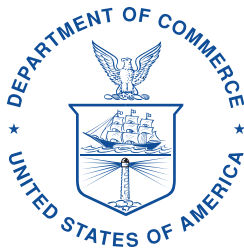


Summary of Methodologies: Puerto Rico Gross Domestic Product

Methods and data sources used
to estimate annual measures of
GDP for Puerto Rico
August 2023



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Abbreviations

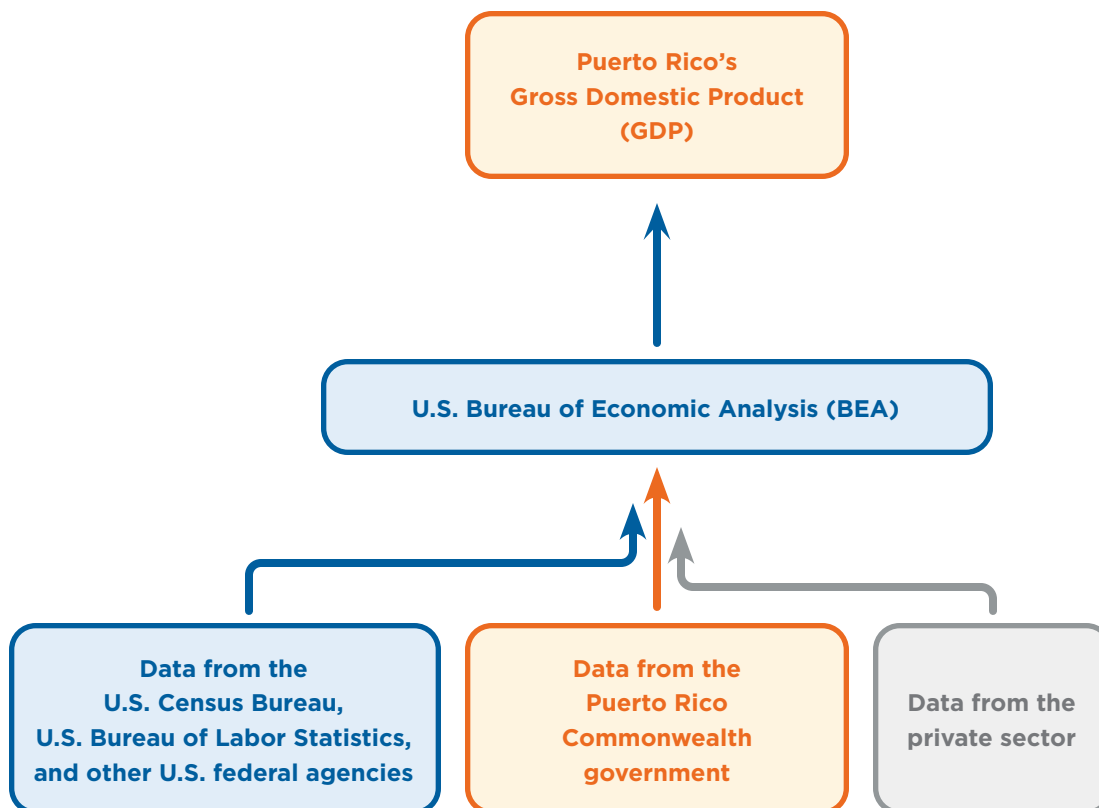
The following table provides a comprehensive list of the abbreviations used in this document:

Abbreviation	Description
BEA	U.S. Bureau of Economic Analysis
BLS	U.S. Bureau of Labor Statistics
BTS	U.S. Bureau of Transportation Statistics
CBP	County Business Patterns
CDBG-DR	Community Development Block Grant for Disaster Recovery
CFC	Consumption of fixed capital
CIPI	Change in private inventories
CMS	Centers for Medicare & Medicaid Services
CPI	Consumer price indexes
ECIA	Economic Census of Island Areas
FEMA	Federal Emergency Management Agency
FPDS	Federal Procurement Data System
GDP	Gross domestic product
GUIA	Puerto Rico United Automobile Importers' Group
IPEDS	Integrated Postsecondary Education Data System
NCES	National Center for Education Statistics
NIPA	National Income and Product Accounts
NSF	National Science Foundation
PCE	Personal consumption expenditures
PFI	Private fixed investment
QCEW	Quarterly Census of Employment and Wages
R&D	Research and development

Part I.

