured as a flow over the year; therefore, a significant change in the population of an area during the year, particularly if it occurs around midyear, can cause a distortion in the per capita personal income estimates.
- 1.63. In counties where farm income predominates, additional considerations should be considered.

Farm Proprietors' Income

- 1.64. Farm proprietors' income as measured for personal income reflects returns from current production; it does not measure current cash flows. Sales out of inventories are included in current gross farm income, but they are excluded from net farm income because they represent income from a previous year's production. Additions to inventories are included in net farm income at current market prices; therefore, farmers' attempts to regulate their cash flows by adjusting inventories are not reflected in BEA's farm proprietors' income estimates. However, this regulation of cash flows by farmers extends their earnings cycles and this helps them to survive losses or lowered income for 2 or 3 years. In addition, the per capita personal income of sparsely populated areas dependent on farming will react more sharply to the vagaries of weather, world market demand, and changing government policies related to agriculture than that of areas where the sources of income are more diversified.

Personal Income, Adjusted Gross Income, and Money Income

- 1.65. Personal income as defined by BEA differs substantially from adjusted gross income (AGI), the principal income measure used by the Internal Revenue Service. Personal income also differs from money income, a concept developed by the Census Bureau.
- 1.66. Personal income consists of the income of individuals, nonprofit institutions serving individuals, private noninsured welfare funds, and private trust funds, whereas AGI consists only of the income of individuals who file individual income tax returns. Personal income also includes transfer receipts, several types of imputed incomes, employer contributions to health and pension plans, and all the interest received by individuals, whereas AGI excludes all employer contributions, imputed incomes, most transfer receipts, and the nontaxable interest received by individuals. Personal income, unlike AGI, excludes personal contributions for government social insurance, realized capital gains and losses, and pension and annuity benefits from private and government employee pension plans.
- 1.67. Personal income differs from money income mainly because money income consists only of the income received by individuals in cash and cash equivalents. Personal income, unlike money

income, includes imputed income, lump-sum payments not received as part of earnings, certain in-kind personal current transfer receipts—such as Medicaid, Medicare—and employer contributions to health and pension plans. Personal income excludes personal contributions for government social insurance, pension and annuity benefits from private and government employee pension plans, and income from interpersonal transfers, such as child support, but money income does not.

- 1.68. Personal income for a given area and year consists of the income received by individuals living in that area during that year. In contrast, money income for a given area and year counts only the income received during the year by individuals living in the area on April 1 of the following year, regardless of where they were living when they received the income. The income received by individuals who died or moved abroad before April 1 of the following year is not included in the money income of any area.
- 1.69. Personal income is prepared quarterly for states and annually for counties, whereas money income is prepared in greatest detail annually for the nation based on responses to the Current Population Survey and for states based on responses to the ACS.

Employment

- 1.70. BEA gives equal weight to full-time and part time jobs in its estimates of employment. Wage and salary jobs and proprietors' jobs are counted, but unpaid family workers and volunteers are not. Proprietors' employment consists of the number of sole proprietorships and the number of general partners. Wage and salary employment is on a place-of-work basis. Proprietors' employment, however, is considered to be by place of residence because, for nonfarm sole proprietorships, the estimates are based on IRS tax data that reflect the addresses from which the proprietors' individual tax returns are filed, which are usually the proprietors' residences. Nonfarm partnership employment reflects the tax-filing address of the partnership, which may be either the residence of one of the partners or the business address of the partnership. Farm proprietors' employment is a count of operators running sole proprietorship and partnership farms estimated from U.S. Department of Agriculture (USDA) data. The residence and place of work of farm proprietors' employment is assumed to be the same—the county in which most of the proprietors' farmland is located.
- 1.71. Employment estimates are designed to be consistent with the estimates of wages and salaries, proprietors' income, and earnings. The employment estimates are based on the same sets of source data as the corresponding earnings estimates and are prepared with parallel methodologies. However, two components of proprietors' income—the income of limited partnerships and the income of tax-exempt cooperatives—have no corresponding employment estimates.

Sources of the Data

- 1.72. State and county personal income and employment estimates are based primarily on administrative-records data. In addition, some survey and census data are used.
- 1.73. Administrative records data are a byproduct of the administration of various federal and state government social insurance programs and tax codes. They may originate either from the recipients of the income or from the payer of the income. Some of the more important of these programs and taxes (and the agencies compiling the data) are:
- State unemployment insurance programs (Bureau of Labor Statistics (BLS), U.S. Department of Labor)
 - State Medicaid programs and the federal Medicare program (Centers for Medicare & Medicaid Services, U.S. Department of Health and Human Services)
 - Social Security (Social Security Administration)
 - Federal veterans' programs (U.S. Department of Veterans Affairs)
 - State and federal income tax codes (IRS, U.S. Department of the Treasury and Bureau of the Census, U.S. Department of Commerce)
- 1.74. Census data are mainly collected from the recipients of the income. The most important sources of census data for personal income and employment estimates are the Census of Population and Housing, conducted by the Bureau of the Census every ten years, and the Census of Agriculture, conducted by the USDA every five years.
- 1.75. Survey data are collected from both the payers and the recipients of the income. The more important surveys include the Annual Survey of Public Pensions and the ACS conducted by the Census Bureau and the monthly Current Employment Statistics survey conducted by the BLS.
- 1.76. Estimates of farm proprietors' income rely principally on the USDA's estimates of the income of all farms. The USDA uses sample surveys along with census data and administrative-records data to develop its estimates. Estimates of military compensation and employment rely principally on tabulations of data provided by the U.S. Department of Defense.
- 1.77. Using administrative records data and census data to measure local area personal income has both advantages and disadvantages. By using these data, BEA can prepare detailed annual and quarterly estimates at a relatively low cost and without increasing the reporting burden on businesses and households. However, because the source data often do not precisely match the concept being estimated, they must be adjusted to compensate for differences in definitions, coverage, timing, and geographic detail.

Preparation and Revision Schedule

- 1.78. Local area personal income estimates are released and then revised on a regular schedule to incorporate source data that are more complete, more detailed, or otherwise more appropriate than the data which were available when the estimates were initially prepared. They are also revised to keep them consistent with revisions to personal income estimates in the NIPAs, to which they are controlled.
- 1.79. Personal income estimates are first prepared for the nation and then for states. Lastly, they are prepared for counties, metropolitan statistical areas, and other local areas that are combinations of counties.
- 1.80. Quarterly estimates of state personal income are prepared three months after the end of the quarter. Preliminary annual state estimates are prepared in March, and revised state estimates are prepared in September. Annual estimates of local area personal income are prepared in November.
- 1.81. In March, state estimates for the fourth quarter of the previous year are prepared and estimates for the first three quarters are revised; preliminary annual state estimates for the previous year are prepared by averaging these quarterly estimates.⁹
- 1.82. In June, state estimates for the first quarter of the current year are prepared and estimates for the four quarters of the previous year are revised.
- 1.83. In September, annual state estimates for the previous year are revised using the annual, rather than the quarterly, methodology, and annual estimates for the two years before that are revised. Annual estimates are based on administrative and survey data and replace previously reported estimates of total taxes, total transfers, and total farm proprietors' income that relied on extrapolations of past trends. Annual estimates by industry are prepared in greater detail—for three-digit NAICS industries—than quarterly estimates, which are prepared for two-digit industries. Estimates of transfer receipts by major program, tax payments by level of government, employment by industry, and detailed farm income and expenses for the previous year are prepared. With the same release, state estimates for the second quarter of the current year are prepared and estimates for the first quarter are revised. Furthermore, estimates for the quarters of the previous five years are revised for consistency with the revised annual estimates.
- 1.84. In November of each year, estimates of local area personal income for the previous year are prepared, and estimates for the four years before that are revised.
- 1.85. In December, estimates of state personal income for the third quarter of the current year are prepared, and estimates of the first and second quarters are revised.

9. Revisions to the quarterly state personal income estimates in general reflect only revisions to NIPA controls and updated seasonal factors.

- 1.86. Aside from this schedule, state and local area estimates are normally revised again only after a comprehensive, or benchmark, revision of the NIPAs. Comprehensive revisions of the NIPAs are made approximately every four or five years.¹⁰
- 1.87. In a comprehensive NIPA revision, national estimates of personal income are affected by statistical changes that result from the introduction of new source data and the use of improved estimating methods. The national estimates may also be affected by changes in definitions and classifications that are made so that the NIPA will reflect the evolving economy of the United States.¹¹ For example, as part of the 2023 NIPA comprehensive update, measures of normal cost for state and local government defined benefit pension plans are now based on the projected benefit obligation method rather than on the accumulated benefit obligation method. State estimates of employers' normal cost for 2000 to the present are prepared in the same manner and with the same source data as the NIPA estimate.¹²

Release and Publication Schedule

- 1.88. Annual estimates of local area personal income and related news releases that provide brief commentary and summary data tables on the statistics are first released on [BEA's website](#). By visiting the site, data users can also subscribe to receive free e-mail alerts of BEA releases and announcements. Release dates are announced in advance and are listed on the website.
- 1.89. Further commentary on the personal income statistics, including discussions of special factors and revisions that affect the statistics, is published in the *Survey of Current Business*, which is only available in an electronic format on BEA's website. Detailed data tables are no longer published by BEA in the *Survey*. Go to BEA's [regional interactive tables](#) to access the complete set of personal income and employment estimates for local areas. In addition, an archive of previously published news releases and historical data that have since been revised by BEA is available.
- 1.90. For more information, call BEA at 301-278-9321 or e-mail reis@bea.gov.

10. For the results of the latest comprehensive revision of the NIPA, see Lisa S. Mataloni, Dorian L. Turner, and Stephanie H. McCulla, "[Improved Estimates of the National Economic Accounts](#)," *Survey of Current Business* (November 9, 2023).

11. See Stephanie H. McCulla, Dorian L. Turner, Lisa S. Mataloni, "[Preview of the 2023 Comprehensive Update of the National Economic Accounts](#)," *Survey* (June 23, 2023).

12. See "[Preview of the 2023 Comprehensive Update of the Regional Economic Accounts](#)[Preview of the 2023 Comprehensive Update of the Regional Economic Accounts](#)," *Survey* (August 15, 2023).

Tables

- 1.91. Local area personal income data are organized in a set of tables and are available online (table B). The tables contain data for counties, metropolitan statistical areas, micropolitan statistical areas, combined statistical areas, metropolitan divisions, state metropolitan/nonmetropolitan portions, states, the District of Columbia, the eight BEA regions, and the United States.¹³
- 1.92. Local area personal income statistics incorporate the results of the annual revision to the NIPAs, released in July 2023.

**Table B. Regional Income and Employment Data Tables
Available From the Bureau of Economic Analysis**

Table	Time series	Time lag
Local Area Annual Series¹		
Personal income summary: Personal income, population, per capita personal income (CAINC1)	1969–2022	11 months
Personal income and employment by major component (CAINC4)	1969–2022	11 months
Personal income by major component and...	earnings by NAICS industry (CAINC5N)	2001–2022
	earnings by SIC industry (CAINC5S)	1969–2000
Compensation of employees...	by NAICS industry (CAINC6N)	2001–2022
	by SIC industry (CAINC6S)	1969–2000
Total full-time and part-time employment...	by NAICS industry (CAEMP25N)	2001–2022
	by SIC industry (CAEMP25S)	1969–2000
Economic profile (CAINC30)	1969–2022	11 months
Personal current transfer receipts (CAINC35)	1969–2022	11 months
Farm income and expenses (CAINC45)	1969–2022	11 months
Gross flow of earnings (CAINC91)	1969–2022	11 months
BEA Regional Fact Sheets (BEARFACTS)	2022	11 months

*Data revisions in these tables are incorporated during flexible annual and comprehensive revisions only.

NAICS North American Industry Classification System

SIC Standard Industrial Classification

- The local area annual series is available for the United States, regions, states, counties, metropolitan areas, combined statistical areas, metropolitan divisions, and state metropolitan and nonmetropolitan portions.

13. See the list of BEA regions with their constituent states in Chapter X Appendix.

Resources on BEA's website

- 1.93. A wide range of resources are available on BEA's website to assist people in using and understanding its regional statistics. These resources include:
- [Glossary](#)—Glossary terms related to state personal income and employment statistics are available on BEA's website.
 - [Mapping of regional statistics](#)—This interactive tool allows users to create maps using regional personal income and employment statistics. Follow the link and click on “Begin mapping the data...”.
 - [Previously published estimates](#)—This archive contains the Regional Accounts data that were published at the time of the previous Regional Accounts data news releases. They are for research only.
 - [Statistical area delineations](#)—Descriptions of the counties included in metropolitan and micropolitan statistical areas are available on BEA's website.

Coronavirus (COVID-19) Impact on Local Area Personal Income Estimates

- 1.94. The 2020–2022 annual estimates of local area personal income were impacted by the response to the spread of COVID-19, as governments issued and lifted “stay-at-home” orders and government pandemic assistance payments were distributed to households (economic impact payments and expanded unemployment benefits) and businesses (Paycheck Protection Program loans). The full economic effects of the COVID-19 pandemic cannot be quantified in the local area personal income estimates because the impacts are generally embedded in source data and cannot be separately identified. [Information on COVID-19 and recovery impacts](#) is available on BEA's website.

Part II.

Compensation

- 2.1. Compensation is the income received by employees as remuneration for their work. Compensation is the sum of wages and salaries and supplements to wages and salaries. Supplements to wages and salaries are the sum of employer contributions for government social insurance and employer contributions for employee pension and insurance funds. Compensation is reported by place of work and was 61.5 percent of total personal income at the national level in 2022 (table C).
- 2.2. The sources of data and the methods that are used to prepare compensation estimates are described in two sections: wages and salaries and supplements to wages and salaries.

Wages and Salaries

- 2.3. Wages and salaries are broadly defined to include commissions, tips, and bonuses; voluntary employee contributions to deferred compensation plans, such as 401(k) plans; employee gains from exercising stock options; and receipts-in-kind that represent income.
- 2.4. Wages and salaries are measured before deductions, such as social security contributions, union dues, and voluntary employee contributions to defined contribution pension plans. They represent the amount of wages and salaries accrued during the year. Estimates are prepared, with a few exceptions, at the North American Industry Classification System (NAICS) three-digit industry level.¹⁴
- 2.5. Wages and salaries accounted for almost 50.9 percent of total personal income at the national level in 2022 (table C).
- 2.6. National, state, and county estimates of wages and salaries are based primarily on the Quarterly Census of Employment and Wages (QCEW) data that originate from the state unemployment insurance (UI) system, and from the UI program for federal civilian employees. These data are assembled by the Bureau of Labor Statistics of the U.S. Department of Labor. The data (reported quarterly on Form ES-202, the state UI contribution reports filed by employers in the industries

14. NAICS has been used since 2001. Previously the Standard Industrial Classification (SIC) was used. See “Industrial Classification” in Chapter I Introduction.

covered by, and subject to, each state's UI laws and by federal agencies) are tabulated by county and by NAICS six-digit industry. The QCEW data account for 94.5 percent of wages and salaries as estimated by the U.S. Bureau of Economic Analysis (BEA) (table D).

- 2.7. Under most state UI laws, wages and salaries include bonuses, tips, and the cash value of meals and lodging provided by the employer—that is, pay-in-kind.
- 2.8. Estimates of wages and salaries for a few industries are prepared largely or entirely with data other than the QCEW data. These industries are either not covered by state UI or are only partly covered. For three of these industries—support activities for agriculture and forestry; private education; and religious, grantmaking, civic, professional and similar organizations—estimates are prepared as the sum of (1) an estimate for the fully covered portion of the industry, based on the QCEW data, and (2) an estimate for the not fully covered portion of the industry, based largely or entirely on other source data, as discussed below.

Table C. Compensation of Employees, by Component and by Industry, United States, 2022

	Millions of dollars	Percent of personal income
By component		
Personal income	21,820,248	100.0
Compensation of employees¹	13,417,360	61.5
Wages and salaries	11,105,671	50.9
Supplements to wages and salaries	2,311,689	10.6
Employer contributions for employee pension and insurance funds ²	1,549,005	7.1
Employer contributions for government social insurance	762,684	3.5
Average compensation per job (dollars) ³	84,912	n.a.
By industry		
Compensation of employees¹	13,417,360	61.5
Farm	32,830	0.2
Nonfarm	13,384,530	61.3
Private nonfarm	11,152,749	51.1
Forestry, fishing, and related activities	31,329	0.1
Forestry and logging	3,858	<0.1
Fishing, hunting, and trapping	1,017	<0.1
Agriculture and forestry support activities	26,454	0.1
Mining	77,914	0.4
Oil and gas extraction	26,386	0.1
Mining (except oil and gas)	20,549	0.1
Support activities for mining	30,979	0.1

Table continues

	Millions of dollars	Percent of personal income
Utilities	95,750	0.4
Construction	698,154	3.2
Buildings	172,685	0.8
Heavy and civil engineering	113,173	0.5
Specialty trade contractors	412,296	1.9
Manufacturing	1,265,225	5.8
Durable goods	828,434	3.8
Wood product	31,359	0.1
Nonmetallic mineral product	35,583	0.2
Primary metal	37,114	0.2
Fabricated metal product	116,009	0.5
Machinery	110,031	0.5
Computer and electronic product	187,145	0.9
Electrical equipment and appliance	42,356	0.2
Motor vehicles, bodies and trailers, and parts	89,246	0.4
Other transportation equipment	89,585	0.4
Furniture and related product	24,869	0.1
Miscellaneous	65,137	0.3
Nondurable goods	436,791	2.0
Food	124,045	0.6
Beverage and tobacco product	24,344	0.1
Textile mills	6,519	<0.1
Textile product mills	6,516	<0.1
Apparel	6,249	<0.1
Leather and allied product	1,838	<0.1
Paper manufacturing	34,831	0.2
Printing and related support activities	26,310	0.1
Petroleum and coal products	20,808	0.1
Chemical	126,505	0.6
Plastics and rubber products	58,826	0.3
Wholesale trade	666,326	3.1
Retail trade	768,117	3.5
Motor vehicle and parts dealers	162,259	0.7
Furniture and home furnishings stores	24,590	0.1
Electronics and appliance stores	28,148	0.1
Building material and garden supply stores	69,410	0.3
Food and beverage stores	121,414	0.6
Health and personal care stores	55,201	0.3
Gasoline stations	34,400	0.2

Table continues

	Millions of dollars	Percent of personal income
Clothing and clothing accessories stores	39,943	0.2
Sporting goods, hobby, book and music stores	18,267	0.1
General merchandise stores	114,932	0.5
Miscellaneous store retailers	34,820	0.2
Nonstore retailers	64,733	0.3
Transportation and warehousing	509,246	2.3
Air transportation	67,462	0.3
Rail transportation	21,005	0.1
Water transportation	8,441	<0.1
Truck transportation	131,118	0.6
Transit and ground passenger transportation	27,737	0.1
Pipeline transportation	9,013	<0.1
Scenic and sightseeing transportation	1,663	<0.1
Support activities for transportation	69,311	0.3
Couriers and messengers	65,336	0.3
Warehousing and storage	108,160	0.5
Information	514,278	2.4
Publishing industries, except internet	159,353	0.7
Motion picture and sound recording industries	46,190	0.2
Broadcasting, except internet	32,416	0.1
Telecommunications	86,926	0.4
Data processing, hosting, and related services	90,787	0.4
Other information services ⁴	98,606	0.5
Finance and insurance	1,026,873	4.7
Monetary authorities—central bank	3,512	<0.1
Credit intermediation and related activities	340,262	1.6
Securities, commodity contracts, and investments	329,408	1.5
Insurance carriers and related activities	348,341	1.6
Funds, trusts, and other financial vehicles	5,350	<0.1
Real estate and rental and leasing	208,921	1.0
Real estate	163,125	0.7
Rental and leasing services	42,331	0.2
Lessors of nonfinancial intangible assets	3,465	<0.1
Professional, scientific, and technical services	1,435,841	6.6
Management of companies and enterprises	425,101	1.9
Administrative and waste management services	613,904	2.8
Administrative and support	572,783	2.6
Waste management and remediation	41,121	0.2
Educational services	241,384	1.1

Table continues

	Millions of dollars	Percent of personal income
Health care and social assistance	1,542,668	7.1
Ambulatory health care	719,417	3.3
Hospitals	495,497	2.3
Nursing and residential care facilities	160,904	0.7
Social assistance	166,850	0.8
Arts, entertainment, and recreation	143,092	0.7
Performing arts and spectator sports	67,019	0.3
Museums, historical sites, zoos, and parks	8,448	<0.1
Amusement, gambling, and recreation	67,625	0.3
Accommodation and food services	495,679	2.3
Accommodation	92,855	0.4
Food services and drinking places	402,824	1.8
Other services, except public administration	392,947	1.8
Repair and maintenance	92,892	0.4
Personal and laundry services	79,586	0.4
Religious, grantmaking, civic, professional, and similar organizations	195,276	0.9
Private households	25,193	0.1
Government and government enterprises	2,231,781	10.2
Federal and civilian	397,841	1.8
Military	157,200	0.7
State and local government	1,676,740	7.7
State	477,522	2.2
Local	1,199,218	5.5

n.a. Not available

1. The estimates for 2022 are based on the 2017 North American Industry Classification System (NAICS).
2. Includes actual employer contributions and actuarially imputed employer contributions to reflect benefits accrued by defined benefit pension plan participants through service to employers in the current period.
3. Average compensation per job is compensation of employees divided by total full-time and part-time wage and salary employment.
4. Under the 2007 NAICS, internet publishing and broadcasting was reclassified to other information services.

Notes. All dollar estimates are in current dollars (not adjusted for inflation). Details may not add to totals due to rounding.

Table D. BEA U.S. Wage and Salary Adjustments as Related to BLS U.S. Wages, 2022

[Millions of dollars]

Total wages, U.S. Bureau of Labor Statistics (BLS)¹	10,499,737
Plus: Adjustments made by U.S. Bureau of Economic Analysis (BEA):	
For unreported wages and unreported tips on employment tax returns	144,699
For wages and salaries not covered or not fully covered by unemployment insurance:	
Private	306,973
Government	149,762
Other adjustments ²	4,500
Equals: Wage and salary, BEA	11,105,671

1. Total wages are based on September 6, 2023, BLS.gov data.

2. Consists of adjustments to the wage and salary estimates to remove employees of U.S. companies stationed overseas, and reflect updates to published BLS Quarterly Census of Employment and Wages data.

Wages and salaries in industries fully covered by state UI programs

- 2.9. Estimates of wages and salaries covered by state UI programs or by the UI program for federal civilian employees are based on quarterly QCEW wage and salary (or payroll) data. However, these data do not precisely meet BEA's statistical and conceptual requirements; therefore, the data must be adjusted. These adjustments affect both the industrial and the geographic patterns of state and county personal income.

Adjustment for industry non-classification

- 2.10. The industry detail of the QCEW data regularly shows minor amounts of payroll—about 0.2 percent of total payrolls nationally—that have not been assigned to any industry. The industrial classification scheme used by BEA does not permit this not-elsewhere-classified category. Therefore, for each state and county, the amount in this category is distributed among the industries in proportion to the industry-classified QCEW payrolls. Because this adjustment only apports the amount reported for a county within that county, no error is introduced into the total estimate for the county.

Adjustment for statewide reporting

- 2.11. A state UI contribution report is usually filed for each establishment by industry and by county; however, a report may be filed by an employer for a group of very small establishments by state, not by county. Therefore, county data are unavailable for these establishments.
- 2.12. State totals of wages and salaries reported for these statewide units for an industry are allocated to counties in proportion to the distribution of the wages and salaries for the industry that is reported

by county. Statewide totals are allocated for each private-sector industry and for five government components—federal civilian, state education, state non-education, local education, and local non-education.

