20. FEDERAL BORROWING AND DEBT

Debt is the largest legally and contractually binding obligation of the Federal Government. At the end of 2022, the Government owed $24,252 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 $534 billion of interest on this debt.[1] At the same time, the Government also held financial assets, net of financial liabilities other than debt, of $2,204 billion. Therefore, debt held by the public net of financial assets was $22,049 billion.

The $24,252 billion debt held by the public at the end of 2022 represents an increase of $1,970 billion over the level at the end of 2021. This increase is the result of the $1,376 billion deficit in 2022 and other financing transactions that increased the need to borrow by $594 billion. The $594 billion borrowing due to other financing transactions reflects a $421 billion increase in Treasury's operating cash balance (discussed in more detail below), as well as other factors. Although debt held by the public grew in dollar terms in 2022, debt held by the public as a percent of Gross Domestic Product (GDP) fell from 98.4 percent of at the end of 2021 to 97.0 percent of GDP at the end of 2022 due to the economy growing at a significantly faster rate than the debt. The deficit is estimated to increase to $1,569 billion in 2023 and to $1,846 billion in 2024, and then to fall in 2025 and 2026. After 2026, the deficit is projected to remain relatively steady at roughly 5 percent of GDP. Debt held by the public is projected to grow to $25,910 billion (98.4 percent of GDP) at the end of 2023 and $27,783 billion (102.0 percent of GDP) at the end of 2024. After 2024, debt held by the public as a percent of GDP is projected to gradually increase, reaching 109.8 percent in 2033. Debt net of financial assets is expected to grow to $23,619 billion (89.7 percent of GDP) at the end of 2023 and $25,465 billion (93.5 percent of GDP) at the end of 2024. After 2024, debt net of financial assets is projected to continue to gradually increase, to 102.4 percent of GDP at the end of 2033.

Trends in Debt Since World War II

Table 20–1 depicts trends in Federal debt held by the public from World War II to the present and estimates from the present through 2033. (It is supplemented for earlier years by Tables 7.1–7.3 in the Budget's *Historical Tables*, available as supplemental budget material.[2]) 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 78.6 percent of GDP to 24.6 percent, and from 53.3 percent of credit market debt to 17.9 percent. Despite rising interest rates during this period, 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. 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, two major budget agreements were enacted in the 1990s, implementing revenue increases and spending reductions 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 1998 to 2001. Debt fell from 47.9 percent of GDP in 1993 to 31.5 percent of GDP in 2001. Over that same period, debt fell from 26.2 percent of total credit market debt to 17.3 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. The attacks of September 11, 2001, a recession, two major wars, and tax cuts all contributed to increasing deficits, causing debt to rise, both in nominal terms and as a percentage of GDP. Following the recession that began in December 2007, the deficit increased rapidly in 2008 and 2009, as the Government intervened in the potential collapse of several major corporations and financial institutions as well as enacting a major stimulus bill. Additional tax cuts enacted in 2017 also contributed to higher deficits. Debt as a percent of GDP grew from 35.2 percent at the end of

[1] This is 2022 nominal interest on debt held by the public. For a discussion of real net interest, see Chapter 3, "Long-Term Budget Outlook."

[2] The *Historical Tables* are available at *https://www.whitehouse.gov/omb/historical-tables/*.