Introduction

- 1.1. The methodologies used by the U.S. Bureau of Economic Analysis (BEA) to estimate Puerto Rico's gross domestic product (GDP) are consistent with the methods used by BEA to estimate GDP for the United States (excluding the territories). Information from the U.S. Census Bureau's Economic Census of Island Areas (ECIA) is used to establish levels of spending, or benchmarks, for specific components for 2012 and 2017, as described below. For other years, annual indicator series are developed using a combination of data sets collected by BEA from federal agencies, the Puerto Rico Commonwealth government, and the private sector. These data sets are listed in *Appendix A: Source Data for Current-Dollar Gross Domestic Product* beginning on page 12.



Part II.

Estimates of current-dollar gross domestic product

- 2.1. GDP for Puerto Rico is estimated using the expenditures approach, i.e., as the sum of goods and services sold to final users. It is calculated by summing personal consumption expenditures, private fixed investment, change in private inventories, net exports of goods and services, and government consumption expenditures and gross investment. These components are described in more detail below.

Personal consumption expenditures

- 2.2. Personal consumption expenditures (PCE) measures the goods and services purchased by “persons”—that is, by households and by nonprofit institutions serving households—who are resident in Puerto Rico.
- 2.3. For most PCE goods components, levels of spending for economic census years are estimated using the commodity-flow method. This method begins with estimates of the domestic output of a commodity based on manufacturers’ shipments from the ECIA. Then, estimates of the domestic supply of that commodity—the amount that is available for domestic consumption—are prepared by adding imports and by subtracting exports and inventory change. Data on imports and exports of goods are from the Census Bureau’s U.S. Trade with Puerto Rico and U.S. Possessions (FT895) and U.S. International Trade in Goods and Services (FT900) reports, and inventory change is calculated using end-of-year inventory levels from the ECIA. Domestic supply of each commodity is allocated to final purchasers using class of customer shares from the ECIA.¹

1. BEA’s estimates reflect the incorporation of special tabulations of data from the ECIA. The Census Bureau reviewed the special tabulations for unauthorized release of confidential information and approved the disclosure avoidance practices applied (Approval ID: CBDRB-FY20-090). However, it notes that caution should be exercised in the use and interpretation of these data, which are suppressed or otherwise not included in the public release on the Census Bureau website. BEA reviewed and incorporated these data in order to replace judgmental estimates.

- 2.4. For most PCE services components, spending is benchmarked using ECIA data on the consumer shares of sales by industry.² However, for some services, the ECIA does not fully reflect all consumer expenditures measured in GDP, and so other data sources are used to benchmark estimates of PCE services. For housing services, information on average rents, number of housing units, and housing values from the Census Bureau's Decennial Census of Population and Housing or the Puerto Rico Community Survey is used to estimate a benchmark level for 2010.³ Calendar year 2012 values are derived by extrapolating with annual data from the Puerto Rico Community Survey. For electric and other utility services, financial and insurance services, and education services, the data sources used to establish levels of spending for 2012 are the same as the annual data sources listed in appendix table A.
- 2.5. Note that the goods and services components described above reflect on-island spending by both residents and nonresidents. To ensure that aggregate PCE reflects spending only by Puerto Rico residents (including their spending while traveling outside of Puerto Rico), PCE is adjusted for net spending on foreign travel. "Net foreign travel," which equals foreign travel expenditures by Puerto Rico residents less expenditures in Puerto Rico by nonresidents, is shown as a separate category in the PCE tables for Puerto Rico.
- 2.6. Most types of spending by nonresidents are estimated using average expenditures in Puerto Rico, by type of visitor, multiplied by the number of nonresident visitors. Average expenditures by type are benchmarked using the Puerto Rico Planning Board's visitor profile surveys for 2012 and 2017. The number of nonresident visitors is estimated from U.S. Bureau of Transportation Statistics (BTS) data on airplane passenger flight segments, origins, and destinations, in addition to Puerto Rico government data on ship passenger arrivals.
- 2.7. Nonresident spending on domestic airport services and on education services are estimated separately. Spending on airport services is benchmarked using ECIA revenues and class of customer data for related industries. Spending on education services is estimated from National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) data for tuition revenues and student enrollment.
- 2.8. Annual spending by residents abroad is estimated using the number of residents traveling outside of Puerto Rico from the BTS and the Puerto Rico government data sets referenced above, multiplied by average expenditures on foreign travel. Most of these expenditures are for off-island purchases and are estimated using data from the Puerto Rico Planning Board's visitor profile surveys. Resident spending on higher education outside of Puerto Rico is estimated from NCES IPEDS data for tuition revenues and student enrollment.

