

# **Puerto Rico GDP Project: Prototype Estimates For 2012–2018**

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BEA Advisory Committee Meeting

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# Outline of presentation

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- Project background
- Summary of results
- Future directions

- Prototype estimates of Puerto Rico GDP and its components were released September 28, 2020
  - Current-dollar and inflation-adjusted
  - Annual estimates, 2012–2018
- Estimates build on prototype estimates of consumer spending, private fixed investment, and net exports of goods that were released in October 2019
- “Prototype” means this is a new product and BEA is seeking input from stakeholders on data sources

1. If there were no constraints regarding availability of relevant data sources, what measures would you find most useful given BEA's limited resources?
  
2. Given the constraints in timeliness and frequency of relevant data sources, would the acceleration or higher-frequency estimation of specific GDP components still be useful for your purposes?
  
3. Are you aware of opportunities to improve timeliness/availability of data for GDP?
  - To address lags in government financial statements
  - To address key data gaps:
    - Price indexes specific to Puerto Rico
    - R&D activity in Puerto Rico

- Using a model that is similar to the approach used for the other 4 U.S. territories:
  - Use existing Federal and Puerto Rico government data sources
  - Estimate expenditure components of GDP
- Methodology depends on data on the value of trade with the rest of the world, including the 50 states
- Currently, it is not possible to estimate Puerto Rico GDP using the same methods we use for state-level GDP
  - Would require that Puerto Rico be included in many more of the federal government's data collection processes

- The Puerto Rico government already produces its own economic accounts, including GDP and GNP
- However, the methods the local government uses have not been updated for many years and do not follow the latest international guidelines
- **BEA's goal: Produce modernized GDP estimates using currently available data**
  - New statistics use different methods from the Puerto Rico government
  - Methods follow international guidelines
  - Improves comparability with other data that BEA produces for the nation, states, and other territories

# Methods: BEA vs Puerto Rico government

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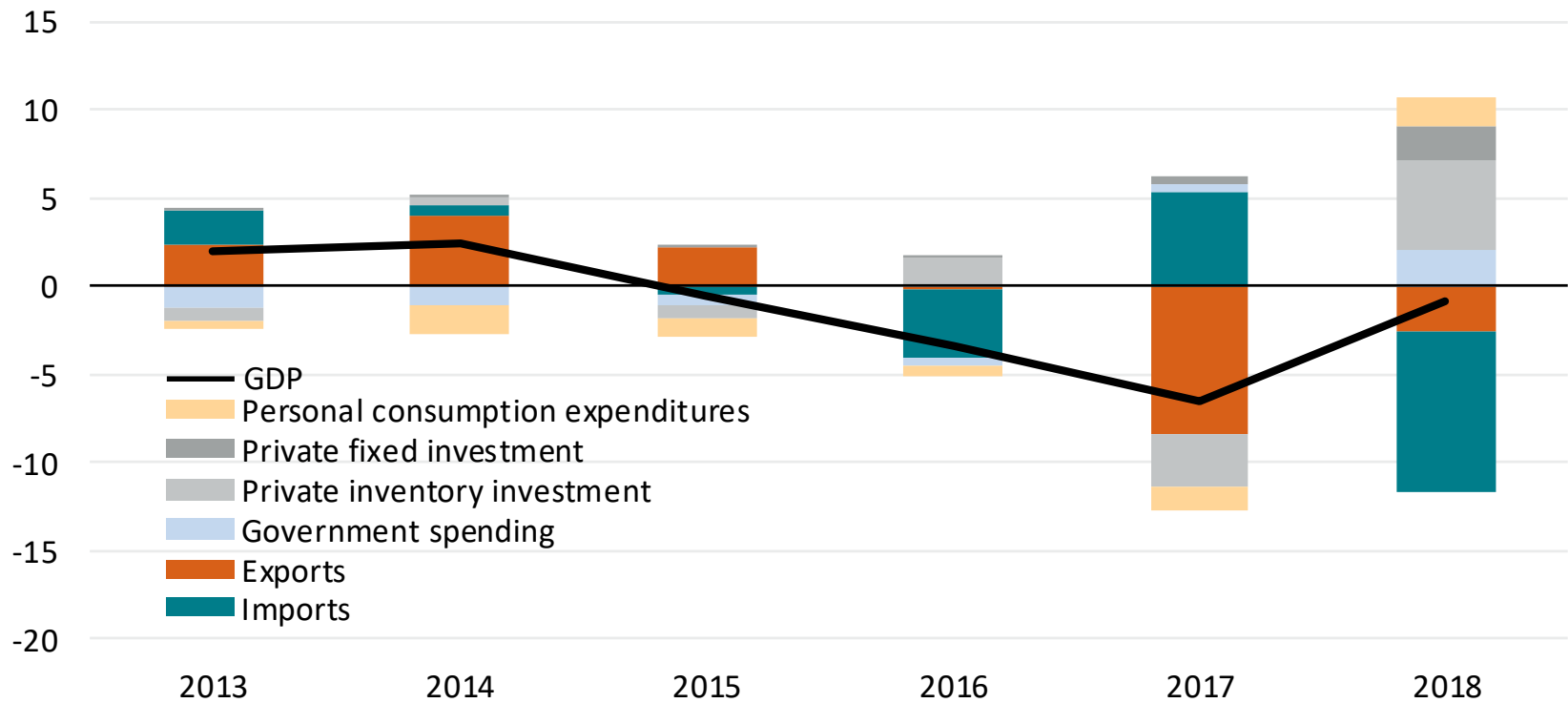
- Chain-type indexes (2012 reference year) vs Fixed-weighted indexes (1954 base year)
- Benchmarking consumer spending, private fixed investment, and inventory investment to 2012 Economic Census of Island Areas
- Incorporation of “big” data sets covering services provided by hospitals, education, nonprofits, and airlines; and federal government spending
- Treating expenditures on intellectual property products (e.g., software, R&D) as investment
- Inflation-adjustment performed at a finer level of detail
- Calendar year vs fiscal year estimation

