MACROECONOMICS

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FISCAL AND MONETARY POLICY

FISCAL AND MONETARY POLICY

Today we will discuss fiscal and monetary policy

- For fiscal policy, we will review
  - The 2017 Tax Cuts and Jobs Act (TCJA)
  - The president's budget for in recent years, and
  - Fiscal policy interventions as a result of COVID-19 including the $2 trillion Coronavirus Aid, Relief, and Economic Security (CARES) Act
- For monetary policy, we will review
  - The structure of the Federal Reserve (the Fed)
  - How the Fed conducts monetary policy
  - Fed interventions during the Great Financial Crisis of 2008-9
  - Fed interventions during the current COVID-19 episode

FISCAL AND MONETARY POLICY

- Fiscal policy is the sum of spending and taxing actions taken by Congress and the Administration to manage the nation's economy
  - Once budgets are agreed between the Administration and Congress, Congress authorizes expenditures subject to certain constraints which themselves are established by law
  - Likewise, tax policy is established by law defining what taxes to levy, in what amounts and on whom
  - The Treasury, as part of the Executive branch, is the funnel through which spending and taxation occurs
    - The Treasury issues (sells) debt securities to maintain stable interest rates and to fulfill legislative requirements in appropriations bills that state: "The following sums are hereby are appropriated, out of any money in the Treasury not otherwise appropriated, for the fiscal year ending September 30, 2020…. (to be discussed along with Deficits)
    - There is no technical reason why this legislative requirement in appropriations bills needs to exist. It is purely a policy decision by lawmakers.
    - The government spends before it issues debt

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- How does spending come about?
  - In the normal course, the President submits a detailed spending budget proposal to Congress
  - Congress develops its own budget resolution which passes by majority vote and cannot be filibustered nor vetoed by the President
    - If no resolution, the previous year's resolution stays in effect
  - Congress does not proceed if a "budget constraint" is in effect, including:
    - The Budget Control Act (the so-called "debt limit"); extended, as needed to meet Congressional spending agreements
    - PAYGO rules (tax cuts and/or increases in mandatory spending must be offset by tax increases and/or cuts in other spending; suspended several times, including for Trump's 2017 tax cuts
    - Not really a constraint, but changes to tax law resulting in more than $160 billion/year require 2-3rds supermajority to pass
  - Once the budget constraint hurdle has been crossed, Congress passes a bill authorizing the expenditure (1st step)
  - Congress then enacts an appropriations bill (2nd step) to provide the funding necessary to meet the authorized expenditure
    - When enacted, bills read: *"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums are appropriated, **out of any money in the Treasury not otherwise appropriated**, for Agriculture, Rural Development, Food and Drug Administration,…"

FISCAL AND MONETARY POLICY

- How does spending come about?
  - Funds that are appropriated become a budget (spending) authority for the respective government agencies
  - Expenditures or "outlays" represent the actual funds (electronic debits) that flow out of the Treasury's accounts at the Fed in a given year with electronic credits to the accounts of the suppliers (sellers)
    - The credits in suppliers' accounts are liabilities for the bank and are offset by "reserves" on the asset side of the bank's balance sheet
    - Note that taxation does not need to preceded expenditures
  - These actions result in a fiscal deficit if the outlays exceed receipts (taxes, fees, etc.) in a given period
    - This is known as the "primary deficit" and is what has been represented in future graphs unless otherwise indicated
    - The gross deficit includes interest on the outstanding government securities
  - Treasury overdrafts at the Fed can and do occur when outlays exceed "money in the Treasury not otherwise appropriated", but are usually resolved by additional funds in short order

FISCAL AND MONETARY POLICY

Projected Revenues, Outlays, and Deficits in CBO's Baseline and Under the President's Budget

Billions of Dollars

	Actual, 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2021–2025	Total 2021–2030
CBO's March 2020 Baseline														
Revenues	3,463	3,632	3,815	4,000	4,205	4,381	4,562	4,851	5,153	5,341	5,544	5,743	20,964	47,597
Outlays	4,447	4,706	4,817	5,118	5,319	5,523	5,868	6,176	6,464	6,884	7,016	7,503	26,645	60,688
Deficit	**-984**	**-1,073**	**-1,002**	**-1,118**	**-1,114**	**-1,141**	**-1,306**	**-1,325**	**-1,311**	**-1,543**	**-1,472**	**-1,760**	**-5,681**	**-13,091**
CBO's Estimate of the President's Budget														
Revenues	3,463	3,632	3,819	4,008	4,217	4,398	4,579	4,777	4,940	5,114	5,310	5,501	21,019	46,661
Outlays	4,447	4,706	4,796	5,002	5,130	5,296	5,595	5,843	6,098	6,457	6,540	6,923	25,819	57,680
Deficit	**-984**	**-1,074**	**-977**	**-994**	**-913**	**-898**	**-1,016**	**-1,066**	**-1,158**	**-1,343**	**-1,231**	**-1,422**	**-4,799**	**-11,020**
Difference Between CBO's Estimate of the President's Budget and CBO's March 2020 Baseline														
Revenues	n.a.	0	3	7	12	16	17	-74	-214	-228	-234	-242	55	-936
Outlays	n.a.	1	-21	-116	-189	-227	-273	-333	-366	-427	-475	-580	-826	-3,007
Deficit[a]	**n.a.**	**-1**	**24**	**124**	**201**	**243**	**289**	**259**	**152**	**200**	**241**	**338**	**881**	**2,071**
Memorandum:														
Deficit (Percentage of GDP)														
CBO's baseline	-4.6	-4.9	-4.3	-4.7	-4.5	-4.4	-4.9	-4.8	-4.6	-5.2	-4.8	-5.5	-4.6	-4.8
CBO's estimate of the President's budget	-4.6	-4.9	-4.2	-4.2	-3.7	-3.5	-3.8	-3.9	-4.0	-4.5	-4.0	-4.4	-3.9	-4.0
Debt Held by the Public (Percentage of GDP)														
CBO's baseline	79.2	80.7	81.7	83.6	85.2	86.8	88.9	90.7	92.1	94.1	95.6	97.8	n.a.	n.a.
CBO's estimate of the President's budget	79.2	80.7	81.6	83.0	83.9	84.6	85.7	86.8	87.8	89.3	90.3	91.7	n.a.	n.a.

FISCAL AND MONETARY POLICY

CBO's Estimate of the President's Budget

	Actual, 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2021–2025	Total 2021–2030
	In Billions of Dollars													
Revenues														
On-budget	2,548	2,672	2,818	2,968	3,138	3,279	3,420	3,576	3,694	3,822	3,971	4,115	15,622	34,801
Off-budget[a]	914	960	1,001	1,040	1,078	1,119	1,159	1,201	1,245	1,292	1,339	1,386	5,397	11,859
Total	**3,463**	**3,632**	**3,819**	**4,008**	**4,217**	**4,398**	**4,579**	**4,777**	**4,940**	**5,114**	**5,310**	**5,501**	**21,019**	**46,661**
Outlays														
Mandatory	2,734	2,911	2,956	3,142	3,244	3,380	3,631	3,844	4,060	4,374	4,431	4,763	16,353	37,824
Discretionary	1,338	1,413	1,446	1,438	1,422	1,411	1,419	1,413	1,407	1,404	1,386	1,385	7,136	14,131
Net interest	375	383	394	422	465	505	545	586	631	679	724	776	2,331	5,726
Total	**4,447**	**4,706**	**4,796**	**5,002**	**5,130**	**5,296**	**5,595**	**5,843**	**6,098**	**6,457**	**6,540**	**6,923**	**25,819**	**57,680**
On-budget	3,540	3,749	3,776	3,911	3,964	4,050	4,268	4,438	4,605	4,873	4,861	5,141	19,969	43,886
Off-budget[a]	907	958	1,020	1,090	1,167	1,245	1,327	1,406	1,493	1,584	1,679	1,782	5,850	13,794
Deficit (-) or Surplus	**-984**	**-1,074**	**-977**	**-994**	**-913**	**-898**	**-1,016**	**-1,066**	**-1,158**	**-1,343**	**-1,231**	**-1,422**	**-4,799**	**-11,020**
On-budget	-992	-1,076	-958	-944	-825	-771	-848	-862	-910	-1,050	-890	-1,026	-4,347	-9,085
Off-budget[a]	8	2	-19	-50	-88	-127	-168	-205	-248	-293	-341	-396	-453	-1,935
Debt Held by the Public	16,801	17,836	18,793	19,854	20,808	21,768	22,844	23,958	25,166	26,557	27,844	29,341	n.a.	n.a.
Memorandum:														
Gross Domestic Product[b]	21,220	22,111	23,029	23,916	24,809	25,724	26,653	27,615	28,653	29,737	30,850	32,003	124,131	272,989

a. The revenues and outlays of the Social Security trust funds and the net cash flows of the Postal Service are classified as off-budget.

FISCAL AND MONETARY POLICY

CBO's Estimate of the Effects of the President's Budget Proposals

Billions of Dollars

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2021–2025	Total 2021–2030
Deficit in CBO's March 2020 Baseline	-1,073	-1,002	-1,118	-1,114	-1,141	-1,306	-1,325	-1,311	-1,543	-1,472	-1,760	-5,681	-13,091
Effects of the President's Proposals													
Outlays													
Mandatory													
Reduce federal spending for health care	1	-3	-30	-43	-50	-59	-66	-71	-80	-83	-94	-186	-581
Provide mandatory funding for infrastructure	0	*	4	8	10	12	13	15	15	19	19	33	114
Reduce subsidies for student loans	0	-2	-5	-7	-8	-10	-12	-14	-16	-18	-19	-32	-111
Reduce spending for income security	0	-2	-10	-13	-14	-11	-20	*	*	-1	-2	-49	-72
Other proposals	*	-6	-8	-19	-3	*	7	10	12	18	-16	-36	-5
Subtotal, mandatory	1	-12	-49	-75	-65	-68	-78	-61	-70	-65	-112	-270	-656
Discretionary													
Defense	0	5	*	-12	-20	-24	-37	-53	-72	-91	-112	-51	-416
Nondefense	*	-12	-65	-95	-128	-161	-191	-219	-248	-276	-303	-461	-1,698
Subtotal, discretionary	*	-7	-64	-107	-149	-185	-228	-273	-320	-366	-415	-512	-2,114
Net interest	*	-1	-3	-7	-13	-19	-27	-32	-38	-44	-52	-44	-237
Total Effect on Outlays	**1**	**-21**	**-116**	**-189**	**-227**	**-273**	**-333**	**-366**	**-427**	**-475**	**-580**	**-826**	**-3,007**
Revenues													
Extend individual and estate and gift tax provisions of the 2017 tax act	0	0	0	0	*	-6	-101	-246	-263	-272	-280	-6	-1,167
Increase federal employees' retirement contributions	0	0	2	5	8	11	14	16	17	18	19	26	110
Implement tax-enforcement program integrity cap adjustment	0	*	1	3	5	7	9	11	11	12	12	16	71
Establish Education Freedom Scholarships	0	-1	-5	-5	-5	-5	-5	-5	-5	-5	-5	-21	-46
Repeal the Energy Investment Credit	0	3	5	5	4	4	4	5	5	5	5	20	44
Other proposals	0	1	5	4	4	6	5	6	7	7	7	20	52
Total Effect on Revenues	**0**	**3**	**7**	**12**	**16**	**17**	**-74**	**-214**	**-228**	**-234**	**-242**	**55**	**-936**
Total Effect on the Deficit[a]	**-1**	**24**	**124**	**201**	**243**	**289**	**259**	**152**	**200**	**241**	**338**	**881**	**2,071**
Deficit Under the President's Budget as Estimated by CBO	-1,074	-977	-994	-913	-898	-1,016	-1,066	-1,158	-1,343	-1,231	-1,422	-4,799	-11,020
Memorandum:													
Total Effect on Noninterest Outlays	1	-20	-113	-182	-214	-253	-306	-334	-390	-431	-527	-782	-2,770

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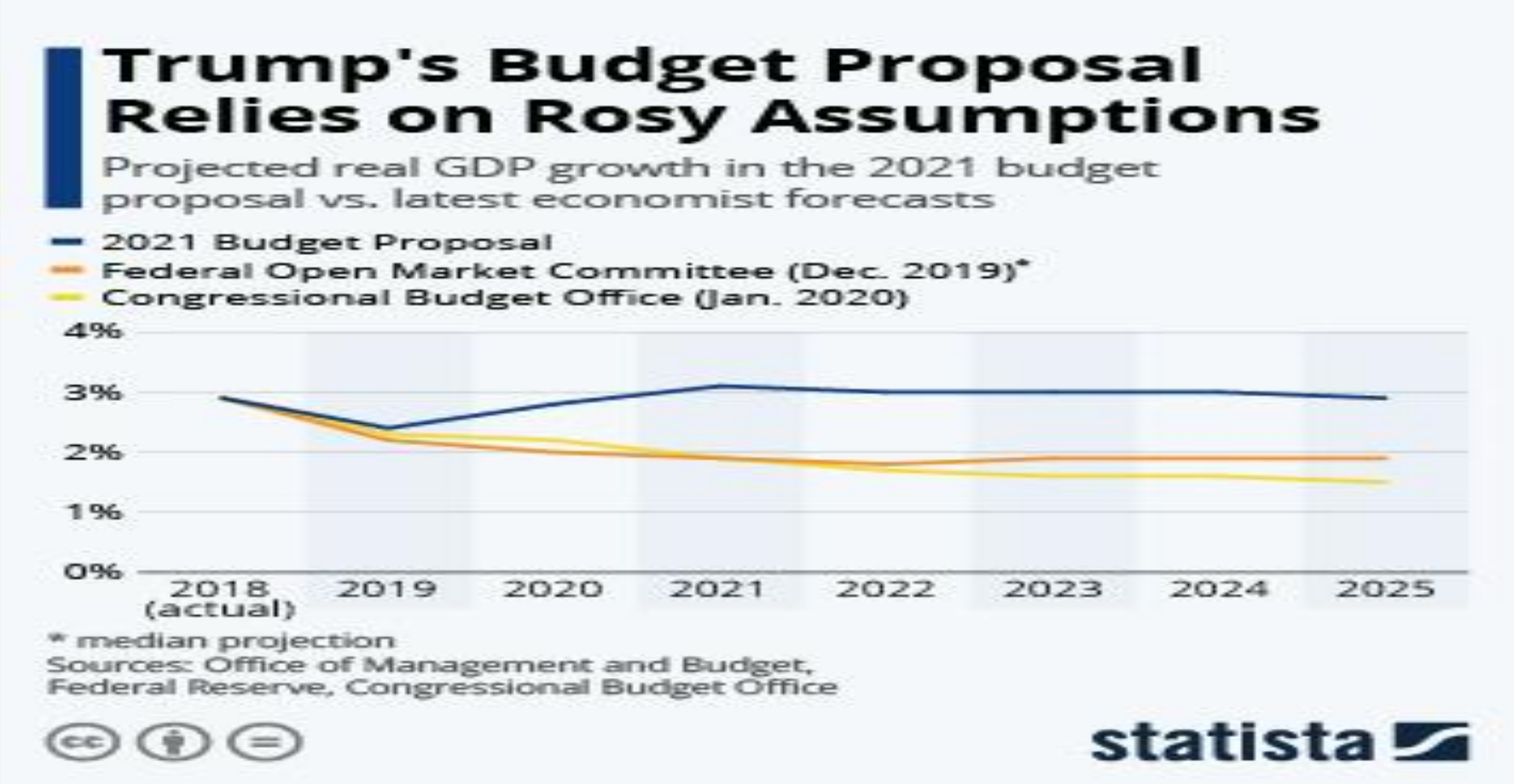

