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FEDERAL DEBT

Debt Management Actions and Future Challenges

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Abstract You asked us to provide an updated analysis and status report on the Department of the Treasurys debt management strategies and actions in a period of budget surplus. In addition to this analysis, we are completing work on your request that we review debt management experiences of selected nations that also have budget surpluses. We plan to issue a report on international experiences and lessons learned later in the year.	
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The Honorable Pete V. Domenici
Chairman, Committee on the Budget
United States Senate

The Honorable Bill Thomas
Chairman, Committee on Ways and Means
House of Representatives

The Honorable E. Clay Shaw
Chairman, Social Security Subcommittee
Committee on Ways and Means
House of Representatives

You asked us to provide an updated analysis and status report on the Department of the Treasury's debt management strategies and actions in a period of budget surplus. In addition to this analysis, we are completing work on your request that we review debt management experiences of selected nations that also have budget surpluses. We plan to issue a report on international experiences and "lessons learned" later in the year.

As we have stated in previous reports,[1] the transition from annual unified budget deficits to surpluses has had consequences for both the profile of federal debt held by the public and the Treasury's strategies for achieving its three debt management objectives. These objectives are efficient cash management, lowest cost financing over time, and promoting efficient (broad and deep) capital markets. Balancing these debt management goals in a time of surplus has prompted the Treasury to consider and implement new approaches and techniques, which we will discuss in this report.

[1] See *Federal Debt: Debt Management in a Period of Budget Surplus* (GAO/AIMD-99-270, September 29, 1999) and *Federal Debt: Answers to Frequently Asked Questions—An Update* (GAO/OCG-99-27, May 28, 1999) for more extensive background information.

To answer your request that we provide information on how the Treasury has managed down debt, we reviewed publications,[2] conducted analysis, and interviewed officials from the Treasury Department, Federal Reserve Board and Federal Reserve Bank of New York, and from private sector market participants in Washington, D.C., and New York City. We did our work in accordance with generally accepted government auditing standards from August 2000 through January 2001. The Treasury and Congressional Budget Office (CBO) generally agreed with this report and provided technical comments. We have incorporated these comments as appropriate.

Background

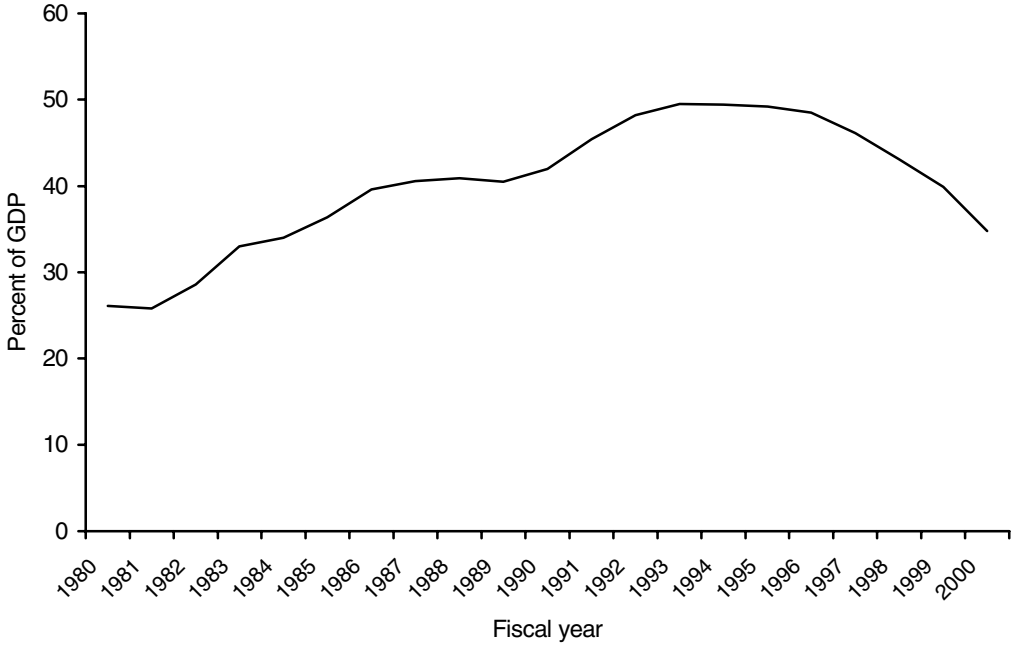
At the end of federal fiscal year 2000,[3] the United States recorded its third consecutive budget surplus—an achievement not seen in 50 years. As a result of these surpluses, the debt held by the public has been reduced by approximately $363 billion since fiscal year 1997, with the government paying down $223 billion of publicly held debt in fiscal year 2000 alone.[4] Figure 1 shows how federal debt held by the public generally increased as a share of gross domestic product (GDP) from 26.1 percent in 1980 to a high of 49.5 percent in 1993, and then declined to 34.8 percent in 2000.

[2] We used the *Monthly and Daily Treasury Statements*, the *Monthly Statement of Public Debt* (recently renamed the *Monthly Statement of Treasury Securities*), Treasury's public announcements, and publications from capital market participants to provide data for our analysis.

[3] Federal fiscal year 2000 refers to the period from October 1, 1999, through September 30, 2000.

[4] Gross federal debt includes debt held by the public and debt held by government accounts. Debt held by government accounts primarily represents balances in the Social Security and federal civilian employee and military retirement trust funds. The money is invested in special U.S. Treasury securities that are guaranteed for principal and interest by the full faith and credit of the U.S. government. Despite the current budget surpluses, gross federal debt continues to grow because debt held by government accounts has increased at a faster rate than debt held by the public has declined. Because the debt held by government accounts is an intragovernmental transaction, it is not the focus of this report.

Figure 1: Federal Debt Held by the Public as a Share of GDP (1980–2000)



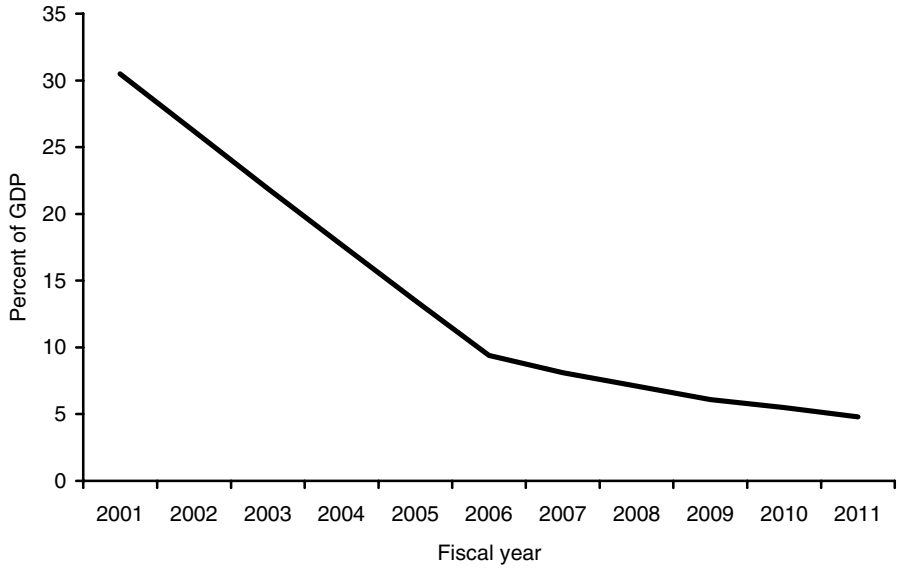
Source: OMB.

This lower debt has already produced benefits for the federal budget by decreasing net interest from 15.2 percent of total outlays in fiscal year 1997 to 12.5 percent of outlays in fiscal year 2000. Lower interest payments and increased budgetary flexibility—along with increased national savings, increased productivity, and output growth in the private sector—are the government's reward for the debt reduction.

Figure 2 shows the CBO's January 2001 projection of debt held by the public for the period from fiscal year 2001 through 2011. This baseline assumes that the total surplus—both on- and off-budget—is used to reduce

debt to the extent possible.[5] As a result, debt held by the public could fall significantly, declining to below 5 percent of GDP by 2011.

Figure 2: CBO's Projections of Federal Debt Held by the Public as a Share of GDP (Under "Current Policies" Baseline Scenario)



Source: CBO, The Budget and Economic Outlook: Fiscal Years 2002-2011, January 2001.

Most U.S. Treasury securities held by the public are marketable, meaning that once the government issues them, they can be resold. The Treasury's marketable securities may consist of bills that mature in a year or less, notes with original maturities of at least 1 year to not over 10 years, and bonds with original maturities of more than 10 years out to 30 years.