Adjustments for misreported wage and salary data

- 2.13. Approximately \$110.8 billion of the wages and salaries not reported by employers is added to the QCEW (table D). Because state and county data are unavailable, the national estimate for each industry is allocated to states and counties in proportion to the QCEW payroll data for the industry.
- 2.14. The national estimate for each industry is prepared in two parts. One part is prepared for the payrolls that were underreported, and one part is prepared for the payrolls that were not reported because employers failed to file a report.¹⁵
- 2.15. In addition, tips are assumed to be understated in the UI contribution reports from the following industries: health and personal care stores; general merchandise stores; air transportation; railroad transportation; taxicabs (a part of transit and ground passenger transportation); scenic and sightseeing transportation; couriers and messengers; administrative and support services; waste management and remediation services; amusement, gambling, and recreation industries; accommodation services; food services and drinking places; personal and laundry services; and religious, grant making, civic, professional and similar organizations. For each of these industries, the national estimate of the unreported tips is allocated to states and counties in proportion to the QCEW payroll data for the industry (or in proportion to Railroad Retirement Board data for the railroad transportation industry).
- 2.16. Further, the wages and salaries that employees contribute to tax-deferred thrift savings plans—such as 401(k) plans—had been omitted from the UI contribution reports of some employers in some states. This form of underreporting ended in 1997 in all states except Alaska. Beginning with 1996, Alaskan employers are no longer required to include employees' voluntary savings contributions with reported wages and salaries. Only the reported wages and salaries of the state government appear to have been affected by this change so far. A state control is allocated to counties in proportion to QCEW payroll data.

Adjustments for federal civilian payrolls

- 2.17. Large proportions of the QCEW data for the wages and salaries of the civilian employees of some federal government agencies in New York (through 2002) and Wisconsin (through 1998) were reported by state, not by county. Therefore, the county estimates of the wages and salaries of these employees were derived from employment data provided by the Office of Personnel Management (OPM).

15. Robert P. Parker, "[Improved Adjustments for Misreporting of Tax Return Information Used to Estimate the National Income and Product Accounts, 1977](#)," Survey 64 (June 1984): 17–25.

- 2.18. Prior to 2002, state estimates of the wages and salaries of the civilian employees of the Postal Service in New York were allocated to the counties in the state in proportion to the OPM employment data for the agency.
- 2.19. In addition, in the QCEW payroll data for federal civilian employees, all the wages and salaries for congressional staff are assigned to Washington, DC. However, some of these wages are earned by congressional staff who work in the state offices of the members of Congress. BEA assumes that 25 percent of the total congressional payrolls are earned by congressional staff in state offices, so this percentage of these payrolls is allocated to states in proportion to their congressional representation. The state estimates of this adjustment are allocated to counties in proportion to the QCEW payroll data.
- 2.20. Federal employees who work in certain U.S. intelligence agencies are not included in the Unemployment Compensation for Federal Employees data, thus adjustments are made in specific geographies to provide complete coverage of all federal civilian wages and salaries.

Adjustment for a component of state government payrolls

- 2.21. The geographic coding of the QCEW data for the non-education component of state government payrolls attributes too much of the payrolls to the counties of the state capitals in six states. Therefore, wage data from the decennial Census of Population and more recently, 5-year estimates from the annual American Community Survey (ACS), are used in the preparation of the county estimates of the wages and salaries for these employees.
- 2.22. County estimates of the wages and salaries for the non-education component for Illinois, Michigan, New Jersey, Rhode Island, Tennessee, and Wisconsin are based on wage data derived from unpublished decennial tabulations of journey-to-work (JTW) data from the decennial Census of Population for the years before 2001. Starting with 2008, the ACS JTW employment data is used, with 2001–2007 interpolated between the two JTW distributions.
- 2.23. Wage and salary estimates for the establishments of American Indian Tribal Councils are included with local governments.

Wages and salaries in industries not fully covered by state UI programs

- 2.24. Estimates of wages and salaries for seven industries are primarily based on data other than QCEW data. The QCEW data are inadequate for five industries—farms, farm labor contractors, private elementary and secondary schools, religious organizations, and private households—because these industries are fully covered by state UI programs in only a few states. The QCEW data are unavailable for two industries—railroads and military—because these industries are not covered by state

UI programs.¹⁶ Consequently, the wages and salaries of all seven industries are treated as if they were not covered by state UI programs. In addition, because these estimates are primarily based on data that do not include wages paid in kind, an estimate of pay-in-kind is prepared for each of these industries except farm labor contractors and railroads.

Farms

- 2.25. Estimates of wages and salaries for farms consist of cash wages, including salaries received by the owner-operators of farm sole proprietorships, partnerships, and family-held corporations, and the pay-in-kind of hired farm labor.^{17, 18}
- 2.26. State estimates of cash wages are based on estimates of hired farm cash wages and operator wages prepared by the U.S. Department of Agriculture (USDA). Estimates for most states are allocated to counties by the distribution of wages paid to farm employees from the Census of Agriculture. However, farm employees have mandatory UI coverage or almost complete voluntary coverage in Arizona, California, Connecticut, Delaware, Florida, Hawaii, Massachusetts, New Jersey, Rhode Island, and Washington. Therefore, county estimates of cash wages for these states are derived from QCEW data.
- 2.27. State estimates of pay-in-kind are based on estimates prepared by the USDA and are allocated to counties in proportion to the number of hired farm workers who worked 150 days or more from the Census of Agriculture.

Farm labor contractors

- 2.28. Farm labor contractors are classified in support activities for agriculture and forestry. Farm labor contractors and their employees are only partially covered by UI laws in most states, so most state and county estimates of wages are based on data for contract farm labor expenses from the Census of Agriculture. Since in Arizona and California all employees in this industry are covered, estimates are based on QCEW payroll data.

Railroads

- 2.29. Estimates of the wages and salaries of railroad employees are based mainly on data provided by the Railroad Retirement Board (RRB), which administers the Railroad Unemployment Insurance and Retirement systems. The railroad industry is not covered by state UI, and the RRB does not require railroads to submit employment and wage data by establishment. However, the RRB does collect

16. Military is a BEA industry classification.

17. Family-held corporations are those qualified under the Internal Revenue Code subchapter S.

18. USDA state estimates of farm labor expenses exclude salaries received by the owner-operators; these salaries are treated as part of the return to capital. The BEA treatment of salaries received by owner-operators of farms is different from the treatment of salaries received by sole proprietors and partners of nonfarm enterprises. Their salaries are included in nonfarm proprietors' income.

data from each railroad company on its total payroll, and, for each railroad company employee, on the wages and salaries that are subject to the railroad UI and retirement tax. The state and county of residence of each employee can also be identified in the RRB records.¹⁹

- 2.30. Estimates of railroad wages and salaries by state and county of employee residence are based on the sum of the wages of employees whose wages do not exceed the ceiling for RRB taxation plus estimates of the wages of the employees with wages above the ceiling. To estimate the latter, the national total of the wages of railroad employees receiving below-ceiling wages—summed from the RRB employee data—is subtracted from the national total of the payrolls of all railroad companies—summed from the RRB company data—to yield the total of the wages of the employees with above-ceiling wages. This total is allocated to states and counties in proportion to the number of employees receiving above-ceiling wages, as determined from the RRB employee data.
- 2.31. To be consistent with estimates of wages and salaries for other industries, state and county estimates of railroad wages and salaries are converted to a place-of-work basis. This is based on data from the 2011–2015 American Community Survey 5-year estimates. From these data, the proportion of the wages of railroad employees who lived in one county but worked in another was calculated. Each of these proportions was multiplied by the corresponding place-of-residence wage estimates to calculate the intercounty flows of wages due to commuting; each of these flows was subtracted from the county of residence and added to the county of work to adjust the place-of-residence wage estimates to a place-of-work basis.
- 2.32. The current year state and county estimates of railroad wages and salaries reflect the geographic distribution of the previous year estimates.

Private elementary and secondary schools

- 2.33. State estimates of cash wages of private school employees are based on data from the Census Bureau's annual County Business Patterns (CBP) data, the data with the most uniform national coverage. State estimates of pay-in-kind reflect the number of full-time teachers in religious orders from the *Official Catholic Directory*.²⁰
- 2.34. In about half of states, county estimates of cash wages and pay-in-kind are derived from the best available series chosen from (1) data on employment in private elementary and secondary schools

19. The data are converted to counties based on five-digit ZIP codes.

20. See the “General Summary” in the *Official Catholic Directory* (New York: P.J. Kennedy and Sons). The *Directory* is published annually. The “General Summary” is a tabulation of the number of members of religious orders who are employed in Catholic institutions in each diocese and in each state. The data are classified by clerical title and by religious assignment. The number of teachers does not distinguish between those who receive cash wages and those who receive only pay-in-kind, nor does it distinguish between those who teach in elementary and secondary schools and those who teach in colleges and universities.

published by the state departments of education, (2) employment data from the U.S. Department of Education's survey of private elementary and secondary schools, or (3) relevant wage data from CBP.²¹

- 2.35. In the other states, UI coverage is complete enough so that the QCEW data can be used as the basis for the county estimates. In these states, the QCEW distribution of wages and salaries is the basis for the estimates of cash pay, and the QCEW distribution of employment is the basis for the estimates of pay-in-kind.

Religious organizations

- 2.36. State estimates of cash wages and pay-in-kind of religious organizations are based on CBP data. However, the CBP county data are too frequently suppressed to avoid disclosure of information about individual organizations to be useful; therefore, state estimates are allocated to counties in proportion to the distribution of the household population.²²

Private households

- 2.37. Distribution of county level wages is based on Census JTW county-level data from the 2000 decennial Census of Population. The JTW data were extrapolated to the present by the annual change in household population. The extrapolated series for each year is adjusted proportionately to sum to the state estimates of cash wages. Estimates of pay-in-kind for private household employees are allocated to counties by BEA estimates of private household wage and salary employment.

Military

- 2.38. Estimates of wages and salaries for the military consist of estimates of cash wages (including allowances) of full-time military personnel and members of the military Reserves, including the National Guard, and of estimates of the pay-in-kind provided to enlisted personnel.²³
- 2.39. State estimates of cash wages for full-time military personnel of all services are allocated to counties in proportion to the number of personnel prepared by the Defense Manpower Data Center (DMDC).²⁴

21. The CBP data are tabulated from the administrative records of the Old-Age, Survivors, and Disability Insurance program. This program exempts nonprofit religious organizations, such as many of these schools, from mandatory coverage, but its provisions for elective coverage have resulted in the participation of most of these schools and many of the other religious organizations.

22. County total population is from the Census Bureau. Household population for counties is calculated as the difference between the total population and the Census Bureau population in group quarters estimates.

23. Officers do not receive pay-in-kind. The imputation for clothing is limited to standard issue clothing; it does not include clothing and equipment for special or unusual duties.

24. Coast Guard data are now included with the DMDC report and no longer require a separate report from the U.S. Department of Homeland Security.

- 2.40. State estimates of cash wages for the Reserves are based on data from the appendix of the *Budget of the United States Government*. Because county payroll data are unavailable, the state estimates are allocated to counties in proportion to the distribution of the household population.
- 2.41. The national estimate for the pay-in-kind of the full-time personnel of each service is allocated to states and counties in proportion to the number of enlisted personnel.

Other adjustments

- 2.42. The QCEW payroll data for some industries exclude small portions of wages and salaries either because the employing establishments are not covered by the UI programs or because a portion of the establishments' payrolls is not subject to UI reporting. The following procedure is used to prepare county estimates of these non-covered wages.
- 2.43. National estimates of non-covered wages are prepared and allocated to states based on the best available related economic series. State estimates of the non-covered wages are added to the QCEW payroll data for relevant industries. Then, the national estimates of wages and salaries (both covered and non-covered portions) are allocated by industry to states in proportion to the augmented QCEW data.
- 2.44. State estimates of wages and salaries (both covered and non-covered portions) are allocated to counties in proportion to the unaugmented QCEW data. This procedure is used to prepare county estimates of the following items:
- Payrolls of railroad carrier affiliates, which are classified in support activities for transportation, and payrolls of railway labor organizations, classified in religious, grant making, civic, professional, and similar organizations
 - Contributions to cafeteria plans that are excluded from QCEW payroll data for private industries and state and local governments in twenty-eight states
 - Payrolls of nonprofit organizations, in numerous industries, that are exempt from UI coverage because they have fewer than four employees
 - Wages and salaries of students employed by the institutions of higher education in which they are enrolled, which are classified in private education, state government education, and local government education
 - Pay-in-kind of the members of religious orders who teach at private colleges and universities but who do not receive cash wages
 - Pay-in-kind of workers in private hospitals who do not receive cash wages (mainly interns, student nurses, and members of religious orders)
 - Salaries of elected officials, members of the judiciary, and hospital interns in state and local governments
 - Commissions received by insurance solicitors and real estate agents

- Transportation subsidies paid to federal civilian employees who use mass transit to commute to and from work and allowances paid to federal civilian employees in selected occupations for uniforms
- Prisoner compensation, in counties where prisons are located, in federal government and in state government non-education
- Compensation to justices of the peace for marriage fees in local government non-education
- Compensation to jurors and expert legal witnesses in state government non-education

Alternative measure of county wages

- 2.45. Another measure of county wages by place of work is the payroll data published in the Census Bureau's CBP. It differs in source data and coverage from BEA's wages and salaries and QCEW wages.²⁵
- 2.46. The CBP data are derived from Census Bureau business establishment surveys and federal administrative records.
- 2.47. Coverage of the CBP data differs from that of the QCEW data primarily because the CBP data exclude most government employees, while the QCEW data cover civilian government employees.²⁶ CBP data also exclude several private industries covered at least in part by the QCEW: crop and animal production; rail transportation; insurance and employee benefit funds; trusts, estates, and agency accounts; and private households. However, the CBP data cover the employees of educational institutions, membership organizations, and small nonprofit organizations in other industries more completely than the QCEW data.²⁷
- 2.48. Beginning in 2001, QCEW classifies employees of Indian tribal governments and enterprises in local government. These employees were previously classified in the relevant private industries.²⁸ In the CBP data, these employees are still classified in private industries.

25. See table C.

26. The CBP data cover only those government employees who work in government hospitals, federally chartered savings institutions and credit unions, retail liquor stores, wholesale liquor establishments and university publishers. QCEW data in most states exclude state and local elected officials, members of the judiciary, state national and air national guardsmen, temporary emergency employees, and those in policy and advisory positions.

27. Some religious elementary and secondary schools are not covered by QCEW because of a 1981 Supreme Court decision stating "schools operated and supported by churches and not separately incorporated [are] held exempt from unemployment compensation taxes." College students (and their spouses) employed by the school in which they are enrolled, and student nurses and interns employed by hospitals as part of their training, are also excluded from QCEW. While QCEW coverage varies, half of the states only include nonprofit organizations with four or more employees during twenty weeks in a calendar year.

28. For example, employees of casinos owned by tribal councils were included in the North American Industry Classification System subsector "Amusement, Gambling, and Recreation Industries."

Supplements to Wages and Salaries

- 2.49. Supplements to wages and salaries consist of employer contributions for employee pensions and insurance funds (previously called other labor income) and employer contributions for government social insurance. For most components of supplements to wages and salaries, county-level source data are not available and so state estimates are allocated to counties based on wages or employment. See [State Personal Income and Employment: Concepts, Data Sources, and Statistical Methods](#) for a full description of each component of supplements and the data sources and estimation methods used for the state estimates. Supplements amounted to 17.2 percent of compensation at the national level in 2022 (table E).

Table E. Components of Supplements to U.S. Wages and Salaries, 2022

	Millions of dollars	Percent of compensation
Compensation	13,417,360	100.0
Supplements to wages and salaries	2,311,689	17.2
Employer contributions for employee pension and insurance funds	1,549,005	11.5
Employer contributions for employee pension plans	619,146	4.6
Defined benefit plans	308,772	2.3
Defined contribution plans	310,374	2.3
Employer contributions for employee insurance plans	929,859	6.9
Group health insurance plans	846,773	6.3
Group life insurance plans	11,771	0.1
Supplemental unemployment benefit plans	463	<0.1
Privately-administered workers' compensation plans	70,852	0.5
Employer contributions for government social insurance	762,684	5.7
Old-age, survivors, and disability insurance and health insurance	690,367	5.1
Unemployment insurance	43,039	0.3
Railroad retirement	3,374	<0.1
Pension Benefit Guaranty Corporation	5,262	<0.1
Military medical insurance, veterans' life insurance, and federal workers' compensation	14,400	0.1
State-administered workers' compensation	64	<0.1
State-administered temporary disability insurance	6,178	<0.1

Note. Detail may not add to totals due to rounding.

Employer contributions for employee pension and insurance funds

- 2.50. Employer contributions for employee pension and insurance funds amounted to 11.5 percent of compensation at the national level in 2022 (table E). State estimates of employer contributions for the following funds are distributed to counties, by industry, using the allocator noted:
- 2.51. Pension plans and insurance funds:
- **Defined benefit and defined contributions plans**—BEA estimates of private and government wages and salaries.
 - **Group health insurance plans**—BEA estimates of private and government employment.
 - **Group life insurance plans**—BEA estimates of private and government wages and salaries.
 - **Supplemental unemployment benefit plans**—BEA estimates of private wages and salaries.
 - **Privately administered workers' compensation plans**—BEA estimates of wages and salaries.

Employer contributions for government social insurance

- 2.52. Employers contribute on behalf of their employees to several government social insurance programs. These contributions amounted to 5.7 percent of compensation at the national level in 2022 (table E).
- 2.53. County-level source data are used to prepare estimates of employer contributions for state UI programs. Estimates of state UI taxes on employers and federal unemployment taxes are based on unpublished employer contributions data by county and industry provided by the Bureau of Labor Statistics of the U.S. Department of Labor.
- 2.54. County-level estimates of employer contributions for all other government social insurance programs are distributions of state-level estimates, by industry, using the allocator noted:
- **Old-Age, Survivors, and Disability Insurance (OASDI) and Hospital Insurance (HI)**—BEA estimates of private wages and salaries that have been adjusted so that the average wage for each county and industry does not exceed the annual maximum taxable wage. Military wages and salaries are adjusted to exclude pay-in-kind. Most employers contribute to both the OASDI and HI programs on behalf of their employees. However, employees of the rail transportation industry, federal employees in the Civil Service Retirement System, and some state and local government employees covered under their employers' pension programs are covered by the HI program but not by the OASDI program.
 - **Railroad retirement and railroad employees' unemployment insurance**—BEA estimates of wages and salaries for rail transportation.

- **Unemployment Compensation for Federal Employees and Unemployment Compensation for Ex-servicemembers (UCX)**—BEA estimates of wages and salaries for civilian federal government and wages and salaries excluding pay-in-kind for active-duty military personnel.
- **Military medical insurance and veterans' life insurance**—BEA estimates of military wages and salaries excluding pay-in-kind.
- **Pension benefit guaranty**—BEA estimates of wages and salaries for private industries.
- **Federal workers' compensation**—BEA estimates of wages and salaries for civilian federal government.
- **State-administered workers' compensation**—BEA estimates of wages and salaries.
- **State-administered temporary disability insurance**—BEA estimates of wages and salaries. New Jersey is the only state that requires employers to contribute to this program.

Part III.

Proprietors' Income

- 3.1. Proprietors' income with inventory valuation and capital consumption adjustments is the current-production income of sole proprietorships and partnerships and of tax-exempt cooperatives. A sole proprietorship is an unincorporated business required to file Schedule C of Internal Revenue Service (IRS) Form 1040, Profit or Loss from Business, or Schedule F, Profit or Loss from Farming. A partnership is an unincorporated business association required to file Form 1065, U.S. Return of Partnership Income. A tax-exempt cooperative is a nonprofit business organization that is collectively owned by its customer-members. Proprietors' income includes corporate directors' fees, but it excludes the imputed net rental income of owner-occupied housing as well as the dividends and the monetary interest that are received by nonfinancial sole proprietorships and partnerships.²⁹
- 3.2. Proprietors' income accounted for approximately 8.1 percent of total personal income at the national level in 2022 (table F). The estimates of proprietors' income are prepared in two parts—nonfarm proprietors' income and farm proprietors' income. Nonfarm proprietors' income accounted for approximately 95.5 percent of proprietors' income, and farm proprietors' income, for approximately 4.5 percent.

Table F. U.S. Proprietors' Income by Industry, 2022

	Millions of dollars	Percent of personal income
Personal income	21,820,248	100.0
Proprietors' Income¹	1,790,592	8.1
Farm	81,442	0.4
Forestry, fishing, and related activities	8,158	<0.1
Mining, quarrying, and oil and gas extraction	92,230	0.4
Utilities	32,499	0.1
Construction	217,163	1.0

Table continues

29. The dividends are included in personal dividend income, the monetary interest in personal interest income, and the rental income in rental income of persons. See Chapter IV Dividends, Interest, and Rent.

	Millions of dollars	Percent of personal income
Manufacturing	70,722	0.3
Wholesale and retail trade	138,211	0.6
Transportation and warehousing	128,842	0.6
Information	52,665	0.2
Finance and insurance	51,983	0.2
Real estate and rental and leasing	180,443	0.8
Professional, scientific, and technical services	290,027	1.3
Management of companies and enterprises	-9,036	<0.1
Administrative and support and waste management and remediation services	77,872	0.4
Educational services	13,380	0.1
Health care and social assistance	141,400	0.6
Arts, entertainment, and recreation	60,441	0.3
Accommodation and food services	40,555	0.2
Other services (except government and government enterprises)	121,595	0.6

1. Shown with inventory valuation and capital consumption adjustments.

- 3.3. The IVA removes the effects of gains and losses that result from changes in the prices of products withdrawn from inventories.
- 3.4. The CCA_{adj} represents the difference between capital consumption allowances (depreciation on the historical-cost basis used in the source data) and the consumption of fixed capital (depreciation valued on a replacement-cost basis and the effects of the accidental destruction of depreciable plant and equipment).³⁰
- 3.5. The misreporting adjustment is an estimate of the net income of sole proprietors and partnerships that is not reported on tax returns. This adjustment accounted for 35 percent of nonfarm proprietors' income in 2022.³¹
- 3.6. Like national estimates, state estimates are based on data tabulated from Schedule C of Form 1040 and from Form 1065. The geographic coding of the data is by tax-filing address.³² This address is assumed to be the same as the address of the place of residence.

30. The CCA_{adj} also includes the differences between the service lives and the depreciation patterns used for tax accounting and the empirically based depreciation schedules that are used for national economic accounting. See Arnold J. Katz and Shelby W. Herman, "[Improved Estimates of Fixed Reproducible Tangible Wealth, 1929–95](#)," *Survey of Current Business* 77 (May 1997): 69–92.

31. See Pamela A. Kelly, Stephanie H. McCulla, and David B. Wasshausen, "[Improved Estimates of the National Income and Product Accounts](#)," *Survey* 98 (September 2018).

32. See "Geocoding" in Chapter IX Technical Notes.

- 3.7. National estimates of nonfarm proprietors' income—including the IVA, the CCA_{adj} and the misreporting adjustment—for 2001 forward by North American Industry Classification System (NAICS) subsectors are allocated to states using a 3-year moving average of state level tabulations of net profits.³³ NAICS subsector estimates of nonfarm proprietors' income for 2001 are then interpolated backwards to create NAICS based estimates for 1998–2000.³⁴
- 3.8. The IRS county data at the NAICS three-digit (subsector) level could not be used because the data are severely impaired by many suppressions required to prevent the disclosure of confidential information. Consequently, the county estimates for 2001 forward were prepared in two steps. First, the two-digit (sector) level state estimates were allocated to counties using a 3-year moving average of the tabulations of net profits by county by sector. Next, the state subsector estimates were used to allocate the county sector estimates to subsectors.³⁵

Income of nonfarm tax-exempt cooperatives

- 3.9. The income of tax-exempt cooperatives consists of the income that is received by rural electric cooperatives, rural telephone cooperatives, and agricultural cooperatives.
- 3.10. State estimates of the income of rural electric and telephone cooperatives are allocated to counties in proportion to estimates of proprietorship and partnership income, excluding the misreporting adjustment in broadcasting and telecommunications (for rural telephone cooperatives) and utilities (for rural electric cooperatives).
- 3.11. Agricultural cooperatives are mainly farm marketing cooperatives and farm supply cooperatives; they are classified in wholesale trade. State estimates of the income of these cooperatives are allocated to counties in proportion to the income of sole proprietorships and partnerships, excluding the misreporting adjustment, in the nondurable wholesale trade industry.