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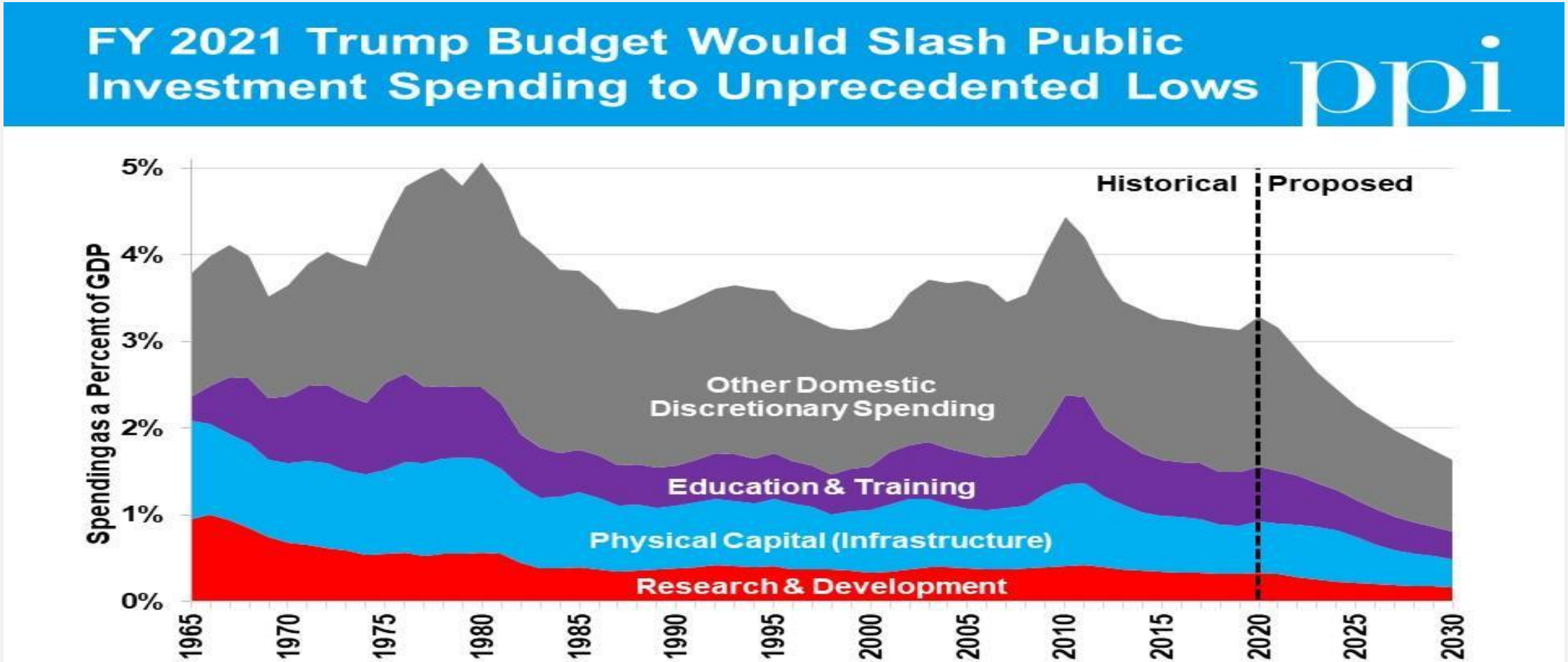

Note: Total area equals total non-defense discretionary spending. Education & training includes some mandatory funding for the Pell Grant program (about $6 billion in 2019) and excludes federal student loan programs, which can be unpredictable and fluctuate from year to year based on repayment rates. Projections assume each category of public investment changes at the same rate as total non-defense discretionary spending with adjustments for specific spending proposals.

Source: OMB Historical Tables (2020) and President's FY 2021 Budget

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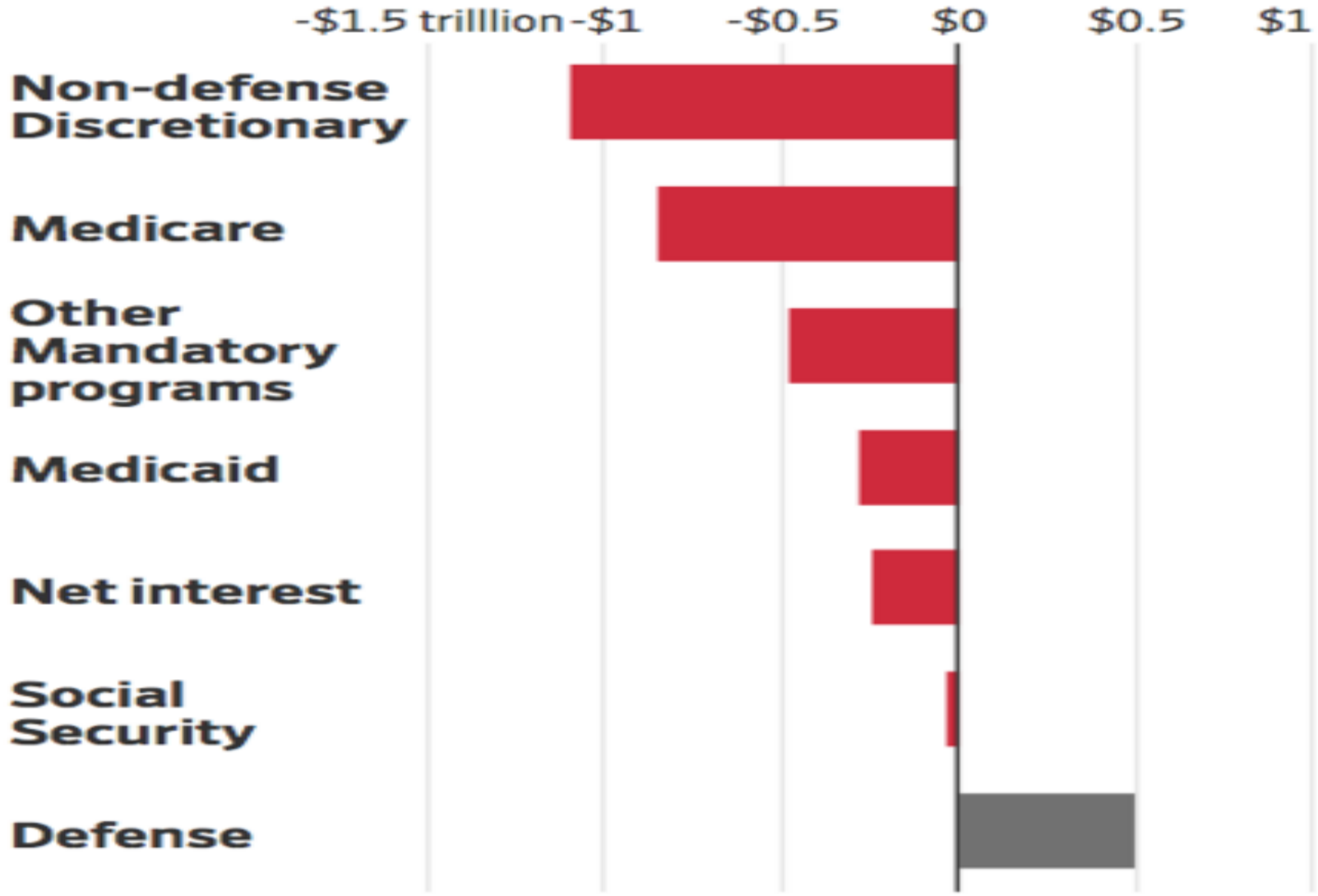

Source: White House Office of Management and Budget

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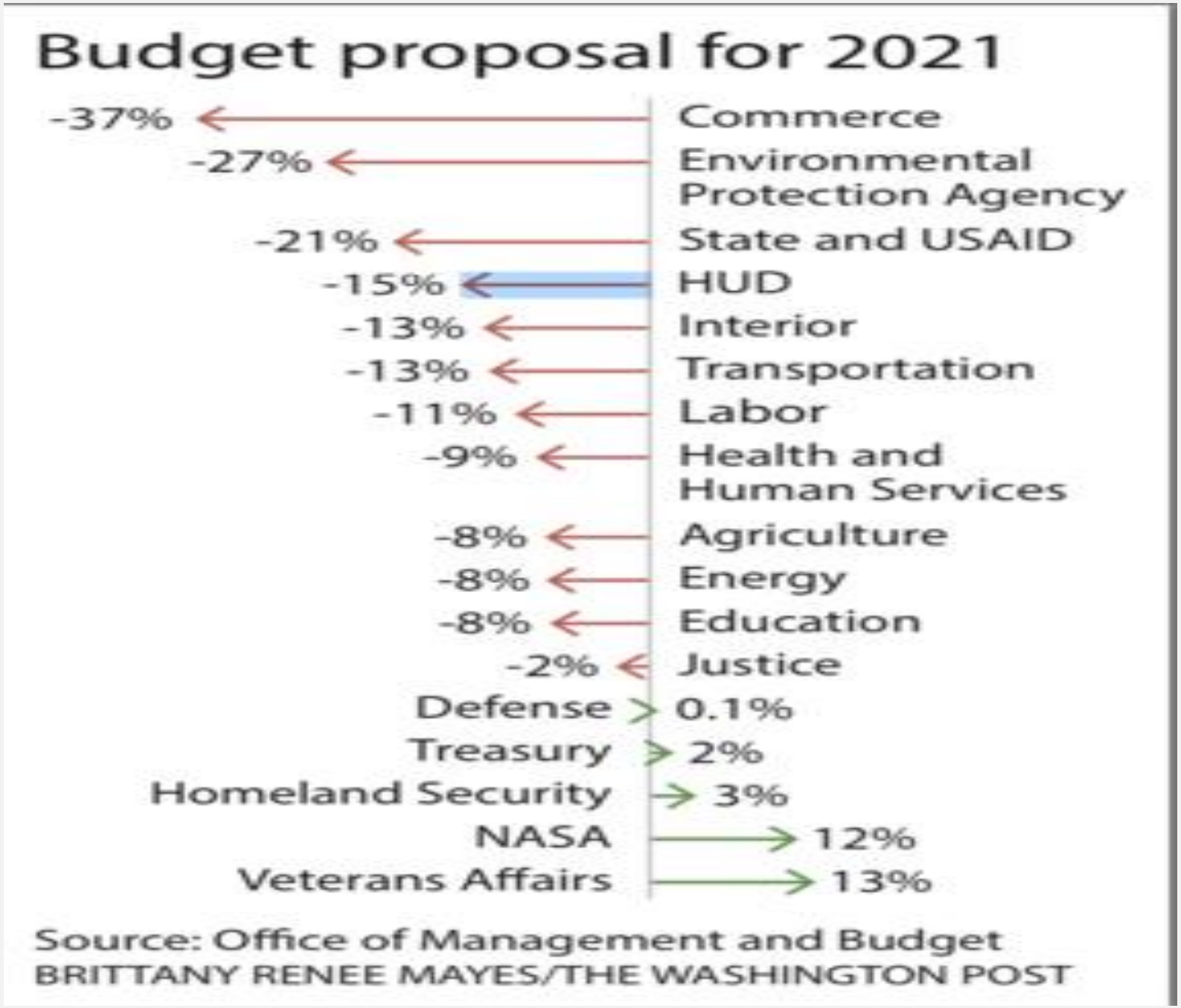

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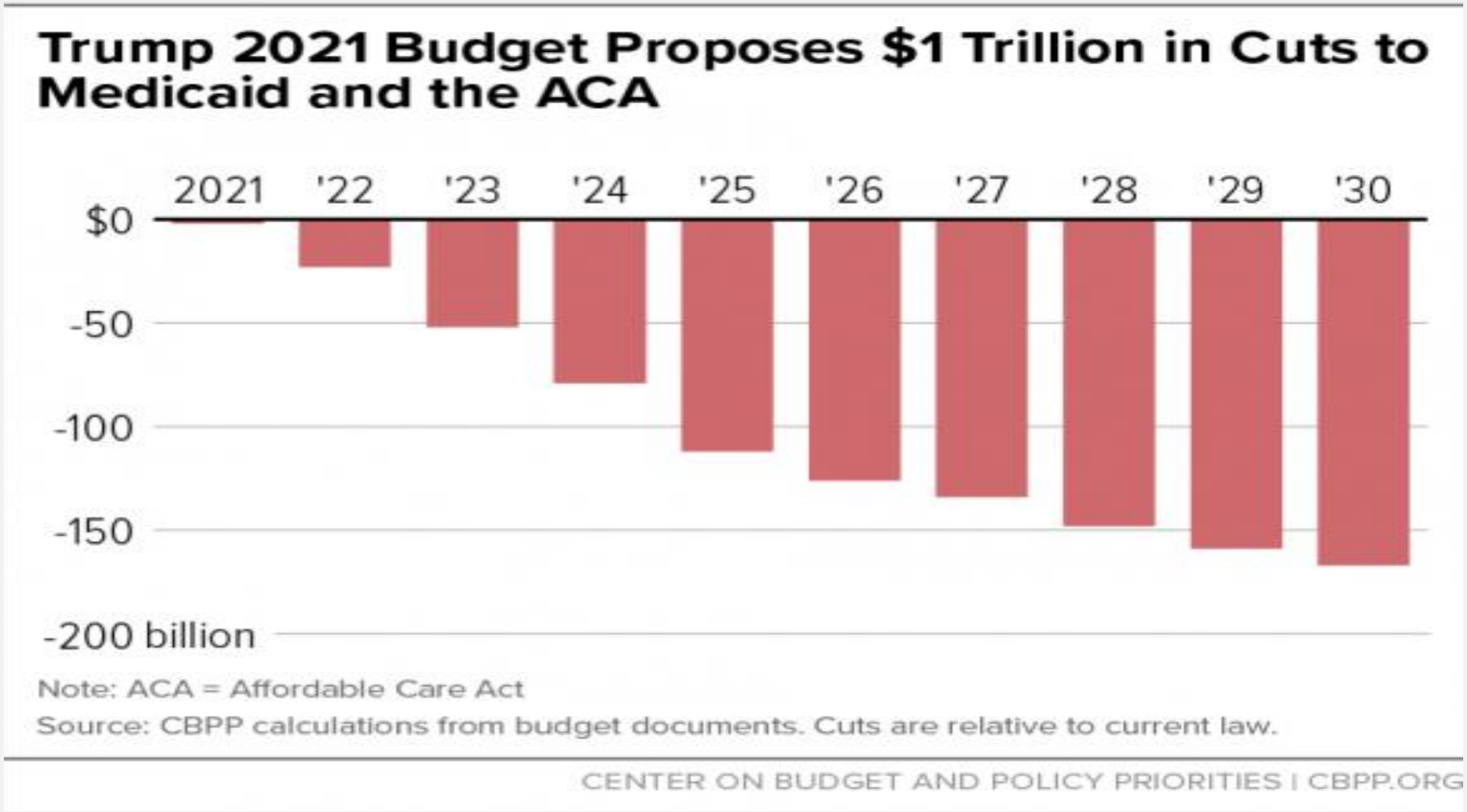

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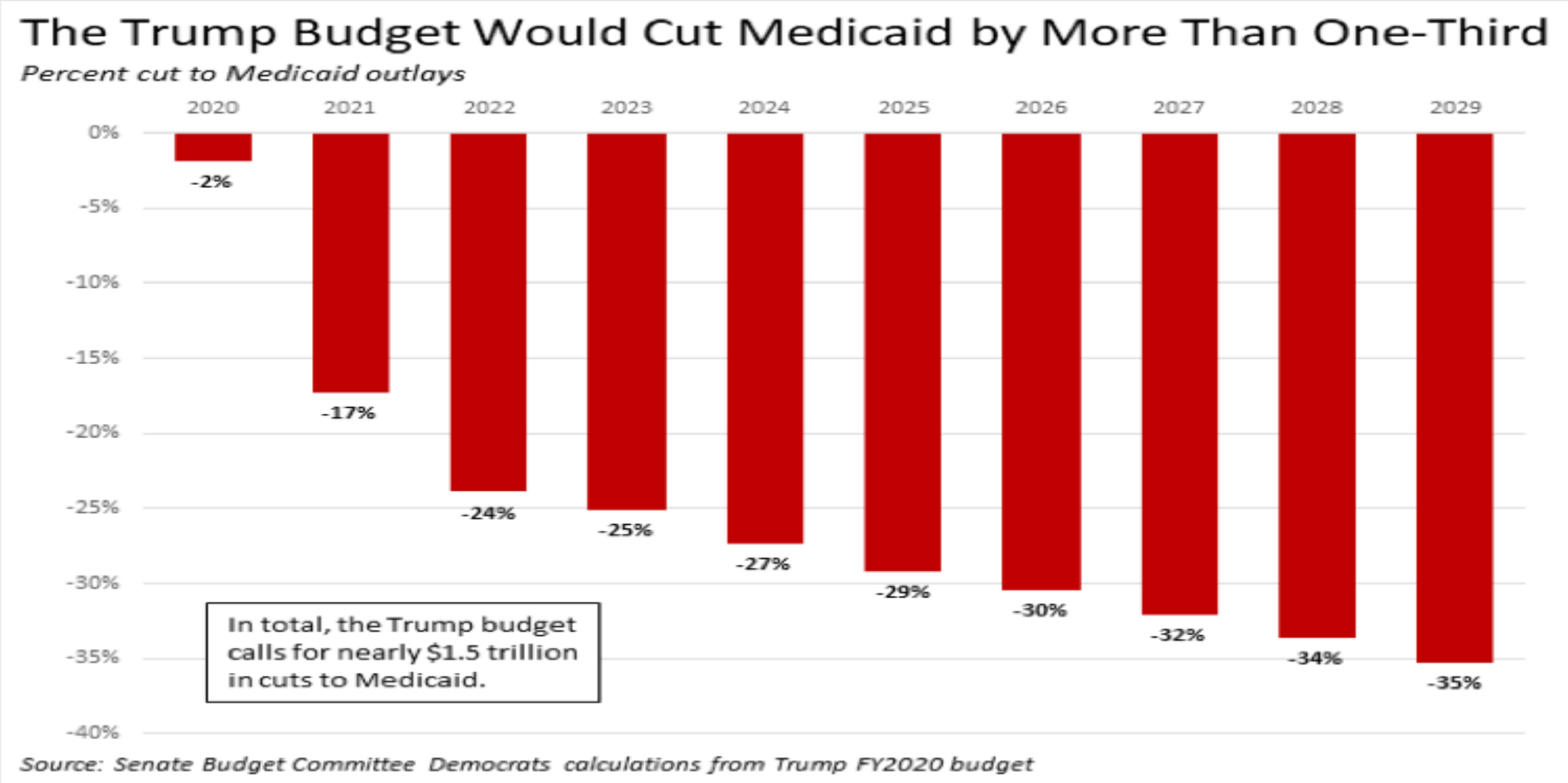

