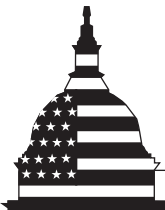


February 2011

DEBT LIMIT

Delays Create Debt Management Challenges and Increase Uncertainty in the Treasury Market



G A O

Accountability * Integrity * Reliability

Why GAO Did This Study

GAO has prepared this report to assist Congress in identifying and addressing debt management challenges. Since 1995, the statutory debt limit has been increased 12 times to its current level of \$14.294 trillion. The Department of the Treasury (Treasury) recently notified Congress that the current debt limit could be reached as early as April 5, 2011, and the Congressional Budget Office (CBO) projects that under current law debt subject to the limit will exceed \$25 trillion in 2021.

This report (1) describes the actions that Treasury traditionally takes to manage debt near the limit, (2) analyzes the effects that approaching the debt limit has had on the market for Treasury securities, and (3) describes alternative mechanisms that would permit consideration of the link between policy decisions and the effect on debt when or before decisions are made. GAO analyzed Treasury and market data; interviewed Treasury officials, budget and legislative experts, and market participants; and reviewed practices in selected countries.

What GAO Recommends

To avoid potential disruptions to Treasury markets and help inform fiscal policy decisions in a timely way, Congress should consider ways to better link decisions about the debt limit with decisions about spending and revenue.

Treasury provided technical comments on a draft of this report, which GAO incorporated as appropriate.

View [GAO-11-203](#) or key components. For more information, contact Susan J. Irving at (202) 512-6806 or irvings@gao.gov or Gary T. Engel at (202) 512-3406 or engelg@gao.gov.

DEBT LIMIT

Delays Create Debt Management Challenges and Increase Uncertainty in the Treasury Market

What GAO Found

The debt limit does not control or limit the ability of the federal government to run deficits or incur obligations. Rather, it is a limit on the ability to pay obligations already incurred.

While debates surrounding the debt limit may raise awareness about the federal government's current debt trajectory and may also provide Congress with an opportunity to debate the fiscal policy decisions driving that trajectory, the ability to have an immediate effect on debt levels is limited. This is because the debt reflects previously enacted tax and spending policies.

Delays in raising the debt limit create debt and cash management challenges for the Treasury, and these challenges have been exacerbated in recent years by a large growth in debt. In the past, Treasury has often used extraordinary actions, such as suspending investments or temporarily disinvesting securities held in federal employee retirement funds, to remain under the statutory limit. However, the extraordinary actions available to the Treasury have not kept pace with the growth in borrowing needs. For example, unlike the past, the amount potentially provided by the extraordinary actions for 1 month in fiscal year 2010 was less than the monthly increase in debt subject to the limit for most months of the year. As a result, once debt reaches the limit, Congress will likely have less time than in prior years to debate raising the debt limit before there are disruptions to government programs and services. This trend is likely to continue given the long-term fiscal outlook.

Failure to raise the debt limit in a timely manner could have serious negative consequences for the Treasury market and increase borrowing costs. Also, some of the actions that Treasury has taken to manage the amount of debt near the limit add uncertainty to the Treasury market. In the past, Treasury has postponed auctions and dramatically reduced the amount of bills outstanding, which compromised the regularity of auctions and the certainty of supply on which Treasury relies to achieve the lowest borrowing cost over time. GAO's analysis suggests that borrowing costs modestly increased during debt limit debates in 2002, 2003, and most recently in 2010.

In addition, managing debt near the debt limit diverts Treasury's limited resources away from other cash and debt management issues at a time when Treasury already faces challenges in lengthening the average maturity of its debt portfolio.

Observers and participants suggested improving the link between the spending and revenue decisions that drive debt and changes in the debt limit. Better alignment could be possible if decisions about the debt level occur in conjunction with spending and revenue decisions as opposed to the after-the-fact approach now used. This practice, which is similar to practices used in some other countries, might facilitate efforts to change the fiscal path by highlighting the implications of tax and spending decisions on changes in debt.

