



November 18, 2018

# **CBO's 10-Year Budget and Economic Projections**

Southern Economic Association 88th Annual Meetings  
National Association of Forensic Economics

Jeffrey F. Werling  
Assistant Director, Macroeconomic Analysis Division

# **CBO's Role and Products**

## CBO's Role

- CBO was created by the Congressional Budget and Impoundment Control Act of 1974.
- The agency provides analysis of budgetary and economic issues that is **objective** and **impartial**. It is strictly **nonpartisan**.
- The **Director** is appointed jointly by the Speaker of the House and president pro tempore of the Senate.
- CBO has about **235 employees**, who are hired solely on the basis of professional competence, without regard to political affiliation. Most have advanced degrees.

# Outside Advisers

- A **Panel of Economic Advisers** improves CBO's understanding of economic research, macroeconomic developments, and economic policy. (See [here](#) for more information.)
- A **Panel of Health Advisers** improves CBO's understanding of health research and of developments in health care delivery and financing. (See [here](#) for more information.)

# CBO's Products

CBO's products include the following:

- **Baseline budget projections and economic forecasts** covering the 10-year period used in the Congressional budget process;
- **Long-term budget projections** covering a 30-year period and Social Security projections covering a 75-year period;
- **Cost estimates** of legislation, including analyses of federal mandates;
- An **analysis of the President's budget** (including its likely economic effects and their budgetary feedback);
- **Scorekeeping** for enacted legislation; and
- **Analytic reports** examining specific federal programs, aspects of the tax code, and budgetary and economic challenges.

# Transparency

CBO aims to make its analysis [transparent](#) in many ways, including these:

- It explains the basis of and the revisions to its major economic and budget projections.
- It describes the uncertainty of its projections and quantifies that uncertainty when appropriate.
- It compares its own estimates with those of other organizations.
- It evaluates its own projections—for example, in
  - *CBO’s Revenue Forecasting Record*,
  - *An Evaluation of CBO’s Past Outlay Projections*,
  - *CBO’s Economic Forecasting Record: 2017 Update*, and
  - *CBO’s Record of Projecting Subsidies for Health Insurance Under the Affordable Care Act: 2014 to 2016*.

# The Budget and Economic Outlook



Congressional Budget Office

Nonpartisan Analysis for the U.S. Congress

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## The Budget and Economic Outlook: 2018 to 2028

April 9, 2018 | Report

In CBO's projections, the economy grows relatively quickly this year and next and then more slowly in the following several years. The federal budget deficit rises substantially, boosting federal debt to nearly 100 percent of GDP by 2028.



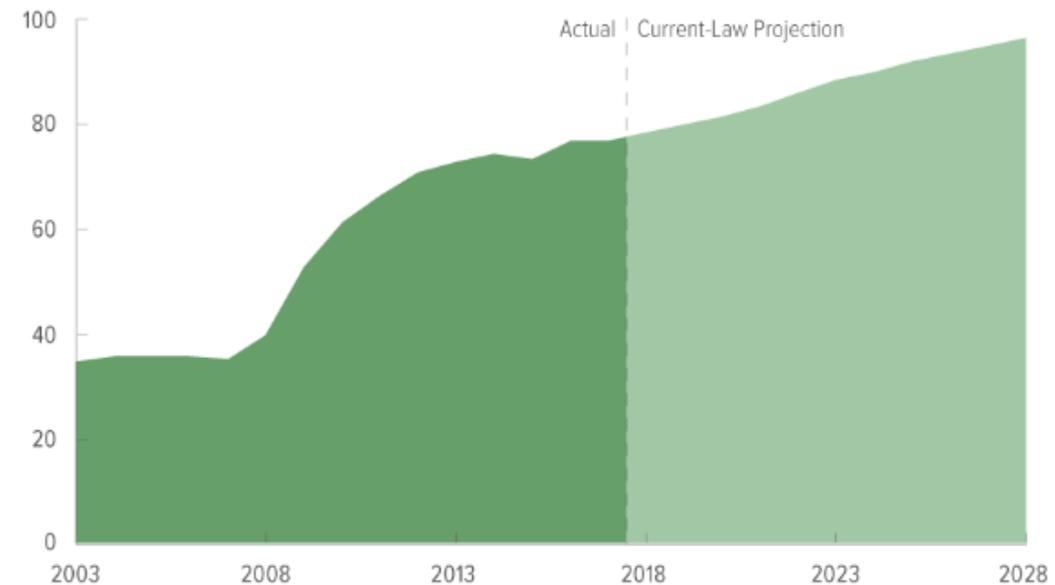
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### Federal Debt Held by the Public

Percentage of GDP



# Budget and Economic Data for History and the 10-Year Projection Period


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## Budget and Economic Data

CBO regularly publishes data to accompany some of its key reports. These data have been published in the [Budget and Economic Outlook and Updates](#) and in their associated supplemental material, except for that from the [Long-Term Budget Outlook](#).

### BUDGET

- [10-Year Budget Projections](#)
- [Long-Term Budget Projections](#)
- [Historical Budget Data](#)
- [10-Year Trust Fund Projections](#)
- [Revenue Projections, by Category](#)
- [Spending Projections, by Budget Account](#)
- [Estimates of Automatic Stabilizers](#)
- [Tax Parameters and Effective Marginal Tax Rates](#)

### ECONOMIC

- [10-Year Economic Projections](#)
- [Potential GDP and Underlying Inputs](#)

# **CBO's Process for Developing the Economic Forecast**

# Behind the Economic Forecast

- The economic forecast is usually published in January and in August.
- Major factors shaping CBO's economic projections include
  - Current law,
  - Data and CBO's own expert analysis and modeling,
  - A range of forecasts by other forecasters, and
  - Input from CBO's Panel of Economic Advisers.
- CBO's key economic projections that affect its budget projections include
  - Real GDP and income,
  - Inflation, and
  - Interest rates.

# The Process for CBO's Economic Forecast

## Step 1: Background Analysis

- Develop preliminary forecast for exogenous variables (e.g., oil prices)
- Review recent data and other information



## Step 2: Preliminary Forecast

- Use macroeconomic model to develop preliminary forecast
- Incorporate preliminary federal tax and spending projections



## Step 3: Internal and External Review

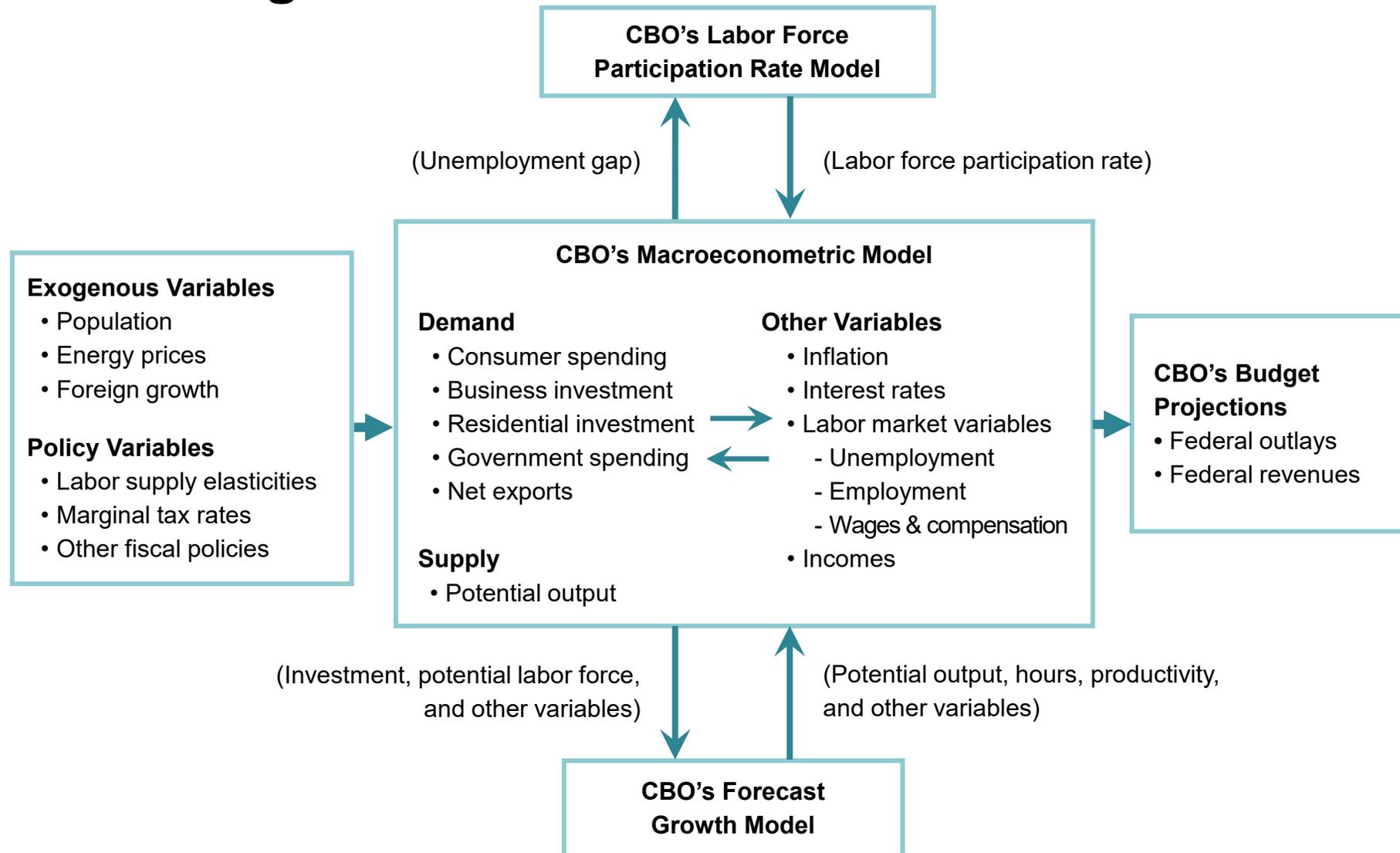
- Obtain input from CBO's senior staff and other divisions within the agency
- Obtain feedback from CBO's Panel of Economic Advisers and staff of Congressional budget committees