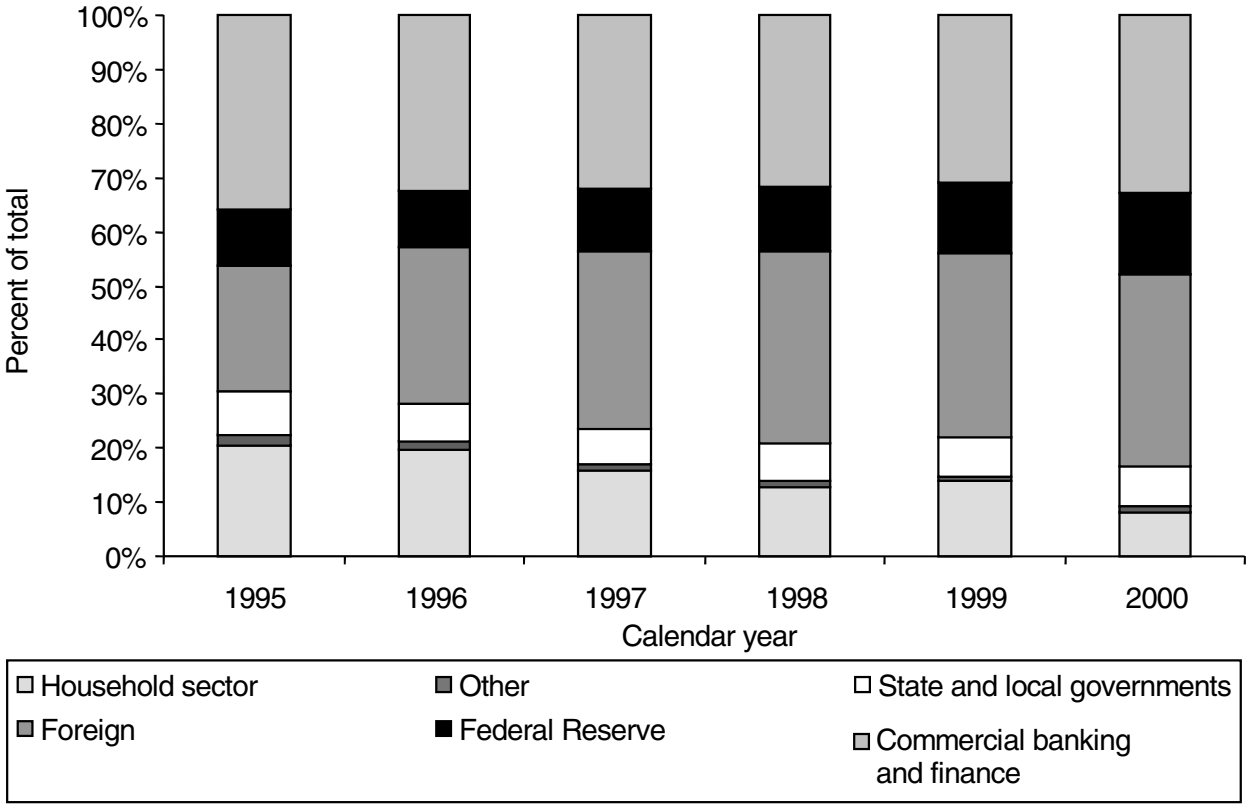
[5] CBO's projection assumes that a portion of the debt—including some long-term bonds and savings bonds—will not be available for redemption during CBO's 10-year projection period. Therefore, in any given year, some debt will remain outstanding and incur interest costs, regardless of the size of the surplus. CBO estimates that the amount of debt unavailable for redemption will decline each year, eventually falling to $818 billion by 2011.

Nonmarketable debt held by the public consists primarily of savings bonds and special securities for state and local governments.[6]

The ownership of the debt held by the public also has changed since 1995. The share of debt held by the Federal Reserve increased from about 10.5 to over 15 percent. In addition, estimated foreign-held holdings increased from about 23 percent to over 35 percent of the total in that period. (See figure 3.)

[6] The amount of these nonmarketable securities is determined by demand from individual investors and state and local governments, given the terms and conditions of the securities as set by the federal government.

Figure 3: Ownership of Outstanding U.S. Federal Debt



Note: For 1995 through 1999, the data represent the amounts at the end of each calendar year; for 2000 the data represent the amounts at the end of September.

Source: Board of Governors of the Federal Reserve System.

Results in Brief

Three consecutive fiscal years of unified budget surpluses have reduced significantly the amount of debt held by the public—by nearly $363 billion or approximately 10 percent since the end of fiscal year 1997. The Treasury achieved this result by redeeming maturing debt, reducing the number and size of new debt auctions, redeeming callable securities when the opportunity arose, reopening existing issues, and buying back debt before its final maturity.

As the level of debt held by the public has decreased, the Treasury has had to rethink its strategies for best achieving its three goals—having sufficient

cash on hand, minimizing cost over time, and promoting efficient (broad and deep) markets. The Treasury has used existing and new debt management tools in response to the challenges posed by declining debt. In calendar year 2000, the Treasury began two new programs designed to improve market liquidity: regularly reopening existing debt issues rather than creating new issues, and conducting buybacks of about $30 billion in longer-term bonds before they matured, thereby enabling the Treasury to issue more new securities. In addition, higher issuance levels of short-term bills were made possible by eliminating longer-term notes. Nevertheless, promoting market efficiency has proven to be challenging as the amount of debt has declined. As this new environment evolves, the strategies for achieving any one of the three goals may change and, thus, the trade-offs made among them will be different.

Capital markets have been adjusting to the reduced supply of Treasury securities. For example, capital market participants have begun using financial instruments other than Treasury securities as pricing tools for transactions (that is, as an alternative pricing benchmark); investors have begun to include other fixed-income instruments in their portfolios; and some government-sponsored enterprises[7] have increased their issuance of securities to appeal to investors in Treasury securities with the aim of becoming an alternative benchmark.

If projected budget surpluses materialize, the current combination of debt auction schedules, issue sizes, and maturities will be unsustainable over the next several years. Even with changes to the debt profile, analysts point out that the federal government will reach the point where annual surpluses will exceed the amount of debt available to be redeemed or that can be bought back at reasonable prices. Although estimates as to when this point will be reached vary depending on several assumptions, most analysts agree that it could occur within the decade. If this happens, the federal government will be faced with the prospect of accumulating cash balances or acquiring other financial assets.

[7] Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac) are two of the largest government-sponsored enterprises.

Treasury's Debt Management Strategy

Even as budget deficits have turned to surpluses and borrowing has declined, the Treasury has maintained three principal goals of debt management:

- to ensure efficient cash management,
- to ensure that the government finances its debt at the lowest cost over time, and
- to promote efficient capital markets.

The Treasury's present debt issuance schedule will have to be changed given the current budget surplus projections. Appendix 1 shows outstanding Treasury securities by year of maturity and amount as of September 30, 2000. Although major changes may not be needed this year, the Treasury will have to make significant changes after fiscal year 2001 to achieve its debt management goals. As surpluses continue, the Treasury will not be able to issue all of the securities it currently offers in sufficient amounts and regularity to maintain the interest savings that come from being benchmark securities.

As surpluses continue, the Treasury will face greater challenges in meeting its three debt management goals. Declining debt can be expected to accentuate the tensions between promoting efficient markets and achieving lowest-cost financing for the government. For instance, the Treasury has stated that financing across the yield curve (that is, issuing short-, medium-, and long-term debt) appeals to the broadest range of investors, mitigates refunding risks, and provides the market with a pricing mechanism for setting interest rates. These all contribute to overall market liquidity and promotion of efficient capital markets. However, as the debt declines it will not be cost efficient to issue across the current 30-year yield curve, and it will be more difficult to maintain market liquidity.

This new environment has already prompted the Treasury to add to its existing set of tools in both managing the outstanding stock of debt and changing the mix of new debt issued. The Treasury has changed the issuance schedule of several securities, initiated regular reopenings, redeemed callable bonds, and implemented debt buybacks.

Fewer Benchmark Securities

With the advent of sustained surpluses, a key Treasury strategy in meeting its goals has been to concentrate outstanding debt into a smaller number of liquid benchmark issues. The term "liquid" refers to a market's having sufficient depth to handle trades of a significant size without significantly

changing the price. A "benchmark issue" is a debt instrument that is large enough and attractive enough that it will be readily bought and sold by participants in the debt market. Governments issue a set of benchmark securities at different maturities to build a yield curve that can be used as a reference point by capital markets and others to price other financial transactions.

Over the past several years, the Treasury has reduced the number and frequency of instruments it issues to the public. The result of these changes has been that the Treasury has reduced the number of note and bond auctions by more than one-third since 1996. For example, the Treasury eliminated the 3-year note in May 1998. Appendix 1 shows the elimination of the 3-year note and the discontinuation of the 20-year bond, which occurred much earlier.