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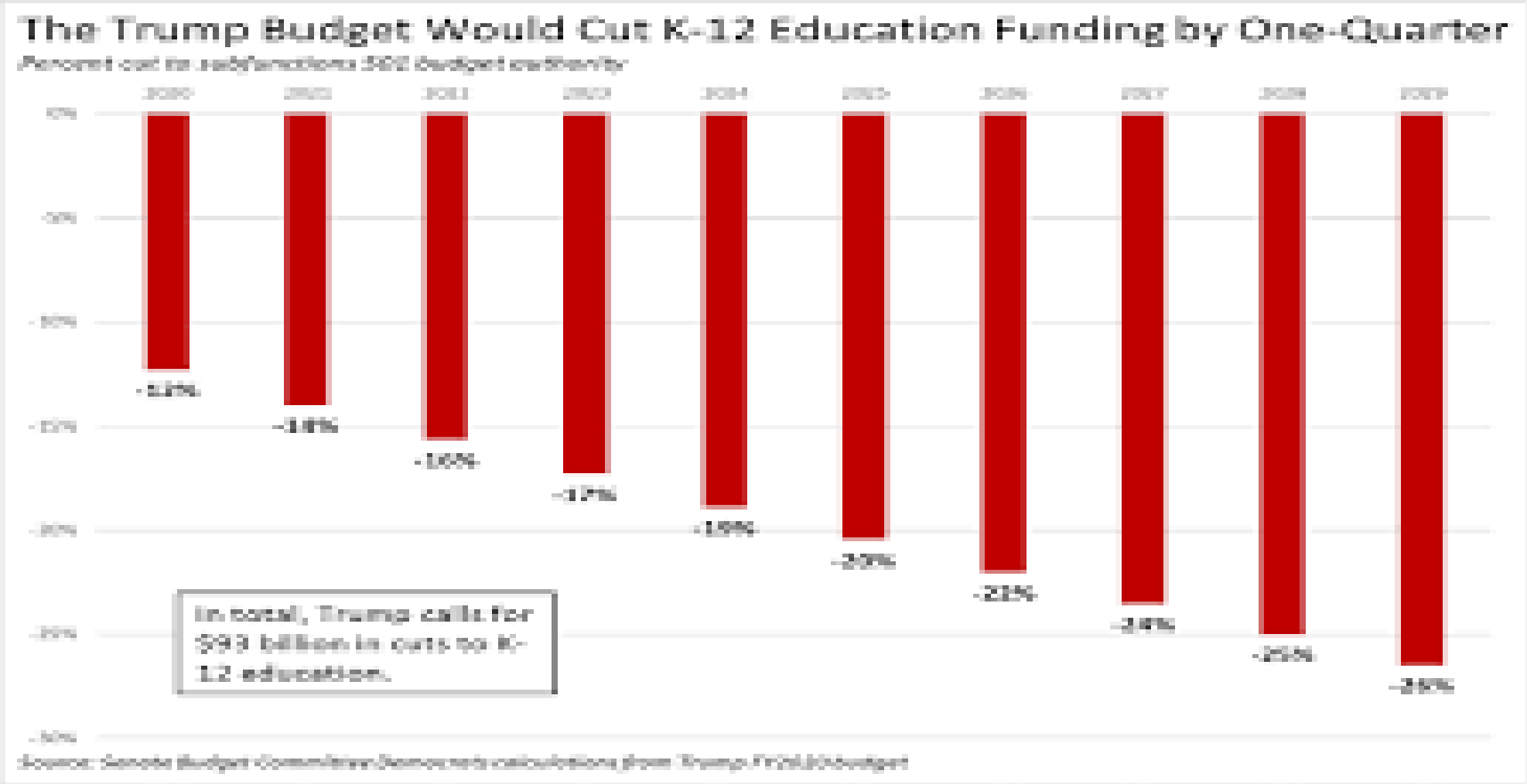

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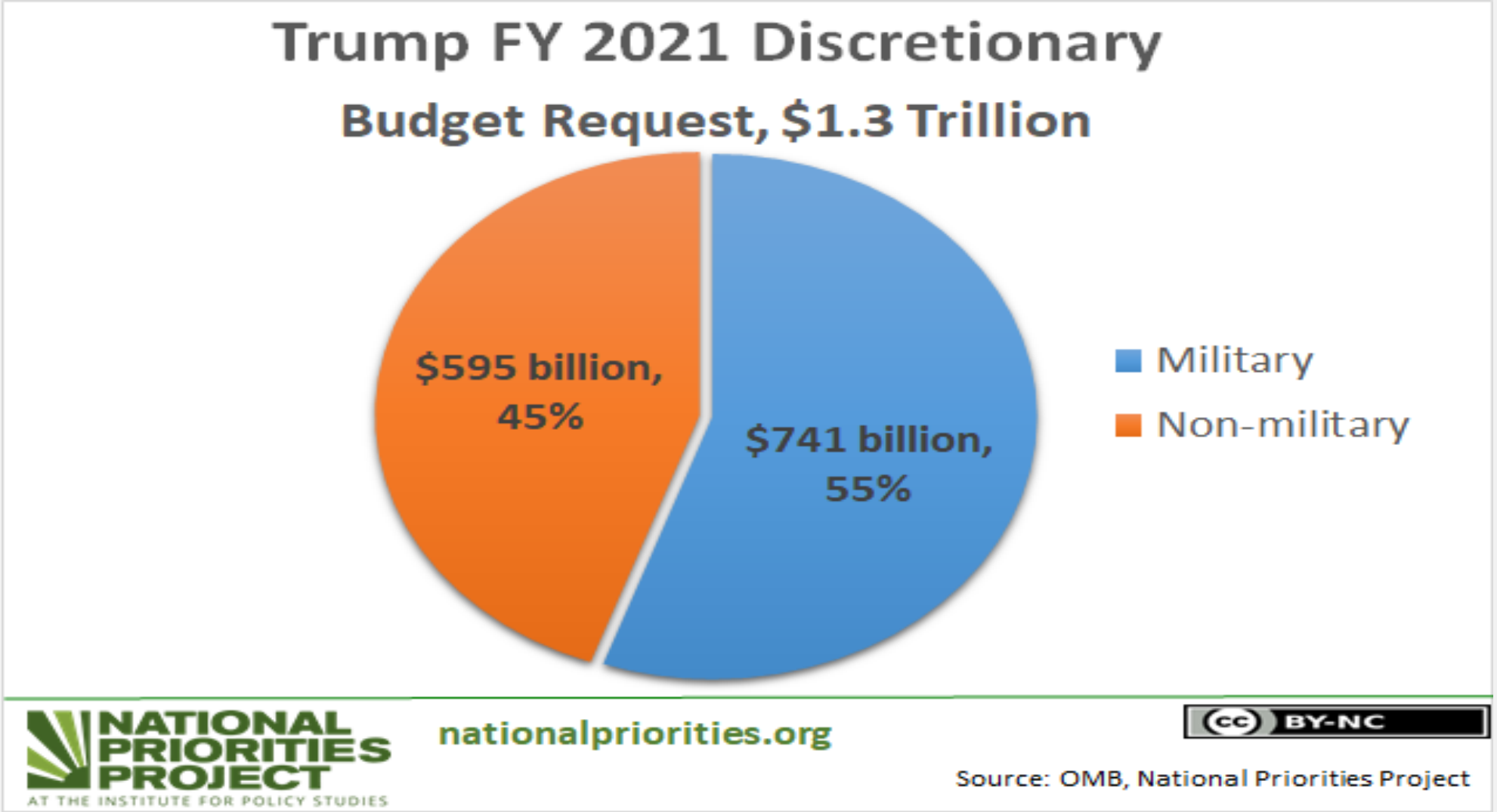

FISCAL AND MONETARY POLICY

Differences Between CBO's and the Administration's Estimates of the President's Budget

Billions of Dollars

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2021–2025	Total 2021–2030
						Administration's Estimate							
Deficit Under the President's Budget	-1,083	-966	-920	-746	-552	-527	-481	-435	-475	-250	-261	-3,711	-5,613
						Differences Between CBO's and the Administration's Estimates							
Differences From CBO's Lower Estimate of Revenues[a]	**-74**	**-45**	**-78**	**-143**	**-259**	**-345**	**-405**	**-516**	**-648**	**-749**	**-876**	**-870**	**-4,064**
Differences in Outlays[b]													
Mandatory	-64	-10	12	15	66	107	145	167	164	163	179	192	1,011
Discretionary	-26	-39	-39	-28	-27	-8	-8	-5	-2	-11	-6	-141	-174
Net interest	6	16	23	37	47	45	43	45	59	79	111	169	505
Differences From CBO's Higher or Lower Estimate of Outlays	**-83**	**-33**	**-4**	**25**	**87**	**144**	**180**	**207**	**221**	**231**	**284**	**219**	**1,342**
Amount by Which CBO's Estimate of the Deficit Is Larger or Smaller Than the Administration's Estimate[c]	**9**	**-11**	**-74**	**-167**	**-346**	**-490**	**-585**	**-723**	**-868**	**-981**	**-1,161**	**-1,089**	**-5,406**
						CBO's Estimate							
Deficit Under the President's Budget	-1,074	-977	-994	-913	-898	-1,016	-1,066	-1,158	-1,343	-1,231	-1,422	-4,799	-11,020

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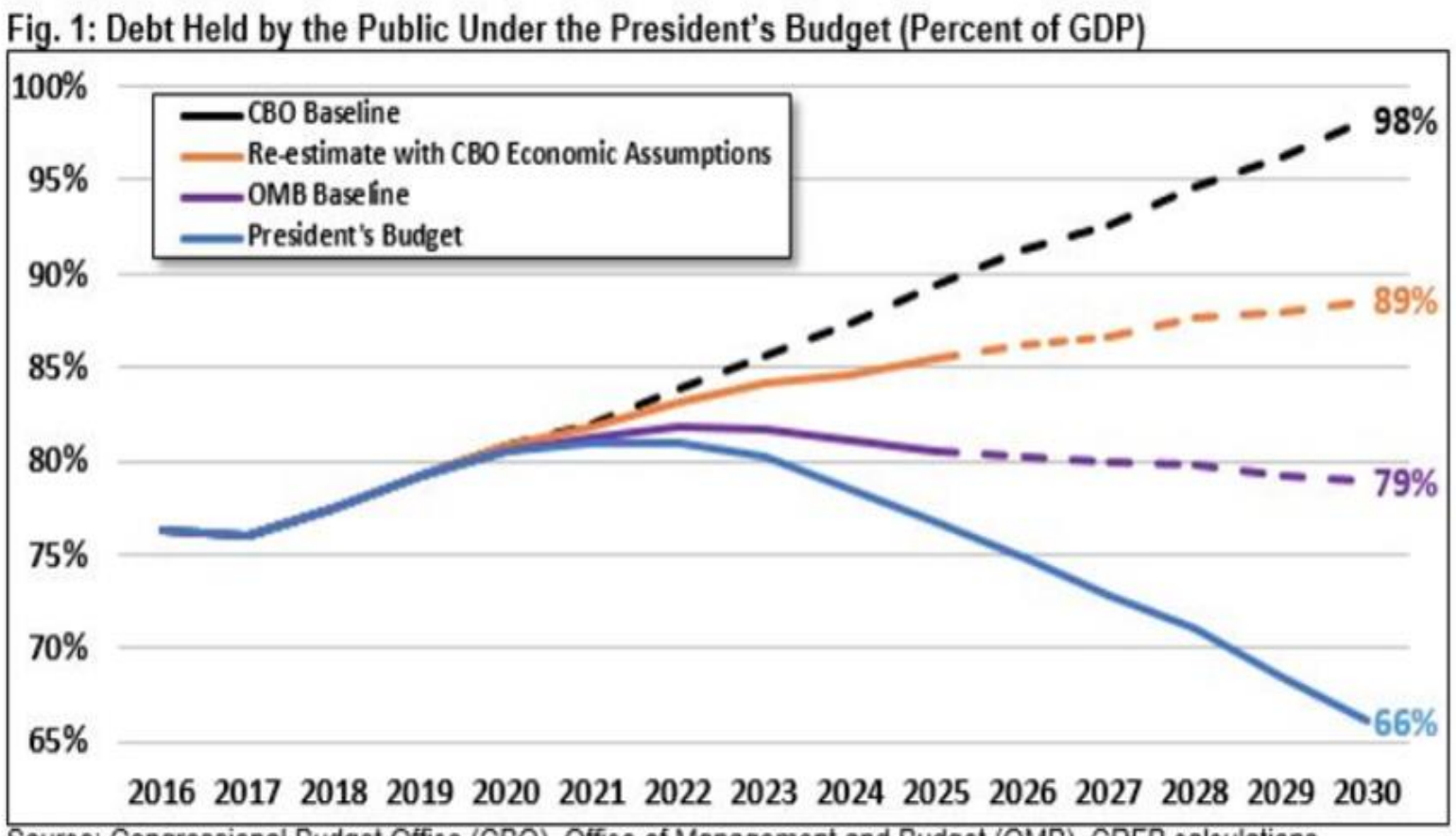

The CBO's revised economic assumptions mainly reflect a lowering projected interest rates.

Of course, these projections are now out the window. We could probably add 10-20% or more to each of these estimates following the Covid-19 recovery spending.

