

Division 4-1

Request:

The proposed cost of capital shown on Schedule RBH-15 is based on a 6/30/17 adjusted capital structure. Does the Company have any plans to update this capital structure (other than the *pro forma* adjustments shown on Schedule RBH-12)? If so, please describe.

Response:

The Company intends to maintain its proposed target equity ratio, which is consistent with the proposed capital structure shown on Schedule RBH-12¹ (including *pro forma* adjustments) when it completes its refinancing plan. The timing and scope of the Company's refinancing plan is dependent on the outcome of its application regarding the issue of long-term debt in Division Docket No. D-17-36. Consistent with the process employed in RIPUC Docket No. 4323, the Company does not oppose updating its capital structure to reflect its actual capital structure when it completes its refinancing plan, which includes the issuance of long-term debt to refinance short-term debt and reimburse the treasury. However, the Company expects its actual capital structure at that point in time to be consistent with the capital structure ratios shown on Schedule RBH-12.

¹ See Bates Page 318 of Book 2.

Division 4-2

Request:

Schedule RBH-12 removes a negative \$0.97 million from equity for Other Comprehensive Income (i.e., increasing the equity balance by that amount). Please state:

- a. the reason for this adjustment; and
- b. any Rhode Island Commission precedent or approval authority for this adjustment.

Response:

- a. Accumulated Other Comprehensive Income (AOCI) in the Company's common equity balance is a noncash valuation adjustment recorded as an offset to another balance sheet account on the Company's books and does not support permanent assets in rate base. Therefore, it is inappropriate to include AOCI as a component of common equity in the determination of its capital structure for ratemaking purposes.
- b. In RIPUC Docket No. 4323, the Company, the Division of Public Utilities and Carriers, and the U.S. Department of the Navy (Settling Parties) agreed to the removal of AOCI from common equity. The Public Utilities Commission approved the Amended Settlement Agreement entered into among the Settling Parties in Docket No. 4323 authorizing the Company's capital structure excluding AOCI.

Division 4-3

Request:

Schedule RBH-12 removes \$2.245 million from the debt balance for unamortized debt discount. Please state:

- a. the reason for this adjustment; and
- b. any Rhode Island Commission precedent or approval authority for this adjustment.

Response:

- a. Schedule RBH-12 is incorrect. The adjustment for \$2.245 million from the balance for unamortized debt discount reconciles the difference between the "Total Long-Term Debt" balance reported in the Company's FERC Form 3-Q (which is \$845,219,000) with the sum of long-term debt issuances outstanding (as listed in Schedule RBH-13, which is \$847,464,000). The "Total Long-Term Debt" balance reported in the Company's FERC Form 3-Q includes the debit balance of the unamortized discount on long-term debt; however, it is appropriate to exclude the unamortized discount on long-term debt in the long-term debt balance for ratemaking purposes as the unamortized discount on long-term debt is included in rate base. Since the \$847,464,000 in Schedule RBH-12 already excluded the unamortized discount, no other adjustment should have been necessary.

Because the Company's FERC Form 3-Q figure of \$845,219,000 is the appropriate value to include as the long-term debt balance for "Capital Structure as of 6/30/2017," the figure of \$847,464,000 is the appropriate value to include as the Long-Term Debt balance in the "Capital Structure for Ratemaking" prior to the *pro forma* adjustments for the Company's planned refinancing plan. A corrected version of Schedule RBH-12 is provided as Attachment DIV 4-3. As shown on Page 2 of Attachment DIV 4-3, the effect of this correction does not change the Weighted Average Cost of Capital of 7.43 percent for Narragansett Electric (presented in Schedule RBH-14 and Schedule MAL-1-ELEC), or the Weighted Average Cost of Capital of 7.67 percent for Narragansett Gas (presented in Schedule RBH-14 and Schedule MAL-1-GAS).

- b. The approach described in the response to part (a) is consistent with the Company's approach in RIPUC Docket No. 4065, where an unamortized debt balance amount of \$0.167 million was excluded in the long-term debt balance for ratemaking. In RIPUC Docket No. 4323, the unamortized debt balance was zero, so there was no need for an explicit adjustment to the long-term debt balance.

THE NARRAGANSETT ELECTRIC COMPANY
CAPITAL STRUCTURE
As of June 30, 2017

	<u>Capital Structure</u> <u>As of 6/30/2017</u>		<u>Ratemaking</u> <u>Adjustments</u>	<u>Capital Structure for Ratemaking</u> <u>As of 6/30/2017</u>		<u>Restructuring</u> <u>Finance</u> <u>Plan</u>	<u>Capital Structure After Financing</u> <u>As of 6/30/2017</u>	
	<u>Balance (\$000)</u>	<u>Ratio</u>	<u>Balance (\$000)</u>	<u>Balance (\$000)</u>	<u>Ratio</u>	<u>Balance (\$000)</u>	<u>Balance (\$000)</u>	<u>Ratio</u>
Long-Term Debt	845,219	29.31%	\$ 2,245 (a)	847,464	39.21%	\$250,000	1,097,464	48.53%
Short-Term Debt	110,131	3.82%		110,131	5.09%	(\$100,000)	10,131	0.45%
Preferred Stock	2,454	0.09%		2,454	0.11%		2,454	0.11%
Common Equity (1)	1,926,378	66.79%	\$ (724,810) (b)	1,201,568	55.59%	(\$50,000)	1,151,568	50.92%
Total Capitalization	2,884,183	100.00%		2,161,618	100.00%		2,261,618	100.00%

(1) Excludes Other Comprehensive Income of -\$0.97M

(a) Removal of unamortized discount on long-term debt-debit

(b) Removal of goodwill

THE NARRAGANSETT ELECTRIC COMPANY
COST OF CAPITAL FOR RATE YEAR

Panel A: Electric Distribution Cost of Capital

	<u>Capitalization</u>		<u>Weighted</u>
	<u>Ratio</u>	<u>Cost Rate</u>	<u>Average Cost</u>
Long-Term Debt	48.5%	4.69%	2.28%
Short-Term Debt ¹	0.45%	1.76%	0.01%
Preferred Stock	0.11%	4.50%	0.00%
Common Equity	50.9%	10.10%	<u>5.14%</u>
Total ²	100.0%		7.43%

Panel B: Gas Distribution Cost of Capital

	<u>Capitalization</u>		<u>Weighted</u>
	<u>Ratio</u>	<u>Cost Rate</u>	<u>Average Cost</u>
Long-Term Debt	48.5%	5.18%	2.51%
Short-Term Debt ¹	0.4%	1.76%	0.01%
Preferred Stock	0.1%	4.50%	0.00%
Common Equity	50.9%	10.10%	<u>5.14%</u>
Total ²	100.0%		7.67%

¹ Cost rate is the average short-term debt interest rate projected for the Rate Year.

² Capitalization ratios include impact of refinancing and exclude goodwill and accumulated other comprehensive income.

Division 4-4

Request:

Please provide the Company's monthly balance of short-term debt (e.g., end of month) for each month from January 2015 – December 2017.

Response:

Please see the table below.

Month Ending	Borrowing Balance
January-15	171,331,742.90
February-15	196,769,350.96
March-15	237,202,985.84
April-15	179,538,086.30
May-15	153,586,268.77
June-15	197,313,640.82
July-15	186,679,345.04
August-15	194,724,853.10
September-15	181,858,463.23
October-15	164,289,687.81
November-15	155,770,460.67
December-15	199,446,802.06
January-16	177,221,818.74
February-16	179,323,945.68
March-16	195,355,228.87
April-16	153,040,338.49
May-16	128,389,649.53
June-16	140,361,914.09
July-16	161,641,417.62
August-16	150,972,865.15
September-16	154,126,985.34
October-16	157,587,655.66
November-16	178,938,131.70
December-16	187,623,519.30
January-17	170,186,872.89
February-17	132,967,933.96
March-17	125,658,929.33

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Responses to Division's Fourth Set of Data Requests
Issued January 2, 2018

April-17	111,124,665.76
May-17	78,185,578.90
June-17	110,130,714.57
July-17	115,161,969.73
August-17	115,483,070.77
September-17	134,947,702.66
October-17	147,204,163.49
November-17	150,987,457.90
December-17	193,151,960.78

Division 4-5

Request:

Please provide the full basis for the assumed short-term debt cost rate of 1.76 percent including any supporting documentation. (Reference: Hevert testimony, page 74.)

Response:

As described in the Pre-Filed Direct Testimony of Company Witness Robert B. Hevert (see pages 73-74¹), the Company participates in the National Grid regulated money pool facility for short-term debt needs. The money pool facility bears interest at the 30-day A2/P2 commercial paper rate, as published by the Federal Reserve Board. For the purpose of the rate year, the Company projects the rate to be 1.76 percent based on a forecast of the one-month LIBOR plus 25 basis points. Please see Attachment DIV 4-5 for the calculation in support of this projection.

¹ See Bates Pages 76-77 of Book 2.

Regulated Money Pool Cost of Debt

	1-Month Libor	Spread	Forecast STD Rate	Fiscal Year Starts	Fiscal Year ends	Rate Year starts/ends	Rate Effective Days	STD Rate Weight	Result
FY19	1.44%	0.25%	1.69%	4/1/2018	3/31/2019	9/1/2018	212	58.08%	0.98%
FY20	1.60%	0.25%	1.85%	4/1/2019	3/31/2020	8/31/2019	153	41.92%	<u>0.78%</u>
STD Cost Rate Forecast									1.76%

FY	Reset Date	1-month Libor Forecast	Summary	1-month Libor Forecast Average
FY19	4/3/2018	1.36062		
FY19	5/1/2018	1.3607		
FY19	6/1/2018	1.37575		
FY19	7/2/2018	1.39945		
FY19	8/1/2018	1.39956		
FY19	9/4/2018	1.42125		
FY19	10/1/2018	1.44618		
FY19	11/1/2018	1.44621		
FY19	12/3/2018	1.47786		
FY19	1/2/2019	1.51409		
FY19	2/1/2019	1.51403		
FY19	3/1/2019	1.52181		
FY20	4/1/2019	1.53504		
FY20	5/1/2019	1.53514		
FY20	6/3/2019	1.53497		
FY20	7/1/2019	1.53507		
FY20	8/1/2019	1.53514		
FY20	9/3/2019	1.62583		
FY20	10/1/2019	1.65072		
FY20	11/1/2019	1.65072		
FY20	12/2/2019	1.65072		
FY20	1/2/2020	1.65076		
FY20	2/3/2020	1.65061		
FY20	3/2/2020	1.65068		
			FY19	1.44
			FY20	1.60

Source: Bloomberg as of September 7, 2017

Division 4-6

Request:

Provide the basis for the 3.99 percent cost rate for the planned new long-term debt as shown on Schedule RBH-13. Include the supporting documentation.

Response:

Please see Attachment DIV 4-6, which contains an estimate of the long-term debt costs expected for the Company's planned long-term debt issuance as part of its refinancing plan. The estimated long-term debt costs are based on a projection of the 30-year Treasury bond yield, and the Company's estimate of the expected spread and associated issuance expenses.

New Long-term debt Cost Estimate

	Percent	Due	Amount	Annual Interest Expense	Annual Amortization of DD&E	Total Expense	Cost of Debt
Senior Notes	3.96%	31-Mar-2048	250,000,000	9,900,000	77,917	9,977,917	3.99%

Note: Annual Amortization of DD&E is derived from Principal Amount (\$250 million) times Expected Issuance Expense (0.935%), divided by 30 years.

Planned Issuance Date	30yr Treasury Forecast	Spread Estimate	Cost of planned new LTD
3/31/2018	2.81	1.15	3.96

Source: 30y Treasury forecast is sourced from Bloomberg as of September 22, 2017. The spread estimate is sourced from the relationship banks.

Expected issuance expense	30 year LTD 0.935%
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Estimated Expenses of Issue for Narragansett Electric Company Expressed as a Percentage of Principal:

Maturity in years	2	3	5	7	10	20	30
Underwriting Commissions	0.200%	0.250%	0.350%	0.400%	0.450%	0.750%	0.875%
Other Issuance Expenses*	0.060%	0.060%	0.060%	0.060%	0.060%	0.060%	0.060%
Total Issuance Expenses	0.260%	0.310%	0.410%	0.460%	0.510%	0.810%	0.935%

* Other issuance expenses are usually approximately \$0.3 million per issue. This equates to 0.06% for a principal amount of \$500 million, but this proportion would rise for smaller issuances.

Division 4-7

Request:

Schedule RBH-13 identifies all Narragansett long-term debt issues. Please provide the date of issue for each debt issue listed.

Response:

Please see the table below.

Description	Interest Rate	Issue Date	Maturity Date
First Mortgage Bond Series S	6.820%	4/1/1998	4/1/2018
First Mortgage Bond Series N	9.630%	6/1/1991	5/30/2020
First Mortgage Bond Series O	8.460%	9/1/1992	9/30/2022
First Mortgage Bond Series P	8.090%	9/1/1992	9/30/2022
First Mortgage Bond Series R	7.500%	12/1/1995	12/15/2025
Senior Unsecured Note	4.534%	3/22/2010	3/15/2020
Senior Unsecured Note	5.638%	3/22/2010	3/15/2040
Senior Unsecured Note	4.170%	12/10/2012	12/10/2042

Division 4-8

Request:

Please provide a five-year credit rating history to date for Narragansett from Moody's, Standard & Poor's, and Fitch Ratings for Narragansett. This should cover the corporate or issuer rating, senior secured, senior unsecured, and commercial paper.

Response:

The Company has had the following credit ratings for the past five years. Please note that Fitch does not rate the Company:

S&P (Unchanged over the past five years):

Issuer Rating: A-

Senior Secured: A

Senior Unsecured: A-

Commercial Paper: Not Rated

Moody's (Unchanged over the past five years, but affirmed in 2013):

Issuer Rating: A3 (affirmed 12/13/2013)

Senior Secured: A1 (affirmed 12/13/2013)

Senior Unsecured: A3 (affirmed 12/13/2013)

Commercial Paper: Not Rated

Division 4-9

Request:

Please provide witness Hevert's return on equity recommendations in state-level electric and gas utility rate cases during the past three years. Please identify the state jurisdiction, docket number, utility, and month/year of recommendation.

Response:

Please see Attachment DIV 4-9.

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Alaska Regulatory Commission							
ENSTAR Natural Gas Company	06/16	ENSTAR Natural Gas Company	Matter No. TA 285-4	Return on Equity	12.50-14.00	Not Specified	11.875
ENSTAR Natural Gas Company	08/14	ENSTAR Natural Gas Company	Matter No. TA 262-4	Return on Equity	12.50-14.00	13.75	Not identified in settlement
Arizona Corporation Commission							
Southwest Gas Corporation	05/16	Southwest Gas Corporation	Docket No. G-01551A-16-0107	Return on Equity	10.00-10.50	10.25	9.50
Southwest Gas Corporation	11/10	Southwest Gas Corporation	Docket No. G-01551A-10-0458	Return on Equity	10.50-11.25	11.00	9.50
Arkansas Public Service Commission							
Oklahoma Gas and Electric Company	09/16	Oklahoma Gas and Electric Company	Docket No. 16-052-U	Return on Equity	10.00-10.75	10.25	9.50
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	11/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	Docket No. 15-098-U	Return on Equity	10.00-10.50	10.30	9.5
SourceGas Arkansas, Inc.	03/15	SourceGas Arkansas, Inc.	Docket No. 15-011-U	Return on Equity	10.00-10.50	10.25	9.40
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	01/07	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	Docket No. 06-161-U	Return on Equity	10.25-11.25	11.00 (if BDA Tariff not approved) 10.75 (if otherwise)	9.65

Expert Testimony Listing of:
Robert B. Hevert
Partner

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
California Public Utilities Commission							
Southwest Gas Corporation	12/12	Southwest Gas Corporation	Docket No. A-12-12-024	Return on Equity	10.25-10.75	10.40	10.10
Colorado Public Utilities Commission							
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Return on Equity	10.00-10.75	10.50	Ongoing
Xcel Energy, Inc.	03/15	Public Service Company of Colorado	Docket No. 15AL-0135G	Return on Equity (gas)	10.00-10.50	10.10 (year 1) 10.10 (year 2) 10.30 (year 3)	9.50
Xcel Energy, Inc.	06/14	Public Service Company of Colorado	Docket No. 14AL-0660E	Return on Equity (electric)	10.00-10.60	10.25	9.83
Xcel Energy, Inc.	12/12	Public Service Company of Colorado	Docket No. 12AL-1268G	Return on Equity (gas)	10.25-10.75	10.30	9.72
Xcel Energy, Inc.	11/11	Public Service Company of Colorado	Docket No. 11AL-947E	Return on Equity (electric)	10.50-11.50	10.75	10.00
Xcel Energy, Inc.	12/10	Public Service Company of Colorado	Docket No. D-10AL-963G	Return on Equity (gas)	10.50-11.50	10.80	10.10

Expert Testimony Listing of:
Robert B. Hevert
Partner

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Atmos Energy Corporation	07/09	Atmos Energy Colorado-Kansas Division	Docket No. 09AL-507G	Return on Equity (gas)	10.50-11.50	11.25	10.25
Xcel Energy, Inc.	12/06	Public Service Company of Colorado	Docket No. 06S-656G	Return on Equity (gas)	10.25-11.25	10.75	10.25
Xcel Energy, Inc.	04/06	Public Service Company of Colorado	Docket No. 06S-234EG	Return on Equity (electric)	10.50-11.20	11.00	10.50
Xcel Energy, Inc.	08/05	Public Service Company of Colorado	Docket No. 05S-369ST	Return on Equity (steam)	10.20-11.30	11.00	Not identified in settlement
Xcel Energy, Inc.	05/05	Public Service Company of Colorado	Docket No. 05S-264G	Return on Equity (gas)	10.25-11.25	11.00	10.50
Connecticut Public Utilities Regulatory Authority							
Connecticut Light and Power Company	06/14	Connecticut Light and Power Company	Docket No. 14-05-06	Return on Equity	10.20-10.70	10.20	9.17
Southern Connecticut Gas Company	09/08	Southern Connecticut Gas Company	Docket No. 08-08-17	Return on Equity	10.50-11.50	11.00	Company re-filed
Southern Connecticut Gas Company	12/07	Southern Connecticut Gas Company	Docket No. 05-03-17PH02	Return on Equity	10.00-11.25	10.00-11.25	Company's filing package was rejected
Connecticut Natural Gas Corporation	12/07	Connecticut Natural Gas Corporation	Docket No. 06-03-04PH02	Return on Equity	10.00-11.25	10.00-11.25	Company's filing package was

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
							rejected
Delaware Public Service Commission							
Delmarva Power & Light Company	08/17	Delmarva Power & Light Company	Docket No. 17-0977 (Electric)	Return on Equity	10.00-10.75	10.10	Ongoing
Delmarva Power & Light Company	08/17	Delmarva Power & Light Company	Docket No. 17-0978 (Gas)	Return on Equity	10.00-10.75	10.10	Ongoing
Delmarva Power & Light Company	05/16	Delmarva Power & Light Company	Case No. 16-649 (Electric)	Return on Equity	10.00-10.75	10.60	9.70
Delmarva Power & Light Company	05/16	Delmarva Power & Light Company	Case No. 16-650 (Gas)	Return on Equity	10.00-10.75	10.60	9.70
Delmarva Power & Light Company	03/13	Delmarva Power & Light Company	Case No. 13-115	Return on Equity (electric)	10.25-10.75	10.25	9.70
Delmarva Power & Light Company	12/12	Delmarva Power & Light Company	Case No. 12-546	Return on Equity (gas)	10.00-10.75	10.25	Not identified

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Delmarva Power & Light Company	03/12	Delmarva Power & Light Company	Case No. 11-528	Return on Equity (electric)	10.50-11.25	10.75	9.75
District of Columbia Public Service Commission							
Potomac Electric Power Company	12/17	Potomac Electric Power Company	Formal Case No. 1150	Return on Equity	10.00-10.75	10.10	Ongoing
Potomac Electric Power Company	07/16	Potomac Electric Power Company	Formal Case No. FC1139	Return on Equity	10.00-10.65	10.60	9.50
Washington Gas Light Company	02/16	Washington Gas Light Company	Formal Case No. FC1137	Return on Equity	10.00-10.50	10.25	9.25
Potomac Electric Power Company	03/13	Potomac Electric Power Company	FC-1103-2013-E	Return on Equity	10.25-10.75	10.25	9.40
Potomac Electric Power Company	07/11	Potomac Electric Power Company	FC-1087	Return on Equity	10.50-11.25	10.75	9.50
Federal Energy Regulatory Commission							
Sabine Pipeline, LLC	09/15	Sabine Pipeline, LLC	Docket No. RP15-1322-000	Return on Equity	Not Specified	13.50	Not identified in settlement
Nextera Energy Transmission West, LLC	07/15	Nextera Energy Transmission West, LLC	Docket No. ER15-2239-000	Return on Equity	Not Specified	10.43	9.30
Maritimes & Northeast Pipeline, LLC	05/15	Maritimes & Northeast Pipeline, LLC	Docket No. RP15-1026-000	Return on Equity	Not Specified	13.50	Not identified in settlement
Public Service Company of New	12/12	Public Service Company of New	Docket No. ER13-685-000	Return on Equity	Not specified	10.81	10.00

Expert Testimony Listing of:
Robert B. Hevert
Partner

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Mexico		Mexico					
Public Service Company of New Mexico	10/10	Public Service Company of New Mexico	Docket No. ER11-1915-000	Return on Equity	Not specified	11.00	Not identified in settlement
Portland Natural Gas Transmission System	05/10	Portland Natural Gas Transmission System	Docket No. RP10-729-000	Return on Equity	10.65-12.63	12.63	10.28
Florida Gas Transmission Company, LLC	10/09	Florida Gas Transmission Company, LLC	Docket No. RP10-21-000	Return on Equity	12.06-12.44	12.32	Not identified in settlement
Maritimes & Northeast Pipeline, LLC	07/09	Maritimes & Northeast Pipeline, LLC	Docket No. RP09-809-000	Return on Equity	Not specified	14.25	Not identified in settlement
Saltville Gas Storage Company, L.L.C.	02/08	Saltville Gas Storage Company, L.L.C.	Docket No. RP08-257-000	Return on Equity	11.58-15.91	13.50	Not identified in settlement
Southwest Gas Storage Company	08/07	Southwest Gas Storage Company	Docket No. RP07-541-000	Return on Equity	11.00-13.60	13.00	Not identified in settlement
Southwest Gas Storage Company	06/07	Southwest Gas Storage Company	Docket No. RP07-34-000	Return on Equity	11.00-13.60	13.00	Not identified in settlement
Sea Robin Pipeline, LLC	06/07	Sea Robin Pipeline, LLC	Docket No. RP07-513-000	Return on Equity	11.00-13.70	13.50	Not identified in settlement
Transwestern Pipeline Company, LLC	09/06	Transwestern Pipeline Company, LLC	Docket No. RP06-614-000	Return on Equity	12.40-13.90	13.50	Not identified in settlement

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Florida Public Service Commission							
Florida Power & Light Company	03/16	Florida Power & Light Company	Docket No. 160021-EI	Return on Equity	10.50-11.50	11.00	10.55
Tampa Electric Company	04/13	Tampa Electric Company	Docket No. 130040-EI	Return on Equity	10.50-11.50	11.25	10.25
Georgia Public Service Commission							
Atlanta Gas Light Company	05/10	Atlanta Gas Light Company	Docket No. 31647-U	Return on Equity	10.50-11.25	11.00	10.75
Hawaii Public Utilities Commission							
Maui Electric Company, Limited	10/17	Maui Electric Company, Limited	Docket No. 2017-0150	Return on Equity	10.25-10.75	10.60	Ongoing
Hawaiian Electric Company, Inc.	12/16	Hawaiian Electric Company, Inc.	Docket No. 2016-0328	Return on Equity	10.00-10.75	10.60	Not identified in settlement
Hawai'i Electric Light Company, Inc.	09/16	Hawai'i Electric Light Company, Inc.	Docket No. 2015-0170	Return on Equity	10.25-10.75	10.60	Ongoing
Maui Electric Company, Limited	12/14	Maui Electric Company, Limited	Docket No. 2014-0318	Return on Equity	10.50-10.90	10.75	Closed – Consolidated with Docket No. 2017-0150
Hawaiian Electric Company, Inc.	06/14	Hawaiian Electric Company, Inc.	Docket No. 2013-0373	Return on Equity	10.50-10.90	10.75	NA
Hawaii Electric Light Company, Inc.	08/12	Hawaii Electric Light Company, Inc.	Docket No. 2012-0099	Return on Equity	10.75-11.50	11.25	NA
Illinois Commerce Commission							

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Ameren Illinois Company d/b/a Ameren Illinois	01/15	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 15-0142	Return on Equity	10.00-10.50	10.25	9.60
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	03/14	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	Docket No. 14-0371	Return on Equity	10.00-10.50	10.50	9.76
Ameren Illinois Company d/b/a Ameren Illinois	01/13	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 13-0192	Return on Equity	10.00-10.75	10.40	9.08
Ameren Illinois Company d/b/a Ameren Illinois	02/11	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 11-0279	Return on Equity	10.75-11.25	11.00	Case terminated
Ameren Illinois Company d/b/a Ameren Illinois	02/11	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 11-0282	Return on Equity	10.50-11.00	10.75	9.06
Indiana Utility Regulatory Commission							
Indiana Michigan Power Company	7/17	Indiana Michigan Power Company	Cause No. 44967	Return on Equity	Not specified	10.60	Ongoing
Duke Energy Indiana, Inc.	12/15	Duke Energy Indiana, Inc.	Cause No. 44720	Return on Equity	Not specified	10.50	10.00
Duke Energy Indiana, Inc.	12/14	Duke Energy Indiana, Inc.	Cause No. 44526	Return on Equity	Not specified	10.50	Not identified in settlement