Early in 2000, the Treasury indicated that it would consider eliminating the 52-week bill. On November 1, 2000, the Treasury announced that the Treasury Borrowing Advisory Committee[8] recommended that the Treasury eliminate the 52-week bill in early 2001. The Committee has stated that the 52-week bill provides the least utility to the Treasury and the market compared to other regular offerings. In addition, it noted that the elimination of the 52-week bill would be less disruptive to the Treasury's monthly cash flows than other alternatives. The Congress, in December 2000, facilitated the transition to ending auctions of the 52-week bill by passing legislation that substituted another reference rate for the 1-year bill in certain programs.[9] On January 31, 2001, the Treasury announced the elimination of the 52-week bill, with the final auction of this type of security to take place on February 27, 2001.

In addition to eliminating issues, the Treasury decreased the frequency of its auctions of certain maturities. The effects of this change also can be seen in appendix 1. For example, the 5-year note auction schedule was changed from monthly to quarterly in 1998. As a result, the amount of

[8] The Treasury Borrowing Advisory Committee was chartered under the Federal Advisory Committee Act, as amended, and is composed of between 20 and 25 members who are from securities firms, banks, and investor groups. The Committee is self-selecting in that new members are nominated by the Committee and approved by the Treasury.

[9] The legislation was contained in two acts: the Consolidated Appropriations Act, 2001, Pub. L. No. 106-554, _____Stat. ___(2000), incorporating by reference the Labor, HHS Education Appropriation Act for fiscal year 2001, H.R. 5656, SEC. 318, as introduced December 14, 2000, and the Community Renewal Tax Relief Act of 2000, H.R. 5662, SEC. 307, as introduced on December 14, 2000.

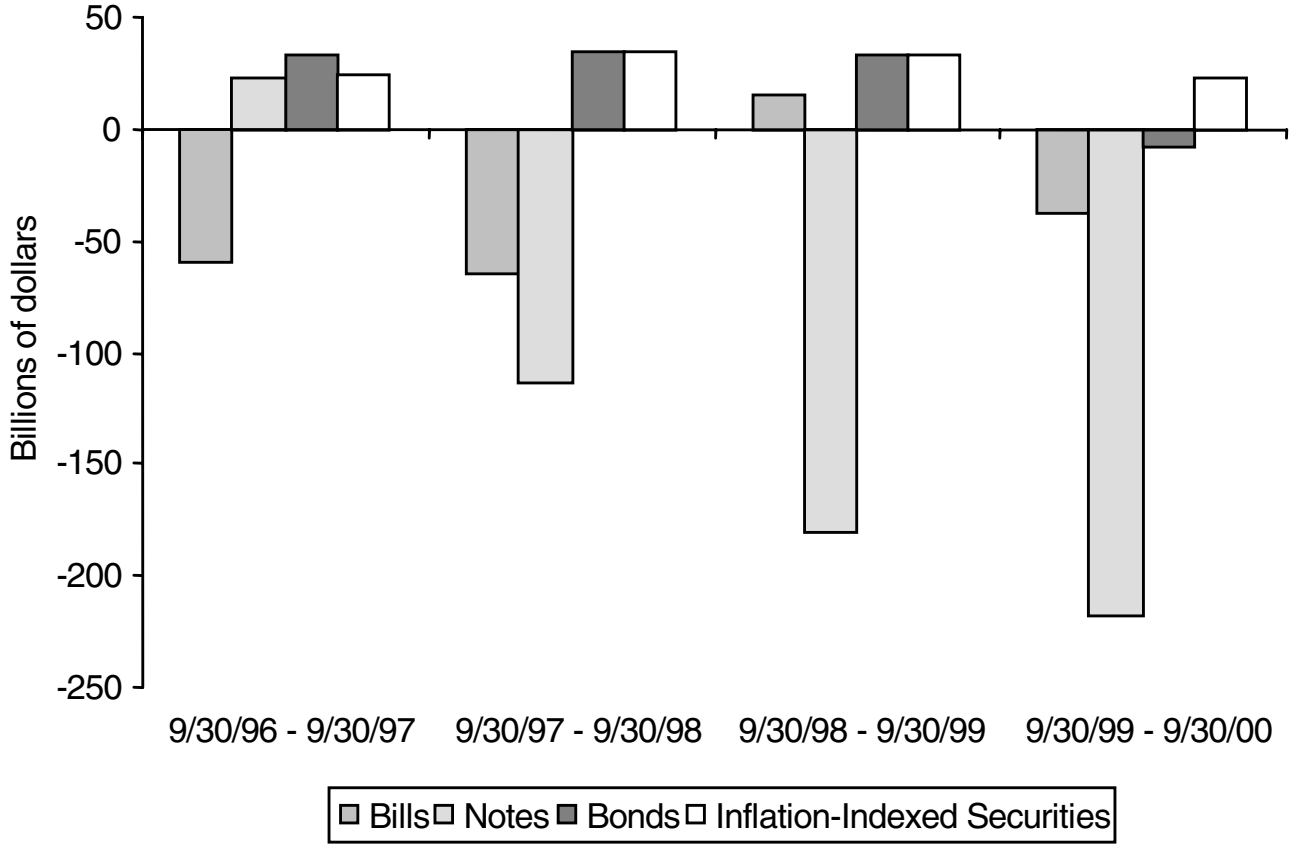
maturing 5-year notes decreases sharply from $162 billion in 2001 to $61 billion in 2005. In another example, the Treasury changed the auction schedule of the 30-year bond from three times a year to twice a year—one new issue and one reopening of that issue. Appendix 1 shows that only $17 billion in 30-year bonds will mature in 2030 compared to $33 billion in 2029. However, the $17 billion in 2030 is a single, liquid issue while the $33 billion is split into three, less liquid, $11 billion issues.

The Treasury has also sought to prevent the undue lengthening of the debt maturity profile. Absent the Treasury's recent actions, declining debt would have disproportionately reduced bill volume since these short-term instruments come due most often. While bill issuance has dropped since 1996, the Treasury has taken steps to forestall further declines in the past 2 years. The Treasury has concentrated debt reduction more on notes and less on bills, thereby addressing the liquidity problem in the bill market, preventing the undue lengthening of the average maturity of outstanding debt, and promoting efficient cash management.

As a result of these debt management choices, the relative amounts of bills, notes, and bonds in the market have changed. Because bills are a short-term borrowing instrument that the Treasury adjusts weekly to meet borrowing needs, the volume of bills has fluctuated more than that of other types of instruments. The Treasury recently changed the relative amounts of 3-month and 6-month bills. Historically, the Treasury has issued approximately the same amount of 3-month and 6-month bills, but this year increased the overall issuance of 3-month bills by nearly $100 billion to increase its flexibility in cash management.

Over the past 3 years of budget surpluses, the amount of outstanding notes decreased while outstanding bonds increased. (See figure 4.) Issuing fewer notes allowed the Treasury to reverse the decline in bill issuance that resulted from unexpectedly large revenue inflows in 1997 and 1998, in part caused by the "April surprises"—larger than expected influx of April tax receipts—in those years.