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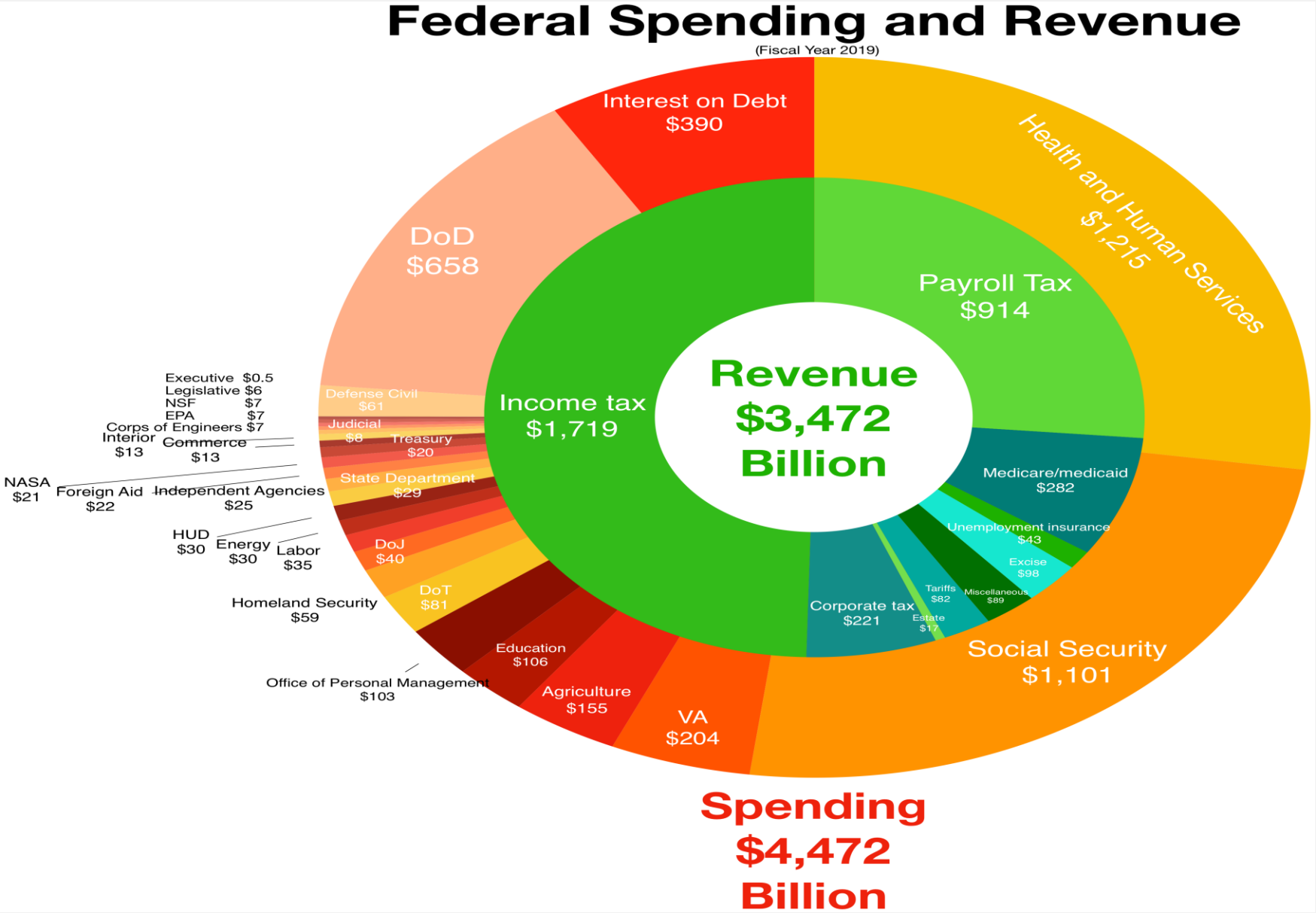

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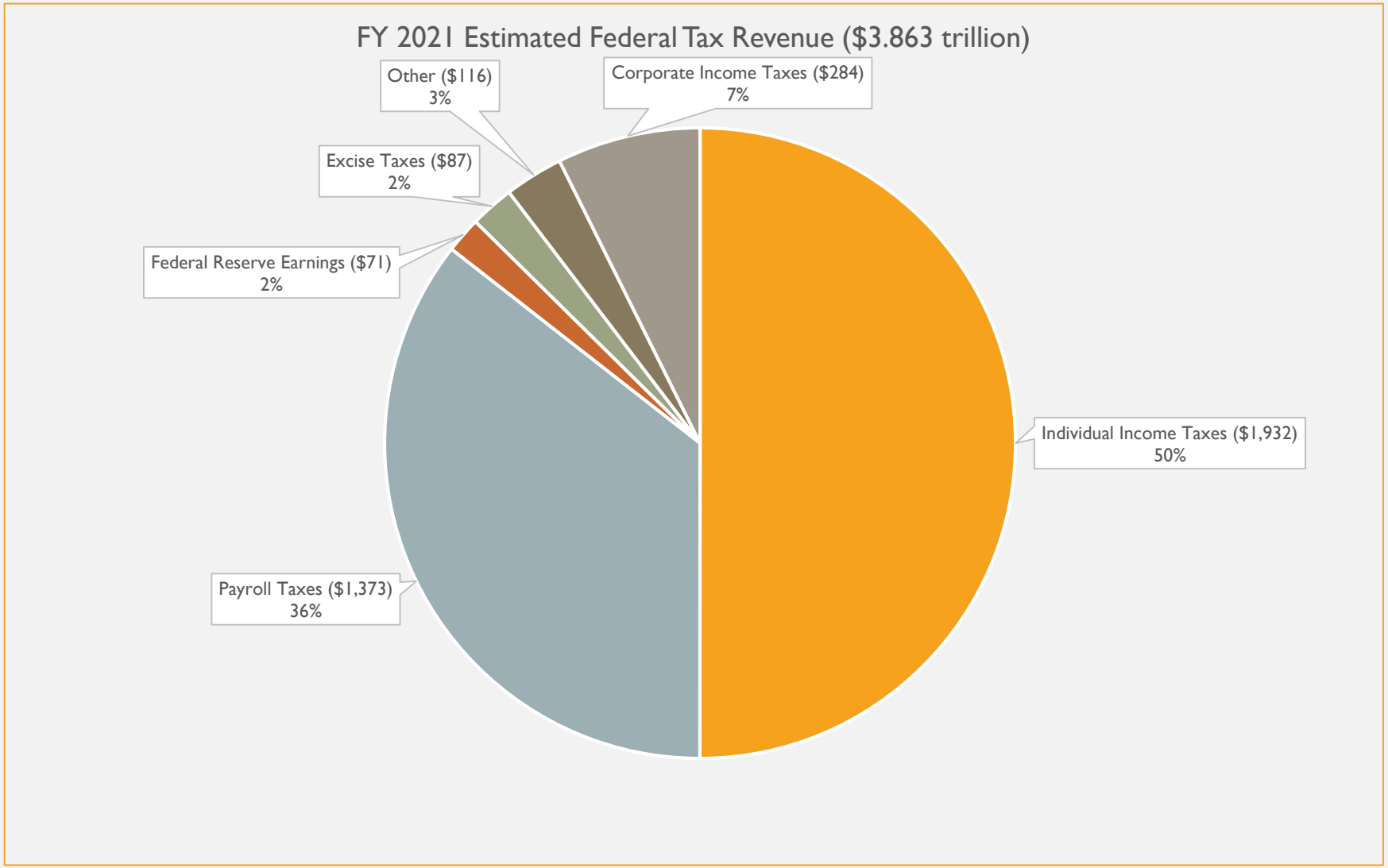
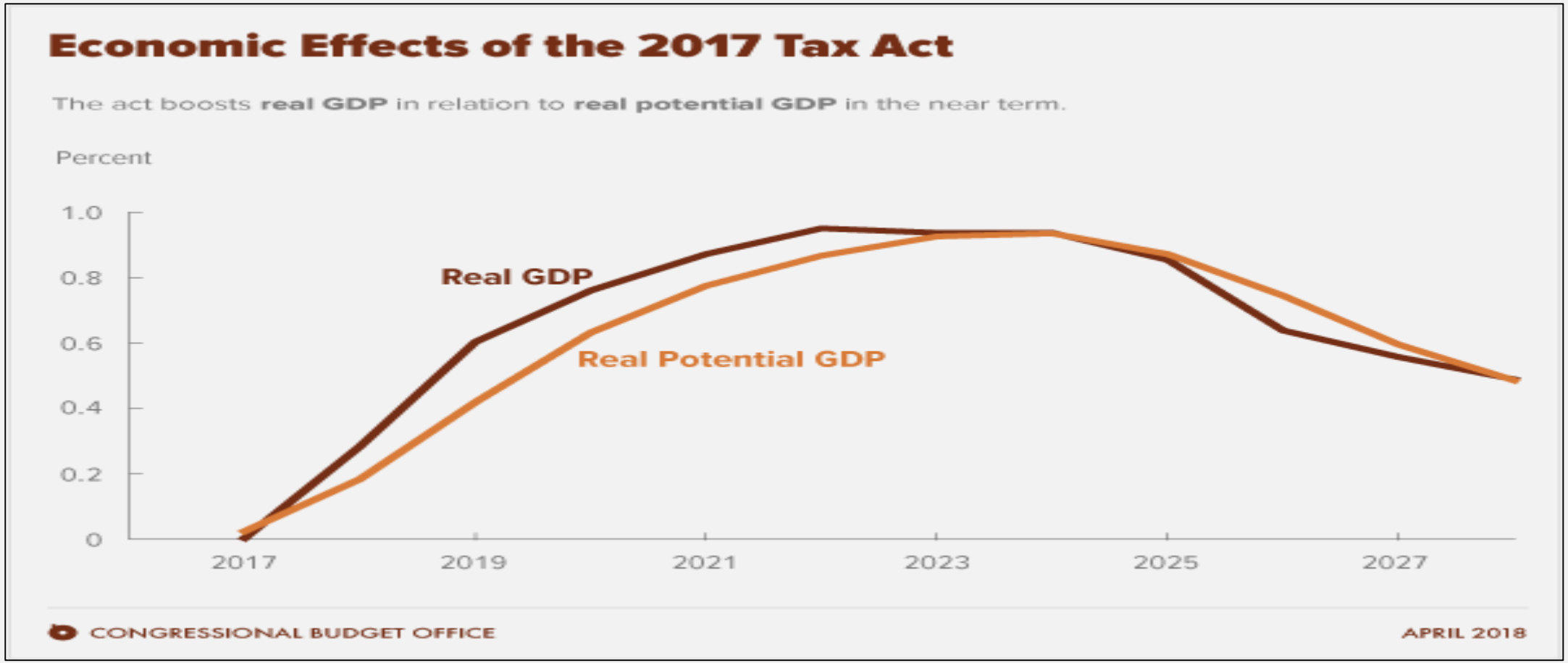


FISCAL AND MONETARY POLICY

- Having examined the impact of the president's budget on spending, let's see how the 2017 tax law is expected to impact the economy
- Here's CBO's projection of the impact on GDP



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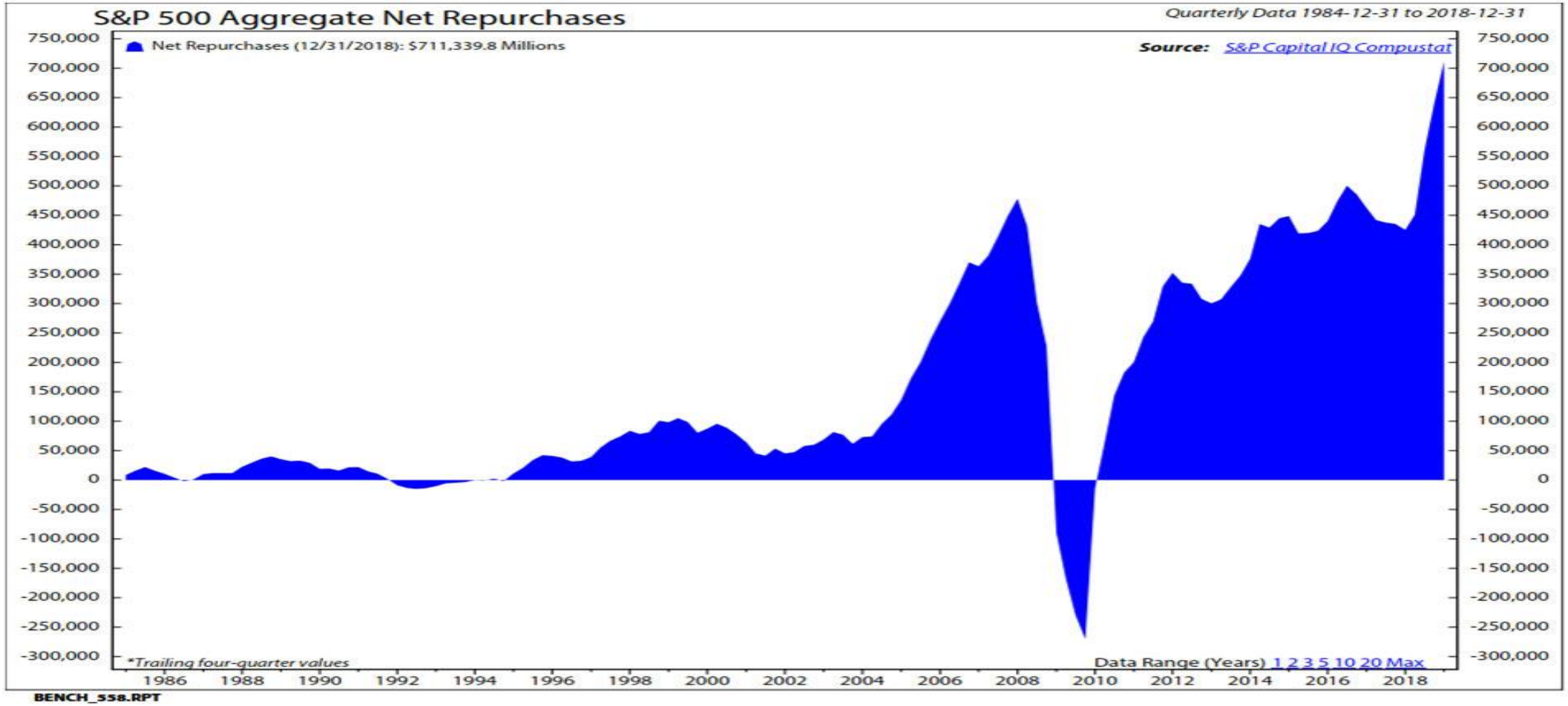
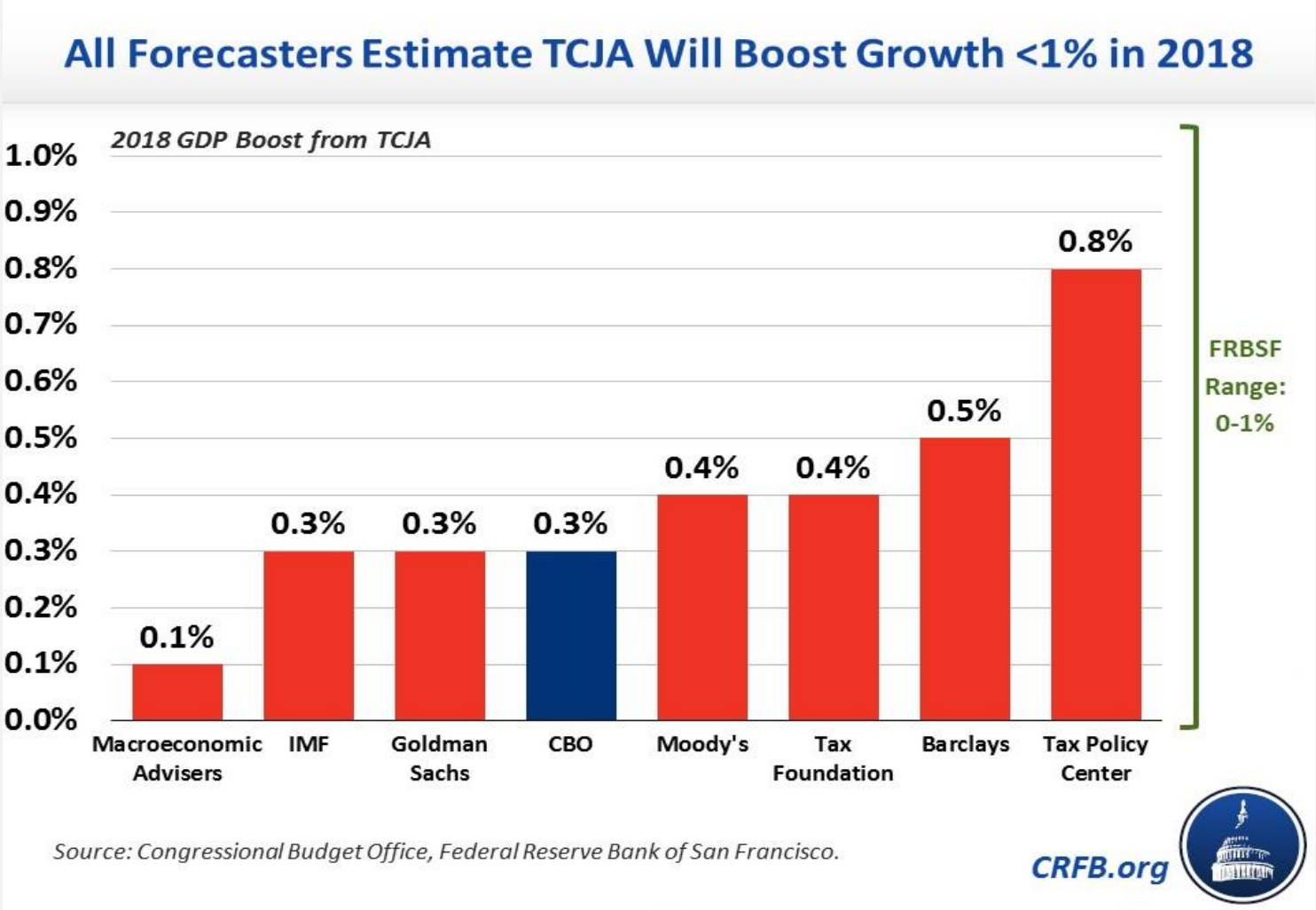


FISCAL AND MONETARY POLICY

- The impact of the Tax Cuts and Jobs Act
- According to the Committee for a Responsible Federal Budget, estimates of the impact of the TCJA on economic growth varied from 0.1% to 0.8%.
- In fact, while it is unclear what factors influenced growth in 2018, real GDP growth in 2018 over 2017 was 0.5% and GDP growth in 2019 was actually 0.1% less than 2017



FISCAL AND MONETARY POLICY

- The impact of the TCJA
- According to the Tax Policy Center:

