4. FEDERAL BORROWING AND DEBT

Debt is the largest legally and contractually binding obligation of the Federal Government. At the end of 2017, the Government owed $14,665 billion of principal to the individuals and institutions who had loaned it the money to fund past deficits. During that year, the Government paid the public approximately $310 billion of interest on this debt. At the same time, the Government also held financial assets, net of financial liabilities other than debt, of $1,515 billion. Therefore, debt held by the public net of financial assets was $13,151 billion.

In addition, at the end of 2017 the Treasury had issued $5,540 billion of debt to Government accounts. As a result, gross Federal debt, which is the sum of debt held by the public and debt held by Government accounts, was $20,206 billion. Interest on the gross Federal debt was $457 billion in 2017. Gross Federal debt is discussed in more detail later in the chapter.

The $14,665 billion debt held by the public at the end of 2017 represents an increase of $498 billion over the level at the end of 2016. This increase is the result of the $665 billion deficit in 2017 and other financing transactions that reduced the need to borrow by $168 billion. Debt held by the public fell from 76.7 percent of Gross Domestic Product (GDP) at the end of 2016 to 76.5 percent of GDP at the end of 2017. The deficit is estimated to increase to $833 billion, or 4.2 percent of GDP, in 2018, and to $984 billion, or 4.7 percent of GDP, in 2019. After 2019, the deficit is projected to begin to decrease as a percent of GDP, falling to 1.4 percent of GDP by 2027. Debt held by the public is projected to grow to 78.8 percent of GDP at the end of 2018 and 80.3 percent of GDP at the end of 2019. Debt held by the public as a percent of GDP is projected to begin to decline in 2023, falling to 72.6 percent of GDP in 2028. Debt held by the public net of financial assets is expected to similarly grow to 69.8 percent of GDP at the end of 2018 and to 71.3 at the end of 2019, then to begin to decline in 2023, falling to 64.9 percent of GDP at the end of 2028.

Trends in Debt Since World War II

Table 4–1 depicts trends in Federal debt held by the public from World War II to the present and estimates from the present through 2028. (It is supplemented for earlier years by Tables 7.1–7.3 in the Budget's historical tables, available as supplemental budget material.[1]) Federal debt peaked at 106.1 percent of GDP in 1946, just after the end of the war. From that point until the 1970s, Federal debt as a percentage of GDP decreased almost every year because of relatively small deficits, an expanding economy, and unanticipated inflation. With households borrowing large amounts to buy homes and consumer durables, and with businesses borrowing large amounts to buy plant and equipment, Federal debt also decreased almost every year as a percentage of total credit market debt outstanding. The cumulative effect was impressive. From 1950 to 1975, debt held by the public declined from 78.5 percent of GDP to 24.5 percent, and from 53.3 percent of credit market debt to 17.9 percent. Despite rising interest rates, interest outlays became a smaller share of the budget and were roughly stable as a percentage of GDP.

Federal debt relative to GDP is a function of the Nation's fiscal policy as well as overall economic conditions. During the 1970s, large budget deficits emerged as spending grew faster than receipts and as the economy was disrupted by oil shocks and rising inflation. The nominal amount of Federal debt more than doubled, and Federal debt relative to GDP and credit market debt stopped declining for several years in the middle of the decade. Federal debt started growing again at the beginning of the 1980s, and increased to almost 48 percent of GDP by 1993. The ratio of Federal debt to credit market debt also rose during this period, though to a lesser extent. Interest outlays on debt held by the public, calculated as a percentage of either total Federal outlays or GDP, increased as well.

The growth of Federal debt held by the public was slowing by the mid-1990s. In addition to a growing economy, three major budget agreements were enacted in the 1990s, implementing spending cuts and revenue increases and significantly reducing deficits. The debt declined markedly relative to both GDP and total credit market debt, with the decline accelerating as budget surpluses emerged from 1997 to 2001. Debt fell from 47.8 percent of GDP in 1993 to 31.4 percent of GDP in 2001. Over that same period, debt fell from 26.3 percent of total credit market debt to 17.4 percent. Interest as a share of outlays peaked at 16.5 percent in 1989 and then fell to 8.9 percent by 2002; interest as a percentage of GDP fell by a similar proportion.

The progress in reducing the debt burden stopped and then reversed course beginning in 2002. A decline in the stock market, a recession, the attacks of September 11, 2001, and two major wars, and other policy changes all contributed to increasing deficits, causing debt to rise, both in nominal terms and as a percentage of GDP. Following the most recent recession, which began in December 2007, the deficit began increasing rapidly in 2008 and 2009, as the Government acted to rescue several major corporations and financial institutions as well as enact a major stimulus bill. Since 2008, debt as a percent of GDP has grown rapidly, increasing from 35.2 percent at the end of 2007 to 76.7 percent at the end of 2016. In 2017, debt as a percent of GDP fell to 76.5 percent.

[1] The historical tables are available at *https://www.whitehouse.gov/omb/historical-tables/* and on the Budget CD-ROM.

Under the proposals in the Budget, the deficit is projected to grow to $833 billion in 2018. The deficit is projected to stabilize in nominal terms in 2020 and then begin to decrease in subsequent years, falling to $445 billion, or 1.4 percent of GDP, in 2028. Gross Federal debt is projected to grow to 107.2 percent of GDP in 2018 and then begin to fall after 2020, to 91.8 percent of GDP in 2028. Debt held by the public as a percent of GDP is estimated to be 78.8 percent at the end of 2018, to continue to grow gradually through 2022, and then to begin to decline, falling to 72.6 percent of GDP by 2028. Debt held by the public net of financial assets as a percent of GDP is estimated to similarly grow to 69.8 percent of GDP at the end of 2018, grow gradually through 2022, and then begin to fall, reaching 64.9 percent of GDP by the end of 2028.

Table 4–1. TRENDS IN FEDERAL DEBT HELD BY THE PUBLIC AND INTEREST ON THE DEBT HELD BY THE PUBLIC

(Dollar amounts in billions)

Fiscal Year	Debt held by the public		Debt held by the public as a percent of		Interest on the debt held by the public[3]		Interest on the debt held by the public as a percent of[3]	
	Current dollars	FY 2017 dollars[1]	GDP	Credit market debt[2]	Current dollars	FY 2017 dollars[1]	Total outlays	GDP
1946	241.9	2,492.6	106.1	N/A	4.2	43.1	7.6	1.8
1950	219.0	1,826.1	78.5	53.3	4.8	40.4	11.4	1.7
1955	226.6	1,660.5	55.7	42.1	5.2	38.0	7.6	1.3
1960	236.8	1,537.6	44.3	33.1	7.8	50.8	8.5	1.5
1965	260.8	1,585.7	36.7	26.4	9.6	58.2	8.1	1.3
1970	283.2	1,434.8	27.0	20.3	15.4	77.9	7.9	1.5
1975	394.7	1,473.8	24.5	17.9	25.0	93.4	7.5	1.6
1980	711.9	1,850.0	25.5	18.5	62.8	163.1	10.6	2.2
1985	1,507.3	2,989.5	35.3	22.2	152.9	303.3	16.2	3.6
1990	2,411.6	4,112.4	40.8	22.5	202.4	345.1	16.2	3.4
1995	3,604.4	5,424.2	47.5	26.3	239.2	360.0	15.8	3.2
2000	3,409.8	4,730.3	33.6	18.8	232.8	323.0	13.0	2.3
2005	4,592.2	5,683.6	35.6	17.1	191.4	236.8	7.7	1.5
2010	9,018.9	10,103.9	60.9	25.2	228.2	255.6	6.6	1.5
2011	10,128.2	11,120.9	65.9	27.5	266.0	292.0	7.4	1.7
2012	11,281.1	12,163.7	70.4	29.4	232.1	250.2	6.6	1.4
2013	11,982.7	12,705.5	72.6	30.1	259.0	274.6	7.5	1.6
2014	12,779.9	13,309.0	74.1	30.8	271.4	282.7	7.7	1.6
2015	13,116.7	13,497.0	72.9	30.6	260.6	268.2	7.1	1.4
2016	14,167.6	14,411.2	76.7	31.4	283.8	288.7	7.4	1.5
2017	14,665.5	14,665.5	76.5	31.3	309.9	309.9	7.8	1.6
2018 estimate	15,789.7	15,546.5	78.8	N/A	360.4	354.9	8.6	1.8
2019 estimate	16,871.7	16,338.7	80.3	N/A	415.2	402.1	9.4	2.0
2020 estimate	17,946.8	17,063.7	81.3	N/A	498.6	474.0	10.8	2.3
2021 estimate	18,950.5	17,669.3	81.7	N/A	566.8	528.5	11.9	2.4
2022 estimate	19,946.3	18,232.1	81.9	N/A	627.5	573.6	12.6	2.6
2023 estimate	20,808.6	18,644.9	81.3	N/A	681.5	610.6	13.2	2.7
2024 estimate	21,495.3	18,882.7	79.9	N/A	724.4	636.4	13.7	2.7
2025 estimate	22,137.0	19,063.5	78.4	N/A	757.2	652.1	13.7	2.7
2026 estimate	22,703.3	19,165.6	76.6	N/A	784.9	662.6	13.7	2.6
2027 estimate	23,194.0	19,194.0	74.6	N/A	813.1	672.9	13.7	2.6
2028 estimate	23,683.6	19,213.3	72.6	N/A	835.8	678.1	13.3	2.6

N/A = Not available.