Table 20–1. 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 2022 dollars [1]	GDP	Credit market debt [2]	Current dollars	FY 2022 dollars [1]	Total outlays	GDP
1946	241.9	2,916.7	106.1	N/A	4.2	50.4	7.6	1.8
1950	219.0	2,133.8	78.6	53.3	4.8	47.2	11.4	1.7
1955	226.6	1,940.5	55.8	42.1	5.2	44.4	7.6	1.3
1960	236.8	1,797.3	44.3	33.1	7.8	59.3	8.5	1.5
1965	260.8	1,854.6	36.8	26.4	9.6	68.1	8.1	1.4
1970	283.2	1,678.5	27.1	20.3	15.4	91.1	7.9	1.5
1975	394.7	1,723.2	24.6	17.9	25.0	109.2	7.5	1.6
1980	711.9	2,161.0	25.5	18.4	62.8	190.5	10.6	2.2
1985	1,507.3	3,487.1	35.3	22.2	152.9	353.8	16.2	3.6
1990	2,411.6	4,793.5	40.9	22.4	202.4	402.3	16.2	3.4
1995	3,604.4	6,319.0	47.7	26.2	239.2	419.4	15.8	3.2
2000	3,409.8	5,509.3	33.7	18.7	232.8	376.2	13.0	2.3
2005	4,592.2	6,629.5	35.8	17.0	191.4	276.2	7.7	1.5
2010	9,018.9	11,799.1	60.6	24.9	228.2	298.5	6.6	1.5
2015	13,116.7	15,733.0	72.5	30.2	260.6	312.6	7.1	1.4
2016	14,167.6	16,854.1	76.4	31.2	283.8	337.7	7.4	1.5
2017	14,665.4	17,140.0	76.2	31.2	309.9	362.2	7.8	1.6
2018	15,749.6	17,985.2	77.6	31.7	371.4	424.1	9.0	1.8
2019	16,800.7	18,817.0	79.4	32.3	423.3	474.1	9.5	2.0
2020	21,016.7	23,229.2	99.8	36.0	387.4	428.2	5.9	1.8
2021	22,282.8	23,826.9	98.4	36.2	412.8	441.4	6.1	1.8
2022	24,252.4	24,252.4	97.0	36.7	533.6	533.6	8.5	2.1
2023 estimate	25,909.8	24,718.1	98.4	N/A	720.6	687.5	11.3	2.7
2024 estimate	27,782.7	25,892.9	102.0	N/A	846.2	788.6	12.3	3.1
2025 estimate	29,591.7	27,005.0	104.1	N/A	887.3	809.7	12.5	3.1
2026 estimate	31,232.8	27,919.0	105.2	N/A	930.1	831.4	12.8	3.1
2027 estimate	32,850.6	28,760.7	106.3	N/A	978.2	856.4	12.9	3.2
2028 estimate	34,516.8	29,598.6	107.2	N/A	1,031.7	884.7	12.9	3.2
2029 estimate	36,106.1	30,324.8	107.7	N/A	1,096.7	921.1	13.4	3.3
2030 estimate	37,837.8	31,126.9	108.2	N/A	1,170.9	963.2	13.6	3.3
2031 estimate	39,650.0	31,946.1	108.7	N/A	1,251.8	1,008.6	13.8	3.4
2032 estimate	41,553.5	32,790.2	109.1	N/A	1,321.7	1,043.0	14.0	3.5
2033 estimate	43,619.2	33,711.4	109.8	N/A	1,399.9	1,081.9	14.0	3.5

N/A = Not available.

1 Amounts in current dollars deflated by the GDP chain-type price index with fiscal year 2022 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).

2007 to 79.4 percent in 2019. However, due to a decline in interest rates, despite the rising debt, net interest as a share of GDP dropped from 1.8 percent of GDP in 2007 to as low as 1.4 percent of GDP in 2015, before rising again to 2.0 percent by 2019.

As a result of the COVID-19 pandemic and the Government's actions to address the pandemic and support the economy, debt held by the public increased sharply in 2020, growing from 79.4 percent of GDP at the end of 2019 to 99.8 percent at the end of 2020. In 2021, a $1,567 billion decrease in the Treasury operating cash balance offset a significant portion of the $2,775 billion deficit. Although debt held by the public grew by $1,266 billion in 2021, it fell as a percent of GDP, to 98.4 percent, due to economic growth that outpaced the growth of the debt. In 2022, debt held by the public similarly grew in dollar terms, by $1,970 billion, but fell as a percent of GDP, to 97.0 percent.

In 2023, the deficit is projected to grow to $1,569 billion. As a result of the $1,569 billion deficit and $88 billion in borrowing due to other financing transactions (discussed in more detail below), debt held by the public is projected to grow to $25,910 billion, or 98.4 percent of GDP. The deficit is projected to grow to $1,846 billion in 2024, and debt held by the public is projected to grow to $27,783 billion, or 102.0 percent of GDP. As a percent of GDP, the deficit is projected to fall in 2025 and 2026 and then remain fairly stable at roughly 5 percent of GDP. Debt held by the public is expected to gradually increase, reaching 109.8 percent of GDP by 2033. Debt net of financial assets is estimated to grow to $23,619 billion, or 89.7 percent of GDP, at the end of 2023 and $25,465 billion, or 93.5 percent of GDP, at the end of 2024, then continue to increase gradually in subsequent years, reaching 102.4 percent of GDP by the end of 2033.

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.[3] 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."[4]

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. Borrowing from the public can thus affect the size and composition of assets held by the private sector and the amount of saving imported from abroad and increase the amount of future resources required to pay interest to the public on Federal debt. Borrowing from the public is therefore an important consideration in 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 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 current 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 savings 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.

[3] 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.

[4] 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 20-4, but also certain Government-guaranteed securities and the debt of the Government-sponsored enterprises listed in Table 7–7 in the supplemental materials to the "Credit and Insurance" chapter. (Table 7–7 is available at: *https://www.whitehouse.gov/omb/analytical-perspectives/*.)