# Results



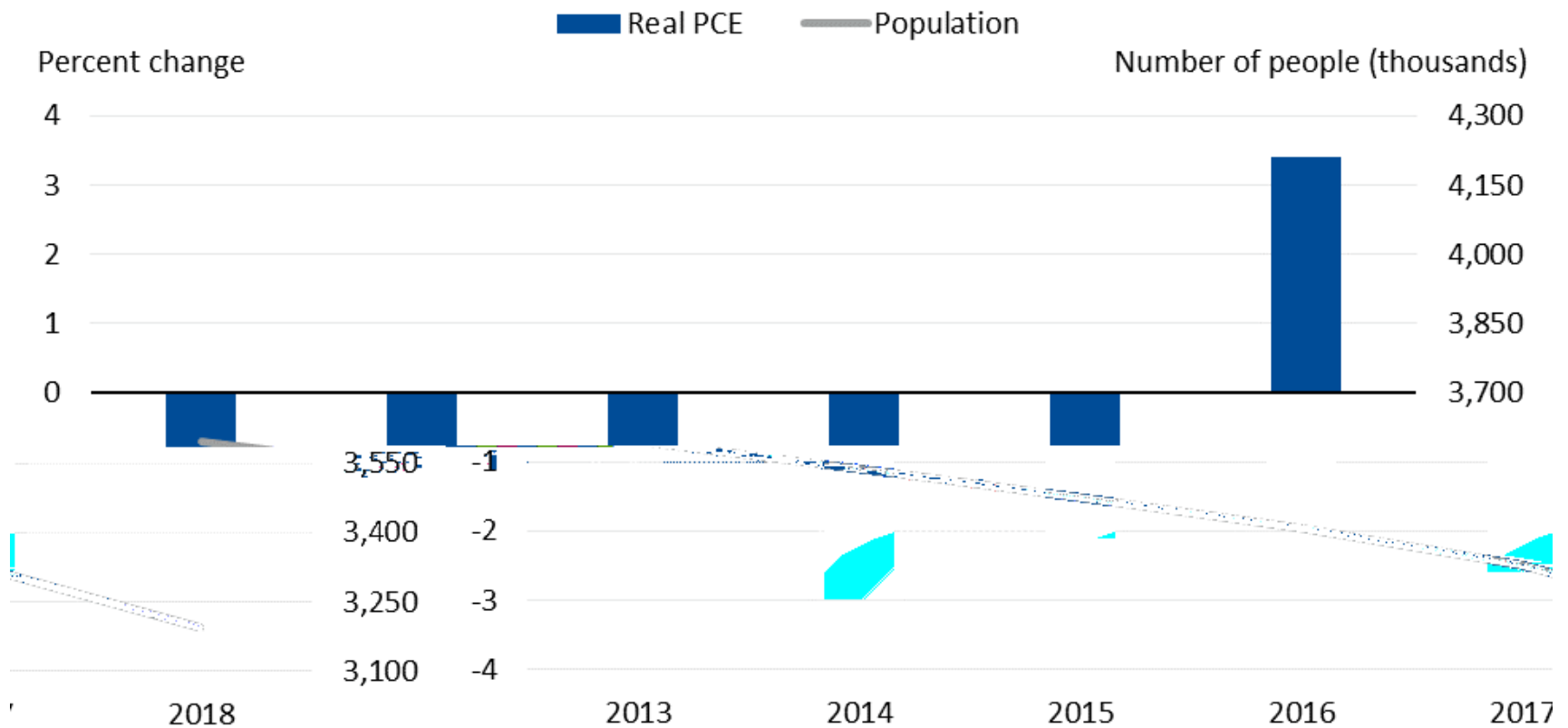
## Chart 1. Puerto Rico: Contributions to Percent Change in Real GDP