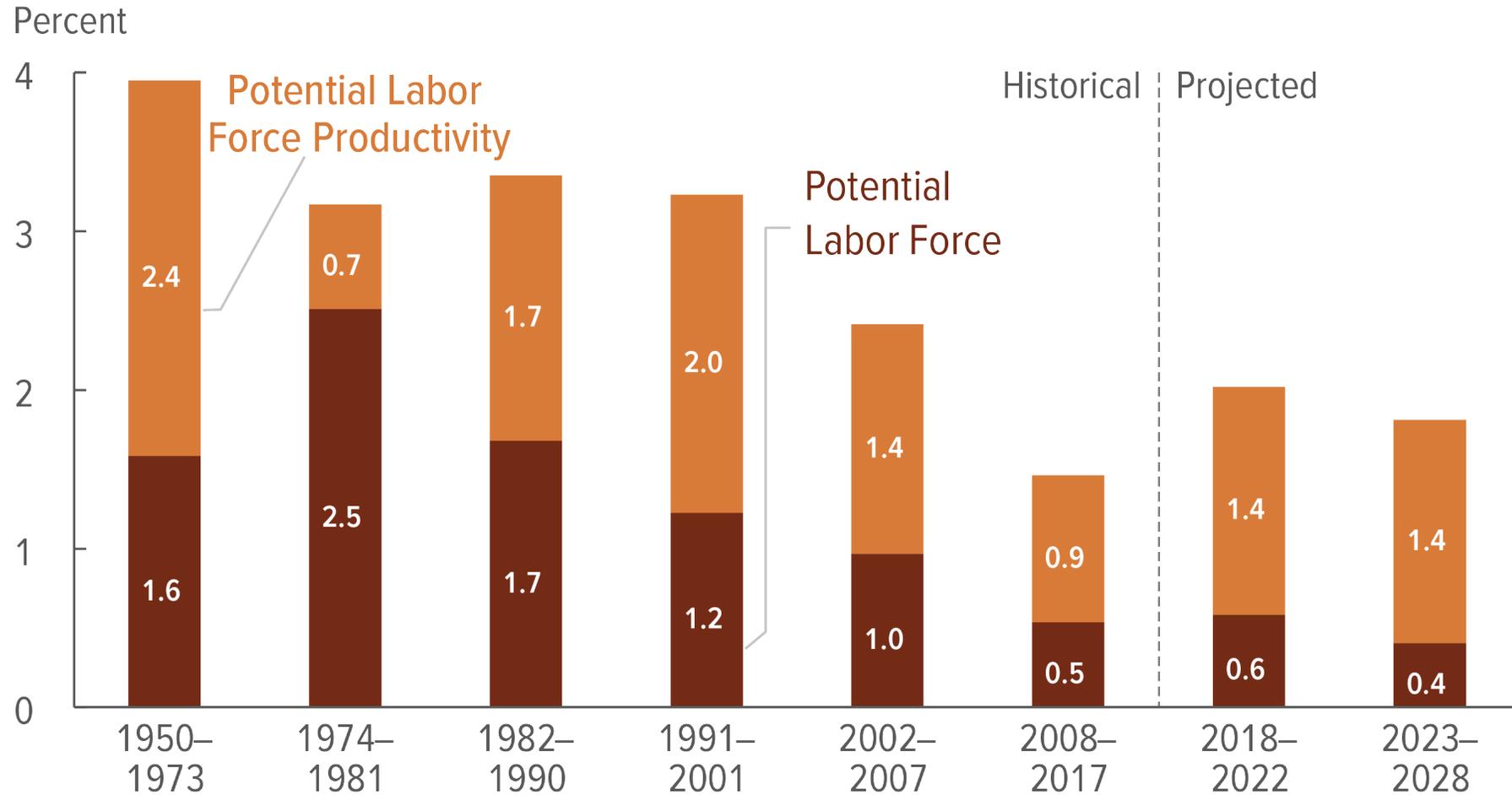
## Step 4: Final Forecast

- Incorporate feedback and latest data to produce final forecast
- Transmit to CBO's budget and tax divisions to develop budget projections