Expert Testimony Listing of:
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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Kansas Corporation Commission							
Kansas City Power & Light Company	01/15	Kansas City Power & Light Company	Docket No. 15-KCPE-116-RTS	Return on Equity	10.00-10.60	10.30	9.30
Maine Public Utilities Commission							
Northern Utilities, Inc.	05/17	Northern Utilities, Inc.	Docket No. 2017-00065	Return on Equity	10.00-10.60	10.30	Ongoing
Maryland Public Service Commission							
Delmarva Power & Light Company	07/17	Delmarva Power & Light Company	Case No. 9455	Return on Equity	10.00-10.75	10.10	Not identified in settlement
Potomac Electric Power Company	03/17	Potomac Electric Power Company	Case No. 9443	Return on Equity	10.00-10.75	10.60	9.50
Potomac Electric Power Company	06/16	Potomac Electric Power Company	Case No. 9424	Return on Equity	10.00-10.65	10.60	9.55
Potomac Electric Power Company	06/16	Potomac Electric Power Company	Case No. 9418	Return on Equity	10.00-10.75	10.60	9.55
Potomac Electric Power Company	12/13	Potomac Electric Power Company	Case No. 9336	Return on Equity	10.25-10.75	10.25	9.62
Delmarva Power & Light Company	03/13	Delmarva Power & Light Company	Case No. 9317	Return on Equity	10.25-11.00	10.25	9.81
Potomac Electric Power Company	11/12	Potomac Electric Power Company	Case No. 9311	Return on Equity	10.25-11.00	10.25	9.36
Delmarva Power & Light Company	12/11	Delmarva Power & Light Company	Case No. 9285	Return on Equity	10.50-11.25	10.75	9.81

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Potomac Electric Power Company	12/11	Potomac Electric Power Company	Case No. 9286	Return on Equity	10.50-11.25	10.75	9.31
Delmarva Power & Light	12/10	Delmarva Power & Light	Case No. 9249	Return on Equity	10.50-11.25	10.75	Not identified in settlement
Massachusetts Department of Public Utilities							
Boston Gas Company and Colonia Gas Company each d/b/a National Grid	11/17	Boston Gas Company and Colonia Gas Company each d/b/a National Grid	DPU 17-170	Return on Equity	10.00-10.75	10.50	Ongoing
NSTAR Electric Company Western and Massachusetts Electric Company each d/b/a Eversource Energy	01/17	NSTAR Electric Company Western Massachusetts Electric Company each d/b/a Eversource Energy	DPU 17-05	Return on Equity	10.00-10.75	10.50	10.00
National Grid	11/15	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 15-155	Return on Equity	10.00-10.50	10.50	9.90
Fitchburg Gas and Electric Light Company d/b/a Unitil	06/15	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 15-80/15-81	Return on Equity (gas and electric)	10.00-10.50	10.25	9.80
NSTAR Gas Company	12/14	NSTAR Gas Company	DPU 14-150	Return on Equity	10.00-10.50	10.25	9.80

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Fitchburg Gas and Electric Light Company d/b/a Unitil	07/13	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 13-90	Return on Equity (electric)	10.25-10.75	10.25	9.70
Bay State Gas Company d/b/a Columbia Gas of Massachusetts	04/12	Bay State Gas Company d/b/a Columbia Gas of Massachusetts	Docket No. 12-25	Capital Cost Recovery	Testimony focused on the effect of the company's ability to recover its authorized ROE. Did not recommend ROE.	Testimony focused on the effect of the company's ability to recover its authorized ROE. Did not recommend ROE.	NA
National Grid	08/09	Massachusetts Electric Company d/b/a National Grid	DPU 09-39	Revenue Decoupling and Return on Equity	Testimony focused on the effect of rate structures on ROE. Did not recommend ROE.	Testimony focused on the effect of rate structures on ROE. Did not recommend ROE.	NA
National Grid	08/09	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 09-38	Return on Equity – Solar Generation	Testimony focused on the effect of rate structures on ROE. Did not recommend ROE.	Testimony focused on the effect of rate structures on ROE. Did not recommend ROE.	NA
Bay State Gas Company	04/09	Bay State Gas Company	DPU 09-30	Return on Equity	Testimony focused on the effect of rate structures on ROE. Did not recommend ROE.	Testimony focused on the effect of rate structures on ROE. Did not recommend ROE.	NA

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Michigan Public Service Commission							
Indiana Michigan Power Company	05/17	Indiana Michigan Power Company	Case No. U-18370	Return on Equity	10.00-11.00	10.60	Ongoing
Minnesota Public Utilities Commission							
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/17	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-17-285	Return on Equity	9.75-10.30	10.00	Ongoing
ALLETE, Inc., d/b/a Minnesota Power Inc.	11/16	ALLETE, Inc., d/b/a Minnesota Power Inc.	Docket No. E015/GR-16-664	Return on Equity	9.80-10.30	10.25	Ongoing
Otter Tail Power Corporation	02/16	Otter Tail Power Company	Docket No. E017/GR-15-1033	Return on Equity	9.80-10.25	10.05	9.41
Minnesota Energy Resources Corporation	09/15	Minnesota Energy Resources Corporation	Docket No. G-011/GR-15-736	Return on Equity	10.00-10.60	10.30	9.11
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-15-424	Return on Equity	10.00-10.60	10.30	9.49

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Xcel Energy, Inc.	11/13	Northern States Power Company	Docket No. E-002/GR-13-868	Return on Equity	10.00-10.70	10.25	9.72
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/13	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-13-316	Return on Equity	10.00-10.50	10.20	9.59
Xcel Energy, Inc.	11/12	Northern States Power Company-Minnesota	Docket No. E-002/GR-12-961	Return on Equity (electric)	10.25-10.80	10.60	9.83
Otter Tail Power Corporation	04/10	Otter Tail Power Company	Docket No. E-017/GR-10-239	Return on Equity	10.50-11.75	11.25	10.74
Minnesota Power a division of ALLETE, Inc.	11/09	Minnesota Power	Docket No. E015/GR-09-1151	Return on Equity	10.75-11.50	11.25	10.38
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	11/08	CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-08-1075	Return on Equity	10.50-11.00	10.50-11.00	10.24
Otter Tail Power Corporation	10/07	Otter Tail Power Company	Docket No. E017/GR-07-1178	Return on Equity	10.75-11.75	11.25	10.43
Xcel Energy, Inc.	11/05	Northern States Power Company-Minnesota	Docket No. E002/GR-05-1428	Return on Equity (electric)	10.60-11.10	11.00	10.54
Xcel Energy, Inc.	09/04	Northern States Power Company-Minnesota	Docket No. G002/GR-04-1511	Return on Equity (gas)	10.60-11.50	10.95	10.40

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Mississippi Public Service Commission							
CenterPoint Energy Resources, Corp. d/b/a CenterPoint Energy Mississippi Gas	07/09	CenterPoint Energy Resources, Corp. d/b/a CenterPoint Energy Mississippi Gas	Docket No. 09-UN-334	Return on Equity (gas)	10.50-11.50	11.25	Company withdrew filing
Missouri Public Service Commission							
Union Electric Company d/b/a Ameren Missouri	07/16	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2016-0179	Return on Equity (electric)	9.75-10.50	9.90	Not identified
Kansas City Power & Light Company	07/16	Kansas City Power & Light Company	Case No. ER-2016-0285	Return on Equity (electric)	9.75-10.50	Not Specified	9.50
Kansas City Power & Light Company	02/16	Kansas City Power & Light Company	Case No. ER-2016-0156	Return on Equity (electric)	9.75-10.50	Not Specified	9.50-9.75
Kansas City Power & Light Company	10/14	Kansas City Power & Light Company	Case No. ER-2014-0370	Return on Equity	10.20-10.60	10.30	9.50
Union Electric Company d/b/a Ameren Missouri	07/14	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2014-0258	Return on Equity (electric)	10.20-10.60	10.40	9.53
Union Electric Company d/b/a Ameren Missouri	06/14	Union Electric Company d/b/a Ameren Missouri	Case No. EC-2014-0223	Return on Equity (electric)	10.20-10.60	10.40	Not identified

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	02/14	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	Case No. GR-2014-0152	Return on Equity	10.00-10.50	10.50	10.00
Laclede Gas Company	12/12	Laclede Gas Company	Case No. GR-2013-0171	Return on Equity	10.00-10.75	10.50	Not identified in settlement
Union Electric Company d/b/a Ameren Missouri	02/12	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2012-0166	Return on Equity (electric)	10.25-11.00	10.50	9.80
Union Electric Company	09/10	Ameren Missouri d/b/a AmerenUE	Case No. ER-2011-0028	Return on Equity (electric)	10.40-11.25	10.70	10.20
Union Electric Company	06/10	Union Electric Company d/b/a AmerenUE	Case No. GR-2010-0363	Return on Equity (gas)	10.00-11.00	10.50	10.00
Montana Public Service Commission							
Northwestern Corporation d/b/a Northwestern Energy	09/12	Northwestern Corporation d/b/a Northwestern Energy	Docket No. D2012.9.94	Return on Equity (gas)	10.00-10.75	10.50	9.80
Nevada Public Utilities Commission							
Southwest Gas Corporation	04/12	Southwest Gas Corporation	Docket No. 12-04005	Return on Equity (gas)	10.00-10.75	10.50	9.30 (Northern) 10.00 (Southern)

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Nevada Power Company	06/11	Nevada Power Company	Docket No. 11-06006	Return on Equity	10.75-11.50	11.25	10.19
New Hampshire Public Utilities Commission							
Northern Utilities, Inc.	06/17	Northern Utilities, Inc.	Docket No. DG 17-070	Return on Equity	10.00-10.60	10.30	Ongoing
Liberty Utilities d/b/a EnergyNorth Natural Gas	04/17	Liberty Utilities d/b/a EnergyNorth Natural Gas	Docket No. DG 17-048	Return on Equity	10.00-10.60	10.30	Ongoing
Unitil Energy Systems, Inc.	04/16	Unitil Energy Systems, Inc.	Docket No. DE 16-384	Return on Equity	10.00-10.60	10.30	9.50
Liberty Utilities d/b/a Granite State Electric Company	04/16	Liberty Utilities d/b/a Granite State Electric Company	Docket No. DE 16-383	Return on Equity	10.00-10.60	10.30	9.40
Liberty Utilities d/b/a EnergyNorth Natural Gas	08/14	Liberty Utilities d/b/a EnergyNorth Natural Gas	Docket No. DG 14-180	Return on Equity	10.00-10.50	10.25	Not identified
Liberty Utilities d/b/a Granite State Electric Company	03/13	Liberty Utilities d/b/a Granite State Electric Company	Docket No. DE 13-063	Return on Equity	10.25-11.00	10.50	9.55
EnergyNorth Natural Gas d/b/a National Grid NH	02/10	EnergyNorth Natural Gas d/b/a National Grid NH	Docket No. DG 10-017	Return on Equity	10.25-11.00	10.75	9.67
New Jersey Board of Public Utilities							
Atlantic City Electric Company	03/17	Atlantic City Electric Company	Docket No. ER17030308	Return on Equity	10.00-10.75	10.10	9.60

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Pivotal Utility Holdings, Inc.	08/16	Elizabethtown Gas	Docket No. GR16090826	Return on Equity	10.00-10.60	10.25	9.60
Atlantic City Electric Company	03/16	Atlantic City Electric Company	Docket No. ER16030252	Return on Equity	10.00-10.75	10.60	9.75
Pepco Holdings, Inc.	04/14	Atlantic City Electric Company	Docket No. ER14030245	Return on Equity	10.25-10.75	10.25	9.75
Orange and Rockland Utilities	11/13	Rockland Electric Company	Docket No. ER13111135	Return on Equity	10.25-10.75	10.25	9.75
Atlantic City Electric Company	12/12	Atlantic City Electric Company	Docket No. ER12121071	Return on Equity	10.25-11.00	10.25	9.75
Atlantic City Electric Company	08/11	Atlantic City Electric Company	Docket No. ER11080469	Return on Equity	10.50-11.25	10.75	9.75
New Mexico Public Regulation Commission							
Public Service Company of New Mexico	12/16	Public Service Company of New Mexico	Case No. 16-00276-UT	Return on Equity (electric)	9.80-10.75	10.125	Ongoing
Public Service Company of New Mexico	08/15	Public Service Company of New Mexico	Case No. 15-00261-UT	Return on Equity (electric)	10.25-11.00	10.50	9.58
Public Service Company of New Mexico	12/14	Public Service Company of New Mexico	Case No. 14-00332-UT	Return on Equity (electric)	Not specified	10.50	Case Terminated (re-filed under Case No. 15-00261-UT)

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Southwestern Public Service Company	02/11	Southwestern Public Service Company	Case No. 10-00395-UT	Return on Equity (electric)	10.75-11.50	11.25	Not identified in settlement
Public Service Company of New Mexico	06/10	Public Service Company of New Mexico	Case No. 10-00086-UT	Return on Equity (electric)	Not specified	11.75	10.00
Public Service Company of New Mexico	09/08	Public Service Company of New Mexico	Case No. 08-00273-UT	Return on Equity (electric)	Not specified	11.75	10.50
Xcel Energy, Inc.	07/07	Southwestern Public Service Company	Case No. 07-00319-UT	Return on Equity (electric)	10.75-11.25	10.75	10.18
New York State Public Service Commission							
Consolidated Edison Company of New York, Inc.	01/15	Consolidated Edison Company of New York, Inc.	Case No. 15-E-0050	Return on Equity (electric)	10.00-10.50	10.00	9.00
Orange and Rockland Utilities, Inc.	11/14	Orange and Rockland Utilities, Inc.	Case Nos. 14-E-0493 and 14-G-0494	Return on Equity (electric and gas)	9.75-10.50	9.75	9.00
Consolidated Edison Company of New York, Inc.	01/13	Consolidated Edison Company of New York, Inc.	Case No. 13-E-0030	Return on Equity (electric)	Not specified	10.10	9.20 (electric) 9.30 (gas & steam)

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Niagara Mohawk Corporation d/b/a National Grid for Electric Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Electric Service	Case No. 12-E-0201	Return on Equity	10.50-11.00	10.55	9.30
Niagara Mohawk Corporation d/b/a National Grid for Gas Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Gas Service	Case No. 12-G-0202	Return on Equity	10.50-11.00	10.55	9.30
Orange and Rockland Utilities, Inc.	07/11	Orange and Rockland Utilities, Inc.	Case No. 11-E-0408	Return on Equity (electric)	10.60-11.00	10.75	9.40 (year 1) 9.50 (year 2) 9.60 (year 3)
Orange and Rockland Utilities, Inc.	07/10	Orange and Rockland Utilities, Inc.	Case No. 10-E-0362	Return on Equity (electric)	Not specified	11.00 (11.55 if three year rate period is accepted)	9.20
Consolidated Edison Company of New York, Inc.	11/09	Consolidated Edison Company of New York, Inc.	Case No. 09-G-0795	Return on Equity (gas)	Not specified	10.80 (11.30 if three year rate period is accepted)	9.60

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Consolidated Edison Company of New York, Inc.	11/09	Consolidated Edison Company of New York, Inc.	Case No. 09-S-0794	Return on Equity (steam)	Not specified	10.80 (11.40 if four year rate period is accepted)	9.60
North Carolina Utilities Commission							
Duke Energy Carolinas, LLC	08/17	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1146	Return on Equity	10.25-11.00	10.75	Ongoing
Duke Energy Progress, LLC	06/17	Duke Energy Progress, LLC	Docket No. E-2, Sub 1142	Return on Equity	10.25-11.00	10.75	Ongoing
Public Service Company of North Carolina, Inc.	03/16	Public Service Company of North Carolina, Inc.	Docket No. G-5, Sub 565	Return on Equity	10.00-10.75	10.60	9.70
Dominion North Carolina Power	03/16	Dominion North Carolina Power	Docket No. E-22, Sub 532	Return on Equity	10.25-10.75	10.50	9.90
Duke Energy Carolinas, LLC	02/13	Duke Energy Carolinas, LLC	Docket No. D-E-7, Sub 1026	Return on Equity	10.50-11.50	11.25	10.20
Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.	10/12	Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.	Docket No. D-E-2, Sub 1023	Return on Equity	10.50-11.50	11.25	10.20
Virginia Electric and Power Company d/b/a Dominion North Carolina Power	03/12	Virginia Electric and Power Company d/b/a Dominion North Carolina Power	Docket No. E-22, Sub 479	Return on Equity (electric)	10.50-11.50	11.25	10.20

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Duke Energy Carolinas, LLC	07/11	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 989	Return on Equity (electric)	10.75-11.50	11.25	10.50
North Dakota Public Service Commission							
Otter Tail Power Company	11/08	Otter Tail Power Company	Docket No. 08-862	Return on Equity (electric)	11.00-11.75	11.25	10.75
Oklahoma Corporation Commission							
CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	03/16	CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	Cause No. PUD201600094	Return on Equity	10.00-10.50	10.30	10.00
Oklahoma Gas & Electric Company	12/15	Oklahoma Gas & Electric Company	Cause No. PUD201500273	Return on Equity	10.25-10.75	10.50	9.87
Public Service Company of Oklahoma	07/15	Public Service Company of Oklahoma	Cause No. PUD201500208	Return on Equity	10.25-10.75	10.50	9.50
Oklahoma Gas & Electric Company	07/11	Oklahoma Gas & Electric Company	Cause No. PUD201100087	Return on Equity	10.75-11.50	11.00	10.20
CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	03/09	CenterPoint Energy Oklahoma Gas	Docket No. PUD200900055	Return on Equity	Not specified	11.25	10.50

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Pennsylvania Public Utility Commission							
Pike County Light & Power Company	01/14	Pike County Light & Power Company	Docket No. R-2013-2397237	Return on Equity (electric & gas)	10.25-10.75	10.25	Not identified
Veolia Energy Philadelphia, Inc.	12/13	Veolia Energy Philadelphia, Inc.	Docket No. R-2013-2386293	Return on Equity (steam)	Not specified	12.25	Not identified
Rhode Island Public Utilities Commission							
The Narragansett Electric Company d/b/a National Grid	11/17	The Narragansett Electric Company d/b/a National Grid	Docket No. 4770	Return on Equity (gas and electric)	10.00-10.75	10.10	Ongoing
The Narragansett Electric Company d/b/a National Grid	04/12	The Narragansett Electric Company d/b/a National Grid	Docket No. 4323	Return on Equity (gas and electric)	10.50-11.25	10.75	9.50
National Grid RI – Gas	08/08	National Grid RI – Gas	Docket No. 3943	Revenue Decoupling and Return on Equity	NA	Testimony focused on the effect of rate structures on ROE. Did not recommend ROE.	10.50
South Carolina Public Service Commission							
South Carolina Electric & Gas	12/17	South Carolina Electric & Gas	Docket No. 2017-305-E	Return on Equity	10.25-11.00	10.75	Ongoing

Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Duke Energy Progress, LLC	07/16	Duke Energy Progress, LLC	Docket No. 2016-227-E	Return on Equity	10.25-11.00	10.75	10.10
Duke Energy Carolinas, LLC	03/13	Duke Energy Carolinas, LLC	Docket No. 2013-59-E	Return on Equity	10.50-11.50	11.25	10.20
South Carolina Electric & Gas	06/12	South Carolina Electric & Gas	Docket No. 2012-218-E	Return on Equity	10.75-11.50	11.25	10.25
Duke Energy Carolinas, LLC	08/11	Duke Energy Carolinas, LLC	Docket No. 2011-271-E	Return on Equity (electric)	11.00-11.75	11.50	10.50
South Carolina Electric & Gas Company	03/10	South Carolina Electric & Gas Company	Docket No. 2009-489-E	Return on Equity	10.70-11.90	11.60	10.70
South Dakota Public Utilities Commission							
Otter Tail Power Company	08/10	Otter Tail Power Company	Docket No. EL10-011	Return on Equity (electric)	11.00-11.50	11.25	Not identified in settlement
Northern States Power Company d/b/a Xcel Energy	06/09	Northern States Power Company d/b/a Xcel Energy	Docket No. EL09-009	Return on Equity (electric)	11.00-12.00	11.50	Not identified in settlement
Otter Tail Power Company	10/08	Otter Tail Power Company	Docket No. EL08-030	Return on Equity (electric)	11.00-11.75	11.25	Not identified in settlement
Texas Public Utility Commission							

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Southwestern Public Service Company	08/17	Southwestern Public Service Company	Docket No. 47527	Return on Equity	10.00-10.75	10.25	Ongoing
Oncor Electric Delivery Company, LLC	03/17	Oncor Electric Delivery Company, LLC	Docket No. 46957	Return on Equity	10.00-10.60	10.25	Procedural Schedule Abated
El Paso Electric Company	02/17	El Paso Electric Company	Docket No. 46831	Return on Equity	10.00-10.75	10.50	Not identified in settlement
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Docket No. 46449	Return on Equity (electric)	10.00-10.60	10.00	Ongoing
Sharyland Utilities, L.P.	12/16	Sharyland Utilities, L.P.	Docket No. 45414	Return on Equity	10.00-10.60	10.00	Proceeding Dismissed
Wind Energy Transmission Texas, LLC	05/15	Wind Energy Transmission Texas, LLC	Docket No. 44746	Return on Equity	10.00-10.50	10.25	9.60
Cross Texas Transmission	12/14	Cross Texas Transmission	Docket No. 43950	Return on Equity	10.00-10.50	10.25	9.60
Southwestern Public Service Company	12/14	Southwestern Public Service Company	Docket No. 43695	Return on Equity (electric)	10.00-10.60	10.25	9.70
Sharyland Utilities, L.P.	05/13	Sharyland Utilities, L.P.	Docket No. 41474	Return on Equity	10.50-11.25	10.75	9.70
Wind Energy Transmission Texas, LLC	08/12	Wind Energy Transmission Texas, LLC	Docket No. 40606	Return on Equity	10.75-11.50	10.90	9.60

Expert Testimony Listing of:
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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Southwestern Electric Power Company	07/12	Southwestern Electric Power Company	Docket No. 40443	Return on Equity	10.50-11.50	11.25	9.65
Oncor Electric Delivery Company, LLC	01/11	Oncor Electric Delivery Company, LLC	Docket No. 38929	Return on Equity	11.00-11.50	11.25	10.25
Texas-New Mexico Power Company	08/10	Texas-New Mexico Power Company	Docket No. 38480	Return on Equity (electric)	11.00-11.75	11.50	10.125
CenterPoint Energy Houston Electric, LLC	06/10	CenterPoint Energy Houston Electric, LLC	Docket No. 38339	Return on Equity (electric)	11.00-11.50	11.25	10.00
Southwestern Public Service Company	05/10	Southwestern Public Service Company	Docket No. 38147	Return on Equity (electric)	11.00-11.50	11.35	10.00
Texas-New Mexico Power Company	08/08	Texas-New Mexico Power Company	Docket No. 36025	Return on Equity (electric)	10.75-11.75	11.25	10.25
Xcel Energy, Inc.	05/06	Southwestern Public Service	Docket No. 32766	Return on Equity (electric)	10.50-11.70	11.30	Not identified in settlement
Texas Railroad Commission							
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex & CenterPoint Energy Texas Gas	11/17	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex & CenterPoint Energy Texas Gas	GUD 10669	Return on Equity	9.90-10.60	10.30	Ongoing

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Atmos Pipeline - Texas	01/17	Atmos Pipeline - Texas	GUD 10580	Return on Equity	12.75-15.00	13.50	Ongoing
Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Entex And Centerpoint Energy Texas Gas	12/16	Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Entex And Centerpoint Energy Texas Gas	D-GUD-10567	Return on Equity	10.00-10.50	10.25	9.60
Centerpoint Energy Resources Corp. d/b/a Centerpoint Energy Entex and Centerpoint Energy Texas Gas	03/15	Centerpoint Energy Resources Corp. d/b/a Centerpoint Energy Entex and Centerpoint Energy Texas Gas	GUD 10432	Return on Equity	10.00-10.50	10.25	10.00
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/12	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10182	Return on Equity	10.40-11.25	11.00	10.00
Atmos Energy Corporation – West Texas Division	06/12	Atmos Energy Corporation – West Texas Division	GUD 10174	Return on Equity	10.40-11.25	11.05	Not identified in settlement
Atmos Energy Corporation – Mid-Texas Division	06/12	Atmos Energy Corporation – Mid-Texas Division	GUD 10170	Return on Equity	10.40-11.25	11.05	Not identified in settlement

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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Centerpoint Energy Resources Corp. d/b/a Centerpoint Energy Entex and Centerpoint Energy Texas Gas	12/10	Centerpoint Energy Resources Corp. d/b/a Centerpoint Energy Entex and Centerpoint Energy Texas Gas	GUD 10038	Return on Equity	Not specified	11.00	10.05
Atmos Pipeline – Texas	09/10	Atmos Pipeline – Texas	GUD 10000	Return on Equity	11.50-13.25	12.75	11.80
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/09	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 9902	Return on Equity	10.50-11.25	11.25	10.50
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	03/08	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	GUD 9791	Return on Equity	10.25-11.25	11.00	10.06
Utah Public Service Commission							
Questar Gas Company	12/07	Questar Gas Company	Docket No. 07-057-13	Return on Equity	10.25-11.25	11.25	10.00
Vermont Public Service Board							
Central Vermont Public Service Corporation	12/10	Central Vermont Public Service Corporation	Docket No. 7627	Return on Equity	10.06-11.48	10.22	9.45
Green Mountain Power	04/06	Green Mountain Power	Docket Nos. 7175 and 7176	Return on Equity (electric)	10.70-11.50 (if Alt Reg Plan is not adopted)	10.70-11.50 (if Alt Reg Plan is not adopted)	10.25