2. Prior to the release of the 2017 ECIA, data on consumer shares of sales by industry were not available for Puerto Rico for sectors other than manufacturing, wholesale trade, and retail trade. For the 2012 estimates of PCE services, BEA used class of customer shares derived from various sources, including the 2017 ECIA for Puerto Rico, the 2012 ECIA for the U.S. Virgin Islands, and the 2012 U.S. Economic Census.

3. The Puerto Rico Community Survey is a part of the Census Bureau's American Community Survey.

Private fixed investment

- 2.9. Private fixed investment (PFI) measures spending by private businesses, nonprofit institutions, and households on fixed assets in the Puerto Rico economy. Fixed assets consist of structures, equipment, and intellectual property products that are used in the production of goods and services.
- 2.10. For PFI in structures, all years are estimated using detailed value put in place data from the Puerto Rico Planning Board's Construction Survey. Beginning in 2017, supplemental data sets are used to estimate residential and nonresidential construction funded by federal disaster assistance and disaster-related insurance payouts. Federal disaster assistance to individuals for major home repairs is estimated using data from the Federal Emergency Management Agency (FEMA) and the Puerto Rico Department of Housing. Disaster-related insurance payouts used for major repairs to residential and commercial property are estimated using data from the Puerto Rico Office of the Commissioner of Insurance.
- 2.11. Investment in manufactured homes and brokers' commissions on residential structures are estimated separately. For economic census years, the level for manufactured homes is estimated using ECIA retail sales for manufactured home dealers. Brokers' commissions on residential structures is estimated as a share of the aggregate dollar value of annual home sales, which is based on the number of housing units sold and average sales prices from the Puerto Rico Office of the Commissioner of Financial Institutions.
- 2.12. For PFI in equipment, estimates are constructed using largely the same sources and methods as PCE goods. Commodity-flow estimates in the economic census years are prepared using manufacturers' shipments from the ECIA and Census Bureau data on imports and exports of goods from the FT895 and FT900 reports, and spending is allocated to PFI using class of customer data.
- 2.13. For PFI in intellectual property products, sources and methods vary by component.
- 2.14. PFI in software is benchmarked separately for custom, own-account, and prepackaged software. For custom software, the domestic supply is benchmarked to ECIA industry receipts data for computer systems design and then allocated to business spending using class of customer information from the 2017 ECIA. For own-account and prepackaged software, information on business spending is limited. The domestic supply of own-account software and of prepackaged software is benchmarked using U.S. Bureau of Labor Statistics (BLS) Occupational Employment Survey data and ECIA data on sales of software and related products, respectively. The supply is then allocated to business using U.S. shares derived from BEA's National Income and Product Accounts (NIPAs).

- 2.15. PFI in research and development (R&D) is benchmarked separately for computer service providers, all other businesses, and nonprofit institutions. For computer service providers, information on payments for R&D made by computer service providers is used to establish a benchmark level for 2011. An estimate for 2012 is extrapolated based on global R&D expenditures reported in publicly filed company financial statements. All other business R&D investment is benchmarked using ECIA industry receipts for scientific R&D services and National Science Foundation (NSF) survey data on business-funded R&D expenditures of Puerto Rico higher education institutions. Nonprofit R&D investment is prepared for all years using NSF survey data on nonprofit-funded or self-funded R&D expenditures of Puerto Rico private higher education institutions.
- 2.16. PFI in entertainment originals is benchmarked in economic census years using ECIA industry receipts for entertainment-related industries within the information sector, such as television broadcasting, motion picture and sound recording industries, and book publishing.
- 2.17. In all other years, the components of PFI are interpolated or extrapolated using indicators developed from the data sets listed in appendix table A.