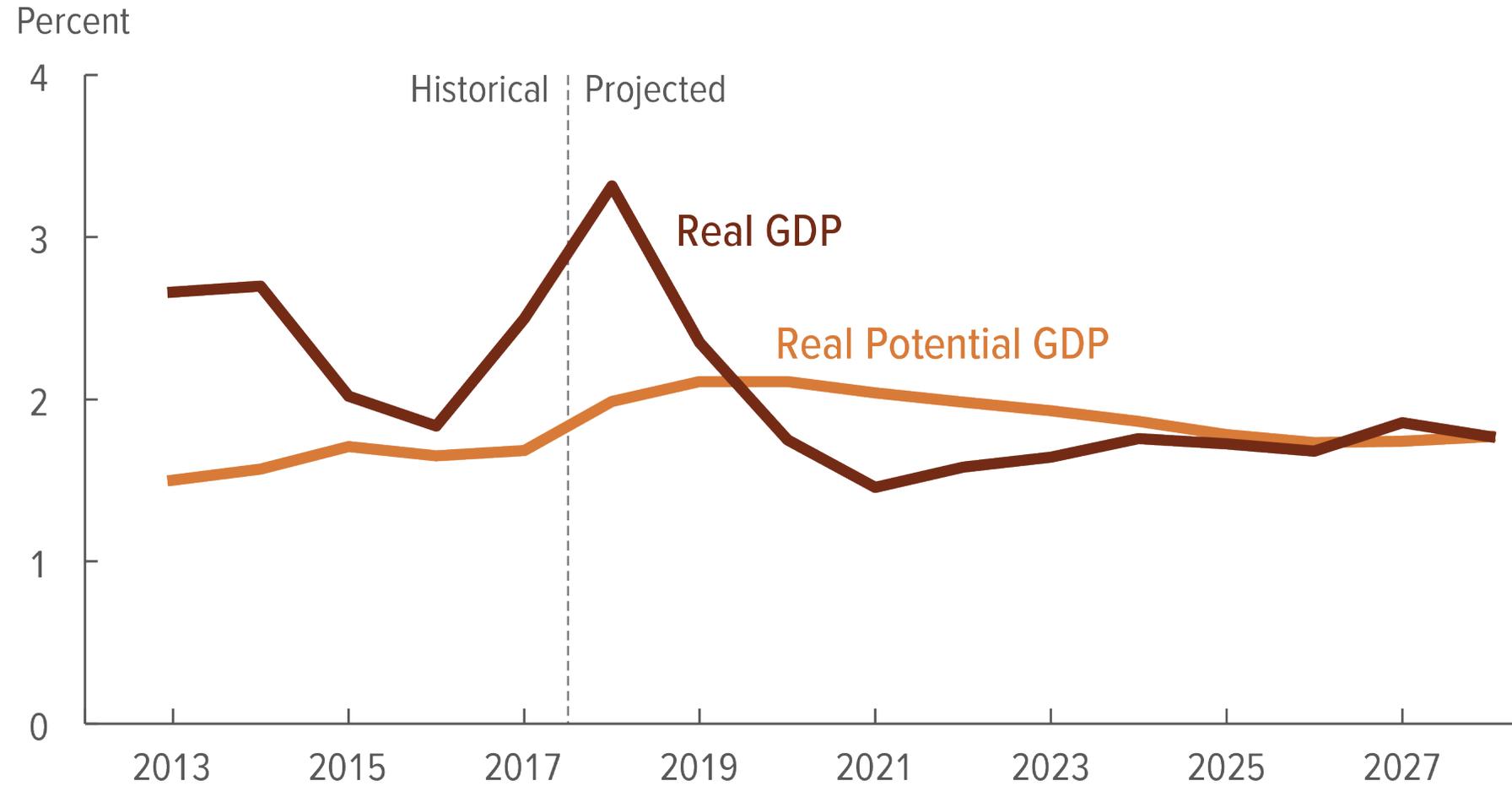
# CBO's Forecasting Models



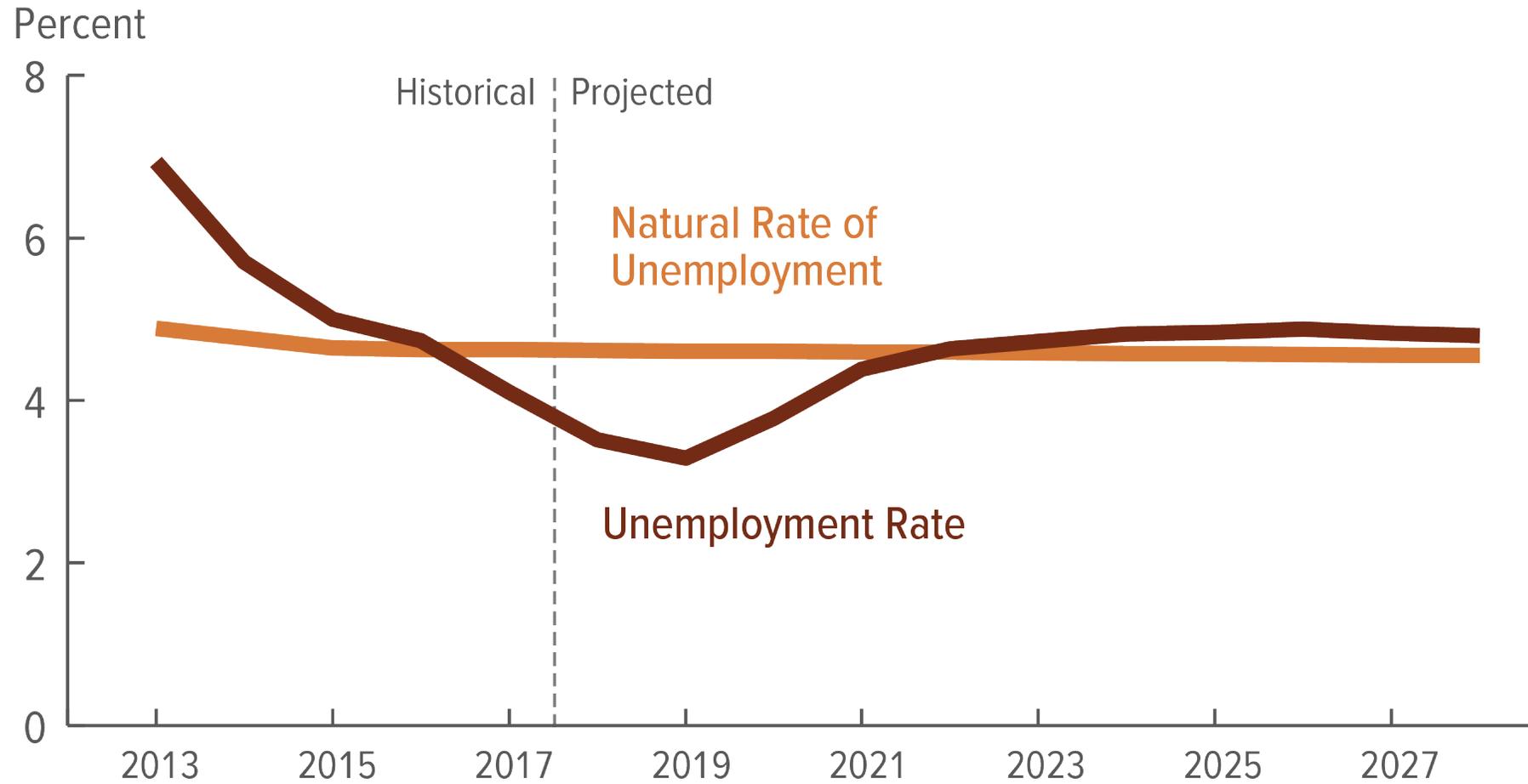
# Determinants of the Growth of Real Potential GDP



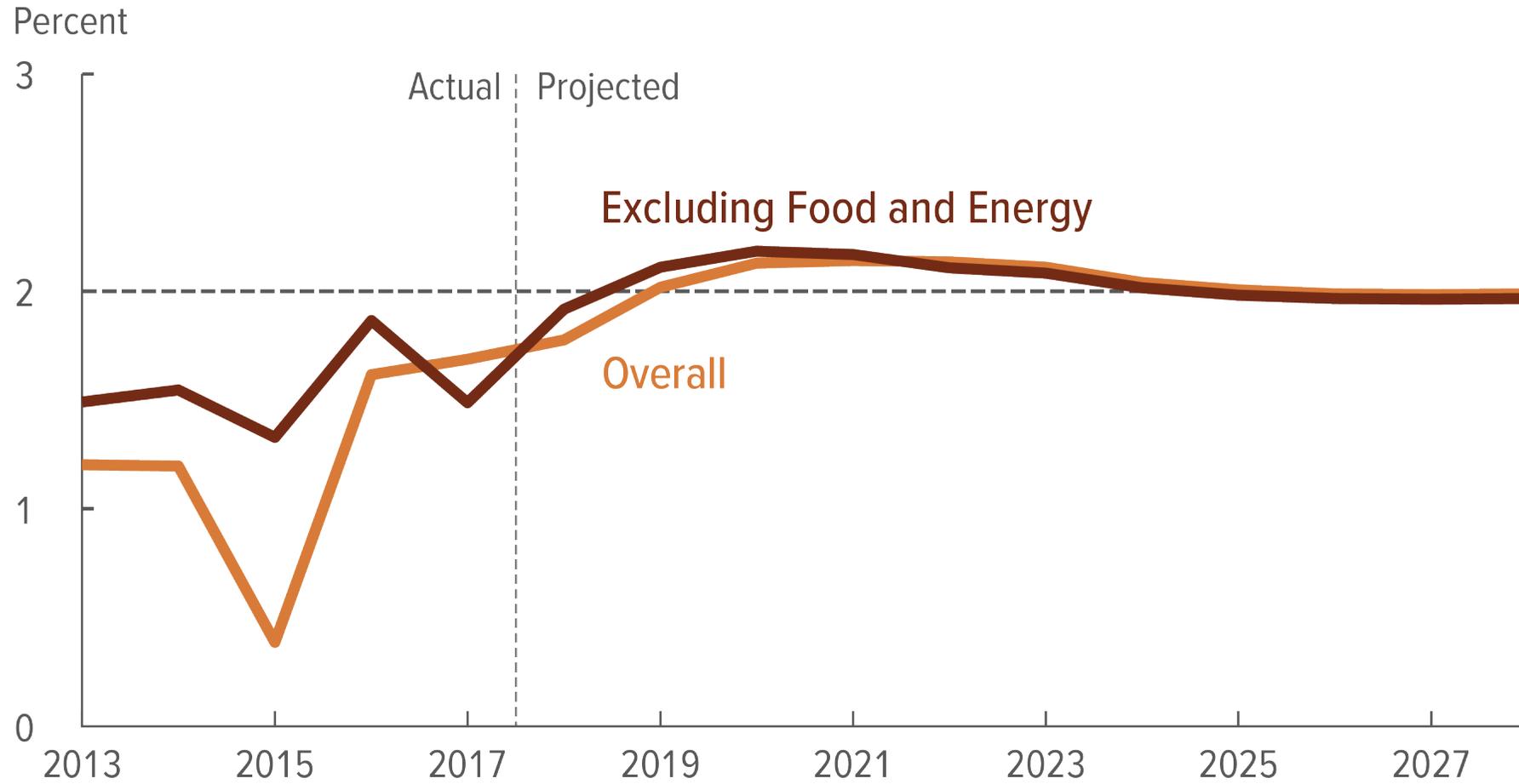
# Growth of Real GDP and Real Potential GDP