Expert Testimony Listing of:
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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
					10.25-10.40 (if otherwise)	10.25-10.40 (if otherwise)	
Vermont Gas Systems, Inc.	12/05	Vermont Gas Systems, Inc.	Docket Nos. 7109 and 7160	Return on Equity (gas)	10.00-11.50	12.25 (if Alt Reg Plan is not adopted) 11.25 (if otherwise)	10.50 with 100 bps dead band on sharing mechanism
Virginia State Corporation Commission							
Virginia Electric and Power Company	03/17	Virginia Electric and Power Company	Case No. PUR-2017-00038	Return on Equity	10.25-10.75	10.50	9.20
Virginia Natural Gas, Inc.	03/17	Virginia Natural Gas, Inc.	Case No. PUE-2016-00143	Return on Equity	10.00-10.50	10.25	9.50
Virginia Electric and Power Company	10/16	Virginia Electric and Power Company	Case No. PUE-2016-00112; PUE-2016-00113; PUE-2016-00136	Return on Equity	Base ROE 10.25-10.75, excluding increments	Base ROE:10.50, excluding increments	Case No. PUE-2016-00112: 10.40; PUE-2016-00113: 9.40; PUE-2016-00136: 8.75
Washington Gas Light Company	07/16	Washington Gas Light Company	Case No. PUE-2016-00001	Return on Equity	10.00-10.50	10.25	9.00-10.00
Virginia Electric and Power Company	06/16	Virginia Electric and Power Company	Case Nos. PUE-2016-00063; PUE-2016-00062; PUE-2016-00061; PUE-2016-00060; PUE-2016-00059	Return on Equity	Base ROE 10.25-10.75, excluding increments	Base ROE:10.50, excluding increments	Case Nos. PUE-2016-00063: 10.40; PUE-2016-00062: 10.40; PUE-2016-00061:

Expert Testimony Listing of:
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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
							10.40; PUE-2016-00060: 9.40; PUE-2016-00059:11.40
Virginia Electric and Power Company	12/15	Virginia Electric and Power Company	Case Nos. PUE-2015-0058; PUE-2015-0059; PUE-2015-0060; PUE-2015-0061; PUE-2015-0075; PUE-2015-0089; PUE-2015-0102; PUE-2015-0104	Return on Equity	Base ROE 10.25-10.75, excluding increments	Base ROE:10.75, excluding increments	<ul style="list-style-type: none"> •PUE-2015-0058: 11.60, including 200 bps increment; •PUE-2015-0059: 10.60, including 100 bps increment; •PUE-2015-0060: 10.60, including 100 bps increment; • PUE-2015-0061: 10.60, including 100 bps increment; •PUE-2015-0075: 9.60; •PUE-2015-0089: 9.60; •PUE-2015-0102: 10.60; •PUE-2015-0104: 9.60

Expert Testimony Listing of:
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Sponsor	Date	Case/Applicant	Docket No.	Subject	Recommended ROE Range (%)	Final Recommended ROE (%)	Ordered ROE (%)
Virginia Electric and Power Company	03/15	Virginia Electric and Power Company	Case No. PUE-2015-00027	Return on Equity	10.25-10.75	10.75	No ROE Determination
Virginia Electric and Power Company	03/13	Virginia Electric and Power Company	Case No. PUE-2013-00020	Return on Equity	10.50-11.50	11.50	10.00
Canada - Alberta Utilities Commission							
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc., and FortisAlberta Inc.	10/17	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc., and FortisAlberta Inc.	2018 General Cost of Capital, Proceeding ID. 22570	Rate of Return	9.00-10.75	Not Specified	Ongoing
Altalink, L.P., and EPCOR Distribution & Transmission, Inc.	02/16	Altalink, L.P., and EPCOR Distribution & Transmission, Inc.	2016 General Cost of Capital, Proceeding ID. 20622	Rate of Return	9.00-10.50	Not Specified	8.30 for 2016 8.50 for 2017 and interim 2018

Division 4-10

Request:

Witness Hevert employs a long-term growth rate for his multi-stage model of 5.36 percent. (Reference: Hevert testimony, page 46.) Is Mr. Hevert aware of any authoritative forecasts of the U.S. economy that support his 5.36 percent figure? If so, please identify.

Response:

Mr. Hevert's approach to estimating the projected nominal GDP growth rate as the terminal growth rate in his Multi-Stage DCF model is consistent with the approach used by Morningstar, an authoritative source of financial data used by investors. Like Mr. Hevert's approach, Morningstar's method combines the historical average real GDP growth rate with a measure of inflation calculated using the TIPS spread. See Attachment DIV 4-10-1 for a description of Morningstar's approach.

Regarding specific forecasts of GDP growth, Mr. Hevert notes two primary concerns with applying "authoritative" forecasts: (1) the forecasts are not consistent with the structure or timing of the terminal stage of Mr. Hevert's Multi-Stage DCF model; and (2) forecasts are prepared for a specific purpose and apply assumptions that may not be appropriate for the purpose of estimating the Company's Cost of Equity.

To the first point, Mr. Hevert notes that the terminal, or third stage growth rate, represents investors' expectations for long-term (that is, perpetual) growth beginning in the third stage. Because the model assumes five-year periods for the first and second stage, the terminal stage (and, therefore, the terminal growth rate) begins in the eleventh year. There are no consensus forecasts that begin in ten years. Likewise, the term of even the longest GDP forecasts available do not reflect the expected, perpetual nature of the terminal growth assumed in the DCF model. For example, the Congressional Budget Office's (CBO) forecast is for ten years; that is, through 2027, when Mr. Hevert's terminal stage begins. Therefore, because there are no forecasts that reflect the timing and structure of the terminal stage, it is reasonable to assume that real growth will revert to its long-term average over time, as Mr. Hevert's approach assumes.

Regarding the second point, many "authoritative" forecasts (such as those produced by U.S. government agencies) are produced for a specific purpose. For example, the Energy Information Administration's (EIA) notes its *Annual Energy Outlook* "is published pursuant to the Department of Energy Organization Act of 1977, which requires the U.S. Energy Information Administration (EIA) Administrator to prepare annual reports on trends and projections for energy use and supply". That is, the EIA's projection regarding economic growth is an input to prepare a projection on energy use and supply. Further, the EIA notes that "[p]rojections in the Annual Energy Outlook 2017 (AEO2017) are not predictions of what will happen, but rather

modeled projections of what may happen given certain assumptions and methodologies.” (see Attachment DIV 4-10-2, also available at <https://www.eia.gov/outlooks/aeo/>)

Similarly, the Congressional Budget Office notes that comparisons to other forecasts are not always apt, at least in part because they may be based on different assumptions and used for different purposes. The CBO provides updates regarding its forecasting record. In that context, the CBO discusses comparisons to other forecasts and notes that “[d]espite their value, comparisons of forecasting errors can be misleading when forecasts are made for different purposes.” See *CBO’s Economic Forecasting Record: 2015 Update*, February 2015 at 4-5, provided as Attachment DIV 4-10-3, Pages 3-4.

Those points aside, Mr. Hevert notes that his 5.36 percent terminal growth rate is within the range of the CBO’s GDP growth forecast and the Social Security Administration’s (SSA) projections. The CBO notes that among its two-year forecasts (since the early 1980s), the forecast error for “real output growth” and inflation (measured by the Consumer Price Index) has been 1.40 percentage points and 0.80 percentage points, respectively. That range of error, if applied to the CBO’s current 4.0 percent long-term nominal GDP forecast, suggests that the 5.36 percent rate applied in Mr. Hevert’s Pre-filed Direct Testimony is within the range of the CBO’s projections.

Regarding the SSA forecast, Mr. Hevert’s 5.36 percent terminal growth rate falls well within the range of the “scenarios” that the SSA considers. Tables V.B1 and V.B2 of the 2017 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds includes “Low Cost” scenario assumptions of 2.90 percent for the GDP Price Index and 2.60-2.90 percent for Real GDP Growth over the period 2025 through 2095. Combined, those projections indicate nominal GDP growth of approximately 5.50 percent to 5.80 percent.

The CBO and SSA forecasts are provided as Attachment DIV 4-10-4 and Attachment DIV 4-10-5, respectively.

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The Three-Stage Growth Model Page 2 of 4

Additional growth stages can be used but, in practice, only one-, two-, or three-stage discounted cash flow models are usually employed. The three-stage model is denoted as follows:

$$PV_s = \sum_{i=1}^{n_1} \frac{CF_0(1+g_1)^i}{(1+k_s)^i} + \sum_{i=n_1+1}^{n_2} \frac{CF_{n_1}(1+g_2)^{i-n_1}}{(1+k_s)^i} + \frac{CF_{n_2}(1+g_3)}{(k_s - g_3)(1+k_s)^{n_2}}$$

where:

- k_s = the cost of equity for company s ;
- PV_s = the current market value of company s ;
- i = a measure of time (in this example the unit of measure is a year);
- n_1 = the number of years in the first stage of growth;
- n_2 = the last year in the second stage of growth;
- CF_0 = the dividend or cash flow amount (in \$) in year 0;
- CF_{n_1} = the expected dividend or cash flow amount (in \$) in year n_1 ;
- CF_{n_2} = the expected dividend or cash flow amount (in \$) in year n_2 ;
- g_1 = the expected dividend or cash flow growth rate from year 1 to year n_1 ;
- g_2 = the expected dividend or cash flow growth rate from year $(n_1 + 1)$ to year n_2 ; and
- g_3 = the expected perpetual dividend or cash flow growth rate starting in year $(n_2 + 1)$.

To illustrate the three-stage growth model, we alter the growth assumptions of the two-stage model example (see table on left). Again we assume that the analysts' growth rate of eight percent applies only to years one through five. For years 6 through 10, we assume a growth rate of 6.5 percent. In the last stage, from year 11 and beyond, we assume a perpetual growth rate of 5 percent.

By discounting this stream of cash flows at a rate of 10.03 percent, we arrive at the current stock price of \$50.

To illustrate the two-stage growth model, we can alter the growth assumptions of the example found under the single-stage model. Assume that the analysts' growth rate of 8 percent applies only to years one through five. For years six and onwards, assume a growth rate of 5 percent.

Year	Growth Rate (%)	Annual Dividend (\$)	Present Value Factor @ 9.78 %	Present Value of Dividend (\$)
0		2.00	1.00	
1	8.0	2.16	0.91	1.97
2	8.0	2.33	0.83	1.94
3	8.0	2.52	0.76	1.90
4	8.0	2.72	0.69	1.87
5	8.0	2.94	0.63	1.84
6-forever	5.0	3.09	13.12	40.48
				Total \$50.00

We arrive at the current stock price of \$50 by discounting this stream of cash flows at an estimated rate of 9.78 percent. This is a considerably different estimate compared to the 12.32 percent we arrive at using a constant growth rate of 8 percent. Therefore, the growth rate assumptions can have a significant impact on the cost of equity estimate.

Year	Growth Rate (%)	Annual Dividend (\$)	Present Value Factor @ 10.03 %	Present Value of Dividend (\$)
0		2.00	1.00	
1	8.0	2.16	0.91	1.96
2	8.0	2.33	0.83	1.93
3	8.0	2.52	0.75	1.89
4	8.0	2.72	0.68	1.86
5	8.0	2.94	0.62	1.82
6	6.5	3.13	0.56	1.76
7	6.5	3.33	0.51	1.71
8	6.5	3.55	0.47	1.65
9	6.5	3.78	0.42	1.60
10	6.5	4.03	0.38	1.55
11-forever	5.0	4.23	7.63	32.27
				Total \$50.00

Timing Differences and Discount Rates

Year	Growth Rate (%)	Annual Dividend (\$)	Periodic Dividend (\$)	Reinvestment (\$)	Total Dividend (\$)	Present Value Factor @ 9.96 %	Present Value of Dividend (\$)
0		2.00				1.00	
1	8.0	2.16	0.54	0.08	2.24	0.91	2.04
2	8.0	2.33	0.58	0.09	2.42	0.83	2.00
3	8.0	2.52	0.63	0.10	2.62	0.75	1.97
4	8.0	2.72	0.68	0.10	2.82	0.68	1.93
5	8.0	2.94	0.73	0.11	3.05	0.62	1.90
6-forever	5.0	3.09	0.77	0.12	3.20	12.54	40.16
							Total \$50.00

Quarterly Dividend Adjustment

When valuing a stock, one should remember that even though dividends grow and are declared annually, they are usually paid in equal quarterly installments. In order to account for this in the discounted cash flow model, each cash flow can be replaced by the following term:

$$CF_t \times \frac{1 + (1+k)^{1/4} + (1+k)^{1/2} + (1+k)^{3/4}}{4}$$

If we look at the same example that was used for the two-stage discounted cash flow model but use the quarterly dividend adjustment, the cost of equity estimate becomes 9.96 percent instead of 9.78 percent. The higher discount rate reflects the difference in timing of the cash flows, as shown below.

Estimating Growth Rates

One of the advantages of a three-stage discounted cash flow model is that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with varying growth characteristics. Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level.

In the *Ibbotson Cost of Capital Yearbook* the three-stage growth model is used. In the first stage (the first five years), analysts' consensus estimates of earnings growth are used. These should reflect any extraordinary near-term growth potential. Over years 6 through 10, an average of the analysts' consensus estimates of growth for the entire industry is used (we assume that over a middle horizon, growth of any particular company will lie more in line with the industry as a whole). Finally, in years 11 and beyond, a growth rate estimate for the entire economy is used, reflecting the belief that even in a rapidly growing industry there will come a time when growth slows to be more in line with the overall economy.

Short-term growth rates are generally available from security analysts who follow a particular company or industry. Long-term growth rates can be estimated in a number of ways. One rudimentary estimate of long-term growth is the sustainable-growth model. This model relies on two accounting concepts: return on equity and the plow-back ratio.

Sustainable growth is then given by:

$$g_s = b_s \times ROE_s$$

where:

g_s = the sustainable growth rate for company s ;

b_s = the plow-back ratio of company s calculated as follows:

$$\frac{\text{Annual Earnings} - \text{Annual Dividends}}{\text{Annual Earnings}}; \text{ and}$$

ROE_s = the return on book equity of company s calculated as follows:

$$\frac{\text{Annual Earnings}}{\text{Book Value of Equity}}$$

This model relies on a number of assumptions that may or may not hold. The first of these assumptions is that ROE and the plow-back of earnings are constant over time. That is, there exists a forecast of these two accounting ratios that is sustainable in the long term. Though the model appears simple to implement at first glance, finding a forecast of the ratios that is sustainable indefinitely is extremely difficult. Dividend policy and potential investment opportunities change over time and have a direct impact on these ratios.

The model assumes that the only possible source of corporate earnings growth is the reinvestment of earnings into the existing business and that any investment of funds in the firm will earn the same rate of return as existing projects. However, firms generally seek projects that have a higher return than existing projects. The sustainable growth model may therefore underestimate a firm's future growth. Other problems may arise because the model relies on accounting practices that can distort earnings.

In addition, other sources of growth may exist that do not require the plow-back of earnings. Changes in technology can advance growth with little capital expenditure by a firm. For instance, efficiency in the transfer of information has improved tremendously over the years as a result of internet technology. Many companies benefit from this increased efficiency with little direct investment in the internet. A company may also grow at the rate of inflation without retaining any earnings. The growth rate that the model estimates is a nominal growth rate, not a real growth rate. If retained earnings are zero, the model predicts zero growth; however, a firm could still grow at the general rate of inflation.

Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic growth rate, a forecast is made of the growth rate's component parts. Expected growth can be broken into two main parts: expected inflation and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.

Treasury Inflation-Protected Securities (TIPS), a relatively new investment vehicle in the U.S., can be used in conjunction with traditional long-term government bonds to estimate the market expectation for inflation. Theoretically, the yield on inflation-indexed bonds is equal to the real default-free rate of return.

To estimate long-term inflation, we can start with the current yield on a government bond with approximately 20 years to maturity of 2.41 percent and subtract the current yield on an inflation-indexed bond with approximately 20 years to maturity of 0.15 percent, for an inflation estimate of 2.26 percent.

Once the long-term expected inflation rate is estimated, the real growth rate must be determined. The growth rate in real Gross Domestic Product (GDP) for the period 1929 to 2012 was approximately 3.22 percent. Growth in real GDP (with only a few exceptions) has been reasonably stable over time; therefore, its historical performance is a good estimate of expected long-term (future) performance.

By combining the inflation estimate with the real growth rate estimate, a long-term estimate of nominal growth is formed:

$$2.26 \text{ percent} + 3.22 \text{ percent} = 5.48 \text{ percent.}$$

Endnotes

¹ This relationship does not seem to hold empirically with small company stocks. This size effect is discussed in Chapter 7.

² In general, small company betas are expected to be higher than large company betas. This, however, does not hold for all time periods. Chapter 6 discusses in more detail the measurement of beta for small stocks.

³ The beta-adjusted size premia are different from the small stock premia (or non-beta-adjusted size premia) shown in previous editions of the *Ibbotson Stocks, Bonds, Bills, and Inflation Yearbook* (prior to the 1995 Yearbook). The small stock premium reported in older editions of *Stocks, Bonds, Bills, and Inflation* is the difference in long-term average returns between the large company stock total return series (currently represented by the S&P 500) and the small company stock total return series (currently represented by the Dimensional Fund Advisors U.S. Micro Cap Portfolio). The size premia given here are based on slightly different baskets of stocks from the CRSP (Center for Research in Security Prices) data set and, more importantly, they are adjusted for beta. That is, small stocks do have higher betas than large stocks, the return, above what might be expected because of the higher betas, is the size premium. These size premia increase as the capitalization of the company decreases. Chapter 7 describes the development of these premia in more detail.

⁴ Beta estimate is based on the full information beta for SIC code 36 from the *Ibbotson Industry Cost of Capital Reports* as of December 31, 2012 and December 31, 1996. This beta estimation methodology is described in detail in Chapter 6. For more information, visit <http://global.morningstar.com/IndReportsStats>

⁵ Roll, Richard, and Stephen A. Ross. "An Empirical Investigation of the Arbitrage Pricing Theory," *Journal of Finance*, Vol. 35, no. 5, December 1980, pp. 1073–1103

⁶ Chen, Nai-fu. "Some Empirical Tests of Arbitrage Pricing," *Journal of Finance*, Vol. 18, no. 5, December 1983, pp. 1393–1414.

Chen, Nai-fu, Richard Roll, and Stephen A. Ross. "Economic Forces and the Stock Market: Testing the APT and Alternative Pricing Theories," *Journal of Business*, Vol. 59, July 1986, pp. 383–403

⁷ Fama, Eugene, and Kenneth French. "The Cross-Section of Expected Stock Returns," *Journal of Finance*, Vol. 47, 1992a, pp. 427–465

⁸ Williams, John Burr. "The Theory of Investment Value," Harvard University Press, Cambridge, Mass., 1938

Gordon, Myron J., and Eli Shapiro. "Capital Equipment Analysis: The Required Rate of Profit," *Management Science*, Vol. 3, October 1956, pp. 102–110



U.S. Energy Information
Administration

RIPUC Docket No. 4770

Attachment DIV 4-10-2

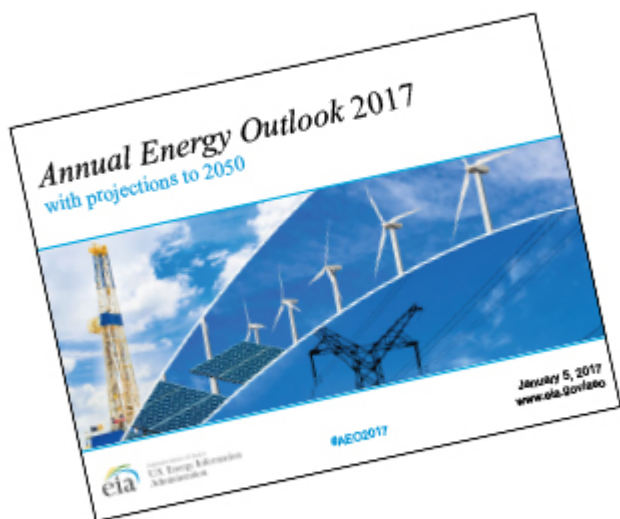
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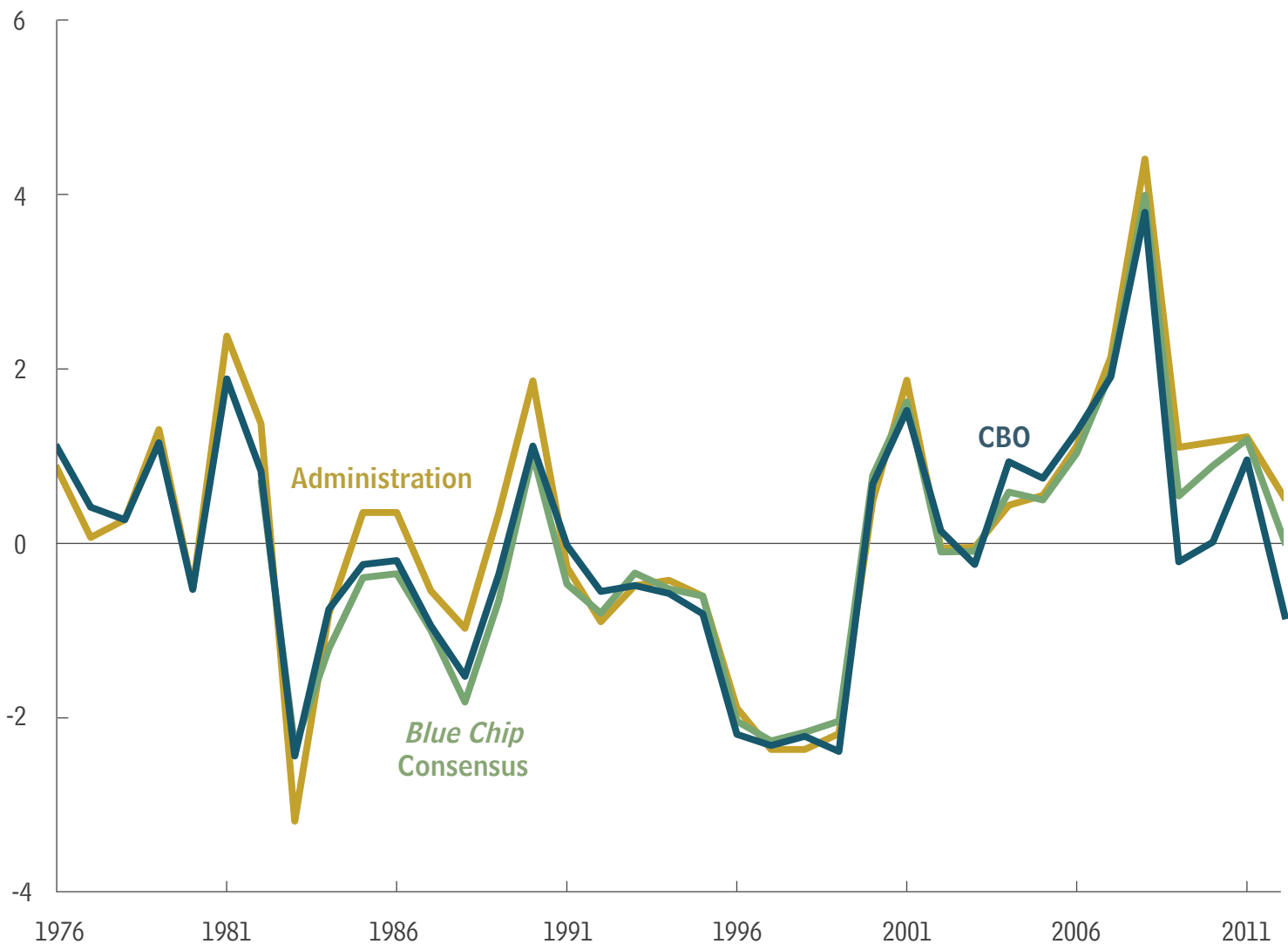
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- The AEO is developed using the National Energy Modeling System (NEMS), an integrated model that aims to capture various interactions of economic changes and energy supply, demand, and prices.
- Energy market projections are subject to much uncertainty, as many of the events that shape energy markets and future developments in technologies, demographics, and resources cannot be foreseen with certainty.
- More information about the assumptions used in developing these projections is available shortly after the release of each AEO.
- The AEO is published pursuant to the Department of Energy Organization Act of 1977, which requires the U.S. Energy Information Administration (EIA) Administrator to prepare annual reports on trends and projections for energy use and supply.

CBO

CBO's Economic Forecasting Record: 2015 Update

Percentage-Point Difference in Annual Growth Rates



Forecast Minus Actual Growth in Inflation-Adjusted Output: Two-Year Forecasts

FEBRUARY 2015

CBO's Economic Forecasting Record: 2015 Update

Summary

For nearly four decades, the Congressional Budget Office has prepared economic forecasts that underlie the agency's projections for the federal budget and cost estimates for proposed federal legislation. In particular, forecasts of output, inflation, interest rates, and income play a significant role in the agency's budgetary analysis; for example, projections of wages and salaries are used to forecast individual income tax receipts.