[1] Amounts in current dollars deflated by the GDP chain-type price index with fiscal year 2017 equal to 100.

[2] Total credit market debt owed by domestic nonfinancial sectors. Financial sectors are omitted to avoid double counting, since financial intermediaries borrow in the credit market primarily in order to finance lending in the credit market. Source: Federal Reserve Board flow of funds accounts. Projections are not available.

[3] Interest on debt held by the public is estimated as the interest on Treasury debt securities less the "interest received by trust funds" (subfunction 901 less subfunctions 902 and 903). The estimate of interest on debt held by the public does not include the comparatively small amount of interest paid on agency debt or the offsets for interest on Treasury debt received by other Government accounts (revolving funds and special funds).

Debt Held by the Public and Gross Federal Debt

The Federal Government issues debt securities for two main purposes. First, it borrows from the public to provide for the Federal Government's financing needs, including both the deficit and the other transactions requiring financing, most notably disbursements for direct student loans and other Federal credit programs.[2] Second, it issues debt to Federal Government accounts, primarily trust funds, that accumulate surpluses. By law, trust fund surpluses must generally be invested in Federal securities. The gross Federal debt is defined to consist of both the debt held by the public and the debt held by Government accounts. Nearly all the Federal debt has been issued by the Treasury and is sometimes called "public debt," but a small portion has been issued by other Government agencies and is called "agency debt."[3]

Borrowing from the public, whether by the Treasury or by some other Federal agency, is important because it represents the Federal demand on credit markets. Regardless of whether the proceeds are used for tangible or intangible investments or to finance current consumption, the Federal demand on credit markets has to be financed out of the saving of households and businesses, the State and local sector, or the rest of the world. Federal borrowing thereby competes with the borrowing of other sectors of the domestic or international economy for financial resources in the credit market. Borrowing from the public thus affects the size and composition of assets held by the private sector and the amount of saving imported from abroad. It also increases the amount of future resources required to pay interest to the public on Federal debt. Borrowing from the public is therefore an important concern of Federal fiscal policy. Borrowing from the public, however, is an incomplete measure of the Federal impact on credit markets. Different types of Federal activities can affect the credit markets in different ways. For example, under its direct loan programs, the Government uses borrowed funds to acquire financial assets that might otherwise require financing in the credit markets directly. (For more information on other ways in which Federal activities impact the credit market, see the discussion at the end of this chapter.) By incorporating the change in direct loan and other financial assets, debt held by the public net of financial assets adds useful insight into the Government's financial condition.

Issuing debt securities to Government accounts performs an essential function in accounting for the operation of these funds. The balances of debt represent the cumulative surpluses of these funds due to the excess of their tax receipts, interest receipts, and other collections over their spending. The interest on the debt that is credited to these funds accounts for the fact that some earmarked taxes and user fees will be spent at a later time than when the funds receive the monies. The debt securities are assets of those funds but are a liability of the general fund to the funds that hold the securities, and are a mechanism for crediting interest to those funds on their recorded balances. These balances generally provide the fund with authority to draw upon the U.S. Treasury in later years to make future payments on its behalf to the public. Public policy may result in the Government's running surpluses and accumulating debt in trust funds and other Government accounts in anticipation of future spending.

However, issuing debt to Government accounts does not have any of the credit market effects of borrowing from the public. It is an internal transaction of the Government, made between two accounts that are both within the Government itself. Issuing debt to a Government account is not a current transaction of the Government with the public; it is not financed by private saving and does not compete with the private sector for available funds in the credit market. While such issuance provides the account with assets—a binding claim against the Treasury—those assets are fully offset by the increased liability of the Treasury to pay the claims, which will ultimately be covered by the collection of revenues or by borrowing. Similarly, the current interest earned by the Government account on its Treasury securities does not need to be financed by other resources.

Furthermore, the debt held by Government accounts does not represent the estimated amount of the account's obligations or responsibilities to make future payments to the public. For example, if the account records the transactions of a social insurance program, the debt that it holds does not necessarily represent the actuarial present value of estimated future benefits (or future benefits less taxes) for the current participants in the program; nor does it necessarily represent the actuarial present value of estimated future benefits (or future benefits less taxes) for the current participants plus the estimated future participants over some stated time period. The future transactions of Federal social insurance and employee retirement programs, which own 90 percent of the debt held by Government accounts, are important in their own right and need to be analyzed separately. This can be done through information published in the actuarial and financial reports for these programs.[4]

This Budget uses a variety of information sources to analyze the condition of Social Security and Medicare, the Government's two largest social insurance programs. The excess of future Social Security and Medicare benefits rel-

[2] For the purposes of the Budget, "debt held by the public" is defined as debt held by investors outside of the Federal Government, both domestic and foreign, including U.S. State and local governments and foreign governments. It also includes debt held by the Federal Reserve.

[3] The term "agency debt" is defined more narrowly in the budget than customarily in the securities market, where it includes not only the debt of the Federal agencies listed in Table 4–4, but also certain Government-guaranteed securities and the debt of the Government-sponsored enterprises listed in Table 19–7 in the supplemental materials to the "Credit and Insurance" chapter. (Table 19–7 is available on the Internet at: *https://www.whitehouse.gov/omb/analytical-perspectives* and on the Budget CD-ROM.)

[4] Extensive actuarial analyses of the Social Security and Medicare programs are published in the annual reports of the boards of trustees of these funds. The actuarial estimates for Social Security, Medicare, and the major Federal employee retirement programs are summarized in the *Financial Report of the United States Government*, prepared annually by the Department of the Treasury in coordination with the Office of Management and Budget, and presented in more detail in the financial statements of the agencies administering those programs.

Table 4–2. FEDERAL GOVERNMENT FINANCING AND DEBT

(In billions of dollars)

	Actual 2017	Estimate										
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Financing:												
Unified budget deficit	665.4	832.6	984.4	986.9	915.9	907.8	778.5	612.1	579.2	517.4	449.7	445.0
Other transactions affecting borrowing from the public:												
Changes in financial assets and liabilities:[1]												
Change in Treasury operating cash balance	–194.0	190.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Net disbursements of credit financing accounts:												
Direct loan accounts	54.7	101.0	93.9	86.9	87.0	89.6	87.0	79.6	69.0	59.0	49.9	45.7
Guaranteed loan accounts	–13.7	0.9	5.1	2.7	2.1	–0.1	–2.0	–3.8	–5.4	–9.1	–8.1	–0.5
Troubled Asset Relief Program equity purchase accounts	–0.3	–0.1	–*	–*	–*	–*	–*	.....	.....	.....	.....	.....
Subtotal, net disbursements	40.7	101.8	99.0	89.6	89.2	89.5	85.0	75.8	63.6	49.9	41.8	45.2
Net purchases of non-Federal securities by the National Railroad Retirement Investment Trust	1.2	–0.5	–1.0	–1.1	–1.0	–1.1	–0.7	–0.8	–0.7	–0.6	–0.3	–0.1
Net change in other financial assets and liabilities[2]	–15.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Subtotal, changes in financial assets and liabilities	–167.3	292.0	97.9	88.5	88.2	88.4	84.3	75.0	62.9	49.3	41.5	45.1
Seigniorage on coins	–0.2	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4
Total, other transactions affecting borrowing from the public	–167.5	291.6	97.6	88.1	87.8	88.0	83.9	74.6	62.5	48.9	41.0	44.6
Total, requirement to borrow from the public (equals change in debt held by the public)	497.8	1,124.3	1,082.0	1,075.1	1,003.7	995.8	862.4	686.7	641.7	566.3	490.7	489.6
Changes in Debt Subject to Statutory Limitation:												
Change in debt held by the public	497.8	1,124.3	1,082.0	1,075.1	1,003.7	995.8	862.4	686.7	641.7	566.3	490.7	489.6
Change in debt held by Government accounts	168.4	148.3	142.6	123.0	115.6	65.0	88.8	119.4	56.0	52.6	–54.8	–138.4
Less: change in debt not subject to limit and other adjustments	3.9	1.5	2.2	2.8	2.0	2.0	2.1	2.2	1.4	1.5	1.9	1.8
Total, change in debt subject to statutory limitation	670.2	1,274.0	1,226.8	1,200.9	1,121.3	1,062.8	953.2	808.3	699.1	620.3	437.9	353.0
Debt Subject to Statutory Limitation, End of Year:												
Debt issued by Treasury	20,179.5	21,452.4	22,677.7	23,877.0	24,997.1	26,058.6	27,010.6	27,818.0	28,517.1	29,137.1	29,574.2	29,926.4
Less: Treasury debt not subject to limitation (–)[3]	–11.9	–10.8	–9.3	–7.7	–6.5	–5.3	–4.1	–3.2	–3.2	–2.8	–2.0	–1.1
Agency debt subject to limitation	*	*	*	*	*	*	*	*	*	*	*	*
Adjustment for discount and premium[4]	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
Total, debt subject to statutory limitation[5]	20,208.6	21,482.6	22,709.4	23,910.3	25,031.6	26,094.4	27,047.6	27,855.9	28,555.0	29,175.3	29,613.2	29,966.3
Debt Outstanding, End of Year:												
Gross Federal debt:[6]												
Debt issued by Treasury	20,179.5	21,452.4	22,677.7	23,877.0	24,997.1	26,058.6	27,010.6	27,818.0	28,517.1	29,137.1	29,574.2	29,926.4
Debt issued by other agencies	26.2	25.8	25.1	23.9	23.1	22.3	21.5	20.2	18.8	17.7	16.6	15.6
Total, gross Federal debt	20,205.7	21,478.2	22,702.8	23,900.9	25,020.2	26,081.0	27,032.1	27,838.2	28,535.9	29,154.8	29,590.7	29,942.0
As a percent of GDP	105.4%	107.2%	108.1%	108.3%	107.9%	107.0%	105.6%	103.5%	101.0%	98.3%	95.2%	91.8%
Held by:												
Debt held by Government accounts	5,540.3	5,688.5	5,831.1	5,954.2	6,069.7	6,134.7	6,223.5	6,342.9	6,398.9	6,451.5	6,396.8	6,258.4
Debt held by the public[7]	14,665.5	15,789.7	16,871.7	17,946.8	18,950.5	19,946.3	20,808.6	21,495.3	22,137.0	22,703.3	23,194.0	23,683.6
As a percent of GDP	76.5%	78.8%	80.3%	81.3%	81.7%	81.9%	81.3%	79.9%	78.4%	76.6%	74.6%	72.6%