Percentage points



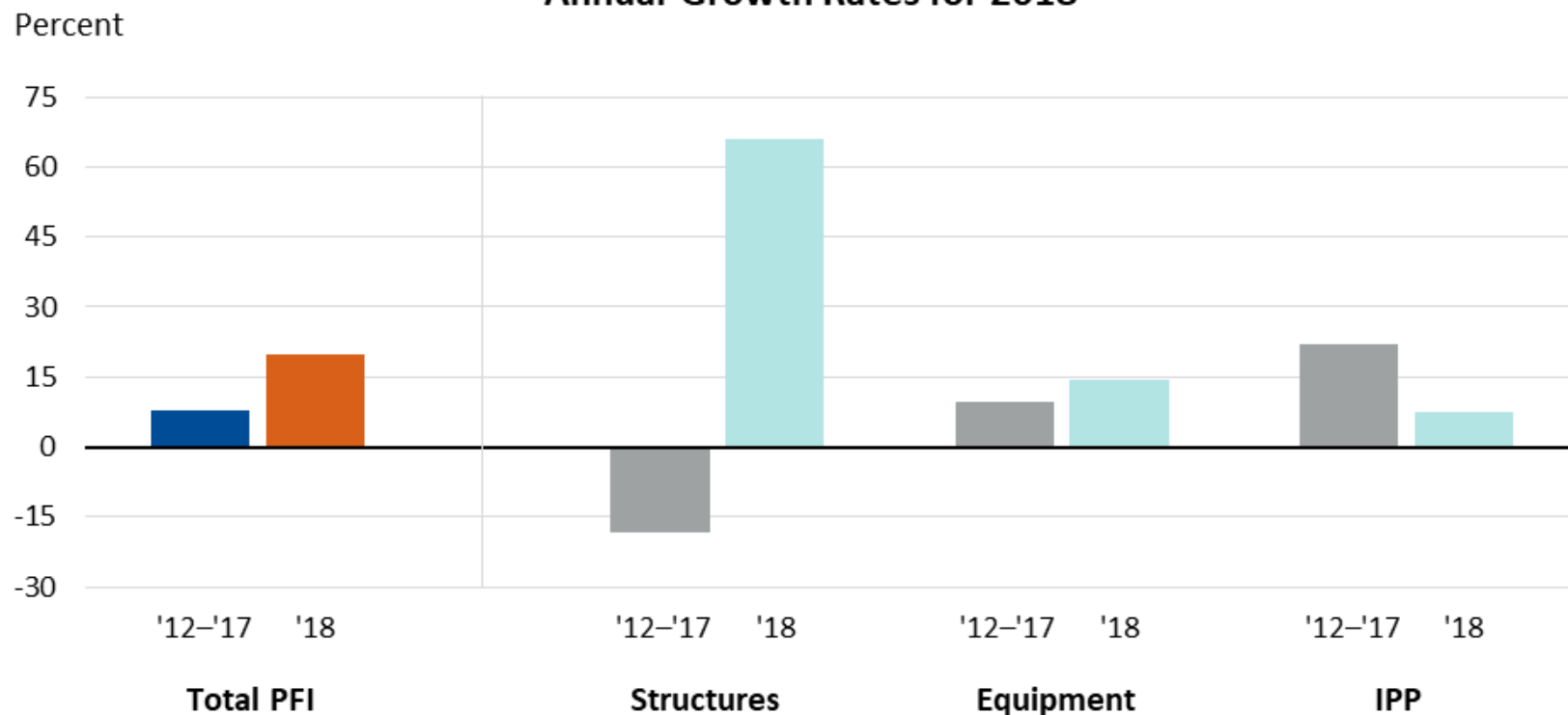
U.S. Bureau of Economic Analysis

## Chart 2. Puerto Rico: Real PCE and Population



U.S. Bureau of Economic Analysis; U.S. Census Bureau, Population Division

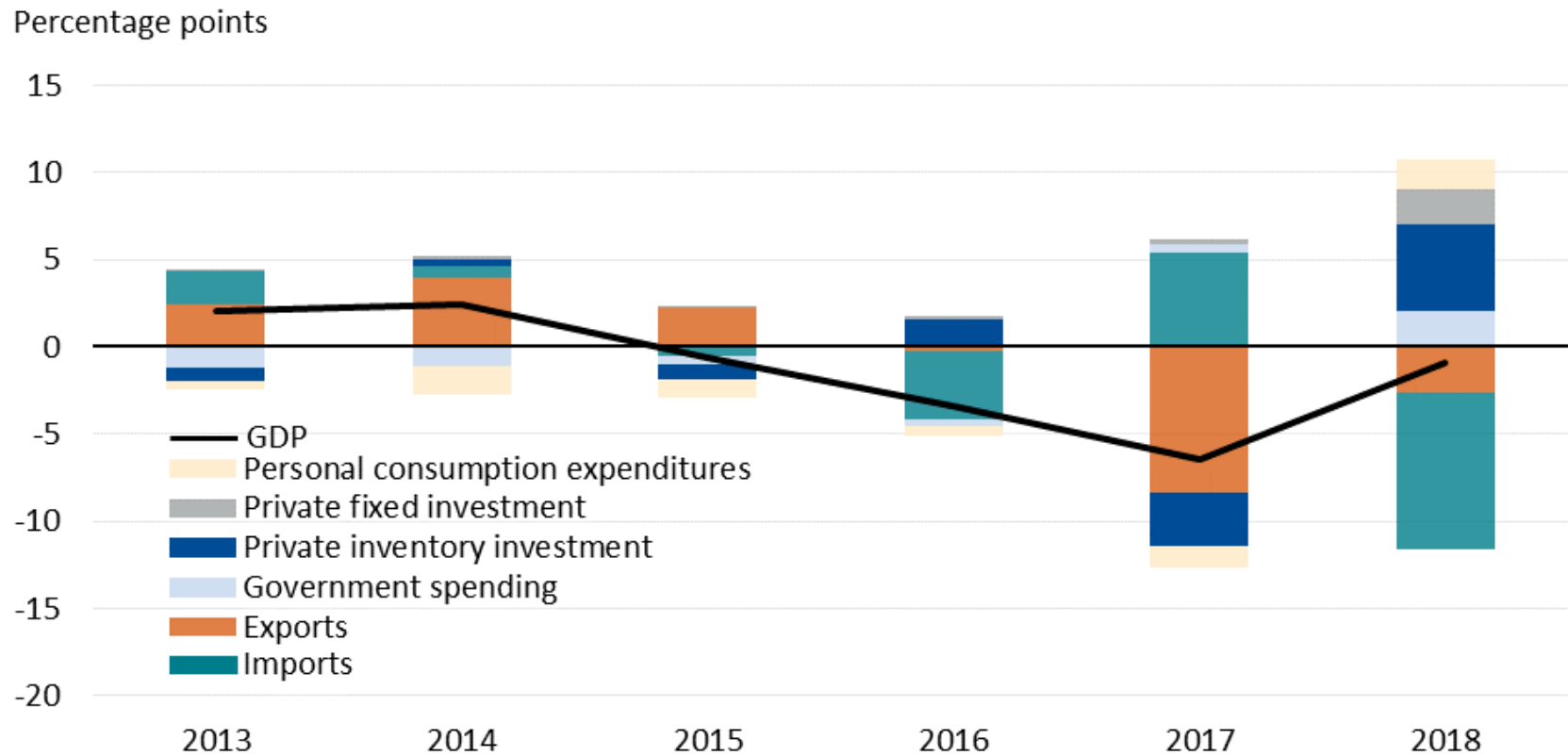
### Chart 3. Puerto Rico Real PFI: Cumulative Growth Rates From 2012 to 2017 and Annual Growth Rates for 2018



U.S. Bureau of Economic Analysis

# Private inventory investment

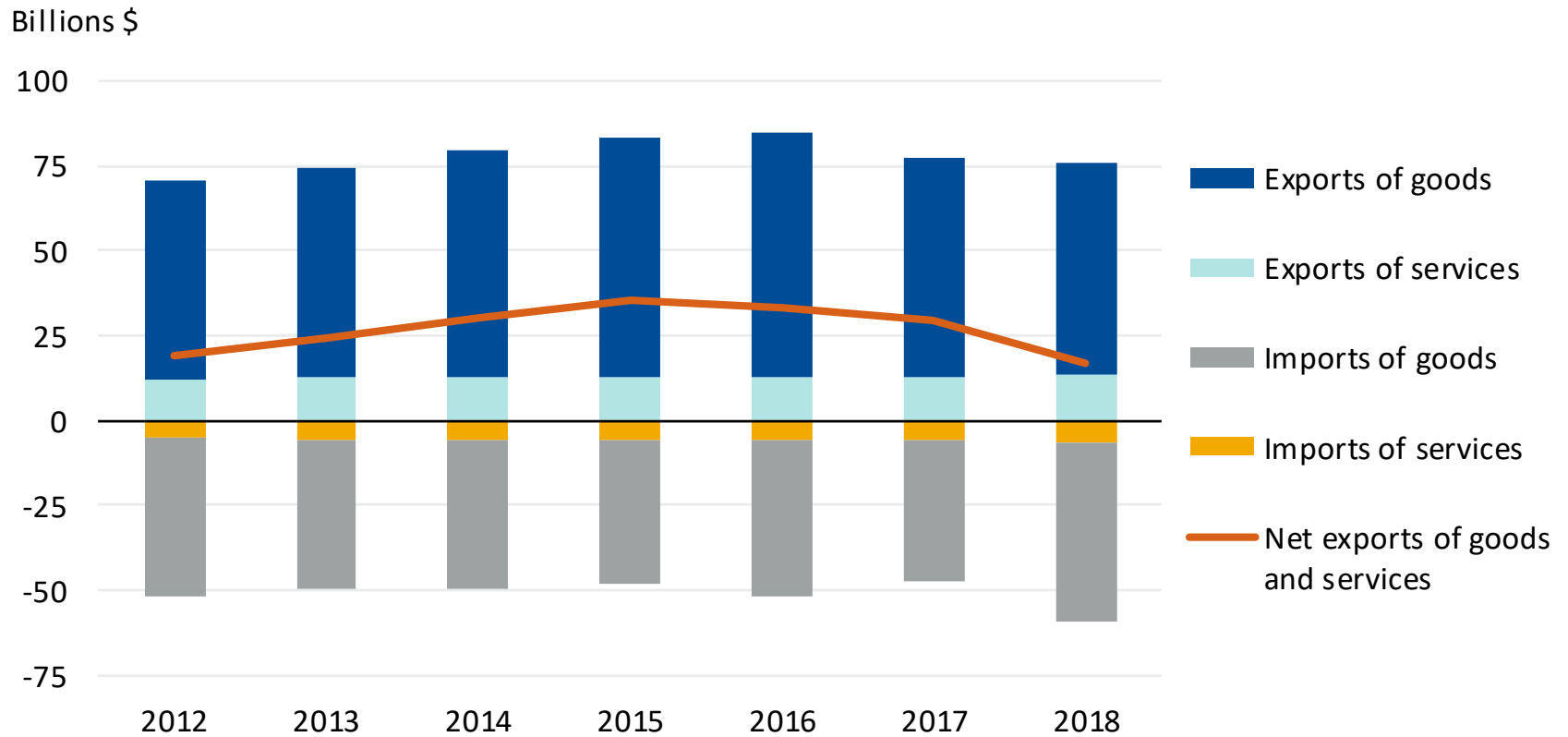
## Puerto Rico: Contributions to Percent Change in Real GDP