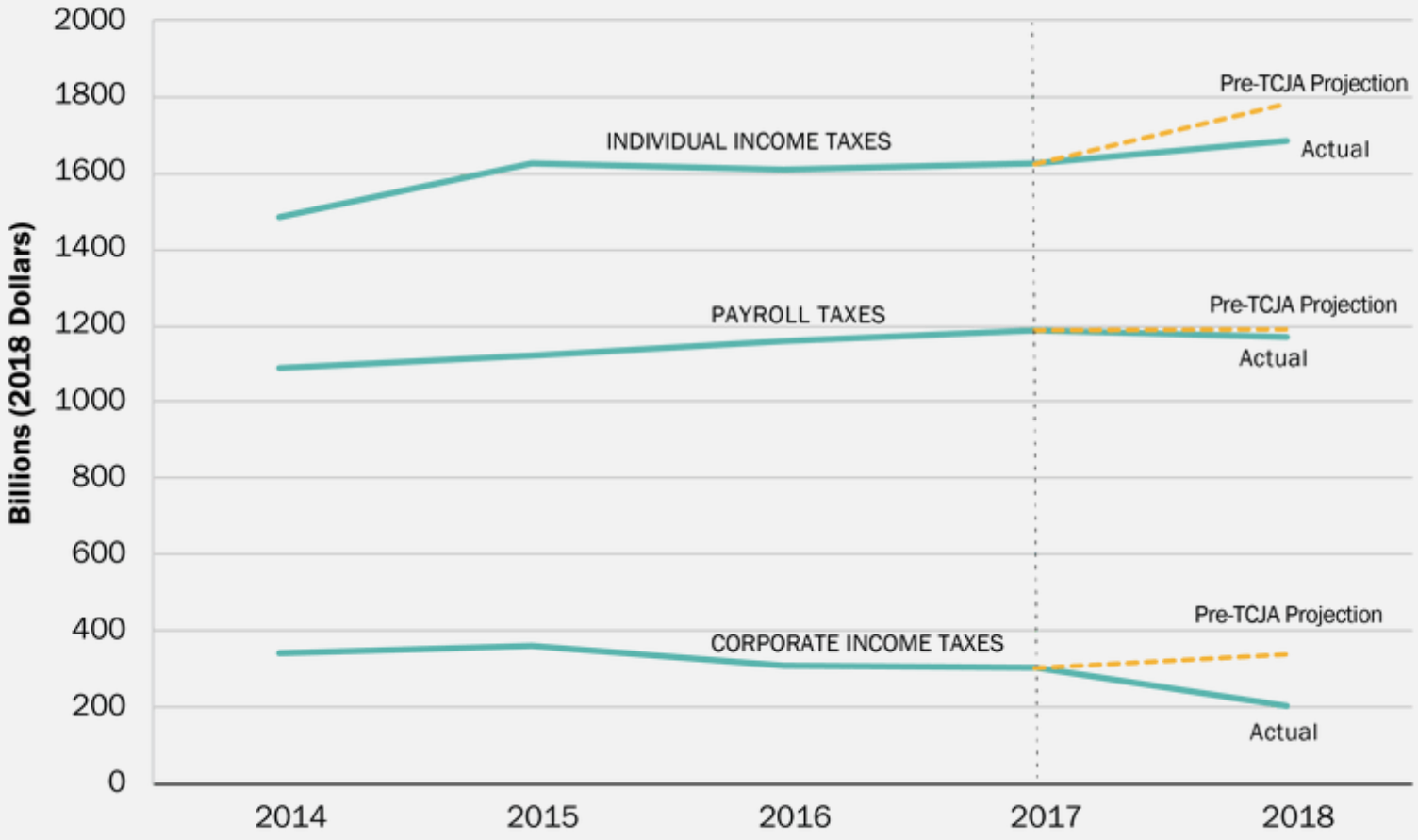
Q. How did the TCJA affect the federal budget outlook?

A. The Tax Cuts and Jobs Act cut taxes substantially from 2018 through 2025. The resulting deficits will add $1 to $2 trillion to the federal debt, according to official estimates. The debt increase will be larger if some of TCJA's temporary tax cuts are extended.

FISCAL AND MONETARY POLICY

- The impact of the TCJA
- According to Brookings:

Figure 2. Real Revenues by Source, 2014-2018 (2018 Dollars)



Source: CBO (2017, 2019)
Note: Projected and actual revenues are for fiscal years. Revenues for 2014-2017 were adjusted for inflation, using the calendar year average GDP price index.

BROOKINGS

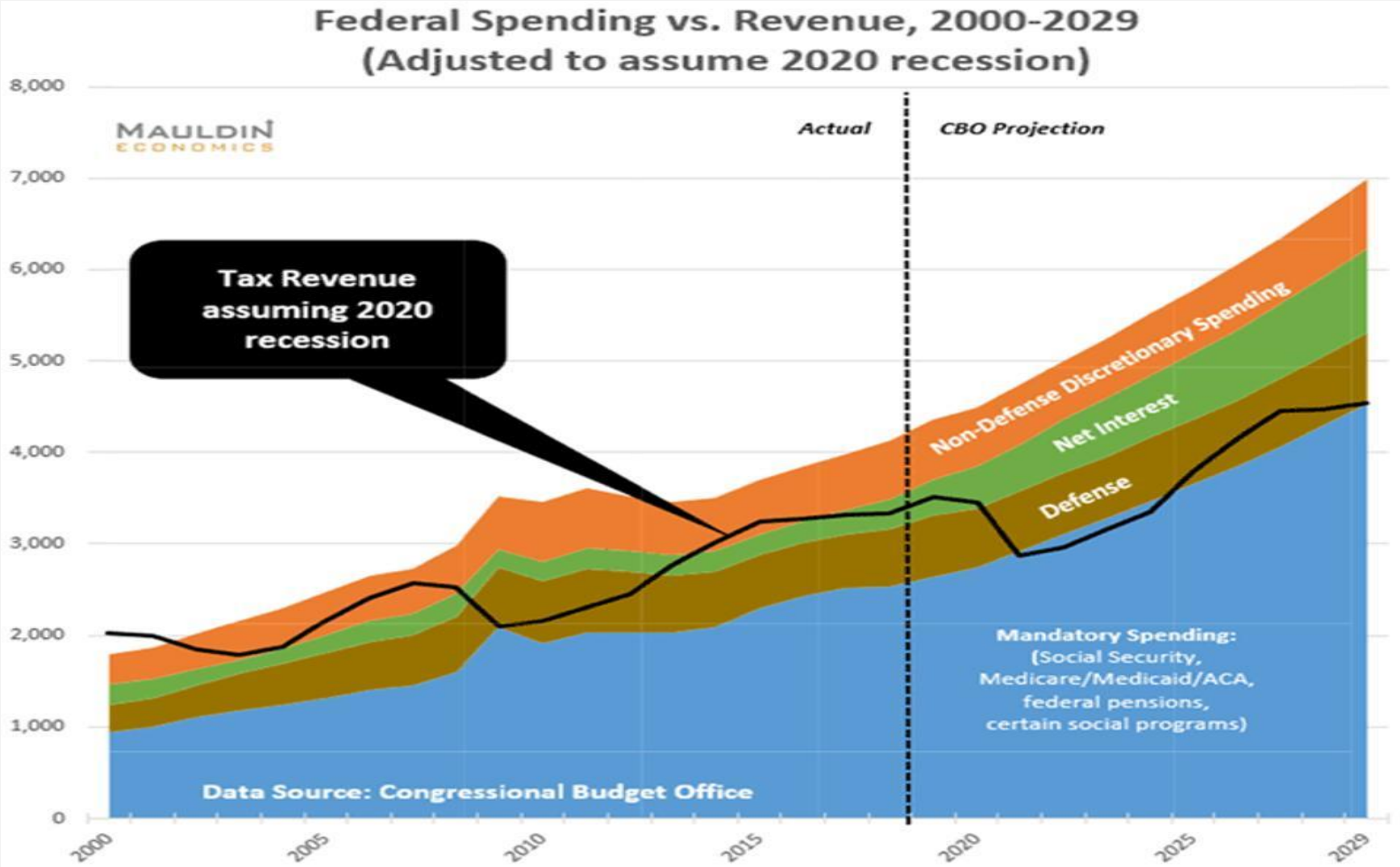
FISCAL AND MONETARY POLICY

- Fiscal policy has an advantage that monetary policy does not, at least up to now, namely, the ability to direct spending and spending cuts, taxation and tax cuts, to exactly the targeted entities. For example:
  - Writing off legal expenses even if you are found guilty of a crime
  - Breast enlargement if critical for your business
  - Writing off interest on your yacht if used as a second home
  - According to one report, 17 oil and gas companies received a total of $25 billion in one-time direct benefits from the TCJA
- But there's a silver lining: As a result of the virus-related stay-at-home requirements, those who work from home are able to deduct a portion of their home expenses that can be attributed to their work directly or on a prorated basis

FISCAL AND MONETARY POLICY

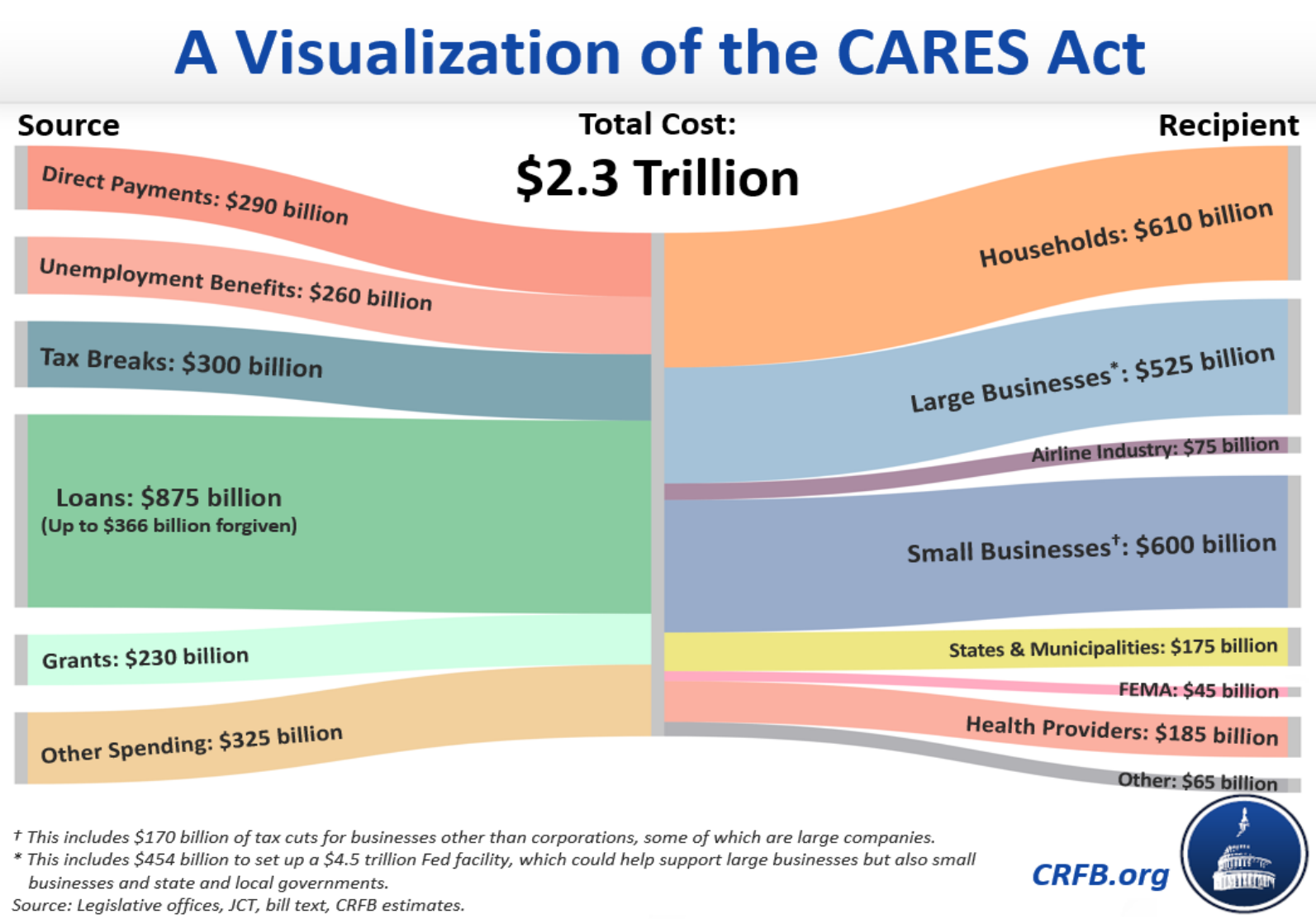
- Fiscal Policy during the Great Financial Crisis (2008-2009)
  - Economic Stimulus Act of 2008, $152 billion primarily consisting of tax rebates for low and middle income taxpayers
  - American Recovery and Reinvestment Act of 2009, $787 billion, of which $260 billion went to tax cuts, tax credits and unemployment benefits
- Fiscal Policy during COVID-19 Disruption (2020-)
  - Phase 1, March 6th: $8.3 billion of which $1 billion was for small business and the rest dedicated to medical support
  - Phase 2, March 18th: $104 billion for paid emergency sick leave, aid for state unemployment and food assistance
  - Phase 3, March 27th: $2+ trillion for checks to individuals, bailouts for distressed industries and loans and grants for small businesses. This is the CARES (Coronavirus Aid, Relief, and economic Security) Act
  - Phase 3.5: $484 billion, incl. $321 for PPP (on top of $349B), plus $ for state/local gov't., small businesses, hospitals, and testing
  - Federal budget deficit is estimated to be as much as $6 trillion in 2020 (the highest since WWII) and $2 trillion or more in 2021 (and this does not reflect any new legislation)

FISCAL AND MONETARY POLICY



FISCAL AND MONETARY POLICY

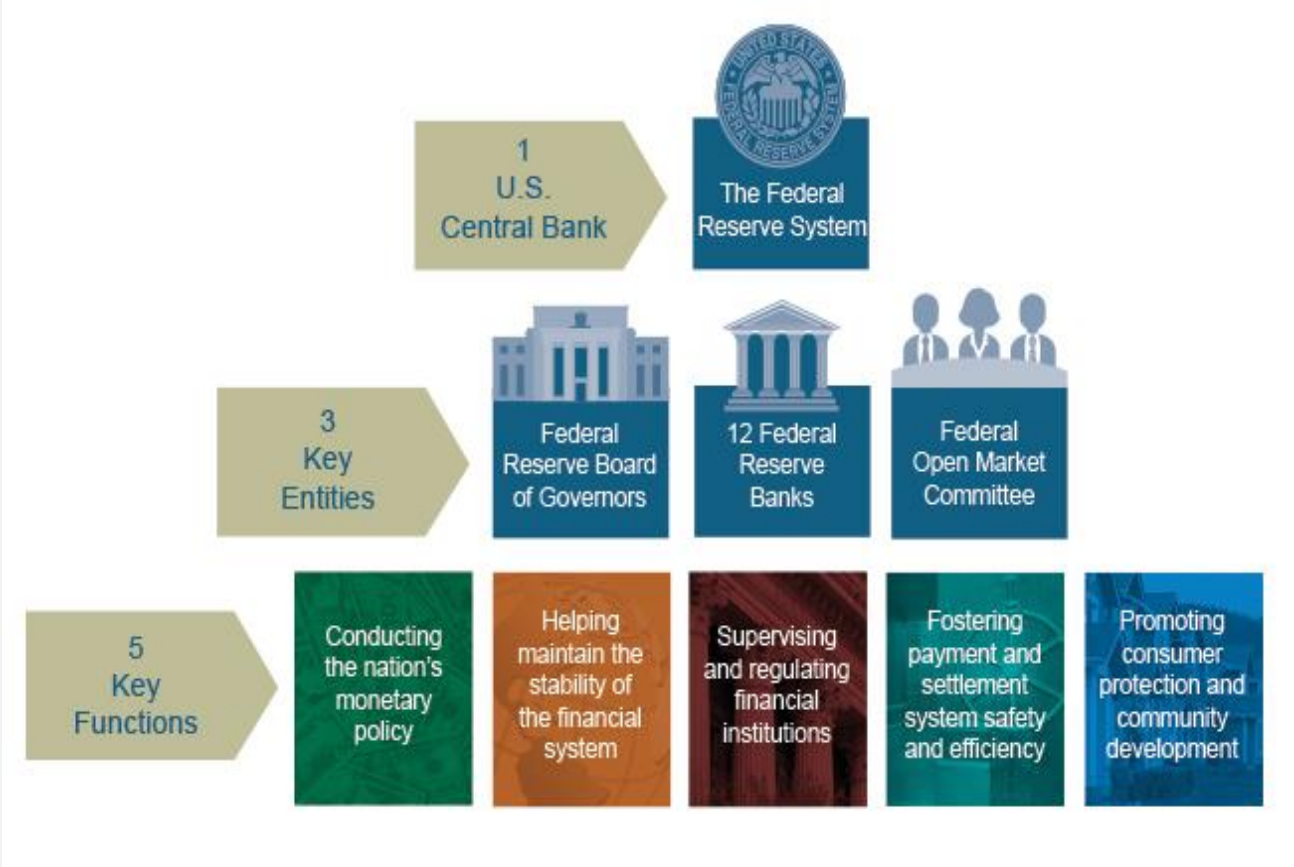
- Fiscal Policy during COVID-19 Disruption (2020-)
  - CARES Act
    - Provides $1,200 to individuals making less the $75,000 ($150,000 for joint returns) and $500 for each child
    - Potentially forgivable loans of up to $10 million to small businesses