Table 20–2. FEDERAL GOVERNMENT FINANCING AND DEBT

(In billions of dollars)

	Actual 2022	Estimate										
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Financing:												
Unified budget deficit	1,375.9	1,569.3	1,846.4	1,671.5	1,521.0	1,508.9	1,603.6	1,535.7	1,686.5	1,775.5	1,870.8	2,034.7
Other transactions affecting borrowing from the public:												
Changes in financial assets and liabilities:[1]												
Change in Treasury operating cash balance	420.8	14.0	....	....	....	....	....	....	....	....	....	....
Net disbursements of credit financing accounts:												
Direct loan and Troubled Asset Relief Program (TARP) equity purchase accounts	–256.1	43.5	21.7	133.5	117.7	109.4	64.4	55.6	47.0	38.0	33.5	31.7
Guaranteed loan accounts	205.2	31.2	5.9	6.0	4.2	1.4	*	–0.2	–*	0.2	0.7	0.5
Subtotal, net disbursements	–50.9	74.7	27.6	139.4	122.0	110.8	64.4	55.4	46.9	38.2	34.2	32.2
Net purchases of non-Federal securities by the National Railroad Retirement Investment Trust	–5.0	–0.2	–0.8	–1.5	–1.4	–1.4	–1.4	–1.3	–1.2	–1.1	–1.1	–0.6
Net change in other financial assets and liabilities[2]	229.0	....	....	....	....	....	....	....	....	....	....	....
Subtotal, changes in financial assets and liabilities	594.0	88.5	26.9	137.9	120.6	109.4	63.0	54.1	45.7	37.1	33.1	31.6
Seigniorage on coins	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.4	–0.5	–0.5	–0.5	–0.5
Total, other transactions affecting borrowing from the public	593.6	88.1	26.5	137.5	120.2	109.0	62.6	53.6	45.2	36.7	32.6	31.1
Total, requirement to borrow from the public (equals change in debt held by the public)	1,969.5	1,657.5	1,872.8	1,809.0	1,641.1	1,617.9	1,666.2	1,589.3	1,731.7	1,812.2	1,903.5	2,065.8
Changes in Debt Subject to Statutory Limitation:												
Change in debt held by the public	1,969.5	1,657.5	1,872.8	1,809.0	1,641.1	1,617.9	1,666.2	1,589.3	1,731.7	1,812.2	1,903.5	2,065.8
Change in debt held by Government accounts	483.5	196.9	242.0	204.3	212.1	59.4	–41.5	77.3	–40.1	–70.8	–121.5	–240.1
Less: change in debt not subject to limit and other adjustments	14.8	0.6	–0.2	–1.3	–0.7	0.2	0.8	0.4	–0.6	–0.4	–0.6	–0.3
Total, change in debt subject to statutory limitation	2,467.8	1,855.0	2,114.6	2,011.9	1,852.5	1,677.5	1,625.5	1,667.0	1,691.0	1,741.0	1,781.3	1,825.4
Debt Subject to Statutory Limitation, End of Year:												
Debt issued by Treasury	30,818.2	32,671.9	34,785.6	36,797.5	38,649.6	40,326.3	41,951.0	43,617.4	45,308.4	47,049.3	48,830.7	50,656.0
Less: Treasury debt not subject to limitation (-)[3]	–5.3	–4.1	–3.2	–3.2	–2.8	–2.0	–1.1	–0.5	–0.5	–0.5	–0.5	–0.5
Agency debt subject to limitation	*	*	*	*	*	*	*	*	*	*	*	*
Adjustment for discount and premium[4]	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4
Total, debt subject to statutory limitation[5]	30,869.3	32,724.2	34,838.8	36,850.8	38,703.2	40,380.7	42,006.2	43,673.3	45,364.3	47,105.3	48,886.6	50,711.9
Debt Outstanding, End of Year:												
Gross Federal debt:[6]												
Debt issued by Treasury	30,818.2	32,671.9	34,785.6	36,797.5	38,649.6	40,326.3	41,951.0	43,617.4	45,308.4	47,049.3	48,830.7	50,656.0
Debt issued by other agencies	20.4	21.0	22.1	23.4	24.5	25.2	25.2	25.4	25.9	26.3	26.9	27.2
Total, gross Federal debt	30,838.6	32,692.9	34,807.7	36,821.0	38,674.1	40,351.4	41,976.1	43,642.7	45,334.3	47,075.6	48,857.6	50,683.3
As a percent of GDP	123.4%	124.1%	127.8%	129.5%	130.3%	130.5%	130.4%	130.1%	129.6%	129.0%	128.3%	127.6%
Held by:												
Debt held by Government accounts	6,586.2	6,783.1	7,025.0	7,229.3	7,441.4	7,500.8	7,459.3	7,536.6	7,496.5	7,425.6	7,304.1	7,064.0
Debt held by the public[7]	24,252.4	25,909.8	27,782.7	29,591.7	31,232.8	32,850.6	34,516.8	36,106.1	37,837.8	39,650.0	41,553.5	43,619.2
As a percent of GDP	97.0%	98.4%	102.0%	104.1%	105.2%	106.3%	107.2%	107.7%	108.2%	108.7%	109.1%	109.8%

*$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 $31,381 billion, as enacted on December 16, 2021.