Change in private inventories

- 2.18. Change in private inventories (CIPI) is a measure of the value in current prices of the change in the physical volume of the inventories—additions less withdrawals—that businesses maintain to support their production and distribution activities. CIPI, or “private inventory investment,” differs from the change in the book value of inventories reported by most businesses, which is valued using a variety of accounting methods and thus may include holding gains or losses resulting from price changes. Holding gains and losses do not reflect current production and therefore are not included in GDP.
- 2.19. Industry-level inventory book values, reported in the ECIA for the end of calendar years 2011, 2012, 2016, and 2017, must be revalued to the appropriate economic measure for GDP. Because direct data on inventory valuations and industry-specific prices are limited for Puerto Rico, BLS producer price indexes and BEA price indexes for U.S. inventory investment are used. The change in the revalued inventory levels equals CIPI for economic census years.
- 2.20. For other years, industry-level inventory book values are constructed using indicators developed from the data sets listed in appendix table A. Survey data on inventories are converted into estimates representing total inventories of all Puerto Rico businesses using information on sales by industry. These inventory levels are then revalued in the same manner as the benchmark year.

Net exports of goods and services

- 2.21. Net exports represents the difference between Puerto Rico exports and Puerto Rico imports. Exports measures the portion of total Puerto Rico production of goods and services that is provided to the rest of the world (including other countries, the 50 states, the District of Columbia, and the other U.S. territories); imports measures the portion of total Puerto Rico expenditures that is accounted for by goods and services provided by the rest of the world.
- 2.22. For exports and imports of goods, all years reflect values for shipments published in the Census Bureau's FT895 and FT900 reports.
- 2.23. For exports and imports of services, a variety of data sources are used to benchmark the estimates. In years other than the benchmark, the components of exports and imports of services are extrapolated using indicators developed from the data sets listed in appendix table A. For exports and imports of travel services, the same data sources are used that are described above in the net foreign travel component of PCE. Benchmark estimation methods for all other services are described below.

Exports of services

- 2.24. Exports of computer services including software is benchmarked using a commodity-flow approach. The total supply of computer services is estimated using ECIA industry receipts for the information sector. Exports of computer services are then estimated as total supply less purchases by business, government, and households.
- 2.25. Exports of R&D services is benchmarked using NSF survey data on business costs for R&D performed in Puerto Rico; these are the same data used to extrapolate annual exports of R&D services. To capture the profits earned by businesses selling R&D, a markup is calculated based on the ratio of revenues to expenses for the scientific R&D service industry, as reported in the ECIA.
- 2.26. For all other exports of services, all years are estimated using the data listed in appendix table A.

Imports of services

- 2.27. Imports of R&D services is currently measured only for computer service providers. The estimation method is the same as for R&D investment by computer service providers, described in the PFI section above.
- 2.28. For freight and insurance charges on goods imported from foreign countries, all years reflect data for charges from the Census Bureau's FT900 report. BEA is not aware of any regularly collected data sources for freight and insurance charges on goods imported to Puerto Rico from all other locations, including from the 50 states.

- 2.29. Currently, the estimate of charges on goods imported from all other locations is benchmarked to information provided by the Puerto Rico Planning Board for 2016 and extrapolated for all other years using BEA's estimates of imports of goods.
- 2.30. For all other imports of services, all years are estimated using the data listed in appendix table A.

Government consumption expenditures and gross investment

- 2.31. Government consumption expenditures and gross investment—or government spending—in Puerto Rico measures final expenditures accounted for by the central government (including the Commonwealth Government of Puerto Rico and its component units), the municipal governments, and the U.S. federal government.
- 2.32. Government consumption expenditures consists of spending by government agencies, except government enterprises, to provide goods and services to the public. Consumption expenditures include compensation of government employees, consumption of fixed capital (CFC), and purchases of intermediate goods and services. Sales to other sectors, which are the value of goods and services sold to the household and business sectors, are subtracted to prevent double-counting of the expenditures across the components of GDP.
- 2.33. Gross investment consists of spending by all government agencies, including government enterprises, for structures, equipment, and intellectual property products used in producing those goods and services. For government, investment in intellectual property products consists of spending on software and on R&D. Total government investment in software is benchmarked in a similar manner to PFI. The domestic supply for custom, own-account, and prepackaged software is benchmarked as described above in the PFI section. For custom software, the domestic supply is allocated to total government spending using class of customer information from the 2017 ECIA. For own-account and prepackaged software, the domestic supply is allocated to government spending using U.S. shares derived from the NIPAs. Government spending on software is then allocated across government sectors based on employment shares. For R&D, all years are estimated using NSF survey data as described in appendix table A.
- 2.34. The methods used to estimate all other components of central, municipal, and federal government spending are described on the following pages.