33. The allocator for year t is an average of the IRS profit data for years t , $t-1$, and $t-2$.

34. National estimates of nonfarm proprietorship and partnership income, excluding the misreporting adjustment, for 1992–2001 for most of the SIC two-digit industries were allocated to states in proportion to state level tabulations of net profits. For coal mining, the national estimate, excluding the misreporting adjustment, was allocated to states in proportion to the number of Schedules C plus the number of partners in general partnerships. For the other industries, the national estimates, excluding the misreporting adjustment, were allocated to states in proportion to net receipts (“gross receipts or sales” less “returns and allowances” as reported on Form 1040 Schedule C and Form 1065) for each industry. National estimates of the misreporting adjustment for 1992–2001 for all SIC industries except coal mining were allocated to states in proportion to net receipts for each industry. For coal mining, the national estimate of the misreporting adjustment was allocated to states in proportion to the same series that was used to allocate the estimate excluding the misreporting adjustment.

35. Prior to 2001, estimates of the income of nonfarm sole proprietorships and partnerships by industry were prepared using the Standard Industrial Classification (SIC). State division-level estimates were allocated to counties in proportion to net receipts. Three types of allocators were used to apportion county division-level estimates to two-digit industries. Estimates for nonmanufacturing divisions (excluding three industries to be mentioned below) were allocated to two-digit industries using the number of small firms as reported in County Business Patterns. The estimates were tied to a 1981–83 benchmark prepared using unsuppressed county-level data for net receipts and proprietorship and partnership income reported to the IRS. Estimates for the manufacturing division were allocated to two-digit industries by an estimate of wages and salaries in the industries. Estimates for three nonmanufacturing industries—crude petroleum and natural gas extraction, real estate, and holding and other investment offices—were allocated using dividends received by individuals as reported on IRS Form 1040.

Farm Proprietors' Income

- 3.12. Farm proprietors' income consists of the income that is received by the sole proprietorships and the partnerships that operate farms. It excludes income received by corporate farms.
- 3.13. National and state estimates of farm proprietors' income are primarily derived from estimates of the income of all farms that are prepared by the U.S. Department of Agriculture (USDA). The concepts that underlie the USDA national and state estimates of farm income are generally the same as those that underlie the U.S. Bureau of Economic Analysis (BEA) estimates of farm proprietors' income. However, the USDA estimates of farm income include the net rental value of farm housing and the income of corporate farms; exclude sales and purchases of livestock between farms and a measure of the change in farm inventories of materials and supplies; and use a measure of depreciation different from BEA's measure.³⁶ Additionally, for years prior to 2008, the USDA estimates include the net value of Commodity Credit Corporation loans.
- 3.14. BEA's county estimates of farm proprietors' income for 2007–2022 are primarily derived from county data from the 2007, 2012, and 2017 Censuses of Agriculture. In addition, data from other sources within the USDA, such as the Farm Service Agency, are used.
- 3.15. The process consists of three major steps. First, estimates of the “realized net income” of all farms (corporate and unincorporated) are computed as gross receipts less production expenses. Second, the estimates of realized net income are modified by the inventory change adjustment so that only the income and expenses from current production are measured. This modification yields estimates of the “total net income” of all farms. Third, the income of corporate farms is estimated and subtracted from the estimates of total net income to yield farm proprietors' income.
- 3.16. For 2007, 2012, and 2017, the county estimates of gross receipts, production expenses, and the value of the net change in inventories are derived mainly from the Census of Agriculture. For non-census years, the county estimates for each state are prepared using the best available county source data for the state. The county estimates of each of these components are controlled to BEA's state estimates.

Farm gross receipts

- 3.17. Estimates of gross receipts of all farms consist primarily of the following items: (1) cash receipts from farm marketing of crops and livestock, (2) receipts from other farm-related activities,

36. For the differences between the USDA and the BEA estimates of net farm income at the national level, see NIPA table 7.15, “Relation of Net Farm Income in the National Income and Product Accounts to Net Farm Income as Published by the U.S. Department of Agriculture (USDA).” For information on the BEA estimates of depreciation, see Barbara M. Fraumeni, “[The Measurement of Depreciation in the U.S. National Income and Product Accounts](#),” *Survey* 77 (July 1997): 7–23. Sales and purchases between farms are excluded from the USDA state estimates of cash receipts from marketing livestock and of expenses for livestock purchases because in the aggregated state estimates of farm income the cash receipts from intrastate interfarm sales offset the expenses for intrastate interfarm purchases. Because these transactions may not be intracounty transactions, BEA estimates the transactions for each state and adds the estimate to the USDA state estimates of these cash receipts and expenses.

including recreational services, sales of forest products, and custom-feeding services performed by farm operators, as well as indemnity payments (benefits) from crop insurance, (3) payments to farmers under several federal government farm subsidy programs, and (4) the imputed value of home consumption, which is the value of the farm products (food and fuel) produced and consumed on farms.³⁷

- 3.18. The largest component of gross receipts is cash receipts from marketing. For 2007, 2012, and 2017 the USDA state estimates of cash receipts from the marketing of each commodity were allocated to counties by the related Census of Agriculture data. For non-census years the 2008–2011 and 2013–2016 county estimates reflect interpolations between the 2007 and 2012 census data and 2012 and 2017 census data, respectively, and the 2018–2022 estimates reflect extrapolation from the 2017 census data.
- 3.19. State estimates of the receipts from other farm-related activities for 2007–2022 were similarly allocated to counties in proportion to data for the receipts from these activities from the censuses or from interpolations between the censuses. Data on crop indemnity payments from crop insurance from the Risk Management Agency, USDA was used to allocate the 2008–2022 state estimates of crop insurance indemnities.
- 3.20. State estimates of federal government payments to farmers for 2007–2022 were allocated to counties in proportion to annual tabulations of the payments from the Farm Service Agency data plus conservation payments data from the Natural Resource Conservation Service of the USDA.
- 3.21. County source data that reflect the imputed value of home consumption are unavailable. Therefore, the county estimates are based on the distribution of the number of farms per county, as reported in the censuses.

Farm production expenses

- 3.22. State estimates of most farm production expenses for 2007, 2012, and 2017 were allocated to counties in proportion to production expense data from the censuses for those years; the 2008–2011 and 2013–2016 county estimates are based on interpolations of the data from the censuses, and the 2017–2022 estimates are based on data from the 2017 Census of Agriculture.³⁸

Inventory change adjustment

- 3.23. The adjustment for inventory change is an estimate of the value of the net change during the year in farm inventories of the livestock and crops held for sale and private farm inventories of materials

37. Receipts for recreation services are for providing facilities for recreational activities, such as fishing, hunting, and camping.

38. Direct allocators for the following expenses are available from the 2007 and 2012 censuses: Purchases of feed, livestock including poultry, seed, fertilizer and agricultural chemicals including lime, and petroleum products; cash wages, perquisites, and social security taxes; contract labor expenses; machine hire and custom work; electricity; interest; taxes; repair and maintenance; depreciation; and a miscellaneous category that includes animal health costs.

and supplies (i.e., purchased inputs such as feed, seed, fertilizer, and chemicals). This estimate is added to the estimate of realized net income in the second major step in the calculation of farm proprietors' income, so that farm proprietors' income for a year will include only the farm income and production expenses during the year, or from *current* production. The sum of realized net income and the value of the net change in inventories is total net income.

- 3.24. The role of the inventory change adjustment in the derivation of net farm income is illustrated by the following examples. For crops, the value of the net change in inventories is negative when farmers feed more crops to their animals or sell more crops than they produce during the year; the amount held in inventory declines and realized net income overstates the income from current production by the value of the net withdrawals from inventory. For livestock, the value of the net change in inventories is positive when the number of animals that are born or that farmers purchase is greater than the number that they sell during the year; the size of the herds increases, and the realized net income understates the income from current production by the value of the net increase in the herds. For materials and supplies, the value of the net change in inventories is positive when farmers purchase more raw materials and supplies than they consume during the year; the amount held in inventory rises and the realized net income overstates the expenses from current production by the value of the net increase in the private inventories of materials and supplies.
- 3.25. The county estimates are based on the county distribution of the number of livestock units in farm inventories reported in the 2007, 2012, and 2017 censuses. The 2008–2011 and 2013–2016 state estimates were allocated by interpolations from the censuses, 2018–2022 estimates are based on data from the 2017 Census of Agriculture.
- 3.26. State estimates of the value of the net change in crop inventories were allocated to counties by the data for crop production from the censuses for those years, the 2008–2011 and 2013–2016 state estimates were allocated by the interpolations of the data from the censuses, and the 2018–2022 state estimates were allocated by the data from the 2017 Census.
- 3.27. The 2007, 2012, and 2017 state estimates of the value of the net change in materials and supplies inventories are allocated to counties using production expenses from the censuses for: feed, seeds, commercial fertilizer, agricultural chemicals, and petroleum products. The 2008–2011 and 2013–2016 state estimates were allocated by the interpolations of the data from the censuses, and the 2018–2022 state estimates were allocated by the data from the 2017 Census.

Adjustment to exclude the income of corporate farms

- 3.28. An adjustment to exclude the income of corporate farms is made in the third major step in the calculation of farm proprietors' income, because the estimates of total net income of all farms calculated in the second major step include the income of corporate farms.

- 3.29. The adjustment is calculated in four steps. First, the ratio of total crop and livestock sales of corporate farms to the total crop and livestock sales of all farms is computed for each county using unpublished tabulations from the 2012 and 2017 censuses. The 2012 and 2017 ratios are used for their respective years. The 2013 to 2016 estimates are derived by an interpolation between the two census years. The 2017 ratio is held constant for 2018 to 2022. Second, the adjustment ratio is multiplied by the county estimate of the total net income of all farms to derive the initial estimate of corporate farm income for each county. Third, the state estimates of corporate farm income are allocated to counties in proportion to the initial county estimates. Fourth, the allocated county estimates of the income of corporate farms for each county are subtracted from the estimates of the income of all farms to obtain estimates of farm proprietors' income.

Part IV.

Dividends, Interest, And Rent

- 4.1. Personal dividend income, personal interest income, and rental income of persons with capital consumption adjustment are collectively known as property income. These components accounted for 19.7 percent of personal income at the national level in 2022 (table G).

Table G. Components of Property Income, United States, 2022

	Millions of dollars	Percent of personal income
Personal income	21,820,248	100.0
Dividends, interest, and rent	4,304,995	19.7
Personal dividend income	1,804,538	8.3
Personal interest income	1,622,187	7.4
Imputed interest receipts ¹	905,664	4.2
Monetary interest receipts	716,523	3.3
Rental income of persons ²	878,270	4.0
Imputed rent	667,297	3.1
Monetary rent	210,973	1.0

1. Consists of imputed interest received from (1) finance and insurance companies and (2) employee pension plans.

2. Rental income of persons includes the capital consumption adjustment.

Note. Detail may not add to totals due to rounding.

Personal Dividend Income

- 4.2. Personal dividend income is the cash and other assets, excluding the corporations' own stock, that persons who are U.S. residents receive from U.S. and foreign corporations. Personal dividend income accounted for 8.3 percent of total personal income at the national level in 2022 (table G). The county estimates of personal dividend income are prepared in two parts: (1) imputed receipt of dividend income from pension plans, and (2) all other dividend income.

Imputed receipt of dividend income from pension plans

- 4.3. The imputed receipt of dividends from pension plans consists of the dividends received by noninsured pension plans and passed through to persons.³⁹ Separate estimates are prepared for imputed receipts from private pension plans, state and local government employee pension plans, and from the Thrift Savings Plan (TSP) in which federal civilian and military employees may participate. For each of these categories, a portion of the dividends is assumed to be received on behalf of current employees, and a portion on behalf of retirees and their survivors.
- 4.4. For private pension plans, state estimates of the currently employed portion are allocated to counties using place-of-residence private-sector wage and salary estimates. State estimates of the retired portion are allocated to counties using U.S. Bureau of Economic Analysis (BEA) estimates of social security benefits.⁴⁰
- 4.5. For dividends received by the TSP, state estimates of the currently employed portion are allocated to counties using residence-adjusted county estimates of federal civilian wages and salaries; state estimates of the retired portion are allocated by federal retirement & disability payments data from the Census Bureau's discontinued *Consolidated Federal Funds Report (CFFR)*.
- 4.6. For the dividends received by state and local government employee retirement plans, state estimates of both the currently employed and the retired portions are allocated to counties using residence-adjusted county estimates of state and local government wages and salaries.

Other dividend income

- 4.7. State estimates of other dividend income are allocated to counties using unpublished Internal Revenue Service (IRS) Individual Master File county tabulations of ordinary dividends reported on individual income tax return Form 1040.⁴¹

Personal Interest Income

- 4.8. Personal interest income is the interest income (monetary and imputed) of persons, including individuals and nonprofits serving households, from all sources. Personal interest income accounted for 7.4 percent of total personal income at the national level in 2022 (table G). The county estimates

39. For a detailed discussion of the treatment of pension plans in personal income see Jason W. Chute, Stephanie H. McCulla, and Shelly Smith, "[Preview of the 2018 Comprehensive Update of the National Income and Product Accounts: Changes in Methods, Definitions, and Presentations](#)," *Survey of Current Business* 98 (April 2018) and "[Preview of the 2013 Comprehensive Revision of the National Income and Product Accounts: Changes in Definitions and Presentations](#)," *Survey* 93 (March 2013): 13–40.

40. See Chapter V Personal Current Transfer Receipts.

41. Beginning with the estimates for 2009, tabulations of ordinary dividends are based on tabulations of a 52-week Individual Master File data file. Previously, the tabulations were based on returns processed in the first 39 weeks of the year. In order to avoid a break in the time series due to the switch the 52-week file, BEA carried back, at a decreasing rate, the income reported on end-of-year returns from 2009 to 1990 for personal dividends.

of personal interest income are prepared in three parts: (1) monetary interest income, (2) imputed interest receipts from employee pension plans, and (3) imputed interest receipts from financial institutions and insurance companies.

Monetary interest income

- 4.9. State estimates of monetary interest income are allocated to counties on the basis of unpublished IRS Individual Master File tabulations of the taxable and non-taxable interest reported by individuals on IRS Form 1040 and included in the Individual Master File.⁴² The Individual Master File interest data are supplemented by an estimate of the interest received by individuals from regulated investment companies, such as money market mutual funds. The supplementation is necessary because the interest received by individuals from regulated investment companies is reported as dividend income on Form 1040 but is treated as interest income in BEA's state personal income accounts. County estimates of the interest received from regulated investment companies are based on a national ratio of such interest to Individual Master File dividends and county-level estimates of Individual Master File dividends.

Imputed interest receipts from employee pension plans

- 4.10. The imputed receipt of interest income from pension plans consists of the monetary and imputed interest received by noninsured pension plans and passed through to persons.⁴³ Separate estimates are prepared for imputed receipts from private sector pension plans, federal civilian employee pension plans (including the TSP), the military retirement plan, and state and local government employee pension plans. For each of these categories, a portion of the interest is assumed to be received on behalf of current employees, and a portion on behalf of retirees and their survivors. For private plans, federal civilian employee plans, and state and local government plans these portions are determined using the same sources as described above for dividends.⁴⁴
- 4.11. State estimates of the imputed receipt of interest income from private pension plans, federal civilian plans, and by state and local government plans are allocated to counties in the same manner described above for the dividends they receive. For military pension plans, the portion of the imputed receipt of interest income attributed to active-duty military and reservists is allocated to

42. Beginning with the estimates for 2009, the tabulations of taxable interest are based on tabulations of a 52-week Individual Master File data file. Previously, the tabulations were based on returns processed in the first 39 weeks of the year. In order to avoid a break in the time series due to the switch the 52-week file, BEA carried back, at a decreasing rate, the income reported on end-of-year returns from 2009 to 1990 for personal interest.

43. For a detailed discussion of the treatment of pension plans in personal income see Jason W. Chute, Stephanie H. McCulla, and Shelly Smith, "[Preview of the 2018 Comprehensive Update of the National Income and Product Accounts: Changes in Methods, Definitions, and Presentations](#)," *Survey of Current Business* 98 (April 2018) and "[Preview of the 2013 Comprehensive Revision of the National Income and Product Accounts: Changes in Definitions and Presentations](#)," *Survey* 93 (March 2013): 13–40.

44. The interest received by the military retirement plan is divided into that attributed to current annuitants and that attributed to active-duty personnel and reservists based on the present value of future benefits of each group from the Department of Defense publication *Valuation of the Military Retirement System*.

counties on the basis of BEA estimates of residence-adjusted base pay of active-duty military personnel. The state estimates of the portion attributed to annuitants are allocated to counties using military retirement and disability payments data from the Census Bureau's *CFFR*.

*Imputed interest receipts from financial institutions and insurance companies*⁴⁵

- 4.12. Imputed interest receipts from financial institutions and insurance companies consist of the value of depositor services (such as checking and record keeping) furnished without payment by financial intermediaries (commercial banks, savings institutions, and credit unions) to persons; the value of the investor services that are furnished without payment by regulated investment companies (mutual funds) to their shareholders; premium supplements for property and casualty insurance; and the interest received from life insurance carriers.⁴⁶
- 4.13. Premium supplements for property and casualty insurance is the property income that property and casualty insurance carriers earn on reserves held to pay claims. This income is deemed to be paid out to policyholders and then paid back as premium supplements even though in actuality the insurance companies retain the property income.
- 4.14. The imputed interest received from life insurance carriers consists of the property income life insurance carriers earn on life insurance and annuity reserves. This income is deemed to be paid out to policyholders and then paid back as premium supplements even though the insurance companies retain the property income.
- 4.15. State estimates of imputed interest receipts from financial institutions and insurance companies are allocated to counties in proportion to the BEA estimate of monetary interest.

Rental Income of Persons

- 4.16. Rental income of persons with capital consumption adjustment is the net current-production income of persons (except those primarily engaged in the real estate business) from the rental of real property; the imputed net rental income of owner-occupants of farm and nonfarm dwellings; and the royalties received by persons from patents, copyrights, and rights to natural resources.⁴⁷
- 4.17. The national estimate of the rental income of persons accounted for 4.0 percent of total personal income in 2021 (table G). Monetary rental income accounted for 1.0 percent of total personal income, and imputed rental income accounted for about 3.1 percent.

45. For a detailed description of the treatment of imputed interest in the NIPAs see "[Chapter 5: Personal Consumption Expenditures](#)," *NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts*, December 2023.

46. See "Imputation" in Chapter IX Technical Notes.

47. The net rental income received by persons who are primarily engaged in the real estate business is included in nonfarm proprietors' income.

Monetary rental income

- 4.18. State estimates of monetary rental income, which are the combined estimates of rental income of real property including tenant occupied housing and royalties, are allocated to counties in proportion to unpublished IRS Individual Master File tabulations of the gross rent and royalties reported on Schedule E of Form 1040.⁴⁸

Imputed rental income

- 4.19. Imputed rent is an imputation for the net rental income of owner-occupied housing. It is based on the assumption that owner-occupants are in the rental business and that they are renting the houses in which they live to themselves: as tenants, they pay rent to the landlords (that is, to themselves); as landlords, they collect rent from their tenants (that is, from themselves), they incur expenses, and they may have a profit or a loss from the rental business.⁴⁹ County estimates of imputed net rental income are prepared in three parts: (1) imputed net rent received by the owner-occupants of mobile homes, (2) imputed net rent received by the owner-occupants permanent-site nonfarm dwellings, and (3) imputed net rent received by the owner-occupants of permanent-site farm dwellings.

Mobile homes

- 4.20. State estimates of imputed net rent from mobile homes are allocated to counties in proportion to the sum of the net rental value of owner occupied nonfarm mobile homes, owner occupied farm mobile homes, and vacant nonfarm mobile homes estimates from the American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS) file.

Permanent-site nonfarm dwellings

- 4.21. State estimates of imputed net rent from permanent-site nonfarm dwellings are allocated to counties in proportion to the sum of the net rental value of owner occupied nonfarm permanent site homes and vacant nonfarm permanent site homes estimates, from the ACS 1-Year PUMS file.

Permanent-site farm dwellings

- 4.22. State estimates of imputed net rent from permanent-site farm dwellings are allocated to counties in proportion to estimates of the net rental value of owner-occupied farm permanent site homes, from the ACS 1-Year PUMS file.

48. Beginning with the estimates for 2009, tabulations of gross rent and royalties are based on tabulations of a 52-week Individual Master File data file. For prior years, the tabulations were based on returns processed in the first 39 weeks of the year.

49. See “Imputation” in Chapter IX Technical Notes.

Part V.

Personal Current Transfer Receipts

- 5.1. In personal income, transfer receipts are benefits received by persons for which no current services are performed. They are payments by government and business to individuals and nonprofit institutions.⁵⁰ Transfer receipts accounted for 18.3 percent of total personal income at the national level in 2022 (table H).

**Table H. Components of Personal Current Transfer Receipts
in the United States, 2022**

	Millions of dollars	Percent of personal income
Personal income	21,820,248	100.0
Personal current transfer receipts	4,002,084	18.3
Current transfer receipts of individuals from governments	3,846,653	17.6
Retirement and disability insurance benefits	1,249,338	5.7
Social Security benefits	1,211,508	5.6
Excluding Social Security benefits	37,830	0.2
Railroad retirement and disability benefits	13,597	0.1
Workers' compensation	12,469	0.1
Other government retirement and disability insurance benefits ¹	11,764	0.1
Medical benefits	1,771,132	8.1
Medicare benefits	926,088	4.2
Public assistance medical care benefits ²	827,323	3.8
Medicaid ³	814,366	3.7
Other medical care benefits ⁴	12,957	0.1
Military medical insurance benefits ⁵	17,721	0.1

Table continues

50. Transfer receipts from the rest of the world are netted against similar payments to the rest of the world, and the net payments, called "personal current transfer payments to the rest of the world (net)," are recorded in the National Income and Products Accounts as part of personal outlays.

	Millions of dollars	Percent of personal income
Income maintenance benefits	449,854	2.1
Supplemental Security Income benefits	58,946	0.3
Earned Income Tax Credit (EITC)	71,947	0.3
Supplemental Nutrition Assistance Program	127,687	0.6
Other income maintenance benefits	191,274	0.9
Family assistance ⁶	20,500	0.1
Excluding family assistance ⁷	170,774	0.8
Unemployment insurance compensation	22,437	0.1
State unemployment insurance compensation	21,974	0.1
Excluding state unemployment insurance compensation	463	<0.1
Unemployment compensation for federal civilian employees	146	<0.1
Unemployment compensation for railroad employees	82	<0.1
Unemployment compensation for veterans	102	<0.1
Other unemployment compensation ⁸	133	<0.1
Veterans' benefits	170,510	0.8
Veterans' pension and disability benefits	134,252	0.6
Veterans' readjustment benefits ⁹	9,689	0.0
Veterans' life insurance benefits	626	<0.1
Other assistance to veterans ¹⁰	25,943	0.1
Education and training assistance ¹¹	82,937	0.4
Other transfer receipts of individuals from governments ¹²	100,445	0.5
Current transfer receipts of nonprofit institutions	88,751	0.4
Receipts from the federal government	43,932	0.2
Receipts from state and local governments	12,358	0.1
Receipts from businesses	32,461	0.1
Current transfer receipts of individuals from businesses¹³	66,680	0.3
Addenda:		
Refundable tax credits¹⁴	261,450	1.2
EITC ¹⁵	71,947	0.3
Additional Child Tax Credit ¹⁶	97,190	0.4
Other refundable tax credits ¹⁷	92,313	0.4

1. Consists largely of temporary disability payments, pension benefit guaranty payments, black lung payments, and Panama Canal construction annuity payments.
2. Consists of Medicaid, beginning in 1966, and other medical vendor payments.
3. Consists of Medicaid and the Children's Health Insurance Program (CHIP) expansion under Title XIX of the Social Security Act.
4. Consists of CHIP under Title XXI of the Social Security Act and general medical assistance.
5. Consists of payments made under the TRICARE program (formerly called CHAMPUS) for the medical care of dependents of active duty military personnel and of retired military personnel and their dependents at nonmilitary medical facilities.
6. Through 1995, consists of emergency assistance and Aid to Families with Dependent Children. Beginning with 1998, consists of benefits—generally known as Temporary Assistance for Needy Families—provided under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. For 1996–1997, consists of payments under all three of these programs.
7. Consists largely of general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children; Other Needs Assistance; refugee assistance; foster home care and adoption assistance; Additional Child Tax Credits; and energy assistance.