Contents

Letter

	1
Background	3
Increased Borrowing and Limited Borrowing Capacity Provided by Extraordinary Actions Create Debt Management Challenges	10
Approaching the Debt Limit Can Add Uncertainty in the Treasury Market	18
Experts and Practices of Other Countries Offer Insights for Better Linking Policy Decisions with Their Effect on Debt	27
Conclusions	32
Matter for Congressional Consideration	34
Agency Comments	34

Appendix I

Objectives, Scope, and Methodology	36
---	----

Appendix II

Detailed Methodology and Findings of Statistical Analysis of Treasury Borrowing Costs near the Debt Limit	40
--	----

Appendix III

GAO Contacts and Staff Acknowledgments	46
---	----

Tables

Table 1: Extraordinary Actions Taken by Treasury to Manage Debt near the Debt Limit	7
Table 2: Estimated Borrowing Capacity Provided by Extraordinary Actions	11
Table 3: Average Operating Cash Balance Less Supplementary Financing Program Account Balance, Fiscal Years 2003- 2010	14
Table 4: Postponed Auctions and Delayed Auction Announcements, 1995-2010	19
Table 5: Variables Used in Multivariate Regression	42
Table 6: Regression Results for Debt Limit Event Periods from Fiscal Year 2002 to 2010	43

Figures

Figure 1: Extraordinary Actions Taken by Treasury Prior to Debt Limit Increases, 1995-2010	9
Figure 2: Estimated Borrowing Capacity Provided by Extraordinary Actions Based on a 1-Month DISP Relative to Actual Monthly Changes in Debt Subject to the Limit for Select Years	13
Figure 3: Daily Change in Net Cash Flows during Recent Debt Limit Event Period, August 7, 2009, to February 12, 2010	16
Figure 4: Supply of Treasury Bills Decreased Sharply during Debt Limit Event	22
Figure 5: Spreads between Yields of 3-Month Commercial Paper and 3-Month Treasury Bills Were Lower during the 2009–2010 Debt Limit Event Period	24
Figure 6: Trends in Treasury’s CDS Spreads Were Consistent with Trends in the Yield Spread for the 2009–2010 Debt Limit Event	26

Abbreviations

BPD	Bureau of the Public Debt
CBO	Congressional Budget Office
CDS	credit default swap
CPFF	Commercial Paper Funding Facility
CM bill	cash management bill
CSRDF	Civil Service Retirement and Disability Fund
DISP	debt issuance suspension period
ESF	Exchange Stabilization Fund
FFB	Federal Financing Bank
G-Fund	Government Securities Investment Fund of the Federal Employees' Retirement System
GDP	gross domestic product
IMF	International Monetary Fund
LIBOR	London interbank offer rate
Moody's	Moody's Investors Service
ODM	Office of Debt Management
OECD	Organisation for Economic Co-operation and Development
OFP	Office of Fiscal Projections
Recovery Act	American Recovery and Reinvestment Act of 2009
Secretary	Secretary of the Treasury
SFP	Supplementary Financing Program
SLGS	State and Local Government Series
TARP	Troubled Asset Relief Program
TIPS	Treasury Inflation-Protected Securities
Treasury	Department of the Treasury
VIX	Chicago Board Options Exchange's Volatility Index

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



G A O

Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

February 22, 2011

Report to the Congress

Congress and the President have enacted laws to establish a limit on the amount of federal debt that can be outstanding at one time. The debt limit does not restrict Congress' ability to enact spending and revenue legislation that affect the level of debt or otherwise constrain fiscal policy; it restricts the Department of the Treasury's (Treasury) authority to borrow to finance the decisions enacted by the Congress and the President. As a result, as the government nears the debt limit, Treasury often must deviate from its normal cash and debt management operations and take a number of extraordinary actions such as temporarily disinvesting securities held as part of federal employees' retirement plans to meet the government's obligations as they come due without exceeding the debt limit. Once the extraordinary actions are exhausted, Treasury is not authorized to issue new debt and could be forced to delay payments for government services or operations until funding is available and could eventually be forced to default on legal debt obligations.