Central government

- 2.35. **Consumption expenditures.** Compensation of central government employees is estimated for all years using wage and salaries data from the BLS Quarterly Census of Employment and Wages (QCEW) and fringe benefits information from audited government financial statements for the Commonwealth and its component units. Other components of spending, including CFC and purchases of intermediate goods and services, are estimated using audited government financial statements.⁴ Sales to other sectors, such as net patient revenue of government hospitals and public university tuition revenues, are estimated using data from the Centers for Medicare & Medicaid Services, the NCES IPEDS, and government financial and budget data.
- 2.36. **Gross investment.** Gross investment in structures is primarily estimated using detailed value put in place data from the Puerto Rico Planning Board's Construction Survey and federal contract obligations data for construction work performed on central government structures from the Federal Procurement Data System (FPDS). Similar to private investment in structures, beginning in 2017, supplemental data sets were used to estimate central government construction funded by federal disaster grants and disaster-related insurance payouts. Federal disaster grants for public assistance are estimated using data from FEMA. Disaster-related insurance payouts used for major repairs to government property are estimated using data from the Puerto Rico Office of the Commissioner of Insurance. Gross investment in equipment is estimated using audited government financial statements, when available. Budgets for the general fund and government agencies are used to extrapolate estimates when audited financial statements are not available.

Municipal government

- 2.37. For the municipal government, compensation of government employees and investment in structures are estimated annually. All other components of government spending are benchmarked to 2012 and extrapolated for other years using the annual data sources listed in appendix table A.
- 2.38. **Consumption expenditures.** Compensation of government employees is estimated for all years using wage and salaries data from the QCEW and fringe benefits information from the Puerto Rico Planning Board. CFC and purchases of intermediate goods and services are benchmarked using audited government financial statements for all municipal governments. Sales to other sectors are also benchmarked using the same data sources.
- 2.39. **Gross investment.** Gross investment in structures is estimated for all years using detailed value put in place data from the Puerto Rico Planning Board's Construction Survey. Beginning in 2017, estimates for construction by municipal governments were supplemented with data on federal disaster grants from FEMA. Gross investment in equipment is benchmarked using audited government financial statements for all municipal governments.

4. There are considerable lags in the availability of audited financial statements. For years that financial statements are not yet available, other data sources are used. See appendix table A.

Federal government

- 2.40. **Consumption expenditures.** For the federal government, compensation of government employees is estimated for all years using wage and salaries data from the QCEW and the U.S. Department of Defense and ratios of fringe benefits to wages and salaries for federal government employees derived from the NIPAs. Estimates of CFC for all years are derived from gross investment estimates using a perpetual inventory method.⁵ Purchases of intermediate goods and services are estimated using federal contract obligations data from the FPDS.
- 2.41. **Gross investment.** Gross investment in structures and equipment are also estimated for all years using federal contract obligations data from the FPDS, adjusted to exclude construction work performed on government assets included in central government gross investment above.

5. See chapter 4 of the “[NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts](#).”

Part III.

Estimates of real gross domestic product

- 3.1. Inflation-adjusted, or “real,” estimates of GDP and its components are derived within a Fisher chain-type index framework. For most of the detailed components of GDP, inflation-adjusted estimates are calculated by deflating each component using an appropriate price index. Because of the limited availability of price indexes that are specific to Puerto Rico, U.S. price indexes are used for deflation in many cases.

Personal consumption expenditures

- 3.2. Puerto Rico consumer price indexes (CPIs) from the Puerto Rico Department of Labor and Human Resources, U.S. PCE price indexes from BEA, and U.S. CPIs from BLS are used to deflate most of the detailed components of consumer spending. Notable exceptions include gasoline, utilities, and housing. Real gasoline consumption is estimated using quantity information on consumption from the Puerto Rico government. Real utilities services are estimated using quantity information on residential consumption from the Energy Information Administration. Real owner-occupied and tenant-occupied housing services are estimated using quantity information on unit counts from the Census Bureau’s Puerto Rico Community Survey.

Private fixed investment

- 3.3. U.S. PFI price indexes from BEA and producer price indexes from BLS are used to deflate most of the detailed components. Currently, there are no Puerto Rico-specific price indexes covering capital goods purchased by businesses in Puerto Rico.