8. Consists of Trade Adjustment Assistance, Redwood Park benefit payments, public service employment benefit payments, and transitional benefit payments.
 9. Consists largely of veterans' readjustment benefit payments, educational assistance to spouses and children of disabled or deceased veterans, payments to paraplegics, and payments for autos and conveyances for disabled veterans.
 10. Consists largely of state and local government payments to veterans and Veterans Choice and Veterans Affairs Community Care benefits.
 11. Consists largely of federal fellowship payments (National Science Foundation fellowships and traineeships, subsistence payments to state maritime academy cadets, and other federal fellowships), interest subsidy on higher education loans, Pell Grants, Job Corps payments, education exchange payments, and state education assistance payments.
 12. Consists largely of other refundable tax credits (see footnote 17 for list of other refundable tax credits); Bureau of Indian Affairs payments; Alaska Permanent Fund dividend payments; compensation of survivors of public safety officers; compensation of victims of crime; disaster relief payments; compensation for Japanese internment; the American Recovery and Reinvestment Act of 2009 funded Federal Additional Compensation for unemployment, Consolidated Omnibus Budget Reconciliation Act premium reduction; Economic Recovery lump sum payment; Affordable Care Act cost sharing reductions and other special payments to individuals.
 13. Consists of personal injury payments to individuals other than employees and other business transfer payments.
 14. Refundable tax credits are already included in the lines and totals above. Refundable tax credits include the amounts by which federal refundable tax credits reduce personal current tax liabilities and liabilities to pay contributions for government social insurance as well as the outlays that are distributed when the amount of federal refundable tax credits exceeds an individual's federal tax liabilities.
 15. Same as SAINC35 line 2320.
 16. Included in SAINC35 line 2342.
 17. Included in SAINC35 line 2700. Other refundable tax credits consist of American Opportunity Tax Credit (2010–2022), Economic Stimulus Act Rebate (2008–2010), Making Work Pay Tax Credit (2009–2013), Government Retiree Tax Credit (2010), Adoption Tax Credit (2011–2015), Health Coverage Tax Credit (2003–2022), Health Insurance Premium Assistance Tax Credit (2014–2022), Alternative Minimum Tax Credit (2008–2022), and Economic Impact Payments (2020–2022). Values shown in parenthesis following the credit name indicate years in which the refundable tax credit contributes to series total.
- 5.2. Estimates are prepared for approximately 50 subcomponents of transfer receipts. For organizational convenience, the subcomponents are classified by source—government or business—and by recipient—individuals or nonprofit institutions. In this discussion, transfer receipts consist of three major components: receipts of individuals from governments, receipts of nonprofit institutions, and receipts of individuals from businesses.
- 5.3. This chapter is organized according to the order of the presentation of the subcomponents in table H. Each subcomponent is briefly defined, and the preparation of the county estimates is described.

Current Transfer Receipts of Individuals from Governments

Retirement and disability insurance benefits

Social Security benefits

- 5.4. These are mainly monthly benefits received by retired workers and their dependents, disabled workers and their dependents, and survivors; and lump-sum benefits received by survivors. State estimates are based on annual tabulations of payments from the Social Security Administration (SSA). County estimates are based on SSA tabulations of the amount of monthly benefits paid to those in current-payment status on December 31 by county of residence of the beneficiaries.

Railroad retirement and disability benefits

- 5.5. These benefits are received by retired and disabled railroad employees and their survivors under the federal program of retirement insurance for railroad employees, who are not covered by social security. State estimates and county estimates of the benefits, beginning with 2011, are based on fiscal year data from the U.S. Department of the Treasury's USASpending.gov website. For earlier years, state estimates are based on the Census Bureau's discontinued *Consolidated Federal Funds Report (CFFR)* and county estimates are based on the Census Bureau's discontinued Federal Assistance Awards Data System (FAADS).

Workers' compensation

- 5.6. This compensation is received by individuals with employment-related injuries and illnesses, and by the survivors of individuals who died of employment-related causes, from publicly administered workers' compensation insurance from both the federal and state governments.
- 5.7. State estimates of compensation received under the federal program, which covers only federal civilian employees, are based on fiscal year data from the *CFFR*. In the absence of data for counties, state estimates are allocated to counties in proportion to estimates of federal civilian wages and salaries, which are adjusted to a place-of-residence basis.
- 5.8. State-administered workers' compensation funds consist of exclusively state-administered workers' compensation insurance programs, state-administered insurance programs that compete with private insurance programs, and state programs for second-injury funds.⁵¹ State estimates of benefits paid by state of work are derived from the Census Bureau's annual State Government Finances. These data are adjusted to a place-of-residence basis by the U.S. Bureau of Economic Analysis (BEA). In the absence of payments data for counties, state estimates are allocated to counties by the sum of the estimates of wages and salaries for private employees and state and local government employees, which are adjusted to a place-of-residence basis by BEA, using county-level employment outflow ratios from BEA's residence adjustment statistics (Chapter VII).

Other government retirement and disability insurance benefits

- 5.9. These benefits consist of temporary disability benefits, black lung benefits, and benefits from the Pension Benefit Guaranty Corporation.
- 5.10. **Temporary disability benefits** are received by workers who are unemployed because of non-occupational illnesses or injuries. These benefits are from state-administered programs only in California, New Jersey, New York, and Rhode Island. State estimates are allocated to counties in proportion to household population.

51. Second-injury funds underwrite the risk of a subsequent work-related injury to an already disabled worker. Therefore, the liability of the employer of a disabled worker is limited to the liability for the impairment resulting from the injury sustained during the present employment. The difference between the compensation for the full impairment and the employer's liability is paid out of the second-injury fund.

- 5.11. **Black lung benefits** are received by coal miners who are totally disabled by black lung disease (pneumoconiosis) and by the eligible survivors of miners whose deaths were caused by the disease. Individuals whose eligibility was established before July 1973 receive benefits under Part B of the Black Lung Benefits Act; those whose eligibility was established since June 1973 receive benefits under Part C of the Black Lung Benefits Act. County estimates of the benefits received are based on the *CFFR*.
- 5.12. **Pension Benefit Guaranty benefits** are paid by the revolving fund of the Pension Benefit Guaranty Corporation (PBGC) to individuals whose PBGC-insured pensions cannot be paid by the private pension funds that are liable for the benefits. National estimates are allocated to states based on payments data from PBGC. State estimates are allocated to counties in proportion to social security benefits, which are assumed to reflect the geographic distribution of the retired population.

Medical benefits

Medicare benefits

- 5.13. These benefits are federal government payments made directly or through intermediaries to vendors for the care provided to individuals under the Medicare program. State estimates of the benefits received under the Medicare provisions for Hospital Insurance and Supplementary Medical Insurance are based on estimates of payments by state of residence as reported by the Centers for Medicare & Medicaid Services (CMS).
- 5.14. State estimates are allocated to counties by the product of CMS data on the total number of enrollees by county in the Medicare Hospital Insurance and Supplementary Medical Insurance programs times a measure of fee for service payments per enrollee by county based on [CMS data from the rate setting program for Medicare Advantage](#). Estimates beginning with 2006 also include the Medicare Prescription Drug Plan (Part D). The national control for Part D was allocated to states and counties by the counts from CMS of the number of enrollees in Part D.

Medicaid benefits

- 5.15. These medical benefits are received by low-income individuals. The benefits consist mainly of the payments made directly or through intermediaries to vendors for care provided to individuals under the federally assisted, state-administered Medicaid program and the Title XIX Medicaid expansion portion of the Children's Health Insurance Program (CHIP).⁵²
- 5.16. State estimates are based on payments data from CMS. For a smaller portion of states, county estimates of payments made under Medicaid are based on Medicaid payments data from state departments of social services. For a year or years for which data are not available, the available data are

52. On the treatment of Medicaid as a personal current transfer receipt see "[An Advance Overview of the Comprehensive Revision of the National Income and Product Accounts](#)," *Survey of Current Business* 65 (October 1985): 22–23.

interpolated, or the most recent year is used to prepare the county estimates. For states for which payments data are not available by county, state estimates of all benefits received are allocated to counties in proportion to BEA's estimates of family assistance.

- 5.17. County estimates of Title XIX CHIP benefits are based on enrollment data from the various state departments of social services. For counties in states that do not provide these data, state estimates are allocated in proportion to the estimate of children age 0–17 in poverty from the Census Bureau's Small Area Income and Poverty Estimates.

Other medical care benefits

- 5.18. These benefits are received by low-income individuals. The benefits consist mainly of payments made directly or through intermediaries to vendors for care provided to individuals under Title XXI of CHIP and under the general assistance medical programs of state and local governments. State estimates of payments made under CHIP are based on data from CMS. State estimates of payments made under the general assistance medical programs are based on data that are obtained from state departments of social services by CMS. County estimates of Title XXI CHIP benefits are based on enrollment data from the various state departments of social services. For counties in states that do not provide these data, state estimates are allocated in proportion to the estimate of children age 0–17 in poverty from the Census Bureau's Small Area Income and Poverty Estimates. State estimates of payments made under the general assistance medical programs are allocated to counties in proportion to Medicaid benefits.

Military medical insurance benefits

- 5.19. These benefits are vendor payments made under the TRICARE Management Program, formerly called the Civilian Health and Medical Plan of the Uniformed Services, for the medical care of dependents of active-duty military personnel and of retired military personnel and their dependents at nonmilitary medical facilities. State estimates are based on payments data from the U.S. Department of Defense. State estimates are allocated to counties by zip code level payments data that are provided by the Department of Defense.

Income maintenance benefits

Supplemental Security Income (SSI) benefits

- 5.20. These benefits are received by the aged, the blind, and the disabled from both the federal and state governments. State estimates are based on SSA tabulations of annual disbursements for two categories of SSI benefits: basic federal payments and supplemental state payments. County estimates of the combined categories are based on payments data from the SSA.

Earned Income Tax Credit (EITC)

- 5.21. This is a refundable federal income tax credit for low-income workers, mainly those with minor children. Eligibility for the tax credits is determined by the size of adjusted gross income (AGI), or earned income, and by certain household characteristics. State estimates are based on data from the Internal Revenue Service's (IRS') Historical Table 2 published in the *Statistics of Income (SOI) Bulletin*. State estimates are allocated to counties based on the tabulations of these payments from the IRS. The data used to construct county-level estimates of EITC has changed over the years.⁵³ From 2016 forward, data from 52-week IRS Individual Master File and Individual Returns Transaction File (IRTF) are used.

*Supplemental Nutritional Assistance*⁵⁴

- 5.22. These benefits, under the Supplemental Nutritional Assistance Program (SNAP) (formerly called food stamps), are issued to qualifying low-income individuals to supplement their ability to purchase food. Eligibility is determined by each state's interpretation of federal regulations; the U.S. Department of Agriculture (USDA) pays the cost of the benefits. State estimates are based on tabulations of the value of the distributed benefits from the USDA. State estimates are allocated to counties based on payments data from the various state departments of social services. When payment data are not available, data on the number of SNAP recipients from the Census Bureau's Small Area Income and Poverty Estimates program are used to extrapolate or interpolate.

Other income maintenance benefits

- 5.23. These benefits consist of family assistance, general assistance benefits, foster care and adoption assistance, child tax credit, energy assistance, and the value of vouchers issued under the Special Supplemental Nutrition for Women, Infants and Children (WIC) program.
- 5.24. **Family assistance**—Formerly, this assistance was provided through the federally-aided, state-administered Aid to Families with Dependent Children and emergency assistance programs. In 1997 they were phased out and replaced by the Temporary Assistance for Needy Families program. State estimates are based on fiscal year direct data from the web site of the Administration for Children and Families (ACF) of the U.S. Department of Health and Human Services. County estimates are based on payments data from the various state departments of social services.
- 5.25. **General assistance benefits** are the benefits received from state and local governments by low-income individuals and families who do not qualify for help under federally supported programs and disaster assistance received from the federal-state Other Needs Assistance program.⁵⁵ State estimates are based on payments data from the Census Bureau's annual State and Local Government

53. From 2009 to 2015, data from the IRS Stakeholder Partnerships, Education and Communication (SPEC) returns database are used. From 1998 to 2008, IRS zip code-based data are used. Prior to 1998, the series is interpolated using Census Bureau poverty data as an indicator.

54. See Interpolation and Extrapolation in Chapter IX Technical Notes.

55. The Federal Government neither funds nor regulates these programs.

Finances except for the disaster assistance portion which is based on direct data for each state and disaster from the Federal Emergency Management Agency (FEMA). The non-disaster portion of county estimates is based on payments data from the various state departments of social services. For counties in states where relevant payments data are not available, state estimates are allocated in proportion to the estimate of people in poverty from the Census Bureau's Small Area Income and Poverty Estimates. The disaster portion of county estimates is based on data related to the specific disaster in related components when available or on household population of counties listed by FEMA as eligible for individual assistance for each disaster.

- 5.26. **Foster care and adoption assistance** is received from state governments by families and institutions that care for foster children and by families that adopt children. The assistance is provided by state programs, some of which are federally aided. State estimates are based on federal grants data from the ACF adjusted to reflect the fund matching percentage that is required of each state. State estimates were allocated to counties in proportion to household population.
- 5.27. **Additional Child Tax Credit (ACTC)**—This is a federal income tax credit for people who have minor children. People who qualify for the non-refundable child tax credit, and for whom that credit exceeds their total tax liability, may qualify to receive a portion of the excess as a refund. State estimates are based on data from IRS Historical Table 2 published in the *SOI Bulletin*. State estimates are allocated to counties based on the tabulations of these payments from the IRS. The data used to construct county-level estimates of ACTC has changed over the years.⁵⁶ From 2016 forward, data from 52-week IRS Individual Master File and IRTF are used.
- 5.28. **Energy assistance** consists of both cash payments received by needy households and vendor payments made to suppliers to help defray the cost of home heating, cooling, and weatherization under the federally-funded and state-administered energy assistance programs. State estimates are based on payments data published by the ACF. The estimates for counties in most states are based on payments data from the various state departments of social services. For counties in states that do not provide these data, state estimates are allocated to counties in proportion to unpublished SSI enrollment data (number of recipients) from the SSA.
- 5.29. **Special Supplemental Nutrition for Women, Infants and Children (WIC) benefits**—This program is fully funded by the USDA Food and Nutrition Service and administered mainly through state agencies. Transfers under the program take the form of vouchers issued to low-income women who are pregnant or who have young children; the vouchers are used to purchase supplemental nutritious foods. State estimates are based on direct data provided by the Food and Nutrition Service. State estimates are allocated to counties in proportion to BEA's estimates of family assistance.

56. From 2009 to 2015, data from the IRS SPEC returns database are used. From 1999 to 2008, IRS zip code-based data are used.

Unemployment insurance compensation

State unemployment insurance compensation

- 5.30. These benefits consist mainly of the compensation received by individuals under state-administered unemployment insurance (UI) programs, but they include the special benefits authorized by federal legislation for periods of high unemployment.⁵⁷ The provisions that govern the eligibility, timing, and amount of benefits vary among the states, but the provisions that govern coverage and financing are uniform nationally.
- 5.31. State estimates are based on data from the U.S. Department of Labor's Employment and Training Administration (ETA). For estimates with reference year 2021 and earlier, in about one third of states, state estimates are allocated to counties by payments data reported by state employment security agencies. In the other states, state estimates are allocated to counties in proportion to the annual average number of unemployed persons from the Local Area Unemployment Statistics (LAUS) program of the U.S. Bureau of Labor Statistics (BLS).⁵⁸ Starting with reference year 2022, all county estimates incorporate the annual average number of unemployed persons from LAUS in the allocation procedure.

Unemployment Compensation for Federal Employees

- 5.32. The UI program for civilian federal employees is a federal program administered by state employment security agencies acting as agents for the U.S. Government. State estimates are based on data from the ETA. In about half of the states, state estimates are allocated to counties by county data or by local-district-office data using the same allocation procedure as that used for state UI compensation. For the remaining states, county allocators are residence-adjusted estimates of federal civilian wages and salaries.

Unemployment compensation for railroad employees

- 5.33. This compensation is received by railroad workers who are unemployed because of sickness or because work is unavailable. This UI program is administered by the Railroad Retirement Board (RRB) under a federal formula that is applicable throughout the nation. State estimates of benefits, beginning with 2013, are based on RRB statistical tables. State estimates for 2011 and 2012, and county estimates beginning with 2011, are based on data from the U.S. Department of the Treasury's USASpending.gov website. For earlier years, state and county estimates are based on the Census Bureau's discontinued FAADS.

57. The program for Federal civilian employees and that for veterans are administered by the states, but the benefits are classified in other subcomponents of UI compensation.

58. Economic and demographic data from the 2006 Louisiana Health and Population Survey were used to supplement BLS Local Area Unemployment Statistics in the preparation of estimates for 2005 and 2006 for the Parishes in Louisiana.

Unemployment Compensation for Ex-servicemembers (UCX)

- 5.34. This compensation is received by unemployed veterans who have recently separated from military service and who are not eligible for military retirement benefits. State estimates are based on data from the ETA. For about half of the states, state estimates are allocated to counties by county data or by local-district-office data from the state employment security agencies using the same allocation procedure as that used for state UI compensation. For the remaining states, the county allocator is the population of veterans from the 1990 census of population.

Other unemployment compensation

- 5.35. This compensation consists of Trade Adjustment Assistance and the benefits received from three defunct programs for the jobless: the Redwood Employee Protection program, the Public Service Employment program, and the Transitional Benefits program.
- 5.36. **Trade adjustment assistance**—Workers who are unemployed because of the adverse economic effects of international trade arrangements may be eligible to receive trade adjustment assistance. Prior to 2009, state estimates of trade adjustment assistance, a component of UI compensation, were allocated to counties using a 1986 distribution of benefits from the U.S. Department of Labor. Beginning with 2009, state estimates are allocated to counties using the number of workers covered by certified petitions. The annual county tabulations of these workers are provided by the U.S. Department of Labor.
- 5.37. **Redwood Park benefits**—These benefits were provided to workers made jobless by the expansion of Redwood National Park in California during the period from May 31, 1977 to September 30, 1980. The benefits—which included weekly lay-off benefits, severance payments, and vacation replacement payments, as well as the continuation of health and welfare coverage, accrual of pension rights and credits, and retraining—generally extended to September 30, 1984 (although for any given beneficiary benefits may have terminated earlier). Eighty-five percent of the state estimate provided by the ETA was allocated to Humboldt County and 15 percent was allocated to Del Norte County.
- 5.38. **Public service employment benefits**—These benefits were provided to unemployed public service workers who were ineligible for extended unemployment compensation under any other federal or state UI program. The program was authorized through 1979, but then extended into 1980. State employment security agencies made the payments and were reimbursed by the federal government. State estimates from the ETA were allocated to counties in proportion to state UI compensation.
- 5.39. **Transitional benefits**—These benefits were provided to jobless workers, newly eligible under the state UI program (agricultural workers, private household workers, and state and local government employees), during the first six months after the extended coverage became effective (January 1,

1978). State employment security agencies made the payments to the jobless workers and were reimbursed by the federal government. State estimates from the ETA were allocated to counties in proportion to state UI compensation.

Veterans' benefits

Veterans' pension and disability benefits

- 5.40. These benefits are received primarily by veterans with service-connected disabilities and by the survivors of military personnel who died of service-connected causes. In addition, these benefits are received by war veterans who are 65 years old or older, who have nonservice-connected disabilities, who are permanently and totally disabled, and who meet specified income requirements. State and county estimates are based on the data for these benefits from the Geographic Distribution of VA Expenditures (GDX) Report of the U.S. Department of Veterans Affairs (VA).⁵⁹

Veterans' readjustment benefits

- 5.41. These benefits are allowances for tuition and other educational costs that are received by veterans and by the spouses and the children of disabled and deceased veterans; and payments for automobiles, conveyances, and specially adapted housing for disabled veterans. State and county estimates are based on data for these benefits from the GDX.

Veterans' life insurance benefits

- 5.42. These are the claims received by beneficiaries and the dividends received by policyholders from the five veterans' life insurance programs administered by the VA. State and county estimates are based on data for these benefits from the GDX.

Other assistance to veterans

- 5.43. This consists of state and local government assistance to indigent veterans, state and local government payments of veterans' bonuses, and veterans' community care benefits. State estimates of state and local government assistance and bonuses are based on fiscal year data from the Census Bureau's annual State Government Finances. State estimates are allocated to counties in proportion to the population of veterans obtained from the VA.
- 5.44. The veterans' community care benefits are the federal government payments made to private providers of health care services to veterans when the VA cannot provide the care needed. National estimates are allocated to states and counties using unpublished data for these benefits from the VA.

59. Because the GDX Report has data for counties as well as for states, starting with the estimates for 2009, the GDX data are now used as the allocating series for both counties and states. For earlier years, county estimates are based on the Census Bureau's discontinued FAADS.

Education and training assistance

Federal fellowship benefits

- 5.45. These benefits are received by recipients of federal fellowships but represent only a small portion of the total fellowship amount.⁶⁰ These benefits are estimated in three subcomponents: payments to outstanding science students who receive National Science Foundation (NSF) grants, subsistence payments to cadets at the six state maritime academies, and payments for all other federal fellowships.
- 5.46. State and county estimates of payments to the recipients of NSF grants are based on annual NSF tabulations of the number of students receiving fellowships at each institution. The payment is assigned to the state and county in which the institution is located.
- 5.47. State and county estimates of subsistence payments to cadets are based on payment data for each academy. The amount of the payment is assigned to the state and county in which each academy is located.
- 5.48. National estimates of payments to the recipients of all other federal fellowships are allocated to states and counties in proportion to household population.

Federal educational exchange benefits

- 5.49. These benefits are payments to the students who participate in the Fulbright Scholar Program and in other international educational exchange programs. National estimates are allocated to states and counties in proportion to household population.

Interest on guaranteed student loans

- 5.50. These interest payments are made by the U.S. Department of Education to commercial lending institutions on behalf of individuals who receive low-interest, deferred-payment loans from these institutions in order to pay the expenses of higher education. National estimates are allocated to states in proportion to the number of individuals enrolled in institutions of higher education located in those states from the Department of Education. The allocator for the county estimates is household population.

Higher education student assistance

- 5.51. This federal assistance consists of Pell Grants to students with low incomes for an undergraduate education and, beginning in 2006, Academic Competitiveness Grants and National SMART Grants to students eligible for Pell Grants. State estimates are based on award year award data

60. The larger portion of a federal fellowship is paid to the school that the recipient attends. This payment is classified as a transfer payment to a nonprofit institution if the school is privately administered, or it is classified as a government grant-in-aid if the school is publicly administered.

from the Department of Education (tabulated by the location of the institution). County estimates of the benefits, beginning with 2011, are based on fiscal year data from the U.S. Department of the Treasury's USASpending.gov website.⁶¹ For earlier years, county estimates are based on the Census Bureau's discontinued *CFFR*.

Job Corps benefits

- 5.52. These benefits are primarily the allowances for living expenses received by economically disadvantaged individuals who are between the ages of 16 and 21 and who are enrolled in the designated vocational and educational training programs. These benefits also include the adjustment allowances received by trainees upon the successful completion of their training. State estimates are based on calendar year tabulations of the amount of allowances and allotments disbursed to the enrollees; the tabulations are from the ETA. State estimates are allocated to counties in proportion to household population.

State educational assistance

- 5.53. These benefits consist of educational assistance provided by states to individuals for tuition and other educational expenses not including loans. National and state estimates are based on data published by the Census Bureau's annual State Government Finances. State estimates are allocated to counties in proportion to household population.