U.S. Bureau of Economic Analysis

# Net exports of goods and services

### Chart 4. Puerto Rico: Net Exports of Goods and Services

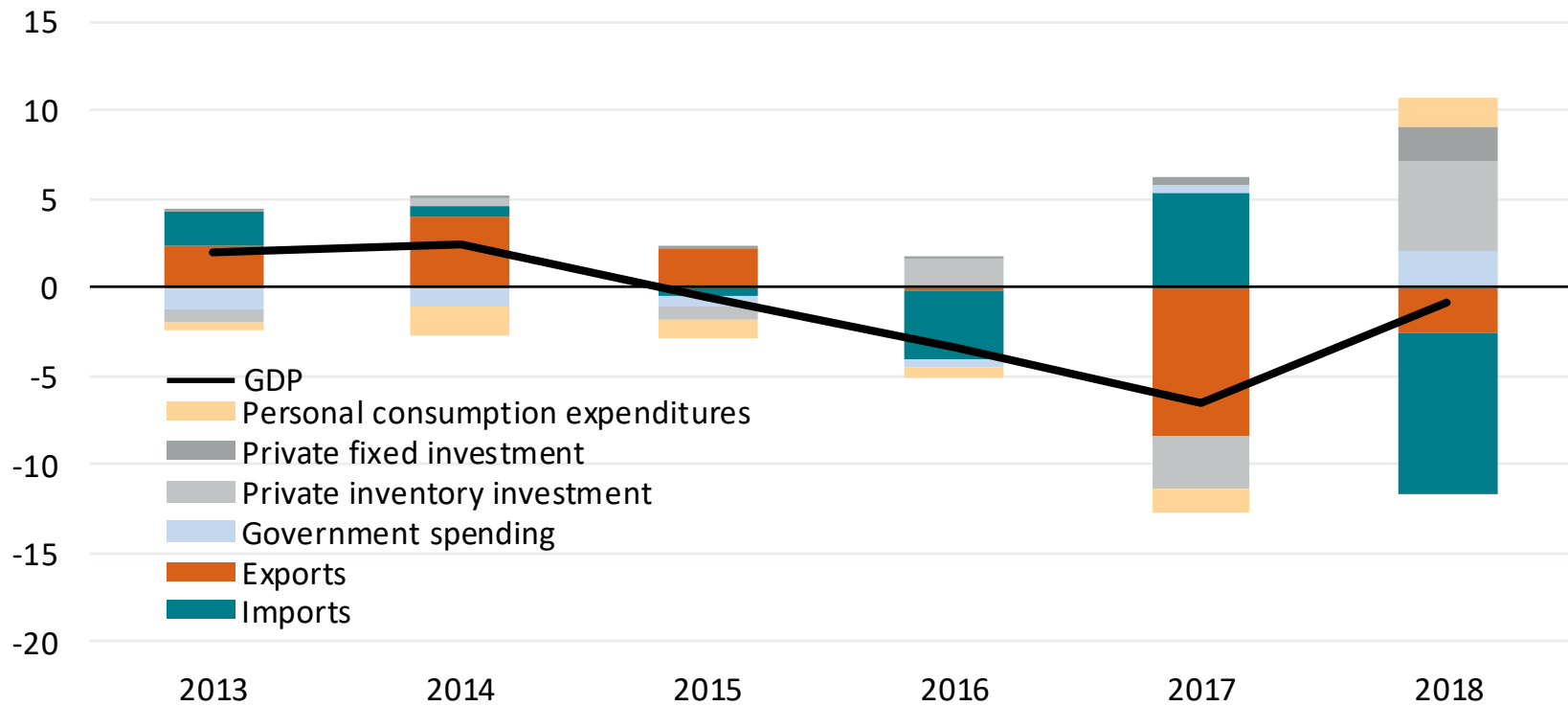


U.S. Bureau of Economic Analysis

# Net exports of goods and services

## Chart 1. Puerto Rico: Contributions to Percent Change in Real GDP

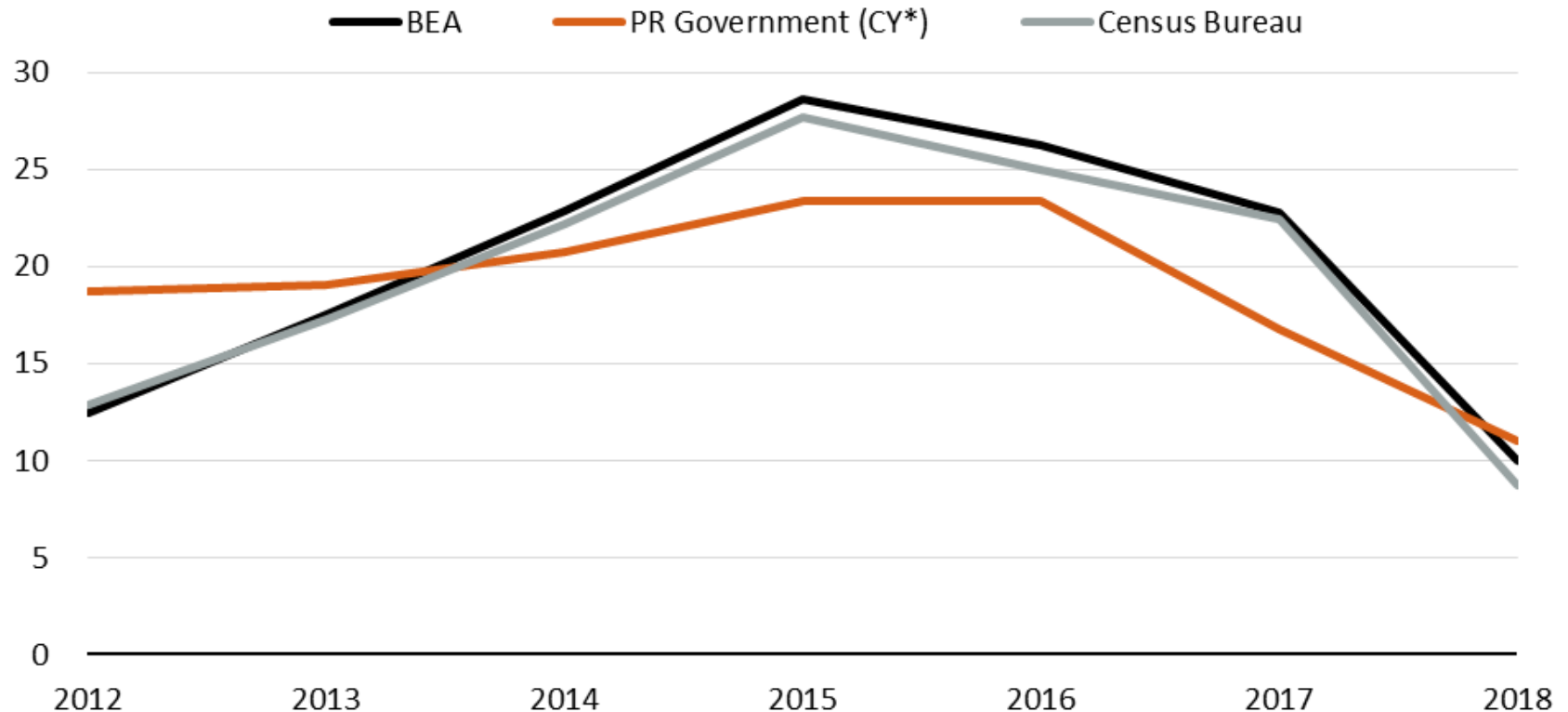
Percentage points