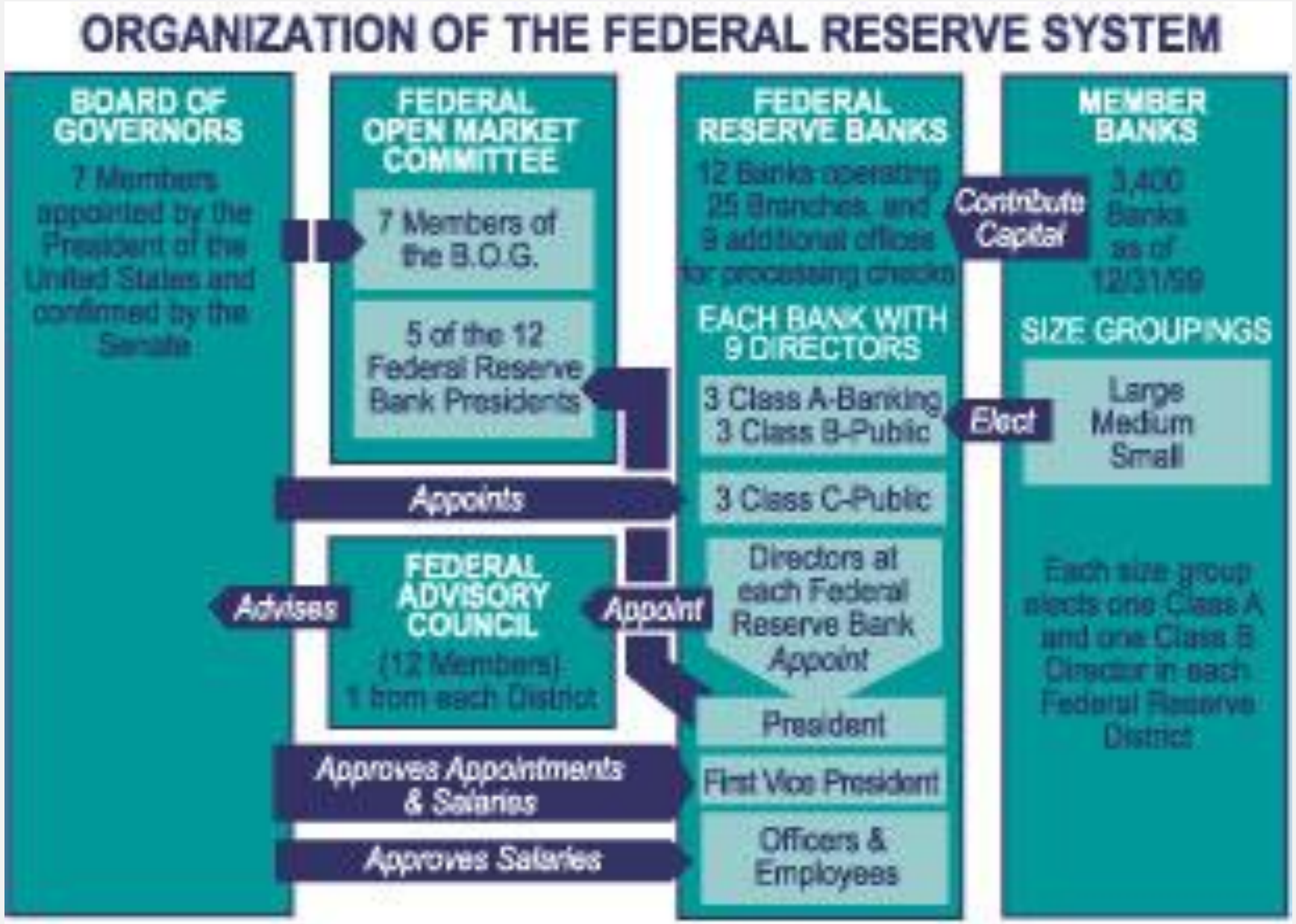
FISCAL AND MONETARY POLICY

- Monetary policy is the sum of actions taken by the central bank, the Federal Reserve in the United States (the "Fed"), to meet the mandates of Congress to maximize employment and stabilize prices. Moderating long-term interest rates and serving as the lender of last resort are also roles for the Fed
  - While the Fed is an independent government agency, it is ultimately accountable to Congress
  - Note that stabilizing securities markets is not one of the Fed mandates

The Fed and the Treasury are now working in an explicitly coordinated manner to address COVID-19

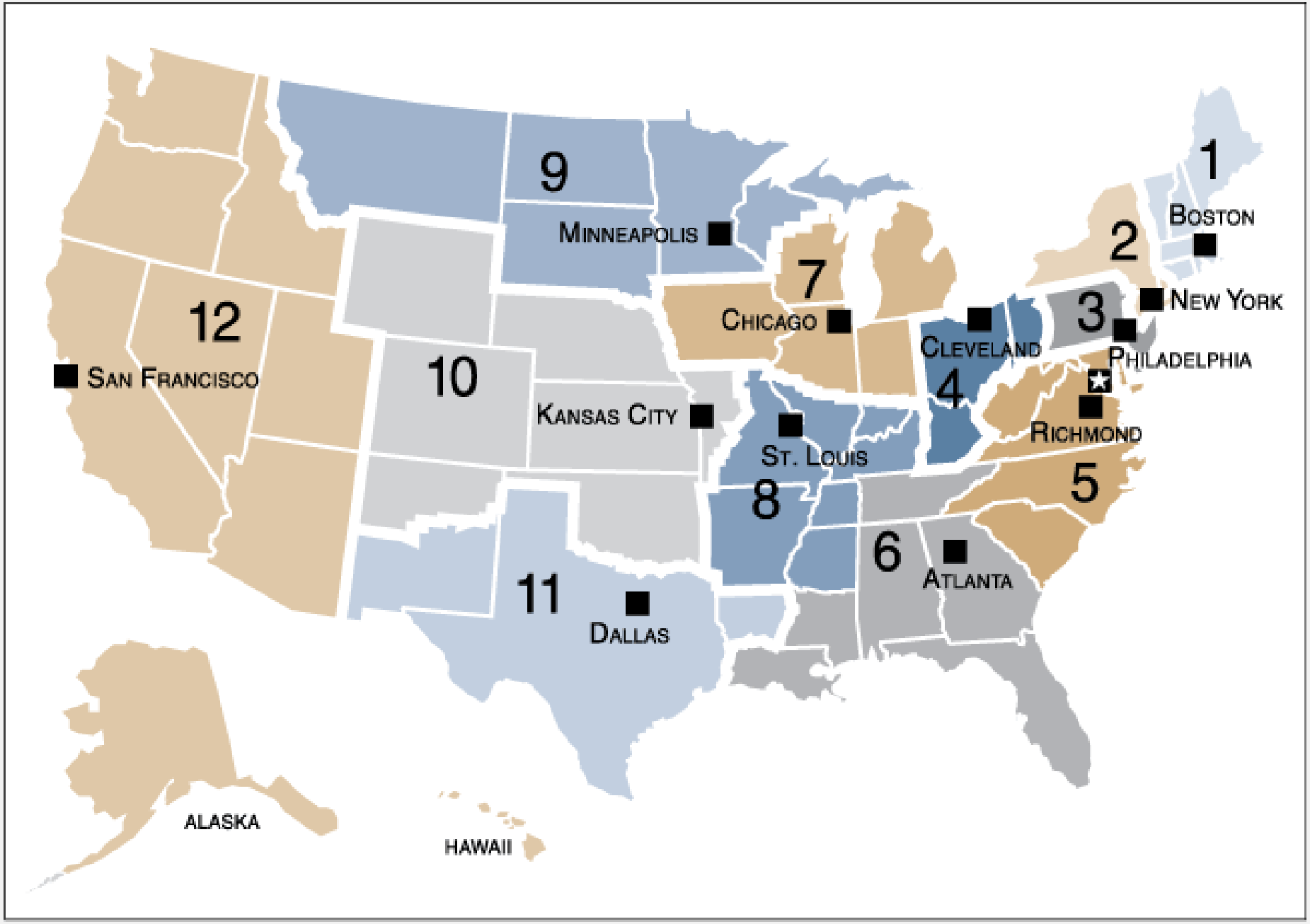


FISCAL AND MONETARY POLICY



Source: Board of Governors of the Federal Reserve System.

FISCAL AND MONETARY POLICY



FISCAL AND MONETARY POLICY

- Before 2008 and the Great Financial Crisis, the Fed primarily used the following tools, all of which were targeted to interest rates
  - Reserve requirements – Until changes made effective on March 15, 2020, the reserve requirements were basically a required minimum amount of funds that banks needed to have on hand each night.
    - Bank reserves in the system as a whole grow with government expenditures and Fed purchases of Treasury securities from individual banks
    - The conventional view is that bank reserves determine the amount of money that a given bank can lend to its customers
      - Actually, this is not the case. Banks create assets (loans) and deposits (liabilities) when they lend. Banks lend whenever there is demand for loans at the prevailing interest rate and the borrower is credit worthy
    - Bank reserves are used by banks to make interbank payments. Interbank payments occur when a bank's customer pays another party whose account resides in another bank. When this happens, the first bank debits their customer's account and their own reserves and transfers reserves to the second bank as that bank credits the receiving party's account
    - If the movement in reserves brings a bank into noncompliance with the reserve requirements, the bank borrows from other banks with "excess" reserves using the Fed funds rate, to be discussed next
  - Reserve requirement were suspended on March 15th as part of the response to the COVID-19 disruption
  - Though not often thought of in this way, Treasury bond issuance, connected by policy to government deficit spending, is actually a device for absorbing bank reserves and managing interest rates (this will be discussed later in the context of federal debt)

FISCAL AND MONETARY POLICY

October 15, 2014

(in US$ billions)

Assets		Liabilities	
US Treasuries	2567	FR Notes Outstanding	1252
MBS and Agencies	1832	Bank Deposits (Overnight)	2821
Net Other Assets	53	Bank Deposits (Term)	0
		Reverse Repos	221
		US Treasury Deposits	101
		Equity	56
Total Assets	4452	Total Liabilities	4452

Source: Federal Reserve Board Release H.4.1 and Author's calculations

FISCAL AND MONETARY POLICY

Federal Reserve System Balance Sheet, August 22, 2012

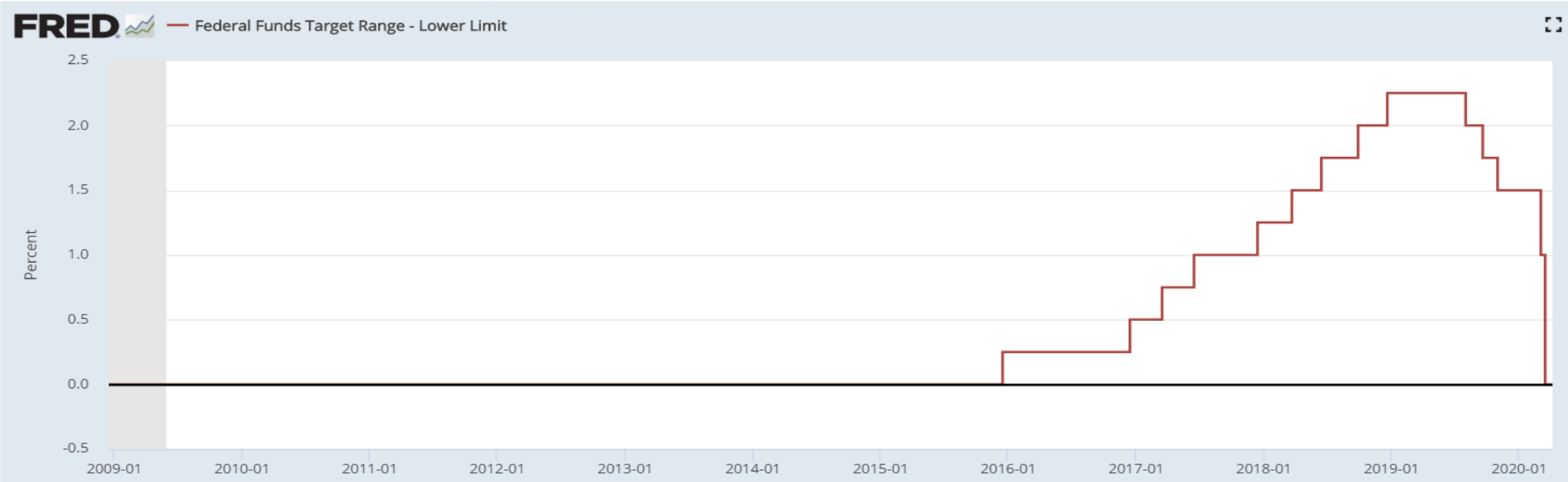
Billions of dollars

Assets		Liabilities	
U.S. Treasury securities	1,637	Federal Reserve notes	1,076
Mortgage-backed securities	859	Deposits held by banks	1,510
Other	332	Other	187
Total assets	2,828	Total liabilities	2,773
		Capital	55

Source: Federal Reserve Statistical Release H.4.1.

FISCAL AND MONETARY POLICY

- The most recognized Fed monetary management tool is the Fed Funds Rate (FFR). It works like this:
  - The FFR drives the interest rate used by the banks to borrow and lend overnight to one another to satisfy the Fed's reserve requirements and, thereby, influences financial operations throughout the system
  - The FOMC, the policy-making body of the Fed, decides on a range (usually a quarter percentage point) for the FFR and instructs the New York Fed to buy and sell short term Treasury securities until the "effective" FFR is within the target range. These are known as System Open Market Operations, or SOMA
  - The range for the FFR was recently reduced and is now 0% to 0.25%



FISCAL AND MONETARY POLICY

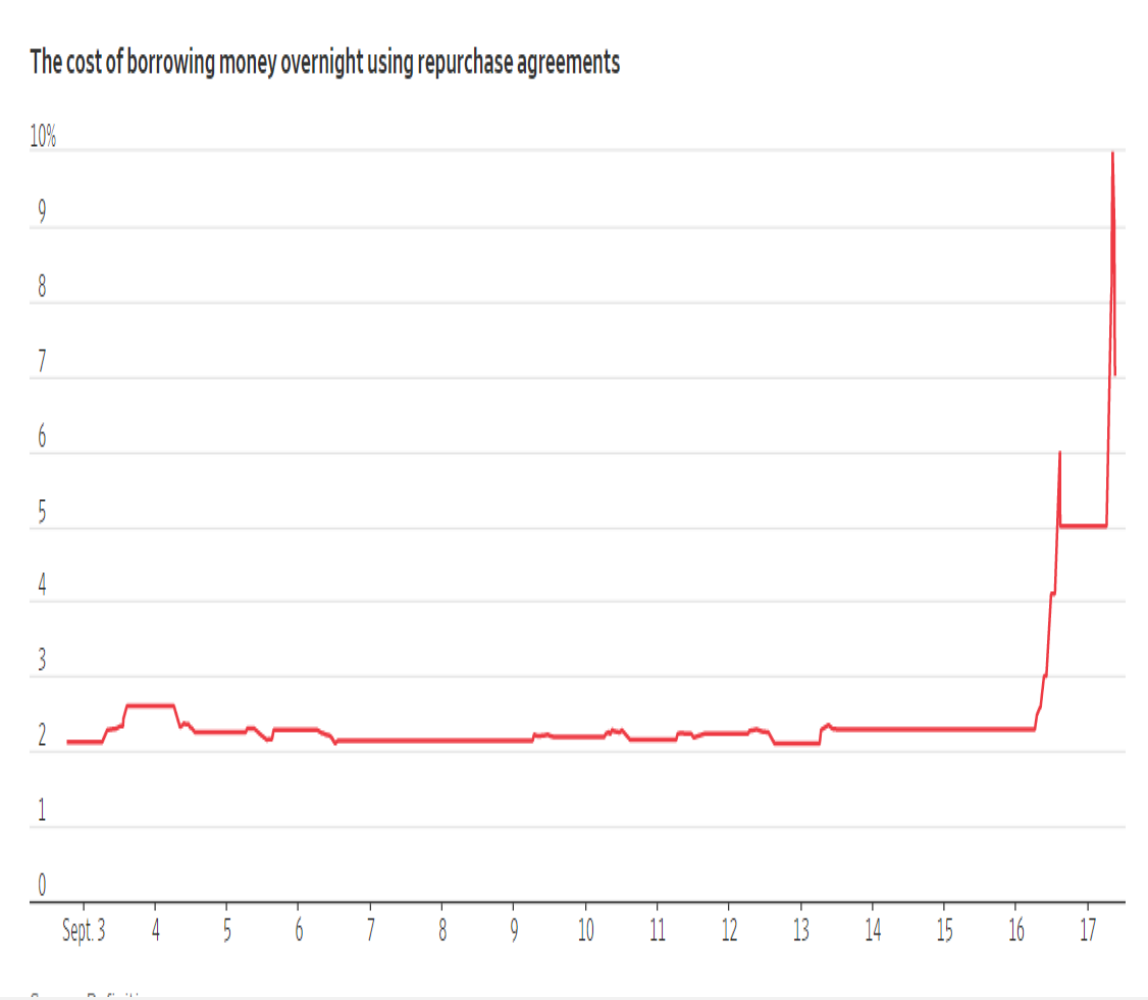
- The Fed Funds Rate (FFR)
  - The "effective" FFR is the actual rate charged on overnight loans between the banks and is driven by the supply and demand for reserves among the banks. The current value as of 4/6 was 0.05%