CBO regularly evaluates the quality of its economic forecasts by comparing them with the economy's actual performance and with forecasts by the Administration (as published in the annual budget documents prepared by the Office of Management and Budget) and the *Blue Chip* consensus—an average of about 50 private-sector forecasts. Such comparisons may indicate the extent to which imperfect information and analysis might have caused CBO to “miss” patterns or turning points in the economy. They also may identify areas where CBO has tended to make larger errors than other analysts.

This report evaluates CBO's macroeconomic forecasts over two-year and five-year horizons. The periods used for the evaluations differ by variable and by forecast horizon, depending on the availability of the needed data.

How Does CBO's Forecasting Record Compare With Those of the Administration and the *Blue Chip* Consensus?

CBO's forecasts generally have been comparable in quality with those of the Administration and the *Blue Chip* consensus. When CBO's projections have proved inaccurate by large margins, the errors have tended to reflect difficulties shared by other forecasters.

Do CBO's Forecasts Exhibit Notable Bias?

A simple and widely used indicator of statistical bias is the mean error—the average tendency of a forecast to be low or high over an entire period. In general, CBO's

forecasts and those by the Administration and the *Blue Chip* consensus have had similar mean errors. Specifically, an evaluation of CBO's mean errors reaches two conclusions:

- For CBO's forecasts that look two years ahead, the mean errors since the early 1980s have generally been very small. The agency's forecasts have shown slight tendencies to overestimate future interest rates and wages and salaries (see Summary Figure 1).
- For CBO's forecasts that look five years ahead, the mean errors since the early 1980s imply a slightly stronger tendency to overestimate inflation compared with that of the agency's two-year forecasts. That tendency accounts for about half of the higher mean errors for growth in nominal output and in wages and salaries.

How Accurate Are CBO's Forecasts?

Accuracy is the degree to which forecast values are dispersed around actual outcomes. One widely used measure of accuracy is the root mean square error. By that measure, the forecasts by CBO, the Administration, and the *Blue Chip* consensus have been about equally accurate over two-year periods (see Summary Figure 2) as well as over five-year periods. Specifically, an evaluation of CBO's root mean square errors reaches two conclusions:

- Among two-year forecasts by CBO since the early 1980s, forecast values deviated from actual outcomes by 1.4 percentage points per year for real (inflation-adjusted) output growth and by 0.8 percentage points per year for inflation in the consumer price index.
- Among five-year forecasts by CBO since the early 1980s, forecast values deviated from actual outcomes by 1.2 percentage points per year for real output growth and by 0.6 percentage points per year for inflation in the consumer price index.

What Are Some Sources of Forecasting Errors?

Sources of large forecasting errors have included the difficulty of predicting the following:

- Turning points in the business cycle—the beginning and end of recessions,
- Changes in trends in productivity, and
- Changes in crude oil prices.

In addition, revisions to the historical data (on output and income, for example) that forecasters use for economic projections can complicate the task of interpreting forecasting errors. CBO uses current versions of historical data to compute the forecasting errors and statistics. Had the revised data been available to forecasters, rather than the original information that was available when the forecasts were produced, the forecasts themselves would have been different. Despite that complication, recently published data present a simple and consistent point of comparison for evaluating forecasts by CBO and others.

Do Assumptions About Fiscal Policy Affect Forecasting Errors?

Different assumptions about fiscal policy can account for some of the differences between forecasts, and thus differences in forecasting errors. CBO constructs its economic projections under the assumption that federal fiscal policy will generally follow current law, thereby providing a benchmark for lawmakers as they consider potential changes in the law. In contrast, the Administration's forecasts reflect the assumption that policies included in the President's proposed budget will be adopted. Forecasters in the private sector (represented in the *Blue Chip* consensus) form their own assumptions about the future stance of federal fiscal policy, which may anticipate changes in law.

Different assumptions about fiscal policy can matter particularly when policymakers are considering major changes to current law. For example, in 2009 and 2010, different fiscal policy assumptions caused CBO's two-year forecasts of real output growth to diverge noticeably from those of the Administration and the *Blue Chip* consensus.

Introduction

Released on a regular basis since 1976, the Congressional Budget Office's macroeconomic forecast is an input for the agency's projections for the federal budget and cost estimates for proposed federal legislation. For example,

projections of wages and salaries feed into the forecast of individual income tax receipts.

CBO regularly evaluates the quality of its economic forecasts by comparing them with the economy's actual performance and with forecasts by the Administration (as published in the annual budget documents prepared by the Office of Management and Budget) and the *Blue Chip* consensus (an average of approximately 50 private-sector forecasts that is published periodically in the *Blue Chip Economic Indicators*). Such comparisons help CBO improve its economic projections. Specifically, they may indicate the extent to which imperfect information and analysis—factors that affect all forecasters—might have caused CBO to miss patterns or turning points in the economy.¹ They also may identify areas where CBO has tended to make larger errors than other analysts, which perhaps implies that the agency has not effectively used available information. Comparisons with the *Blue Chip* consensus forecast are particularly helpful in that regard, because the variety of forecasts it embodies is produced from a broader blend of sources and methods than can be expected from any single forecaster. Consequently, over time, the *Blue Chip* consensus forecasts may provide better estimates than those by any single forecaster.²

Despite their value, comparisons of forecasting errors can be misleading when forecasts are made for different purposes. In particular, forecasters in the private sector attempt to predict the future stance of federal fiscal policy, and the Administration's forecasts assume the adoption of the fiscal policy reflected in the President's proposed budget. CBO, however, is required to assume that fiscal policy in the future will generally reflect the provisions in current law, an approach that derives from the agency's responsibility to provide a benchmark for lawmakers as they consider proposed changes in law. Forecasting errors may be driven by those different assumptions, particularly when policymakers are

1. See David Reifschneider and Peter Tulip, *Gauging the Uncertainty of the Economic Outlook From Historical Forecasting Errors*, Finance and Economics Discussion Series Working Paper 2007-60 (Board of Governors of the Federal Reserve System, November 2007).
2. See, for example, Andy Bauer and others, "Forecast Evaluation With Cross-Sectional Data: The *Blue Chip* Surveys," *Economic Review*, vol. 88, no. 2 (Federal Reserve Bank of Atlanta, 2003), pp. 17–31; Henry Townsend, "A Comparison of Several Consensus Forecasts," *Business Economics*, vol. 31, no. 1 (January 1996); and Robert Clemen, "Combining Forecasts: A Review and Annotated Bibliography," *International Journal of Forecasting*, vol. 5, no. 4 (1989), pp. 559–583.

considering major changes in the fiscal policy embedded in current law.³

This report evaluates CBO's macroeconomic forecasts over two-year and five-year horizons, and the time periods used for the evaluations differ by variable and by forecast horizon. The forecasts by CBO and the Administration included in the evaluation were originally published in the early months of the years 1976 through 2012. Forecasts published in early 2013 were not included because full-year historical data did not extend beyond 2013 when the analysis for this report was completed. The first two-year forecast by the *Blue Chip* consensus that CBO used for this evaluation was released in early 1982; five-year forecasts by the *Blue Chip* consensus were first published in early 1979 for real output and in early 1983 for inflation in consumer prices.⁴

Relative to the forecasting record that CBO published in 2013, this evaluation now includes two-year forecasts conducted in 2011 and 2012 and five-year forecasts conducted in 2008 and 2009.⁵ Those additional forecasts did not significantly alter findings from the previous forecasting record—namely, that the quality of CBO's two- and five-year forecasts is similar to that of other organizations.

Measuring the Quality of Forecasts

Like CBO's earlier studies of its economic forecasts, this evaluation focuses on two indicators of quality: statistical bias and accuracy. Other characteristics of forecast quality—such as the efficiency with which a forecast uses available information—are harder to assess.⁶

Statistical Bias. Statistical bias indicates the tendency of a forecast to err in a certain direction. To measure statistical bias, CBO used the mean error—the arithmetic average of the forecasting errors, which is the simplest and most widely used measure. Because it is a simple average, however, underestimates and overestimates offset one another.

As a result, the mean error imperfectly measures the quality of a forecast: A small mean error would result if all of the errors were small or if large overestimates and underestimates generally balanced one another. As an alternative to the mean error measure, several studies by analysts outside of CBO have used more elaborate techniques to test for bias in the agency's forecasts.⁷

Accuracy. The accuracy of a forecast is the degree to which forecast values are dispersed around actual outcomes. Narrower dispersion indicates greater accuracy. CBO used two measures of accuracy in its evaluation: the mean absolute error and the root mean square error. The mean absolute error—the arithmetic average of the forecasts' errors without regard to sign—does not allow underestimates and overestimates to offset each other, unlike the mean error. The root mean square error also shows

3. Different assumptions about monetary policy also can create differences between CBO's forecasts and other forecasts. CBO's assumptions about monetary policy reflect the economic environment that CBO expects under the fiscal policy specified in current law.
4. The appendix to this report gives further details on the choice of historical time-series data and on the sources of forecast data for the comparisons.
5. See Congressional Budget Office, *CBO's Economic Forecasting Record: 2013 Update* (January 2013), www.cbo.gov/publication/43846.

6. For studies that have examined the relative efficiency of CBO's economic forecasts, see Michael T. Belongia, "Are Economic Forecasts by Government Agencies Biased? Accurate?" *Review*, vol. 70, no. 6 (Federal Reserve Bank of St. Louis, November/December 1988), pp. 15–23; Stephen M. Miller, "Forecasting Federal Budget Deficits: How Reliable Are U.S. Congressional Budget Office Projections?" *Applied Economics*, vol. 23 (December 1991), pp. 1789–1799; and Robert Krol, "Forecast Bias of Government Agencies," *Cato Journal*, vol. 34, no. 1 (Winter 2014). Although statistical tests can identify sources of inefficiency in a forecast after the fact, they generally do not indicate how such information could be used to improve forecasts when they are being made.
7. One such alternative approach to testing a forecast for bias is based on linear regression analysis of actual values against forecast values. For details of that method, see Jacob A. Mincer and Victor Zarnowitz, "The Evaluation of Economic Forecasts," in Jacob A. Mincer, ed., *Economic Forecasts and Expectations: Analysis of Forecasting Behavior and Performance* (National Bureau of Economic Research, 1969). Studies that have used that method to evaluate short-term forecasts published by CBO and the Administration have not found statistically strong evidence of bias over short forecast horizons. See, for example, George A. Krause and James W. Douglas, "Institutional Design Versus Reputational Effects on Bureaucratic Performance: Evidence From U.S. Government Macroeconomic and Fiscal Projections," *Journal of Public Administration Research and Theory*, vol. 15, no. 2 (April 2005), pp. 281–306; J. Kevin Corder, "Managing Uncertainty: The Bias and Efficiency of Federal Macroeconomic Forecasts," *Journal of Public Administration Research and Theory*, vol. 15, no. 1 (January 2005), pp. 55–70; Michael T. Belongia, "Are Economic Forecasts by Government Agencies Biased? Accurate?" *Review*, vol. 70, no. 6 (Federal Reserve Bank of St. Louis, November/December 1988), pp. 15–23; and Robert Krol, "Forecast Bias of Government Agencies," *Cato Journal*, vol. 34, no. 1 (Winter 2014). For a more elaborate study of bias that included CBO's forecasts among a sizable sample, see Corder, "Managing Uncertainty"; and David Laster, Paul Bennett, and In Sun Geom, *Rational Bias in Macroeconomic Forecasts*, Staff Report No. 21 (Federal Reserve Bank of New York, March 1997).

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2015Q1	2015Q2	2015Q3	2015Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	17,784	17,998	18,142	18,223
	Percentage change, annual rate	2.1	4.9	3.2	1.8
Gross National Product (GNP)	Billions of dollars	18,001	18,202	18,333	18,434
	Percentage change, annual rate	1.6	4.5	2.9	2.2
Potential GDP	Billions of dollars	18,006	18,181	18,312	18,424
	Percentage change, annual rate	1.6	3.9	2.9	2.5
Real GDP	Billions of 2009 dollars	16,269	16,374	16,455	16,491
	Percentage change, annual rate	2.0	2.6	2.0	0.9
Real GNP	Billions of 2009 dollars	16,453	16,546	16,614	16,668
	Percentage change, annual rate	1.6	2.3	1.7	1.3
Real Potential GDP	Billions of 2009 dollars	16,473	16,540	16,607	16,673
	Percentage change, annual rate	1.7	1.6	1.6	1.6
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	109.0	109.5	109.8	109.9
	Percentage change, annual rate	-1.6	1.8	1.1	0.4
Price Index, PCE, Excluding food and energy	2009=100	108.9	109.4	109.8	110.1
	Percentage change, annual rate	1.1	1.8	1.4	1.2
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	235.5	236.8	237.7	237.9
	Percentage change, annual rate	-2.5	2.4	1.5	0.4
CPI-U, Excluding Food and Energy	1982-84=100	240.3	241.7	242.8	244.2
	Percentage change, annual rate	1.6	2.3	1.9	2.2
GDP Price Index	2009=100	109.3	109.9	110.3	110.5
	Percentage change, annual rate	-0.1	2.3	1.3	0.8
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	122.6	122.8	123.6	124.3
	Percentage change, annual rate	3.0	0.7	2.6	2.3
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	46.4	56.0	45.6	38.1
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	48.5	57.9	46.4	42.0
Price of Natural Gas, Henry Hub	Dollars per MMBtu	2.9	2.7	2.8	2.1
FHFA House Price Index, Purchase Only	1991Q1=100	214.6	217.7	220.5	223.9
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	158.4	157.4	162.6	165.3
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	5.5	5.4	5.1	5.0
Noninstitutional Population, Civilian, 16 Years or Older	Millions	249.9	250.5	251.1	251.7
	Percentage change, annual rate	1.7	0.9	1.0	1.0
Labor Force, Civilian, 16 Years or Older	Millions	156.9	157.2	157.0	157.5
	Percentage change, annual rate	1.3	0.8	-0.4	1.2
Labor Force Participation Rate, 16 Years or Older	Percent	62.8	62.7	62.5	62.6
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	148.1	148.7	149.0	149.6
	Percentage change, annual rate	1.9	1.5	0.8	1.6
Employment, Total Nonfarm (Establishment Survey)	Millions	140.8	141.5	142.1	142.8
	Percentage change, annual rate	2.0	2.0	1.8	2.0
Labor Productivity Index (Nonfarm Business Sector)	2009=100	106.1	106.4	106.9	106.3
	Percentage change, annual rate	1.2	1.1	1.8	-2.0
Interest Rates					
10-Year Treasury Note	Percent	2.0	2.2	2.2	2.2
3-Month Treasury Bill	Percent	0.0	0.0	0.0	0.1
Federal Funds Rate	Percent	0.1	0.1	0.1	0.2
Income					
Income, Personal	Billions of dollars	15,186	15,402	15,556	15,690
	Percentage of GDP	85.4	85.6	85.7	86.1
Compensation of Employees, Paid	Billions of dollars	9,502	9,638	9,740	9,892
	Percentage of GDP	53.4	53.5	53.7	54.3
Wages and Salaries	Billions of dollars	7,692	7,809	7,894	8,025
	Percentage of GDP	43.3	43.4	43.5	44.0
Nonwage Income	Billions of dollars	4,228	4,287	4,332	4,314
	Percentage of GDP	23.8	23.8	23.9	23.7
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	38	39	45	38
	Percentage of GDP	0.2	0.2	0.2	0.2
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,313	1,327	1,344	1,363
	Percentage of GDP	7.4	7.4	7.4	7.5

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2015Q1	2015Q2	2015Q3	2015Q4
Income, rental, with CCAAdj	Billions of dollars	637	657	668	677
	Percentage of GDP	3.6	3.6	3.7	3.7
Interest income, personal	Billions of dollars	1,266	1,316	1,336	1,293
	Percentage of GDP	7.1	7.3	7.4	7.1
Dividend income, personal	Billions of dollars	974	949	939	943
	Percentage of GDP	5.5	5.3	5.2	5.2
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,177	2,112	2,095	1,968
	Percentage of GDP	12.2	11.7	11.6	10.8
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,788	1,730	1,721	1,571
	Percentage of GDP	10.1	9.6	9.5	8.6
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	12,099	12,240	12,357	12,439
	Percentage change, annual rate	0.8	4.8	3.9	2.7
Gross Private Domestic Investment	Billions of dollars	3,045	3,050	3,072	3,060
	Percentage change, annual rate	10.4	0.7	2.9	-1.6
Nonresidential fixed investment	Billions of dollars	2,298	2,305	2,332	2,311
	Percentage change, annual rate	2.0	1.3	4.7	-3.4
Residential fixed investment	Billions of dollars	618	640	664	686
	Percentage change, annual rate	13.5	14.8	15.9	14.0
Change in private inventories	Billions of dollars	129	105	77	63
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,175	3,217	3,236	3,245
	Percentage change, annual rate	0.4	5.5	2.4	1.1
Federal	Billions of dollars	1,219	1,222	1,225	1,234
	Percentage change, annual rate	2.1	1.1	1.0	3.0
State and local	Billions of dollars	1,956	1,995	2,011	2,011
	Percentage change, annual rate	-0.6	8.3	3.3	-0.1
Net Exports of Goods and Services	Billions of dollars	-535	-509	-523	-521
Exports	Billions of dollars	2,288	2,299	2,259	2,212
	Percentage change, annual rate	-14.5	1.9	-6.7	-8.1
Imports	Billions of dollars	2,822	2,808	2,783	2,733
	Percentage change, annual rate	-10.8	-2.1	-3.5	-7.0
Memorandum: Balance on Current Account	Billions of dollars	-479	-453	-506	-471
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	11,102	11,181	11,256	11,319
	Percentage change, annual rate	2.4	2.9	2.7	2.3
Gross Private Domestic Investment	Billions of 2009 dollars	2,861	2,868	2,882	2,865
	Percentage change, annual rate	9.9	1.0	2.0	-2.3
Nonresidential fixed investment	Billions of 2009 dollars	2,188	2,197	2,218	2,199
	Percentage change, annual rate	1.3	1.6	3.9	-3.3
Residential fixed investment	Billions of 2009 dollars	538	557	574	590
	Percentage change, annual rate	13.4	14.8	12.6	11.5
Change in private inventories	Billions of 2009 dollars	114	94	71	57
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,858	2,881	2,894	2,902
	Percentage change, annual rate	2.6	3.2	1.9	1.0
Federal	Billions of 2009 dollars	1,110	1,110	1,113	1,123
	Percentage change, annual rate	1.9	0.2	0.9	3.8
State and local	Billions of 2009 dollars	1,747	1,769	1,780	1,777
	Percentage change, annual rate	3.0	5.1	2.5	-0.6
Net Exports of Goods and Services	Billions of 2009 dollars	-521	-525	-547	-567
Exports	Billions of 2009 dollars	2,121	2,136	2,120	2,106
	Percentage change, annual rate	-5.8	2.8	-2.8	-2.7
Imports	Billions of 2009 dollars	2,642	2,661	2,668	2,672
	Percentage change, annual rate	5.6	2.9	1.1	0.7

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation adjustment; MMBtu = 1 million British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2016Q1	2016Q2	2016Q3	2016Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	18,282	18,450	18,675	18,869
	Percentage change, annual rate	1.3	3.7	5.0	4.2
Gross National Product (GNP)	Billions of dollars	18,454	18,658	18,879	19,112
	Percentage change, annual rate	0.4	4.5	4.8	5.0
Potential GDP	Billions of dollars	18,518	18,694	18,831	18,999
	Percentage change, annual rate	2.1	3.9	3.0	3.6
Real GDP	Billions of 2009 dollars	16,525	16,583	16,727	16,813
	Percentage change, annual rate	0.8	1.4	3.5	2.1
Real GNP	Billions of 2009 dollars	16,668	16,758	16,897	17,018
	Percentage change, annual rate	0.0	2.2	3.4	2.9
Real Potential GDP	Billions of 2009 dollars	16,738	16,801	16,864	16,928
	Percentage change, annual rate	1.6	1.5	1.5	1.5
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	110.0	110.5	110.9	111.5
	Percentage change, annual rate	0.3	2.0	1.5	2.0
Price Index, PCE, Excluding food and energy	2009=100	110.7	111.2	111.6	112.0
	Percentage change, annual rate	2.1	1.8	1.7	1.3
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	238.0	239.4	240.4	242.2
	Percentage change, annual rate	0.1	2.3	1.8	3.0
CPI-U, Excluding Food and Energy	1982-84=100	245.7	247.0	248.2	249.5
	Percentage change, annual rate	2.5	2.1	2.1	2.0
GDP Price Index	2009=100	110.6	111.3	111.7	112.2
	Percentage change, annual rate	0.5	2.3	1.4	2.1
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	125.1	126.0	126.6	127.2
	Percentage change, annual rate	2.6	2.9	1.9	1.9
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	28.8	40.3	41.2	44.4
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	33.2	45.4	44.9	49.1
Price of Natural Gas, Henry Hub	Dollars per MMBtu	2.0	2.1	2.9	3.0
FHFA House Price Index, Purchase Only	1991Q1=100	227.5	230.6	234.3	237.9
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	167.5	164.8	166.0	173.0
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.9	4.9	4.9	4.7
Noninstitutional Population, Civilian, 16 Years or Older	Millions	252.6	253.2	253.9	254.5
	Percentage change, annual rate	1.3	1.0	1.1	1.1
Labor Force, Civilian, 16 Years or Older	Millions	158.8	158.8	159.5	159.6
	Percentage change, annual rate	3.5	-0.2	1.9	0.1
Labor Force Participation Rate, 16 Years or Older	Percent	62.9	62.7	62.8	62.7
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	151.0	151.1	151.7	152.0
	Percentage change, annual rate	3.8	0.3	1.7	0.8
Employment, Total Nonfarm (Establishment Survey)	Millions	143.4	144.0	144.7	145.2
	Percentage change, annual rate	1.7	1.4	2.0	1.4
Labor Productivity Index (Nonfarm Business Sector)	2009=100	106.2	106.1	107.0	107.5
	Percentage change, annual rate	-0.7	-0.1	3.3	1.8
Interest Rates					
10-Year Treasury Note	Percent	1.9	1.8	1.6	2.1
3-Month Treasury Bill	Percent	0.3	0.3	0.3	0.4
Federal Funds Rate	Percent	0.4	0.4	0.4	0.5
Income					
Income, Personal	Billions of dollars	15,740	15,929	16,111	16,266
	Percentage of GDP	86.1	86.3	86.3	86.2
Compensation of Employees, Paid	Billions of dollars	9,893	10,047	10,187	10,280
	Percentage of GDP	54.1	54.5	54.5	54.5
Wages and Salaries	Billions of dollars	8,011	8,143	8,262	8,340
	Percentage of GDP	43.8	44.1	44.2	44.2
Nonwage Income	Billions of dollars	4,333	4,364	4,397	4,447
	Percentage of GDP	23.7	23.7	23.5	23.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	32	30	28	21
	Percentage of GDP	0.2	0.2	0.2	0.1
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,372	1,378	1,392	1,417
	Percentage of GDP	7.5	7.5	7.5	7.5

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2016Q1	2016Q2	2016Q3	2016Q4
Income, rental, with CCAAdj	Billions of dollars	693	701	706	720
	Percentage of GDP	3.8	3.8	3.8	3.8
Interest income, personal	Billions of dollars	1,296	1,310	1,318	1,334
	Percentage of GDP	7.1	7.1	7.1	7.1
Dividend income, personal	Billions of dollars	940	946	953	956
	Percentage of GDP	5.1	5.1	5.1	5.1
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,034	2,021	2,139	2,150
	Percentage of GDP	11.1	11.0	11.5	11.4
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,664	1,613	1,730	1,696
	Percentage of GDP	9.1	8.7	9.3	9.0
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	12,498	12,693	12,832	13,009
	Percentage change, annual rate	1.9	6.4	4.5	5.6
Gross Private Domestic Investment	Billions of dollars	3,037	2,988	3,017	3,101
	Percentage change, annual rate	-3.0	-6.3	4.0	11.6
Nonresidential fixed investment	Billions of dollars	2,292	2,305	2,314	2,324
	Percentage change, annual rate	-3.2	2.2	1.6	1.8
Residential fixed investment	Billions of dollars	702	698	699	725
	Percentage change, annual rate	10.0	-2.6	0.9	15.4
Change in private inventories	Billions of dollars	42	-15	4	52
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,254	3,262	3,286	3,304
	Percentage change, annual rate	1.2	1.0	2.9	2.3
Federal	Billions of dollars	1,234	1,239	1,252	1,253
	Percentage change, annual rate	-0.1	1.8	4.1	0.4
State and local	Billions of dollars	2,021	2,023	2,034	2,051
	Percentage change, annual rate	1.9	0.5	2.2	3.4
Net Exports of Goods and Services	Billions of dollars	-507	-492	-460	-545
Exports	Billions of dollars	2,179	2,210	2,276	2,265
	Percentage change, annual rate	-5.8	5.8	12.6	-2.0
Imports	Billions of dollars	2,686	2,702	2,736	2,810
	Percentage change, annual rate	-6.6	2.4	5.1	11.2
Memorandum: Balance on Current Account	Billions of dollars	-513	-450	-430	-477
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	11,365	11,485	11,569	11,670
	Percentage change, annual rate	1.6	4.3	3.0	3.5
Gross Private Domestic Investment	Billions of 2009 dollars	2,842	2,784	2,805	2,868
	Percentage change, annual rate	-3.3	-7.9	3.0	9.4
Nonresidential fixed investment	Billions of 2009 dollars	2,180	2,185	2,193	2,197
	Percentage change, annual rate	-3.4	1.0	1.4	0.9
Residential fixed investment	Billions of 2009 dollars	601	589	583	596
	Percentage change, annual rate	7.8	-7.8	-4.1	9.6
Change in private inventories	Billions of 2009 dollars	41	-10	7	50
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,913	2,901	2,906	2,908
	Percentage change, annual rate	1.6	-1.7	0.8	0.2
Federal	Billions of 2009 dollars	1,119	1,118	1,124	1,121
	Percentage change, annual rate	-1.5	-0.4	2.4	-1.2
State and local	Billions of 2009 dollars	1,793	1,781	1,780	1,785
	Percentage change, annual rate	3.5	-2.5	-0.2	1.0
Net Exports of Goods and Services	Billions of 2009 dollars	-566	-559	-522	-605
Exports	Billions of 2009 dollars	2,102	2,111	2,162	2,137
	Percentage change, annual rate	-0.7	1.8	10.0	-4.5
Imports	Billions of 2009 dollars	2,668	2,670	2,684	2,742
	Percentage change, annual rate	-0.6	0.2	2.2	8.9