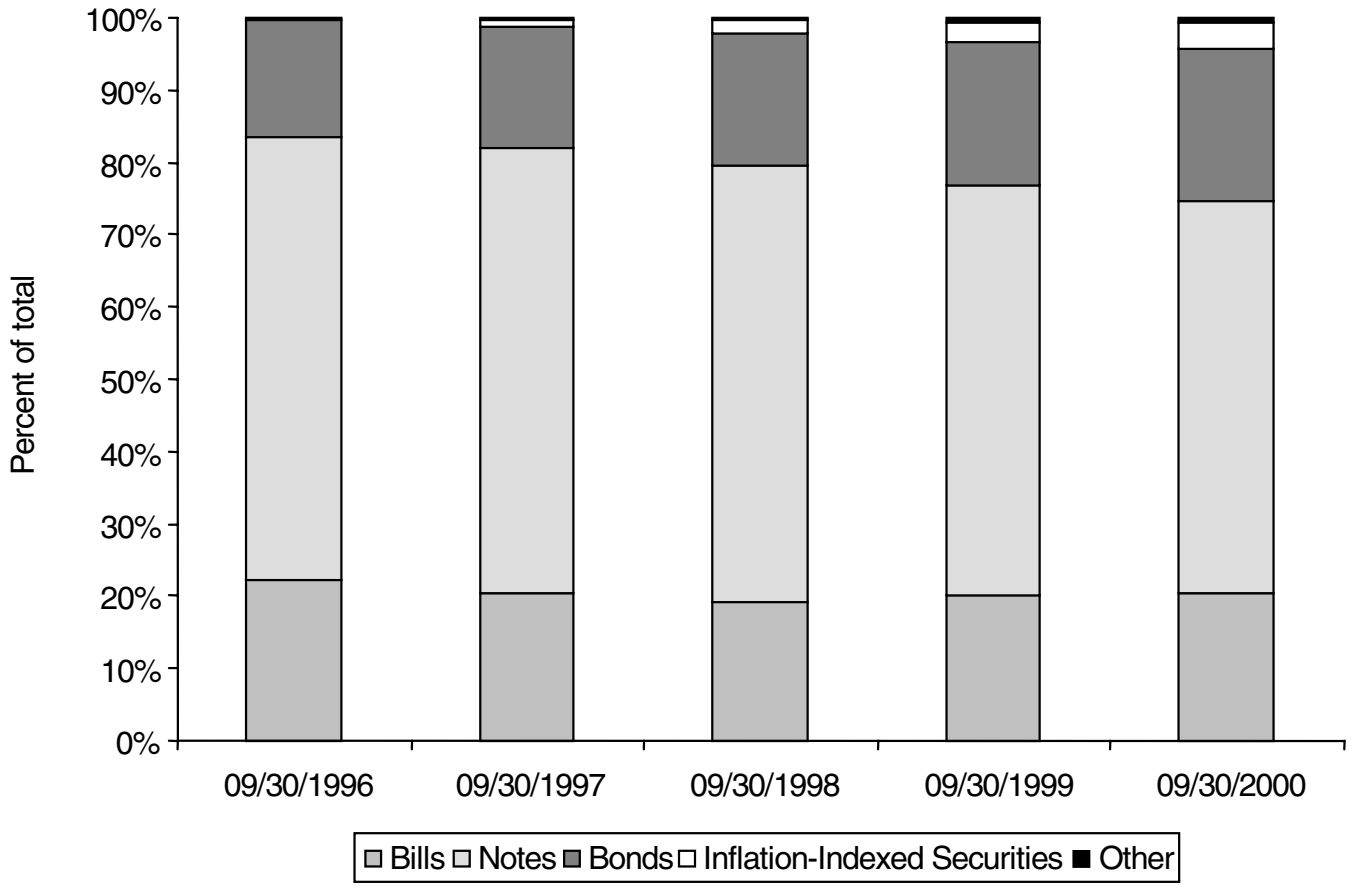
Figure 4: Year-to-year Change in Composition of Outstanding Marketable Public Debt



Source: Department of the Treasury.

In the last year, although the amount of outstanding long-term bonds fell in absolute terms, it increased relative to the sizes of other instruments as the amounts of outstanding notes and bills fell by larger amounts. (See figure 5.) One goal of the Treasury's ongoing program to buy back certain bonds before they mature is to allow continued issuance of new benchmark notes and bonds.

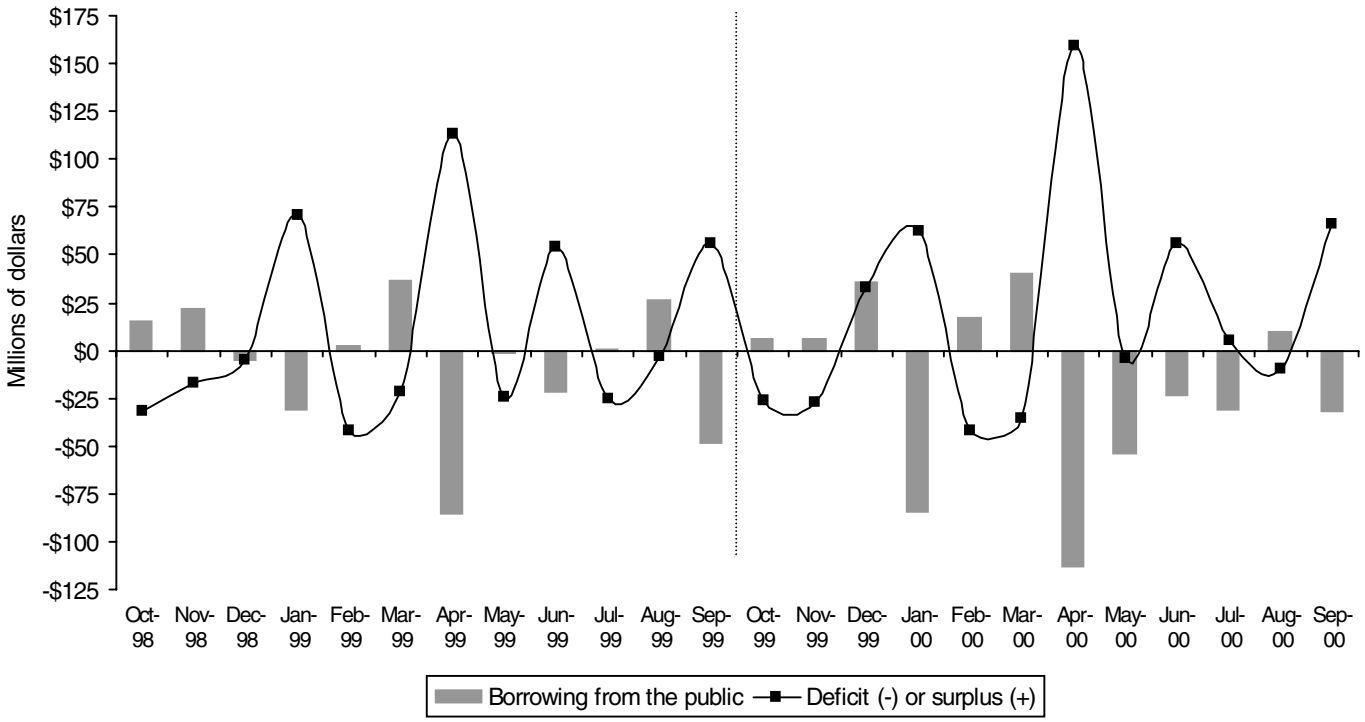
Figure 5: Composition of Outstanding Marketable Public Debt, at End of Fiscal Year



Source: Department of the Treasury.

Figure 6 shows the month-to-month change in Treasury securities with monthly budget results. The figure indicates that even during two consecutive years of budget surpluses and overall debt reduction there were still months in which the government ran deficits, suggesting that even if surpluses continue some future borrowing may be required.

Figure 6: Month-to-Month Change in Treasury Securities and Budget Results, Fiscal Years 1999 and 2000



Source: Department of the Treasury.

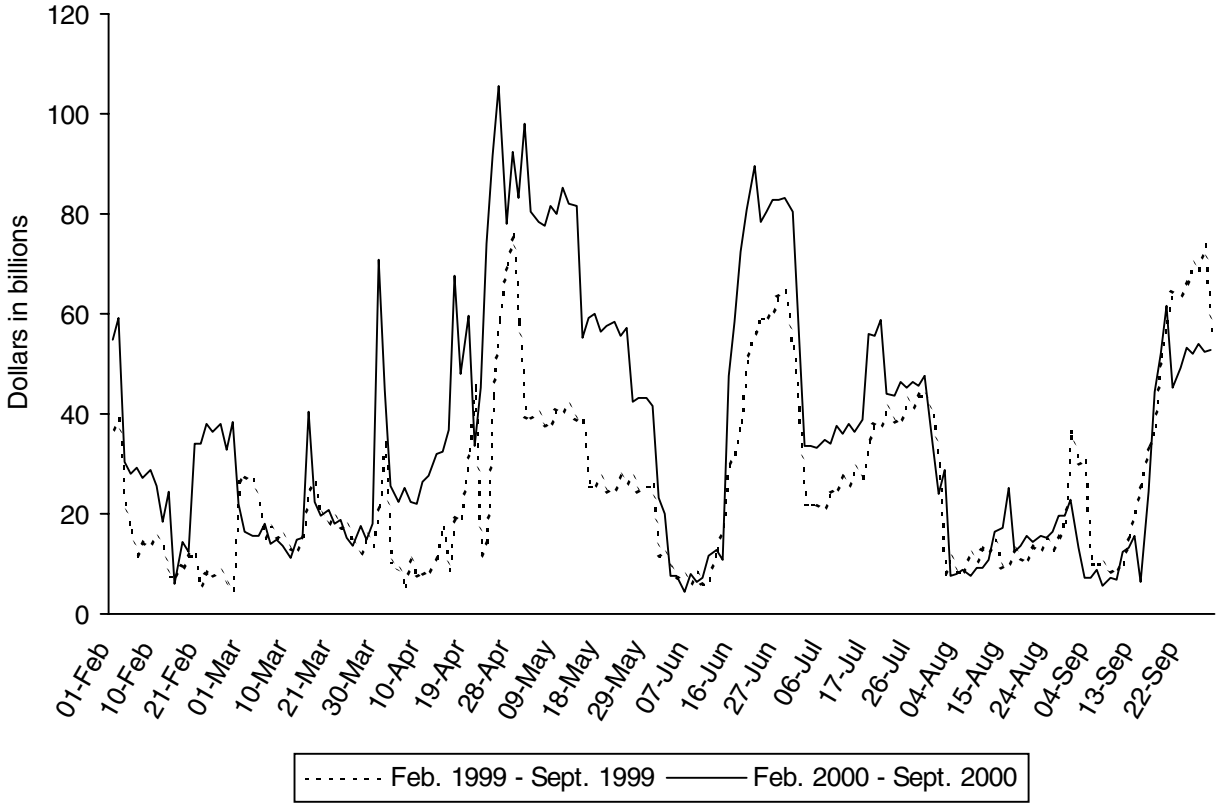
Higher Cash Balances

Efficient cash management is the first of the Treasury's three debt management goals. Cash balances both drive and result from the Treasury's debt management decisions. Figure 7 shows that between February and September of 2000,[10] cash balances were generally higher than they were for the same period in 1999. A Treasury official indicated the higher cash balances and increased volatility were due, in part, to the uneven cash flows resulting from lower issuance of bills, notes, and bonds, fewer auctions, debt buybacks, and the revenue from higher monthly