U.S. Bureau of Economic Analysis

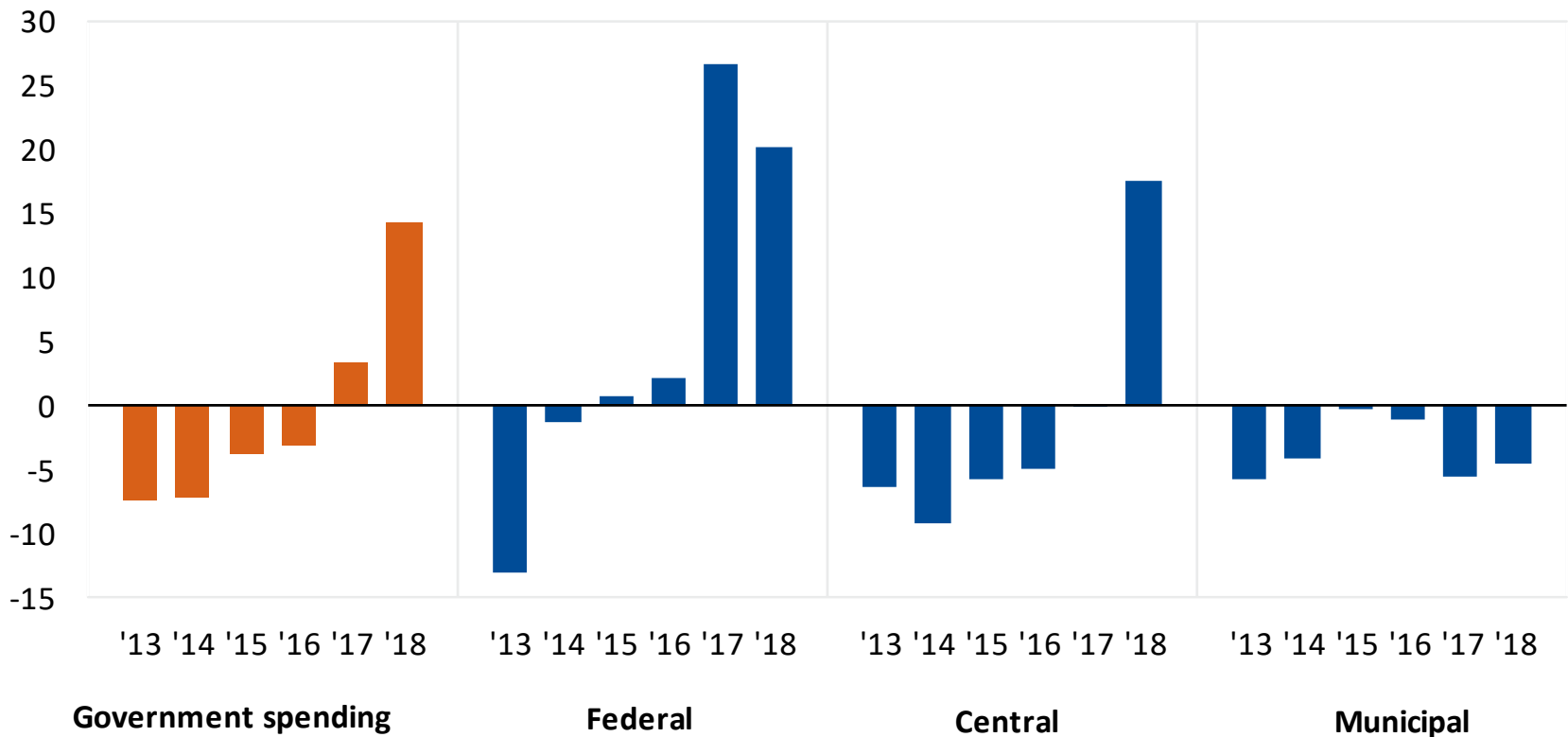
# Comparing the trade balance in goods

## Puerto Rico: Goods Trade Balance, Billions of Dollars



Note: For comparison purposes, we have averaged the published Planning Board fiscal year data to represent calendar years.  
U.S. Bureau of Economic Analysis; Puerto Rico Planning Board; U.S. Census Bureau