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2017Q1	2017Q2	2017Q3	2017Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	19,007	19,187	19,417	19,630
	Percentage change, annual rate	3.0	3.8	4.9	4.5
Gross National Product (GNP)	Billions of dollars	19,228	19,409	19,637	19,842
	Percentage change, annual rate	2.4	3.8	4.8	4.2
Potential GDP	Billions of dollars	19,179	19,281	19,468	19,648
	Percentage change, annual rate	3.8	2.1	3.9	3.7
Real GDP	Billions of 2009 dollars	16,842	16,976	17,081	17,179
	Percentage change, annual rate	0.7	3.2	2.5	2.3
Real GNP	Billions of 2009 dollars	17,025	17,158	17,260	17,350
	Percentage change, annual rate	0.2	3.1	2.4	2.1
Real Potential GDP	Billions of 2009 dollars	16,992	17,058	17,126	17,194
	Percentage change, annual rate	1.5	1.6	1.6	1.6
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	112.1	112.3	112.9	113.4
	Percentage change, annual rate	2.4	0.5	2.2	2.0
Price Index, PCE, Excluding food and energy	2009=100	112.5	112.8	113.4	114.0
	Percentage change, annual rate	2.0	1.0	2.1	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	244.1	244.4	245.9	247.3
	Percentage change, annual rate	3.1	0.4	2.5	2.3
CPI-U, Excluding Food and Energy	1982-84=100	251.0	251.9	253.4	254.8
	Percentage change, annual rate	2.5	1.4	2.4	2.3
GDP Price Index	2009=100	112.9	113.0	113.7	114.3
	Percentage change, annual rate	2.3	0.6	2.3	2.1
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	128.3	129.2	130.2	131.2
	Percentage change, annual rate	3.5	2.9	3.0	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	48.0	47.2	48.3	48.8
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	51.8	50.2	51.2	51.8
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.0	3.1	3.2	3.4
FHFA House Price Index, Purchase Only	1991Q1=100	241.2	243.5	245.4	247.0
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	173.4	169.6	169.7	169.7
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.7	4.4	4.4	4.3
Noninstitutional Population, Civilian, 16 Years or Older	Millions	254.2	254.8	255.4	255.9
	Percentage change, annual rate	-0.5	0.9	0.9	0.9
Labor Force, Civilian, 16 Years or Older	Millions	160.0	160.3	160.7	161.0
	Percentage change, annual rate	1.0	0.9	0.8	0.8
Labor Force Participation Rate, 16 Years or Older	Percent	62.9	62.9	62.9	62.9
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	152.5	153.2	153.7	154.1
	Percentage change, annual rate	1.4	1.8	1.1	1.1
Employment, Total Nonfarm (Establishment Survey)	Millions	145.7	146.2	146.7	147.2
	Percentage change, annual rate	1.5	1.4	1.3	1.3
Labor Productivity Index (Nonfarm Business Sector)	2009=100	107.3	107.9	108.3	108.8
	Percentage change, annual rate	-0.6	2.2	1.5	1.6
Interest Rates					
10-Year Treasury Note	Percent	2.4	2.3	2.4	2.5
3-Month Treasury Bill	Percent	0.6	0.8	0.9	1.1
Federal Funds Rate	Percent	0.7	0.9	1.1	1.3
Income					
Income, Personal	Billions of dollars	16,428	16,585	16,771	16,968
	Percentage of GDP	86.4	86.4	86.4	86.4
Compensation of Employees, Paid	Billions of dollars	10,383	10,493	10,614	10,734
	Percentage of GDP	54.6	54.7	54.7	54.7
Wages and Salaries	Billions of dollars	8,424	8,517	8,616	8,712
	Percentage of GDP	44.3	44.4	44.4	44.4
Nonwage Income	Billions of dollars	4,489	4,519	4,578	4,627
	Percentage of GDP	23.6	23.6	23.6	23.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	17	21	25	28
	Percentage of GDP	0.1	0.1	0.1	0.1
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,439	1,451	1,465	1,479
	Percentage of GDP	7.6	7.6	7.5	7.5

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2017Q1	2017Q2	2017Q3	2017Q4
Income, rental, with CCAAdj	Billions of dollars	734	734	739	743
	Percentage of GDP	3.9	3.8	3.8	3.8
Interest income, personal	Billions of dollars	1,352	1,353	1,374	1,389
	Percentage of GDP	7.1	7.1	7.1	7.1
Dividend income, personal	Billions of dollars	946	960	975	989
	Percentage of GDP	5.0	5.0	5.0	5.0
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,091	2,088	2,103	2,094
	Percentage of GDP	11.0	10.9	10.8	10.7
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,660	1,659	1,680	1,676
	Percentage of GDP	8.7	8.6	8.7	8.5
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	13,096	13,218	13,395	13,539
	Percentage change, annual rate	2.7	3.8	5.5	4.4
Gross Private Domestic Investment	Billions of dollars	3,147	3,226	3,287	3,337
	Percentage change, annual rate	5.9	10.5	7.8	6.2
Nonresidential fixed investment	Billions of dollars	2,385	2,425	2,462	2,496
	Percentage change, annual rate	10.9	6.9	6.1	5.6
Residential fixed investment	Billions of dollars	753	763	776	791
	Percentage change, annual rate	16.5	5.2	7.3	7.7
Change in private inventories	Billions of dollars	9	38	49	50
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,323	3,353	3,377	3,402
	Percentage change, annual rate	2.2	3.7	2.9	3.0
Federal	Billions of dollars	1,260	1,267	1,270	1,272
	Percentage change, annual rate	2.3	2.2	0.7	0.8
State and local	Billions of dollars	2,062	2,086	2,108	2,130
	Percentage change, annual rate	2.2	4.7	4.2	4.3
Net Exports of Goods and Services	Billions of dollars	-558	-610	-642	-648
Exports	Billions of dollars	2,316	2,320	2,304	2,317
	Percentage change, annual rate	9.4	0.6	-2.8	2.4
Imports	Billions of dollars	2,875	2,929	2,945	2,965
	Percentage change, annual rate	9.5	7.8	2.2	2.7
Memorandum: Balance on Current Account	Billions of dollars	-498	-560	-595	-611
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	11,680	11,773	11,867	11,934
	Percentage change, annual rate	0.3	3.3	3.2	2.3
Gross Private Domestic Investment	Billions of 2009 dollars	2,898	2,958	3,002	3,036
	Percentage change, annual rate	4.3	8.4	6.2	4.6
Nonresidential fixed investment	Billions of 2009 dollars	2,247	2,277	2,303	2,327
	Percentage change, annual rate	9.4	5.5	4.7	4.2
Residential fixed investment	Billions of 2009 dollars	615	620	628	637
	Percentage change, annual rate	13.7	2.9	5.2	5.8
Change in private inventories	Billions of 2009 dollars	10	34	44	45
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,895	2,905	2,909	2,915
	Percentage change, annual rate	-1.7	1.3	0.6	0.8
Federal	Billions of 2009 dollars	1,116	1,118	1,116	1,115
	Percentage change, annual rate	-1.9	0.7	-0.7	-0.2
State and local	Billions of 2009 dollars	1,778	1,786	1,792	1,798
	Percentage change, annual rate	-1.5	1.7	1.3	1.5
Net Exports of Goods and Services	Billions of 2009 dollars	-603	-632	-669	-679
Exports	Billions of 2009 dollars	2,168	2,165	2,157	2,164
	Percentage change, annual rate	5.8	-0.5	-1.4	1.2
Imports	Billions of 2009 dollars	2,770	2,796	2,826	2,842
	Percentage change, annual rate	4.1	3.8	4.4	2.3

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; Btu = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2018Q1	2018Q2	2018Q3	2018Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	19,829	20,020	20,218	20,406
	Percentage change, annual rate	4.1	3.9	4.0	3.8
Gross National Product (GNP)	Billions of dollars	20,036	20,222	20,411	20,595
	Percentage change, annual rate	4.0	3.8	3.8	3.7
Potential GDP	Billions of dollars	19,833	20,010	20,197	20,376
	Percentage change, annual rate	3.8	3.6	3.8	3.6
Real GDP	Billions of 2009 dollars	17,262	17,347	17,431	17,515
	Percentage change, annual rate	2.0	2.0	1.9	1.9
Real GNP	Billions of 2009 dollars	17,428	17,506	17,581	17,661
	Percentage change, annual rate	1.8	1.8	1.7	1.8
Real Potential GDP	Billions of 2009 dollars	17,266	17,339	17,413	17,489
	Percentage change, annual rate	1.7	1.7	1.7	1.8
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	114.0	114.6	115.1	115.7
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	114.5	115.1	115.7	116.2
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	248.7	250.2	251.6	253.0
	Percentage change, annual rate	2.3	2.3	2.3	2.3
CPI-U, Excluding Food and Energy	1982-84=100	256.3	257.8	259.2	260.7
	Percentage change, annual rate	2.3	2.3	2.3	2.3
GDP Price Index	2009=100	114.9	115.4	116.0	116.5
	Percentage change, annual rate	2.1	1.9	2.0	1.8
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	132.2	133.3	134.4	135.5
	Percentage change, annual rate	3.2	3.3	3.3	3.3
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	49.3	49.7	50.0	50.5
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	52.1	52.0	51.9	51.9
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.5	2.9	2.9	3.0
FHFA House Price Index, Purchase Only	1991Q1=100	248.4	249.8	251.1	252.6
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	169.3	168.4	167.9	167.8
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.2	4.2	4.2	4.2
Noninstitutional Population, Civilian, 16 Years or Older	Millions	256.5	257.1	257.6	258.2
	Percentage change, annual rate	0.9	0.9	0.9	0.9
Labor Force, Civilian, 16 Years or Older	Millions	161.3	161.5	161.8	162.1
	Percentage change, annual rate	0.7	0.7	0.7	0.6
Labor Force Participation Rate, 16 Years or Older	Percent	62.9	62.8	62.8	62.8
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	154.5	154.8	155.1	155.3
	Percentage change, annual rate	1.1	0.7	0.7	0.6
Employment, Total Nonfarm (Establishment Survey)	Millions	147.6	147.9	148.2	148.5
	Percentage change, annual rate	1.1	0.9	0.8	0.7
Labor Productivity Index (Nonfarm Business Sector)	2009=100	109.1	109.6	110.0	110.6
	Percentage change, annual rate	1.3	1.7	1.7	1.9
Interest Rates					
10-Year Treasury Note	Percent	2.7	2.8	2.9	3.0
3-Month Treasury Bill	Percent	1.2	1.4	1.6	1.8
Federal Funds Rate	Percent	1.5	1.7	1.8	2.0
Income					
Income, Personal	Billions of dollars	17,168	17,356	17,540	17,738
	Percentage of GDP	86.6	86.7	86.8	86.9
Compensation of Employees, Paid	Billions of dollars	10,857	10,972	11,083	11,193
	Percentage of GDP	54.8	54.8	54.8	54.9
Wages and Salaries	Billions of dollars	8,812	8,903	8,994	9,083
	Percentage of GDP	44.4	44.5	44.5	44.5
Nonwage Income	Billions of dollars	4,677	4,721	4,764	4,822
	Percentage of GDP	23.6	23.6	23.6	23.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	30	33	35	38
	Percentage of GDP	0.2	0.2	0.2	0.2
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,490	1,501	1,514	1,526
	Percentage of GDP	7.5	7.5	7.5	7.5

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2018Q1	2018Q2	2018Q3	2018Q4
Income, rental, with CCAAdj	Billions of dollars	755	757	758	759
	Percentage of GDP	3.8	3.8	3.7	3.7
Interest income, personal	Billions of dollars	1,400	1,417	1,434	1,463
	Percentage of GDP	7.1	7.1	7.1	7.2
Dividend income, personal	Billions of dollars	1,001	1,012	1,023	1,036
	Percentage of GDP	5.0	5.1	5.1	5.1
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,090	2,090	2,100	2,111
	Percentage of GDP	10.5	10.4	10.4	10.3
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,677	1,678	1,688	1,703
	Percentage of GDP	8.5	8.4	8.4	8.3
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	13,672	13,808	13,943	14,079
	Percentage change, annual rate	4.0	4.0	4.0	4.0
Gross Private Domestic Investment	Billions of dollars	3,382	3,425	3,465	3,501
	Percentage change, annual rate	5.5	5.2	4.8	4.2
Nonresidential fixed investment	Billions of dollars	2,525	2,552	2,578	2,601
	Percentage change, annual rate	4.8	4.3	4.1	3.7
Residential fixed investment	Billions of dollars	806	820	835	851
	Percentage change, annual rate	7.7	7.4	7.6	7.7
Change in private inventories	Billions of dollars	51	53	52	49
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,434	3,460	3,485	3,510
	Percentage change, annual rate	3.9	3.0	2.9	3.0
Federal	Billions of dollars	1,282	1,285	1,288	1,291
	Percentage change, annual rate	3.2	0.9	0.9	0.9
State and local	Billions of dollars	2,152	2,174	2,196	2,219
	Percentage change, annual rate	4.2	4.2	4.1	4.2
Net Exports of Goods and Services	Billions of dollars	-659	-672	-674	-684
Exports	Billions of dollars	2,323	2,347	2,359	2,374
	Percentage change, annual rate	1.0	4.1	2.1	2.6
Imports	Billions of dollars	2,983	3,019	3,033	3,059
	Percentage change, annual rate	2.4	4.9	1.9	3.4
Memorandum: Balance on Current Account	Billions of dollars	-630	-651	-664	-680
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	11,992	12,052	12,110	12,169
	Percentage change, annual rate	1.9	2.0	1.9	2.0
Gross Private Domestic Investment	Billions of 2009 dollars	3,066	3,094	3,120	3,142
	Percentage change, annual rate	4.0	3.7	3.4	2.9
Nonresidential fixed investment	Billions of 2009 dollars	2,347	2,364	2,381	2,396
	Percentage change, annual rate	3.4	3.0	2.9	2.6
Residential fixed investment	Billions of 2009 dollars	646	654	664	673
	Percentage change, annual rate	5.8	5.5	5.7	5.8
Change in private inventories	Billions of 2009 dollars	45	46	45	42
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,920	2,927	2,933	2,940
	Percentage change, annual rate	0.7	0.9	0.9	0.9
Federal	Billions of 2009 dollars	1,114	1,114	1,114	1,115
	Percentage change, annual rate	-0.4	0.1	0.1	0.1
State and local	Billions of 2009 dollars	1,804	1,811	1,817	1,823
	Percentage change, annual rate	1.4	1.4	1.3	1.4
Net Exports of Goods and Services	Billions of 2009 dollars	-688	-697	-703	-706
Exports	Billions of 2009 dollars	2,178	2,194	2,204	2,215
	Percentage change, annual rate	2.6	3.0	1.9	1.9
Imports	Billions of 2009 dollars	2,865	2,891	2,907	2,921
	Percentage change, annual rate	3.3	3.6	2.2	1.9

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; Btu = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2019Q1	2019Q2	2019Q3	2019Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	20,584	20,760	20,934	21,109
	Percentage change, annual rate	3.5	3.5	3.4	3.4
Gross National Product (GNP)	Billions of dollars	20,777	20,951	21,123	21,295
	Percentage change, annual rate	3.6	3.4	3.3	3.3
Potential GDP	Billions of dollars	20,561	20,751	20,944	21,139
	Percentage change, annual rate	3.7	3.7	3.8	3.8
Real GDP	Billions of 2009 dollars	17,584	17,650	17,713	17,775
	Percentage change, annual rate	1.6	1.5	1.4	1.4
Real GNP	Billions of 2009 dollars	17,732	17,796	17,854	17,913
	Percentage change, annual rate	1.6	1.4	1.3	1.3
Real Potential GDP	Billions of 2009 dollars	17,565	17,643	17,721	17,800
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	116.3	116.9	117.4	118.0
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	116.8	117.4	117.9	118.5
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	254.5	256.0	257.5	259.0
	Percentage change, annual rate	2.3	2.3	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	262.3	263.8	265.3	266.9
	Percentage change, annual rate	2.3	2.3	2.4	2.4
GDP Price Index	2009=100	117.1	117.6	118.2	118.8
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	136.6	137.8	138.9	140.1
	Percentage change, annual rate	3.4	3.4	3.4	3.4
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	51.0	51.7	52.5	53.2
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	51.9	51.9	52.0	52.2
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.1	2.7	2.8	2.9
FHFA House Price Index, Purchase Only	1991Q1=100	254.1	255.6	257.2	258.8
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	167.6	167.5	167.3	167.2
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.2	4.3	4.4	4.5
Noninstitutional Population, Civilian, 16 Years or Older	Millions	258.7	259.3	259.9	260.4
	Percentage change, annual rate	0.9	0.9	0.9	0.9
Labor Force, Civilian, 16 Years or Older	Millions	162.3	162.5	162.7	162.9
	Percentage change, annual rate	0.6	0.4	0.6	0.5
Labor Force Participation Rate, 16 Years or Older	Percent	62.7	62.7	62.6	62.6
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	155.5	155.5	155.5	155.5
	Percentage change, annual rate	0.5	0.1	0.1	0.0
Employment, Total Nonfarm (Establishment Survey)	Millions	148.6	148.7	148.8	148.8
	Percentage change, annual rate	0.4	0.2	0.2	0.1
Labor Productivity Index (Nonfarm Business Sector)	2009=100	111.1	111.6	112.1	112.6
	Percentage change, annual rate	1.8	1.9	1.9	1.9
Interest Rates					
10-Year Treasury Note	Percent	3.1	3.2	3.3	3.4
3-Month Treasury Bill	Percent	1.9	2.1	2.2	2.4
Federal Funds Rate	Percent	2.2	2.4	2.5	2.7
Income					
Income, Personal	Billions of dollars	17,937	18,119	18,304	18,502
	Percentage of GDP	87.1	87.3	87.4	87.6
Compensation of Employees, Paid	Billions of dollars	11,303	11,403	11,502	11,599
	Percentage of GDP	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	9,172	9,252	9,332	9,411
	Percentage of GDP	44.6	44.6	44.6	44.6
Nonwage Income	Billions of dollars	4,880	4,931	4,985	5,047
	Percentage of GDP	23.7	23.8	23.8	23.9
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	41	43	46	49
	Percentage of GDP	0.2	0.2	0.2	0.2
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,538	1,550	1,561	1,572
	Percentage of GDP	7.5	7.5	7.5	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2019Q1	2019Q2	2019Q3	2019Q4
Income, rental, with CCAAdj	Billions of dollars	771	769	768	768
	Percentage of GDP	3.7	3.7	3.7	3.6
Interest income, personal	Billions of dollars	1,485	1,513	1,543	1,583
	Percentage of GDP	7.2	7.3	7.4	7.5
Dividend income, personal	Billions of dollars	1,046	1,057	1,067	1,077
	Percentage of GDP	5.1	5.1	5.1	5.1
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,106	2,116	2,121	2,128
	Percentage of GDP	10.2	10.2	10.1	10.1
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,697	1,700	1,700	1,706
	Percentage of GDP	8.2	8.2	8.1	8.1
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	14,203	14,322	14,442	14,563
	Percentage change, annual rate	3.5	3.4	3.4	3.4
Gross Private Domestic Investment	Billions of dollars	3,533	3,565	3,598	3,630
	Percentage change, annual rate	3.7	3.8	3.7	3.6
Nonresidential fixed investment	Billions of dollars	2,620	2,640	2,660	2,679
	Percentage change, annual rate	2.9	3.2	3.1	2.9
Residential fixed investment	Billions of dollars	866	880	895	911
	Percentage change, annual rate	7.2	6.9	6.8	7.1
Change in private inventories	Billions of dollars	47	44	42	40
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,544	3,569	3,594	3,621
	Percentage change, annual rate	3.9	2.9	2.9	3.0
Federal	Billions of dollars	1,302	1,305	1,308	1,312
	Percentage change, annual rate	3.5	0.8	0.9	1.3
State and local	Billions of dollars	2,241	2,264	2,287	2,309
	Percentage change, annual rate	4.1	4.1	4.1	4.0
Net Exports of Goods and Services	Billions of dollars	-695	-696	-700	-705
Exports	Billions of dollars	2,402	2,428	2,454	2,482
	Percentage change, annual rate	4.8	4.3	4.5	4.6
Imports	Billions of dollars	3,097	3,123	3,154	3,187
	Percentage change, annual rate	5.1	3.4	4.0	4.3
Memorandum: Balance on Current Account	Billions of dollars	-689	-694	-703	-714
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	12,215	12,256	12,298	12,339
	Percentage change, annual rate	1.5	1.4	1.4	1.4
Gross Private Domestic Investment	Billions of 2009 dollars	3,160	3,179	3,198	3,215
	Percentage change, annual rate	2.3	2.4	2.3	2.2
Nonresidential fixed investment	Billions of 2009 dollars	2,406	2,418	2,430	2,439
	Percentage change, annual rate	1.7	2.0	1.9	1.6
Residential fixed investment	Billions of 2009 dollars	682	690	698	707
	Percentage change, annual rate	5.4	5.0	4.8	4.9
Change in private inventories	Billions of 2009 dollars	40	38	36	34
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,946	2,952	2,957	2,964
	Percentage change, annual rate	0.8	0.8	0.8	0.9
Federal	Billions of 2009 dollars	1,114	1,114	1,114	1,115
	Percentage change, annual rate	-0.1	-0.1	-0.1	0.3
State and local	Billions of 2009 dollars	1,829	1,835	1,841	1,846
	Percentage change, annual rate	1.3	1.3	1.3	1.2
Net Exports of Goods and Services	Billions of 2009 dollars	-706	-706	-708	-711
Exports	Billions of 2009 dollars	2,231	2,248	2,266	2,284
	Percentage change, annual rate	3.0	3.1	3.2	3.2
Imports	Billions of 2009 dollars	2,937	2,954	2,974	2,995
	Percentage change, annual rate	2.3	2.4	2.7	2.8