[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 2022, the Federal Reserve Banks held $5,634.9 billion of Federal securities and the rest of the public held $18,617.4 billion. Debt held by the Federal Reserve Banks is not estimated for future years.

The debt held by Government accounts may differ from 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 87 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.[5]

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 relative 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 of 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 20–2 summarizes Federal borrowing and debt from 2022 through 2033.[6] In 2022, the Government borrowed $1,970 billion, increasing the debt held by the public from $22,283 billion at the end of 2021 to $24,252 billion at the end of 2022. The debt held by Government accounts grew by $483 billion, and gross Federal debt increased by $2,453 billion to $30,839 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.[7] Table 20–2 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," 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.[8] 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 20–2 (where an increase in the need to borrow is represented by a positive sign, like the deficit).

In 2022 the deficit was $1,376 billion while these other factors increased the need to borrow by $594 billion, or 30 percent of total borrowing from the public. As a result, the Government borrowed $1,970 billion from the public. The other factors are estimated to increase borrowing by $88 billion (5 percent of total borrowing from the public) in 2023, and by $26 billion (1 percent) in 2024. In 2025–2033, these other factors are expected to increase borrowing by annual amounts ranging from $31 billion to $138 billion.

Three specific factors, presented in Table 20–2 and discussed below, have historically been especially important.

Change in Treasury operating cash balance.—In 2022, the cash balance increased by $421 billion, to $636 billion, returning to more typical levels after sizable fluctuations in the preceding two years. The cash balance had increased by $1,399 billion in 2020, to $1,782 billion, and decreased by $1,567 billion in 2021, to $215 billion. Over the 10 years prior to 2020, annual increases and decreases in the cash balance ranged from $2 billion to $252 billion. The higher 2020 cash balance was needed to manage the changes to outlays and receipts associated with the COVID-19 impacts and the Federal response. The large 2021 reduction in the cash balance was largely due to two factors. First, throughout 2021, the cash balance was gradually decreasing from its elevated end-of-2020 level. Second, due to the July 31 end of the debt limit suspension, the cash balance was reduced as a result of Treasury's actions to continue to finance Federal Government operations while not

[5] 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.

[6] For projections of the debt beyond 2033, see Chapter 3, "Long-Term Budget Outlook."

[7] 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-protected notes and bonds, the book value includes a periodic adjustment for inflation. Agency debt is generally recorded at par.

[8] For further explanation of the off-budget Federal entities, see Chapter 16, "Coverage of the Budget."

exceeding the debt ceiling. (The debt limit is discussed in further detail elsewhere in this chapter.) For prudent risk management purposes, Treasury seeks to maintain a cash balance at least equal to projected Government outflows, including maturing securities, over the following week, subject to a $150 billion floor. The operating cash balance is projected to increase by $14 billion, to $650 billion, at the end of 2023. 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),[9] 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.[10]

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 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.

Credit net financing disbursements reduced borrowing by $51 billion in 2022. Credit financing accounts are projected to increase borrowing by $75 billion in 2023 and by $28 billion in 2024. From 2025 to 2033, the credit financing accounts are expected to increase borrowing by amounts ranging from $32 billion to $139 billion.

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 2023, upward reestimates for Small Business Administration COVID Economic Injury Disaster Loans are partly offset by downward reestimates for Department of Education student loans and Federal Housing Administration (FHA) guarantees, resulting in a net upward reestimate of $17 billion. In 2022, there was a net downward reestimate of $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,[11] 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 2022, net decreases, including redemptions and losses, were $5.0 billion. A $0.2 billion net decrease is projected for 2023 and net annual decreases ranging from $0.6 billion to $1.5 billion are projected for 2024 and subsequent years.[12]

Net change in other financial assets and liabilities.—In addition to the three factors discussed above, in 2021 and 2022, the net change in other financial assets and liabilities was also particularly significant. Generally, the amounts in this category have relatively small impacts on total borrowing from the public. For example, this category decreased the need to borrow by $14 billion in 2020 and increased the need to borrow by $1 billion in 2019. However, this "other" category reduced the need to borrow

[9] Title V of Public Law 93-344.