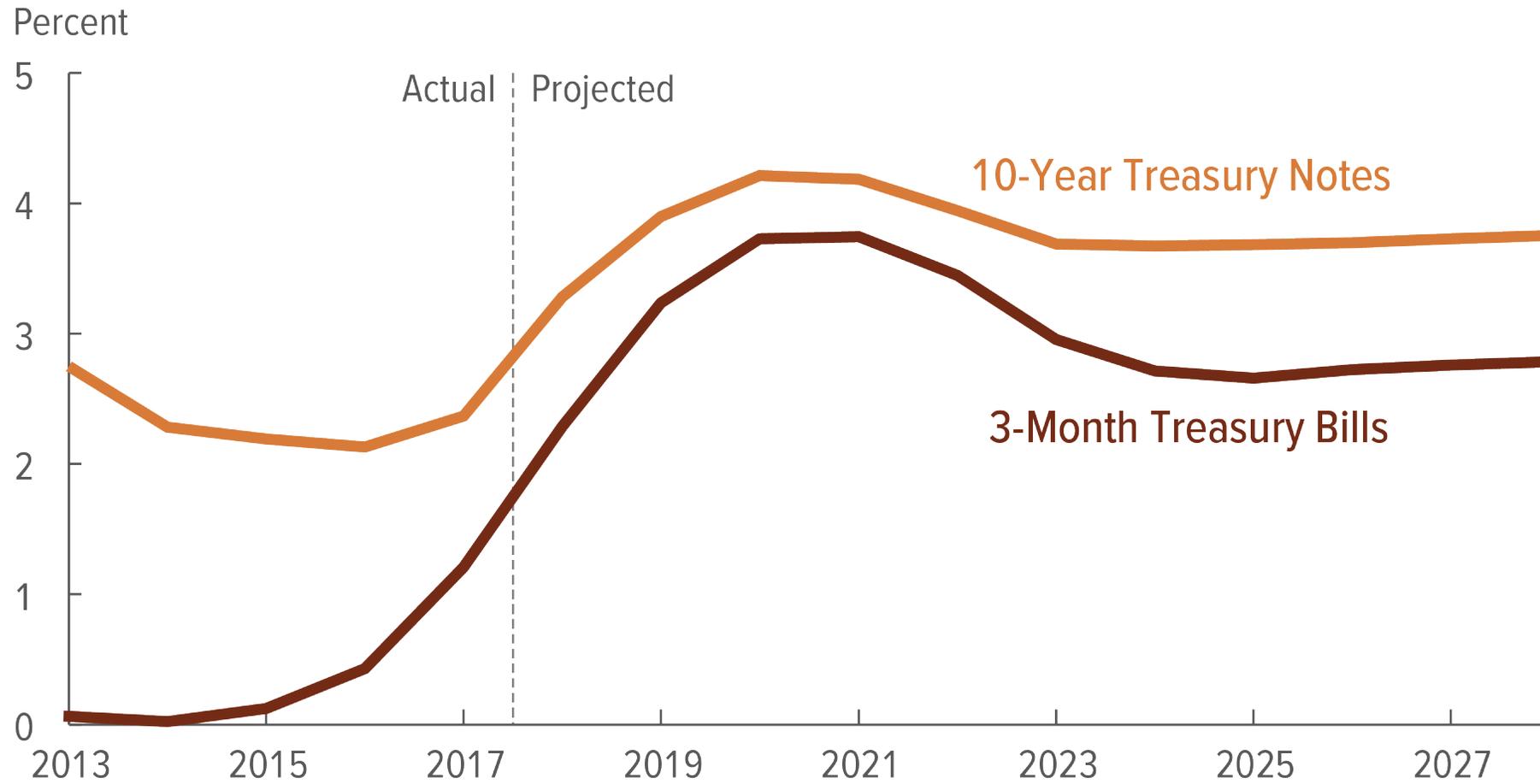
# Unemployment Rate



# Consumer Price Inflation



# Interest Rates



# **CBO's Process for Developing Its Budget Baseline Projections**

# Construction of the Budget Baseline

- Principles and rules mainly come from law, budget resolutions, House and Senate rules, and the 1967 *Report of the President's Commission on Budget Concepts*.
- A key part of the law is the 1985 Balanced Budget and Emergency Deficit Control Act, Section 257, which defines the baseline.
  - It sets out rules for projecting direct spending and receipts,
  - Requires an assumption of full funding for entitlements,
  - Directs the treatment of expiring programs and certain excise taxes, and
  - Establishes rules for projecting discretionary spending, including rules governing which measures of inflation to use.

# The Baseline for Revenues

- It is projected for **each source** of revenue.
  - There are more than 50 such sources.
  - The largest share of the total is from individual income taxes: \$1.6 trillion in 2018, or 49 percent of the total.
  
- It reflects **current law**.
  - For instance, it incorporates the assumption that reductions in the individual income tax will expire as scheduled at the end of 2025.
  - An exception is that excise taxes dedicated to trust funds are extended at current rates.
  
- It is sensitive to economic projections, and revenues tend to increase as a percentage of GDP over time because income growth pushes more income into higher tax brackets.

# Detail From the Baseline for Revenues

1 This file presents data that supplement CBO's April 2018 report *The Budget and Economic Outlook: 2018 to 2028*.  
 2 [www.cbo.gov/publication/53651](http://www.cbo.gov/publication/53651)

3  
4  
5 **3. Individual Income Tax Baseline Detail in CBO's April 2018 Baseline**  
 6 Billions of Dollars

7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Calendar Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028							
<b>11 Calculation of Adjusted Gross Income (AGI)</b>																					
12 Salaries and wages	7,112	7,320	7,550	7,964	8,436	8,854	9,218	9,581	9,958	10,354	10,774	11,203	11,661	12,140							
13 Taxable interest and ordinary dividends (excludes qualified dividends)	153	157	162	170	184	201	218	229	237	241	247	252	259	267							
14 Qualified dividends	203	192	192	204	222	235	244	249	253	259	265	273	284	296							
15 Capital gain or loss <sup>a</sup>	718	631	821	905	947	907	891	891	905	927	955	986	1,022	1,060							
16 Net business income (all income and loss reported on Schedule C, E, and F) <sup>b</sup>	1,031	1,052	1,071	1,042	1,122	1,190	1,249	1,312	1,406	1,498	1,587	1,670	1,755	1,806							
17 Taxable pensions and annuities and IRA distributions	943	962	1,051	1,125	1,188	1,241	1,298	1,363	1,425	1,491	1,570	1,648	1,731	1,818							
18 Taxable Social Security benefits	278	289	312	338	369	399	431	463	498	537	579	619	661	711							
19 All other sources of income <sup>c</sup>	-78	-83	-87	-94	-136	-141	-148	-156	-164	-172	-181	-191	-148	-157							
20 Total income	10,361	10,520	11,072	11,654	12,332	12,886	13,399	13,933	14,518	15,134	15,795	16,461	17,225	17,941							
21 Subtract Statutory adjustments	149	153	154	156	166	175	182	190	199	207	216	231	240	249							
22 Adjusted gross income	10,212	10,368	10,918	11,567	12,242	12,795	13,308	13,841	14,428	15,047	15,709	16,230	16,985	17,692							
<b>24 Calculation of Taxable Income</b>																					
25 Subtract Personal Exemption amount (before limit)		1,194	1,205	0	0	0	0	0	0	0	0	1,551	1,592	1,634							
26 Subtract Standard deduction (non-itemizers only)		909	925	2,356	2,412	2,441	2,467	2,509	2,566	2,642	2,716	1,172	1,203	1,232							
27 Subtract Total itemized deductions (itemizers only) <sup>d</sup>		1,354	1,401	869	948	1,080	1,215	1,337	1,429	1,492	1,554	2,360	2,469	2,591							
28 Total exemptions and deductions after limits <sup>e</sup>		3,384	3,450	3,109	3,228	3,368	3,509	3,658	3,802	3,935	4,065	4,947	5,120	5,306							
29 Taxable income <sup>f</sup>		7,452	7,932	8,886	9,455	9,887	10,279	10,684	11,148	11,655	12,207	12,003	12,562	13,106							
<b>31 Calculation of Income Tax Liability</b>																					
32 Total income tax (including alternative minimum tax) before credits	1,510	1,531	1,635	1,627	1,748	1,840	1,921	2,002	2,098	2,205	2,322	2,598	2,732	2,857							
33 Total credits (refundable and nonrefundable) <sup>g</sup>	171	172	174	248	253	256	260	265	269	272	277	192	194	196							
34 Income tax after credits <sup>h</sup>	1,439	1,459	1,562	1,498	1,615	1,704	1,782	1,860	1,954	2,058	2,172	2,514	2,646	2,770							
35 Net investment income tax	22	20	25	27	29	29	29	30	31	32	34	35	37	39							
36 Individual income tax liability	1,461	1,479	1,587	1,525	1,643	1,733	1,811	1,890	1,985	2,090	2,205	2,549	2,683	2,808							

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◀ ▶ Contents 1. Revenue Projections 2. Baseline Changes **3. Individual Income Tax Details** 4. Payroll Tax Revenues 5. Excise Tax Revenues 6. Capital Gains Realizations 7. Policy Alternatives 8a. Projects

# The Baseline for Mandatory and Discretionary Spending

- It likewise generally reflects **current law** (including statutory language and administrative policy).
- Projections of **mandatory spending** are driven by projections of key variables, such as
  - Enrollment by beneficiaries and their average costs and
  - Factors underlying CBO's macroeconomic forecast.
- Projections of **discretionary spending** are constructed differently.
  - Both funding and outlays are estimated.
  - For individual accounts, the projections incorporate inflation for future years.
  - Totals are constrained by caps through 2021.
  - The projections for outlays depend on how quickly funding is estimated to be spent; that rate differs widely among programs and accounts.