[10] We chose to show fiscal year 2000 cash balances from February 2000 rather than October 1999 because cash management decisions related to Y2K distorted balances.

surpluses.[11] This has caused the Treasury's cash balances to fluctuate more widely than in the past, leading to increased use of very short-term cash management bills[12] to provide funds to meet the government's obligations.

Figure 7: Treasury's Daily Cash Balances, February – September



Source: Department of the Treasury.

[11] The fiscal year 2000 average daily cash balance was $37.7 billion, a 40-percent increase from the previous year.

[12] Cash management bills are short-term variable dated securities used to bridge gaps in cash flows.

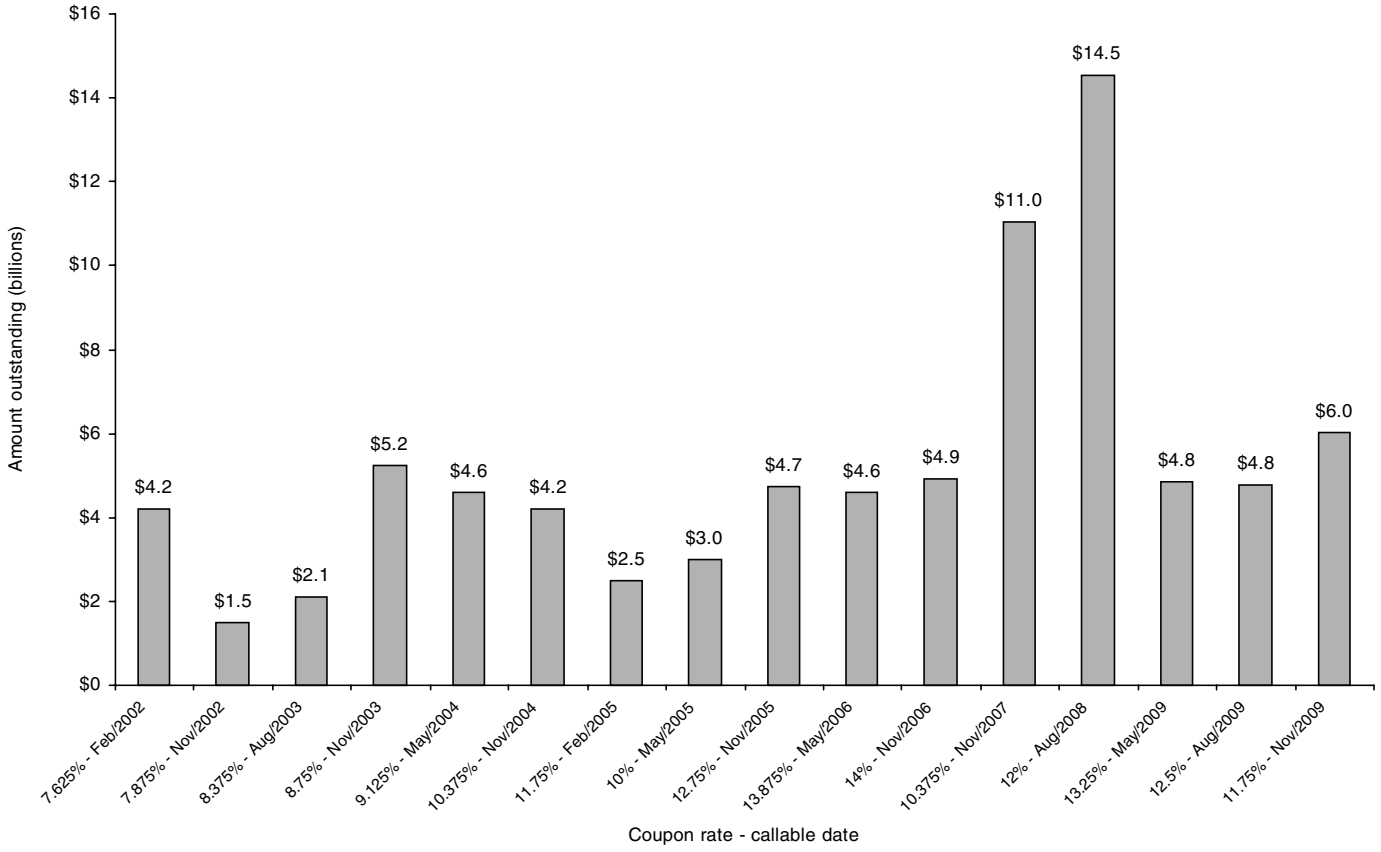
Regular Reopenings

Regular reopening of existing issues is another technique that has allowed the Treasury to further concentrate outstanding debt into liquid benchmarks. Reopening is the practice of adding new amounts of debt to an existing issue rather than issuing a new security. A regular schedule of reopenings, adopted in early 2000, has allowed the Treasury to add to the size of existing benchmark issues of a note or bond rather than creating smaller, and less liquid, new issues. This has added benefits to the Treasury and the market by extending the most recently issued (or "on-the-run") securities. On February 2, 2000, the Treasury announced that it was planning to reduce issuance of the 5- and 10-year notes and the 30-year bond at the same time that it was adopting a regular reopening schedule for those securities.

Callable Bonds

In some years, the Treasury has an option to redeem certain securities before their maturity dates. Before February 1985, the Treasury issued bonds that can be redeemed at the Treasury's option 5 years in advance of the maturity dates (or on any interest payment date thereafter, after providing 4 months notice) without paying a premium. Although the Treasury has not issued "callable" bonds since 1985, there are a number of outstanding callable bonds with relatively high interest rates that could be redeemed before their maturity dates. The coupon rates on these callable bonds range from 7.625 percent to 14 percent. The Treasury is expected to exercise its option to redeem these bonds on their call dates. Most recently, $4.2 billion in 30-year bonds issued on May 15, 1975, was eligible to be called on May 15, 2000, and the Treasury redeemed them at that time. Figure 8 shows the inventory of callable bonds as of the end of fiscal year 2000 and the earliest dates on which they can be redeemed by the Treasury.

Figure 8: Callable High-Interest Rate Treasury Bonds, End of Fiscal Year 2000



Source: Department of the Treasury.

Buybacks

According to Treasury officials, debt buybacks (repurchasing debt in advance of its maturity date) have become an important debt management tool in the environment of continuing budget surpluses and have been beneficial in a number of ways. First, debt buybacks have helped the Treasury manage the maturity structure of outstanding debt, allowing for more balance in the debt paydown. According to capital market and Treasury sources, buybacks prevented the lengthening of the average life

of outstanding Treasury debt by about 2 months by permitting the Treasury to reduce the volume of outstanding long-term bonds. Second, buybacks have allowed the Treasury to add to the liquidity of benchmark issues. By using excess cash to buy back high-interest, less liquid outstanding debt issues, the Treasury has been able to maintain more liquid benchmark issues than would otherwise have been possible.

In early 1998, the Treasury announced it was considering implementing a buyback program, and in August 1999 it made available draft regulations for public comment. In January 2000, the final regulations for the buyback program were issued, and the Treasury announced plans to buy back $30 billion in debt (par value) by the end of calendar year 2000. On March 9, 2000, the Treasury held the first in a series of reverse auctions[13] to buy back outstanding debt. In May 2000, the Treasury announced it would implement a program of regular buybacks in the third and fourth weeks of each month. By acting at a measured pace with input from market participants, the Treasury sought to minimize the effects on the market of this new program.