**Chart 5. Puerto Rico Real Government Spending: Percent Change From Preceding Year**

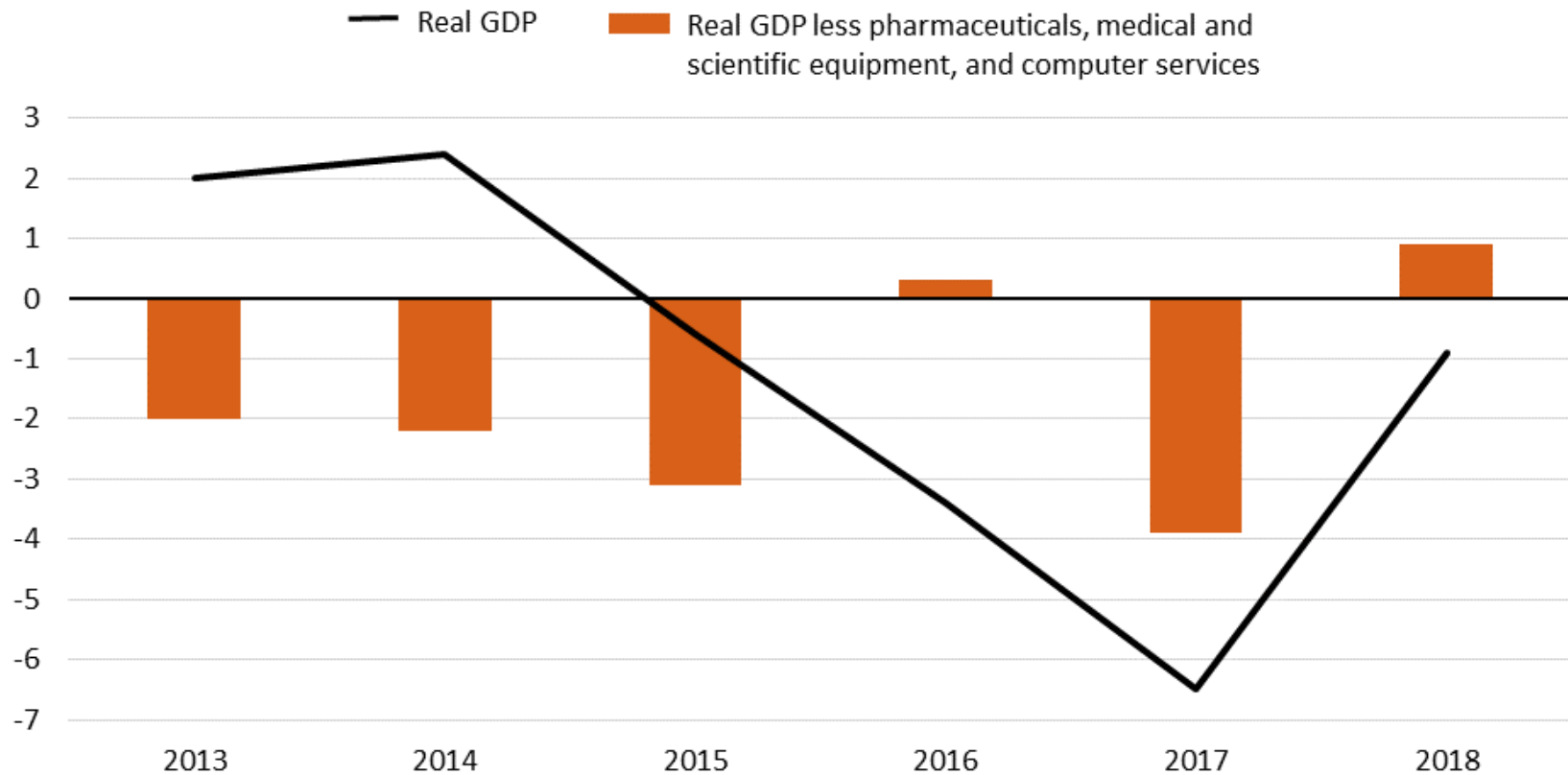


U.S. Bureau of Economic Analysis



# Research focus: GDP less IP-intensive products

## Puerto Rico Real GDP: Percent Change From Preceding Year



U.S. Bureau of Economic Analysis

# Looking forward

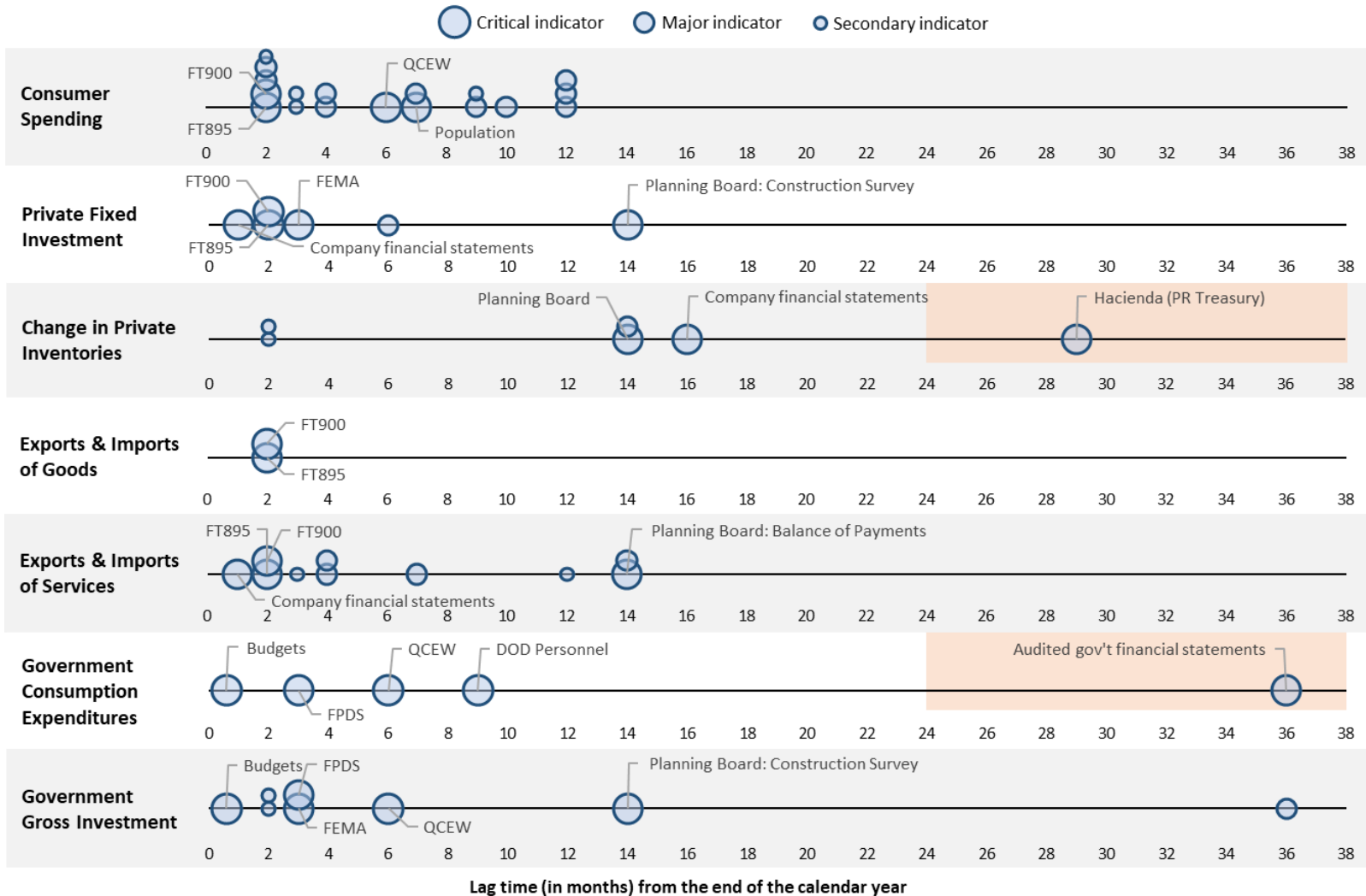
- In FY 2021, the estimates will cover CY 2012-2019
- BEA will:
  - Benchmark the estimates to the 2017 Economic Census of Island Areas which is scheduled to be released in December
  - Publish Puerto Rico GDP and components as official, regularly produced statistics
    - Finalize methodology
    - Finalize publication detail

## "Menu" of improvements to BEA's economic statistics for Puerto Rico

	Item	Major challenges using currently available data
1a	Accelerate GDP	Long lags in data for certain components, such as government financial statements.
1b	Accelerate specific components of GDP	
2a	Estimate quarterly GDP	Several Puerto Rico government data sources, including construction survey data, data for inventories, and audited government financial statements, are not available at a quarterly frequency. Some federal sources are also only annual, such as Puerto Rico Community Survey data on housing and Centers for Medicare and Medicaid Services (CMS) data for hospital patient revenues.
2b	Estimate quarterly measures of specific components of GDP	
3	Estimate GNP	Requires the estimation of income flows developed using methods and source data consistent with current BEA standards. For U.S. GNP, this estimation largely relies on data collected from BEA's direct investment surveys. These surveys include Puerto Rico as part of the United States and therefore do not collect data on income flows between Puerto Rico and the 50 states or between Puerto Rico and foreign countries.
4	Personal income	Need to conduct research on what Puerto Rico-specific data are available to estimate proprietors' income and social benefits.
5	Longer historical time series	Need to determine availability of historical periods of all source data.