*$50 million or less.

[1] A decrease in the Treasury operating cash balance (which is an asset) is a means of financing a deficit and therefore has a negative sign. An increase in checks outstanding (which is a liability) is also a means of financing a deficit and therefore also has a negative sign.

[2] Includes checks outstanding, accrued interest payable on Treasury debt, uninvested deposit fund balances, allocations of special drawing rights, and other liability accounts; and, as an offset, cash and monetary assets (other than the Treasury operating cash balance), other asset accounts, and profit on sale of gold.

[3] Consists primarily of debt issued by the Federal Financing Bank.

[4] Consists mainly of unamortized discount (less premium) on public issues of Treasury notes and bonds (other than zero-coupon bonds) and unrealized discount on Government account series securities.

[5] The statutory debt limit is approximately $20,456 billion, as increased after December 8, 2017.

[6] Treasury securities held by the public and zero-coupon bonds held by Government accounts are almost all measured at sales price plus amortized discount or less amortized premium. Agency debt securities are almost all measured at face value. Treasury securities in the Government account series are otherwise measured at face value less unrealized discount (if any).

[7] At the end of 2017, the Federal Reserve Banks held $2,465.4 billion of Federal securities and the rest of the public held $12,200.0 billion. Debt held by the Federal Reserve Banks is not estimated for future years.

ative to their dedicated income is very different in concept and much larger in size than the amount of Treasury securities that these programs hold.

For all these reasons, debt held by the public and debt held by the public net of financial assets are both better gauges of the effect of the budget on the credit markets than gross Federal debt.

Government Deficits or Surpluses and the Change in Debt

Table 4–2 summarizes Federal borrowing and debt from 2017 through 2028.[5] In 2017 the Government borrowed $498 billion, increasing the debt held by the public from $14,168 billion at the end of 2016 to $14,665 billion at the end of 2017. The debt held by Government accounts grew by $168 billion, and gross Federal debt increased by $666 billion to $20,206 billion.

Debt held by the public.—The Federal Government primarily finances deficits by borrowing from the public, and it primarily uses surpluses to repay debt held by the public.[6] Table 4–2 shows the relationship between the Federal deficit or surplus and the change in debt held by the public. The borrowing or debt repayment depends on the Government's expenditure programs and tax laws, on the economic conditions that influence tax receipts and outlays, and on debt management policy. The sensitivity of the budget to economic conditions is analyzed in Chapter 2, "Economic Assumptions and Interactions with the Budget," in this volume.

The total or unified budget consists of two parts: the on-budget portion; and the off-budget Federal entities, which have been excluded from the budget by law. Under present law, the off-budget Federal entities are the two Social Security trust funds (Old-Age and Survivors Insurance and Disability Insurance) and the Postal Service Fund.[7] The on-budget and off-budget surpluses or deficits are added together to determine the Government's financing needs.

Over the long run, it is a good approximation to say that "the deficit is financed by borrowing from the public" or "the surplus is used to repay debt held by the public." However, the Government's need to borrow in any given year has always depended on several other factors besides the unified budget surplus or deficit, such as the change in the Treasury operating cash balance. These other factors—"other transactions affecting borrowing from the public"—can either increase or decrease the Government's need to borrow and can vary considerably in size from year to year. The other transactions affecting borrowing from the public are presented in Table 4–2 (where an increase in the need to borrow is represented by a positive sign, like the deficit).

In 2017 the deficit was $665 billion while these other factors reduced the need to borrow by $168 billion, or 34 percent of total borrowing from the public. As a result, the Government borrowed $498 billion from the public. The other factors are estimated to increase borrowing by $292 billion (26 percent of total borrowing from the public) in 2018, and $98 billion (9 percent) in 2019. In 2020–2028, these other factors are expected to increase borrowing by annual amounts ranging from $41 billion to $88 billion.

Three specific factors presented in Table 4–2 have historically been especially important.

Change in Treasury operating cash balance.—The cash balance increased by $155 billion in 2016, to $353 billion, and decreased by $194 billion in 2017, to $159 billion. The large 2017 decrease in the cash balance is primarily due to Treasury drawing down the cash balance as it took measures to continue to finance Federal Government operations while at the debt ceiling. For risk management purposes, Treasury seeks to maintain a cash balance roughly equal to one week of Government outflows, with a minimum balance of about $150 billion. The operating cash balance is projected to increase by $191 billion, to $350 billion at the end of 2018. Changes in the operating cash balance, while occasionally large, are inherently limited over time. Decreases in cash—a means of financing the Government—are limited by the amount of past accumulations, which themselves required financing when they were built up. Increases are limited because it is generally more efficient to repay debt.

Net financing disbursements of the direct loan and guaranteed loan financing accounts.—Under the Federal Credit Reform Act of 1990 (FCRA), the budgetary program account for each credit program records the estimated subsidy costs—the present value of estimated net losses—at the time when the direct or guaranteed loans are disbursed. The individual cash flows to and from the public associated with the loans or guarantees, such as the disbursement and repayment of loans, the default payments on loan guarantees, the collection of interest and fees, and so forth, are recorded in the credit program's non-budgetary financing account. Although the non-budgetary financing account's cash flows to and from the public are not included in the deficit (except for their impact on subsidy costs), they affect Treasury's net borrowing requirements.[8]

In addition to the transactions with the public, the financing accounts include several types of intragovernmental transactions. They receive payment from the credit program accounts for the subsidy costs of new direct loans and loan guarantees and for any upward reestimate of the costs of outstanding direct and guaranteed loans. They also receive interest from Treasury on balances of uninvested funds. The financing accounts pay

[5] For projections of the debt beyond 2028, see Chapter 3, "Long-Term Budget Outlook."

[6] Treasury debt held by the public is measured as the sales price plus the amortized discount (or less the amortized premium). At the time of sale, the book value equals the sales price. Subsequently, it equals the sales price plus the amount of the discount that has been amortized up to that time. In equivalent terms, the book value of the debt equals the principal amount due at maturity (par or face value) less the unamortized discount. (For a security sold at a premium, the definition is symmetrical.) For inflation-indexed notes and bonds, the book value includes a periodic adjustment for inflation. Agency debt is generally recorded at par.

[7] For further explanation of the off-budget Federal entities, see Chapter 9, "Coverage of the Budget."

[8] The FCRA (sec. 505(b)) requires that the financing accounts be non-budgetary. They are non-budgetary in concept because they do not measure cost. For additional discussion of credit programs, see Chapter 19, "Credit and Insurance," and Chapter 8, "Budget Concepts."

any negative subsidy collections or downward reestimate of costs to budgetary receipt accounts and pay interest on borrowings from Treasury. The total net collections and gross disbursements of the financing accounts, consisting of transactions with both the public and the budgetary accounts, are called "net financing disbursements." They occur in the same way as the "outlays" of a budgetary account, even though they do not represent budgetary costs, and therefore affect the requirement for borrowing from the public in the same way as the deficit.

The intragovernmental transactions of the credit program, financing, and downward reestimate receipt accounts do not affect Federal borrowing from the public. Although the deficit changes because of the budgetary account's outlay to, or receipt from, a financing account, the net financing disbursement changes in an equal amount with the opposite sign, so the effects are cancelled out. On the other hand, financing account disbursements to the public increase the requirement for borrowing from the public in the same way as an increase in budget outlays that are disbursed to the public in cash. Likewise, receipts from the public collected by the financing account can be used to finance the payment of the Government's obligations, and therefore they reduce the requirement for Federal borrowing from the public in the same way as an increase in budgetary receipts.

Borrowing due to credit financing accounts was $41 billion in 2017. In 2018 credit financing accounts are projected to increase borrowing by $102 billion. After 2018, the credit financing accounts are expected to increase borrowing by amounts ranging from $42 billion to $99 billion over the next 10 years.