# The Baseline for Net Spending for Interest

- CBO's model
  - Incorporates the existing stock of outstanding debt and associated interest rates,
  - Integrates projections of future deficits and other financing obligations,
  - Uses CBO's forecast for interest rates, and
  - Relies on a projection of the mix of securities that the Treasury could issue.
  
- CBO's projections also include offsets from interest income received on loans and cash balances.

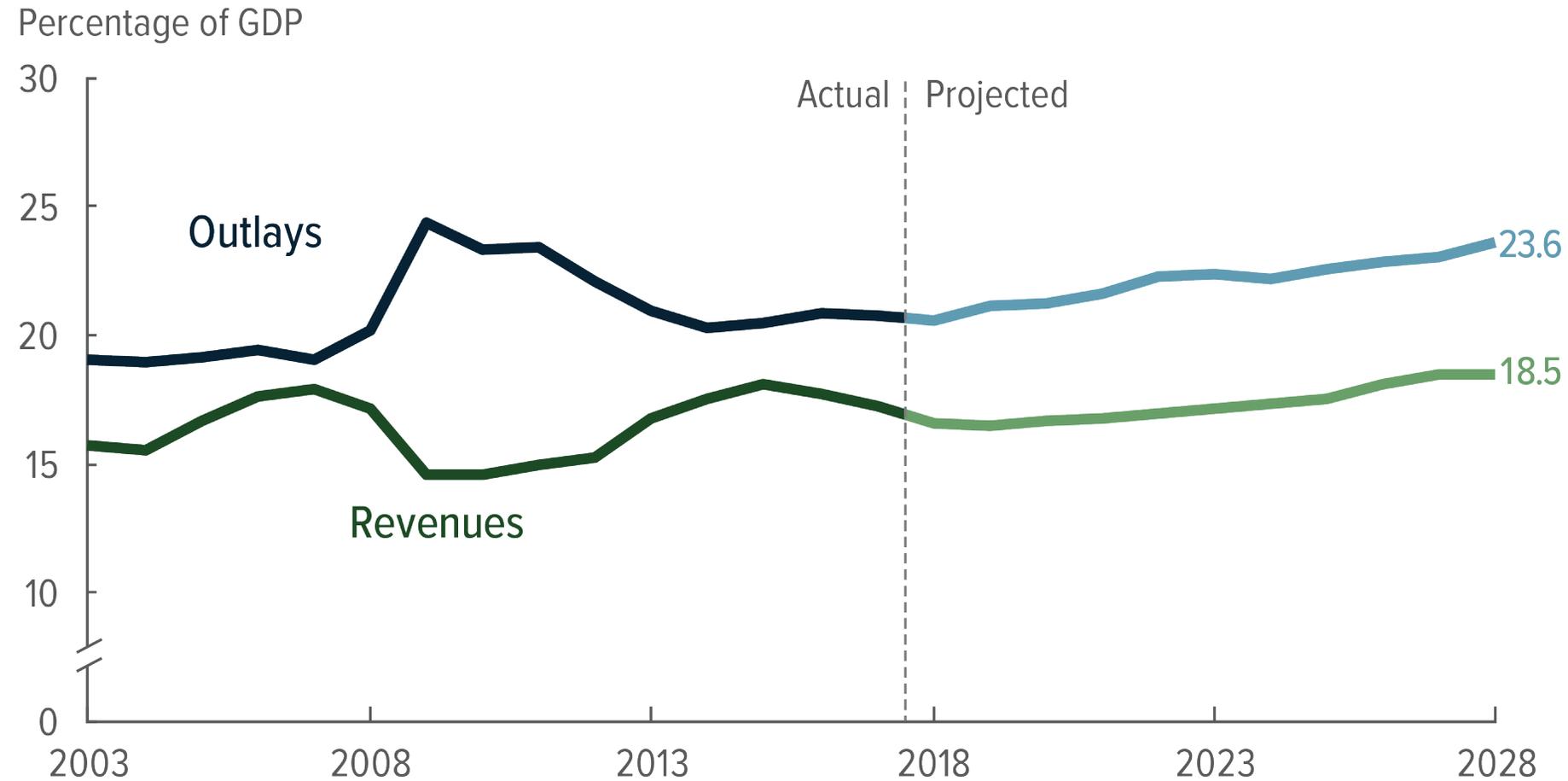
# Budget Projections by Account

1 This file presents an update to the data that supplement CBO's April 2018 report *The Budget and Economic Outlook: 2018 to 2028*.  
 2 www.cbo.gov/publication/53651