Change in private inventories

- 3.4. The method for adjusting CIPI for inflation differs from other components. End-of-year inventory stocks are first estimated, adjusted for inflation, and aggregated. Real CIPI is then calculated as the difference between the aggregated inflation-adjusted stocks.

Net exports of goods and services

- 3.5. For exports and imports of goods, a variety of price indexes are used, including U.S. import, export, and producer prices from BLS and Puerto Rico CPIs. Note that the BLS International Price Program treats Puerto Rico as part of the United States, and thus, import and export indexes reflect prices for goods traded between Puerto Rico and foreign countries. The prices paid and received by Puerto Rico, however, cannot be separately identified from the rest of the United States. For exports and imports of services, price indexes from BEA's estimates of U.S. trade in services are used.

Government consumption expenditures and gross investment

- 3.6. For government compensation, information on average wages and salaries derived from the BLS QCEW is used to deflate federal, central, and municipal compensation. For other components of government spending, government price indexes from the NIPAs are used.

Appendix A.

Source data for current-dollar gross domestic product

Table A. Source Data for Current-Dollar Gross Domestic Product

Component	Annual estimates: key source data used to prepare an extrapolator or interpolator
Personal consumption expenditures	
Goods	
Durable goods	
Motor vehicles and parts	For motor vehicles, Puerto Rico United Automobile Importers' Group (GUIA) data for unit sales and U.S. Bureau of Labor Statistics (BLS) U.S. CPIs for new and used vehicles; for parts, Puerto Rico Economic Development Bank data for retail sales of automotive parts, accessories, and tire stores and Puerto Rico Department of Treasury tabulations of declared sales by industry from the Sales and Use Tax Return.
Other durable goods	U.S. Census Bureau data for equipment imports other than motor vehicles and parts, BLS Quarterly Census of Employment and Wages (QCEW) wages for retail industries and selected manufacturing industries, and Puerto Rico Department of Treasury tabulations of declared sales by industry from the Sales and Use Tax Return.
Nondurable goods	
Food and beverages	Census Bureau County Business Patterns (CBP) and QCEW wages for food and beverage manufacturing establishments and Census Bureau data for food and beverage imports.
Gasoline and other energy goods	Puerto Rico Economic Development Bank data on gasoline consumption and Puerto Rico Department of Consumer Affairs data on gasoline average prices.
Other nondurable goods	For apparel and footwear, Census Bureau data for imports of these goods; for all other goods, QCEW wages for retail stores.

Table continues

Component	Annual estimates: key source data used to prepare an extrapolator or interpolator
Services	
Housing and utilities	For housing, Census Bureau Puerto Rico Community Survey Public Use Microdata Sample housing data on rents, values, tenure, unit counts, and unit characteristics; for utilities, U.S. Energy Information Administration data for residential revenues of electric utilities, Puerto Rico government financial and operating statement data for other utilities.
Health care	For hospitals, Centers for Medicare & Medicaid Services (CMS) data for net patient revenues; for other health care, QCEW wages for health care facilities other than hospitals.
Food services and accommodations	For food services, QCEW and CBP wages for food service and drinking establishments and Puerto Rico Department of Treasury tabulations of declared sales by industry from the Sales and Use Tax Return; for accommodations, Puerto Rico Tourism Company data for number of rented room nights and average room rates for endorsed hotels.
Other services	For financial services, Federal Deposit Insurance Corporation call report data, Puerto Rico Office of the Commissioner of Insurance data for insurance premiums and expenses; for public transportation services, U.S. Department of Transportation data for public transportation fare revenues; for higher education services, National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) data for tuition revenues; for other education services, Puerto Rico Council of Education data for enrollment and average tuition; for communication services, Puerto Rico Department of Telecommunications statistics on the telecommunications industry and Puerto Rico Department of Labor and Human Resources consumer price indexes for telephone and other information services; for recreation services, Puerto Rico Department of Treasury tabulations of declared sales by industry from the Sales and Use Tax Return, Puerto Rico Department of Treasury information on legal gambling bets, and QCEW wages by industry; for services when annual indicators listed above are not available, QCEW wages by industry.
Net foreign travel	For foreign travel expenditures by Puerto Rico residents (excluding off-island education expenditures), U.S. Bureau of Transportation Statistics (BTS) Air Carrier Statistics (T-100) data for airplane passenger flight segments, BTS Origin and Destination Survey (DB1B) data for airplane tickets, Puerto Rico Ports Authority data for ship passenger arrivals and U.S. Bureau of Economic Analysis (BEA) U.S. personal consumption expenditures (PCE) price indexes for selected goods and services; for off-island education expenditures by Puerto Rico residents, NCES IPEDS data. For expenditures in Puerto Rico by nonresidents (excluding education expenditures), BTS T-100 data for airplane passenger flight segments, Puerto Rico Ports Authority data for ship passenger arrivals, Puerto Rico Planning Board data for sea passengers, Puerto Rico Tourism Company data for hotel registrations, Puerto Rico Department of Labor and Human Resources consumer price indexes for selected goods and services, and U.S. PCE price indexes for clothing; for education expenditures in Puerto Rico by nonresidents, NCES IPEDS data.