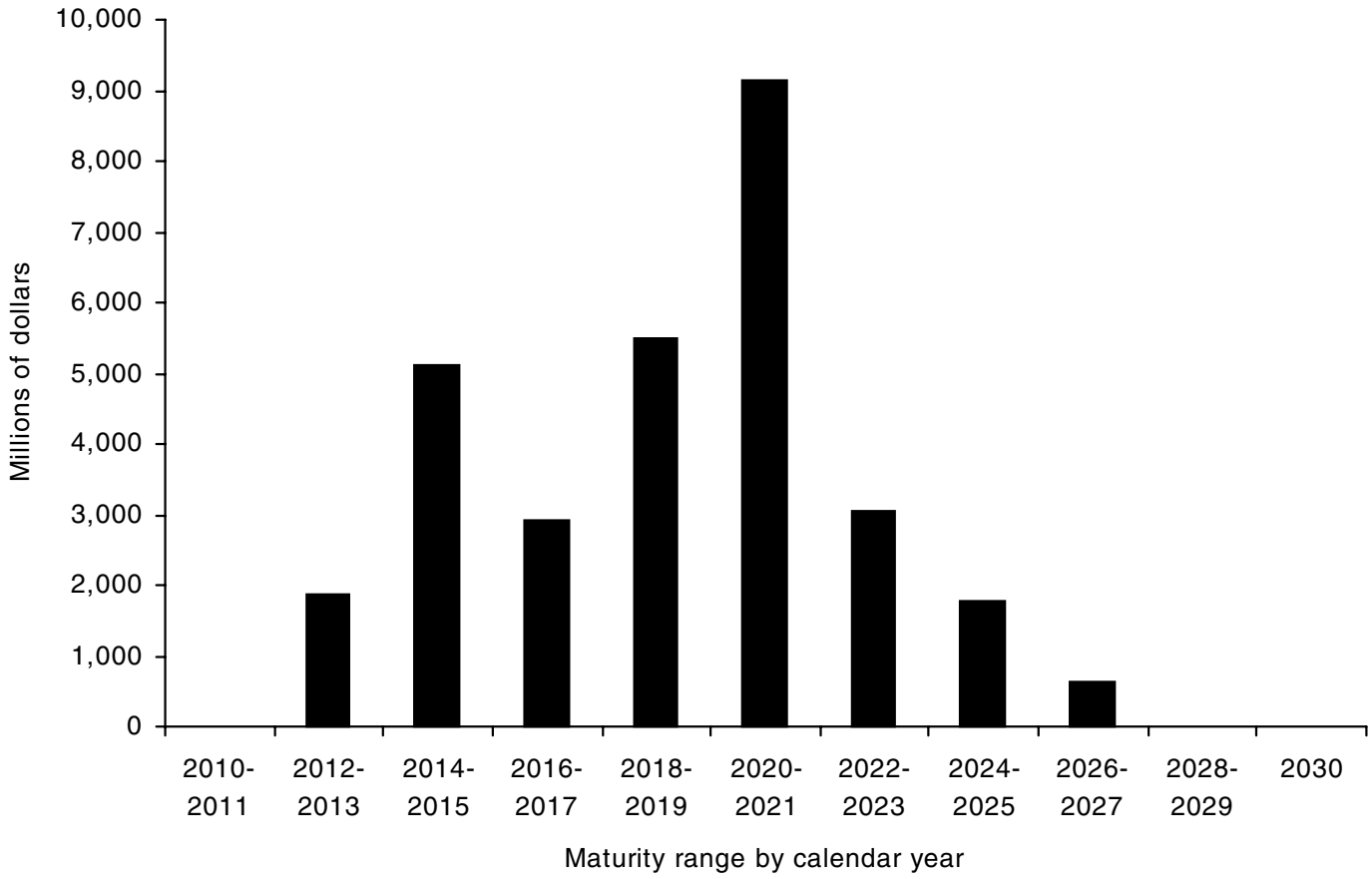
The Treasury's buybacks have targeted bonds maturing between 2010 and 2026. On August 2, 2000, the Treasury announced it would start including callable bonds in the buyback program. The three buybacks of callable bonds conducted in calendar year 2000 targeted bonds with final maturity dates from 2010 through 2014. The Treasury targeted these callable bonds for buyback because of their relatively long maturities.

The August 24, 2000, buyback of $0.8 billion (plus $0.3 billion in premium) was the first to include callable bonds. The buyback consisted entirely of callables because isolating buybacks of callable bonds facilitates pricing. Since then, the buybacks on September 28 and November 16, 2000, also targeted callable bonds. These auctions had higher market participation than recent buybacks of noncallable securities.

The results of the buybacks through the end of December 2000 are shown in appendix 2. In each buyback operation, the Treasury specifies the maturity ranges of securities it will consider buying back. Figure 9 shows the distribution of the securities bought back in terms of their maturity dates. The buybacks have been concentrated in issues maturing in three narrow ranges, namely, 2020 to 2021, 2018 to 2019, and 2014 to 2015.

[13] In a reverse auction, market participants submit offers and the Treasury accepts the most competitive offers.

Figure 9: Buybacks in Calendar Year 2000: Amount Bought Back by Maturity



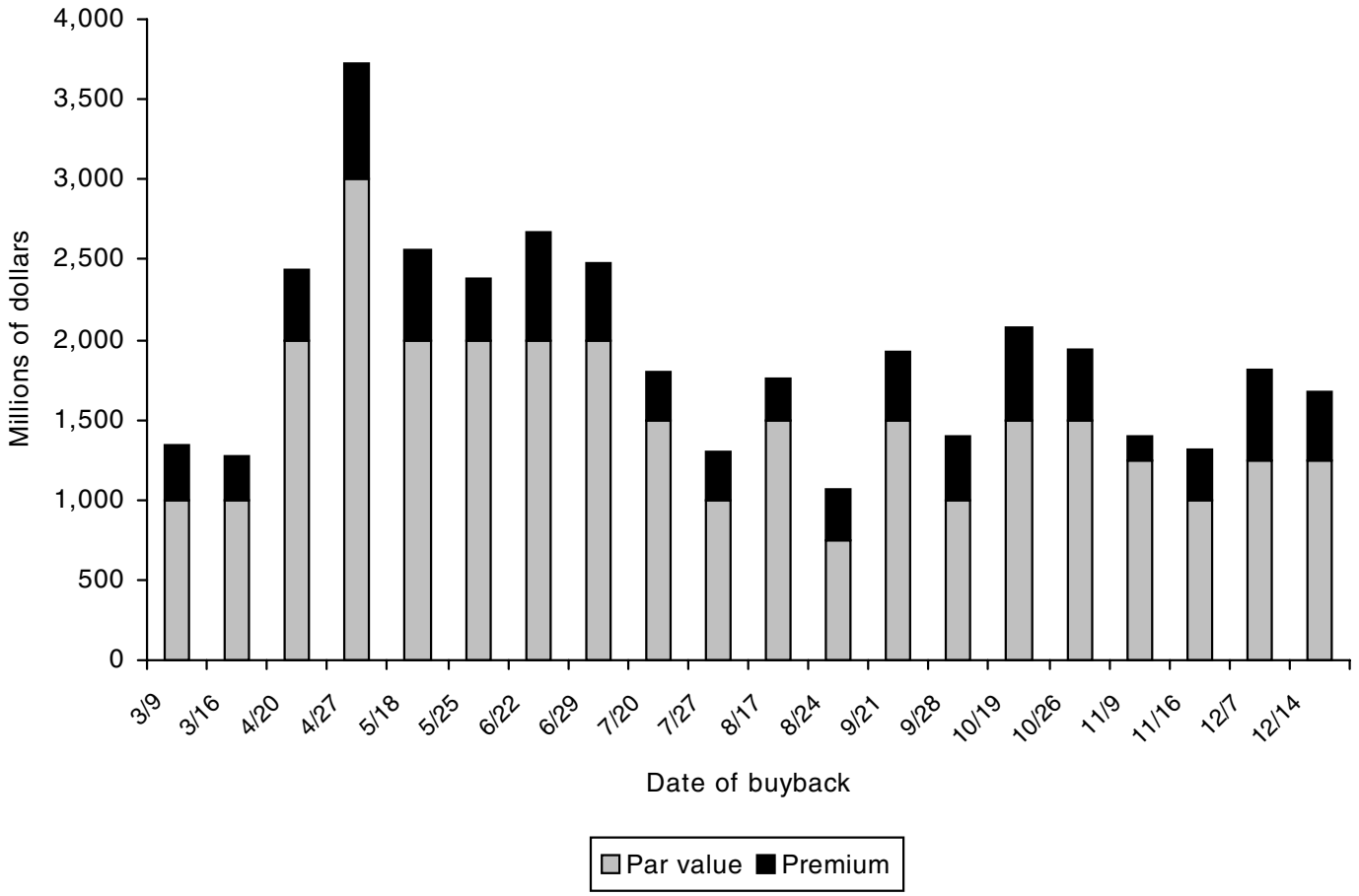
Source: Department of the Treasury.