In some years, large net upward or downward reestimates in the cost of outstanding direct and guaranteed loans may cause large swings in the net financing disbursements. In 2017, net upward reestimates received by the financing accounts reduced financing disbursements by $49.3 billion, due largely to upward reestimates for student loan programs and Federal Housing Administration (FHA) Mutual Mortgage Insurance guarantees. In 2018, upward reestimates for FHA guarantees are more than offset by downward reestimates for student loans, resulting in a net downward reestimate of $0.9 billion.

Net purchases of non-Federal securities by the National Railroad Retirement Investment Trust (NRRIT).—This trust fund, which was established by the Railroad Retirement and Survivors' Improvement Act of 2001, invests its assets primarily in private stocks and bonds. The Act required special treatment of the purchase or sale of non-Federal assets by the NRRIT trust fund, treating such purchases as a means of financing rather than as outlays. Therefore, the increased need to borrow from the public to finance NRRIT's purchases of non-Federal assets is part of the "other transactions affecting borrowing from the public" rather than included as an increase in the deficit. While net purchases and redemptions affect borrowing from the public, unrealized gains and losses on NRRIT's portfolio are included in both the "other transactions" and, with the opposite sign, in NRRIT's net outlays in the deficit, for no net impact on borrowing from the public. In 2017, net increases, including purchases and gains, were $1.2 billion. A $0.5 billion net decrease is projected for 2018 and net annual decreases ranging from $0.1 billion to $1.1 billion are projected for 2019 and subsequent years.[9]

Debt held by Government accounts.—The amount of Federal debt issued to Government accounts depends largely on the surpluses of the trust funds, both on-budget and off-budget, which owned 90 percent of the total Federal debt held by Government accounts at the end of 2017. Net investment may differ from the surplus due to changes in the amount of cash assets not currently invested. In 2017, the total trust fund surplus was $154 billion, while trust fund investment in Federal securities increased by $146 billion. The remainder of debt issued to Government accounts is owned by a number of special funds and revolving funds. The debt held in major accounts and the annual investments are shown in Table 4–5.

Debt Held by the Public Net of Financial Assets and Liabilities

While debt held by the public is a key measure for examining the role and impact of the Federal Government in the U.S. and international credit markets and for other purposes, it provides incomplete information on the Government's financial condition. The U.S. Government holds significant financial assets, which can be offset against debt held by the public and other financial liabilities to achieve a more complete understanding of the Government's financial condition. The acquisition of those financial assets represents a transaction with the credit markets, broadening those markets in a way that is analogous to the demand on credit markets that borrowing entails. For this reason, debt held by the public is also an incomplete measure of the impact of the Federal Government in the United States and international credit markets.

One transaction that can increase both borrowing and assets is an increase to the Treasury operating cash balance. When the Government borrows to increase the Treasury operating cash balance, that cash balance also represents an asset that is available to the Federal Government. Looking at both sides of this transaction—the borrowing to obtain the cash and the asset of the cash holdings—provides much more complete information about the Government's financial condition than looking at only the borrowing from the public. Another example of a transaction that simultaneously increases borrowing from the public and Federal assets is Government borrowing to issue direct loans to the public. When the direct loan is made, the Government is also acquiring an asset in the form of future payments of principal and interest, net of the Government's expected losses on the loan. Similarly, when NRRIT increases its holdings of non-Federal securities, the borrowing to purchase those securities is offset by the value of the asset holdings.

[9] The budget treatment of this fund is further discussed in Chapter 8, "Budget Concepts."

The acquisition or disposition of Federal financial assets very largely explains the difference between the deficit for a particular year and that year's increase in debt held by the public. Debt held by the public net of financial assets is a measure that is conceptually closer to the measurement of Federal deficits or surpluses; cumulative deficits and surpluses over time more closely equal the debt held by the public net of financial assets than they do the debt held by the public.

Table 4–3 presents debt held by the public net of the Government's financial assets and liabilities. Treasury debt is presented in the Budget at book value, with no adjustments for the change in economic value that results from fluctuations in interest rates. The balances of credit financing accounts are based on projections of future cash flows. For direct loan financing accounts, the balance generally represents the net present value of anticipated future inflows such as principal and interest payments from borrowers. For guaranteed loan financing accounts, the balance generally represents the net present value of anticipated future outflows, such as default claim payments net of recoveries, and other collections, such as program fees. NRRIT's holdings of non-Federal securities are marked to market on a monthly basis. Government-sponsored enterprise (GSE) preferred stock is measured at market value.

Due largely to the $194 billion decrease in the Treasury operating cash balance, net financial assets fell by $183 billion, to $1,515 billion, in 2017. This $1,515 billion in net financial assets included a cash balance of $159 billion, net credit financing account balances of $1,295 billion, and other assets and liabilities that aggregated to a net asset of $60 billion. At the end of 2017, debt held by the public was $14,665 billion, or 76.5 percent of GDP. Therefore, debt held by the public net of financial assets was $13,151 billion, or 68.6 percent of GDP. As shown in Table 4–3, the value of the Government's net financial assets is projected to increase to $1,809 billion in 2018, principally due to projected increases in the Treasury cash balance and the value of the direct loan financing accounts. While debt held by the public is expected to increase from 76.5 percent to 78.8 percent of GDP during 2018, debt held by the public net of financial assets is expected to increase by a smaller amount, from 68.6 percent to 69.8 percent of GDP.

Debt securities and other financial assets and liabilities do not encompass all the assets and liabilities of the Federal Government. For example, accounts payable occur in the normal course of buying goods and services; Social Security benefits are due and payable as of the end of the month but, according to statute, are paid during the next month; and Federal employee salaries are paid after they have been earned. Like debt securities sold in the credit market, these liabilities have their own distinctive effects on the economy. The Federal Government also has significant holdings of non-financial assets, such as land, mineral deposits, buildings, and equipment. The different types of assets and liabilities are reported annually in the financial statements of Federal agencies and in the *Financial Report of the United States Government*, prepared by the Treasury Department in coordination with the Office of Management and Budget (OMB).

Treasury Debt

Nearly all Federal debt is issued by the Department of the Treasury. Treasury meets most of the Federal Government's financing needs by issuing marketable securities to the public. These financing needs include both

Table 4–3. DEBT HELD BY THE PUBLIC NET OF FINANCIAL ASSETS AND LIABILITIES

(Dollar amounts in billions)

	Actual 2017	Estimate										
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Debt Held by the Public:												
Debt held by the public	14,665.5	15,789.7	16,871.7	17,946.8	18,950.5	19,946.3	20,808.6	21,495.3	22,137.0	22,703.3	23,194.0	23,683.6
As a percent of GDP	76.5%	78.8%	80.3%	81.3%	81.7%	81.9%	81.3%	79.9%	78.4%	76.6%	74.6%	72.6%
Financial Assets Net of Liabilities:												
Treasury operating cash balance	159.3	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0
Credit financing account balances:												
Direct loan accounts	1,281.3	1,382.3	1,476.2	1,563.1	1,650.1	1,739.7	1,826.7	1,906.3	1,975.2	2,034.3	2,084.2	2,129.9
Guaranteed loan accounts	13.9	14.8	19.9	22.6	24.7	24.7	22.7	18.9	13.5	4.4	–3.7	–4.2
Troubled Asset Relief Program equity purchase accounts	0.1	*	*	*	*	*	–*	–*	–*	–*	–*	–*
Subtotal, credit financing account balances	1,295.3	1,397.1	1,496.1	1,585.7	1,674.8	1,764.4	1,849.4	1,925.1	1,988.7	2,038.7	2,080.4	2,125.7
Government-sponsored enterprise preferred stock	92.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6
Non-Federal securities held by NRRIT	25.3	24.8	23.7	22.7	21.7	20.6	19.9	19.1	18.4	17.8	17.5	17.4
Other assets net of liabilities	–58.0	–58.0	–58.0	–58.0	–58.0	–58.0	–58.0	–58.0	–58.0	–58.0	–58.0	–58.0
Total, financial assets net of liabilities	1,514.6	1,808.6	1,906.5	1,995.0	2,083.2	2,171.6	2,255.9	2,330.9	2,393.8	2,443.1	2,484.6	2,529.7
Debt Held by the Public Net of Financial Assets and Liabilities:												
Debt held by the public net of financial assets	13,150.9	13,981.2	14,965.2	15,951.8	16,867.3	17,774.7	18,552.8	19,164.4	19,743.2	20,260.1	20,709.4	21,153.9
As a percent of GDP	68.6%	69.8%	71.3%	72.3%	72.7%	72.9%	72.5%	71.2%	69.9%	68.3%	66.6%	64.9%

*$50 million or less.

the change in debt held by the public and the refinancing—or rollover—of any outstanding debt that matures during the year. Treasury marketable debt is sold at public auctions on a regular schedule and, because it is very liquid, can be bought and sold on the secondary market at narrow bid-offer spreads. Treasury also sells to the public a relatively small amount of nonmarketable securities, such as savings bonds and State and Local Government Series securities (SLGS).[10] Treasury nonmarketable debt cannot be bought or sold on the secondary market.