Table continues

Component	Annual estimates: key source data used to prepare an extrapolator or interpolator
Gross private domestic investment	
Fixed investment	
Structures	For residential and nonresidential structures, Puerto Rico Planning Board Construction Survey data for value of private-sector construction activity, Census Bureau data for imports of manufactured buildings, Federal Emergency Management Agency (FEMA) Individual Assistance data, Puerto Rico Department of Housing data for expenditures of Community Development Block Grant for Disaster Recovery (CDBG-DR) funds, Puerto Rico Office of the Insurance Commissioner data for private insurance property claims; for brokers' commissions on residential structures, Puerto Rico Office of the Commissioner of Financial Institutions data for number of housing units and average sales prices.
Equipment	For all equipment except autos and light trucks, Census Bureau data for equipment imports and exports, QCEW wages for selected manufacturing and retail industries, Puerto Rico Department of Treasury tabulations of declared sales by industry from the Sales and Use Tax Return; for autos and light trucks, GUIA data for unit sales of autos and BLS U.S. CPIs for new and used vehicles.
Intellectual property products	For prepackaged software, QCEW data for total private employment and BEA price index for U.S. investment in prepackaged software; for custom and own-account software, QCEW data for total private employment, QCEW data for computer systems design industry wages and employment, and BEA price indexes for U.S. investment in custom and own-account software; for research and development (R&D) investment of computer service providers, publicly filed company financial statements reporting global R&D expenditures; for R&D investment of all other businesses, National Science Foundation (NSF) survey data on business-funded R&D expenditures of Puerto Rico higher education institutions and Planning Board receipts for stand-alone research labs; for R&D investment of nonprofits, NSF survey data on nonprofit-funded or self-funded R&D expenditures of Puerto Rico higher education institutions; for investment in entertainment originals, BEA estimates of U.S. private fixed investment in entertainment originals.
Change in private inventories	Puerto Rico Treasury Department data for business inventories from tabulations of tax returns by industry, Puerto Rico Planning Board survey data on inventories and sales by industry, Puerto Rico Planning Board estimates of total sales by industry, publicly filed company financial statement data on inventories from the Puerto Rico Department of State, Puerto Rico Department of Economic Development and Commerce selected financial data on corporations, U.S. BLS producer price indexes, and BEA price indexes for U.S. inventory investment.