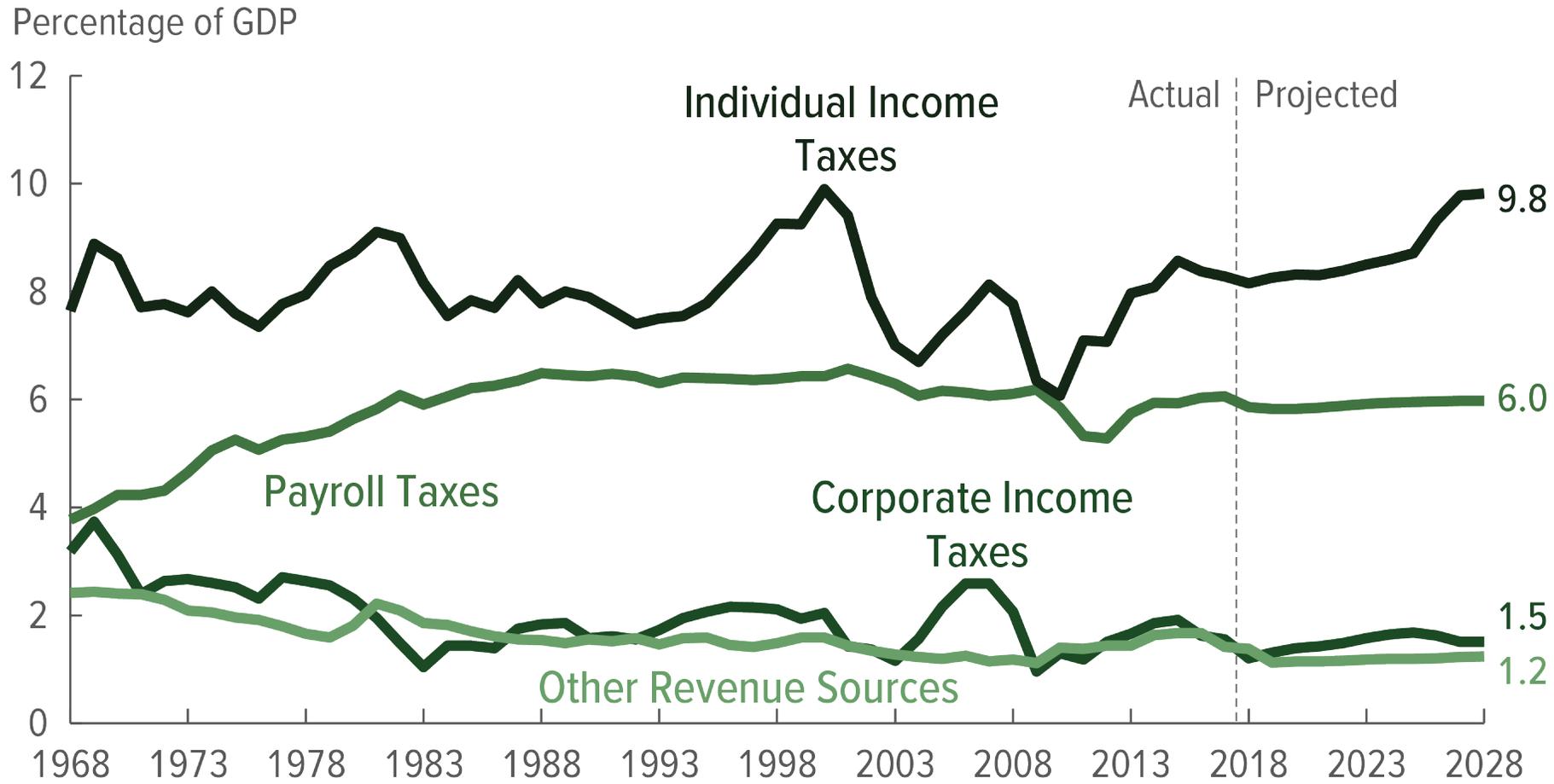
5 1. CBO's April 2018 Baseline

							Budget Authority (Millions of dollars)														
Treasury Identification Number	Title	Discretionary or Mandatory	Major Spending Category	Agency	Bureau	Function	Subfunction	Off-Budget?	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2018	
28 017-1319-0-1-051	Research, Development, Test and Evaluation, Navy	Mandatory	Other Spending	Department of Defense--Military Programs	Research, Development, Test and Evaluation	050	051		99	118	0	0	0	0	0	0	0	0	0	0	130
29 017-1405-0-1-051	Reserve personnel, Navy	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		1,997	2,080	2,143	2,210	2,275	2,341	2,408	2,475	2,541	2,611	2,683	1,952	
30 017-1453-0-1-051	Military personnel, Navy	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		29,150	30,311	31,212	32,152	33,092	34,013	34,974	35,924	36,893	37,891	38,890	28,866	
31 017-1506-0-1-051	Aircraft procurement, Navy	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		19,896	20,294	20,711	21,169	21,627	22,084	22,582	23,059	23,537	24,035	24,532	15,533	
32 017-1506-0-1-051	Aircraft procurement, Navy	Mandatory	Other Spending	Department of Defense--Military Programs	Procurement	050	051		24	28	0	0	0	0	0	0	0	0	0	0	
33 017-1507-0-1-051	Weapons procurement, Navy	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		3,610	3,682	3,758	3,841	3,923	4,006	4,098	4,184	4,271	4,360	4,452	3,088	
34 017-1507-0-1-051	Weapons procurement, Navy	Mandatory	Other Spending	Department of Defense--Military Programs	Procurement	050	051		0	0	0	0	0	0	0	0	0	0	0	0	
35 017-1508-0-1-051	Procurement of ammunition, Navy and Marine Corps	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		1,037	1,058	1,080	1,103	1,127	1,151	1,177	1,202	1,227	1,252	1,278	919	
36 017-1611-0-1-051	Shipbuilding and conversion, Navy	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		23,038	23,499	23,982	24,513	25,042	25,572	26,148	26,702	27,254	27,830	28,406	16,374	
37 017-1612-0-1-051	National Sea-Based Deterrence Fund	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		773	788	805	822	840	858	877	896	914	934	953	212	
38 017-1804-0-1-051	Operation and maintenance, Navy	Discretionary	Defense	Department of Defense--Military Programs	Operation and Maintenance	050	051		52,774	54,166	55,590	57,119	58,648	60,178	61,800	63,396	65,007	66,682	68,386	47,874	
39 017-1804-0-1-051	Operation and maintenance, Navy	Mandatory	Other Spending	Department of Defense--Military Programs	Operation and Maintenance	050	051		11	9	0	0	0	0	0	0	0	0	0	0	
40 017-1806-0-1-051	Operation and maintenance, Navy Reserve	Discretionary	Defense	Department of Defense--Military Programs	Operation and Maintenance	050	051		1,097	1,120	1,145	1,172	1,199	1,226	1,254	1,283	1,311	1,341	1,370	964	
41 017-1810-0-1-051	Other procurement, Navy	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		8,198	8,362	8,535	8,722	8,912	9,100	9,304	9,502	9,698	9,904	10,108	6,274	
42 017-1810-0-1-051	Other procurement, Navy	Mandatory	Other Spending	Department of Defense--Military Programs	Procurement	050	051		2	29	0	0	0	0	0	0	0	0	0	10	
43 017-4557-0-4-051	National defense sealift fund	Discretionary	Defense	Department of Defense--Military Programs	Revolving and Management	050	051		0	0	0	0	0	0	0	0	0	0	0	57	
44 017-9990-8-7-051	Intragovernmental Receipts, Profits from Ships' Stores, Navy	Mandatory	Offsetting receipts	Department of Defense--Military Programs	Department of Defense--Military Programs	050	051		-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	
45 017-9994-8-1-051	Recoveries from FMS Sales, Navy	Mandatory	Offsetting receipts	Department of Defense--Military Programs	Department of Defense--Military Programs	050	051		-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20	
46 017-9995-8-1-051	General Fund Receipts, not Otherwise Classified, Navy	Mandatory	Offsetting receipts	Department of Defense--Military Programs	Department of Defense--Military Programs	050	051		-90	-90	-90	-90	-90	-90	-90	-90	-90	-90	-90	-90	
47 017-9996-8-1-051	Undistrib. Intragovernmental Pymnts, Receivables from canceled accts, Navy	Mandatory	Offsetting receipts	Department of Defense--Military Programs	Department of Defense--Military Programs	050	051		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	
48 017-9997-8-1-051	Recoveries from government properties, lost or damaged	Mandatory	Offsetting receipts	Department of Defense--Military Programs	Department of Defense--Military Programs	050	051		-35	-35	-35	-35	-35	-35	-35	-35	-35	-35	-35	-35	
49 021-0720-0-1-051	Family housing construction, Army	Discretionary	Defense	Department of Defense--Military Programs	Family Housing	050	051		165	169	172	176	179	183	188	191	195	199	204	76	
50 021-0725-0-1-051	Family housing operation and maintenance, Army	Discretionary	Defense	Department of Defense--Military Programs	Family Housing	050	051		349	357	364	373	381	390	399	408	417	426	436	336	
51 021-1004-0-1-051	Medicare-Eligible retiree health fund contribution, Army	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		2,285	2,142	2,275	2,394	2,520	2,652	2,792	2,938	3,092	3,255	3,426	2,285	
52 021-1005-0-1-051	Medicare-Eligible Retiree Health Fund, Reserves, Army	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		438	387	416	438	461	485	510	537	565	595	626	438	
53 021-1006-0-1-051	Medicare-Eligible Retiree Health Fund Contribution, National GUA	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		757	685	722	760	800	842	886	933	982	1,033	1,087	757	
54 021-2010-0-1-051	Military personnel, Army	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		44,313	46,066	47,430	48,854	50,277	51,672	53,127	54,566	56,034	57,547	59,058	43,588	
55 021-2020-0-1-051	Operation and maintenance, Army	Discretionary	Defense	Department of Defense--Military Programs	Operation and Maintenance	050	051		56,190	57,656	59,157	60,770	62,384	63,998	65,710	67,392	69,092	70,858	72,654	51,301	
56 021-2020-0-1-051	Operation and maintenance, Army	Mandatory	Other Spending	Department of Defense--Military Programs	Operation and Maintenance	050	051		0	7	0	0	0	0	0	0	0	0	0	0	
57 021-2031-0-1-051	Aircraft procurement, Army	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		5,939	6,058	6,182	6,319	6,457	6,592	6,741	6,883	7,026	7,173	7,323	5,100	
58 021-2031-0-1-051	Aircraft procurement, Army	Mandatory	Other Spending	Department of Defense--Military Programs	Procurement	050	051		18	67	0	0	0	0	0	0	0	0	0	15	
59 021-2032-0-1-051	Missile procurement, Army	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		4,771	4,867	4,966	5,077	5,186	5,296	5,415	5,530	5,645	5,763	5,883	1,835	
60 021-2033-0-1-051	Procurement of weapons and tracked combat vehicles, Army	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		5,578	5,688	5,805	5,933	6,061	6,189	6,329	6,462	6,597	6,737	6,875	2,451	
61 021-2034-0-1-051	Procurement of ammunition, Army	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		2,725	2,780	2,837	2,899	2,963	3,024	3,093	3,158	3,223	3,292	3,360	1,495	
62 021-2035-0-1-051	Other procurement, Army	Discretionary	Defense	Department of Defense--Military Programs	Procurement	050	051		8,686	8,860	9,042	9,242	9,441	9,642	9,859	10,067	10,276	10,492	10,710	7,334	
63 021-2035-0-1-051	Other procurement, Army	Mandatory	Other Spending	Department of Defense--Military Programs	Procurement	050	051		7	15	0	0	0	0	0	0	0	0	0	0	
64 021-2040-0-1-051	Research, Development, Test and Evaluation, Army	Discretionary	Defense	Department of Defense--Military Programs	Research, Development, Test and Evaluation	050	051		10,841	11,138	11,444	11,769	12,095	12,421	12,767	13,106	13,451	13,808	14,174	8,797	
65 021-2040-0-1-051	Research, Development, Test and Evaluation, Army	Mandatory	Other Spending	Department of Defense--Military Programs	Research, Development, Test and Evaluation	050	051		16	0	0	0	0	0	0	0	0	0	0	93	
66 021-2050-0-1-051	Military construction, Army	Discretionary	Defense	Department of Defense--Military Programs	Military Construction	050	051		1,184	1,214	1,244	1,277	1,310	1,344	1,378	1,412	1,446	1,484	1,520	682	
67 021-2060-0-1-051	National Guard personnel, Army	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		8,450	8,817	9,090	9,380	9,664	9,948	10,235	10,527	10,813	11,113	11,427	8,301	
68 021-2065-0-1-051	Operation and maintenance, Army National Guard	Discretionary	Defense	Department of Defense--Military Programs	Operation and Maintenance	050	051		7,447	7,659	7,875	8,107	8,337	8,568	8,811	9,052	9,296	9,548	9,808	6,774	
69 021-2070-0-1-051	Reserve personnel, Army	Discretionary	Defense	Department of Defense--Military Programs	Military Personnel	050	051		4,741	4,942	5,093	5,253	5,410	5,566	5,726	5,887	6,046	6,212	6,385	4,618	
70 021-2080-0-1-051	Operation and maintenance, Army Reserve	Discretionary	Defense	Department of Defense--Military Programs	Operation and Maintenance	050	051		2,915	2,997	3,080	3,169	3,256	3,345	3,439	3,532	3,625	3,723	3,822	2,608	
71 021-2085-0-1-051	Military construction, Army National Guard	Discretionary	Defense	Department of Defense--Military Programs	Military Construction	050	051		854	870	889	908	928	948	969	990	1,010	1,032	1,053	247	
72 021-2086-0-1-051	Military construction, Army Reserve	Discretionary	Defense	Department of Defense--Military Programs	Military Construction	050	051		160	164	166	170	174	177	181	185	189	193	198	113	
73 021-2091-0-1-051	Afghanistan security forces fund	Discretionary	Defense	Department of Defense--Military Programs	Operation and Maintenance	050	051		4,567	4,658	4,754	4,860	4,964	5,069	5,183	5,293	5,403	5,517	5,631	4,075	
74 021-2096-0-1-051	Afghanistan Infrastructure Fund	Discretionary	Defense	Department of Defense--Military Programs	Operation and Maintenance	050	051		0	0	0	0	0	0	0	0	0	0	0	60	