Treasury issues marketable securities in a wide range of maturities, and issues both nominal (non-inflation-indexed) and inflation-indexed securities. Treasury's marketable securities include:

Treasury Bills—Treasury bills have maturities of one year or less from their issue date. In addition to the regular auction calendar of bill issuance, Treasury issues cash management bills on an as-needed basis for various reasons such as to offset the seasonal patterns of the Government's receipts and outlays.

Treasury Notes—Treasury notes have maturities of more than one year and up to 10 years.

Treasury Bonds—Treasury bonds have maturities of more than 10 years. The longest-maturity securities issued by Treasury are 30-year bonds.

Treasury Inflation-Protected Securities (TIPS)—Treasury inflation-protected—or inflation-indexed—securities are coupon issues for which the par value of the security rises with inflation. The principal value is adjusted daily to reflect inflation as measured by changes in the Consumer Price Index (CPI-U-NSA, with a two-month lag). Although the principal value may be adjusted downward if inflation is negative, at maturity, the securities will be redeemed at the greater of their inflation-adjusted principal or par amount at original issue.

Floating Rate Securities—Floating rate securities have a fixed par value but bear interest rates that fluctuate based on movements in a specified benchmark market interest rate. Treasury's floating rate notes are benchmarked to the Treasury 13-week bill. Currently, Treasury is issuing floating rate securities with a maturity of two years.

Historically, the average maturity of outstanding debt issued by Treasury has been about five years. The average maturity of outstanding debt was 71 months at the end of 2017. Over the last several years there have been many changes in financial markets that have ultimately resulted in significant structural demand for high-quality, shorter-dated securities such as Treasury bills. At the same time, Treasury bills as a percent of outstanding issuance had fallen to historically low levels of around 10 percent. In recognition of these structural changes, in November 2015, the Treasury announced that it would increase issuance of shorter-dated Treasury securities.

In addition to quarterly announcements about the overall auction calendar, Treasury publicly announces in advance the auction of each security. Individuals can participate directly in Treasury auctions or can purchase securities through brokers, dealers, and other financial institutions. Treasury accepts two types of auction bids: competitive and noncompetitive. In a competitive bid, the bidder specifies the yield. A significant portion of competitive bids are submitted by primary dealers, which are banks and securities brokerages that have been designated to trade in Treasury securities with the Federal Reserve System. In a noncompetitive bid, the bidder agrees to accept the yield determined by the auction.[11] At the close of the auction, Treasury accepts all eligible noncompetitive bids and then accepts competitive bids in ascending order beginning with the lowest yield bid until the offering amount is reached. All winning bidders receive the highest accepted yield bid.

Treasury marketable securities are highly liquid and actively traded on the secondary market, which enhances the demand for Treasuries at initial auction. The demand for Treasury securities is reflected in the ratio of bids received to bids accepted in Treasury auctions; the demand for the securities is substantially greater than the level of issuance. Because they are backed by the full faith and credit of the United States Government, Treasury marketable securities are considered to be credit "risk-free." Therefore, the Treasury yield curve is commonly used as a benchmark for a wide variety of purposes in the financial markets.

Whereas Treasury issuance of marketable debt is based on the Government's financing needs, Treasury's issuance of nonmarketable debt is based on the public's demand for the specific types of investments. Decreases in outstanding balances of nonmarketable debt, such as occurred in 2017, increase the need for marketable borrowing.[12]

Agency Debt

A few Federal agencies other than Treasury, shown in Table 4–4, sell or have sold debt securities to the public and, at times, to other Government accounts. Currently, new debt is issued only by the Tennessee Valley Authority (TVA) and the Federal Housing Administration; the remaining agencies are repaying past borrowing. Agency debt was $26.2 billion at the end of 2017. Agency debt is less than one-quarter of one percent of Federal debt held by the public. Primarily as a result of TVA activity, agency debt is estimated to fall to $25.8 billion at the end of 2018 and to $25.1 billion at the end of 2019.

The predominant agency borrower is TVA, which had borrowings of $26.0 billion from the public as of the end of 2017, or 99 percent of the total debt of all agencies other than Treasury. TVA issues debt primarily to finance capital projects.

TVA has traditionally financed its capital construction by selling bonds and notes to the public. Since 2000, it has also employed two types of alternative financing methods, lease financing obligations and prepayment obligations. Under the lease financing obligations method,

[10] Under the SLGS program, the Treasury offers special low-yield securities to State and local governments and other entities for temporary investment of proceeds of tax-exempt bonds.

[11] Noncompetitive bids cannot exceed $5 million per bidder.

[12] Detail on the marketable and nonmarketable securities issued by Treasury is found in the *Monthly Statement of the Public Debt*, published on a monthly basis by the Department of the Treasury.

TVA signs long-term contracts to lease some facilities and equipment. The lease payments under these contracts ultimately secure the repayment of third party capital used to finance construction of the facility. TVA retains substantially all of the economic benefits and risks related to ownership of the assets.[13] Under the prepayment obligations method, TVA's power distributors may prepay a portion of the price of the power they plan to purchase in the future. In return, they obtain a discount on a specific quantity of the future power they buy from TVA. The quantity varies, depending on TVA's estimated cost of borrowing.

OMB determined that each of these alternative financing methods is a means of financing the acquisition of assets owned and used by the Government, or of refinancing debt previously incurred to finance such assets. They are equivalent in concept to other forms of borrowing from the public, although under different terms and conditions. The budget therefore records the upfront cash proceeds from these methods as borrowing from the public, not offsetting collections.[14] The budget presentation is consistent with the reporting of these obligations as liabilities on TVA's balance sheet under generally accepted accounting principles. Table 4–4 presents these alternative financing methods separately from TVA bonds and notes to distinguish between the types of borrowing. At the end of 2017, lease financing obligations were $1.7 billion and obligations for prepayments were $0.1 billion.

Although the FHA generally makes direct disbursements to the public for default claims on FHA-insured mortgages, it may also pay claims by issuing debentures. Issuing debentures to pay the Government's bills is equivalent to selling securities to the public and then paying the bills by disbursing the cash borrowed, so the transaction is recorded as being simultaneously an outlay and borrowing. The debentures are therefore classified as agency debt.

A number of years ago, the Federal Government guaranteed the debt used to finance the construction of buildings for the National Archives and the Architect of the Capitol, and subsequently exercised full control over the design, construction, and operation of the buildings. These arrangements are equivalent to direct Federal construction financed by Federal borrowing. The construction expenditures and interest were therefore classified as Federal outlays, and the borrowing was classified as Federal agency borrowing from the public.

Several Federal agencies borrow from the Bureau of the Fiscal Service (Fiscal Service) or the Federal Financing Bank (FFB), both within the Department of the Treasury. Agency borrowing from the FFB or the Fiscal Service is not included in gross Federal debt. It would be double counting to add together (a) the agency borrowing from the Fiscal Service or FFB and (b) the Treasury borrowing from the public that is needed to provide the Fiscal Service or FFB with the funds to lend to the agencies.

[13] This arrangement is at least as governmental as a "lease-purchase without substantial private risk." For further detail on the current budgetary treatment of lease-purchase without substantial private risk, see OMB Circular No. A–11, Appendix B.

[14] This budgetary treatment differs from the treatment in the *Monthly Treasury Statement of Receipts and Outlays of the United States Government (Monthly Treasury Statement)* Table 6 Schedule C, and the *Combined Statement of Receipts, Outlays, and Balances of the United States Government* Schedule 3, both published by the Department of the Treasury. These two schedules, which present debt issued by agencies other than Treasury, exclude the TVA alternative financing arrangements. This difference in treatment is one factor causing minor differences between debt figures reported in the Budget and debt figures reported by Treasury. The other factors are adjustments for the timing of the reporting of Federal debt held by NRRIT and treatment of the Federal debt held by the Securities Investor Protection Corporation and the Public Company Accounting Oversight Board.

Table 4–4. AGENCY DEBT

(In millions of dollars)

	2017 Actual		2018 Estimate		2019 Estimate	
	Borrowing/ Repayment(–)	Debt, End-of-Year	Borrowing/ Repayment(–)	Debt, End-of-Year	Borrowing/ Repayment(–)	Debt, End-of-Year
Borrowing from the public:						
Housing and Urban Development:						
Federal Housing Administration	.....	18.5	.....	18.5	.....	18.5
Architect of the Capitol	–9.0	89.5	–9.5	80.0	–11.0	69.0
National Archives	–23.0	52.3	–25.0	27.2	–27.2	.....
Tennessee Valley Authority:						
Bonds and notes	36.7	24,207.3	–97.0	24,110.3	–514.7	23,595.6
Lease financing obligations	–118.6	1,704.3	–131.1	1,573.1	–122.6	1,450.5
Prepayment obligations	–100.0	109.6	–100.0	9.6	–9.6	.....
Total, borrowing from the public	–213.9	26,181.5	–362.7	25,818.9	–685.2	25,133.7
Borrowing from other funds:						
Tennessee Valley Authority [1]	–3.0	1.2	.....	1.2	.....	1.2
Total, borrowing from other funds	–3.0	1.2	.....	1.2	.....	1.2
Total, agency borrowing	–211.8	26,182.8	–362.7	25,820.1	–685.2	25,134.9
Memorandum:						
Tennessee Valley Authority bonds and notes, total	33.7	24,208.6	–97.0	24,111.5	–514.7	23,596.8

[1] Represents open market purchases by the National Railroad Retirement Investment Trust.