Table continues

Component	Annual estimates: key source data used to prepare an extrapolator or interpolator
Net exports of goods and services	
Exports	
Goods	Census Bureau data for exports of goods from the U.S. Trade with Puerto Rico and U.S. Possessions (FT895) and the U.S. International Trade in Goods and Services (FT900) reports.
Services	
Travel (for all purposes)	For exports of travel services (excluding education expenditures), BTS T-100 data for airplane passenger flight segments, Puerto Rico Ports Authority data for ship passenger arrivals, Puerto Rico Planning Board data for sea passengers, Puerto Rico Tourism Company data for hotel registrations, Puerto Rico Department of Labor and Human Resources consumer price indexes for selected goods and services, and U.S. PCE price indexes for clothing; for education expenditures in Puerto Rico by nonresidents, NCES IPEDS data.
Other	For computer services such as software licenses and downloads, Puerto Rico Planning Board data for computer manufacturing and computer service sales, QCEW employment for software publishing, and BEA price indexes for U.S. investment in software; for R&D services, NSF survey data on business costs for R&D performed in Puerto Rico; for exports of maintenance and repair services, Census Bureau FT895 and FT900 data for the value of repairs and alterations and data for revenues from maintenance, repair, and overhaul service company annual reports; for all other services, Puerto Rico Planning Board data for exports of services not covered above.
Imports	
Goods	Census Bureau data for imports of goods from the FT895 and FT900 reports.
Services	
Travel (for all purposes)	For imports of travel services (excluding off-island education expenditures), BTS T-100 data for airplane passenger flight segments, BTS DB1B data for airplane tickets, Puerto Rico Ports Authority data for ship passenger arrivals and BEA U.S. PCE price indexes for selected goods and services; for off-island education expenditures by Puerto Rico residents, NCES IPEDS data.
Other	For R&D services imported by computer service providers, publicly filed company financial statement data reporting global R&D expenditures; for freight and insurance charges on goods imported from foreign countries, Census Bureau FT900 data for charges; for freight and insurance charges on goods imported from the 50 states and the District of Columbia, BEA estimates of inflation-adjusted imports of goods; for air passenger transportation services, BTS T-100 data for airplane passenger flight segment data and DB1B Survey data for airplane tickets; for insurance services, Puerto Rico Office of the Insurance Commissioner data for premiums, losses, and administrative expenses of foreign insurers; for imports of maintenance and repair services, Census Bureau FT895 data for the value of repairs or alterations of goods; for all other services, Puerto Rico Planning Board data for imports of services not covered above.

Table continues

Component	Annual estimates: key source data used to prepare an extrapolator or interpolator
Government consumption expenditures and gross investment	
Federal	
Government consumption expenditures	For compensation of federal government employees, QCEW data for federal civilian wages, U.S. Department of Defense data for military wages and personnel counts, and BEA U.S. National Income and Product Accounts compensation tables for ratios of fringe benefits to wages; for intermediate purchases of goods and services, Federal Procurement Data System (FPDS) contract obligations data.
Gross investment	
Structures	FPDS contract obligations data for construction and major repairs of structures.
Equipment and intellectual property products	For equipment, FPDS contract obligations data for purchases and major repairs of equipment; for software, QCEW data for federal employment, QCEW data for computer systems design industry employment and wages, and BEA price indexes for U.S. investment in prepackaged, custom, and own-account software; for R&D investment, NSF survey data on federally funded R&D performed in Puerto Rico.
Central	
Government consumption expenditures	For compensation of central government employees, QCEW data for “state” government wages, audited government financial statement and budget data for wages and fringe benefits; for all other consumption expenditures, audited government financial statement data, general fund and agency budget data, unaudited operating and financial statements, Puerto Rico Planning Board data for intermediate purchases, and FEMA data for public assistance grants for Hurricanes Maria and Irma; for sales to other sectors, CMS data for net patient revenues, the NCES IPEDS data for tuition revenues, audited government financial statement data, and general fund and agency budget data.
Gross investment	
Structures	Puerto Rico Planning Board Construction Survey data for value of construction activity for the central government (including public utilities and other government enterprises), FPDS contract obligations data for construction performed on central government structures, QCEW wages for construction and engineering industries, and FEMA data for public assistance grants.
Equipment and intellectual property products	For equipment investment, audited government financial statement and budget data; for software, QCEW data for “state” government employment, QCEW data for computer systems design industry employment and wages, and BEA price indexes for U.S. investment in prepackaged, custom, and own-account software; for R&D investment, NSF survey data on R&D funded by central government agencies and institutions, including public universities.

Table continues

Component	Annual estimates: key source data used to prepare an extrapolator or interpolator
Municipal	
Government consumption expenditures	For compensation of municipal government employees, QCEW data for “local” government wages and Puerto Rico Planning Board estimates of municipal government employee fringe benefits; for all other consumption expenditures, audited financial statement data of the 15 largest municipal governments and general fund budget data of the other municipalities.
Gross investment	
Structures	Puerto Rico Planning Board Construction Survey data for value of construction activity for the municipal governments (excluding construction funded by FEMA public assistance grants) and FEMA data for expenditures of public assistance grants.
Equipment and intellectual property products	For equipment, audited financial statement data of the 15 largest municipal governments and general fund budget data of the other municipalities; for software, QCEW data for “local” government employment, QCEW data for computer systems design industry employment and wages, and BEA price indexes for U.S. investment in prepackaged, custom, and own-account software.

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