[10] 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 7, "Credit and Insurance," and Chapter 15, "Budget Concepts."

[11] Title I of Public Law 107-90.

[12] The budget treatment of this fund is further discussed in Chapter 15, "Budget Concepts."

by a net $235 billion in 2021 and increased the need to borrow by a net $229 billion in 2022.

Of the net $229 billion increase to borrowing in 2022, $157 billion was due to net investment of the Thrift Savings Plan (TSP) Government Securities Investment Fund (G-Fund).[13] The Department of the Treasury is authorized to suspend the issuance of obligations to the TSP G-Fund as an "extraordinary measure" if issuances could not be made without causing the public debt of the United States to exceed the debt limit. The 2021 debt-limit-related suspension of the daily reinvestment of the TSP G-Fund resulted in the amounts being moved from debt held by the public to deposit fund balances, an "other" financial liability. Once Treasury is able to do so without exceeding the debt limit, Treasury is required to fully reinvest the TSP G-Fund and restore any foregone interest. Accordingly, the TSP G-Fund was fully reinvested in December 2021, returning the amount from deposit fund balances to debt held by the public. The debt ceiling and the use of the TSP G-Fund are discussed in further detail below.

In addition, in March 2021, the Federal Communications Commission (FCC) received $81 billion in spectrum auction proceeds, which were initially recorded in a deposit fund. In 2022, FCC moved the auction proceeds from the deposit fund to an on-budget offsetting receipt account. The transfer out of the deposit fund was exactly offset by the collection in the receipt account, for no net impact on 2022 borrowing from the public.

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 87 percent of the total Federal debt held by Government accounts at the end of 2022. Net investment may differ from the surplus due to changes in the amount of cash assets not currently invested. In 2022, there was a total trust fund surplus of $375 billion,[14] while trust fund investment in Federal securities grew by $398 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 20–5, available online.

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.

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 20–3 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 stock, Air carrier worker support warrants and notes, and Emergency capital investment fund securities are measured at market value.

Due largely to the $421 billion increase in the Treasury operating cash balance, net financial assets increased by $596 billion, to $2,204 billion, in 2022. This $2,204 billion in net financial assets included a cash balance of $636 billion, net credit financing account balances of $1,384 billion, and other assets and liabilities that aggregated to a net asset of $183 billion. At the end of 2022, debt held by the public was $24,252 billion, or 97.0 percent of GDP.

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

[14] For further discussion of trust funds, see Chapter 22, "Trust Funds and Federal Funds."

Table 20–3. DEBT HELD BY THE PUBLIC NET OF FINANCIAL ASSETS AND LIABILITIES
(Dollar amounts in billions)

	Actual 2022	Estimate										
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Debt Held by the Public:												
Debt held by the public	24,252.4	25,909.8	27,782.7	29,591.7	31,232.8	32,850.6	34,516.8	36,106.1	37,837.8	39,650.0	41,553.5	43,619.2
As a percent of GDP	97.0%	98.4%	102.0%	104.1%	105.2%	106.3%	107.2%	107.7%	108.2%	108.7%	109.1%	109.8%
Financial Assets Net of Liabilities:												
Treasury operating cash balance	636.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
Credit financing account balances:												
Direct loan and TARP equity purchase accounts	1,338.9	1,382.5	1,404.2	1,537.7	1,655.4	1,764.8	1,829.1	1,884.7	1,931.7	1,969.7	2,003.2	2,034.9
Guaranteed loan accounts	45.4	76.6	82.5	88.5	92.7	94.2	94.2	94.0	94.0	94.2	94.9	95.4
Subtotal, credit financing account balances	1,384.4	1,459.1	1,486.7	1,626.1	1,748.1	1,858.9	1,923.3	1,978.7	2,025.6	2,063.9	2,098.1	2,130.3
Government-sponsored enterprise stock [1]	223.7	223.7	223.7	223.7	223.7	223.7	223.7	223.7	223.7	223.7	223.7	223.7
Air carrier worker support warrants and notes [2]	12.1	11.5	11.4	10.7	10.1	9.7	9.3	8.9	4.5	0.2	....	....
Emergency capital investment fund securities	2.5	2.2	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3
Non-Federal securities held by NRRIT	22.6	22.4	21.6	20.1	18.7	17.3	15.9	14.6	13.4	12.3	11.2	10.6
Other assets net of liabilities	–77.7	–77.7	–77.7	–77.7	–77.7	–77.7	–77.7	–77.7	–77.7	–77.7	–77.7	–77.7
Total, financial assets net of liabilities	2,203.5	2,291.2	2,318.0	2,455.1	2,574.9	2,683.8	2,746.2	2,799.9	2,841.1	2,873.8	2,906.7	2,938.2
Debt Held by the Public Net of Financial Assets and Liabilities:												
Debt held by the public net of financial assets	22,048.8	23,618.6	25,464.7	27,136.6	28,657.9	30,166.9	31,770.5	33,306.3	34,996.8	36,776.2	38,646.8	40,681.0
As a percent of GDP	88.2%	89.7%	93.5%	95.4%	96.6%	97.6%	98.7%	99.3%	100.1%	100.8%	101.5%	102.4%