Debt Held by Government Accounts

Trust funds, and some special funds and public enterprise revolving funds, accumulate cash in excess of current needs in order to meet future obligations. These cash surpluses are generally invested in Treasury debt.

The total investment holdings of trust funds and other Government accounts increased by $168 billion in 2017. Net investment by Government accounts is estimated to be $148 billion in 2018 and $143 billion in 2019, as shown in Table 4–5. The holdings of Federal securities by Government accounts are estimated to increase to $5,831 billion by the end of 2019, or 26 percent of the gross Federal debt. The percentage is estimated to decrease gradually over the next 10 years.

The Government account holdings of Federal securities are concentrated among a few funds: the Social Security Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI) trust funds; the Medicare Hospital Insurance (HI) and Supplementary Medical Insurance (SMI) trust funds; and four Federal employee retirement funds. These Federal employee retirement funds include two trust funds, the Military Retirement Fund and the Civil Service Retirement and Disability Fund (CSRDF), and two special funds, the uniformed services Medicare-Eligible Retiree Health Care Fund (MERHCF) and the Postal Service Retiree Health Benefits Fund (PSRHBF). At the end of 2019, these Social Security, Medicare, and Federal employee retirement funds are estimated to own 86 percent of the total debt held by Government accounts. During 2017–2019, the Military Retirement Fund has a large surplus and is estimated to invest a total of $218 billion, 48 percent of total net investment by Government accounts. Some Government accounts are projected to have net disinvestment in Federal securities during 2017–2019.

Technical note on measurement.—The Treasury securities held by Government accounts consist almost entirely of the Government account series. Most were issued at par value (face value), and the securities issued at a discount or premium are traditionally recorded at par in the OMB and Treasury reports on Federal debt. However, there are two kinds of exceptions.

First, Treasury issues zero-coupon bonds to a very few Government accounts. Because the purchase price is a small fraction of par value and the amounts are large, the holdings are recorded in Table 4–5 at par value less unamortized discount. The only two Government accounts that have held zero-coupon bonds during the period of this table are the Nuclear Waste Disposal Fund in the Department of Energy and the Pension Benefit Guaranty Corporation (PBGC). PBGC disinvested its holdings of zero-coupon bonds during 2017. The unamortized discount on zero-coupon bonds held by the Nuclear Waste Disposal Fund was $15.7 billion at the end of 2017.

Second, Treasury subtracts the unrealized discount on other Government account series securities in calculating "net Federal securities held as investments of Government accounts." Unlike the discount recorded for zero-coupon bonds and debt held by the public, the unrealized discount is the discount at the time of issue and is not amortized over the term of the security. In Table 4–5 it is shown as a separate item at the end of the table and not distributed by account. The amount was $10.3 billion at the end of 2017.

Debt Held by the Federal Reserve

The Federal Reserve acquires marketable Treasury securities as part of its exercise of monetary policy. For purposes of the Budget and reporting by the Department of the Treasury, the transactions of the Federal Reserve are considered to be non-budgetary, and accordingly the Federal Reserve's holdings of Treasury securities are included as part of debt held by the public.[15] Federal Reserve holdings were $2,465 billion (17 percent of debt held by the public) at the end of 2017. Over the last 10 years, the Federal Reserve holdings have averaged 15 percent of debt held by the public. The historical holdings of the Federal Reserve are presented in Table 7.1 in the Budget's historical tables. The Budget does not project Federal Reserve holdings for future years.

Limitations on Federal Debt

Definition of debt subject to limit.—Statutory limitations have usually been placed on Federal debt. Until World War I, the Congress ordinarily authorized a specific amount of debt for each separate issue. Beginning with the Second Liberty Bond Act of 1917, however, the nature of the limitation was modified in several steps until it developed into a ceiling on the total amount of most Federal debt outstanding. This last type of limitation has been in effect since 1941. The limit currently applies to most debt issued by the Treasury since September 1917, whether held by the public or by Government accounts; and other debt issued by Federal agencies that, according to explicit statute, is guaranteed as to principal and interest by the U.S. Government.

The third part of Table 4–2 compares total Treasury debt with the amount of Federal debt that is subject to the limit. Nearly all Treasury debt is subject to the debt limit.

A large portion of the Treasury debt not subject to the general statutory limit was issued by the Federal Financing Bank. The FFB is authorized to have outstanding up to $15 billion of publicly issued debt. The FFB has on occasion issued this debt to CSRDF in exchange for equal amounts of regular Treasury securities. The FFB securities have the same interest rates and maturities as the Treasury securities for which they were exchanged. The FFB issued: $14 billion of securities to the CSRDF on November 15, 2004, with maturity dates ranging from June 30, 2009, through June 30, 2019; $9 billion to the CSRDF on October 1, 2013, with maturity dates from June 30, 2015, through June 30, 2024; and $3 billion of securities to the CSRDF on October 15, 2015, with maturity dates from June 30, 2026, through June 30, 2029. The outstanding balance of FFB debt held by CSRDF was $11

[15] For further detail on the monetary policy activities of the Federal Reserve and the treatment of the Federal Reserve in the Budget, see Chapter 9, "Coverage of the Budget."

Table 4–5. DEBT HELD BY GOVERNMENT ACCOUNTS[1]

(In millions of dollars)

Description	Investment or Disinvestment (–)			Holdings, End of 2019 Estimate
	2017 Actual	2018 Estimate	2019 Estimate	
Investment in Treasury debt:				
Commerce:				
Public safety trust fund	.....	5,000	3,650	8,983
Defense—Military:				
Host nation support fund for relocation	420	–145	158	1,272
Energy:				
Nuclear waste disposal fund[1]	1,712	415	421	38,193
Uranium enrichment decontamination fund	–156	–176	1,791	3,955
Health and Human Services:				
Federal hospital insurance trust fund	5,626	2,614	9,102	209,551
Federal supplementary medical insurance trust fund	7,253	25,200	6,701	102,490
Vaccine injury compensation fund	–10	94	109	3,798
Child enrollment contingency fund	574	2,327	–2,305	1,167
Homeland Security:				
Aquatic resources trust fund	12	20	–18	1,924
Oil spill liability trust fund	722	355	447	6,474
National flood insurance reserve fund	–1,039	860	40	900
Housing and Urban Development:				
Federal Housing Administration mutual mortgage insurance capital reserve	–5,562	–4,960	7,346	33,265
Guarantees of mortgage-backed securities	1,322	1,058	983	19,317
Interior:				
Abandoned mine reclamation fund	–16	–23	–18	2,719
Federal aid in wildlife restoration fund	139	65	51	2,256
Environmental improvement and restoration fund	37	20	32	1,518
Natural resource damage assessment fund	508	200	100	1,600
Justice: Assets forfeiture fund	–922	–2,773	–1,291	1,187
Labor:				
Unemployment trust fund	6,934	14,389	14,950	90,050
Pension Benefit Guaranty Corporation[1]	4,878	4,868	4,949	38,259
State: Foreign service retirement and disability trust fund	447	317	338	19,447
Transportation:				
Airport and airway trust fund	4	–285	1,521	14,640
Highway trust fund	–12,297	–11,297	–11,297	29,738
Aviation insurance revolving fund	338	37	56	2,303
Treasury:				
Exchange stabilization fund	–590	161	282	22,533
Treasury forfeiture fund	–373	–383	–591	1,343
Gulf Coast Restoration trust fund	262	47	194	1,431
Comptroller of the Currency assessment fund	134	–108	.....	1,683
Veterans Affairs:				
National service life insurance trust fund	–641	–703	–560	2,341
Veterans special life insurance fund	–97	–138	–137	1,328
Corps of Engineers: Harbor maintenance trust fund	345	373	519	9,923
Other Defense-Civil:				
Military retirement fund	69,924	69,037	79,417	809,424
Medicare-eligible retiree health care fund	12,365	12,973	11,384	250,204
Education benefits fund	–156	–20	–67	971
Environmental Protection Agency: Hazardous substance superfund	2	2	2	4,804
International Assistance Programs:				
Overseas Private Investment Corporation	72	61	–5,799	.....
Development Finance Institution	.....	.....	5,823	5,823

Table 4–5. DEBT HELD BY GOVERNMENT ACCOUNTS [1]—Continued

(In millions of dollars)