Other transfer receipts of individuals from governments

Compensation to survivors of public safety officers

- 5.54. These are payments to the survivors of state and local government employees, such as police officers and fire fighters, who are killed in the line of duty; the payments are made under a federal program. In 1988, the payment was \$100,000. Since 1988, it has been \$100,000 plus an allowance for the increase in consumer prices. State estimates are based on fiscal year data from the Census Bureau's discontinued *CFFR*. The county allocator is the number of claims by county from the same tabulations.

Compensation to victims of crime

- 5.55. This compensation consists of payments to crime victims and to vendors on behalf of crime victims. National estimates of total compensation are allocated to states in proportion to data provided by the Office for Victims of Crime of the U.S. Department of Justice. State estimates are allocated to counties in proportion to household population.

61. The fiscal year data is available by the nine-digit ZIP codes associated with the Pell Grant recipients' schools and the amount of the grants disbursed to their schools. BEA converts the data to calendar years and sums the ZIP codes to counties.

Alaska Permanent Fund benefits

- 5.56. These benefits are the disbursements of property income to the residents of Alaska from the Alaska Permanent Fund. The fund, which is derived from oil revenue, pays a portion of its net property income to every resident. The state estimate is the amount that is paid and that is reported by the state. The state estimate is allocated to the boroughs and Census areas in proportion to household population.

Disaster relief benefits

- 5.57. These benefits are transient accommodations reimbursements to the victims of disasters, such as hurricanes and earthquakes, from FEMA. National estimates are allocated to states and counties in proportion to household population.⁶²

Radiation exposure compensation

- 5.58. These are payments made under the Radiation Exposure Compensation Act, which offers compensation to individuals exposed to radiation released during above-ground nuclear weapons tests and uranium mining. State estimates are based on direct data from the Department of Justice. State estimates are allocated to counties in proportion to household population.

Japanese interns redress benefits

- 5.59. These benefits, which were made from 1990 to 1997, are payments to the American citizens of Japanese descent who were interned during World War II. State and county estimates are based on tabulations of these payments by ZIP code area from the Department of Justice. The ZIP code tabulations were converted to counties by BEA.

Anti-terrorism judgment receipts

- 5.60. These are payments from the U.S. Treasury to satisfy certain court judgments against countries found to have sponsored terrorism. National estimates are allocated to states and counties in proportion to household population.

Compensation to victims of September 11

- 5.61. These payments are from a voluntary, federally-funded program that provides compensation to eligible individuals or relatives of individuals who were killed or physically injured as a result of the terrorist-related aircraft crashes of September 11, 2001. National estimates are allocated to states and counties in proportion to an Associated Press list of confirmed dead.

62. The unusually high estimate for 2005 reflects billions of dollars distributed by FEMA directly to the victims of Hurricanes Katrina, Rita, and Wilma. The assistance is largely attributed to Katrina victims and a portion of that estimate was distributed to all states based on the Current Location Report from FEMA. County estimates were based on FEMA data on individual assistance and Florida Office of Insurance Regulations data on claims. Parish estimates were based on FEMA data on individual assistance adjusted for population changes.

Bureau of Indian Affairs benefits

- 5.62. These benefits are payments to American Indians for educational and social services that are not available to them from state or local agencies. State estimates are based on data for these payments from the U.S. Bureau of Indian Affairs. State estimates are allocated to counties in proportion to Census Bureau estimates of the “American Indian and Alaska Native Alone” population.

TV converter box coupons

- 5.63. These coupons, worth \$40 each toward the purchase of up to two digital-to-analog converter boxes, were available upon request to all U.S. households. State and county estimates are based on a National Telecommunications and Information Administration report of number of coupons requested by state and five-digit ZIP code.

American Recovery and Reinvestment Act of 2009 (ARRA) federal additional compensation for unemployment

- 5.64. These receipts are an additional \$25 weekly for beneficiaries of state and federal unemployment compensation. National estimates are allocated to states based on payment data reported to recovery.gov by the U.S. Department of Labor’s ETA. State estimates are allocated to counties in proportion to the annual average number of unemployed persons from BLS’ Local Area Unemployment Statistics program.

ARRA COBRA premium reduction

- 5.65. This benefit for certain unemployed individuals is a 65 percent subsidy of the premium for health care insurance provided under the Consolidated Omnibus Budget Reconciliation Act (COBRA). National estimates are allocated to states in proportion to the number of unemployed persons covered by unemployment insurance programs as reported by the ETA. State estimates are allocated to counties in proportion to the annual average number of unemployed persons from BLS’ Local Area Unemployment Statistics program.

ARRA economic recovery lump sum

- 5.66. This benefit consists of a \$250 lump sum provided to recipients of social security, SSI, veterans’ pensions and Railroad Retirement benefits. National estimates for each type of beneficiary are allocated to states in proportion to the number of beneficiaries as reported by the administering agencies. State estimates for social security, SSI and Railroad Retirement recipients are allocated to counties in proportion to the number of beneficiaries as reported by the administering agencies. Distribution of the state estimates for veteran recipients is based on the county estimates of veterans’ pension and disability benefits.

ARRA Making Work Pay tax credit

- 5.67. This is a refundable federal income tax credit of up to \$400 for working individuals and \$800 for married taxpayers filing joint returns. State estimates are based on data from IRS Historic Table 2 published in the *SOI Bulletin*. State estimates are allocated to counties based on the tabulations, by ZIP code, from the IRS, of the total number of returns. The IRS tabulations were converted to counties by BEA.

ARRA government retiree tax credit

- 5.68. This was a refundable one-time federal income tax credit of \$250 available in 2009 for certain government retirees who received a pension from work and were not covered by social security. This one-time credit was taken on the 2009 income tax return filed in 2010 and is a reduction to any Making Work Pay tax credit. State estimates are based on data from IRS Historic Table 2 published in the *SOI Bulletin*. State estimates are allocated to counties based on the tabulations, by ZIP code, from the IRS, of the total number of returns. The IRS tabulations were converted to counties by BEA.

American opportunity tax credit (AOTC)

- 5.69. This refundable tax credit, initially authorized under the ARRA, is a temporary modification of the Hope Credit, beginning with tax year 2009. State estimates are based on data from IRS Historic Table 2 published in the *SOI Bulletin*. State estimates are allocated to counties based on IRS SOI county income data for amounts of the AOTC that are tabulated using individual income tax returns.

Home Affordable Modification Program

- 5.70. This federal program, a response to the subprime mortgage crisis, helps eligible homeowners with loan modifications on their home mortgage debt. In lieu of direct data on benefits, national estimates are allocated to states and counties based on Federal Reserve Bank of New York data on the number of mortgage debtors, per debtor mortgage debt balance, and percent of mortgage debt in delinquency.

Temporary High-Risk Health Insurance premium reduction

- 5.71. This benefit provided temporary coverage—until broader coverage was provided under the Affordable Care Act—to certain uninsured people with pre-existing medical conditions and without health insurance. It was provided as funding to cover the costs that exceed premiums collected for the high-risk pool. In lieu of direct data on expenditures, BEA allocated national estimates to states and counties in proportion to household population from 2010 to 2014.

World Trade Center health benefits

- 5.72. This benefit provides, under the James Zadroga 9/11 Health and Compensation Act of 2010, monitoring and treatment to eligible responders and survivors of the 9/11 attacks. In lieu of direct data on expenditures, national estimates are allocated to states in proportion to the enrollees by state data from the World Trade Center Health Registry. Because of lack of data on expenditures or participation by county and because of dispersion of participants since the attacks the state estimates are allocated to counties in proportion to household population.

Economic Stimulus Act of 2008 rebates

- 5.73. These tax rebates for certain taxpayers and other individuals are provided by the Economic Stimulus Act of 2008. State estimates are based on data from the IRS Data Book 2008. State estimates are allocated to counties in proportion to household population.

Alternative Minimum Tax (AMT) credit

- 5.74. This federal income tax credit for certain taxpayers with old unused AMT credit is counted as a transfer receipt in tax years 2007–2012 when it was refundable. State estimates are based on data, for the amount of AMT paid, from IRS Historic Table 2 published in the *SOI Bulletin*. State estimates are allocated to counties in proportion to household population.

Adoption tax credit

- 5.75. This tax credit was for qualified expenses paid to adopt an eligible child. It was made refundable by a temporary modification for tax years 2010 and 2011. National estimates are allocated to states and counties in proportion to household population

Health Coverage Tax Credit

- 5.76. This tax credit offsets a portion of qualified health insurance premiums for certain displaced workers. National estimates are allocated to states and counties in proportion to household population.

Health insurance premium assistance tax credit

- 5.77. This tax credit limits the percentage of income that households pay on health insurance purchased through the Affordable Care Act exchanges, based on the cost of purchased health insurance, income and family size. National estimates are initially allocated to states based on CMS data on the number of recipients and average amount of the advanced tax credit received as a premium reduction. The initial state estimates are revised using data from IRS Historical Table 2 published in the *SOI Bulletin* when these more comprehensive data become available for the reference year. State estimates are allocated to counties based on IRS SOI county income data for amounts of the premium tax credit that are tabulated using individual income tax returns.

Cost-sharing reduction subsidy

- 5.78. This subsidy, available to some recipients of health insurance premium assistance tax credits, reduces deductibles, copayments and other out-of-pocket charges incurred while using the health plan. National estimates are allocated to states based on CMS data on the number of enrollees in cost-sharing reduction. State estimates are allocated to counties in proportion to household population.

Health benefits for retired United Mine Workers of America members

- 5.79. These benefits are the federal government payments made to the United Mine Workers of America (UMWA) retiree health plans to continue the coverage of the retirees of certain bankrupt coal companies. National estimates are allocated to states and counties based on unpublished health benefit expenditure data from the UMWA Health and Retirement Funds. In states where health benefit expenditure data are unavailable at the county level, state estimates are allocated to counties in proportion to household population.

Economic Impact Payments (EIP)

- 5.80. These benefits, initially established by the Coronavirus Aid, Relief, and Economic Security (CARES) Act, provide direct payments to individuals during the COVID-19 pandemic. State estimates are based on data on the amount of EIP paid, from the IRS' Statistics of Income (SOI) program. State estimates are allocated to counties based on IRS SOI county income data for amounts of the Economic Impact Payments (EIP) that are tabulated using individual income tax returns.

Lost wages supplemental payments

- 5.81. These benefits are payments made by FEMA from the Disaster Relief Fund to supplement wages lost because of the COVID-19 pandemic. State estimates are based on data from FEMA. State estimates are allocated to counties using BEA county estimates of state UI compensation, which are assumed to reflect the distribution of individuals eligible for these payments.

Current Transfer Receipts of Nonprofit Institutions

- 5.82. These benefits consist of the payments made by federal, state, and local governments and by businesses to nonprofit organizations that serve individuals. These payments exclude federal government payments for work under research and development contracts.

Receipts from the federal government

Paycheck Protection Program (PPP) loans

- 5.83. These benefits, initially established by the CARES Act, provide forgivable loans to help small businesses and nonprofit institutions make payroll and cover other expenses. State and county estimates are based on data for PPP loans disbursed by recipient, from the Small Business Administration.

Provider Relief Fund

- 5.84. These payments are made by the U.S. Department of Health and Human Services from the Provider Relief Fund (PRF) to hospitals and health care providers during the coronavirus response. This funding supports health care-related expenses or lost revenue attributable to COVID-19 and ensures uninsured Americans can get treatment for COVID-19. State estimates are based on data for PRF funds disbursed by recipient, from the Department of Health and Human Services. State estimates are allocated to counties in proportion to household population.

Other federal nonprofit payments

- 5.85. These are mainly receipts of private educational institutions on behalf of the recipients of federal fellowships, Pell grants, and other education and training programs.⁶³ They also include receipts of private institutions under National Institutes of Health research initiatives and other programs of the Department of Health and Human Services and under programs of the National Science Foundation, the Corporation for Public Broadcasting, and the Legal Services Corporation. The national estimate is based on data from the *Monthly Treasury Statement*. The national estimate is allocated to states in proportion to household population.

Receipts from state and local governments

- 5.86. These receipts consist largely of Workforce Investment Act benefits received by private nonprofit institutions that provide job training under a work-study program funded by the federal government (formerly authorized by the Job Training Partnership Act). National estimates are based on data from the *Monthly Treasury Statement*. Because state-level data are unavailable, the national estimate is allocated to states in proportion to household population.

Receipts from businesses

- 5.87. These transfer receipts are donations by corporate business to nonprofit institutions serving households. National estimates are allocated to states and counties in proportion to household population.

63. These receipts exclude payments to private educational institutions for research and development under federal contracts, which are treated as government purchases.

Current Transfer Receipts of Individuals from Businesses

BP oil spill settlement receipts

- 5.88. These are receipts of individuals from BP (either directly or from a \$20 billion escrow account) for losses from the oil spill in the Gulf of Mexico that began in April 2010. State estimates and county estimates are based on claims data from the Gulf Coast Claims Facility.

Other transfer receipts of individuals from businesses

- 5.89. These mostly consist of receipts from insurance companies (commercial automobile liability, medical malpractice, and net insurance settlements), corporate cash prizes, business losses due to fraud and unrecovered thefts, and receipts from personal injury trust funds. Net insurance settlements are actual insured losses (or claims payable) less a normal level of losses.⁶⁴ National estimates are allocated to states and counties in proportion to household population.

64. See Brent R. Moulton and Eugene P. Seskin, "[Preview of the 2003 Comprehensive Revision of the National Income and Product Accounts: Changes in Definitions and Classifications](#)," *Survey* 83 (June 2003): 17–34.

Part VI.

Contributions for Government Social Insurance

- 6.1. Contributions for government social insurance consist of employer contributions for government social insurance and employee and self-employed contributions for government social insurance (formerly called personal contributions for social insurance). It is deducted from earnings by place of work in the calculation of personal income.
- 6.2. Because most social insurance funds are trust funds with assets that cannot be used for purposes other than those specified by statute or trust agreement, payments to these funds are classified as contributions rather than taxes.
- 6.3. Contributions for government social insurance amounted to 11.1 percent of earnings by place of work at the national level in 2022 (table I). Employer contributions for government social insurance were 45.2 percent of the total in 2022, while employee and self-employed contributions for government social insurance made up the other 54.8 percent.

Employer Contributions for Government Social Insurance

- 6.4. Employer contributions for government social insurance amounted to 5.0 percent of earnings by place of work in 2022 (table I). These contributions are a component of supplements to wages and salaries. A complete description of these contributions and the methodology employed to estimate them are presented in Chapter II Compensation.

Table I. Components of Contributions for Government Social Insurance in the United States, 2022

	Millions of dollars	Percent of earnings
Earnings by place of work	15,207,952	100.0
Contributions for government social insurance	1,687,131	11.1
Employee and self-employed contributions for government social insurance	924,447	6.1
Contributions to old age, survivors, disability, and hospital insurance	785,056	5.2
Civilian employee contributions	698,704	4.6
Military employee contributions	4,982	<0.1
Self-employed contributions	81,370	0.5
Railroad employee retirement contributions	1,428	<0.1
State unemployment insurance and temporary disability contributions	1,804	<0.1
Supplementary medical insurance contributions	136,050	0.9
Veterans life insurance contributions	109	<0.1
Employer contributions for government social insurance	762,684	5.0
Old age, survivors, and disability insurance, and hospital insurance	690,367	4.5
Unemployment programs (state unemployment insurance (UI), federal unemployment tax, railroad UI, and federal UI)	43,039	0.3
Railroad retirement	3,374	<0.1
Pension benefit guaranty	5,262	<0.1
Workers' compensation (private)	14,400	0.1
Temporary disability	64	<0.1
Federal employee programs (veterans' life insurance, federal civilian workers' compensation, and military medical)	6,178	<0.1

Notes. Contributions for government social insurance are a deduction in the calculation of personal income. The dollar amount and the percentages in this table are shown as absolute values to give an indication of the size of the personal income components being estimated. Detail may not add to totals due to rounding.

Employee and Self-employed Contributions for Government Social Insurance

- 6.5. Employee and self-employed contributions for government social insurance consist of payments by employees, by the self-employed, and by other individuals who participate in the following programs: Old-age, Survivors, and Disability Insurance (OASDI); Hospital Insurance (HI, or Medicare Part A); Supplementary Medical Insurance (Medicare Parts B and D); railroad retirement; state unemployment insurance (UI); temporary disability insurance; and veterans' life insurance. These contributions amounted to 6.1 percent of earnings by place of work at the national level in 2022 (table I).

- 6.6. Contributions of employees—like their payments of income taxes on wages and salaries—are withheld by their employers from their paychecks. These contributions include the payments that are sometimes made by employers on behalf of their employees (that is, the payments that are customarily made by the employee and that under special arrangement are made by the employer).
- 6.7. The self-employed make their contributions with their quarterly payments of estimated federal individual income taxes or annually with their federal income tax returns.
- 6.8. County contributions data are not available for any of the programs; therefore, state estimates of these contributions are allocated to counties by related data:
- State estimates of employee contributions to OASDI and HI for private employees excluding farm and railroad employees, federal civilian employees, active-duty military, and state and local government employees are allocated to counties using the corresponding wages and salaries of those groups of employees.
 - State estimates of self-employed contributions to OASDI and HI are allocated to counties using nonfarm proprietors' income.
 - State estimates of contributions to railroad retirement are allocated to counties using wages and salaries of railroad employees.
 - The 1991–2022 state estimates of contributions for Supplementary Medical Insurance (Medicare Parts B and D) are allocated to counties by tabulations of the number of persons (both the disabled and the aged) enrolled in the program from the Centers for Medicare & Medicaid Services (formerly the Health Care Financing Administration).
 - State estimates of contributions for veterans' life insurance are allocated to counties using the 2006–2010 American Community Survey 5-year estimates of the veteran population, centered on 2008. This allocator is held constant for subsequent years. State estimates of contributions for veterans' life insurance for prior years are allocated to counties using the veteran population from the decennial Census of Population. Linear interpolation is used for other years.
 - State estimates of employee contributions for state UI are allocated to counties in proportion to the U.S. Bureau of Economic Analysis (BEA) estimates of wage and salary employment, beginning with 1969. Although employee contributions are a fixed percentage of wages, the taxable wage base on which the contributions are paid is generally low. Most employees are likely to contribute similar amounts, so employment is likely to be a better allocator than wages. Employees contribute to state UI only in Alabama (1969–70, 1975–1985), Alaska and New Jersey (1969–2014), and Pennsylvania (1984–88, 1992–1996, and 2003–2022).
 - State estimates of contributions for temporary disability insurance are also allocated to counties in proportion to BEA estimates of wage and salary employment. Employees contribute to this program only in California, New Jersey, and Rhode Island.

Part VII.

Residence Adjustment

- 7.1. Personal income is a measure of income by place of residence. When the source data used to estimate components of personal income are not recorded by place of residence, the U.S. Bureau of Economic Analysis (BEA) must first adjust them to a place-of-residence basis. For some components of personal income, the residence adjustment is discussed along with the source data and the estimation methodology. The methods used to adjust source data reported by place of work, however, are applied to multiple components of personal income—wages and salaries, supplements to wages and salaries, and contributions for government social insurance—and so are discussed here in a separate chapter.
- 7.2. In addition to publishing net earnings on a place-of-residence basis, BEA publishes earnings and its components on a place-of-work basis. The difference is also published as a separate component of state and local area personal income called the adjustment for residence. For the nation, the residence adjustment has little impact on personal income. It is the net of income flows associated with U.S. residents working in Canada or Mexico less the flows of Canadian and Mexican residents working in the United States, plus income received by U.S. residents who work for International Organizations and foreign governments. For some states and counties, the residence adjustment is considerably larger. Correctly assigning the place of residence of the recipient of income is especially important when metropolitan areas extend across state boundaries (for example, the Washington-Baltimore-Arlington, DC-MD-VA-WV-PA Combined Statistical Area). In 2022, the adjustment for residence as a percentage of earnings by place of work was -52.1 percent for the District of Columbia, 10.4 percent for Maryland, and 5.1 percent for Virginia, but less than 0.1 percentage point for the nation.
- 7.3. BEA's concept of residence as it relates to state and county personal income refers to the location where the income to be measured is received, rather than to “usual,” “permanent,” or “legal” residence. This definition of residence differs from that used by the Census Bureau, mainly in the treatment of migrant, seasonal, and short-term workers. For example, the residence of seasonal migrant workers is sometimes reported to the Census Bureau as their usual place of residence rather than the state in which they are living and working on April 1 when the decennial Census of Population is taken.

- 7.4. Accordingly, for state and county personal income, the residence of military personnel is the state and county in which they live while they are on military assignment, not their permanent or legal state of residence. The income of military personnel on foreign assignment is excluded from state and local area personal income estimates because their residence is outside of the territorial limits of the United States.
- 7.5. The adjustment for residence is prepared by first calculating a net residence adjustment for inter-county commuting flows and then adding the compensation inflows and subtracting the compensation outflows associated with international border workers. State estimates of residence adjustment are summations of the residence adjustments for all the counties within the state.

Net Residence Adjustment for Intercounty Commuting Flows

- 7.6. The starting point for the net residence adjustment for intercounty commuting flows is journey-to-work (JTW) data from the Census Bureau.⁶⁵ The JTW data are a tabulation of the wages and salaries of the employees in each place-of-work county by their place of residence. The data are cross tabulated by industry.⁶⁶ For a set of benchmark years, county-to-county wage outflow ratios by industry were calculated using the JTW data.⁶⁷ The wage outflow ratio is defined as the wages of workers who are employed in a given industry in a given county and live in a different county divided by the wages of all persons employed (resident and nonresident) in the given industry and county.
- 7.7. Earnings outflows are calculated by multiplying place-of-work income subject to adjustment (ISA) by the wage outflow ratio. ISA is defined as wages and salaries plus employer contributions for employee pension and insurance funds less employee contributions for the following social insurance programs: Old-age, Survivors, and Disability Insurance; Hospital Insurance; Railroad Employee Retirement Insurance; state unemployment insurance; and temporary disability insurance and is calculated by county by industry from BEA annual estimates of those components of personal income. The outflows from a given workplace county, summed over all industries and all residence counties, is the gross earnings outflow of that county.
- 7.8. Since the earnings outflow from one county is the earnings inflow of another county, the gross earnings inflows to a particular place-of-residence county are obtained by summing the earnings outflows of all industries to that county from all workplaces other than that county.

65. Originally, the JTW data were collected on the long form of the decennial Census of Population questionnaire and the Standard Industrial Classification (SIC) was used to classify industries. However, the JTW data from the 2000 Census were classified on a North American Industry Classification System (NAICS) basis. More recently, the JTW data are based on special tabulations of the American Community Survey (ACS) 5-year estimates prepared by the Census Bureau for BEA.

66. JTW data from the ACS are available for two-digit NAICS industries.

67. The JTW data from the 2006–10 ACS were used to establish a benchmark for 2008, and the JTW data from the 2011–15 ACS were used to establish a benchmark for 2013.

- 7.9. A provisional estimate of the net residence adjustment for inter-county commuting flows is the difference between the gross earnings inflows into that county and the gross earnings outflows from that county.