FISCAL AND MONETARY POLICY

- SOMA (System Open Market Account) Operations
  - SOMA Operations have been the primary tool used by the Fed to manage interest rates
  - As will be covered when we discuss the federal debt, when the Treasury issues bonds, "primary dealers" (banks or financial institutions approved to trade with the Treasury) are required to purchase and may do so with their own reserves or funds provided by the Fed through "repo" arrangements
  - SOMA takes the form of purchases and sales of government securities from primary dealers and other banks; securities include primarily Treasury bonds but also bonds of government supported enterprises (GSEs), like Fannie May
    - Different durations are bought and sold depending on where the Fed wants interest rates to end up with a preference to have longer duration rates higher than short duration as a healthier environment for business expansion
  - Bonds may also be "repo'd" to manage the FFR and/or to provide reserves to banks
    - A repo operation is one in which the Fed lends reserves collateralized by Treasury securities on a short term basis
    - The repo rate is always less than the FFR because there is no collateral backing the FFR
    - Repo's may and often are rolled over so that the reserves remain in the banking system for an indefinite period

FISCAL AND MONETARY POLICY

- The Repo Rate:
  - In September 2019, when the FFR range was in the range of 2.00-2.25%, the repo rate shot up to 10% on September 17th.
  - This was caused by a shortage of bank reserves created by a combination of factors including settlement of Treasury debt auctions and payment of corporate tax payments (corporate taxes were down in any event in 2019 as a result of the TCJA)
  - This caused a bit of a panic by the Fed (since the repo rate shot above the FFR) which forced it to engage in large scale repo operations to restore bank reserves and to bring the repo rate back down below the FFR
  - The repo rate on 4/8 was 0.01% compared to the current FFR of 0.05%



FISCAL AND MONETARY POLICY

- SOMA (System Open Market Account) Operations
  - Where does the Fed get the money to conduct SOMA operations (purchases and repo's)?
    - In 2002, as a tool to combat deflation, Ben Bernanke made this statement: "*The US government has a technology, called a printing press, that allows it to produce as many dollars as it wishes at essentially no cost.*" "*Under a paper-money system, a determined government can always generate higher spending and, hence, positive inflation.*"
    - When presenting in his semi-annual testimony before the House Committee on Financial Services, in 2013 this exchange took place:
      - "Where does the Fed get the money to buy [assets]," Congressman Keith Rothfus asked the Chairman. "Do you create the reserves," he queried in a follow up, receiving a simple "yes" from Bernanke. And finally, the money shot: are you printing money? "Not literally," the Fed Chairman surprisingly responded.
  - This is the essence of the understanding of those who follow MMT. A sovereign nation whose currency is not tied to another currency or a commodity, like gold, cannot run out of money
  - The Fed, through simple keystrokes, creates the electronic credits in the accounts of the sellers, for example banks, in exchange for its holdings of Treasury securities (or anything else the Fed choses to own)
    - The Fed's balance sheet then expands to include the securities purchased as assets and the deposits in the accounts of the sellers as liabilities (these deposits represent reserves at the Fed)

FISCAL AND MONETARY POLICY

- The Discount Rate:
  - This is the rate charged by the Fed to member banks and other depository institutions for borrowing funds from their district Federal Reserve in order to replenish reserves
  - It comes in the form of a primary rate for most banks, a secondary rate for banks that don't meet certain requirements, and a seasonal rate for small community banks
  - The primary discount rate on 4/8 was 0.25%

FISCAL AND MONETARY POLICY

- Monetary Policy during the Great Financial Crisis (2008-2009)
  - The Fed provided support of three kinds during the GFC:
    - In keeping with its role as lender of last resort, the Fed provided funds through various credit facilities to primary dealers and others
      - One report said that under the Troubled Asset Relief Program, upwards of $29 *trillion* in loans were provided to financial firms (disclosed under FOIA)
    - The second set of tools provided funds to borrowers and investors in key credit markets in commercial paper, mutual funds and money markets
    - The third set of tools are the best known and were comprised of three tranches of so-called Quantitative Easing (QE) which were SOMA operations that began in August 2008 and extended into 2012
      - During this time, the Fed purchased treasury securities, bank debt, and mortgage-backed securities
      - Prior to QE1, total assets held by the Fed were about $900 billion
      - By the time they maxed out in January 2015, Fed assets had grown to about $4.5 trillion
  - After all is said and done, however, the Fed's ability to support an economic crisis can only provide a backstop to solvency and liquidity issues
    - Unlike fiscal policy, monetary policy by the Fed cannot stimulate consumer demand

FISCAL AND MONETARY POLICY

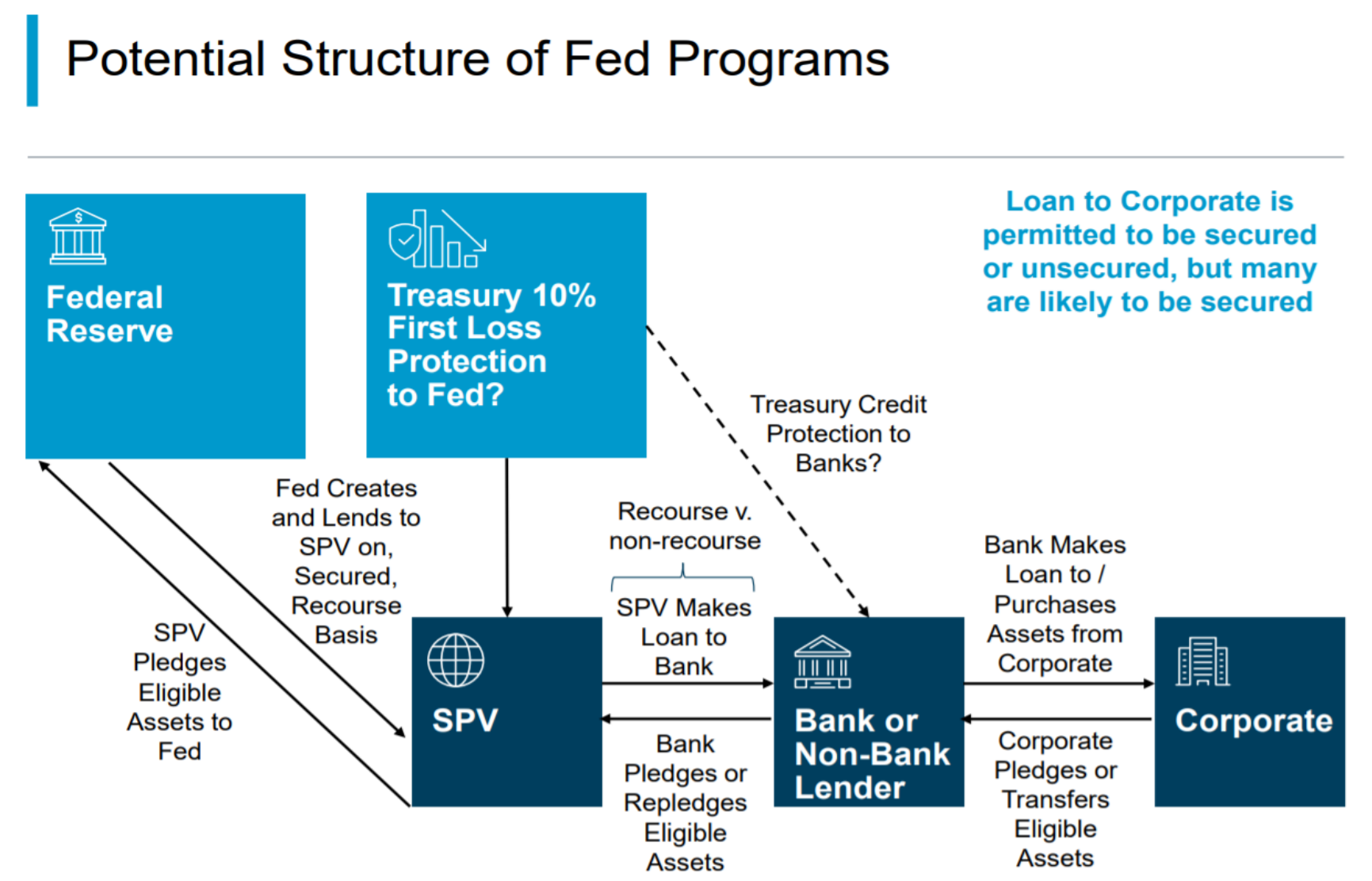
- Monetary Policy during the COVID-19 Crisis (2020-)
- The Fed is pulling out all the stops to address the coronavirus crisis with a list of programs too long to list here
  - The initial response was a quick lowering of the FFR target range to what is now 0.0% - 0.25% and the suspension of reserve requirements
  - In terms of SOMA operations, unlimited purchases of Treasury securities and mortgage-backed securities has grown the Fed's balance sheet to about $6.5 trillion on April 16th from about $4.2 trillion before the crisis began
    - On March 23rd, the Fed removed any existing caps to the amount of it purchasing of not only government securities but also corporate and municipal bonds

FISCAL AND MONETARY POLICY

- Monetary Policy during the COVID-19 Crisis (2020-)
  - Until late March, the Fed only bought Treasury securities, federal agency debt and MBS backed by government supported agencies (GSEs)
    - The Fed has introduced new programs to support investment grade corporate borrowing (and formerly investment grade "fallen angels") through direct lending, the investment grade <u>and high-yield</u> bond markets through ETF purchases, money market funds, commercial paper and extended repo borrowing for up to 90 days
      - The CARES (Coronavirus Aid, Relief and Economic Security) Act allocated, among other sums, $454 billion for these purposes, provided through the Exchange Stabilization Fund (ESF) of the Treasury
      - Since the Fed cannot legally buy these securities, it has set up Special Purpose Vehicles (SPVs) for that purpose and will lend up to 10 times the amount of the funds provided by the CARES Act, or $4.5 *trillion*
      - Since the ESF is a unit of the Treasury, any losses are borne by taxpayers
      - If losses occur resulting in an increase in the deficit (which they surely would), the Treasury would be obligated by policy to issue (sell) that amount of bonds (federal debt)
      - Since the issuance of that much debt would drain bank reserves, the Fed would need to replenish those reserves by buying the debt from the banks
      - And, in a roundabout way, the Fed has financed any losses incurred by the SPVs

FISCAL AND MONETARY POLICY

- Monetary Policy during the COVID-19 Crisis (2020-)
- A good explanation (as of April 2nd) can be found at https://www.davispolk.com/files/davis_polk_key_cares_act_provisions_fed_programs_corporates.pdf



FISCAL AND MONETARY POLICY

What Has The Fed Done In Response?

FOMC Rate Policy

- Lowered target rate by 50 bps to 1.0% – 1.25% on March 3
- Lowered target rate by 100 bps to 0.0% - 0.25% on March 15
- Lowered primary credit rate by 150 bps to 0.25% on March 15

Liquidity Operations

- O/N and term repo funding (peak of $152bn and $370bn on March 17 and March 23, respectively)
- Outright purchase operations (since March 15): $1.3 trillion of USTs and ~$460bn agency MBS
- Discount window: $34bn
- Swap lines: $410bn
- Foreign and International Monetary Authorities (FIMA) Repo Facility

Credit Support

Section 13(3) of the Federal Reserve Act

- Primary Dealer Credit Facility
- Commercial Paper Funding Facility
- Primary Credit and Secondary Market Corporate Credit Facilities
- Term Asset-Backed Securities Lending Facility
- Money Market Liquidity Facility
- Paycheck Protection Program Liquidity Facility
- Municipal Liquidity Facility
- Main Street Lending Facilities

FISCAL AND MONETARY POLICY

How Will These Facilities Make A Difference?*

Facility	Purpose
Primary Dealer Credit Facility (PDCF)	Allow primary dealers to support smooth market functioning and facilitate the availability of credit by providing term funding for a broad range of collateral
Commercial Paper Funding Facility (CPFF)	Support the short-term funding needs of eligible issuers by purchasing commercial paper through primary dealers
Primary Market Corporate Credit Facility (PMCCF)	Assist large employers' access to credit by providing a funding backstop for eligible issuers
Secondary Market Corporate Credit Facility (SMCCF)	Support the flow of credit to large employers by providing liquidity to the market for outstanding corporate bonds and ETFs
Term Asset-Backed Securities Loan Facility (TALF)	Support the flow of credit to consumers and businesses by enabling the issuance of asset-backed securities backed by student loans, auto loans, credit card debt, etc
Paycheck Protection Program Liquidity Facility (PPPLF)	Bolster the effectiveness of the Small Business Administration's Paycheck Protection Program (PPP) by supplying term liquidity to participating lenders
Municipal Liquidity Facility (MLF)	Help state and local governments to better manage cash flow pressures and address funding needs by providing short-term lending

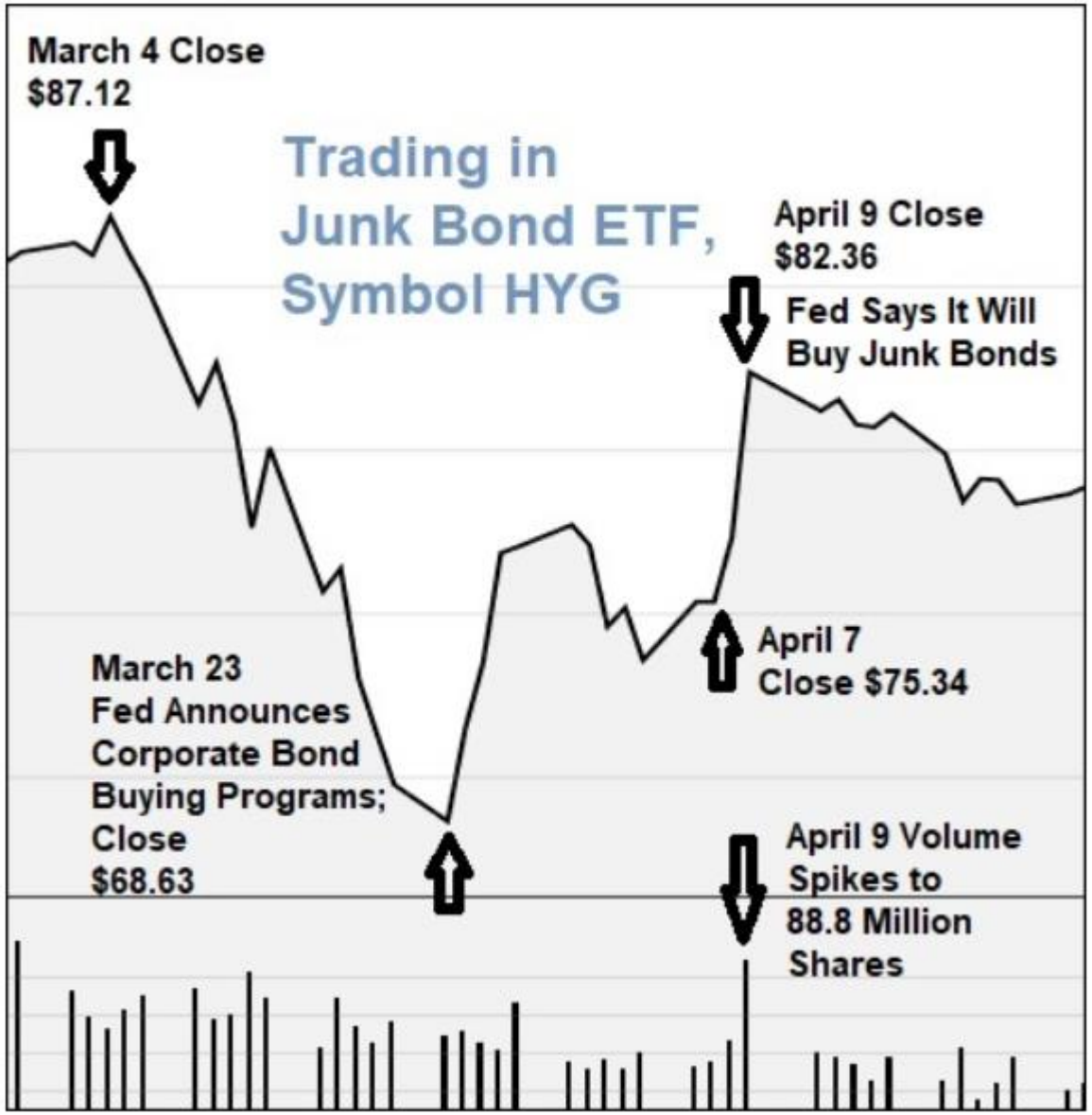
**Facilities implemented by the New York Fed (in some cases, alongside other Federal Reserve Banks)*