Description	Investment or Disinvestment (–)			Holdings, End of 2019 Estimate
	2017 Actual	2018 Estimate	2019 Estimate	
Office of Personnel Management:				
Civil service retirement and disability trust fund	17,942	17,273	13,876	936,252
Postal Service retiree health benefits fund	–2,004	1,376	–2,536	48,331
Employees life insurance fund	512	444	763	46,887
Employees and retired employees health benefits fund	2,292	68	41	26,130
Social Security Administration:				
Federal old-age and survivors insurance trust fund [2]	23,488	–24,520	–7,048	2,788,632
Federal disability insurance trust fund [2]	23,789	22,367	–1,960	90,076
District of Columbia: Federal pension fund	1	1	–24	3,730
Farm Credit System Insurance Corporation: Farm Credit System Insurance fund	428	476	290	5,219
Federal Communications Commission: Universal service fund	–923	–706	–695	5,695
Federal Deposit Insurance Corporation: Deposit insurance fund	8,638	12,267	10,550	102,978
National Credit Union Administration: Share insurance fund	785	2,358	778	16,225
Postal Service fund [2]	2,438	–2,256	2,067	10,776
Railroad Retirement Board trust funds	155	–486	–181	1,707
Securities Investor Protection Corporation [3]	245	99	115	3,164
United States Enrichment Corporation fund	–16	34	–1,640	.....
Other Federal funds	–335	–59	249	5,170
Other trust funds	–716	32	–312	3,587
Unrealized discount [1]	–459	.....	.....	–10,252
Total, investment in Treasury debt [1]	**168,432**	**148,251**	**142,616**	**5,831,120**
Investment in agency debt:				
Railroad Retirement Board:				
National Railroad Retirement Investment Trust	–3	.....	.....	1
Total, investment in agency debt [1]	**–3**	**.....**	**.....**	**1**
Total, investment in Federal debt [1]	**168,429**	**148,251**	**142,616**	**5,831,122**
Memorandum:				
Investment by Federal funds (on-budget)	20,106	30,576	30,341	617,054
Investment by Federal funds (off-budget)	2,438	–2,256	2,067	10,776
Investment by trust funds (on-budget)	99,066	122,085	119,216	2,334,836
Investment by trust funds (off-budget)	47,277	–2,153	–9,008	2,878,708
Unrealized discount [1]	–459	.....	.....	–10,252

[1] Debt held by Government accounts is measured at face value except for the Treasury zero-coupon bonds held by the Nuclear Waste Disposal Fund and the Pension Benefit Guaranty Corporation (PBGC), which are recorded at market or redemption price; and the unrealized discount on Government account series, which is not distributed by account. Changes are not estimated in the unrealized discount. If recorded at face value, at the end of 2017 the debt figures would be $15.7 billion higher for the Nuclear Waste Disposal Fund than recorded in this table. PBGC disinvested its holdings of zero-coupon bonds during 2017.

[2] Off-budget Federal entity.

[3] Amounts on calendar-year basis.

billion at the end of 2017 and is projected to be $10 billion at the end of 2018.

The other Treasury debt not subject to the general limit consists almost entirely of silver certificates and other currencies no longer being issued. It was $481 million at the end of 2017 and is projected to gradually decline over time.

The sole agency debt currently subject to the general limit, $209 thousand at the end of 2017, is certain debentures issued by the Federal Housing Administration.[16]

Some of the other agency debt, however, is subject to its own statutory limit. For example, the Tennessee Valley Authority is limited to $30 billion of bonds and notes outstanding.

The comparison between Treasury debt and debt subject to limit also includes an adjustment for measurement differences in the treatment of discounts and premiums. As explained earlier in this chapter, debt securities may be sold at a discount or premium, and the measurement of debt may take this into account rather than recording the face value of the securities. However, the measurement differs between gross Federal debt (and its components) and the statutory definition of debt subject to limit. An adjustment is needed to derive debt subject to limit (as defined by law) from Treasury debt. The amount of the adjustment was $41 billion at the end of 2017 compared

[16] At the end of 2017, there were also $18 million of FHA debentures not subject to limit.

with the total unamortized discount (less premium) of $65 billion on all Treasury securities.

Changes in the debt limit.—The statutory debt limit has been changed many times. Since 1960, the Congress has passed 83 separate acts to raise the limit, revise the definition, extend the duration of a temporary increase, or temporarily suspend the limit.[17]

The five most recent laws addressing the debt limit have each provided for a temporary suspension followed by an increase in an amount equivalent to the debt that was issued during that suspension period in order to fund commitments requiring payment through the specified end date. Most recently, the Continuing Appropriations Act, 2018 and Supplemental Appropriations for Disaster Relief Requirements Act, 2017, suspended the $19,809 billion debt ceiling from September 8, 2017, through December 8, 2017, and then raised the debt limit on December 9, 2017, by $647 billion to $20,456 billion.

At many times in the past several decades, including 2014, 2015, and 2017, the Government has reached the statutory debt limit before an increase has been enacted. When this has occurred, it has been necessary for the Department of the Treasury to take "extraordinary measures" to meet the Government's obligation to pay its bills and invest its trust funds while remaining below the statutory limit. On December 6, 2017, near the end of the most recent debt limit suspension period, the Secretary of the Treasury sent a letter to Congress announcing that Treasury would begin to take extraordinary measures on December 9.

One such extraordinary measure is the partial or full suspension of the daily reinvestment of the Thrift Savings Plan (TSP) Government Securities Investment Fund (G-Fund).[18] The Treasury Secretary has statutory authority to suspend investment of the G-Fund in Treasury securities as needed to prevent the debt from exceeding the debt limit. Treasury determines each day the amount of investments that would allow the fund to be invested as fully as possible without exceeding the debt limit. The TSP G-Fund had an outstanding balance of $223 billion at the end of November and $69 billion at the end of December. The Secretary is also authorized to suspend investments in the CSRDF and to declare a debt issuance suspension period, which allows him or her to redeem a limited amount of securities held by the CSRDF. The Postal Accountability and Enhancement Act of 2006 provides that investments in the Postal Service Retiree Health Benefits Fund shall be made in the same manner as investments in the CSRDF.[19] Therefore, Treasury is able to take similar administrative actions with the PSRHBF. The law requires that when any such actions are taken with the G-Fund, the CSRDF, or the PSRHBF, the Secretary is required to make the fund whole after the debt limit has been raised by restoring the forgone interest and investing the fund fully. Another measure for staying below the debt limit is disinvestment of the Exchange Stabilization Fund. The outstanding balance in the Exchange Stabilization Fund was $22 billion at the end of December 2017.

As the debt has neared the limit, including in 2017, Treasury has also suspended the issuance of SLGS to reduce unanticipated fluctuations in the level of the debt. At times, Treasury has also adjusted the schedule for auctions of marketable securities.

In addition to these steps, Treasury has previously exchanged Treasury securities held by the CSRDF with borrowing by the FFB, which, as explained above, is not subject to the debt limit. This measure was most recently taken in October 2015.

The debt limit has always been increased prior to the exhaustion of Treasury's limited available administrative actions to continue to finance Government operations when the statutory ceiling has been reached. Failure to enact a debt limit increase before these actions were exhausted would have significant and long-term negative consequences. The Federal Government would be forced to delay or discontinue payments on its broad range of obligations, including Social Security and other payments to individuals, Medicaid and other grant payments to States, individual and corporate tax refunds, Federal employee salaries, payments to vendors and contractors, principal and interest payments on Treasury securities, and other obligations. If Treasury were unable to make timely interest payments or redeem securities, investors would cease to view U.S. Treasury securities as free of credit risk and Treasury's interest costs would increase. Because interest rates throughout the economy are benchmarked to the Treasury rates, interest rates for State and local governments, businesses, and individuals would also rise. Foreign investors would likely shift out of dollar-denominated assets, driving down the value of the dollar and further increasing interest rates on non-Federal, as well as Treasury, debt.

The debt subject to limit is estimated to increase to $21,483 billion by the end of 2018 and to $22,709 billion by the end of 2019. The Budget anticipates timely Congressional action to address the statutory limit as necessary before exhaustion of Treasury's extraordinary measures.

Federal funds financing and the change in debt subject to limit.—The change in debt held by the public, as shown in Table 4–2, and the change in debt held by the public net of financial assets are determined primarily by the total Government deficit or surplus. The debt subject to limit, however, includes not only debt held by the public but also debt held by Government accounts. The change in debt subject to limit is therefore determined both by the factors that determine the total Government deficit or surplus and by the factors that determine the change in debt held by Government accounts. The effect of debt held by Government accounts on the total debt subject to limit can be seen in the second part of Table 4–2. The change in debt held by Government accounts results in 7

[17] The Acts and the statutory limits since 1940 are listed in Table 7.3 of the Budget's historical tables, available at *https://www.whitehouse.gov/omb/historical-tables/*.

[18] The TSP is a defined contribution pension plan for Federal employees. The G-Fund is one of several components of the TSP.

[19] Both the CSRDF and the PSRHBF are administered by the Office of Personnel Management.

percent of the estimated total increase in debt subject to limit from 2018 through 2028.

The budget is composed of two groups of funds, Federal funds and trust funds. The Federal funds, in the main, are derived from tax receipts and borrowing and are used for the general purposes of the Government. The trust funds, on the other hand, are financed by taxes or other receipts dedicated by law for specified purposes, such as for paying Social Security benefits or making grants to State governments for highway construction.[20]

A Federal funds deficit must generally be financed by borrowing, which can be done either by selling securities to the public or by issuing securities to Government accounts that are not within the Federal funds group. Federal funds borrowing consists almost entirely of Treasury securities that are subject to the statutory debt limit. Very little debt subject to statutory limit has been issued for reasons except to finance the Federal funds deficit. The change in debt subject to limit is therefore determined primarily by the Federal funds deficit, which is equal to the difference between the total Government deficit or surplus and the trust fund surplus. Trust fund surpluses are almost entirely invested in securities subject to the debt limit, and trust funds hold most of the debt held by Government accounts. The trust fund surplus reduces the total budget deficit or increases the total budget surplus, decreasing the need to borrow from the public or increasing the ability to repay borrowing from the public. When the trust fund surplus is invested in Federal securities, the debt held by Government accounts increases, offsetting the decrease in debt held by the public by an equal amount. Thus, there is no net effect on gross Federal debt.