Modifying the provisional estimates

- 7.10. The provisional estimates for more than 1,800 counties which have high rates of inter-county commuting (mostly multicounty metropolitan areas) were modified for two reasons: (1) in numerous cases, the geographic coding by place of work of the American Community Survey (ACS) data and that of the source data for BEA's wages and salaries were inconsistent;⁶⁸ and (2) to account for changes in commuting patterns since the benchmark year. Both adjustments were made to better align BEA's place-of-residence estimates with those from other sources such as the Internal Revenue Service (IRS).
- 7.11. The cluster adjustment first groups counties into clusters which are determined as follows: (1) counties that are part of a combined statistical area; (2) counties that are part of a metropolitan statistical area; (3) counties with flows from or to another county that are more than 25 percent of total wages. Second, for each county in a cluster the provisional estimate of the net residence adjustment was added to the place-of-work ISA to obtain a provisional estimate of place-of-residence ISA. Third, the provisional estimates of residence-adjusted ISA for the counties in each cluster were summed to a total estimate for the cluster. Fourth, the total estimate for each cluster was redistributed to the counties of the cluster in proportion to the distribution of wages reported on IRS Form 1040 (U.S. Individual Income Tax Return) to produce the modified estimates of residence-adjusted ISA by county.⁶⁹ The difference between the modified residence-adjusted ISA and the place-of-work ISA is the net residence adjustment for intercounty commuting flows for cluster counties. For all other counties the net residence adjustment for intercounty commuting flows is the same as the provisional estimate.
- 7.12. Intercounty commuting flows for the years between the benchmark years of 2000, 2008, and 2013 were computed by interpolating the benchmark ratios of county-to-county wage outflows from the JTW, then multiplying the interpolated ratios by ISA so that the estimates of net residence adjustment were consistent across all years.
- 7.13. For 2013 and subsequent years, a provisional estimate of the net residence adjustment for inter-county commuting flows was calculated in the manner described above except that the wage outflow ratios for 2013 were used for all years. The provisional estimate was also modified using current year IRS wage data in the manner described above. Since IRS wage data for 2021 and 2020 were unavailable, data for 2019 were used in their place.

68. For example, the source data may attribute too much of the wages of a multi-establishment firm to the county in which a firm's main office is located; the source data for the wages of the personnel employed on a military base that extends across county boundaries may attribute the wages to one county, but the JTW data may attribute these wages to the other county.

69. County tabulations are from the 52-week Individual Master File.

International Border Workers

- 7.14. The residence adjustment for the income earned by international border workers consists of two sets of estimates. The first set of estimates account for the inflows of the compensation earned by U.S. residents who commute to work in Canada and the outflows of the compensation earned by Canadian and Mexican residents who commute to work in the United States.⁷⁰ The second set of estimates account for the inflows of compensation earned by U.S. residents employed by certain foreign organizations.
- 7.15. National estimates of the inflows and outflows of the compensation of border workers are prepared in the context of the U.S. International Transactions Accounts.⁷¹ County estimates of the inflows and the outflows of the compensation of border workers are allocations of the national control totals. The allocated inflows are added to, and the allocated outflows are subtracted from, the estimates of the net residence adjustment for intercounty commuting flows to obtain the final residence adjustment estimates for counties.

Inflows from and outflows to Canada and Mexico

- 7.16. National estimates of the inflows of the compensation earned by U.S. residents who commute to work in Canada or Mexico are allocated to U.S. counties based on JTW employment data from the Census Bureau.⁷² The JTW employment data are a tabulation of the workers residing in a given county by their place of work. The subset of workers with a job in Canada or Mexico is used for the residence adjustment of border workers. The number of county residents with a job in Canada (or Mexico) is multiplied by the ratio of the BEA estimate of private place-of-work wages and salaries to the BEA estimate of private place-of-work wage and salary employment (the average private-sector annual wage) for that county. The result is used to allocate the national estimate of the inflows of compensation from Canada (or Mexico) to U.S. counties.

70. Foreign workers can be classified in three groups: border workers, migrants, and resident aliens. Border workers live in one country and work in another country. They commute to work on a daily or weekly basis. Migrant workers live and work for part of a year in a foreign country but return to their home country for the rest of the year. Resident aliens live and work in a foreign country permanently (that is, for a period longer than a year). No distinction is made in the state personal income accounts between legal and illegal presence. Estimates of state and county personal income count the income of migrants in the state and county in which they work. This treatment differs from how the balance of payments accounts treat their income—it is treated as an export of compensation. Estimates of state and county income and the balance of payments accounts agree in the treatment of the income of border workers and resident aliens. The income of resident aliens is counted in the income of the state and county in which they work. The income of border workers who reside in Canada or Mexico and work in the U.S. is excluded—through the residence adjustment in the state and county personal income estimates and by classification as an export in the case of the balance of payment accounts.

71. See U.S. International Transactions Table 1.3, Lines 32 and 63. This table is available on the BEA website.

72. The JTW employment data are based on special tabulations of the ACS 5-year estimates prepared by the Census Bureau for BEA. These data are used for inflows from and outflows to Canada and Mexico for 2001 onwards. For earlier years, the national estimate of the inflows of the compensation earned by U.S. residents who commute to work in Canada was assigned to Michigan, New York, and the New England region on the basis of fragmentary information from the Immigration and Naturalization Service of the U.S. Department of Justice. The New England portion was allocated to the border counties of Maine, New Hampshire, and Vermont in proportion to data for employment in the forest product industries. For years prior to 2001 national estimates of the outflows of the compensation earned by residents of Mexico and Canada who commute to work in the United States was allocated to counties in proportion to data from the Immigration and Naturalization Service.

- 7.17. Since there is no information on the commuting flows of Canadian and Mexican residents to the United States, the national estimates of the outflows of the compensation earned by residents of Mexico and Canada who commute to work in the United States are allocated to counties in the same proportion as compensation inflows from Canada and Mexico.

U.S. residents employed by certain foreign organizations

- 7.18. A national estimate of compensation earned by U.S. residents employed by international organizations such as the United Nations, the International Monetary Fund, and the World Bank and by foreign embassies and consulates located within the geographic borders of the United States is prepared by BEA as part of the International Transactions Accounts.
- 7.19. Foreign embassies and consulates in the United States are part of the territory of the countries they represent. U.S. residents working for foreign embassies and consulates in the United States are therefore international border workers, that is, persons who live in one country and work in another. The offices of international organizations are treated in a similar fashion, that is, they are treated as if they were located on foreign territory. Therefore, the compensation paid to U.S. residents by these embassies, consulates, and international organizations represent inflows to the U.S.
- 7.20. The national estimate of wage inflows from these foreign organizations is first allocated to twelve very large counties and the District of Columbia in proportion to estimates (from 1968) of the administrative expenditures of these organizations.⁷³ The administrative expenses series was prepared by BEA. This yields a set of place-of-work estimates. Next, the place-of-work estimates are adjusted for the place of residence of the workers. The place-of-work estimates are multiplied by county-to-county wage outflow ratios (discussed above in the Intercounty Commuting Flows section) to estimate gross wage outflows (and inflows). County estimates of wage inflows from foreign organizations by place of residence are the sum of the place of work estimates and the estimates of the gross wage inflows less the gross wage outflows.

73. The counties are Los Angeles and San Francisco (California); Miami-Dade (Florida); Cook (Illinois); Orleans (Louisiana); Bronx, Kings, New York, Queens, and Richmond (New York); Philadelphia (Pennsylvania); and Harris (Texas).

Part VIII.

Employment

Introduction

- 8.1. The U.S. Bureau of Economic Analysis (BEA)'s estimates of state and local area employment consist of the number of wage and salary jobs, sole proprietorships, and general partners. Estimates are available annually beginning with 1969.
- 8.2. County employment estimates are a complement to place-of-work earnings estimates. Earnings is estimated on a place-of-work basis, by North American Industry Classification System (NAICS) three-digit subsector beginning in 2001 and by Standard Industrial Classification (SIC) two-digit industry for 1969 to 2000, and net earnings (net of contributions for government social insurance) is estimated on a place-of-residence basis for the sum of all industries. The employment estimates are designed to conform conceptually and statistically with the place-of-work earnings estimates; the same source data—generally from administrative records—are used for both the earnings and employment estimates whenever possible. The earnings estimates reflect the scale and industrial structure of an area's economy rather than the income of the area's residents. Therefore, the employment estimates measure the number of jobs in a county, instead of the number of workers who perform the jobs. The characteristics of county employment estimates follow from this concept and from the characteristics and limitations of the available source data.
- 8.3. State and local area employment estimates are not fully consistent with the National Income and Product Accounts (NIPA) employment estimates.⁷⁴ County estimates are prepared only on a full-time and part-time basis, while the NIPA estimates are prepared on both a full-time and part-time basis and on a full-time equivalent basis. County estimates exclude overseas jobs—mainly federal civilian and military employment of U.S. citizens abroad—and border worker adjustments—the addition of U.S. persons commuting to work abroad and subtraction of foreign commuters and seasonal workers in the United States—that are included in the NIPA estimates. Finally, county estimates include all sole proprietorships and general partners—approximating a full-time and

74. The NIPA employment estimates are published in tables 6.4, 6.5, 6.7, and 6.8, which are available on the BEA website.

part-time basis, whereas the NIPA estimates of the number of proprietors count only persons whose principal occupation is their self-employment—approximating a full-time equivalent basis of measurement.

Employment estimates measure the number of jobs

- 8.4. Employment can be measured either as a count of workers or as a count of jobs. In the former case, an employed worker is counted only once; in the latter case, all jobs held by the worker are counted. County employment estimates are a count of the number of jobs, so that, as with the earnings estimates, a worker's activity in each industry and location of employment is reflected in the measure.

Treatment of part-time jobs

- 8.5. County employment is estimated on a full-time and part-time basis because of the limitations of the available source data. County-level data that separate part-time jobs and wages from full-time jobs and wages, which are needed to prepare full-time equivalent measures, are not available. An average earnings measure can be calculated from the BEA county employment and earnings estimates. Average earnings reflect the extent of part-time employment in the given area and industry, as well as more basic factors such as hourly wage rates.

Geography

- 8.6. County employment estimates, like wage and salary estimates, are measured by place of work—the job location—instead of by place of residence—where the worker lives. Thus, the estimates are more representative of the county's industrial base than of the activities of the residents of the county. For nonfarm sole proprietors' employment, the only available annual data are classified by tax filing address, which is usually the filer's residence. BEA assumes that place-of-work and place-of-residence are identical for nonfarm sole proprietors. Since most farm operators live on or near their land, place of work and place of residence are also identical for farm proprietors.

Temporal dimension

- 8.7. Estimates of wage and salary employment are annual averages of 12 monthly observations for the year. This gives a job which lasts only part of the year a lesser weight than a year-round job. In contrast, estimates of nonfarm proprietors' employment are counts of the number of proprietors active during any portion of the year. This is because the available source data do not indicate the portion of the year that the businesses are in operation.

Wage and Salary Employment

- 8.8. Wage and salary employment is a measure of the average annual number of full-time and part-time jobs in each area by place of work. All jobs for which wages and salaries are paid are counted. Although compensation paid to jurors, expert legal witnesses, prisoners, and justices of the peace (for marriage fees) is counted in wages and salaries, these activities are not counted as jobs in wage and salary employment. Corporate directorships are counted as self-employment.
- 8.9. The following description of the sources and methods used in estimating wage and salary employment is divided into two sections: employment in industries covered by unemployment insurance (UI) programs, and employment in industries not covered by UI.⁷⁵

Employment in industries fully covered by the UI programs

- 8.10. The estimates of 94.9 percent of wage and salary employment are derived from tabulations of 2022 quarterly UI contribution reports (Form ES-202) filed with state employment security agencies (table J). Employers subject to UI laws usually submit reports for each operating establishment, classified by county and industry. However, in some cases, an employer may group very small establishments into a single “statewide” report without county designation. Each quarter, the state employment security agencies submit the tabulations to the U.S. Bureau of Labor Statistics (BLS), which provides the data to BEA. The tabulated data (called the Quarterly Census of Employment and Wages, QCEW) consist of monthly employment and quarterly wages by county by NAICS six-digit detail (beginning in 2001) or by SIC four-digit detail (through 2000).⁷⁶
- 8.11. BEA adds several million administrative records received from the states and the District of Columbia to its database annually. The records are checked for major errors by several computerized edit routines. One edit routine analyzes the current quarter county data for invalid industry codes, duplicate records, and records that contain no data. Another edit routine calculates expected county-level average employment and average wages on a quarterly basis, based on percentage changes for that quarter in the previous two years. If the difference between the actual numbers and the estimated numbers exceeds established limits, the record is identified for further review. Anomalies that remain unreconciled after reviewing comments and other supporting data are referred to BLS for further investigation.

75. The relevant UI programs are state UI, which covers most private sector and state and local government employment, and Unemployment Compensation for Federal Employees. The agency administering the UI program for railroad employees compiles data differently from the state UI program, and there is no employment reporting under the UI program for persons leaving the military services; accordingly, railroads and the military services are treated as non-covered industries in the estimation of local area employment.

76. The monthly employment observations represent the number of employees receiving wages for the pay periods that include the 12th day of the month. The QCEW tabulations reflect the 1972 SIC for years up to 1987, the 1987 SIC for 1988 through 2000 and the 2002 NAICS for years 2001 through 2006. Estimates for 2007–2010 are based on the 2007 NAICS. Estimates for 2011 forward are based on the 2012 NAICS.

Table J. BEA Wage and Salary Employment as Related to BLS Total Employment

[Number of jobs, thousands]

	2020	2021	2022
Total employment, U.S. Bureau of Labor Statistics (BLS)¹	139,104	143,780	150,026
<i>Plus:</i>			
Adjustment for misreporting of employment on tax returns	728	879	898
Private employment exempt from unemployment insurance (UI) coverage ²	4,428	4,165	4,201
Government employment exempt from UI coverage ³	2,967	2,944	2,890
Equals: Wage and salary employment, U.S. Bureau of Economic Analysis (BEA)	147,227	151,768	158,015

1. Total employment is based on September 6, 2023, BLS.gov data.

2. Consists mostly of employment in the religious organizations industry (North American Industry Classification System 8131), private education (6111), and private households (814). Also consists of employment in the agriculture, forestry and fishing, rail transportation, hospitals, and social assistance industries; employment of some nonprofit organizations having fewer than four employees (in any industry); insurance solicitors and real estate agents classified as statutory employees; and corporate officers in the state of Washington.

3. Consists mostly of military employees (active duty and reserve officers and enlisted personnel). Also consists of state and local elected officials, members of the judiciary, students and their spouses employed by public colleges and universities, and employees of public railroads.

- 8.12. The basic procedure for preparing the local area estimates of wage and salary employment for each UI-covered industry is to average the 12 monthly QCEW employment observations and to allocate the higher-level geographic total in proportion to the averaged series. However, QCEW employment does not precisely meet the statistical and conceptual requirements for BEA's employment estimates. Consequently, the data must be adjusted to meet the requirements more closely. The necessary adjustments affect both the industrial and geographic patterns of county employment.

Adjustment for industry non-classification

- 8.13. The industry detail of the QCEW tabulations regularly shows minor amounts of employment that have not been assigned to an industry. The industrial classification scheme used by BEA for its estimates does not allow for a not-elsewhere-classified category. Therefore, for each county, the amount of QCEW employment in this category is distributed among the covered industries in proportion to the industry-classified employment. The amounts involved in this adjustment are quite small—about 0.1 percent of total employment nationally. No error is introduced into the total employment estimate for a county because the adjustment involves only an apportionment within the county of the amount reported for that county.

Misreporting adjustment

- 8.14. An adjustment is made to the QCEW data for misreporting of private sector employment. In 2022, misreported employment accounted for 0.6 percent of BEA wage and salary employment (table J). The national estimate of misreported employment for each industry is made in two parts: one for the underreporting of employment on UI contribution returns filed by employers and one for the

employment of employers that fail to file UI contribution returns. The data necessary to replicate this methodology below the national level are not available. Instead, the national adjustment for each industry is allocated to the counties in proportion to QCEW employment.

Adjustment for statewide reporting

- 8.15. Employment reported for statewide units is allocated to counties in proportion to the distribution of the employment reported by each county.

Geographic adjustments for government employment

- 8.16. In several cases, BEA has determined that the QCEW reports attribute government employment to the wrong states or counties; the best available information is used to remedy these deficiencies. Examples of how BEA adjusts the government employment are as follows:
 - The QCEW tabulations of federal civilian employment assign all the employment of the U.S. Congress and its staff to the District of Columbia, although members of Congress employ some of their staff in home district offices. BEA assumes that this home district employment accounts for 25 percent of total congressional employment and reassigns that portion of the total to the states in proportion to their congressional representation. No explicit adjustment is made at the county level; in effect, the home district employment is allocated to counties in proportion to QCEW federal employment.
 - For the federal sector, detailed civilian employment data available from the Office of Personnel Management (OPM) is used to evaluate the county coding of the corresponding QCEW data and remedy the deficiencies. Prior to 2002, for New York, BEA allocated the QCEW state employment totals for the Postal Service to counties in proportion to the OPM series for that agency.
 - For the non-education component of state government, a comparison of the QCEW data with comparable data from the Census of Population indicated that an excessively large proportion of the QCEW employment was reported in the county of the state capital for six states—Illinois, Michigan, New Jersey, Rhode Island, Tennessee, and Wisconsin—the state totals of state government non-education employment are allocated to counties in proportion to an unpublished tabulation of the place-of-work segment of the journey-to-work (JTW) decennial Census employment data for 1970, 1980, and 1990, with 1990 carried forward to 2000 and all intermediate years interpolated. More recently, a five-year employment compilation of the annual American Community Survey (ACS) JTW employment data are used in the preparation of the county estimates of employment, with 2001-2007 interpolated between the two JTW distributions.

Employment in industries not fully covered by state UI programs

Farms

- 8.17. This industry is only partially covered. Farm employees have mandatory UI coverage or almost complete voluntary coverage in the following states: Arizona, California, Connecticut, Delaware, Florida, Hawaii, Massachusetts, New Jersey, Rhode Island, and Washington. Therefore, county estimates of hired farm employment for these states are derived from QCEW data. For the remaining states, the county estimates of hired farm employment are based on the geographic distribution of the number of hired farm workers who worked 150 days or more reported in the Census of Agriculture.

Farm labor contractors

- 8.18. This industry is classified in support activities for agriculture and forestry rather than in farms. The UI coverage in Arizona and California is complete enough to permit the use of the QCEW data for both the state and county estimates, but most state UI programs only partially cover this industry. For these states, county estimates of farm labor contractor employment are based on the geographic distribution of expenditures for contract labor reported in the Census of Agriculture.

Railroads

- 8.19. The railroad industry is covered by its own unemployment insurance program, which is administered by the Railroad Retirement Board (RRB), rather than by the state UI system. Data suitable for estimating local area employment of railroads are available from the RRB only on a place-of-residence basis.⁷⁷ Because BEA's employment estimates are designed to conform conceptually and statistically to the place-of-work earnings estimates, the RRB data are adjusted to a place-of-work basis by using journey-to-work data from the 2000 Census of Population. National totals for all railroad companies combined are allocated to counties in proportion to the adjusted RRB series.

Private elementary and secondary schools

- 8.20. Private elementary and secondary schools are treated as a non-covered industry because religiously affiliated elementary and secondary schools, which account for most of the employment in this industry, remain largely outside the scope of the UI program. The state estimates of private elementary and secondary school employment are primarily based on the employment reported annually by the Census Bureau's County Business Patterns (CBP). The CBP data are tabulated from the administrative records of the social security program—Old-Age, Survivors and Disability Insurance and Hospital Insurance—and are more complete for elementary and secondary schools than the data prepared under the UI program. The social security program, although exempting

77. The data are converted to counties based on five-digit ZIP codes.

nonprofit religious organizations—including schools—from mandatory coverage, has elective coverage provisions that have resulted in broad participation among religiously affiliated elementary and secondary schools.

- 8.21. In about half of states, the UI coverage of elementary and secondary schools is complete enough to permit the use of QCEW data as the basis for the county employment estimates. For the other states, county estimates are based on the best available series of private elementary and secondary school employment chosen from data published by state departments of education, data from the U.S. Department of Education’s survey of private elementary and secondary schools, or data from CBP, which cannot be used more generally because they are frequently suppressed at the county level to prevent disclosures.

Religious organizations

- 8.22. The Federal Unemployment Tax Act permits states to exclude religious organizations from mandatory UI coverage. Although most state UI laws do have some provisions for elective coverage, about 11 percent of the national total employment of religious organizations are covered. Therefore, the county estimates of the employment of religious organizations are based on CBP data. The CBP data are adjusted proportionately to sum to the BEA national employment totals for this industry.

Private households

- 8.23. For this largely non-covered industry—mainly domestic servants—national employment estimates are allocated to counties in proportion to the “3-year estimates” of place-of-work private household employment from the 2011–2013 ACS. The ACS employment data are extrapolated to the more current years by the annual change in household population. Estimates for 2000 and earlier years are based on the Census of Population journey-to-work data

Military

- 8.24. County military employment is measured as the number of military personnel assigned to active-duty units that are stationed in the county plus the number of military Reserve unit members. Estimates of active-duty employment for the Army, Air Force, Navy, Marine Corps, and Coast Guard are based on the annual averages of 12 monthly observations, for a given year, from reports received from the Defense Manpower Data Center (DMDC).⁷⁸ Navy personnel assigned to ships and other mobile units and Marines assigned to Fleet Marine Force units are measured according to the units’ home ports rather than their actual locations as of the reporting date.
- 8.25. The measure of employment of the military Reserves—including the National Guard—is confined to members of Reserve units that meet regularly for training. State estimates are based on fiscal year—ending September 30—tabulations of military Reserve strength provided by the

78. Coast Guard data are now included with the DMDC report and no longer require a separate report from the U.S. Department of Homeland Security.

U.S. Department of Defense. For consistency with the BEA estimates of military Reserve wages, state totals of military Reserve employment are allocated to counties in proportion to household population.⁷⁹

Adjustments for noncovered segments of UI-covered industries

8.26. BEA makes adjustments to add the employment of several non-covered segments. If relevant source data are not available, national adjustments are allocated to states in proportion to the QCEW employment of the affected industry or industries. In all cases, state adjustments are allocated to counties in proportion to QCEW employment. Examples of BEA adjustments for non-covered segments of UI-covered industries are as follows:

- Some insurance solicitors and real estate agents are omitted from UI coverage because they are paid solely by commissions. National estimates for these two segments are allocated to states in proportion to QCEW employment in each industry.
- Establishments of railroad carrier affiliates and railway labor organizations are covered by the Railroad Unemployment Insurance system rather than by state UI. State adjustments are based on data provided by the Railroad Retirement Board.
- Corporate officers in Washington State are omitted from UI coverage. The Washington Employment Security Department provides BEA with estimates of the number of corporate officers by NAICS six digit by county.
- Some nonprofit organizations are exempt from UI coverage because they have fewer than four employees. National estimates are allocated to states in proportion to the QCEW employment of each industry.
- Students and the spouses of students who are employed by the institutions of higher education in which the students are enrolled are generally omitted from UI coverage. State estimates of the non-covered student employment of private, state government, and local government institutions are based on the differences between the relevant QCEW employment data and alternative employment data that include student employment. The alternative data are reported annually by the Census Bureau in CBP for the private institutions and on the Census Bureau's *Annual Survey of Public Employment and Payroll*.
- UI coverage of state and local government employees excludes elected officials, members of the judiciary, and hospital interns. National estimates are allocated to states in proportion to QCEW state and local government employment.

79. Military Reserve wages are estimated directly on a place-of-residence basis because there are no source data to convert a place-of-work series to a place-of-residence basis for inclusion in personal income. County total population is from the Census Bureau. Household population for counties is calculated as the difference between the total population and the Census Bureau population in the group quarters estimates.

- Coverage of federal employees under the Unemployment Compensation for Federal Employees program excludes federal employees who work for certain U.S. intelligence agencies. So, adjustments are made in specific geographies to provide complete coverage of all federal civilian employment.