# Lag time for required data sources

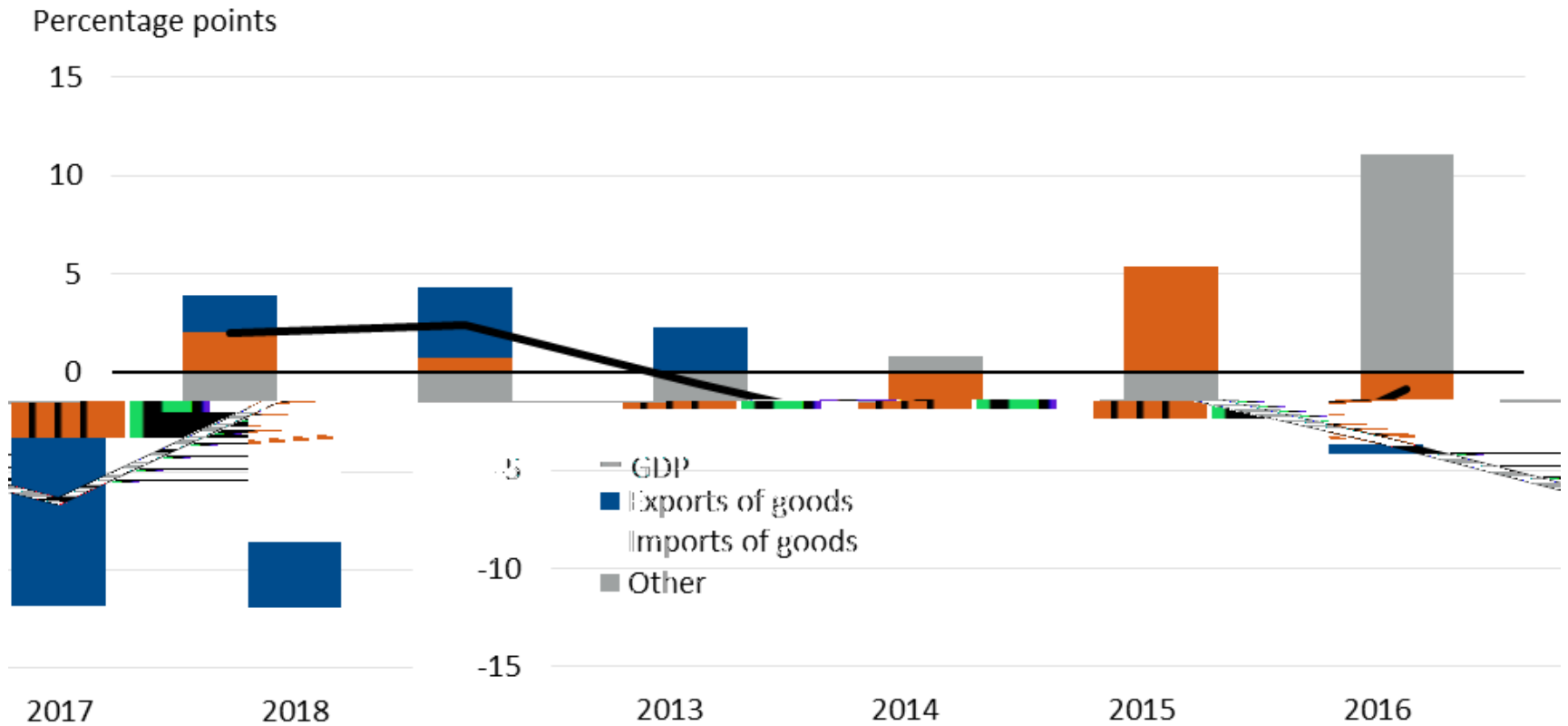
**Lag Time (in Months) and Importance of Data Sources to Accelerate Puerto Rico GDP, by Component**



Note: Lag times are usually estimated based on the latest release we have available as timeframes may vary significantly from year to year for unpublished data.

# Importance of exports and imports to GDP

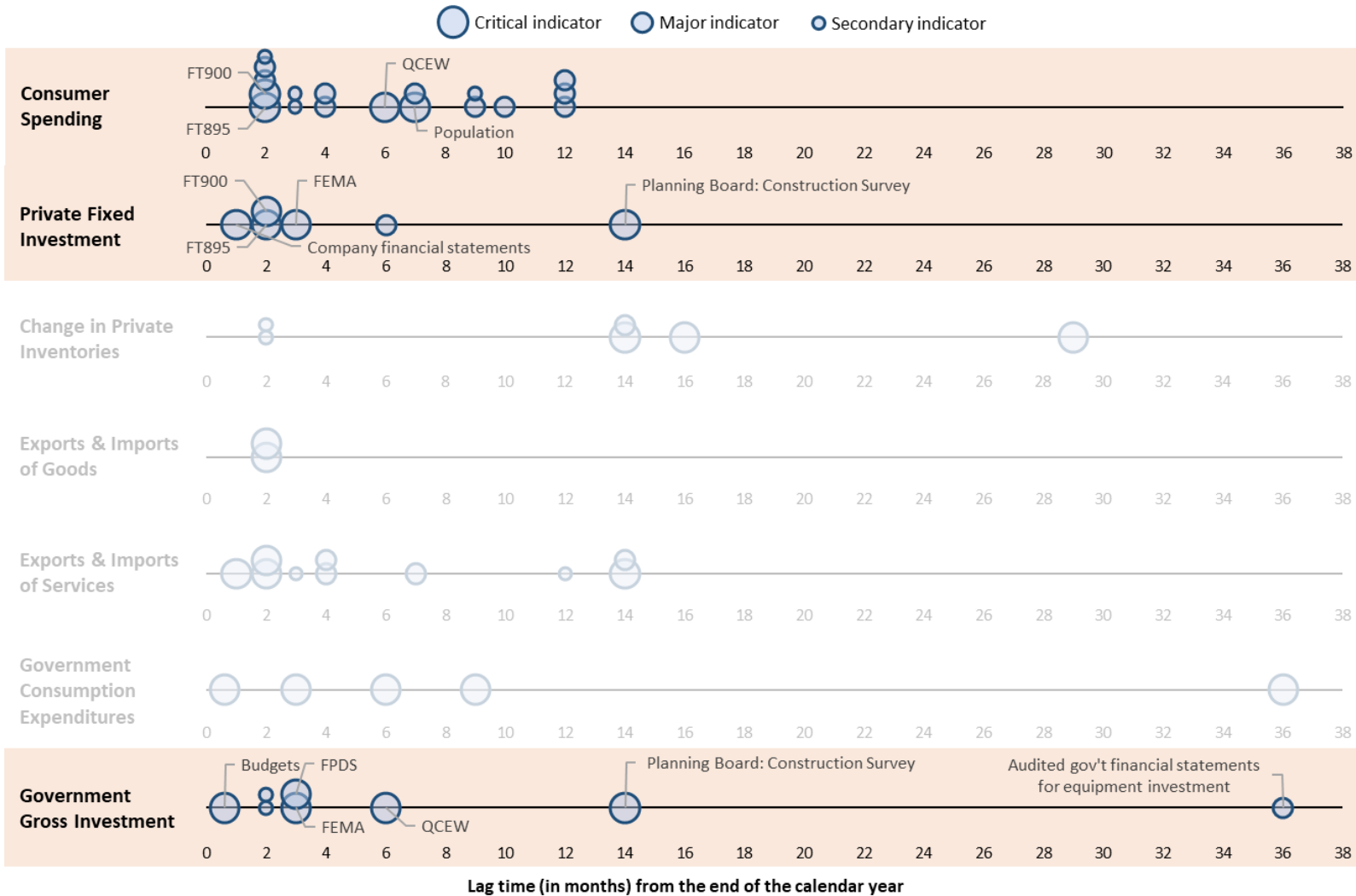
## Puerto Rico: Contributions to Percent Change in Real GDP