Table 4–6 derives the change in debt subject to limit. In 2017 the Federal funds deficit was $819 billion, and other factors reduced financing requirements by $169 billion. The change in the Treasury operating cash balance reduced financing requirements by $194 billion, the net financing disbursements of credit financing accounts increased financing requirements by $41 billion, and other Federal fund factors reduced financing requirements by $15 billion. In addition, special funds and revolving funds, which are part of the Federal funds group, invested a net of $23 billion in Treasury securities. A $6 billion adjustment is also made for the difference between the trust fund surplus or deficit and the trust funds' investment or disinvestment in Federal securities (including the changes in NRRIT's investments in non-Federal securities). As a net result of all these factors, $666 billion in financing was required, increasing gross Federal debt by that amount. Since Federal debt not subject to limit fell by $2 billion and the adjustment for discount and premium changed by $2 billion, the debt subject to limit increased by $670 billion, while debt held by the public increased by $498 billion.

Debt subject to limit is estimated to increase by $1,274 billion in 2018 and by $1,227 billion in 2019. The projected increases in the debt subject to limit are caused by the continued Federal funds deficit, supplemented by the other factors shown in Table 4–6. While debt held by the public increases by $9,018 billion from the end of 2017 through 2028, debt subject to limit increases by $9,758 billion.

[20] For further discussion of the trust funds and Federal funds groups, see Chapter 24, "Trust Funds and Federal Funds."

Table 4–6. FEDERAL FUNDS FINANCING AND CHANGE IN DEBT SUBJECT TO STATUTORY LIMIT

(In billions of dollars)

Description	Actual 2017	Estimate										
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Change in Gross Federal Debt:												
Federal funds deficit	819.0	976.3	1,087.7	1,067.2	991.6	933.5	827.7	692.5	597.3	534.8	357.2	268.7
Other transactions affecting borrowing from the public -- Federal funds [1]	–168.7	292.2	98.6	89.2	88.8	89.1	84.6	75.4	63.2	49.5	41.3	44.8
Increase (+) or decrease (–) in Federal debt held by Federal funds	22.5	28.3	32.4	42.8	39.9	39.3	39.5	39.0	38.0	35.1	37.7	37.9
Adjustments for trust fund surplus/deficit not invested/ disinvested in Federal securities [2]	–6.1	–24.3	5.8	–1.1	–1.0	–1.1	–0.7	–0.8	–0.7	–0.6	–0.3	–0.1
Change in unrealized discount on Federal debt held by Government accounts	–0.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total financing requirements	666.3	1,272.5	1,224.6	1,198.1	1,119.3	1,060.8	951.1	806.1	697.7	618.9	436.0	351.2
Change in Debt Subject to Limit:												
Change in gross Federal debt	666.3	1,272.5	1,224.6	1,198.1	1,119.3	1,060.8	951.1	806.1	697.7	618.9	436.0	351.2
Less: increase (+) or decrease (–) in Federal debt not subject to limit	–1.8	–1.5	–2.2	–2.8	–2.0	–2.0	–2.1	–2.2	–1.4	–1.5	–1.9	–1.8
Less: change in adjustment for discount and premium [3]	–2.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, change in debt subject to limit	670.2	1,274.0	1,226.8	1,200.9	1,121.3	1,062.8	953.2	808.3	699.1	620.3	437.9	353.0
Memorandum:												
Debt subject to statutory limit [4]	20,208.6	21,482.6	22,709.4	23,910.3	25,031.6	26,094.4	27,047.6	27,855.9	28,555.0	29,175.3	29,613.2	29,966.3

[1] Includes Federal fund transactions that correspond to those presented in Table 4–2, but that are for Federal funds alone with respect to the public and trust funds.

[2] Includes trust fund holdings in other cash assets and changes in the investments of the National Railroad Retirement Investment Trust in non-Federal securities.

[3] Consists of unamortized discount (less premium) on public issues of Treasury notes and bonds (other than zero-coupon bonds).

[4] The statutory debt limit is approximately $20,456 billion, as increased after December 8, 2017.

Foreign Holdings of Federal Debt

During most of American history, the Federal debt was held almost entirely by individuals and institutions within the United States. In the late 1960s, foreign holdings were just over $10 billion, less than 5 percent of the total Federal debt held by the public. Foreign holdings began to grow significantly starting in the 1970s and since 2004 have represented over 40 percent of outstanding debt. This increase has been almost entirely due to decisions by foreign central banks, corporations, and individuals, rather than the direct marketing of these securities to foreign investors.

Foreign holdings of Federal debt are presented in Table 4–7. At the end of 2017, foreign holdings of Treasury debt were $6,323 billion, which was 43 percent of the total debt held by the public.[21] Foreign central banks and other foreign official institutions owned 64 percent of the foreign holdings of Federal debt; private investors owned nearly all the rest. At the end of 2017, the nations holding the largest shares of U.S. Federal debt were China, which held 19 percent of all foreign holdings, and Japan, which held 17 percent. All of the foreign holdings of Federal debt are denominated in dollars.

Although the amount of foreign holdings of Federal debt has grown greatly over this period, the proportion that foreign entities and individuals own, after increasing abruptly in the very early 1970s, remained about 15–20 percent until the mid-1990s. During 1995–97, however, growth in foreign holdings accelerated, reaching 33 percent by the end of 1997. Foreign holdings of Federal debt resumed growth in the following decade, increasing to 48 percent by the end of 2008. After 2008, foreign holdings as a percent of total Federal debt remained relatively stable through 2015 and then fell from 47 percent at the end of 2015 to 43 percent at the end of 2016. Foreign holdings remained at 43 percent at the end of 2017. The dollar increase in foreign holdings was about 34 percent of total Federal borrowing from the public in 2017 and 25 percent over the last five years.

Foreign holdings of Federal debt are around 20-25 percent of the foreign-owned assets in the United States, depending on the method of measuring total assets. The foreign purchases of Federal debt securities do not measure the full impact of the capital inflow from abroad on the market for Federal debt securities. The capital inflow supplies additional funds to the credit market generally, and thus affects the market for Federal debt. For example, the capital inflow includes deposits in U.S. financial intermediaries that themselves buy Federal debt.

[21] The debt calculated by the Bureau of Economic Analysis is different, though similar in size, because of a different method of valuing securities.

Table 4–7. FOREIGN HOLDINGS OF FEDERAL DEBT

(Dollar amounts in billions)

Fiscal Year	Debt held by the public			Change in debt held by the public[2]	
	Total	Foreign[1]	Percentage foreign	Total	Foreign
1965	260.8	12.2	4.7	3.9	0.3
1970	283.2	14.0	4.9	5.1	3.7
1975	394.7	66.0	16.7	51.0	9.1
1980	711.9	126.4	17.8	71.6	1.3
1985	1,507.3	222.9	14.8	200.3	47.3
1990	2,411.6	463.8	19.2	220.8	72.0
1995	3,604.4	820.4	22.8	171.3	138.4
2000	3,409.8	1,038.8	30.5	–222.6	–242.6
2005	4,592.2	1,929.6	42.0	296.7	135.1
2010	9,018.9	4,324.2	47.9	1,474.2	753.6
2011	10,128.2	4,912.1	48.5	1,109.3	587.9
2012	11,281.1	5,476.1	48.5	1,152.9	564.0
2013	11,982.7	5,652.8	47.2	701.6	176.7
2014	12,779.9	6,069.2	47.5	797.2	416.4
2015	13,116.7	6,105.9	46.6	336.8	36.7
2016	14,167.6	6,155.9	43.5	1,050.9	50.0
2017	14,665.5	6,323.0	43.1	497.8	167.1

[1] Estimated by Treasury Department. These estimates exclude agency debt, the holdings of which are believed to be small. The data on foreign holdings are recorded by methods that are not fully comparable with the data on debt held by the public. Projections of foreign holdings are not available.

[2] Change in debt held by the public is defined as equal to the change in debt held by the public from the beginning of the year to the end of the year.

Federal, Federally Guaranteed, and Other Federally Assisted Borrowing

The Government's effects on the credit markets arise not only from its own borrowing but also from the direct loans that it makes to the public and the provision of assistance to certain borrowing by the public. The Government guarantees various types of borrowing by individuals, businesses, and other non-Federal entities, thereby providing assistance to private credit markets. The Government is also assisting borrowing by States through the Build America Bonds program, which subsidizes the interest that States pay on such borrowing. In addition, the Government has established private corporations—Government-sponsored enterprises—to provide financial intermediation for specified public purposes; it exempts the interest on most State and local government debt from income tax; it permits mortgage interest to be deducted in calculating taxable income; and it insures the deposits of banks and thrift institutions, which themselves make loans.

Federal credit programs and other forms of assistance are discussed in Chapter 19, "Credit and Insurance," in this volume. Detailed data are presented in tables accompanying that chapter.