[1] Treasury's warrants to purchase 79.9 percent of the common stock of the enterprises expire after September 7, 2028. The warrants were valued at $4 billion at the end of 2022.

[2] Portions of the notes and warrants issued under the Air carrier worker support program (Payroll support program) are scheduled to expire in 2025, 2026, 2030, and 2031.

Therefore, debt held by the public net of financial assets was $22,049 billion, or 88.2 percent of GDP. As shown in Table 20–3, the value of the Government's net financial assets is projected to grow to $2,291 billion in 2023. The projected 2023 increase is due to the anticipated $75 billion increase in the value of the credit financing accounts and $14 billion increase in the Treasury operating cash balance. While debt held by the public is expected to increase from 97.0 percent to 98.4 percent of GDP during 2023, debt net of financial assets is expected to increase from 88.2 percent to 89.7 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 in coordination with 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 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 (SLGS) securities.[15] 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-protected) and inflation-protected 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. In 2020, Treasury began issuing four different maturities of cash management bills on a weekly basis in relation to the financing needed due to the impacts of the COVID-19 pandemic and the Government's response. Treasury phased out three of the four maturities of these weekly cash management bills in 2021. In 2023, Treasury added the 17-week bill—the

[15] 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.

remaining of these four maturities—to its regular weekly auction calendar.

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 74 months at the end of 2022.

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.[16] 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 2022, increase the need for marketable borrowing.[17]

Agency Debt

A few Federal agencies other than Treasury, shown in Table 20–4 (available online), sell or have sold debt securities to the public and, at times, to other Government accounts. At the end of 2022, agency debt was $20.4 billion, less than one-tenth of one percent of total Federal debt held by the public. Agency debt is estimated to grow to $21.0 billion at the end of 2023 and to $22.1 billion at the end of 2024.

The predominant agency borrower is the Tennessee Valley Authority (TVA), which had borrowings of $20.3 billion from the public as of the end of 2022, or over 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 had available two types of alternative financing methods, lease financing obligations and prepayment obligations. Under the lease financing obligations method, 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.[18] At the end of 2022, lease financing obligations were $1.0 billion. Table 20–4 presents lease financing obligations separately from TVA bonds and notes to distinguish between the types of borrowing. As of the end of 2019, there are no outstanding obligations for prepayments.[19]

OMB determined that each of the two 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 pub-

[16] Noncompetitive bids cannot exceed $10 million per bidder.

[17] 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.

[18] 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.

[19] Under the prepayment obligations method, TVA's power distributors 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.

lic, not offsetting collections.[20] The budget presentation is consistent with the reporting of these obligations as liabilities on TVA's balance sheet under generally accepted accounting principles.

Although the Federal Housing Administration 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 a building for the Architect of the Capitol and subsequently exercised full control over the design, construction, and operation of the building. This arrangement is 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. This borrowing is scheduled to mature by the end of 2024.

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.

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 securities.

The total investment holdings of trust funds and other Government accounts increased by $483 billion in 2022. Net investment by Government accounts is estimated to be $197 billion in 2023 and $242 billion in 2024, as shown in Table 20–5. The holdings of Federal securities by Government accounts are estimated to grow to $7,025 billion by the end of 2024, or 20 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 and Disability Insurance trust funds; the Medicare Hospital Insurance and Supplementary Medical Insurance 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 Department of Defense Medicare-Eligible Retiree Health Care Fund (MERHCF) and the Postal Service Retiree Health Benefits Fund (PSRHBF). At the end of 2024, these Social Security, Medicare, and Federal employee retirement funds are estimated to own 77 percent of the total debt held by Government accounts. During 2022–2024, the Military Retirement Fund has a large surplus and is estimated to invest a total of $481 billion, 52 percent of total net investment by Government accounts. Some Government accounts are projected to have net disinvestment in Federal securities during 2022–2024.

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 20–5 at par value less unamortized discount. The only Government accounts that held zero-coupon bonds during 2022 are the Nuclear Waste Disposal Fund in the Department of Energy, the Military Retirement Fund, and the MERHCF. The unamortized discount on zero-coupon bonds held by these three funds was $21.2 billion at the end of 2022.