In calendar year 2000, the Treasury completed 20 reverse auctions and bought back $30 billion (par value) in bonds for which it paid a premium of $8.3 billion (for a total of $38.3 billion).[14] (See figure 10.) The premium is essentially the amount paid above the bonds' par or face value. However, the prices paid by the Treasury could also reflect other market-driven

[14] In January 2001, the Treasury conducted two buybacks—the par amount bought back was $2.75 billion and the premiums paid totaled $751 million. The buyback on January 25, 2001, was for callable bonds.

factors such as a bond's increasing scarcity, overcoming the reluctance of some long-term investors to sell, and the fact that some less-liquid bonds could become less desirable. Market analysts have suggested that the Treasury's ability to perform debt buybacks at a reasonable cost could become more difficult as the debt available for repurchasing shrinks and Treasury investors demand higher bond premiums. The premium is treated in the federal budget as a "means of financing other than borrowing from the public;" that is, the amount is reflected as a use of cash but is not included in budget totals.

Figure 10: Debt Buybacks, Calendar Year 2000



Source: Department of the Treasury.

Figure 11 shows the 20 buyback operations varied in terms of size, number of issues included, market participation, and cost. The size of buyback operations in calendar year 2000 ranged from $750 million in par value for bonds in three issues to $3 billion for bonds in 24 issues. A measure of market interest and participation in the buybacks is indicated by the "bid-to-cover" ratio. The bid-to-cover ratio is the par value of securities offered to the Treasury divided by the par value of the securities that Treasury bought back. This ratio indicates the volume of offers the Treasury had to select from at each buyback operation. While this ratio fluctuated, Treasury officials told us that the bid-to-cover ratio for buybacks have generally been larger than the ratio for auctions of Treasury securities, indicating market interest in the buybacks.

Also included in figure 11 is a cost measure used by private market participants called the "average concession." The average concession is the difference between the price of a security on the morning of the buybacks and the price paid by the Treasury, in this case measured in basis points (one basis point equals one one-hundredth of a percent or 0.0001). The average concession could be used to indicate whether Treasury paid more or less than other buyers. A positive average concession could indicate securities were bought back at higher than market price, while a negative number could indicate below market price. Figure 11 shows that while there was variation across the 20 buyback operations, generally the average concession was small or negative. For example, for the first buyback the average concession was 0.36 basis points which, when multiplied by the total price paid by the Treasury of $1.345 billion, equates to $48,420.[15]

Market analysts have raised the question of whether there was an "announcement effect" that increased the premium the Treasury paid to buy back debt. While comparing the price the Treasury paid and the market price of the securities the day of the purchase measures the price asked by the markets for buybacks, there may have been an announcement effect dating back as far as the Treasury's August 1999 release of draft regulations for a buyback program. Quantifying this effect

[15] Treasury officials explained that the "bid" and "ask" prices could also be used as indicators to determine whether the transaction was conducted at a fair market price. The "bid-ask" spread is defined as the difference between the highest price a potential buyer is willing to pay (the bid price) and lowest price the potential seller is willing to accept (the ask price). Treasury officials stated that the prices paid in the buybacks have fallen within the bid-ask spreads observed in the market, indicating that the Treasury has been paying fair market prices.

is quite difficult because its effect on prices of coupon securities cannot be isolated from that of other economic factors such as changes in monetary policy and announcements of budget projections, inflation, unemployment, and other data.

Figure 11: Debt Buybacks, Calendar Year 2000

Date of buyback	3/9	3/16	4/20	4/27	5/18	5/25	6/22	6/29	7/20	7/27	8/17	8/24	9/21	9/28	10/19	10/26	11/09	11/16	12/07	12/14
Number of issues offered	13	11	14	26	12	13	12	13	8	6	11	10	11	10	10	11	11	10	11	9
Number of issues accepted	9	11	12	24	10	12	11	11	7	5	8	3	10	2	9	9	10	3	6	7
Average concession (basis points)	0.36	0.23	-0.13	1.52	-0.18	-0.4	0.18	0.3	0.14	-0.08	-0.03	0.29	0.31	0.66	0.03	0.24	0.19	0.3	-0.04	0.16
Bid-to-cover ratio	8.63	6.45	4.26	3.61	4.56	4.06	3.67	3.51	2.96	3.64	4.59	6.60	3.93	5.66	3.19	3.54	3.84	4.90	3.99	3.35
Total price paid by the Treasury ($ millions)	1,345	1,268	2,431	3,724	2,556	2,380	2,678	2,478	1,803	1,300	1,760	1,068	1,917	1,394	2,075	1,935	1,398	1,313	1,810	1,670

Notes

The average concession data was obtained from Goldman, Sachs & Co., and were calculated as the difference in basis points between the price of an issue at about 11 a.m. on the day the buyback is implemented and the price paid by the Treasury.

Basis point: one basis point equals one one-hundredth of a percent point or 0.0001.

Bid-to-cover: a ratio of the par value of securities offered to the Treasury divided by the par value of the securities the Treasury bought back.

Sources: Department of the Treasury and Goldman, Sachs & Co.

Future Debt Management Challenges

While the national economy and budget will benefit substantially from sustained surpluses, surpluses have and will continue to pose challenges to the Treasury's debt management. Declining levels of debt prompt the need to make choices on how to allocate debt reduction across the full maturity range of securities. In addition, both declining amounts of Treasury securities as well as shifts in composition affect the use of Treasury securities as benchmarks to price other financial transactions. Although markets tend to adjust to these shifts over time, changes are not seamless or without cost. In fact, capital market participants have begun using alternative benchmarks as pricing tools for transactions; investors

have begun to include other fixed-income instruments in their portfolios; and some government-sponsored enterprises have increased their issuance of securities to appeal to investors in Treasury securities with the aim of becoming an alternative benchmark.

As debt held by the public continues to shrink, there will be greater pressure on the Treasury to further concentrate debt into fewer issues to maintain deep and liquid markets. Moreover, the Treasury ultimately may be forced to reassess its issuance of nonmarketable securities, such as the state and local government series. The Federal Reserve Bank System currently has a study underway to examine what debt instruments might be used to replace U.S. Treasury securities for use in the Federal Reserve's open market operations.[16]

Surplus Available for Debt Reduction May Exceed Amount of Debt Maturing

Analysts have estimated that the United States will reach a point within this decade when the Treasury will be unable to fully use annual budget surpluses to either redeem maturing debt or buy back outstanding debt at a reasonable price. A number of sources have estimated this point but all of these estimates occur in a fairly narrow time frame—from a private market projection of 2004[17] to the CBO's January 2001 estimate of 2006. This point will occur well before the level of zero debt held by the public is reached, and the resulting accumulation of cash will require decisions about what to do with these cash balances.

We completed four simulations to identify the potential range of dates in which annual budget surpluses could not be fully used to reduce debt. The estimates of the dates vary by debt management choices and the size of the budget surplus.[18] In the first simulation we assume the Treasury uses

[16] On July 5, 2000, the Federal Reserve announced that it was placing limits on the amount of an issue it acquires and holds. The new investment guidelines would effectively reduce the Federal Reserve's holdings of the most liquid—referred to as "on-the-run"—Treasury securities, thus allowing a larger portion of these securities to remain available to private investors.

[17] Salomon Smith Barney, *Bond Market Roundup: Strategy,* January 5, 2001, pages 9-18.

[18] In simulations 1 and 2 we used CBO's estimates of the total budget surplus. In simulations 3 and 4 we used CBO's estimates of the off-budget surplus and assumed that the on-budget surplus would not be available for debt reduction or accumulating cash (for example, it would be allocated to tax cuts and/or spending increases). In the two simulations in which we maintained current benchmark securities (the first and third simulations mentioned above), we assumed that the Treasury would gradually reduce both the auction frequency and issue size of the benchmark securities. In all four simulations, we assumed a declining level of debt buybacks over the 10-year period.

the total budget surplus to reduce debt and continues to issue debt in current benchmark securities (albeit at lower levels). The first simulation showed that cash accumulation would start in 2005.

In the second simulation we assumed that Treasury uses the total budget surplus for debt reduction and eventually stops issuing debt in all but the shortest-term borrowing—effectively eliminating the debt market for most new issues and rollovers. These assumptions postpone the start of cash accumulation by one year to 2006.

In the third simulation we found that cash accumulation would begin in 2009 if the Treasury maintained current benchmark securities at lower levels and used only the off-budget (mostly Social Security Trust Fund) surpluses to reduce debt. In our final simulation, we assumed again that only the shortest-term borrowing was maintained and that just the off-budget surplus was used to reduce debt. In this last simulation we found that cash accumulation would begin in 2011.