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; BTU = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2020Q1	2020Q2	2020Q3	2020Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	21,292	21,470	21,652	21,849
	Percentage change, annual rate	3.5	3.4	3.4	3.7
Gross National Product (GNP)	Billions of dollars	21,476	21,656	21,840	22,037
	Percentage change, annual rate	3.5	3.4	3.4	3.7
Potential GDP	Billions of dollars	21,343	21,541	21,744	21,950
	Percentage change, annual rate	3.9	3.8	3.8	3.8
Real GDP	Billions of 2009 dollars	17,837	17,900	17,965	18,040
	Percentage change, annual rate	1.4	1.4	1.5	1.7
Real GNP	Billions of 2009 dollars	17,973	18,037	18,101	18,175
	Percentage change, annual rate	1.3	1.4	1.4	1.6
Real Potential GDP	Billions of 2009 dollars	17,880	17,960	18,042	18,124
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	118.6	119.2	119.8	120.4
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	119.1	119.7	120.3	120.9
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	260.5	262.1	263.6	265.2
	Percentage change, annual rate	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	268.4	270.0	271.6	273.2
	Percentage change, annual rate	2.4	2.4	2.4	2.4
GDP Price Index	2009=100	119.4	119.9	120.5	121.1
	Percentage change, annual rate	2.1	1.9	2.0	2.0
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	141.2	142.4	143.5	144.6
	Percentage change, annual rate	3.3	3.2	3.2	3.2
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	53.6	53.9	54.2	54.5
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	52.5	52.7	52.9	53.3
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.1	2.7	2.8	3.0
FHFA House Price Index, Purchase Only	1991Q1=100	260.6	262.4	264.3	266.2
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	167.0	166.9	166.7	166.5
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.6	4.7	4.8	4.8
Noninstitutional Population, Civilian, 16 Years or Older	Millions	261.0	261.5	262.1	262.6
	Percentage change, annual rate	0.8	0.9	0.9	0.9
Labor Force, Civilian, 16 Years or Older	Millions	163.1	163.3	163.5	163.7
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Force Participation Rate, 16 Years or Older	Percent	62.5	62.4	62.4	62.3
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	155.5	155.6	155.7	155.8
	Percentage change, annual rate	0.0	0.1	0.2	0.2
Employment, Total Nonfarm (Establishment Survey)	Millions	148.9	148.9	149.0	149.0
	Percentage change, annual rate	0.1	0.1	0.2	0.2
Labor Productivity Index (Nonfarm Business Sector)	2009=100	113.2	113.7	114.0	114.5
	Percentage change, annual rate	1.9	1.8	1.3	1.7
Interest Rates					
10-Year Treasury Note	Percent	3.4	3.5	3.5	3.5
3-Month Treasury Bill	Percent	2.5	2.6	2.7	2.7
Federal Funds Rate	Percent	2.8	2.9	3.0	3.0
Income					
Income, Personal	Billions of dollars	18,695	18,886	19,081	19,282
	Percentage of GDP	87.8	88.0	88.1	88.3
Compensation of Employees, Paid	Billions of dollars	11,705	11,804	11,904	12,007
	Percentage of GDP	55.0	55.0	55.0	55.0
Wages and Salaries	Billions of dollars	9,497	9,575	9,655	9,737
	Percentage of GDP	44.6	44.6	44.6	44.6
Nonwage Income	Billions of dollars	5,100	5,157	5,216	5,280
	Percentage of GDP	24.0	24.0	24.1	24.2
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	51	53	56	58
	Percentage of GDP	0.2	0.2	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,583	1,594	1,606	1,619
	Percentage of GDP	7.4	7.4	7.4	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2020Q1	2020Q2	2020Q3	2020Q4
Income, rental, with CCAAdj	Billions of dollars	774	771	766	766
	Percentage of GDP	3.6	3.6	3.5	3.5
Interest income, personal	Billions of dollars	1,607	1,647	1,688	1,730
	Percentage of GDP	7.5	7.7	7.8	7.9
Dividend income, personal	Billions of dollars	1,085	1,092	1,100	1,108
	Percentage of GDP	5.1	5.1	5.1	5.1
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,135	2,143	2,150	2,165
	Percentage of GDP	10.0	10.0	9.9	9.9
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,706	1,706	1,706	1,712
	Percentage of GDP	8.0	7.9	7.9	7.8
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	14,685	14,815	14,947	15,090
	Percentage change, annual rate	3.4	3.6	3.6	3.9
Gross Private Domestic Investment	Billions of dollars	3,657	3,690	3,723	3,760
	Percentage change, annual rate	3.0	3.6	3.7	3.9
Nonresidential fixed investment	Billions of dollars	2,693	2,710	2,728	2,747
	Percentage change, annual rate	2.0	2.6	2.7	2.8
Residential fixed investment	Billions of dollars	926	942	957	972
	Percentage change, annual rate	7.1	7.0	6.5	6.4
Change in private inventories	Billions of dollars	38	38	38	41
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,658	3,685	3,713	3,740
	Percentage change, annual rate	4.2	3.0	3.0	3.0
Federal	Billions of dollars	1,326	1,330	1,335	1,339
	Percentage change, annual rate	4.4	1.2	1.4	1.3
State and local	Billions of dollars	2,332	2,355	2,378	2,401
	Percentage change, annual rate	4.0	4.0	4.0	3.9
Net Exports of Goods and Services	Billions of dollars	-709	-721	-731	-741
Exports	Billions of dollars	2,511	2,540	2,570	2,600
	Percentage change, annual rate	4.8	4.7	4.8	4.9
Imports	Billions of dollars	3,220	3,261	3,301	3,341
	Percentage change, annual rate	4.1	5.2	5.0	5.0
Memorandum: Balance on Current Account	Billions of dollars	-721	-734	-747	-758
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	12,381	12,427	12,474	12,531
	Percentage change, annual rate	1.3	1.5	1.5	1.8
Gross Private Domestic Investment	Billions of 2009 dollars	3,227	3,243	3,260	3,278
	Percentage change, annual rate	1.5	2.0	2.1	2.3
Nonresidential fixed investment	Billions of 2009 dollars	2,444	2,452	2,461	2,470
	Percentage change, annual rate	0.7	1.3	1.5	1.5
Residential fixed investment	Billions of 2009 dollars	715	723	730	736
	Percentage change, annual rate	4.8	4.5	3.9	3.5
Change in private inventories	Billions of 2009 dollars	32	32	32	34
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,970	2,976	2,983	2,990
	Percentage change, annual rate	0.9	0.8	0.9	0.9
Federal	Billions of 2009 dollars	1,115	1,116	1,117	1,118
	Percentage change, annual rate	0.2	0.1	0.3	0.3
State and local	Billions of 2009 dollars	1,852	1,858	1,863	1,869
	Percentage change, annual rate	1.2	1.2	1.2	1.2
Net Exports of Goods and Services	Billions of 2009 dollars	-708	-714	-720	-726
Exports	Billions of 2009 dollars	2,302	2,321	2,340	2,360
	Percentage change, annual rate	3.3	3.3	3.4	3.4
Imports	Billions of 2009 dollars	3,010	3,035	3,060	3,086
	Percentage change, annual rate	2.1	3.3	3.4	3.4

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; Btu = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2021Q1	2021Q2	2021Q3	2021Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	22,059	22,270	22,483	22,699
	Percentage change, annual rate	3.9	3.9	3.9	3.9
Gross National Product (GNP)	Billions of dollars	22,248	22,460	22,672	22,886
	Percentage change, annual rate	3.9	3.9	3.8	3.8
Potential GDP	Billions of dollars	22,170	22,382	22,596	22,813
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Real GDP	Billions of 2009 dollars	18,115	18,199	18,283	18,368
	Percentage change, annual rate	1.7	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	18,249	18,332	18,414	18,496
	Percentage change, annual rate	1.7	1.8	1.8	1.8
Real Potential GDP	Billions of 2009 dollars	18,206	18,290	18,375	18,460
	Percentage change, annual rate	1.8	1.9	1.9	1.9
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	121.0	121.7	122.3	122.9
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	121.5	122.1	122.7	123.3
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	266.8	268.4	270.0	271.6
	Percentage change, annual rate	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	274.8	276.4	278.0	279.6
	Percentage change, annual rate	2.4	2.4	2.4	2.3
GDP Price Index	2009=100	121.8	122.4	123.0	123.6
	Percentage change, annual rate	2.2	2.0	2.0	2.0
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	145.7	146.9	148.0	149.1
	Percentage change, annual rate	3.2	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	55.2	56.0	56.7	57.5
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	53.9	54.4	55.0	55.6
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.2	2.7	2.8	3.0
FHFA House Price Index, Purchase Only	1991Q1=100	268.3	270.4	272.6	274.8
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	166.3	166.2	166.0	165.8
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.9	4.9	4.9	5.0
Noninstitutional Population, Civilian, 16 Years or Older	Millions	263.2	263.7	264.3	264.9
	Percentage change, annual rate	0.9	0.9	0.9	0.9
Labor Force, Civilian, 16 Years or Older	Millions	163.9	164.1	164.3	164.5
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Force Participation Rate, 16 Years or Older	Percent	62.3	62.2	62.2	62.1
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	155.9	156.0	156.2	156.3
	Percentage change, annual rate	0.3	0.4	0.4	0.4
Employment, Total Nonfarm (Establishment Survey)	Millions	149.1	149.2	149.4	149.5
	Percentage change, annual rate	0.2	0.3	0.3	0.4
Labor Productivity Index (Nonfarm Business Sector)	2009=100	115.0	115.5	116.0	116.5
	Percentage change, annual rate	1.7	1.7	1.8	1.8
Interest Rates					
10-Year Treasury Note	Percent	3.6	3.6	3.6	3.7
3-Month Treasury Bill	Percent	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	3.1	3.1	3.1	3.1
Income					
Income, Personal	Billions of dollars	19,502	19,713	19,925	20,137
	Percentage of GDP	88.4	88.5	88.6	88.7
Compensation of Employees, Paid	Billions of dollars	12,124	12,234	12,347	12,465
	Percentage of GDP	55.0	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	9,832	9,920	10,010	10,103
	Percentage of GDP	44.6	44.5	44.5	44.5
Nonwage Income	Billions of dollars	5,350	5,416	5,480	5,544
	Percentage of GDP	24.3	24.3	24.4	24.4
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	60	63	65	67
	Percentage of GDP	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,632	1,646	1,661	1,676
	Percentage of GDP	7.4	7.4	7.4	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2021Q1	2021Q2	2021Q3	2021Q4
Income, rental, with CCAAdj	Billions of dollars	769	769	770	772
	Percentage of GDP	3.5	3.5	3.4	3.4
Interest income, personal	Billions of dollars	1,774	1,815	1,854	1,892
	Percentage of GDP	8.0	8.2	8.2	8.3
Dividend income, personal	Billions of dollars	1,115	1,122	1,130	1,137
	Percentage of GDP	5.1	5.0	5.0	5.0
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,170	2,186	2,199	2,215
	Percentage of GDP	9.8	9.8	9.8	9.8
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,715	1,725	1,732	1,742
	Percentage of GDP	7.8	7.7	7.7	7.7
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	15,235	15,389	15,544	15,698
	Percentage change, annual rate	3.9	4.1	4.1	4.0
Gross Private Domestic Investment	Billions of dollars	3,795	3,833	3,869	3,907
	Percentage change, annual rate	3.8	4.0	3.9	3.9
Nonresidential fixed investment	Billions of dollars	2,766	2,787	2,809	2,833
	Percentage change, annual rate	2.8	3.1	3.2	3.4
Residential fixed investment	Billions of dollars	986	1,000	1,011	1,021
	Percentage change, annual rate	6.0	5.6	4.7	4.0
Change in private inventories	Billions of dollars	43	46	49	52
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,779	3,808	3,836	3,865
	Percentage change, annual rate	4.2	3.0	3.0	3.0
Federal	Billions of dollars	1,354	1,359	1,363	1,368
	Percentage change, annual rate	4.6	1.3	1.3	1.3
State and local	Billions of dollars	2,425	2,449	2,473	2,497
	Percentage change, annual rate	4.0	4.0	4.0	3.9
Net Exports of Goods and Services	Billions of dollars	-750	-759	-766	-770
Exports	Billions of dollars	2,632	2,664	2,697	2,730
	Percentage change, annual rate	5.0	4.9	5.0	5.0
Imports	Billions of dollars	3,383	3,424	3,464	3,500
	Percentage change, annual rate	5.1	4.9	4.8	4.3
Memorandum: Balance on Current Account	Billions of dollars	-769	-781	-792	-799
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	12,587	12,650	12,714	12,776
	Percentage change, annual rate	1.8	2.0	2.0	2.0
Gross Private Domestic Investment	Billions of 2009 dollars	3,295	3,314	3,331	3,348
	Percentage change, annual rate	2.1	2.3	2.1	2.1
Nonresidential fixed investment	Billions of 2009 dollars	2,479	2,490	2,502	2,515
	Percentage change, annual rate	1.5	1.8	1.9	2.1
Residential fixed investment	Billions of 2009 dollars	742	747	750	752
	Percentage change, annual rate	3.1	2.6	1.7	1.0
Change in private inventories	Billions of 2009 dollars	35	38	40	42
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,996	3,002	3,009	3,015
	Percentage change, annual rate	0.9	0.8	0.8	0.8
Federal	Billions of 2009 dollars	1,118	1,119	1,120	1,121
	Percentage change, annual rate	0.3	0.3	0.3	0.3
State and local	Billions of 2009 dollars	1,875	1,880	1,885	1,891
	Percentage change, annual rate	1.2	1.2	1.2	1.1
Net Exports of Goods and Services	Billions of 2009 dollars	-730	-735	-738	-738
Exports	Billions of 2009 dollars	2,380	2,401	2,422	2,443
	Percentage change, annual rate	3.5	3.5	3.5	3.5
Imports	Billions of 2009 dollars	3,111	3,135	3,159	3,181
	Percentage change, annual rate	3.3	3.2	3.1	2.7

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2022Q1	2022Q2	2022Q3	2022Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	22,929	23,149	23,373	23,598
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Gross National Product (GNP)	Billions of dollars	23,113	23,329	23,550	23,777
	Percentage change, annual rate	4.0	3.8	3.8	3.9
Potential GDP	Billions of dollars	23,044	23,266	23,490	23,717
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Real GDP	Billions of 2009 dollars	18,453	18,540	18,627	18,714
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	18,578	18,660	18,743	18,830
	Percentage change, annual rate	1.8	1.8	1.8	1.9
Real Potential GDP	Billions of 2009 dollars	18,546	18,633	18,720	18,808
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	123.5	124.1	124.7	125.3
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	123.9	124.5	125.2	125.8
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	273.2	274.8	276.4	278.0
	Percentage change, annual rate	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	281.3	282.9	284.5	286.2
	Percentage change, annual rate	2.3	2.3	2.3	2.3
GDP Price Index	2009=100	124.3	124.9	125.5	126.1
	Percentage change, annual rate	2.2	2.0	2.0	2.0
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	150.3	151.4	152.6	153.8
	Percentage change, annual rate	3.1	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	58.3	59.0	59.8	60.6
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	56.2	56.8	57.4	58.0
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.2	2.8	2.9	3.0
FHFA House Price Index, Purchase Only	1991Q1=100	277.1	279.3	281.6	283.9
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	165.7	165.5	165.3	165.2
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	5.0	5.0	5.0	5.0
Noninstitutional Population, Civilian, 16 Years or Older	Millions	265.4	266.0	266.6	267.1
	Percentage change, annual rate	0.8	0.9	0.9	0.9
Labor Force, Civilian, 16 Years or Older	Millions	164.7	164.9	165.1	165.3
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Force Participation Rate, 16 Years or Older	Percent	62.0	62.0	61.9	61.9
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	156.5	156.7	156.9	157.1
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Employment, Total Nonfarm (Establishment Survey)	Millions	149.7	149.8	150.0	150.2
	Percentage change, annual rate	0.4	0.5	0.5	0.5
Labor Productivity Index (Nonfarm Business Sector)	2009=100	117.0	117.5	118.0	118.6
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Interest Rates					
10-Year Treasury Note	Percent	3.7	3.7	3.7	3.7
3-Month Treasury Bill	Percent	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	3.1	3.1	3.1	3.1
Income					
Income, Personal	Billions of dollars	20,362	20,577	20,795	21,015
	Percentage of GDP	88.8	88.9	89.0	89.1
Compensation of Employees, Paid	Billions of dollars	12,592	12,712	12,834	12,958
	Percentage of GDP	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	10,205	10,301	10,399	10,498
	Percentage of GDP	44.5	44.5	44.5	44.5
Nonwage Income	Billions of dollars	5,608	5,667	5,728	5,788
	Percentage of GDP	24.5	24.5	24.5	24.5
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	69	71	72	74
	Percentage of GDP	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,691	1,707	1,723	1,739
	Percentage of GDP	7.4	7.4	7.4	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2022Q1	2022Q2	2022Q3	2022Q4
Income, rental, with CCAAdj	Billions of dollars	770	772	775	779
	Percentage of GDP	3.4	3.3	3.3	3.3
Interest income, personal	Billions of dollars	1,933	1,965	1,997	2,029
	Percentage of GDP	8.4	8.5	8.5	8.6
Dividend income, personal	Billions of dollars	1,146	1,153	1,160	1,167
	Percentage of GDP	5.0	5.0	5.0	4.9
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,230	2,244	2,258	2,280
	Percentage of GDP	9.7	9.7	9.7	9.7
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,752	1,759	1,766	1,780
	Percentage of GDP	7.6	7.6	7.6	7.5
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	15,860	16,017	16,182	16,345
	Percentage change, annual rate	4.2	4.0	4.2	4.1
Gross Private Domestic Investment	Billions of dollars	3,944	3,981	4,017	4,053
	Percentage change, annual rate	3.9	3.8	3.7	3.6
Nonresidential fixed investment	Billions of dollars	2,860	2,887	2,914	2,941
	Percentage change, annual rate	3.8	3.8	3.8	3.8
Residential fixed investment	Billions of dollars	1,031	1,039	1,048	1,056
	Percentage change, annual rate	3.7	3.4	3.2	3.2
Change in private inventories	Billions of dollars	53	55	56	56
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,904	3,934	3,963	3,992
	Percentage change, annual rate	4.2	3.1	3.0	3.0
Federal	Billions of dollars	1,383	1,388	1,393	1,397
	Percentage change, annual rate	4.5	1.5	1.3	1.4
State and local	Billions of dollars	2,521	2,546	2,570	2,595
	Percentage change, annual rate	4.0	3.9	3.9	3.9
Net Exports of Goods and Services	Billions of dollars	-779	-783	-789	-792
Exports	Billions of dollars	2,765	2,799	2,833	2,869
	Percentage change, annual rate	5.1	5.0	5.0	5.1
Imports	Billions of dollars	3,544	3,581	3,622	3,661
	Percentage change, annual rate	5.0	4.3	4.7	4.3
Memorandum: Balance on Current Account	Billions of dollars	-815	-825	-837	-841
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	12,844	12,907	12,975	13,042
	Percentage change, annual rate	2.1	2.0	2.1	2.1
Gross Private Domestic Investment	Billions of 2009 dollars	3,366	3,383	3,398	3,414
	Percentage change, annual rate	2.1	2.0	1.9	1.8
Nonresidential fixed investment	Billions of 2009 dollars	2,531	2,546	2,561	2,577
	Percentage change, annual rate	2.5	2.4	2.5	2.4
Residential fixed investment	Billions of 2009 dollars	753	753	754	754
	Percentage change, annual rate	0.6	0.4	0.2	0.1
Change in private inventories	Billions of 2009 dollars	43	44	45	45
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	3,021	3,027	3,033	3,038
	Percentage change, annual rate	0.8	0.8	0.7	0.7
Federal	Billions of 2009 dollars	1,121	1,122	1,123	1,124
	Percentage change, annual rate	0.3	0.4	0.2	0.2
State and local	Billions of 2009 dollars	1,896	1,901	1,906	1,911
	Percentage change, annual rate	1.1	1.1	1.0	1.0
Net Exports of Goods and Services	Billions of 2009 dollars	-743	-742	-744	-743
Exports	Billions of 2009 dollars	2,464	2,486	2,508	2,530
	Percentage change, annual rate	3.6	3.6	3.6	3.6
Imports	Billions of 2009 dollars	3,207	3,228	3,252	3,273
	Percentage change, annual rate	3.4	2.7	3.0	2.6

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; Btu = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2023Q1	2023Q2	2023Q3	2023Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	23,837	24,068	24,301	24,537
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Gross National Product (GNP)	Billions of dollars	24,017	24,248	24,483	24,719
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Potential GDP	Billions of dollars	23,957	24,189	24,423	24,660
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Real GDP	Billions of 2009 dollars	18,802	18,891	18,980	19,069
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	18,918	19,005	19,094	19,183
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Real Potential GDP	Billions of 2009 dollars	18,897	18,986	19,075	19,165
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	126.0	126.6	127.2	127.8
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	126.4	127.0	127.6	128.3
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	279.7	281.3	283.0	284.7
	Percentage change, annual rate	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	287.9	289.5	291.2	292.9
	Percentage change, annual rate	2.3	2.3	2.3	2.3
GDP Price Index	2009=100	126.8	127.4	128.0	128.7
	Percentage change, annual rate	2.2	2.0	2.0	2.0
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	155.0	156.2	157.4	158.6
	Percentage change, annual rate	3.1	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	61.4	62.3	63.1	63.9
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	58.6	59.2	59.8	60.5
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.3	2.9	3.0	3.2
FHFA House Price Index, Purchase Only	1991Q1=100	286.2	288.5	290.8	293.0
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	165.0	164.8	164.6	164.3
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	5.0	5.0	4.9	4.9
Noninstitutional Population, Civilian, 16 Years or Older	Millions	267.7	268.3	268.9	269.5
	Percentage change, annual rate	0.9	0.9	0.9	0.9
Labor Force, Civilian, 16 Years or Older	Millions	165.5	165.7	165.9	166.1
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Force Participation Rate, 16 Years or Older	Percent	61.8	61.8	61.7	61.6
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	157.3	157.5	157.7	157.9
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Employment, Total Nonfarm (Establishment Survey)	Millions	150.4	150.6	150.8	151.0
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Productivity Index (Nonfarm Business Sector)	2009=100	119.1	119.6	120.1	120.7
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Interest Rates					
10-Year Treasury Note	Percent	3.7	3.7	3.7	3.7
3-Month Treasury Bill	Percent	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	3.1	3.1	3.1	3.1
Income					
Income, Personal	Billions of dollars	21,243	21,465	21,690	21,920
	Percentage of GDP	89.1	89.2	89.3	89.3
Compensation of Employees, Paid	Billions of dollars	13,091	13,216	13,343	13,469
	Percentage of GDP	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	10,606	10,707	10,808	10,911
	Percentage of GDP	44.5	44.5	44.5	44.5
Nonwage Income	Billions of dollars	5,849	5,909	5,971	6,032
	Percentage of GDP	24.5	24.6	24.6	24.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	75	76	77	78
	Percentage of GDP	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,757	1,774	1,791	1,809
	Percentage of GDP	7.4	7.4	7.4	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2023Q1	2023Q2	2023Q3	2023Q4
Income, rental, with CCAAdj	Billions of dollars	774	777	781	786
	Percentage of GDP	3.2	3.2	3.2	3.2
Interest income, personal	Billions of dollars	2,069	2,099	2,129	2,158
	Percentage of GDP	8.7	8.7	8.8	8.8
Dividend income, personal	Billions of dollars	1,175	1,184	1,192	1,201
	Percentage of GDP	4.9	4.9	4.9	4.9
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,304	2,324	2,343	2,369
	Percentage of GDP	9.7	9.7	9.6	9.7
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,796	1,809	1,822	1,841
	Percentage of GDP	7.5	7.5	7.5	7.5
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	16,508	16,682	16,858	17,040
	Percentage change, annual rate	4.0	4.3	4.3	4.4
Gross Private Domestic Investment	Billions of dollars	4,091	4,128	4,165	4,203
	Percentage change, annual rate	3.7	3.7	3.7	3.6
Nonresidential fixed investment	Billions of dollars	2,970	3,000	3,031	3,062
	Percentage change, annual rate	4.0	4.1	4.2	4.2
Residential fixed investment	Billions of dollars	1,063	1,070	1,076	1,082
	Percentage change, annual rate	3.0	2.5	2.3	2.1
Change in private inventories	Billions of dollars	57	58	59	59
Government Consumption Expenditures and Gross Investment	Billions of dollars	4,032	4,062	4,092	4,122
	Percentage change, annual rate	4.1	3.0	3.0	3.0
Federal	Billions of dollars	1,413	1,418	1,423	1,428
	Percentage change, annual rate	4.5	1.4	1.5	1.5
State and local	Billions of dollars	2,619	2,644	2,669	2,694
	Percentage change, annual rate	3.9	3.8	3.8	3.8
Net Exports of Goods and Services	Billions of dollars	-793	-803	-814	-827
Exports	Billions of dollars	2,905	2,941	2,978	3,016
	Percentage change, annual rate	5.2	5.1	5.1	5.2
Imports	Billions of dollars	3,698	3,744	3,792	3,843
	Percentage change, annual rate	4.2	5.1	5.2	5.5
Memorandum: Balance on Current Account	Billions of dollars	-844	-857	-870	-884
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	13,107	13,179	13,253	13,329
	Percentage change, annual rate	2.0	2.2	2.3	2.3
Gross Private Domestic Investment	Billions of 2009 dollars	3,430	3,446	3,462	3,478
	Percentage change, annual rate	1.9	1.9	1.9	1.8
Nonresidential fixed investment	Billions of 2009 dollars	2,594	2,611	2,629	2,647
	Percentage change, annual rate	2.6	2.7	2.8	2.8
Residential fixed investment	Billions of 2009 dollars	754	753	751	750
	Percentage change, annual rate	-0.1	-0.5	-0.8	-1.0
Change in private inventories	Billions of 2009 dollars	45	46	46	46
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	3,044	3,049	3,055	3,060
	Percentage change, annual rate	0.7	0.7	0.7	0.7
Federal	Billions of 2009 dollars	1,124	1,125	1,125	1,126
	Percentage change, annual rate	0.2	0.2	0.2	0.2
State and local	Billions of 2009 dollars	1,916	1,921	1,925	1,930
	Percentage change, annual rate	1.0	1.0	1.0	1.0
Net Exports of Goods and Services	Billions of 2009 dollars	-741	-746	-752	-760
Exports	Billions of 2009 dollars	2,552	2,575	2,598	2,621
	Percentage change, annual rate	3.6	3.6	3.6	3.6
Imports	Billions of 2009 dollars	3,293	3,321	3,350	3,381
	Percentage change, annual rate	2.5	3.4	3.6	3.8