FISCAL AND MONETARY POLICY

- Monetary Policy during the COVID-19 Crisis (2020-): Selected Special Purpose Vehicles
  - Municipal Liquidity Facility (MLF)
    - Under Section 14.2(b) of the Federal Reserve Act, the Fed was limited in its lending to municipalities to bonds with less than 6 months remaining duration or revenue bonds tax anticipation notes of less than 6 months duration
    - Under the emergency authority of section 13.3, SPVs were set up for various purposes, including lending to municipalities beyond the restrictions of 14.2(b)
    - The SPV is funded by an initial investment of $35 billion by the Treasury out of its Exchange Stabilization fund (ESF) and is authorized to buy up to $500 billion of eligible municipal securities
    - As originally set up, eligible municipalities include states, counties with over 2 million residents and cities with over 1 million residents = 16 counties and 10 cities according to FT.com
      - As it turned out, this restriction arbitrarily benefits cities in Texas, California and Arizona and, according to The Brookings Institution, none of the 35 most African American cities make the cut, including Detroit on account of what appears to be overlapping jurisdictions
      - After considerable criticism, the Fed announced on April 27th that eligibility would be expanded to counties with at least 500,000 residents and cities with at least 250,000 and that eligible maturities would increase from 24 months to 36 months

FISCAL AND MONETARY POLICY

- Monetary Policy during the COVID-19 Crisis (2020-): Special Purpose Vehicles
  - Primary and Secondary Market Corporate Credit Facility
    - The PMCCF and SMCCF was authorized under the emergency section 13(3)
    - The Treasury is putting up $75 billion to support up to $750 billion of Fed financing
      - $50 billion for PMCCF and $25 billion for SMCCF
      - Through Fed lending to the SPVs, the combined size of the CCFs will be $750 billion
    - The PMCCF will purchase corporate bonds as the sole investor in a bond issuance
      - Eligible bonds were rated investment grade on March 22nd or became 1st tier noninvestment graded after March 22nd
    - The SMCCF will purchase individual corporate bonds and bond ETFs (mostly investment grade, but also some below investment grade)
  - "Not yet operational" according to NYFRB spokesman yesterday
    - Question of legality

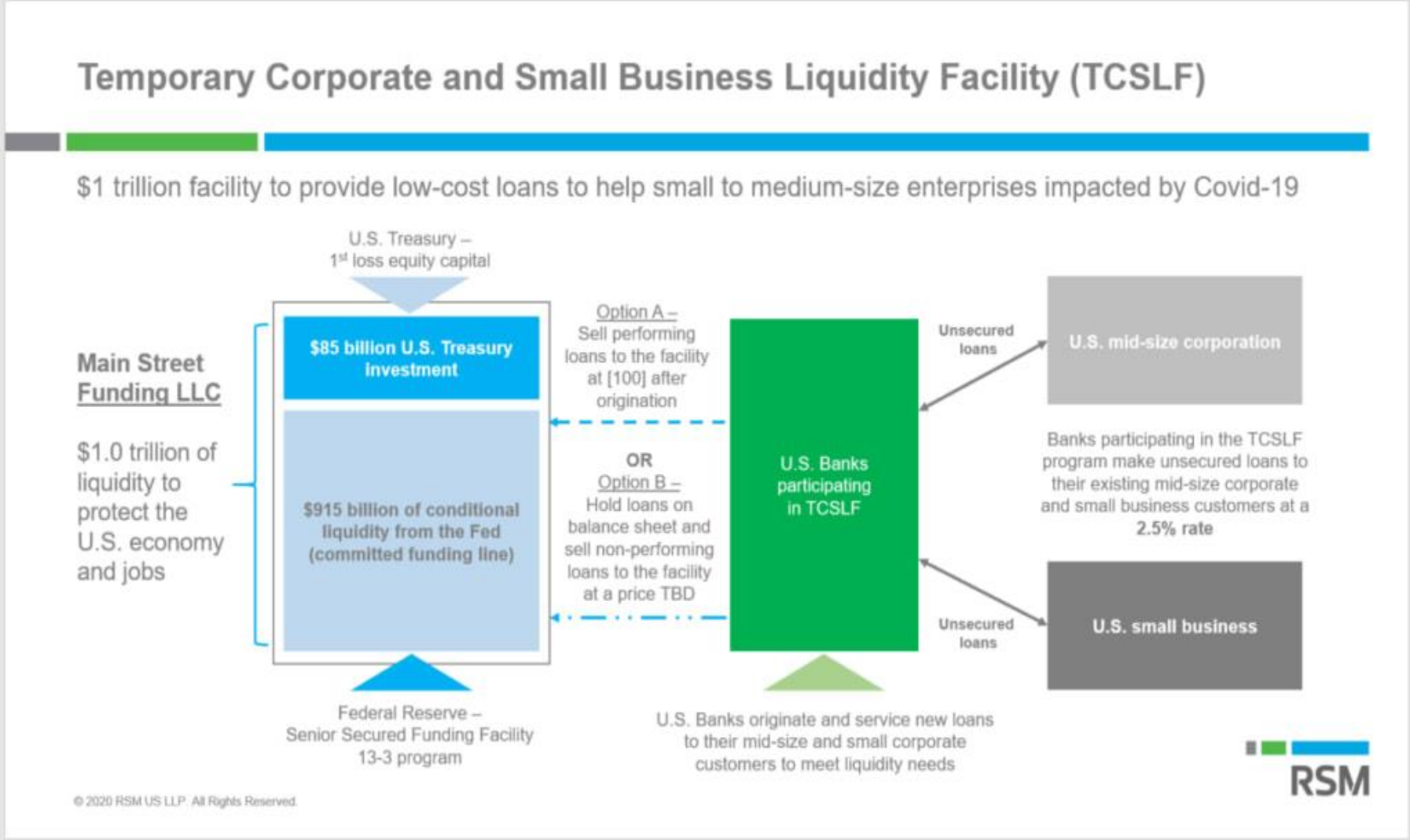


FISCAL AND MONETARY POLICY

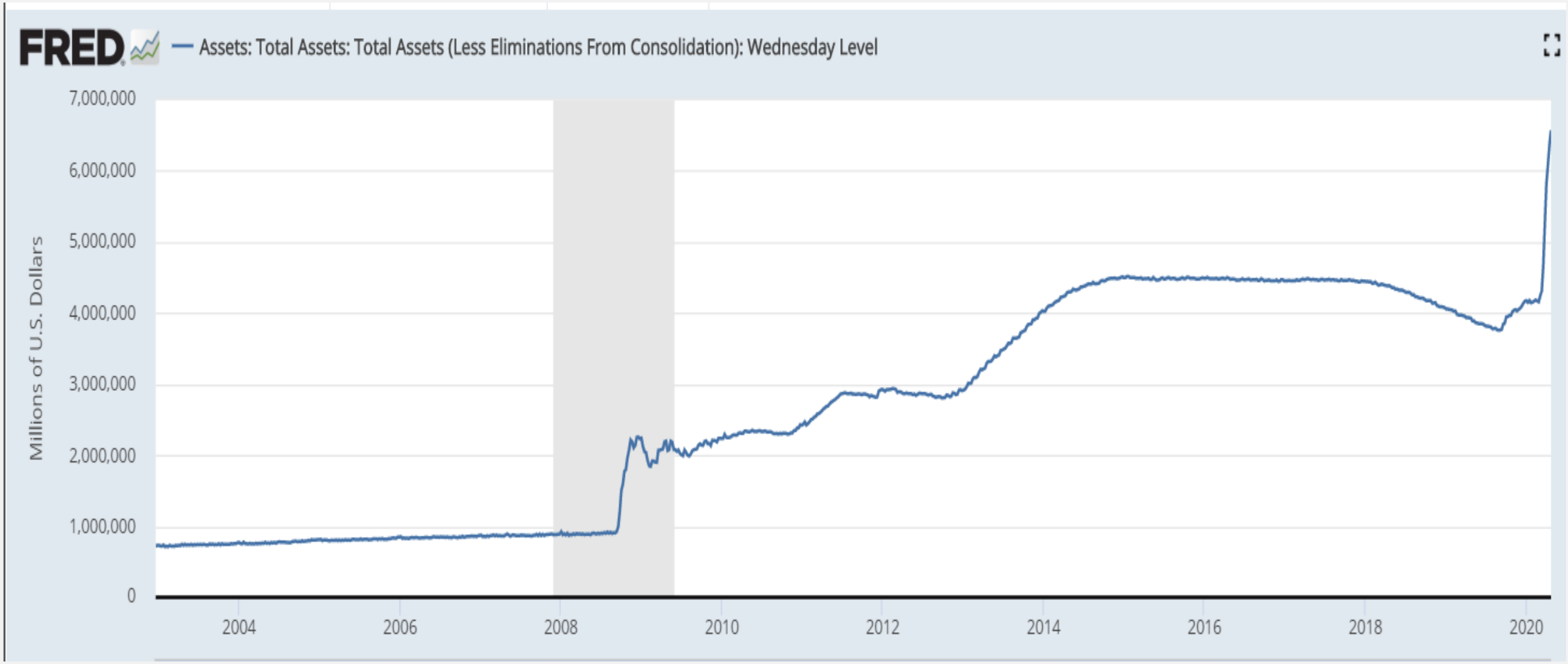
- Monetary Policy during the COVID-19 Crisis (2020-): Special Purpose Vehicles
  - Main Street Lending Program (New Loan Facility and Expanded Loan Facility)
    - Authorized under the emergency section 13.3
    - The Treasury is putting up $75 billion to support up to $600 billion of Fed financing
    - Banks do underwriting and retain 5% of the debt with the balance bought by the SPV
    - Eligible borrowers are companies employing less than 10,000 workers or with revenues less than $2.5 billion
    - Borrowers are restricted in their use of funds and must attest to making "reasonable" efforts to maintain employees and payroll during term of loan (up to 4 years)
    - Loans may be unsecured

FISCAL AND MONETARY POLICY

- Monetary Policy during the COVID-19 Crisis (2020-)



FISCAL AND MONETARY POLICY



FISCAL AND MONETARY POLICY

1. Factors Affecting Reserve Balances of Depository Institutions
Millions of dollars

Reserve Bank credit, related items, and reserve balances of depository institutions at Federal Reserve Banks	Averages of daily figures: Week ended Apr 22, 2020	Change from week ended Apr 15, 2020	Change from week ended Apr 24, 2019	Wednesday Apr 22, 2020
Reserve Bank credit	6,451,209	+ 255,189	+2,559,091	6,534,516
Securities held outright (1)	5,451,772	+ 256,233	+1,709,940	5,534,186
U.S. Treasury securities	3,863,557	+ 146,143	+1,710,063	3,909,352
Bills (2)	326,044	0	+ 326,044	326,044
Notes and bonds, nominal (2)	3,271,573	+ 130,986	+1,255,099	3,314,644
Notes and bonds, inflation-indexed (2)	231,192	+ 13,948	+ 116,048	233,692
Inflation compensation (3)	34,749	+ 1,210	+ 12,872	34,972
Federal agency debt securities (2)	2,347	0	0	2,347
Mortgage-backed securities (4)	1,585,868	+ 110,090	- 122	1,622,487
Unamortized premiums on securities held outright (5)	271,013	+ 20,685	+ 136,333	278,037
Unamortized discounts on securities held outright (5)	-6,443	+ 680	+ 6,566	-6,128
Repurchase agreements (6)	171,508	- 30,088	+ 171,508	157,500
Foreign official	1	0	+ 1	0
Others	171,507	- 30,089	+ 171,507	157,500
Loans	118,841	- 9,763	+ 118,818	122,088
Primary credit	34,953	- 6,081	+ 34,946	33,742
Secondary credit	0	0	0	0
Seasonal credit	0	0	- 16	0
Primary Dealer Credit Facility	31,266	- 4,324	+ 31,266	31,526
Money Market Mutual Fund Liquidity Facility	49,646	- 2,298	+ 49,646	48,810
Paycheck Protection Program Liquidity Facility	2,977	+ 2,977	+ 2,977	8,009
Other credit extensions	0	0	0	0
Net portfolio holdings of Commercial Paper Funding Facility II LLC (7)	2,516	+ 2,375	+ 2,516	2,732
Float	-204	+ 62	- 62	-306
Central bank liquidity swaps (8)	406,272	+ 13,209	+ 406,217	409,712
Other Federal Reserve assets (9)	35,935	+ 1,798	+ 7,256	36,694
Foreign currency denominated assets (10)	20,458	- 57	- 108	20,405
Gold stock	11,041	0	0	11,041
Special drawing rights certificate account	5,200	0	0	5,200
Treasury currency outstanding (11)	50,261	+ 14	+ 372	50,261
Total factors supplying reserve funds	6,538,169	+ 255,146	+2,559,355	6,621,424

Note: Components may not sum to totals because of rounding. Footnotes appear at the end of the table.

FISCAL AND MONETARY POLICY

What Monetary Policy Cannot Do

- Unlike fiscal policy, traditional monetary policy cannot prevent a recession or a bear market
  - Easing financial conditions does not force companies to hire nor consumers to spend nor asset prices to rise. This is the essence of behavioral economics
  - It is important to note that banks do not lend out reserves no matter how high they become as a result of SOMA operations
    - Reserves exist to support inter-bank settlements among themselves
    - Borrowing occurs when there is demand from credit-worthy borrowers and a willingness on the part of banks to lend

FISCAL AND MONETARY POLICY

What Monetary Policy Can Do

- Policy can be decided and acted upon more quickly than fiscal policy
- Now, as a result of COVID-19 interventions, the Fed has found a way to circumvent legal restrictions on purchasing non-federal-government-guaranteed securities (bonds)
  - Through purchases of debt securities, now not only federal government-related debt but also municipal and corporate debt, the Fed can keep the price of debt from plummeting and, therefore, interest rates from skyrocketing
  - Purchasing debt directly from issuers supplies capital to address liquidity and even solvency shortfalls

FISCAL AND MONETARY POLICY

The MMT View

- Abba Lerner's Functional Finance
  - Since economies are not self-regulating, governments need to intervene
  - The principal economic objective for government is to ensure a prosperous economy (the definition of "prosperous" includes financial well-being which implies not only employment, but at a wage where the necessities of life – food, shelter, health care – are affordable)
  - If domestic income is too low,, evidenced by unemployment, government needs to spend more
  - Affordability is not an issue
  - Fiscal policy is the means by which Functional Finance is implemented though novel Fed interventions open up the possibility for support through action by the Fed

FISCAL AND MONETARY POLICY

The MMT View

- Translate to today
  - A form of universal basic income to fully offset temporary income shortfall, including support for the previous unemployed
  - Longer term, the "Job Guarantee" component of MMT
  - Support households, small business and local governments
    - Shift devolved services, such as Medicaid, unemployment insurance, education, back to federal responsibility
  - Allow banks, public corporations, private corporations above a certain size, hedge funds and private equity firms to go through bankruptcy if undercapitalized
    - Demand will survive and viable businesses will come out of bankruptcy just fine with employment restored
    - Firms will manage risk better in the future
    - This may seem to be unreasonably harsh and, perhaps, it is. But a significant amount of pain to shareholders and bondholders may be the only way to achieve enough pressure on management to run their businesses on less risky platforms in the future