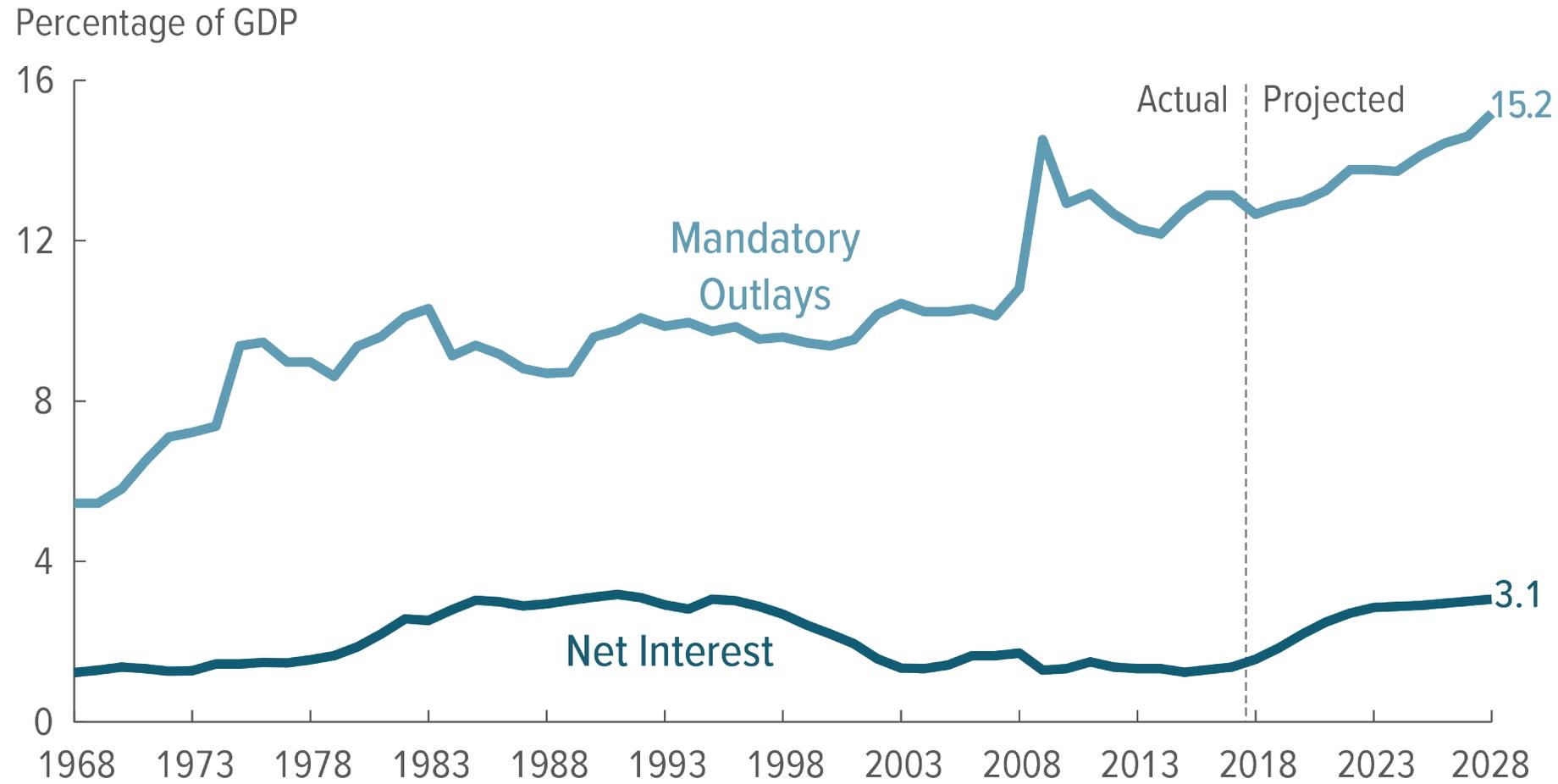
# Revenues and Outlays



# Revenues

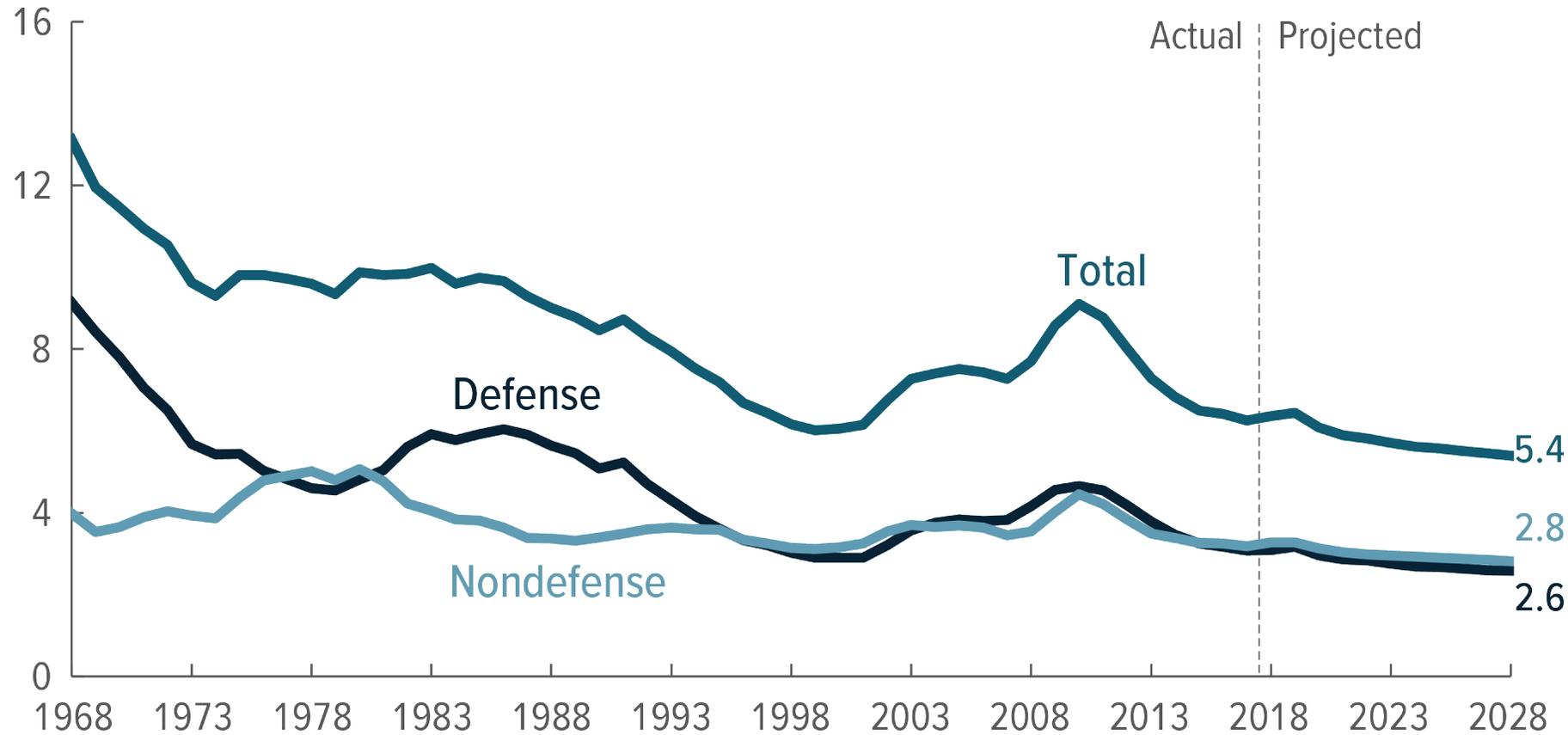


# Mandatory Outlays and Net Interest



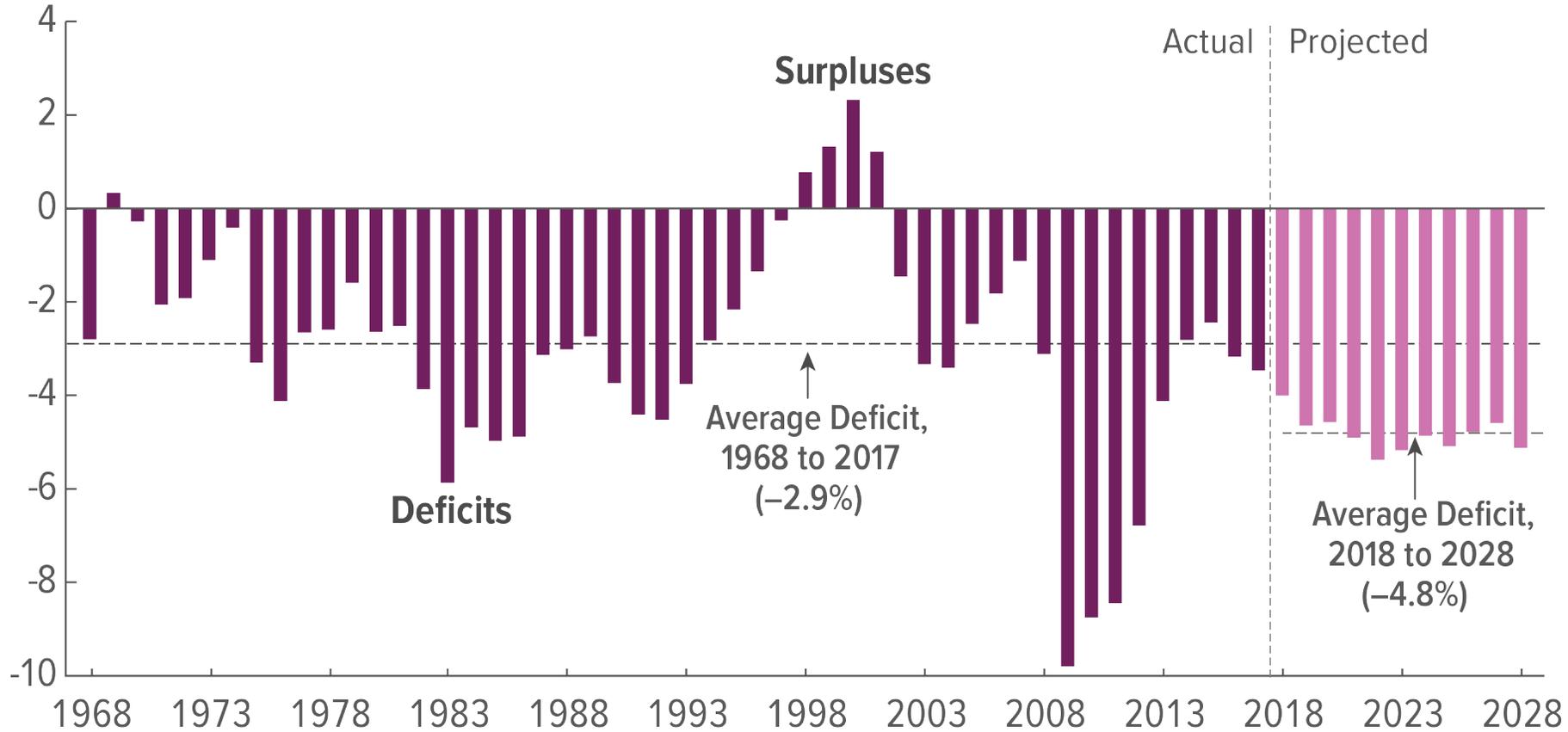
# Discretionary Outlays

Percentage of GDP

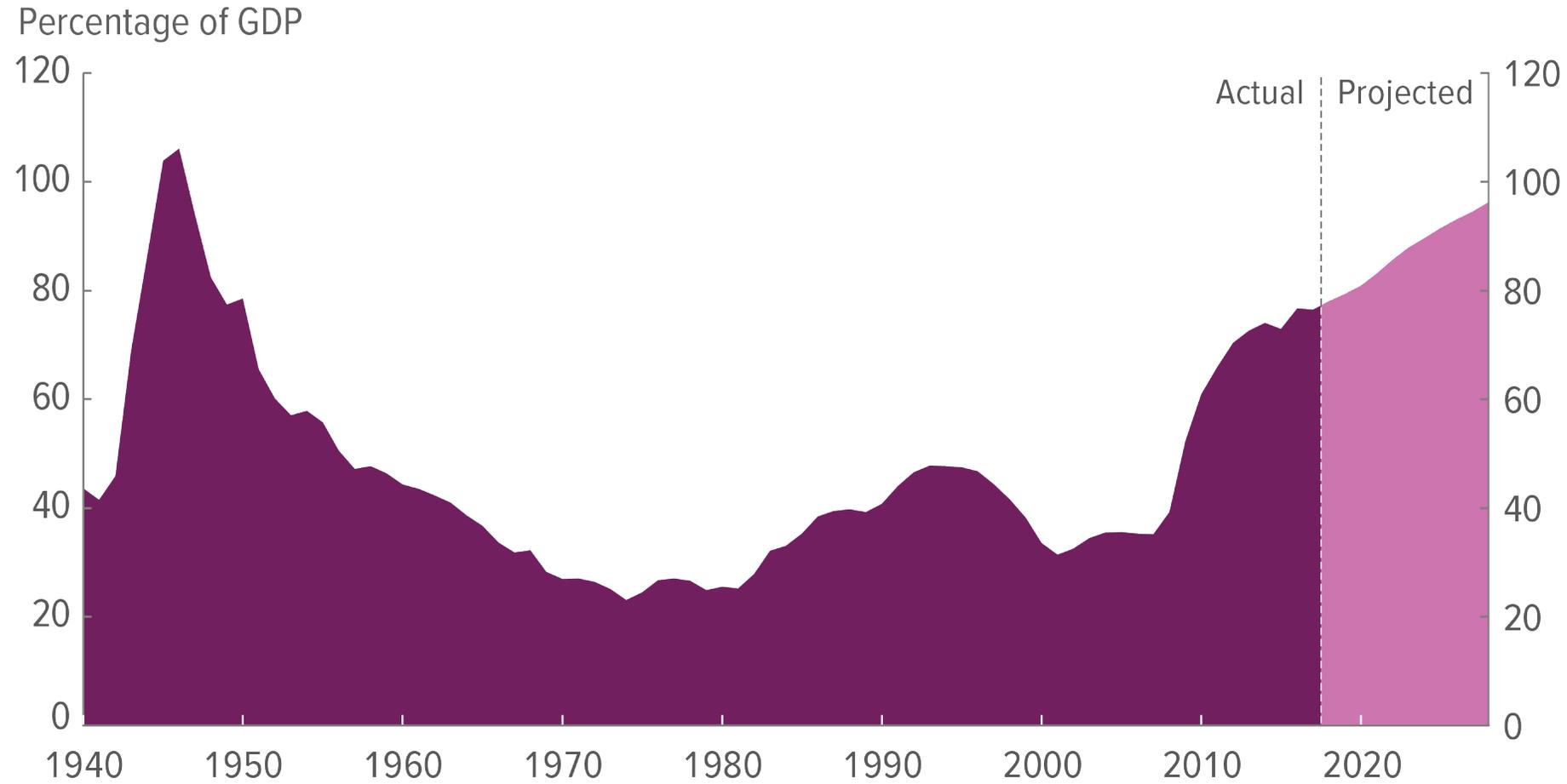


# Deficits

Percentage of GDP



# Debt Held by the Public



## Related Publications

Congressional Budget Office, *The Budget and Economic Outlook: 2018 to 2028* (April 2018), [www.cbo.gov/publication/53651](http://www.cbo.gov/publication/53651).

Robert W. Arnold, *How CBO Produces Its 10-Year Economic Forecast*, Working Paper 2018-02 (Congressional Budget Office, February 2018), [www.cbo.gov/publication/53537](http://www.cbo.gov/publication/53537).

Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), [www.cbo.gov/publication/53884](http://www.cbo.gov/publication/53884).

Congressional Budget Office, *An Update on Transparency at CBO* (August 2018), [www.cbo.gov/publication/54372](http://www.cbo.gov/publication/54372).