All of these estimates put the time at which maturing debt is less than the surplus within the next 10 years. This event is significant because when the United States reaches this point, policymakers will face a decision about how to deal with the excess cash balances. Today the Treasury cannot legally invest operating cash in assets other than tax and loan accounts and obligations of the U.S. government for purposes of cash management;[19] therefore, the Congress will need to consider what other types of assets it might be beneficial for the U.S. government to hold.[20]

Governments in some countries—for example, Norway, Australia, and New Zealand—have decided to maintain a government securities market (by keeping a certain level of gross debt) in order to maintain a role for the central government in the domestic and international debt markets and/or to facilitate potentially higher levels of borrowing in the future.

[19] The Treasury is authorized for cash management purposes to invest any portion of its operating cash for periods of up to 90 days in obligations of depository institutions that maintain collateralized Treasury tax and loan accounts and obligations of the United States government. There are other statutes that authorize the Treasury to invest in other obligations, such as foreign currency and securities, for the purpose specified in the law that created the Exchange Stabilization Fund. The Treasury can also hold cash in a non-interest-bearing account at the Federal Reserve.

[20] See *Social Security Financing: Implications of Government Stock Investing for the Trust Fund, the Federal Budget, and the Economy* (GAO/AIMD/HEHS-98-74, April 22, 1998) for a discussion of the issues surrounding government investment in equities.

Consequently, they have begun to acquire and hold financial assets, although the type of the financial assets differs among countries. However, the United States may face a more difficult challenge than did these nations because U.S. debt reduction is projected to be much larger and the time horizon is projected to be much faster. Nevertheless, examining the experiences of these nations can be useful.

As these other nations already have done, the United States will face progressively harder choices and more difficult debt management trade-offs. Continuing the reduction in outstanding debt means the Treasury will face increasing pressure with regard to two of its goals—lowest borrowing cost and efficient markets. As debt continues to fall, the Treasury will be hard pressed to continue to promote liquid markets for its securities and to keep cost at a minimum. Further, analysts estimate that if surplus projections hold the United States will reach a point within 10 years when the Treasury will be unable to fully use the annual budget surpluses to either redeem maturing debt or buy back outstanding debt at a reasonable price. U.S. policymakers will have to address the questions sooner rather than later of whether and how to maintain a domestic debt market and whether and how to hold and invest excess cash.

We are sending copies of this report to Representative Charles B. Rangel, Ranking Member, House Committee on Ways and Means; Representative Robert T. Matsui, Ranking Member, Social Security Subcommittee; Senator Kent Conrad, Ranking Democrat, Senate Committee on the Budget, the Honorable Paul O'Neill, Secretary of the Treasury; and other interested parties. We will also make copies available to others upon request.

If you or your staff have any questions concerning this letter, please contact me at (202) 512-9573. Key contributors to this assignment were Thomas James, Jose Oyola, Carolyn Litsinger, and Melinda Bowman.

Paul L. Posner
Managing Director
Federal Budget Issues, Strategic Issues

Outstanding U.S. Treasury Marketable Securities, by Year of Maturity (or Callable Date), as of 9/30/2000

(Dollars in billions)

	Bills			Notes				Bonds		Inflation Indexed		
FY	13-week	26-week	52-week	2-yr	3-yr	5-yr	10-yr	20-yr	30-yr	Notes	Bonds	Total
01	$179	$317	$120	$241	$44	$162	$48	$5				$1,115
02				149		200	60	4	4	18		434
03						136	52	13	4			203
04						73	41	15	10			139
05						61	58	22	10			151
06							69	5	9			84
07							75		5	17		97
08							41		26	18		84
09							67		10	17		94
10							36		6	12		53
11												0
12												0
13												0
14												0
15									18			18
16									32			32
17									49			49
18									8			8
19									45			45
20									38			38
21									32			32
22									42			42
23									50			50
24												0
25									34			34
26									24			24
27									33			33
28									34		18	52
29									33		15	49
30									17			17
Total	$179	$317	$120	$390	$44	$631	$546	$63	$573	$82	$33	$2,977

Source: Department of the Treasury.

U.S. Treasury Debt Buybacks, Calendar Year 2000

(Dollars in millions)

		Buyback date										
Coupon	Maturity date	3/9	3/16	4/20	4/27	5/18	5/25	6/22	6/29	7/20	7/27	8/17
11.75	02/15/05-10*											
10	05/15/05-10*											
12.75	11/15/05-10*											
13.875	05/15/06-11*											
14	11/15/06-11*											
10.375	11/15/07-12*											
12	08/15/08-13*											
13.25	05/15/09-14*											
12.5	08/15/09-14*											
11.75	11/15/09-14*											
11.25	02/15/15	160			164	145		175				
10.625	08/15/15	352			72	318		662				
9.875	11/15/15	125			65	326		228				
9.25	02/15/16	93			40	222		45				
7.25	05/15/16	0			0	0		0				
7.5	11/15/16	0			0	10		10				
8.75	05/15/17	148			155	385		242				
8.875	08/15/17	53			55	479		65				
9.125	05/15/18	20	28		330	12		55				
9	11/15/18	25	383		461	100		205				
8.875	02/15/19	25	90		150	0	247	137	423		568	
8.125	08/15/19	0	15		57	4	25	176	60		0	
8.5	02/15/20	0	24	1	48		122		25		5	
8.75	05/15/20		155	225	25		330		180		125	
8.75	08/15/20		221	441	77		317		494		235	
7.875	02/15/21		60	100	116		62		11	240	67	
8.125	05/15/21		5	100	230		122		60	351		
8.125	08/15/21		10	260	205		235		210	320		
8	11/15/21		10	0	65		95		152	209		291
7.25	08/15/22			0	4		10		0	25		25
7.625	11/15/22			100	215		305		270	280		235
7.125	02/15/23			48	156		130		115	75		280
6.25	08/15/23			75	140		0		0	0		25
7.5	11/15/24			335	35							330
7.625	02/15/25			100	75							14
6.875	08/15/25			215	60							300
6	02/15/26											0
6.75	08/15/26											0
6.5	11/15/26											0
6.625	02/15/27											
6.375	08/15/27											
6.125	11/15/27											
5.5	08/15/28											
5.25	11/15/28											
5.25	02/15/29											
6.125	08/15/29											
6.25	05/15/30											
Total		1,000	1,000	2,000	3,000	2,000	2,000	2,000	2,000	1,500	1,000	1,500

Note: * indicates that the security is a callable security – the dates shown are the earliest call date and the final maturity date.

Source: Department of the Treasury.

(Dollars in millions)

		Buyback date									
Coupon	Maturity date	8/24	9/21	9/28	10/19	10/26	11/9	11/16	12/7	12/14	Total amout bought back
11.75	02/15/05-10*	0		0				0			0
10	05/15/05-10*	0		0				0			0
12.75	11/15/05-10*	0		0				0			0
13.875	05/15/06-11*	0		0				0			0
14	11/15/06-11*	0		0				0			0
10.375	11/15/07-12*	0		0				580			580
12	08/15/08-13*	230		726				340			1,296
13.25	05/15/09-14*	173		274				80			527
12.5	08/15/09-14*	347		0				0			347
11.75	11/15/09-14*	0		0				0			0
11.25	02/15/15				220				453		1,317
10.625	08/15/15				305				225		1,934
9.875	11/15/15				230				0		974
9.25	02/15/16				55				10		465
7.25	05/15/16				0				0		0
7.5	11/15/16				20				0		40
8.75	05/15/17		90		208				110		1,338
8.875	08/15/17		115		118				203		1,088
9.125	05/15/18		307		340				249		1,341
9	11/15/18		165		5				0		1,344
8.875	02/15/19		170			380			0		2,190
8.125	08/15/19		20			0				262	619
8.5	02/15/20		0			25				61	311
8.75	05/15/20		225			250				270	1,785
8.75	08/15/20		188			300				273	2,546
7.875	02/15/21		38			5				0	699
8.125	05/15/21		182			160				30	1,240
8.125	08/15/21					5				235	1,480
8	11/15/21					125				120	1,067
7.25	08/15/22					0				0	64
7.625	11/15/22					250	200				1,855
7.125	02/15/23						90				894
6.25	08/15/23						0				240
7.5	11/15/24						243				943
7.625	02/15/25						60				249
6.875	08/15/25						20				595
6	02/15/26						67				67
6.75	08/15/26						70				70
6.5	11/15/26						10				10
6.625	02/15/27						170				170
6.375	08/15/27						320				320
6.125	11/15/27										0
5.5	08/15/28										0
5.25	11/15/28										0
5.25	02/15/29										0
6.125	08/15/29										0
6.25	05/15/30										0
Total		750	1,500	1,000	1,500	1,500	1,250	1,000	1,250	1,250	30,005

Note: * indicates that the security is a callable security – the dates shown are the earliest call date and the final maturity date.

Source: Department of the Treasury.

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