Alternative measures of wage and salary employment

Current Employment Statistics

- 8.27. The U.S. Bureau of Labor Statistics (BLS)—in cooperation with state employment security agencies—prepares the Current Employment Statistics (CES), a set of state and local area wage and salary employment estimates that is similar to the BEA estimates. Both are job-count measures of full-time and part-time employment on a place-of-work basis. The CES estimates are based on a monthly sample survey—using Form BLS-790—of nonagricultural establishments with employees. The sample for UI-covered industries is drawn from all establishments reported in employers’ UI contributions returns, and the monthly sample-based series for covered industries is benchmarked annually to QCEW employment; thus, both the BEA and the CES series are grounded on the same set of administrative records data. A detailed description of the sampling and estimating methodologies for the CES estimates is presented in the “Explanatory Notes” of BLS’s monthly *Employment and Earnings*.
- 8.28. The CES estimates are timelier than the BEA estimates; preliminary BLS estimates are released with a one-month lag. By contrast, BEA estimates are prepared only as annual averages and are released at the state level nine months after the reference year. At the county level, the estimates by industry are released 11 months after the reference year.
- 8.29. The BEA series is somewhat broader in its coverage than the CES series. The BEA series includes industries—agriculture, forestry, fishing, and hunting; private households; and the military—that CES excludes.⁸⁰ A misreporting adjustment is unique to the BEA series. However, the CES series includes, within the scope of its coverage, all the non-covered segments of UI-covered industries for which BEA makes explicit adjustments.
- 8.30. The BEA estimates of wage and salary employment are accompanied by a self-employment series that is consistent with the wage and salary employment series as much as the available source data allow. No self-employment series is available in conjunction with the CES employment estimates.
- 8.31. At the national and state levels, the BEA estimates of wage and salary employment are available at the NAICS three-digit subsector beginning with 1998 and by SIC two-digit level for 1969–2000. By contrast, the CES estimates for the nation (in *Employment and Earnings*) are available in more detail: At the state level the CES estimates are presented only at the NAICS sector or SIC division

80. More precisely, the CES excludes all of NAICS sector 11 (agriculture, forestry, fishing, and hunting) except logging (1133).

(“one-digit”) level. However, more detailed estimates are available from some of the state employment security agencies. At the county level, the BEA estimates of wage and salary employment are available at the all-industry level, and at the NAICS sector or SIC division level, when combined with BEA’s self-employment estimates. The CES local area estimates are available at the NAICS sector or SIC division level.

- 8.32. BEA estimates are available for almost all counties, and for all county-based metropolitan areas as defined for federal statistical purposes. The local area CES estimates presented in *Employment and Earnings* are only for the larger metropolitan areas but estimates for smaller metropolitan areas and for counties are available from some of the state employment security agencies. BLS uses the alternative city-and-town definitions of the metropolitan areas in the New England states, while BEA uses the standard county-based metropolitan area definitions.

County Business Patterns

- 8.33. Another measure of county employment by place of work is the employment data published in the Census Bureau’s County Business Patterns (CBP). It differs in source data and coverage from BEA’s employment and QCEW employment.
- 8.34. The CBP data are derived from Census Bureau business establishment surveys and federal administrative records.
- 8.35. The coverage of the CBP data differs from that of the QCEW data primarily because the CBP data exclude most government employees, while the QCEW data cover civilian government employees.⁸¹ CBP data also exclude several private industries covered at least in part by the QCEW: crop and animal production; rail transportation; insurance and employee benefit funds; trusts, estates, and agency accounts; and private households. However, the CBP data cover the employees of educational institutions, membership organizations, and small nonprofit organizations in other industries more completely than the QCEW data.⁸² In addition, the CBP data reports employment for the month of March only; the QCEW employment data are quarterly and annual averages of monthly data.

81. The CBP data cover only those government employees who work in government hospitals, federally chartered savings institutions and credit unions, retail liquor stores, wholesale liquor establishments and university publishers. QCEW data in most states exclude state and local elected officials, members of the judiciary, state national and air national guardsmen, temporary emergency employees, and those in policy and advisory positions.

82. Some religious elementary and secondary schools are not covered by QCEW because of a 1981 Supreme Court decision stating “schools operated and supported by churches and not separately incorporated [are] held exempt from unemployment compensation taxes.” College students (and their spouses) employed by the school in which they are enrolled, and student nurses and interns employed by hospitals as part of their training, are also excluded from QCEW. While QCEW coverage varies, half of the states only include nonprofit organizations with four or more employees during 20 weeks in a calendar year.

- 8.36. Beginning in 2001, QCEW classifies employees of Indian tribal governments and enterprises in local government. These employees were previously classified in the relevant private industries.⁸³ In the CBP data, these employees are still classified in private industries.

Nonfarm Self-Employment

- 8.37. The BEA local area estimates of nonfarm self-employment consist of the number of sole proprietorships and the number of individual general partners.⁸⁴ The nonfarm self-employment estimates resemble the wage and salary employment estimates in that both measure jobs—as opposed to workers—on a full-time and part-time basis. However, because of limitations in source data, two important measurement differences exist between the two sets of estimates. First, self-employment estimates are largely on a place-of-residence basis rather than on the preferred place-of-work basis. Second, self-employment estimates reflect the total number of sole proprietorships or partners active at any time during the year—as opposed to the annual average measure used for wage and salary employment.

National totals

- 8.38. For each NAICS three-digit subsector (or SIC two-digit industry in years prior to 2001), the national total of nonfarm self-employment equals the sum of the number of sole proprietorships and the number of individual general partners.

Sole proprietorships

- 8.39. Income from a nonfarm sole proprietorship is reported on Schedule C, Profit, or Loss, from Business or Profession, of Internal Revenue Service (IRS) Form 1040, U.S. Individual Income Tax Return. A schedule is filed for each business operated by the filer and the industry of the proprietorship reported. In addition, corporate directors—who are not officers in the corporation—use Schedule C to report their director’s fees. BEA uses the number of Schedule Cs filed (including those filed by corporate directors) as its measure of the number of sole proprietorships. The national estimate of the number of nonfarm sole proprietorships in each NAICS three-digit subsector is based on a sample of these schedules.⁸⁵ In the absence of IRS data for the most recent years, the number of proprietorships is extrapolated forward using prior years’ growth rates.

83. For example, employees of casinos owned by tribal councils were included in the NAICS subsector “Amusement, Gambling, and Recreation Industries.”

84. Partners can be individuals, corporations, partnerships, estates, trusts, limited liability companies, tax-exempt organizations, or individual retirement arrangements. They can be either general or limited.

85. When a husband and wife jointly operate a nonfarm sole proprietorship (e.g. a restaurant) and file a joint income tax return, only one will be counted as a proprietor.

Partners

- 8.40. A preliminary national estimate of the number of nonfarm partners by NAICS three-digit subsector is based on a sample of returns of IRS Form 1065, U.S. Partnership Return of Income. One Form 1065 is filed by each business partnership. The number of partners (which can include corporations and other legal entities as well as individuals) and the industry of the business are indicated on the form.
- 8.41. The preliminary estimate of the number of partners by industry is adjusted by using relationships from two special tabulations of partnership tax data provided by the IRS. The first tabulation, available annually, is of the number of limited partners—generally at the NAICS sector level. The second tabulation, available for 1986 only, is the number of partners by SIC division by type (e.g., individuals, corporations, other partnerships acting as partners, and fiduciaries) in partnerships with 10 or fewer partners.
- 8.42. The adjustment of the preliminary estimate is at the NAICS sector level. The preliminary estimates of the number of partners are summed to the appropriate industry totals. The number of limited partners from the first IRS special tabulation is subtracted from the preliminary estimate to obtain the number of general partners. Next, the ratio of the number of individual partners to the total number of partners is calculated for each industry from the second IRS special tabulation. This ratio is multiplied by the number of general partners in the industry in each year to yield the number of individual general partners. Finally, the NAICS sector totals of the number of individual general partners are allocated to the three-digit subsectors in proportion to the number of partnerships to yield the final estimate of partners.
- 8.43. In the absence of IRS data for the most recent years, the number of partners is extrapolated forward using prior years' growth rates.

State and county estimates

- 8.44. Preliminary state and county estimates of self-employment are also based on tabulations of the number of nonfarm sole proprietorships filing IRS Schedule C, Form 1040 and on the number of nonfarm general partners as reported on IRS Schedule B, Form 1065. However, the entire population of returns is used (rather than just the sample used for the national estimates) and slightly different data from the forms are available for states and counties. Specifically, data are available on the number of partners in each partnership and the type of partnership. Up to four partners in each partnership are counted except limited partnerships which are assumed to have a single general partner.⁸⁶ Tabulations are prepared by NAICS three-digit subsector. National estimates of sole proprietorships and partners are combined to form an estimate of total self-employment and allocated to states in proportion to the preliminary state estimate of total self-employment. In the absence of IRS data for the most recent years, the state allocators for prior years are used.

86. Up to 500 partners are counted in law and accounting firms.

- 8.45. At the county level, tabulations of Schedule C and Form 1065 are available at the NAICS sector level only. Therefore, state estimates are summed to the NAICS sector level for use as control totals for the county estimates. The controls are then allocated to the counties in proportion to preliminary estimates of county self-employment. In the absence of IRS data for the most recent years, the county allocators for prior years are used.

Farm Self-Employment

- 8.46. Farm self-employment is defined as the number of non-corporate farm operators, consisting of sole proprietors and partners. A farm is defined as an establishment that produces, or normally would be expected to produce, at least \$1,000 worth of farm products—crops or livestock—in a typical year. Because of the low cutoff point for this definition even when adjusted for inflation, the farm self-employment estimates are effectively on a full-time and part-time basis. The estimates are consistent with the job-count basis of the estimates of wage and salary employment because farm proprietors are counted without regard to any other employment. The distinction between place-of-work and place-of-residence is not significant because most farm operators live on or near their land. Similarly, because of the annual production cycle of most farming, the distinctions between the point-in-time, the average annual, and the any-activity temporal concepts of employment measurement are not significant.

National and State Estimates (1969–2001)

- 8.47. Both the national and state estimates of farm self-employment are prepared by the application of a series of ratios to the annual estimates of the number of all farms prepared by the National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture (USDA). For the BEA national estimates, the ratios are drawn from the USDA's annual *Agricultural Resource Management Study (ARMS)*, previously the *Farm Costs and Returns Survey*; for state estimates, the ratios are drawn from the quinquennial Census of Agriculture. The census ratios are interpolated between census years, and the ratios from the last census are used for each subsequent year.⁸⁷ The sequence of estimating steps for the national totals and the preliminary state estimates is as follows:
1. The number of non-corporate farms is derived as the product of the NASS number of all farms and the ratio of the number of non-corporate farms to all farms.
 2. The number of sole-proprietor farms is derived as the product of the number of non-corporate farms (step 1) and the ratio of the number of sole-proprietor farms to non-corporate farms.
 3. The number of partnership farms is derived as the product of the number of non-corporate farms (step 1) and the ratio of the number of partnership farms to non-corporate farms.
 4. The number of farm partners is derived as the product of the number of partnership farms (step 3) and the ratio of the number of farm partners to partnership farms.

87. The most recent Census of Agriculture in use for the BEA employment estimates is that for 2017.

5. Total farm self-employment (final for the nation; provisional for the states) is derived as the sum of the number of sole-proprietor farms (step 2) and the number of farm partners (step 4).
6. Finally, the national totals are allocated to states in proportion to the provisional state estimates (the allocators developed in step 5).

National and State Estimates (2002 forward)

8.48. Beginning in 2002, the Census of Agriculture started publishing the number of farm operators by legal form of organization for all states. The methodology for estimating farm self-employment from 2002 onward therefore includes additional steps in which the ratio of the number of farm operators to the number of farms are applied. In addition, BEA now adjusts the production threshold an operation must meet to qualify as a farm for inflation using the prices received index for all items for all farms from NASS.⁸⁸ The new sequence of steps for estimating farm self-employment is as follows:

1. The number of non-corporate farms is derived as the product of the NASS number of all farms and the *ARMS* ratio of the number of non-corporate farms to all farms.
2. The number of sole-proprietor farms is derived as the product of the number of non-corporate farms (step 1) and the *ARMS* ratio of the number of sole-proprietor farms to non-corporate farms.
3. The adjusted number of sole-proprietor farms is derived as the product of the number of sole-proprietor farms (step 2) and the ratio of the number of sole-proprietor farms over the inflation-adjusted threshold to all sole-proprietor farms.
4. The number of sole-proprietor farms is further adjusted to remove farms with hired managers. It is derived as the product of the adjusted number of sole-proprietor farms (step 3) and the ratio of sole-proprietor farms without hired managers to total sole-proprietor farms.
5. The number of sole-proprietors is derived as the product of the adjusted number of sole-proprietor farms (step 4) and the ratio of the number of operators to sole-proprietor farms.⁸⁹
6. The number of partnership farms is derived as the product of the number of non-corporate farms (step 1) and the *ARMS* ratio of the number of partnership farms to non-corporate farms.
7. The adjusted number of partnership farms is derived as the product of the number of partnership farms (step 6) and the *ARMS* ratio of the number of partnership farms over the inflation-adjusted threshold to all partnership farms.

88. The USDA \$1,000 threshold was set in 1974.

89. Formerly, BEA assumed that sole proprietorship farms had a single operator, the owner. Data from the 2002 Census of Agriculture revealed that many sole proprietorship farms had more than one operator.

8. The number of partnership farms is further adjusted to remove farms with hired managers. It is derived as the product of the adjusted number of partnership farms (step 7) and the ratio of partnership farms without hired managers to total partnership farms.
9. The number of farm partners is derived as the product of the adjusted number of partnership farms (step 8) and the ratio of the number of farm partners to partnership farms.
10. Total farm self-employment (final for the nation; provisional for the states) is derived as the sum of the number of sole-proprietors (step 5) and the number of farm partners (step 9).
11. Finally, the national totals are allocated to states in proportion to the provisional state estimates (step 10).

County estimates

- 8.49. State estimates of the number of operators in sole-proprietor farms are allocated to counties based on the number of sole proprietor farms and state estimates of the number of farm partners are allocated to counties based on the number of partnership farms.

Part IX.

Technical Notes

Allocation Procedures

- 9.1. Allocation procedures impart to the state (or county) estimates the characteristics of the national (or state) estimates that are not reflected in the available state-level (or county-level) source data; for most components of personal income, the state and county source data are less comprehensive and less reliable than the data that are available for the national estimates. In addition, these procedures allow the use of state and county data that are related to, but that do not precisely match, the component being estimated. For example, state control totals of unemployment compensation are allocated to counties of some states in proportion to direct payments data provided their employment security agencies. For the states not providing such data, the control totals are allocated in proportion to the number of unemployed persons estimated by the U.S. Bureau of Labor Statistics (BLS).
- 9.2. In the allocation procedures, the national or state control total for a component is allocated to states or counties in proportion to each state or county's share of related data. In many cases the related data are modified or augmented before the allocation by preliminary estimation—for example, by the summation of wages, tips, and pay-in-kind, by the multiplication of average wages and the number of employees, or by interpolation or extrapolation.
- 9.3. Because the allocation procedures use the national control totals for the state estimates, and state control totals for county estimates, their use yields an additive system in which the county estimates sum to the state estimates which in turn sum to the national estimate.

- 9.4. The allocation procedure used to estimate a component of state personal income is

$$Y_s = (Y_n) \left(\frac{X_s}{X_n} \right)$$

where Y_s is the estimator (that is, the statistical procedure used to derive an estimate) of the component of personal income for state s , Y_n is the national estimate of the component (which is used as the control total for the state estimates of the component), X_s is the value for state s from the data related to the component, and X_n is the sum over all states of the related data ($X_n = \sum_s X_s$).

- 9.6. In cases in which the national estimate is calculated as the sum of the state data plus an amount A_n for which state data are unavailable, the allocation procedure may be represented by two equations

$$A_s = (A_n) \left(\frac{X_s}{X_n} \right)$$

$$Y_s = X_s + A_s$$

where A_s is the state estimator of the portion of Y for which state data are not available. In effect, Y_s is the composite estimator consisting of X_s , the best possible direct estimator (100 percent sample) of the portion of Y for which state data are available, plus A_s , the indirect estimator of the portion of Y for which state data are unavailable.

- 9.7. For example, the national estimates of wages and salaries for many industries consist of the sum of state data plus a few small adjustments, which taken together (A_n) are allocated to the states in proportion to the state data. The small, allocated amount for each state (A_s) is added to the state datum (X_s) to yield the state estimate (Y_s).

Dual Allocation

- 9.8. Dual allocation is a statistical procedure that forces the elements of a matrix to sum to column and row control totals. It is used to adjust, for instance, a preliminary estimate of income by state and industry so that the sum of income in an industry across all states equals a national control total for that industry and simultaneously the sum of income in a state across all industries equals a control total for that state. It is also used to adjust a preliminary estimate of quarterly state personal income so that it is consistent with both national control totals by quarter and annual state control totals.
- 9.9. Specifically, dual allocation subtracts the sum of the algebraic values in a row from the row control total. It divides this difference by the sum of the absolute values in the row and then multiplies the resulting ratio by the absolute value of each element in the row and adds the result to the algebraic value of that element. This procedure is repeated for each row and then a parallel procedure is repeated for each column. The whole process is repeated five times.

- 9.10. After the fifth repetition, any differences between the row and column control totals and the output matrix row and column sums are eliminated by a process called feathering. This is accomplished by selecting the first column with a non-zero difference and the first non-zero row difference with the same sign. The smaller of the two differences is subtracted from the element in that row and column and from the final row and column sums. This procedure forces the difference between either the final row sum and its corresponding control total or the final column sum and its corresponding control total to zero.
- 9.11. Before performing any subtraction, the element in the row and column selected is checked for a zero value and to see if the subtraction would cause a change in the element's sign. If either of these tests is true, the next non-zero row difference with like sign is selected.
- 9.12. The entire feathering process is repeated until all differences between final column sums and column control totals have been forced to zero. At this point the row sums and row control totals will also be equal.

Disclosure-Avoidance Procedures

- 9.13. Like other statistical agencies, the U.S. Bureau of Economic Analysis (BEA) is legally required to safeguard the confidentiality of the information that it receives. In addition, like other agencies, it must balance its responsibility to avoid disclosing confidential information with its responsibility to release as much information as possible. It balances these responsibilities by presenting the estimates for regions, states, and local areas only at the North American Industry Classification System (NAICS) subsector level or Standard Industrial Classification (SIC) two-digit level, even though it receives source data at the NAICS four- and five-digit industry levels or SIC three- and four-digit levels.
- 9.14. Most of the data that BEA receives from other agencies are not confidential. The agencies summarize their data by program, ZIP code, county, or state, so that each record, or data cell, contains data for enough individuals or establishments to preclude the identification of data for a specific individual or establishment and, therefore, to preclude disclosure of confidential information.
- 9.15. However, the Quarterly Census of Employment and Wages (QCEW) tabulations that BEA receives from BLS include records that would disclose confidential information. The confidential information on wages and salaries for some business firms is identifiable from the state and county estimates of wages and salaries that are derived from the QCEW data.
- 9.16. To prevent either the direct or the indirect disclosure of the confidential information, BEA uses the BLS state, county, and metropolitan statistical area nondisclosure file. BEA uses as many BLS nondisclosure cells as possible but cannot use some of them for various reasons. The most important reasons are that the industry structure published by BEA does not exactly match the NAICS

subsector or SIC two-digit detail provided by BLS and that BEA does not use QCEW data for the farm sector. When BEA drops BLS nondisclosure cells, other cells must be selected to prevent the disclosure of confidential information. To determine which estimates should be suppressed, the total wages and salaries file and the wages-and-salaries-nondisclosure file are used to prepare a multidimensional matrix. This matrix is tested, and the estimates that should be suppressed are selected.⁹⁰

- 9.17. BEA's estimates for micropolitan and metropolitan statistical areas, metropolitan divisions, combined statistical areas, and the metropolitan and nonmetropolitan portions of states are aggregations of its county estimates. It often happens that an area consists of two or more counties with a relatively small amount of suppressed income or employment in a particular industry relative to the aggregate for all counties in the area. When the suppressed amount is below a certain percentage threshold, BEA publishes the portion of the aggregate which is disclosable and flags it with a code (E) indicating that the published amount constitutes the major portion of the aggregate for the area. For a given area, the number of counties that are aggregated in an (E) estimate can vary from industry to industry and from year to year.

Geocoding

- 9.18. Some of the data BEA uses to estimate personal income is available only by ZIP code, which BEA then tabulates by county and state. For instance, BEA tabulates extracts from certain Internal Revenue Service tax returns by county and state based on the nine-digit ZIP code reported on the return (nine-digit ZIP codes do not cross county borders). Most of the Form 1065 returns and the Schedule C returns can be geocoded using their nine-digit ZIP codes. The remaining returns are geocoded using their five-digit ZIP codes. Since some five-digit ZIP codes comprise addresses in multiple counties, the amounts reported on the returns are allocated to those counties in proportion to the number residential delivery addresses. BEA uses a geographic codebook from the Census Bureau to geocode returns based on the nine-digit ZIP code, and the five-digit Delivery Statistics file from the United States Postal Service to geocode returns based on the five-digit ZIP code.

Imputation

- 9.19. One of the principles of the National Income and Product Accounts (NIPAs) is that they reflect market transactions. In a few instances, a comprehensive account of total income and production requires BEA to impute a value or a transaction. This keeps the NIPA invariant to how certain activities are carried out. For instance, some transactions, such as the provision of food, lodging, and clothing to employees have an element of barter—food is bartered for labor (at least in part). In this case, imputation involves placing a market value on the food employees received so that the

90. In this test, computer programs impose a set of rules and priorities on this matrix so that the estimates that should be suppressed are selected until indirect disclosure is impossible.

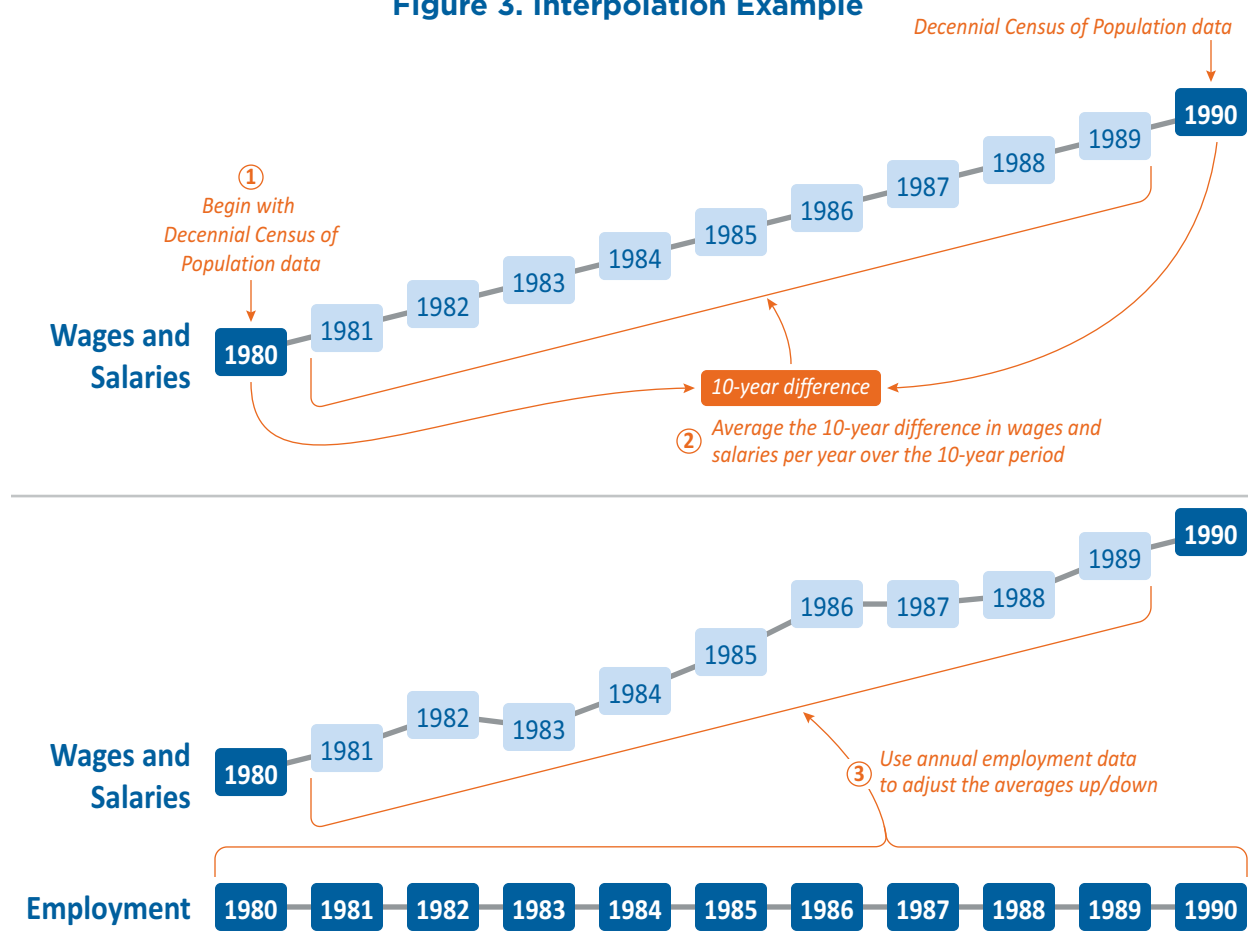
estimate of their total compensation is comprehensive and invariant to changes in the proportions received in cash and in kind. In other transactions, such as the rental of housing to an owner-occupant, no transaction appears in the records of the economy. In this case, imputation involves constructing a transaction between a producer and a consumer (who happen to be the same person) and placing a market value on the housing services exchanged. If the imputation were not made, then housing output and consumption would fall if a household purchased the house it had been renting. A third type of imputation is the attribution of the income of one sector or legal form of organization to another. For instance, the NIPA attributes the property income life insurance carriers earn on annuity reserves to the persons who own the annuities.