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; Btu = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2024Q1	2024Q2	2024Q3	2024Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	24,786	25,027	25,270	25,515
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Gross National Product (GNP)	Billions of dollars	24,969	25,211	25,454	25,699
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Potential GDP	Billions of dollars	24,911	25,153	25,397	25,643
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Real GDP	Billions of 2009 dollars	19,159	19,249	19,340	19,431
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	19,272	19,361	19,450	19,540
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Real Potential GDP	Billions of 2009 dollars	19,255	19,346	19,437	19,528
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	128.5	129.1	129.7	130.4
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	128.9	129.5	130.1	130.8
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	286.3	288.0	289.7	291.4
	Percentage change, annual rate	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	294.6	296.3	298.1	299.8
	Percentage change, annual rate	2.4	2.4	2.4	2.4
GDP Price Index	2009=100	129.4	130.0	130.7	131.3
	Percentage change, annual rate	2.2	2.0	2.0	2.0
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	159.8	161.0	162.3	163.5
	Percentage change, annual rate	3.1	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	64.8	65.7	66.6	67.5
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	61.1	61.7	62.4	63.1
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.4	3.0	3.1	3.3
FHFA House Price Index, Purchase Only	1991Q1=100	295.3	297.5	299.8	302.0
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	164.1	163.8	163.6	163.3
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.9	4.9	4.9	4.9
Noninstitutional Population, Civilian, 16 Years or Older	Millions	270.1	270.6	271.2	271.7
	Percentage change, annual rate	0.9	0.8	0.8	0.8
Labor Force, Civilian, 16 Years or Older	Millions	166.3	166.5	166.7	166.9
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Force Participation Rate, 16 Years or Older	Percent	61.6	61.5	61.5	61.4
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	158.1	158.3	158.5	158.7
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Employment, Total Nonfarm (Establishment Survey)	Millions	151.2	151.4	151.6	151.8
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Productivity Index (Nonfarm Business Sector)	2009=100	121.2	121.7	122.3	122.8
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Interest Rates					
10-Year Treasury Note	Percent	3.7	3.7	3.7	3.7
3-Month Treasury Bill	Percent	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	3.1	3.1	3.1	3.1
Income					
Income, Personal	Billions of dollars	22,159	22,393	22,629	22,858
	Percentage of GDP	89.4	89.5	89.5	89.6
Compensation of Employees, Paid	Billions of dollars	13,607	13,738	13,870	14,006
	Percentage of GDP	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	11,023	11,127	11,233	11,340
	Percentage of GDP	44.5	44.5	44.5	44.4
Nonwage Income	Billions of dollars	6,093	6,154	6,214	6,273
	Percentage of GDP	24.6	24.6	24.6	24.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	79	80	81	82
	Percentage of GDP	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,827	1,846	1,864	1,883
	Percentage of GDP	7.4	7.4	7.4	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2024Q1	2024Q2	2024Q3	2024Q4
Income, rental, with CCAAdj	Billions of dollars	783	788	793	798
	Percentage of GDP	3.2	3.1	3.1	3.1
Interest income, personal	Billions of dollars	2,194	2,220	2,246	2,270
	Percentage of GDP	8.9	8.9	8.9	8.9
Dividend income, personal	Billions of dollars	1,210	1,220	1,230	1,240
	Percentage of GDP	4.9	4.9	4.9	4.9
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,393	2,414	2,434	2,456
	Percentage of GDP	9.7	9.6	9.6	9.6
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,859	1,874	1,888	1,904
	Percentage of GDP	7.5	7.5	7.5	7.5
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	17,217	17,406	17,593	17,774
	Percentage change, annual rate	4.2	4.5	4.4	4.2
Gross Private Domestic Investment	Billions of dollars	4,240	4,277	4,315	4,352
	Percentage change, annual rate	3.6	3.6	3.6	3.5
Nonresidential fixed investment	Billions of dollars	3,093	3,125	3,158	3,191
	Percentage change, annual rate	4.2	4.2	4.3	4.2
Residential fixed investment	Billions of dollars	1,087	1,091	1,096	1,100
	Percentage change, annual rate	1.9	1.6	1.5	1.5
Change in private inventories	Billions of dollars	60	61	61	62
Government Consumption Expenditures and Gross Investment	Billions of dollars	4,163	4,194	4,225	4,256
	Percentage change, annual rate	4.1	3.0	3.0	3.0
Federal	Billions of dollars	1,444	1,450	1,455	1,461
	Percentage change, annual rate	4.6	1.5	1.6	1.6
State and local	Billions of dollars	2,719	2,744	2,769	2,795
	Percentage change, annual rate	3.8	3.7	3.7	3.7
Net Exports of Goods and Services	Billions of dollars	-833	-850	-862	-867
Exports	Billions of dollars	3,055	3,094	3,135	3,176
	Percentage change, annual rate	5.3	5.2	5.3	5.3
Imports	Billions of dollars	3,888	3,944	3,997	4,043
	Percentage change, annual rate	4.8	5.8	5.4	4.7
Memorandum: Balance on Current Account	Billions of dollars	-893	-912	-928	-935
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	13,401	13,482	13,559	13,632
	Percentage change, annual rate	2.2	2.4	2.3	2.2
Gross Private Domestic Investment	Billions of 2009 dollars	3,492	3,507	3,522	3,537
	Percentage change, annual rate	1.7	1.7	1.7	1.7
Nonresidential fixed investment	Billions of 2009 dollars	2,665	2,683	2,702	2,721
	Percentage change, annual rate	2.8	2.8	2.8	2.8
Residential fixed investment	Billions of 2009 dollars	747	745	742	739
	Percentage change, annual rate	-1.2	-1.5	-1.6	-1.6
Change in private inventories	Billions of 2009 dollars	46	47	47	47
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	3,066	3,072	3,077	3,083
	Percentage change, annual rate	0.7	0.7	0.7	0.7
Federal	Billions of 2009 dollars	1,127	1,128	1,129	1,130
	Percentage change, annual rate	0.3	0.3	0.4	0.4
State and local	Billions of 2009 dollars	1,935	1,939	1,944	1,948
	Percentage change, annual rate	1.0	1.0	0.9	0.9
Net Exports of Goods and Services	Billions of 2009 dollars	-762	-773	-781	-782
Exports	Billions of 2009 dollars	2,645	2,669	2,693	2,718
	Percentage change, annual rate	3.7	3.7	3.7	3.7
Imports	Billions of 2009 dollars	3,407	3,442	3,474	3,499
	Percentage change, annual rate	3.1	4.2	3.8	3.0

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; BTU = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2025Q1	2025Q2	2025Q3	2025Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	25,774	26,023	26,274	26,528
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Gross National Product (GNP)	Billions of dollars	25,957	26,206	26,456	26,709
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Potential GDP	Billions of dollars	25,903	26,154	26,407	26,661
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Real GDP	Billions of 2009 dollars	19,522	19,613	19,704	19,795
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	19,629	19,718	19,807	19,897
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Real Potential GDP	Billions of 2009 dollars	19,620	19,711	19,803	19,895
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	131.0	131.7	132.3	133.0
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	131.4	132.1	132.7	133.4
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	293.2	294.9	296.7	298.4
	Percentage change, annual rate	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	301.5	303.3	305.1	306.9
	Percentage change, annual rate	2.4	2.4	2.4	2.4
GDP Price Index	2009=100	132.0	132.7	133.3	134.0
	Percentage change, annual rate	2.2	2.0	2.0	2.0
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	164.8	166.0	167.3	168.6
	Percentage change, annual rate	3.1	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	68.4	69.3	70.2	71.2
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	63.8	64.4	65.1	65.8
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.6	3.2	3.3	3.5
FHFA House Price Index, Purchase Only	1991Q1=100	304.3	306.5	308.8	311.1
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	163.0	162.7	162.4	162.1
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.9	4.9	4.9	4.9
Noninstitutional Population, Civilian, 16 Years or Older	Millions	272.2	272.8	273.3	273.8
	Percentage change, annual rate	0.8	0.8	0.8	0.7
Labor Force, Civilian, 16 Years or Older	Millions	167.1	167.3	167.5	167.7
	Percentage change, annual rate	0.5	0.5	0.5	0.4
Labor Force Participation Rate, 16 Years or Older	Percent	61.4	61.3	61.3	61.3
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	158.9	159.1	159.2	159.4
	Percentage change, annual rate	0.5	0.5	0.5	0.4
Employment, Total Nonfarm (Establishment Survey)	Millions	152.0	152.2	152.4	152.6
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Productivity Index (Nonfarm Business Sector)	2009=100	123.4	123.9	124.5	125.0
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Interest Rates					
10-Year Treasury Note	Percent	3.7	3.7	3.7	3.7
3-Month Treasury Bill	Percent	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	3.1	3.1	3.1	3.1
Income					
Income, Personal	Billions of dollars	23,099	23,336	23,575	23,822
	Percentage of GDP	89.6	89.7	89.7	89.8
Compensation of Employees, Paid	Billions of dollars	14,150	14,286	14,423	14,563
	Percentage of GDP	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	11,456	11,566	11,676	11,787
	Percentage of GDP	44.5	44.4	44.4	44.4
Nonwage Income	Billions of dollars	6,333	6,394	6,454	6,516
	Percentage of GDP	24.6	24.6	24.6	24.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	83	84	86	86
	Percentage of GDP	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,902	1,922	1,941	1,961
	Percentage of GDP	7.4	7.4	7.4	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2025Q1	2025Q2	2025Q3	2025Q4
Income, rental, with CCAAdj	Billions of dollars	794	800	806	812
	Percentage of GDP	3.1	3.1	3.1	3.1
Interest income, personal	Billions of dollars	2,304	2,327	2,351	2,375
	Percentage of GDP	8.9	8.9	8.9	9.0
Dividend income, personal	Billions of dollars	1,250	1,261	1,272	1,282
	Percentage of GDP	4.8	4.8	4.8	4.8
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,482	2,505	2,527	2,555
	Percentage of GDP	9.6	9.6	9.6	9.6
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,923	1,938	1,952	1,973
	Percentage of GDP	7.5	7.4	7.4	7.4
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	17,960	18,149	18,332	18,516
	Percentage change, annual rate	4.3	4.3	4.1	4.1
Gross Private Domestic Investment	Billions of dollars	4,390	4,428	4,466	4,505
	Percentage change, annual rate	3.5	3.5	3.5	3.5
Nonresidential fixed investment	Billions of dollars	3,224	3,258	3,291	3,325
	Percentage change, annual rate	4.2	4.2	4.2	4.2
Residential fixed investment	Billions of dollars	1,104	1,107	1,111	1,116
	Percentage change, annual rate	1.5	1.4	1.4	1.5
Change in private inventories	Billions of dollars	62	63	63	64
Government Consumption Expenditures and Gross Investment	Billions of dollars	4,298	4,330	4,362	4,394
	Percentage change, annual rate	4.1	3.0	3.0	3.0
Federal	Billions of dollars	1,478	1,485	1,491	1,497
	Percentage change, annual rate	4.8	1.7	1.7	1.7
State and local	Billions of dollars	2,820	2,845	2,871	2,897
	Percentage change, annual rate	3.7	3.7	3.7	3.6
Net Exports of Goods and Services	Billions of dollars	-875	-883	-885	-886
Exports	Billions of dollars	3,218	3,261	3,304	3,348
	Percentage change, annual rate	5.4	5.4	5.4	5.5
Imports	Billions of dollars	4,093	4,144	4,189	4,234
	Percentage change, annual rate	5.0	5.1	4.4	4.4
Memorandum: Balance on Current Account	Billions of dollars	-947	-960	-966	-970
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	13,706	13,782	13,852	13,922
	Percentage change, annual rate	2.2	2.2	2.0	2.0
Gross Private Domestic Investment	Billions of 2009 dollars	3,551	3,565	3,579	3,594
	Percentage change, annual rate	1.6	1.6	1.6	1.6
Nonresidential fixed investment	Billions of 2009 dollars	2,740	2,758	2,777	2,796
	Percentage change, annual rate	2.8	2.8	2.8	2.8
Residential fixed investment	Billions of 2009 dollars	735	732	729	726
	Percentage change, annual rate	-1.7	-1.7	-1.7	-1.6
Change in private inventories	Billions of 2009 dollars	47	47	47	47
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	3,088	3,094	3,100	3,105
	Percentage change, annual rate	0.7	0.7	0.7	0.7
Federal	Billions of 2009 dollars	1,131	1,132	1,134	1,135
	Percentage change, annual rate	0.4	0.4	0.5	0.5
State and local	Billions of 2009 dollars	1,953	1,957	1,961	1,966
	Percentage change, annual rate	0.9	0.9	0.9	0.9
Net Exports of Goods and Services	Billions of 2009 dollars	-785	-789	-787	-784
Exports	Billions of 2009 dollars	2,743	2,769	2,795	2,821
	Percentage change, annual rate	3.8	3.8	3.8	3.8
Imports	Billions of 2009 dollars	3,528	3,558	3,581	3,606
	Percentage change, annual rate	3.3	3.4	2.7	2.7

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; BTU = British thermal units.

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2026Q1	2026Q2	2026Q3	2026Q4
Output					
Gross Domestic Product (GDP)	Billions of dollars	26,798	27,059	27,322	27,586
	Percentage change, annual rate	4.1	4.0	3.9	3.9
Gross National Product (GNP)	Billions of dollars	26,979	27,239	27,502	27,767
	Percentage change, annual rate	4.1	3.9	3.9	3.9
Potential GDP	Billions of dollars	26,933	27,195	27,459	27,725
	Percentage change, annual rate	4.1	4.0	3.9	3.9
Real GDP	Billions of 2009 dollars	19,887	19,980	20,072	20,165
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	19,987	20,078	20,169	20,261
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Real Potential GDP	Billions of 2009 dollars	19,987	20,080	20,173	20,267
	Percentage change, annual rate	1.9	1.9	1.9	1.9
Prices					
Price Index, Personal Consumption Expenditures (PCE)	2009=100	133.7	134.3	135.0	135.7
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	134.0	134.7	135.3	136.0
	Percentage change, annual rate	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	300.2	302.0	303.8	305.6
	Percentage change, annual rate	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	308.7	310.5	312.3	314.1
	Percentage change, annual rate	2.4	2.4	2.4	2.4
GDP Price Index	2009=100	134.8	135.4	136.1	136.8
	Percentage change, annual rate	2.2	2.0	2.0	2.0
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	169.9	171.2	172.5	173.9
	Percentage change, annual rate	3.1	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	71.6	72.0	72.4	72.9
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	66.2	66.6	67.0	67.4
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.7	3.4	3.5	3.7
FHFA House Price Index, Purchase Only	1991Q1=100	313.4	315.8	318.1	320.4
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	161.8	161.6	161.3	161.0
Labor					
Unemployment Rate, Civilian, 16 Years or Older	Percent	4.9	4.9	4.9	4.9
Noninstitutional Population, Civilian, 16 Years or Older	Millions	274.2	274.7	275.2	275.7
	Percentage change, annual rate	0.7	0.7	0.7	0.7
Labor Force, Civilian, 16 Years or Older	Millions	167.9	168.0	168.2	168.4
	Percentage change, annual rate	0.4	0.4	0.4	0.4
Labor Force Participation Rate, 16 Years or Older	Percent	61.2	61.2	61.1	61.1
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	159.6	159.8	159.9	160.1
	Percentage change, annual rate	0.4	0.4	0.4	0.4
Employment, Total Nonfarm (Establishment Survey)	Millions	152.8	153.0	153.2	153.4
	Percentage change, annual rate	0.5	0.5	0.5	0.5
Labor Productivity Index (Nonfarm Business Sector)	2009=100	125.6	126.1	126.7	127.3
	Percentage change, annual rate	1.8	1.8	1.8	1.8
Interest Rates					
10-Year Treasury Note	Percent	3.7	3.7	3.7	3.7
3-Month Treasury Bill	Percent	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	3.1	3.1	3.1	3.1
Income					
Income, Personal	Billions of dollars	24,088	24,350	24,611	24,867
	Percentage of GDP	89.9	90.0	90.1	90.1
Compensation of Employees, Paid	Billions of dollars	14,712	14,853	14,996	15,141
	Percentage of GDP	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	11,908	12,022	12,137	12,253
	Percentage of GDP	44.4	44.4	44.4	44.4
Nonwage Income	Billions of dollars	6,581	6,647	6,714	6,779
	Percentage of GDP	24.6	24.6	24.6	24.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	87	87	87	87
	Percentage of GDP	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,981	2,001	2,021	2,042
	Percentage of GDP	7.4	7.4	7.4	7.4

1. June 2017 Baseline Forecast—Data Release (Quarterly)

	Units	2026Q1	2026Q2	2026Q3	2026Q4
Income, rental, with CCAAdj	Billions of dollars	810	816	823	828
	Percentage of GDP	3.0	3.0	3.0	3.0
Interest income, personal	Billions of dollars	2,410	2,438	2,466	2,493
	Percentage of GDP	9.0	9.0	9.0	9.0
Dividend income, personal	Billions of dollars	1,293	1,305	1,317	1,329
	Percentage of GDP	4.8	4.8	4.8	4.8
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,582	2,607	2,630	2,659
	Percentage of GDP	9.6	9.6	9.6	9.6
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,995	2,013	2,030	2,053
	Percentage of GDP	7.4	7.4	7.4	7.4
Components of GDP (Nominal)					
Personal Consumption Expenditures	Billions of dollars	18,703	18,899	19,091	19,288
	Percentage change, annual rate	4.1	4.2	4.1	4.2
Gross Private Domestic Investment	Billions of dollars	4,544	4,583	4,622	4,662
	Percentage change, annual rate	3.5	3.5	3.5	3.5
Nonresidential fixed investment	Billions of dollars	3,360	3,394	3,429	3,464
	Percentage change, annual rate	4.2	4.2	4.1	4.2
Residential fixed investment	Billions of dollars	1,120	1,124	1,128	1,132
	Percentage change, annual rate	1.6	1.5	1.4	1.4
Change in private inventories	Billions of dollars	64	65	65	66
Government Consumption Expenditures and Gross Investment	Billions of dollars	4,437	4,469	4,501	4,533
	Percentage change, annual rate	4.0	2.9	2.9	2.9
Federal	Billions of dollars	1,515	1,521	1,528	1,534
	Percentage change, annual rate	4.8	1.7	1.7	1.7
State and local	Billions of dollars	2,922	2,948	2,973	2,999
	Percentage change, annual rate	3.6	3.5	3.5	3.5
Net Exports of Goods and Services	Billions of dollars	-886	-892	-893	-897
Exports	Billions of dollars	3,394	3,440	3,486	3,533
	Percentage change, annual rate	5.6	5.5	5.5	5.5
Imports	Billions of dollars	4,280	4,331	4,379	4,430
	Percentage change, annual rate	4.4	4.9	4.4	4.8
Memorandum: Balance on Current Account	Billions of dollars	-974	-984	-988	-994
Components of GDP (Real)					
Personal Consumption Expenditures	Billions of 2009 dollars	13,994	14,070	14,143	14,219
	Percentage change, annual rate	2.1	2.2	2.1	2.1
Gross Private Domestic Investment	Billions of 2009 dollars	3,609	3,623	3,638	3,653
	Percentage change, annual rate	1.7	1.6	1.6	1.7
Nonresidential fixed investment	Billions of 2009 dollars	2,816	2,835	2,854	2,873
	Percentage change, annual rate	2.8	2.7	2.7	2.8
Residential fixed investment	Billions of 2009 dollars	723	720	717	714
	Percentage change, annual rate	-1.5	-1.7	-1.7	-1.7
Change in private inventories	Billions of 2009 dollars	47	48	48	48
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	3,111	3,117	3,122	3,128
	Percentage change, annual rate	0.7	0.7	0.7	0.7
Federal	Billions of 2009 dollars	1,136	1,138	1,139	1,140
	Percentage change, annual rate	0.5	0.5	0.5	0.5
State and local	Billions of 2009 dollars	1,970	1,974	1,978	1,982
	Percentage change, annual rate	0.9	0.9	0.8	0.8
Net Exports of Goods and Services	Billions of 2009 dollars	-784	-788	-788	-790
Exports	Billions of 2009 dollars	2,848	2,875	2,903	2,930
	Percentage change, annual rate	3.9	3.9	3.9	3.9
Imports	Billions of 2009 dollars	3,632	3,663	3,690	3,720
	Percentage change, annual rate	2.9	3.5	3.0	3.3

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation; Btu = British thermal units.

2. June 2017 Baseline Forecast—Data Release (Calendar Year)

	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Output														
Gross Domestic Product (GDP)	Billions of dollars	18,037	18,569	19,310	20,118	20,847	21,566	22,378	23,262	24,186	25,150	26,150	27,191	28,273
	Percentage change, annual rate	3.7	3.0	4.0	4.2	3.6	3.4	3.8	4.0	4.0	4.0	4.0	4.0	4.0
Gross National Product (GNP)	Billions of dollars	18,242	18,776	19,529	20,316	21,036	21,753	22,566	23,442	24,367	25,333	26,332	27,372	28,456
	Percentage change, annual rate	3.4	2.9	4.0	4.0	3.5	3.4	3.7	3.9	3.9	4.0	3.9	4.0	4.0
Potential GDP	Billions of dollars	18,231	18,761	19,394	20,104	20,849	21,645	22,490	23,379	24,307	25,276	26,281	27,328	28,415
	Percentage change, annual rate	2.7	2.9	3.4	3.7	3.7	3.8	3.9	4.0	4.0	4.0	4.0	4.0	4.0
Real GDP	Billions of 2009 dollars	16,397	16,662	17,019	17,389	17,681	17,936	18,241	18,584	18,935	19,295	19,658	20,026	20,400
	Percentage change, annual rate	2.6	1.6	2.1	2.2	1.7	1.4	1.7	1.9	1.9	1.9	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	16,570	16,835	17,198	17,544	17,824	18,071	18,373	18,703	19,050	19,406	19,763	20,124	20,495
	Percentage change, annual rate	2.3	1.6	2.2	2.0	1.6	1.4	1.7	1.8	1.9	1.9	1.8	1.8	1.8
Real Potential GDP	Billions of 2009 dollars	16,573	16,833	17,093	17,376	17,682	18,001	18,333	18,677	19,031	19,392	19,757	20,127	20,503
	Percentage change, annual rate	1.6	1.6	1.5	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9
Prices														
Price Index, Personal Consumption Expenditures (PCE)	2009=100	109.5	110.7	112.7	114.9	117.1	119.5	122.0	124.4	126.9	129.4	132.0	134.7	137.3
	Percentage change, annual rate	0.4	1.1	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	109.5	111.4	113.2	115.4	117.7	120.0	122.4	124.8	127.3	129.8	132.4	135.0	137.7
	Percentage change, annual rate	1.4	1.7	1.6	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	237.0	240.0	245.4	250.9	256.7	262.8	269.2	275.6	282.2	288.9	295.8	302.9	310.2
	Percentage change, annual rate	0.1	1.3	2.3	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	242.2	247.6	252.8	258.5	264.5	270.8	277.2	283.7	290.4	297.2	304.2	311.4	318.7
	Percentage change, annual rate	1.8	2.2	2.1	2.3	2.3	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.4
GDP Price Index	2009=100	110.0	111.5	113.5	115.7	117.9	120.2	122.7	125.2	127.7	130.3	133.0	135.8	138.6
	Percentage change, annual rate	1.1	1.3	1.8	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	123.3	126.2	129.7	133.9	138.4	142.9	147.4	152.0	156.8	161.7	166.7	171.9	177.2
	Percentage change, annual rate	2.3	2.4	2.8	3.2	3.4	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	46.5	38.7	48.1	49.9	52.1	54.0	56.4	59.4	62.7	66.1	69.8	72.2	73.9
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	48.7	43.1	51.2	52.0	52.0	52.8	54.7	57.1	59.5	62.1	64.8	66.8	68.4
Price of Natural Gas, Henry Hub	Dollars per MMBtu	2.6	2.5	3.2	3.1	2.9	2.9	2.9	3.0	3.1	3.2	3.4	3.6	3.7
FHFA House Price Index, Purchase Only	1991Q1=100	219.2	232.6	244.3	250.5	256.4	263.4	271.5	280.5	289.6	298.7	307.7	316.9	326.2
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	160.9	167.8	170.6	168.3	167.4	166.8	166.1	165.4	164.7	163.7	162.6	161.4	160.3
Labor														
Unemployment Rate, Civilian, 16 Years or Older	Percent	5.3	4.9	4.4	4.2	4.4	4.7	4.9	5.0	4.9	4.9	4.9	4.9	4.9
Noninstitutional Population, Civilian, 16 Years or Older	Millions	250.8	253.5	255.1	257.3	259.6	261.8	264.0	266.3	268.6	270.9	273.0	275.0	276.8
	Percentage change, annual rate	1.2	1.1	0.6	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7
Labor Force, Civilian, 16 Years or Older	Millions	157.1	159.2	160.5	161.7	162.6	163.4	164.2	165.0	165.8	166.6	167.4	168.1	168.9
	Percentage change, annual rate	0.8	1.3	0.8	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
Labor Force Participation Rate, 16 Years or Older	Percent	62.7	62.8	62.9	62.8	62.6	62.4	62.2	62.0	61.7	61.5	61.3	61.1	61.0
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	148.8	151.4	153.4	154.9	155.5	156.1	156.8	157.6	158.4	159.2	159.8	160.6	161.4
	Percentage change, annual rate	1.7	1.7	1.3	1.0	0.4	0.1	0.3	0.5	0.5	0.5	0.5	0.4	0.4
Employment, Total Nonfarm (Establishment Survey)	Millions	141.8	144.3	146.5	148.1	148.7	148.9	149.3	149.9	150.7	151.5	152.3	153.1	153.9
	Percentage change, annual rate	2.1	1.8	1.5	1.1	0.4	0.1	0.2	0.4	0.5	0.5	0.5	0.5	0.5
Labor Productivity Index (Nonfarm Business Sector)	2009=100	106.4	106.7	108.1	109.8	111.8	113.8	115.7	117.8	119.9	122.0	124.2	126.4	128.7
	Percentage change, annual rate	0.9	0.2	1.3	1.6	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8
Interest Rates														
10-Year Treasury Note	Percent	2.1	1.8	2.4	2.8	3.2	3.5	3.6	3.7	3.7	3.7	3.7	3.7	3.7
3-Month Treasury Bill	Percent	0.1	0.3	0.9	1.5	2.2	2.6	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	0.1	0.4	1.0	1.7	2.4	2.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Income														
Income, Personal	Billions of dollars	15,459	16,012	16,688	17,450	18,215	18,986	19,820	20,687	21,580	22,510	23,458	24,479	25,534
	Percentage of GDP	85.7	86.2	86.4	86.7	87.4	88.0	88.6	88.9	89.2	89.5	89.7	90.0	90.3
Compensation of Employees, Paid	Billions of dollars	9,693	10,101	10,556	11,026	11,452	11,855	12,292	12,774	13,280	13,805	14,355	14,926	15,519
	Percentage of GDP	53.7	54.4	54.7	54.8	54.9	55.0	54.9	54.9	54.9	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	7,855	8,189	8,567	8,948	9,292	9,616	9,966	10,351	10,758	11,181	11,621	12,080	12,558
	Percentage of GDP	43.5	44.1	44.4	44.5	44.6	44.6	44.5	44.5	44.5	44.5	44.4	44.4	44.4
Nonwage Income	Billions of dollars	4,290	4,385	4,554	4,746	4,961	5,188	5,447	5,698	5,940	6,184	6,424	6,680	6,950
	Percentage of GDP	23.8	23.6	23.6	23.6	23.8	24.1	24.3	24.5	24.6	24.6	24.6	24.6	24.6
Proprietors' income, farm, with IVA & CCAdj	Billions of dollars	40	28	23	34	45	54	64	71	76	81	85	87	87
	Percentage of GDP	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAdj	Billions of dollars	1,337	1,390	1,459	1,508	1,555	1,601	1,653	1,715	1,783	1,855	1,931	2,011	2,095
	Percentage of GDP	7.4	7.5	7.6	7.5	7.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Income, rental, with CCAdj	Billions of dollars	660	705	737	757	769	779	774	779	790	803	819	840	840
	Percentage of GDP	3.7	3.8	3.8	3.8	3.7	3.6	3.4	3.3	3.2	3.1	3.1	3.0	3.0
Interest income, personal	Billions of dollars	1,303	1,315	1,367	1,429	1,531	1,668	1,834	1,981	2,114	2,232	2,339	2,452	2,567
	Percentage of GDP	7.2	7.1	7.1	7.1	7.3	7.7	8.2	8.5	8.7	8.9	8.9	9.0	9.1
Dividend income, personal	Billions of dollars	951	948	968	1,018	1,062	1,096	1,126	1,157	1,188	1,225	1,266	1,311	1,361
	Percentage of GDP	5.3	5.1	5.0	5.1	5.1	5.1	5.0	5.0	4.9	4.9	4.8	4.8	4.8
Profits, Corporate, With IVA & CCAdj	Billions of dollars	2,088	2,086	2,094	2,098	2,118	2,148	2,193	2,253	2,335	2,424	2,517	2,620	2,725
	Percentage of GDP	11.6	11.2	10.8	10.4	10.2	10.0	9.8	9.7	9.7	9.6	9.6	9.6	9.6
Profits, Corporate, Domestic, With IVA & CCAdj	Billions of dollars	1,702	1,676	1,669	1,687	1,701	1,707	1,729	1,764	1,817	1,881	1,946	2,023	2,103
	Percentage of GDP	9.4	9.0	8.6	8.4	8.2	7.9	7.7	7.6	7.5	7.5	7.4	7.4	7.4

