

Preview of the 2018 Comprehensive Update of the National Income and Product Accounts



Pamela Kelly, Erich H. Strassner, and David B. Wasshausen

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Background on Comprehensive Updates



- Opportunity to introduce major changes to improve the accuracy and relevance of BEA's Economic Accounts
- Generally of three major types:
 - Statistical changes to introduce new/improved methods and to incorporate new/revised source data and to fill data gaps
 - Definitional changes to more accurately portray the evolving U.S. economy
 - And to provide consistent international comparisons
 - Presentational changes to provide additional data or perspective for users

Major Changes for the 2018 Comprehensive Update



- Incorporated 2012 Benchmark Input-Output (I-O) accounts
- Improved measures of private fixed investment
- Improved measures of financial services
- Harmonized treatment of government pensions
- Reclassified Federal Reserve payments to the U.S. Treasury
- Presentation of government investment in structures
- Improved seasonal adjustment
- New not seasonally adjusted (NSA) estimates beginning with 2002

- Benchmark I-O accounts establish both levels and commodity composition of GDP final use categories
 - Provide critical information for estimating GDP (by extrapolation) for periods after benchmark years
 - Based on Supply-Use Tables developed primarily from the 2012 economic census & international trade data
 - Provides balanced view of GDP measured by expenditure, income and production
 - Working detail about 900 industries and 5,000 products

- BEA is studying new data sources to improve the way we measure digital goods and services in the National Accounts
- Price indexes are an important piece of that
 - Software
 - Electro-medical equipment
 - Cell phones
- Accurate current-dollar measures are also important
 - Cloud computing
 - Software

- Packaged software PPI
 - Carrying back improvement introduced in last years AU
- Custom and own-account software currently reflect an input-cost based price index
 - Input-cost uses domestic wages for software developers
- Introduction of an explicit productivity adjustment to the input cost index

- Private fixed investment in electro-medical equipment over \$40 billion
- Rapid rates of product innovation
- Introducing new quality adjusted prices
 - Magnetic resonance imaging equipment
 - Ultrasound scanning devices
 - CT scan machinery

- Newly available QA price indexes introduced by the Federal Reserve Board
 - BEA first introduced FRB price indexes for communications equipment in 2010
- BLS CPI introduced new hedonic-based quality adjustment for smart phones in January 2018

- Own-Account IT Equipment Investment (FEDS Notes 10/4/2017)
 - “Why has IT equipment investment been so weak since 2007?”
- Agree that Byrne, Corrado and Sichel are on to something
 - Worked collaboratively across directorates and identified additional investment in computer hardware as part of the 2012 benchmarking process

- Critical analysis of the supply chain
- Reallocating selected imports to final demand
 - Impacted servers and storage devices
- Identified additional packaged software investment

Two more improvements for the 2018 comprehensive update:

- Incorporate capital services into the estimates of own-account investment in software and R&D
- Re-classify software R&D from software investment to R&D investment

- Improve financial services furnished without payment (AKA financial services indirectly measured or FISIM) for nonbank depository institutions
 - Adopt the reference-rate approach
 - Introducing borrowers' services
 - Previously only recognized depositors' services
- Bureau-wide FISIM working group developing recommendations to ensure consistency across account areas—e.g., International
- Research to expand FISIM to non-depository institutions

Harmonized Treatment of Government Pensions



- 2013 Comprehensive Revision of the NIPAs incorporated an accrual treatment for pensions
 - Accumulated Benefit Obligation (ABO)
 - Private
 - State and local
 - Projected Benefit Obligation (PBO)
 - Federal
- 2018 Comprehensive Update
 - Switch state and local from ABO to PBO
 - Impacts 1929-present
 - Imputed employer contributions (compensation)
 - Imputed interest on plans' claims on employers

Federal Current Receipts: NIPA table 3.2

	2014
1 Current receipts	3288.4
2 Current tax receipts	1995.0
3 Personal current taxes	1402.3
4 Taxes on production and imports	134.6
5 Taxes on corporate income	436.6
6 Federal Reserve banks	96.9
7 Other	339.7
8 Taxes from the rest of the world	21.5
9 Contributions for government social insurance	1140.9
10 Income receipts on assets	74.8
11 Interest receipts	23.5
12 Dividends	40.7
13 Rents and royalties	10.6
14 Current transfer receipts	86.1
15 Current surplus of government enterprises	-8.3