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 20–5 it is shown as a separate item at the end of the table and not distributed by account. The amount was $6.8 billion at the end of 2022.

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.[21] Federal

[20] 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 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; treatment of the Federal debt held by the Securities Investor Protection Corporation and the Public Company Accounting Oversight Board; and reclassification of Federal debt held by the Tennessee Valley Authority.

[21] For further detail on the monetary policy activities of the Federal Reserve and the treatment of the Federal Reserve in the Budget, see Chapter 16, "Coverage of the Budget."

Reserve holdings were $5,635 billion (23 percent of debt held by the public) at the end of 2022. Over the last 10 years, the Federal Reserve holdings have averaged 19 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 20–2 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. Most recently, the FFB issued: $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 $5 billion at the end of 2022 and is projected to be $4 billion at the end of 2023.

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 $478 million at the end of 2022 and is projected to gradually decline over time.

The sole agency debt currently subject to the general limit, $209 thousand at the end of 2022, is certain debentures issued by the Federal Housing Administration.[22]

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 $56 billion at the end of 2022 compared with the total unamortized discount (less premium) of $111 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 87 separate acts to raise the limit, revise the definition, extend the duration of a temporary increase, or temporarily suspend the limit.[23]

Prior to October 2021, the seven most recent laws addressing the debt limit had 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 Bipartisan Budget Act of 2019[24] suspended the $21,988 billion debt ceiling from August 2, 2019, through July 31, 2021, and then raised the debt limit on August 1, 2021, by $6,414 billion to $28,401 billion. On October 14, 2021, enacted legislation[25] increased the dollar debt ceiling by $480 billion, to $28,881 billion. On December 16, 2021, enacted legislation[26] further increased the dollar debt ceiling by $2,500 billion, to $31,381 billion.

At many times in the past several decades, including 2018, 2019, 2021, and 2023, the Government has reached the statutory debt limit before an increase has been enacted. When this has occurred, it has been necessary for 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 January 13, 2023, as the debt subject to limit neared the $31,381 billion ceiling, the Secretary of the Treasury sent a letter to the Congress announcing that Treasury would begin to take extraordinary measures on January 19, 2023.

One such extraordinary measure is the partial or full suspension of the daily reinvestment of the TSP G-Fund. 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 $169 billion at the end of January 2023. The Treasury Secretary is also authorized to suspend investments in the CSRDF and to declare a debt issuance suspension period, which allows the redemption of a limited amount of securities held by the

[22] At the end of 2022, there were also $18 million of FHA debentures not subject to limit.

[23] 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/*.

[24] Title III of Public Law 116-37.

[25] Public Law 117-50.

[26] Public Law 117-73.

CSRDF. The Postal Accountability and Enhancement Act[27] provides that investments in the PSRHBF shall be made in the same manner as investments in the CSRDF.[28] 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 Treasury 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 $17 billion at the end of January 2023.

As the debt has neared the limit, including in 2019 and 2021, 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 could 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 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 $32,724 billion by the end of 2023 and to $34,839 billion by the end of 2024. 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 20–2, 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 20–2. The change in debt held by Government accounts is equal to 11 percent of the estimated total 2023 increase in debt subject to limit.

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.[29]

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 20–6 derives the change in debt subject to limit. In 2022 the Federal funds deficit was $1,751 billion, and other factors increased financing requirements by $599 billion. In addition, special funds and revolving funds, which are part of the Federal funds group, invested a net of $90 billion in Treasury securities. Adjustments are 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) and for the change in unrealized discount on Federal debt held by Government accounts. As a net result of all these factors, $2,453 billion in financing was required, increasing gross Federal debt by that amount. Since Federal debt not subject to limit fell by $1.4 billion and the adjustment for discount and premium changed by $13.4 billion, the

[27] Title VIII of Public Law 109-435.

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

[29] For further discussion of the trust funds and Federal funds groups, see Chapter 22, "Trust Funds and Federal Funds."

Table 20–6. FEDERAL FUNDS FINANCING AND CHANGE IN DEBT SUBJECT TO STATUTORY LIMIT

(In billions of dollars)