U.S. Bureau of Economic Analysis

# Lag time for required data sources (again)

**Lag Time (in Months) and Importance of Data Sources to Accelerate Puerto Rico GDP, by Component**



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# Risk: Loss of critical data covering PR

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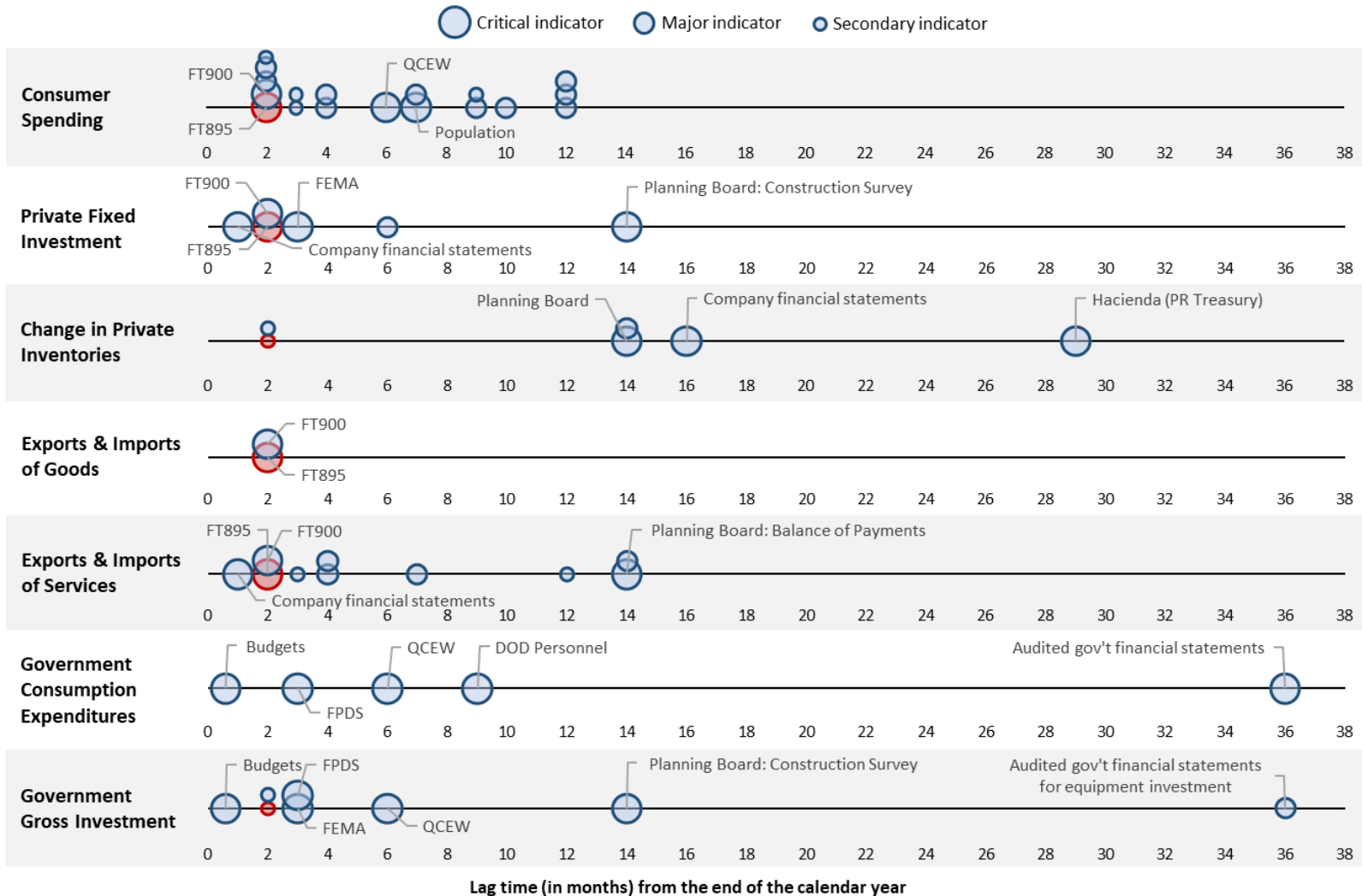


- Prototype GDP estimates show the importance of trade in goods to the Puerto Rico economy
- The estimates of trade in goods depend on data that are collected by the Census Bureau as a by-product of the Electronic Export Information (EEI) regulation
- There has been a push from some groups to have the Commerce Department to eliminate the EEI filing requirement for Puerto Rico
  - Federal Register Notice posted by Census Bureau seeking comment on the impact of the removal of this requirement; comment period ends 11/16
- **Without a high-quality alternative data source, it is not possible for BEA to continue to produce GDP estimates for Puerto Rico**
  - There is currently no substitute for the EEI-sourced trade data
  - Methodology requires data on the value of trade with the rest of the world, incl. the 50 states



# Lag time for required data sources (again x2)

**Lag Time (in Months) and Importance of Data Sources to Accelerate Puerto Rico GDP, by Component**



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Thank you

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- Economic Development Administration
- Census Bureau
- Puerto Rico government agencies
  - Department of Economic Development and Commerce
  - Planning Board
  - Institute of Statistics
  - Hacienda (Treasury Department)
  - ...and many others

# Contact information

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