- 9.20. The imputations that are treated explicitly in state personal income include the following:
- 9.21. **Imputed pay-in-kind** is added to the estimates of wages and salaries so that all the earnings of employees who receive part of their wages in pay-in-kind will be included in personal income. This imputation is an estimate of the value of the food, lodging, clothing, and other goods and services that are received by employees from their employers as partial or full payment for their services.
- 9.22. **Imputations for employer contributions** for (a) federal employees' unemployment insurance, (b) military medical insurance, and (c) federal workers' compensation—equal to the benefits paid—are included in employer contributions for government social insurance funds.
- 9.23. The **imputation for employer-paid health and life insurance premiums** is included in employer contributions for employee pension and insurance funds, a component of supplements to wages and salaries.
- 9.24. The **imputed value of food and fuel produced and consumed on farms** is included in farm proprietors' income so that the measure reflects the income from all of the production of noncorporate farms.
- 9.25. The **imputed net rental income of owner-occupied housing** is included in the rental income of persons with capital consumption adjustment (CCAdj).
- 9.26. **Imputed interest receipts from financial and insurance companies** are included in personal interest income.
- 9.27. The **imputed receipt of dividend and interest income from pension plans** is included in personal dividend income and personal interest income.

Interpolation and Extrapolation

- 9.28. Interpolation and extrapolation are used to prepare the first approximations of some components of personal income for the years in which direct source data are unavailable. Both procedures use the data for these components for benchmark years—the years for which the best data are available—and both frequently use other data that are related to the benchmark-year data for the components.
- 9.29. Interpolation is used to derive the first approximation of estimates for years that are between benchmark years. For example, if data for wages and salaries for an industry were available only from the decennial Census of Population but employment data were available annually from another source, the first approximations of wages and salaries for 1981–1989 could be interpolated from the wages and salaries data for 1980 and 1990, the two census benchmark years, and from the annual employment data for 1980–1990.

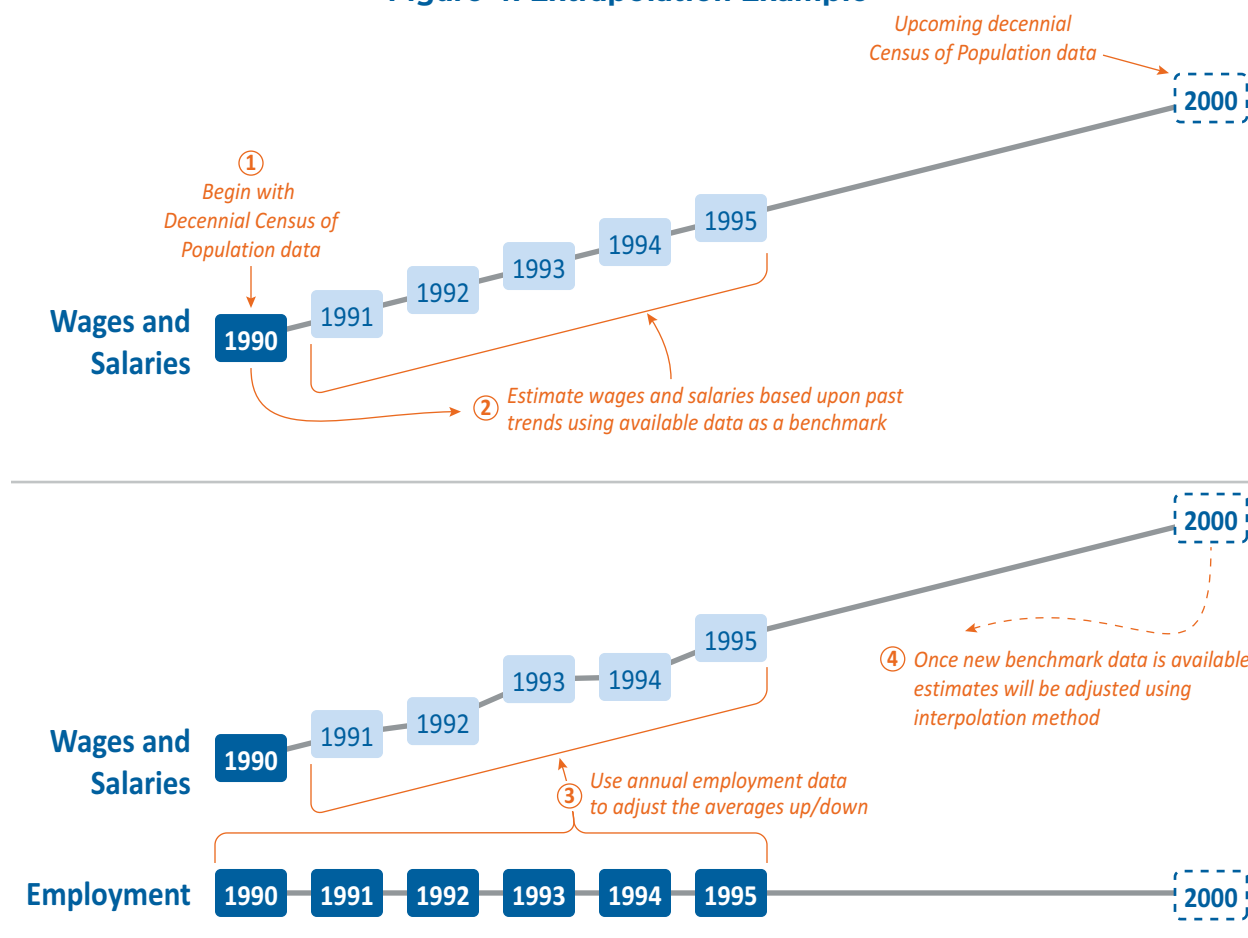
Figure 3. Interpolation Example



U.S. Bureau of Economic Analysis

9.30. Extrapolation is used to derive first approximations for years that are beyond the most recent benchmark year. For example, the first approximations of wages for 1991–1999 might be extrapolated from the census benchmark data for 1990 and from the employment data for 1990–1999. The estimates based on extrapolation are usually superseded by revised estimates when benchmark data become available for a more current year. For the preceding example, the estimates for 1991–1999 would be superseded by estimates based on interpolation when census benchmark data became available for 2000.

Figure 4. Extrapolation Example



U.S. Bureau of Economic Analysis

9.31. Both interpolation and extrapolation are illustrated in the following examples. In the first two examples, interpolation is used to derive the first approximations of wages and salaries for an industry in areas A, B, and C for the years 2 and 3 that are between the benchmark years 1 and 4. In the third example, extrapolation is used to derive the approximations for year 5.

- 9.32. In the first example, “straight-line interpolation” is used to derive the first approximations for years 2 and 3 from the data for benchmark years 1 and 4.⁹¹ The first approximations for year 2 equals the amount for year 1 plus one-third of the increase from year 1 to year 4; the preliminary estimate for year 3 equals the amount for year 1 plus two-thirds of the increase.

Table K. Wages and Salaries in Dollars

	Year 1 (benchmark)	Year 2 (interpolation)	Year 3 (interpolation)	Year 4 (benchmark)
Area A	28,000	34,000	40,000	46,000
Area B	34,000	43,000	53,000	62,000
Area C	74,000	81,000	87,000	94,000

- 9.33. In the second example, interpolation with a related series of data, the indicator series, is used to derive the first approximations for years 2 and 3 from the benchmark data for years 1 and 4 and from the indicator series for all four years. The data for wages and salaries are the benchmark data, the employment data are the indicator series, and the average wages (computed as wages and salaries divided by employment) are the interpolation ratios.⁹² This method of interpolation is illustrated in three steps.
- 9.34. First, average wages for years 1 and 4 are calculated from the wage and employment data for those years. Wages for each year are divided by the number of employees for the year to yield the average wages of the employees.

Table L. Employment and Average Wages

	Year 1		Year 4	
	Employment	Average wages in dollars	Employment	Average wages in dollars
Area A	4	7,000	4	11,500
Area B	6	5,667	10	6,200
Area C	11	6,727	10	9,400

91. Straight-line interpolation assumes that the magnitude of the annual change is the same in each year in the interpolated time series, subject to modification by the adjustment to the national control totals. Straight-line interpolation is used as the default option, when no annual source data related to the income series are available.

92. Using an indicator series for interpolation between two benchmark years assumes that any change in the relationship between the data for the income component for the benchmark years and the data from the indicator series for the benchmark years occurs uniformly over time. This relationship is embodied in the interpolation ratios, which in this example are the average wages. For this procedure, straight-line interpolation of the benchmark-year interpolation ratios is used to calculate the ratios for the intervening years. A benchmark-year interpolation ratio is the ratio of the datum for an income component for the benchmark year to the datum for the same year from the annual indicator series. The interpolation ratios for the intervening years are multiplied by the data for those years from the indicator series to yield the interpolated series for those years.

- 9.35. Second, straight-line interpolation is used to derive average wages for years 2 and 3 from average wages for years 1 and 4.

Table M. Average Wages in Dollars

	Year 1 (benchmark)	Year 2 (interpolation)	Year 3 (interpolation)	Year 4 (benchmark)
Area A	7,000	8,500	10,000	11,500
Area B	5,667	5,845	6,022	6,200
Area C	6,727	7,618	8,509	9,400

- 9.36. Third, the interpolated average wages for each year are multiplied by the employment data for each year to yield the first approximations.

Table N. Employment and Wage Approximations

	Year 2		Year 3	
	Employment	Wages in dollars	Employment	Wages in dollars
Area A	5	43,000	4	40,000
Area B	7	41,000	9	54,000
Area C	10	76,000	9	77,000

- 9.37. In the third example, extrapolation with an indicator series is used to derive the first approximations of wages for year 5 from average wages for year 4—used here as the extrapolation ratios—and employment data for year 5.⁹³ The average wages are multiplied by employment to yield the first approximations of wages for year 5.

Table O. First Approximations of Wages for Year 5

	Year 4	Year 5	
	Average wages in dollars	Employment	Average wages in dollars
Area A	11,500	5	58,000
Area B	6,200	12	74,000
Area C	9,400	9	85,000

- 9.38. After interpolation or extrapolation is used to calculate the first approximations of a component of personal income, the approximations are adjusted proportionately to sum to the component's control total.

93. Using an indicator series for extrapolation assumes that the relationship between the data for the income component for the latest benchmark year and the data from the indicator series for that year remains unchanged in the subsequent years.

Part X.

Appendix

Concordance Between U.S. Bureau of Economic Analysis (BEA) Line Codes and NAICS Industry Codes

Line	BEA Industry Description	NAICS Code
0000	Total	...
0081*	Farm	111–112
0082*	Nonfarm	...
0090	Private	113–814
0100	Forestry, fishing, related activities	113–115
0101	Forestry and logging	113
0102	Fishing, hunting, and trapping	114
0103	Agriculture and forestry support activities	115
0200	Mining	21
0201	Oil and gas extraction	211
0202	Mining (except oil and gas)	212
0203	Support activities for mining	213
0300	Utilities	22
0400	Construction	23
0401	Construction of buildings	236
0402	Heavy and civil engineering construction	237
0403	Specialty trade contractors	238
0500	Manufacturing	31–33
0510	Durable goods manufacturing	321, 327–339
0511	Wood product manufacturing	321
0512	Nonmetallic mineral product manufacturing	327
0513	Primary metal manufacturing	331
0514	Fabricated metal product manufacturing	332
0515	Machinery manufacturing	333
0516	Computer and electronic product manufacturing	334

Table continues

Line	BEA Industry Description	NAICS Code
0517	Electrical equipment and appliance manufacturing	335
0518	Motor vehicles, bodies & trailers, and parts manufacturing	3361–3363
0519	Other transportation equipment manufacturing	3364–3369
0521	Furniture and related product manufacturing	337
0522	Miscellaneous manufacturing	339
0530	Nondurable goods manufacturing	311–316, 322–326
0531	Food manufacturing	311
0532	Beverage and tobacco product manufacturing	312
0533	Textile mills	313
0534	Textile product mills	314
0535	Apparel manufacturing	315
0536	Leather and allied product manufacturing	316
0537	Paper manufacturing	322
0538	Printing and related support activities	323
0539	Petroleum and coal products manufacturing	324
0541	Chemical manufacturing	325
0542	Plastics and rubber products manufacturing	326
0600	Wholesale trade	42
0700	Retail Trade	44–45
0701	Motor vehicle and parts dealers	441
0702	Furniture and home furnishings stores	442
0703	Electronics and appliance stores	443
0704	Building material and garden supply stores	444
0705	Food and beverage stores	445
0706	Health and personal care stores	446
0707	Gasoline stations	447
0708	Clothing and clothing accessories stores	448
0709	Sporting goods, hobby, book and music stores	451
0711	General merchandise stores	452
0712	Miscellaneous store retailers	453
0713	Nonstore retailers	454
0800	Transportation and warehousing	48–49
0801	Air transportation	481
0802	Rail transportation	482
0803	Water transportation	483
0804	Truck transportation	484
0805	Transit and ground passenger transportation	485
0806	Pipeline transportation	486
0807	Scenic and sightseeing transportation	487
0808	Support activities for transportation	488

Table continues

Line	BEA Industry Description	NAICS Code
0809	Couriers and messengers	492
0811	Warehousing and storage	493
0900	Information	51
0901	Publishing industries, except Internet	511
0902	Motion picture and sound recording industries	512
0903	Broadcasting, except Internet	515
0904	Internet publishing and broadcasting	516
0905	Telecommunications	517
0906	Data processing, hosting, and related services	518
0907	Other information services	519
1000	Finance and insurance	52
1001	Monetary authorities—central bank	521
1002	Credit intermediation and related activities	522
1003	Securities, commodity contracts, investments	523
1004	Insurance carriers and related activities	524
1005	Funds, trusts, and other financial vehicles	525
1100	Real estate and rental and leasing	53
1101	Real estate	531
1102	Rental and leasing services	532
1103	Lessors of nonfinancial intangible assets	533
1200	Professional, scientific, and technical services	54
1300	Management of companies and enterprises	55
1400	Administrative and waste management services	56
1401	Administrative and support services	561
1402	Waste management and remediation services	562
1500	Educational services	61
1600	Health care and social assistance	62
1601	Ambulatory health care services	621
1602	Hospitals	622
1603	Nursing and residential care facilities	623
1604	Social assistance	624
1700	Arts, entertainment, and recreation	71
1701	Performing arts and spectator sports	711
1702	Museums, historical sites, zoos, and parks	712
1703	Amusement, gambling, and recreation	713
1800	Accommodation and food services	72
1801	Accommodation	721
1802	Food services and drinking places	722
1900	Other services, except public administration	81
1901	Repair and maintenance	811

Table continues

Line	BEA Industry Description	NAICS Code
1902	Personal and laundry services	812
1903	Membership associations and organizations	813
1904	Private households	814
2000	Government and government enterprises	...
2001	Federal, civilian	...
2002	Military	...
2010	State and local	...
2011	State government	...
2012	Local government	...

*In Tables CA5N and CA6N farm has a line code of 0081 and nonfarm has a line code of 0082. In Table CA25N farm has a line code of 0070 and nonfarm has a line code of 0080.

Concordance Between BEA Line Codes and SIC Industry Codes

Line	BEA Industry Description	SIC Code
0000	Total	...
0081*	Farm	01–02
0082*	Nonfarm	...
0090	Private	...
0100	Agricultural services, forestry, fishing	...
0110	Agricultural services	07
0120	Forestry and fishing	...
0121	Forestry	08
0122	Fishing	...
0200	Mining	B
0210	Metal mining	10
0220	Coal mining	12
0230	Oil and gas extraction	13
0240	Nonmetallic minerals, except fuels	14
0300	Construction	C
0310	General building contractors	15
0320	Heavy construction contractors	16
0330	Special trade contractors	17
0400	Manufacturing	D
0410	Durable goods	...
0413	Lumber and wood products	24
0417	Furniture and fixtures	25

Table continues

Line	BEA Industry Description	SIC Code
0420	Stone, clay, and glass products	32
0423	Primary metal industries	33
0426	Fabricated metal products	34
0429	Industrial machinery and equipment	35
0432	Electronic and other electric equipment	36
0435	Motor vehicles and equipment	371
0438	Other transportation equipment	372–379
0441	Instruments and related products	38
0444	Miscellaneous manufacturing industries	39
0447	Ordnance	...
0450	Nondurable goods	...
0453	Food and kindred products	20
0456	Tobacco products	21
0459	Textile mill products	22
0462	Apparel and other textile products	23
0465	Paper and allied products	26
0468	Printing and publishing	27
0471	Chemicals and allied products	28
0474	Petroleum and coal products	29
0477	Rubber and miscellaneous plastics products	30
0480	Leather and leather products	31
0500	Transportation and public utilities	E
0510	Railroad transportation	40
0520	Trucking and warehousing	42
0530	Water transportation	44
0540	Other transportation	41, 45–47
0541	Local and interurban passenger transit	41
0542	Transportation by air	45
0543	Pipelines, except natural gas	46
0544	Transportation services	47
0560	Communications	48
0570	Electric, gas, and sanitary services	49
0610	Wholesale trade	F
0620	Retail trade	G
0621	Building materials and garden equipment	52
0622	General merchandise stores	53
0623	Food stores	54
0624	Automotive dealers and service stations	55
0625	Apparel and accessory stores	56
0626	Home furniture and furnishings stores	57

Table continues

Line	BEA Industry Description	SIC Code
0627	Eating and drinking places	58
0628	Miscellaneous retail	59
0700	Finance, insurance, and real estate	H
0710	Depository and nondepository institutions	60, 61
0730	Other finance, insurance, and real estate	62–65, 67
0731	Security and commodity brokers	62
0732	Insurance carriers	63
0733	Insurance agents, brokers, and services	64
0734	Real estate	65
0735	Combined real estate, insurance, etc.	...
0736	Holding and other investment offices	67
0800	Services	I
0805	Hotels and other lodging places	70
0810	Personal services	72
0815	Private households	88
0820	Business services	73
0825	Automotive repair, services, and parking	75
0830	Miscellaneous repair services	76
0835	Amusement and recreation services	79
0840	Motion pictures	78
0845	Health services	80
0850	Legal services	81
0855	Educational services	82
0860	Social services	83
0865	Museums, botanical, zoological gardens	84
0870	Membership organizations	86
0875	Engineering and management services	87
0880	Miscellaneous services	89
0900	Government and government enterprises	...
0910	Federal, civilian	...
0920	Military	...
0930	State and local	...
0931	State government	...
0932	Local government	...

* In Tables CA5 and CA6 farm has a line code of 0081 and nonfarm has a line code of 0082. In Table CA25 farm has a line code of 0070 and nonfarm has a line code of 0080.

BEA Regions

Region code, name, and abbreviation	State or region FIPS code	State or region name	Abbreviation
1. New England (NENG)	09	Connecticut	CT
	23	Maine	ME
	25	Massachusetts	MA
	33	New Hampshire	NH
	44	Rhode Island	RI
	50	Vermont	VT
2. Mideast Region (MEST)	10	Delaware	DE
	11	District of Columbia	DC
	24	Maryland	MD
	34	New Jersey	NJ
	36	New York	NY
	42	Pennsylvania	PA
3. Great Lakes Region (GLAK)	17	Illinois	IL
	18	Indiana	IN
	26	Michigan	MI
	39	Ohio	OH
	55	Wisconsin	WI
4. Plains Region (PLNS)	19	Iowa	IA
	20	Kansas	KS
	27	Minnesota	MN
	29	Missouri	MO
	31	Nebraska	NE
	38	North Dakota	ND
	46	South Dakota	SD
5. Southeast Region (SEST)	01	Alabama	AL
	05	Arkansas	AR
	12	Florida	FL
	13	Georgia	GA
	21	Kentucky	KY
	22	Louisiana	LA
	28	Mississippi	MS
	37	North Carolina	NC
	45	South Carolina	SC
	47	Tennessee	TN
	51	Virginia	VA
54	West Virginia	WV	

Table continues

Region code, name, and abbreviation	State or region FIPS code	State or region name	Abbreviation
6. Southwest Region (SWST)	04	Arizona	AZ
	35	New Mexico	NM
	40	Oklahoma	OK
	48	Texas	TX
7. Rocky Mountain Region (RKMT)	08	Colorado	CO
	16	Idaho	ID
	30	Montana	MT
	49	Utah	UT
	56	Wyoming	WY
8. Far West Region (FWST)	02	Alaska	AK
	06	California	CA
	15	Hawaii	HI
	32	Nevada	NV
	41	Oregon	OR
	53	Washington	WA

FIPS Federal Information Processing Standards

BEA Modifications to FIPS Codes

BEA combined code	Place names and FIPS codes
15901 Maui and Kalawao, HI	15005 Kalawao 15009 Maui
51901 Albermarle + Charlottesville, VA	51003 Albermarle 51540 Charlottesville
51903 Alleghany + Covington, VA	51005 Alleghany 51580 Covington
51907 Augusta + Staunton + Waynesboro, VA	51015 Augusta 51790 Staunton 51820 Waynesboro
51911 Campbell + Lynchburg, VA	51031 Campbell 51680 Lynchburg
51913 Carroll + Galax, VA	51035 Carroll 51640 Galax
51918 Dinwiddie + Colonial Heights + Petersburg, VA	51053 Dinwiddie 51570 Colonial Heights 51730 Petersburg
51919 Fairfax, Fairfax City + Falls Church, VA	51059 Fairfax 51600 Fairfax City 51610 Falls Church
51921 Frederick + Winchester, VA	51069 Frederick 51840 Winchester

Table continues

BEA combined code	Place names and FIPS codes
51923 Greenville + Emporia, VA	51081 Greenville 51595 Emporia
51929 Henry + Martinsville, VA	51089 Henry 51690 Martinsville
51931 James City + Williamsburg, VA	51095 James City 51830 Williamsburg
51933 Montgomery + Radford, VA	51121 Montgomery 51750 Radford
51939 Pittsylvania + Danville, VA	51143 Pittsylvania 51590 Danville
51941 Prince George + Hopewell, VA	51149 Prince George 51670 Hopewell
51942 Prince William + Manassas + Manassas Park, VA	51153 Prince William 51683 Manassas 51685 Manassas Park
51944 Roanoke + Salem, VA	51161 Roanoke 51775 Salem
51945 Rockbridge + Buena Vista + Lexington, VA	51163 Rockbridge 51530 Buena Vista 51678 Lexington
51947 Rockingham + Harrisonburg, VA	51165 Rockingham 51660 Harrisonburg
51949 Southampton + Franklin, VA	51175 Southampton 51620 Franklin
51951 Spotsylvania + Fredericksburg, VA	51177 Spotsylvania 51630 Fredericksburg
51953 Washington + Bristol, VA	51191 Washington 51520 Bristol
51955 Wise + Norton, VA	51195 Wise 51720 Norton
51958 York + Poquoson, VA	51199 York 51735 Poquoson
55901 Shawano (incl. Menominee), WI (prior to 1989)	55078 Menominee 55115 Shawano

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