	2014
1 Current receipts	3288.4
2 Current tax receipts	1898.1
3 Personal current taxes	1402.3
4 Taxes on production and imports	134.6
5 Taxes on corporate income	339.7
6 Taxes from the rest of the world	21.5
7 Contributions for government social insurance	1140.9
8 Income receipts on assets	171.7
9 Interest receipts	23.5
10 Dividends	137.6
11 Federal Reserve banks	96.9
12 Other	40.7
13 Rents and royalties	10.6
14 Current transfer receipts	86.1
15 Current surplus of government enterprises	-8.3

Structures Investment: NIPA table 5.9

1929-1997 (5.9A)	1997-present (5.9B)
Buildings	Residential
Residential	Office
Industrial	Commercial
Educational	Health care
Hospital	Educational
Other	Public safety
Highways and streets	Amusement and recreation
Conservation and development	Transportation
Sewer systems	Power
Water systems	Highways and streets
Other	Sewer systems
	Water systems
	Conservation and development
	Other



1929-present
Residential
Office
Commercial
Health care
Educational
Public safety
Amusement and recreation
Transportation
Power
Highways and streets
Sewer systems
Water systems
Conservation and development
Other

- Moulton and Cowan (2016) detailed review of the NIPAs
 - Motivated in part by concerns of residual seasonality and “weak” Q1
 - Improvements to components of PCE services, inventory investment, and government spending introduced beginning in 2015; See Table 1, *Survey of Current Business* (April)
 - Will build on the PCE improvements in particular, based on QSR
- Conversion to Census Bureau’s X13 ARIMA-SEATS program
- Benefitted from close collaboration with partners, particularly Census Bureau
- Future annual updates will include minimum 5-year span

- Focused on NIPA 1.1.x and 1.10 level of detail
- Isolate specific time series and time spans for remedial seasonal adjustment
 - Required attention to sub-component series as well as aggregates
- Update of Moulton and Cowan (2016) in August *Survey of Current Business*

Strategy for Addressing Residual Seasonality

Table 1.1.x. Gross Domestic Product

Line	
1	Gross domestic product
2	Personal consumption expenditures
3	Goods
4	Durable goods
5	Nondurable goods
6	Services
7	Gross private domestic investment
8	Fixed investment
9	Nonresidential
10	Structures
11	Equipment
12	Intellectual property products
13	Residential
14	Change in private inventories
15	Net exports of goods and services
16	Exports
17	Goods
18	Services
19	Imports
20	Goods
21	Services
22	Government consumption expenditures and gross investment
23	Federal
24	National defense
25	Nondefense
26	State and local

Table 1.10. Gross Domestic Income by Type of Income

Line	
1	Gross domestic income
2	Compensation of employees, paid
3	Wages and salaries
4	To persons
5	To the rest of the world
6	Supplements to wages and salaries
7	Taxes on production and imports
8	Less: Subsidies \1\
9	Net operating surplus
10	Private enterprises
11	Net interest and miscellaneous payments, domestic industries
12	Business current transfer payments (net)
13	Proprietors' income with inventory valuation and capital consumption adjustments
14	Rental income of persons with capital consumption adjustments
15	Corporate profits with inventory valuation and capital consumption adjustments
16	Taxes on corporate income
17	Profits after tax with inventory valuation and capital consumption adjustments
18	Net dividends
19	Undistributed corporate profits with inventory valuation and capital consumption adjustments
20	Current surplus of government enterprises \1\
21	Consumption of fixed capital
22	Private
23	Government

- Prepared in parallel with the SA estimates
 - In most cases, NSA source data available
- Level of publication NIPA 1.1x (product side) and 1.10 (income side)
- SA estimates will still reflect an indirect (bottom up) approach to seasonal adjustment
 - The NSA estimates will allow for comparison of the two adjustment approaches (direct and indirect)

- Additional information may be found here:
<https://www.bea.gov/national/an1.htm#2018annualupdate>
 - Background materials
 - Including an *April Survey of Current Business* article
 - Table Changes
 - Dates for Table Publications