Description	Actual 2022	Estimate										
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Change in Gross Federal Debt:												
Federal funds deficit	1,751.0	1,811.2	2,074.3	1,821.3	1,670.7	1,501.2	1,500.2	1,551.3	1,577.5	1,629.7	1,681.1	1,719.2
Other transactions affecting borrowing from the public -- Federal funds [1]	598.6	88.3	27.2	139.0	121.6	110.4	64.0	54.9	46.5	37.8	33.7	31.7
Increase (+) or decrease (-) in Federal debt held by Federal funds	89.5	42.4	41.9	54.0	61.8	66.7	61.6	61.3	68.5	74.6	67.9	75.2
Adjustments for trust fund surplus/deficit not invested/disinvested in Federal securities [2]	17.5	–87.6	–28.7	–1.0	–1.0	–1.0	–1.0	–0.9	–0.9	–0.8	–0.8	–0.4
Change in unrealized discount on Federal debt held by Government accounts	–3.6	....	....	....	....	....	....	....	....	....	....	....
Total financing requirements	2,453.0	1,854.3	2,114.8	2,013.3	1,853.2	1,677.3	1,624.7	1,666.6	1,691.6	1,741.3	1,781.9	1,825.7
Change in Debt Subject to Limit:												
Change in gross Federal debt	2,453.0	1,854.3	2,114.8	2,013.3	1,853.2	1,677.3	1,624.7	1,666.6	1,691.6	1,741.3	1,781.9	1,825.7
Less: increase (+) or decrease (-) in Federal debt not subject to limit	–1.4	–0.6	0.2	1.3	0.7	–0.2	–0.8	–0.4	0.6	0.4	0.6	0.3
Less: change in adjustment for discount and premium [3]	–13.4	....	....	....	....	....	....	....	....	....	....	....
Total, change in debt subject to limit	2,467.8	1,855.0	2,114.6	2,011.9	1,852.5	1,677.5	1,625.5	1,667.0	1,691.0	1,741.0	1,781.3	1,825.4
Memorandum:												
Debt subject to statutory limit [4]	30,869.3	32,724.2	34,838.8	36,850.8	38,703.2	40,380.7	42,006.2	43,673.3	45,364.3	47,105.3	48,886.6	50,711.9

[1] Includes Federal fund transactions that correspond to those presented in Table 20–2, 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 $31,381 billion, as enacted on December 16, 2021.

debt subject to limit increased by $2,468 billion, while debt held by the public increased by $1,970 billion.

Debt subject to limit is estimated to increase by $1,855 billion in 2023 and by $2,115 billion in 2024. 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 20–6. While debt held by the public increases by $19,367 billion from the end of 2022 through 2033, debt subject to limit increases by $19,843 billion,.

Foreign Holdings of Federal Debt

Foreign holdings of Federal debt are presented in Table 20–7. 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 in the early 1970s, and then remained about 15–20 percent of total Federal debt until the mid-1990s. During 1995–97, growth in foreign holdings accelerated, reaching 33 percent by the end of 1997. From 2004 to 2019, foreign holdings of Federal debt generally represented around 40 percent or more of outstanding debt. Foreign holdings increased to 48 percent by the end of 2008 and then remained relatively stable through 2015. After 2015, foreign holdings began to decline as a percent of total Federal debt held by the public, falling from 47 percent at the end of 2015 to 40 percent at the end of 2018. In 2019, foreign holdings increased slightly, to 41 percent.

Although foreign holdings of Treasury debt continued to grow in dollars, by the end of 2020, foreign holdings had fallen to 34 percent of the total debt held by the public. In 2022, foreign holdings fell in both dollar terms, to $7,252 billion, and as a percent of total debt held by the public, to 30 percent.[30] The dollar decrease in foreign holdings was about 16 percent of net total Federal borrowing from the public in 2022. Changes in foreign holdings have been almost entirely due to decisions by foreign central banks, corporations, and individuals, rather than the direct marketing of these securities to foreign investors. All of the foreign holdings of Federal debt are denominated in dollars.

In 2022, foreign central banks and other foreign official institutions owned 51 percent of the foreign holdings of Federal debt; private investors owned the rest. At the end of 2022, the nations holding the largest shares of U.S. Federal debt were Japan, which held 15 percent of all foreign holdings, and China, which held 12 percent.

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 mea-

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

Table 20–7. 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	4,316.0	47.9	1,474.2	745.4
2011	10,128.2	4,912.1	48.5	1,109.3	596.1
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	6,104.0	46.5	336.8	34.8
2016	14,167.6	6,155.9	43.5	1,050.9	51.9
2017	14,665.4	6,301.9	43.0	497.8	146.0
2018	15,749.6	6,225.9	39.5	1,084.1	-76.0
2019	16,800.7	6,923.5	41.2	1,051.1	697.6
2020	21,016.7	7,069.2	33.6	4,216.0	145.7
2021	22,282.8	7,570.9	34.0	1,266.1	501.7
2022	24,252.4	7,251.5	29.9	1,969.5	-319.4

[1] Estimated by Department of the Treasury. 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.

sure 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.

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 7, "Credit and Insurance," in this volume. Detailed data are presented in tables accompanying that chapter.