	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Components of GDP (Nominal)														
Personal Consumption Expenditures	Billions of dollars	12,284	12,758	13,312	13,875	14,382	14,884	15,467	16,101	16,772	17,497	18,239	18,995	19,793
	Percentage change, annual rate	3.5	3.9	4.3	4.2	3.7	3.5	3.9	4.1	4.2	4.3	4.2	4.1	4.2
Gross Private Domestic Investment	Billions of dollars	3,057	3,036	3,249	3,443	3,581	3,707	3,851	3,999	4,147	4,296	4,447	4,603	4,761
	Percentage change, annual rate	5.9	-0.7	7.0	6.0	4.0	3.5	3.9	3.8	3.7	3.6	3.5	3.5	3.4
Nonresidential fixed investment	Billions of dollars	2,311	2,309	2,442	2,564	2,650	2,719	2,799	2,900	3,015	3,142	3,275	3,412	3,551
	Percentage change, annual rate	2.7	-0.1	5.8	5.0	3.4	2.6	2.9	3.6	4.0	4.2	4.2	4.2	4.1
Residential fixed investment	Billions of dollars	652	706	771	828	888	949	1,005	1,043	1,073	1,093	1,110	1,126	1,142
	Percentage change, annual rate	14.4	8.3	9.1	7.4	7.3	6.9	5.8	3.8	2.8	1.9	1.5	1.5	1.4
Change in private inventories	Billions of dollars	93	21	37	51	43	39	47	55	58	61	63	65	68
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,218	3,277	3,364	3,472	3,582	3,699	3,822	3,948	4,077	4,209	4,346	4,485	4,626
	Percentage change, annual rate	2.1	1.8	2.7	3.2	3.2	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.1
Federal	Billions of dollars	1,225	1,245	1,267	1,287	1,307	1,332	1,361	1,390	1,420	1,453	1,488	1,525	1,563
	Percentage change, annual rate	0.5	1.6	1.8	1.5	1.5	2.0	2.1	2.1	2.2	2.3	2.4	2.5	2.5
State and local	Billions of dollars	1,993	2,032	2,096	2,185	2,275	2,367	2,461	2,558	2,657	2,757	2,858	2,961	3,064
	Percentage change, annual rate	3.1	2.0	3.2	4.2	4.1	4.0	4.0	3.9	3.9	3.8	3.7	3.6	3.5
Net Exports of Goods and Services	Billions of dollars	-522	-501	-614	-672	-699	-725	-762	-786	-809	-853	-882	-892	-908
Exports	Billions of dollars	2,264	2,233	2,314	2,351	2,442	2,555	2,681	2,816	2,960	3,115	3,283	3,463	3,655
	Percentage change, annual rate	-4.7	-1.4	3.7	1.6	3.9	4.7	4.9	5.0	5.1	5.2	5.4	5.5	5.5
Imports	Billions of dollars	2,786	2,734	2,929	3,023	3,140	3,281	3,443	3,602	3,770	3,968	4,165	4,355	4,563
	Percentage change, annual rate	-3.4	-1.9	7.1	3.2	3.9	4.5	4.9	4.6	4.7	5.3	5.0	4.6	4.8
Memorandum: Balance on Current Account	Billions of dollars	-477	-468	-566	-656	-700	-740	-785	-829	-864	-917	-960	-985	-997
Components of GDP (Real)														
Personal Consumption Expenditures	Billions of 2009 dollars	11,215	11,522	11,813	12,080	12,277	12,453	12,682	12,942	13,217	13,518	13,816	14,107	14,412
	Percentage change, annual rate	3.2	2.7	2.5	2.3	1.6	1.4	1.8	2.1	2.1	2.3	2.2	2.1	2.2
Gross Private Domestic Investment	Billions of 2009 dollars	2,869	2,825	2,974	3,106	3,188	3,252	3,322	3,390	3,454	3,515	3,572	3,631	3,689
	Percentage change, annual rate	5.0	-1.6	5.3	4.4	2.7	2.0	2.2	2.1	1.9	1.8	1.6	1.6	1.6
Nonresidential fixed investment	Billions of 2009 dollars	2,200	2,189	2,289	2,372	2,423	2,457	2,496	2,554	2,620	2,693	2,768	2,844	2,921
	Percentage change, annual rate	2.1	-0.5	4.6	3.6	2.2	1.4	1.6	2.3	2.6	2.8	2.8	2.8	2.7
Residential fixed investment	Billions of 2009 dollars	565	592	625	659	694	726	747	753	752	743	731	719	706
	Percentage change, annual rate	11.7	4.9	5.6	5.5	5.3	4.6	2.9	0.8	-0.2	-1.2	-1.6	-1.6	-1.7
Change in private inventories	Billions of 2009 dollars	84	22	33	45	37	32	39	44	46	47	47	48	49
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,884	2,907	2,906	2,930	2,955	2,980	3,005	3,030	3,052	3,074	3,097	3,119	3,142
	Percentage change, annual rate	1.8	0.8	0.0	0.8	0.8	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.7
Federal	Billions of 2009 dollars	1,114	1,121	1,116	1,114	1,114	1,116	1,120	1,123	1,125	1,128	1,133	1,138	1,144
	Percentage change, annual rate	0.0	0.6	-0.4	-0.2	0.0	0.2	0.3	0.3	0.2	0.3	0.4	0.5	0.5
State and local	Billions of 2009 dollars	1,768	1,785	1,788	1,814	1,838	1,861	1,883	1,903	1,923	1,941	1,959	1,976	1,992
	Percentage change, annual rate	2.9	0.9	0.2	1.4	1.3	1.2	1.2	1.1	1.0	1.0	0.9	0.9	0.8
Net Exports of Goods and Services	Billions of 2009 dollars	-540	-563	-646	-698	-708	-717	-735	-743	-750	-774	-786	-787	-797
Exports	Billions of 2009 dollars	2,121	2,128	2,163	2,198	2,257	2,331	2,412	2,497	2,586	2,681	2,782	2,889	3,001
	Percentage change, annual rate	0.1	0.4	1.6	1.6	2.7	3.3	3.5	3.5	3.6	3.7	3.8	3.8	3.9
Imports	Billions of 2009 dollars	2,661	2,691	2,809	2,896	2,965	3,048	3,147	3,240	3,336	3,455	3,568	3,676	3,798
	Percentage change, annual rate	4.6	1.1	4.4	3.1	2.4	2.8	3.2	3.0	3.0	3.6	3.3	3.0	3.3

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation adjustment; MMBtu = 1 million British thermal units.

3. June 2017 Baseline Forecast—Data Release (Fiscal Year)

	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Output													
Gross Domestic Product (GDP)	Billions of dollars	17,904	18,408	19,120	19,924	20,671	21,381	22,165	23,037	23,951	24,905	25,897	26,927
	Percentage change, annual rate	4.0	2.8	3.9	4.2	3.7	3.4	3.7	3.9	4.0	4.0	4.0	4.0
Gross National Product (GNP)	Billions of dollars	18,116	18,606	19,347	20,128	20,862	21,567	22,354	23,220	24,131	25,088	26,079	27,107
	Percentage change, annual rate	3.7	2.7	4.0	4.0	3.6	3.4	3.7	3.9	3.9	4.0	4.0	3.9
Potential GDP	Billions of dollars	18,109	18,617	19,232	19,922	20,658	21,442	22,274	23,153	24,072	25,030	26,027	27,062
	Percentage change, annual rate	2.8	2.8	3.3	3.6	3.7	3.8	3.9	3.9	4.0	4.0	4.0	4.0
Real GDP	Billions of 2009 dollars	16,321	16,582	16,928	17,305	17,616	17,870	18,159	18,497	18,847	19,204	19,567	19,934
	Percentage change, annual rate	2.8	1.6	2.1	2.2	1.8	1.4	1.6	1.9	1.9	1.9	1.9	1.9
Real GNP	Billions of 2009 dollars	16,500	16,748	17,115	17,466	17,761	18,006	18,292	18,619	18,962	19,317	19,674	20,033
	Percentage change, annual rate	2.5	1.5	2.2	2.1	1.7	1.4	1.6	1.8	1.8	1.9	1.8	1.8
Real Potential GDP	Billions of 2009 dollars	16,507	16,769	17,026	17,303	17,604	17,920	18,249	18,590	18,941	19,301	19,666	20,034
	Percentage change, annual rate	1.6	1.6	1.5	1.6	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9
Prices													
Price Index, Personal Consumption Expenditures (PCE)	2009=100	109.4	110.3	112.2	114.3	116.6	118.9	121.3	123.8	126.3	128.8	131.4	134.0
	Percentage change, annual rate	0.5	0.8	1.7	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Price Index, PCE, Excluding food and energy	2009=100	109.2	110.9	112.7	114.8	117.1	119.4	121.8	124.2	126.7	129.2	131.8	134.4
	Percentage change, annual rate	1.4	1.6	1.6	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Consumer Price Index, All Urban Consumers (CPI-U)	1982-84=100	236.7	238.9	244.2	249.5	255.2	261.3	267.6	274.0	280.5	287.2	294.0	301.1
	Percentage change, annual rate	0.3	0.9	2.2	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
CPI-U, Excluding Food and Energy	1982-84=100	241.0	246.3	251.5	257.0	263.0	269.2	275.6	282.1	288.7	295.5	302.4	309.6
	Percentage change, annual rate	1.8	2.2	2.1	2.2	2.3	2.4	2.4	2.4	2.3	2.3	2.4	2.4
GDP Price Index	2009=100	109.7	111.0	113.0	115.1	117.3	119.6	122.1	124.5	127.1	129.7	132.3	135.1
	Percentage change, annual rate	1.2	1.2	1.7	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1
Employment Cost Index (ECI), Private Wages and Salaries	December 2005=100	122.7	125.5	128.7	132.8	137.2	141.8	146.3	150.9	155.6	160.4	165.4	170.6
	Percentage change, annual rate	2.3	2.3	2.6	3.2	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1
Refiners' Acquisition Cost of Crude Oil, Imported	Dollars per barrel	54.9	37.1	47.0	49.4	51.4	53.7	55.6	58.6	61.9	65.2	68.8	71.8
Price of Crude Oil, West Texas Intermediate (WTI)	Dollars per barrel	56.5	41.4	50.6	51.9	51.9	52.6	54.1	56.5	58.9	61.4	64.1	66.4
Price of Natural Gas, Henry Hub	Dollars per MMBtu	3.0	2.3	3.1	3.2	2.9	2.9	2.9	3.0	3.1	3.2	3.3	3.5
FHFA House Price Index, Purchase Only	1991Q1=100	216.1	229.1	242.0	249.1	254.9	261.5	269.4	278.2	287.4	296.4	305.4	314.6
Nominal Exchange Rate Index (Export Weighted)	1970Q1=100	156.7	165.9	171.4	168.8	167.5	166.9	166.3	165.6	164.9	163.9	162.8	161.7
Labor													
Unemployment Rate, Civilian, 16 Years or Older	Percent	5.4	4.9	4.5	4.2	4.3	4.7	4.9	5.0	5.0	4.9	4.9	4.9
Noninstitutional Population, Civilian, 16 Years or Older	Millions	250.1	252.8	254.7	256.8	259.0	261.2	263.5	265.7	268.0	270.3	272.5	274.5
	Percentage change, annual rate	1.1	1.1	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7
Labor Force, Civilian, 16 Years or Older	Millions	156.8	158.7	160.1	161.4	162.4	163.2	164.0	164.8	165.6	166.4	167.2	168.0
	Percentage change, annual rate	0.8	1.2	0.9	0.8	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4
Labor Force Participation Rate, 16 Years or Older	Percent	62.7	62.8	62.9	62.9	62.7	62.5	62.2	62.0	61.8	61.6	61.4	61.2
Employment, Civilian, 16 Years or Older (Household Survey)	Millions	148.3	150.8	152.9	154.6	155.4	155.6	155.9	156.6	157.4	158.2	159.0	159.7
	Percentage change, annual rate	1.9	1.7	1.4	1.1	0.5	0.1	0.2	0.4	0.5	0.5	0.5	0.4
Employment, Total Nonfarm (Establishment Survey)	Millions	141.1	143.7	146.0	147.8	148.7	148.9	149.2	149.8	150.5	151.3	152.1	152.9
	Percentage change, annual rate	2.1	1.8	1.6	1.2	0.6	0.2	0.2	0.4	0.5	0.5	0.5	0.5
Labor Productivity Index (Nonfarm Business Sector)	2009=100	106.3	106.4	107.8	109.4	111.3	113.4	115.2	117.3	119.3	121.5	123.6	125.8
	Percentage change, annual rate	0.8	0.1	1.3	1.5	1.8	1.8	1.6	1.8	1.8	1.8	1.8	1.8
Interest Rates													
10-Year Treasury Note	Percent	2.2	1.9	2.3	2.7	3.1	3.4	3.6	3.7	3.7	3.7	3.7	3.7
3-Month Treasury Bill	Percent	0.0	0.2	0.7	1.3	2.0	2.5	2.8	2.8	2.8	2.8	2.8	2.8
Federal Funds Rate	Percent	0.1	0.3	0.8	1.6	2.3	2.8	3.1	3.1	3.1	3.1	3.1	3.1
Income													
Income, Personal	Billions of dollars	15,313	15,868	16,512	17,258	18,024	18,791	19,606	20,468	21,353	22,275	23,217	24,218
	Percentage of GDP	85.5	86.2	86.4	86.6	87.2	87.9	88.5	88.8	89.2	89.4	89.7	89.9
Compensation of Employees, Paid	Billions of dollars	9,578	10,005	10,442	10,912	11,350	11,753	12,178	12,651	13,152	13,671	14,216	14,781
	Percentage of GDP	53.5	54.4	54.6	54.8	54.9	55.0	54.9	54.9	54.9	54.9	54.9	54.9
Wages and Salaries	Billions of dollars	7,757	8,110	8,474	8,855	9,210	9,534	9,875	10,252	10,655	11,074	11,509	11,963
	Percentage of GDP	43.3	44.1	44.3	44.4	44.6	44.6	44.6	44.5	44.5	44.5	44.4	44.4
Nonwage Income	Billions of dollars	4,276	4,352	4,508	4,697	4,905	5,130	5,381	5,637	5,879	6,123	6,364	6,614
	Percentage of GDP	23.9	23.6	23.6	23.6	23.7	24.0	24.3	24.5	24.5	24.6	24.6	24.6
Proprietors' income, farm, with IVA & CCAAdj	Billions of dollars	46	32	21	32	42	52	62	70	75	80	84	87
	Percentage of GDP	0.3	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Proprietors' income, nonfarm, with IVA & CCAAdj	Billions of dollars	1,322	1,376	1,443	1,496	1,544	1,589	1,639	1,699	1,765	1,837	1,912	1,991
	Percentage of GDP	7.4	7.5	7.5	7.5	7.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Income, rental, with CCAAdj	Billions of dollars	646	694	732	753	767	770	769	772	778	787	799	815
	Percentage of GDP	3.6	3.8	3.8	3.8	3.7	3.6	3.5	3.4	3.2	3.2	3.1	3.0
Interest income, personal	Billions of dollars	1,306	1,304	1,353	1,410	1,501	1,631	1,793	1,947	2,081	2,204	2,313	2,422
	Percentage of GDP	7.3	7.1	7.1	7.1	7.3	7.6	8.1	8.5	8.7	8.9	8.9	9.0
Dividend income, personal	Billions of dollars	956	945	959	1,006	1,051	1,088	1,119	1,149	1,180	1,215	1,255	1,299
	Percentage of GDP	5.3	5.1	5.0	5.1	5.1	5.1	5.0	5.0	4.9	4.9	4.8	4.8
Profits, Corporate, With IVA & CCAAdj	Billions of dollars	2,150	2,040	2,108	2,094	2,113	2,139	2,180	2,237	2,313	2,402	2,493	2,593
	Percentage of GDP	12.0	11.1	11.0	10.5	10.2	10.0	9.8	9.7	9.7	9.6	9.6	9.6
Profits, Corporate, Domestic, With IVA & CCAAdj	Billions of dollars	1,762	1,645	1,674	1,680	1,700	1,706	1,721	1,755	1,802	1,866	1,929	2,002
	Percentage of GDP	9.8	8.9	8.8	8.4	8.2	8.0	7.8	7.6	7.5	7.5	7.4	7.4

	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Components of GDP (Nominal)													
Personal Consumption Expenditures	Billions of dollars	12,193	12,615	13,179	13,740	14,261	14,753	15,315	15,939	16,598	17,314	18,054	18,802
	Percentage change, annual rate	4.0	3.5	4.5	4.3	3.8	3.4	3.8	4.1	4.1	4.3	4.3	4.1
Gross Private Domestic Investment	Billions of dollars	3,034	3,025	3,190	3,402	3,549	3,675	3,814	3,962	4,109	4,259	4,409	4,563
	Percentage change, annual rate	6.7	-0.3	5.4	6.6	4.3	3.5	3.8	3.9	3.7	3.6	3.5	3.5
Nonresidential fixed investment	Billions of dollars	2,305	2,306	2,399	2,538	2,631	2,703	2,777	2,874	2,985	3,110	3,241	3,377
	Percentage change, annual rate	4.0	0.0	4.1	5.8	3.7	2.7	2.8	3.5	3.9	4.2	4.2	4.2
Residential fixed investment	Billions of dollars	630	696	754	813	873	934	992	1,035	1,066	1,089	1,106	1,122
	Percentage change, annual rate	13.7	10.5	8.3	7.8	7.4	7.0	6.3	4.3	3.1	2.1	1.5	1.5
Change in private inventories	Billions of dollars	99	23	37	52	46	39	44	54	58	60	63	64
Government Consumption Expenditures and Gross Investment	Billions of dollars	3,200	3,262	3,339	3,445	3,554	3,669	3,791	3,916	4,044	4,176	4,311	4,450
	Percentage change, annual rate	2.0	1.9	2.4	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.2	3.2
Federal	Billions of dollars	1,220	1,240	1,263	1,282	1,301	1,326	1,354	1,383	1,413	1,444	1,479	1,515
	Percentage change, annual rate	-0.1	1.6	1.8	1.5	1.5	1.9	2.1	2.1	2.2	2.2	2.4	2.5
State and local	Billions of dollars	1,980	2,022	2,077	2,163	2,253	2,344	2,437	2,534	2,632	2,732	2,833	2,935
	Percentage change, annual rate	3.3	2.1	2.7	4.2	4.2	4.0	4.0	4.0	3.9	3.8	3.7	3.6
Net Exports of Goods and Services	Billions of dollars	-523	-495	-589	-663	-694	-716	-754	-780	-801	-843	-878	-889
Exports	Billions of dollars	2,306	2,219	2,301	2,337	2,415	2,526	2,649	2,782	2,923	3,075	3,239	3,417
	Percentage change, annual rate	-2.5	-3.8	3.7	1.5	3.3	4.6	4.9	5.0	5.1	5.2	5.3	5.5
Imports	Billions of dollars	2,829	2,714	2,890	3,000	3,108	3,242	3,403	3,562	3,724	3,918	4,117	4,306
	Percentage change, annual rate	-0.8	-4.1	6.5	3.8	3.6	4.3	5.0	4.7	4.5	5.2	5.1	4.6
Memorandum: Balance on Current Account	Billions of dollars	-472	-466	-533	-639	-692	-729	-775	-819	-853	-904	-952	-979
Components of GDP (Real)													
Personal Consumption Expenditures	Billions of 2009 dollars	11,144	11,435	11,747	12,022	12,234	12,405	12,620	12,876	13,145	13,443	13,743	14,032
	Percentage change, annual rate	3.4	2.6	2.7	2.3	1.8	1.4	1.7	2.0	2.1	2.3	2.2	2.1
Gross Private Domestic Investment	Billions of 2009 dollars	2,851	2,824	2,932	3,079	3,170	3,236	3,304	3,374	3,438	3,500	3,558	3,616
	Percentage change, annual rate	5.3	-1.0	3.8	5.0	2.9	2.1	2.1	2.1	1.9	1.8	1.7	1.6
Nonresidential fixed investment	Billions of 2009 dollars	2,196	2,189	2,256	2,355	2,413	2,449	2,485	2,538	2,603	2,674	2,749	2,825
	Percentage change, annual rate	3.1	-0.3	3.1	4.4	2.5	1.5	1.5	2.1	2.5	2.8	2.8	2.8
Residential fixed investment	Billions of 2009 dollars	548	590	615	650	686	719	744	753	753	746	734	722
	Percentage change, annual rate	10.0	7.8	4.1	5.7	5.5	4.8	3.5	1.2	0.0	-1.0	-1.6	-1.6
Change in private inventories	Billions of 2009 dollars	89	24	35	45	39	32	37	44	45	46	47	48
Government Consumption Expenditures and Gross Investment	Billions of 2009 dollars	2,868	2,906	2,904	2,924	2,949	2,973	2,999	3,024	3,047	3,069	3,091	3,114
	Percentage change, annual rate	1.3	1.3	0.0	0.7	0.8	0.8	0.9	0.8	0.8	0.7	0.7	0.7
Federal	Billions of 2009 dollars	1,109	1,121	1,117	1,114	1,114	1,116	1,119	1,122	1,124	1,127	1,132	1,137
	Percentage change, annual rate	-0.7	1.1	-0.3	-0.3	0.0	0.1	0.3	0.3	0.2	0.3	0.4	0.5
State and local	Billions of 2009 dollars	1,758	1,783	1,785	1,808	1,832	1,855	1,877	1,898	1,918	1,937	1,955	1,972
	Percentage change, annual rate	2.6	1.4	0.1	1.3	1.3	1.3	1.2	1.1	1.0	1.0	0.9	0.9
Net Exports of Goods and Services	Billions of 2009 dollars	-512	-553	-627	-691	-707	-713	-732	-742	-746	-769	-785	-786
Exports	Billions of 2009 dollars	2,132	2,120	2,157	2,185	2,240	2,312	2,391	2,475	2,564	2,657	2,756	2,862
	Percentage change, annual rate	1.4	-0.6	1.7	1.3	2.5	3.2	3.4	3.5	3.6	3.6	3.7	3.8
Imports	Billions of 2009 dollars	2,644	2,674	2,784	2,876	2,946	3,025	3,123	3,217	3,309	3,426	3,542	3,648
	Percentage change, annual rate	5.5	1.1	4.1	3.3	2.4	2.7	3.2	3.0	2.9	3.5	3.4	3.0

Source: Congressional Budget Office.

Actual values reflect data released as of early April 2017. Projected values are shaded.

CCAdj = capital consumption adjustment; FHFA = Federal Housing Finance Agency; IVA = inventory valuation adjustment; MMBtu = 1 million British thermal units.

2027
27,999
4.0
28,181
4.0
28,140
4.0
20,306
1.9
20,401
1.8
20,408
1.9
136.7
2.0
137.0
2.0
308.3
2.4
316.9
2.4
137.9
2.1
175.9
3.1
73.5
68.0
3.7
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4.9
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168.7
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61.0
160.4
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153.7
0.5
128.1
1.8
3.7
2.8
3.1
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44.4
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24.6
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7.4
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3.0
2,535
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4.8
2,698
9.6
2,083
7.4

2027

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4.1
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5.5
4,508
4.7
-998

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2.7
710
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3.2