Since 1995, the statutory debt limit has been increased 12 times to its current level of \$14.294 trillion. Treasury recently notified Congress that the current debt limit could be reached as early as April 5, 2011, and the Congressional Budget Office (CBO) projects that, if current laws remain in place, debt subject to the limit will exceed \$25 trillion in 2021. Meanwhile, GAO's long-term simulations show that absent policy changes, federal debt will increase continually over the next several decades. The medium- and long-term outlook for the federal budget makes an understanding of the operations and implications of the debt limit important.

GAO has prepared this report under the Comptroller General's authority to conduct evaluations on his own initiative as part of a continuing effort to assist Congress in identifying and addressing debt management challenges. This report examines the challenges associated with managing cash and debt near the limit. Specifically, the objectives of this report are to (1) describe the actions that Treasury has taken to manage debt near the limit and challenges that arise, (2) analyze the effects that approaching the debt limit has on the market for Treasury securities, including Treasury's borrowing costs, and (3) in light of the disconnect between the debt limit and the policy decisions that have an effect on the size of federal debt, describe alternative triggers or mechanisms that would permit

consideration of the link between policy decisions and their effect on debt when or before decisions are made.

To answer our first objective, we analyzed publicly available data on Treasury cash and debt transactions from the last 16 years (1995-2010) to identify factors that could create challenges for Treasury in managing debt near or at the limit. We reviewed documents provided by Treasury, interviewed Treasury officials, and obtained estimates of the time and staff involved in planning for when the debt limit will be reached and related operations. We conducted a check for reasonableness of these estimates.

To determine what effect approaching the debt limit had on the Treasury market, we analyzed changes in the size and timing of Treasury auctions when debt was near or at the limit. Our review generally covered the last 16 years—or as many of those years for which data were readily available—in order to include both a particularly disruptive debt limit debate in 1995-1996 that required Treasury to take a number of extraordinary actions and the most recent debt limit increase. We interviewed several market participants and observers, including primary dealers, money market fund managers, and credit rating agencies, to obtain their views on how the debt limit and the actions Treasury takes to manage the amount of debt when it is near the debt limit affect the Treasury market. We analyzed changes in the yields for Treasury securities before, during, and after five of the debt limit debates in the past 10 years, including the most recent in 2009-2010, to determine how proximity to the debt limit affected Treasury's borrowing costs. See appendix II for more details on how we estimated increased borrowing costs including limitations to our analysis.

To identify alternative triggers or other mechanisms, we interviewed budget and legislative experts including former congressional staff; former CBO, Office of Management and Budget, and Treasury officials; and other congressional observers from a range of policy research organizations. We also reviewed information from select member countries of the Organisation for Economic Co-operation and Development (OECD) and received input from budget or debt office representatives from Canada, Denmark, New Zealand, Sweden, Switzerland, and the United Kingdom about mechanisms used in their countries to manage aggregate levels of debt. We selected these countries based on a review of relevant reports and other information published by the OECD and International Monetary Fund (IMF). While selected countries offer illustrative examples, their experiences are not always applicable to the United States given differences in political systems and economies.

To assess the reliability of the data used in this report, including financial markets data downloaded from Thomson Reuters' proprietary statistical database, Datastream, and IHS Global Insight and publicly available data from Treasury and the Federal Reserve, we examined the data to look for outliers and anomalies and, when possible, compared data from multiple sources for consistency. In general, we chose databases that were commonly used by Treasury and researchers to monitor changes in federal debt and related transactions. On the basis of our assessment we believe the data are sufficiently reliable for the purpose of this review.

We conducted our work from December 2009 to January 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Congress and the President first enacted a statutory limit on federal debt during World War I to eliminate the need for Congress to approve each new debt issuance and provide Treasury with greater discretion over how it finances the government's day-to-day borrowing needs. Federal debt subject to the limit includes both debt held by the public and debt held by government accounts (intragovernmental debt holdings). The majority of debt held by the public consists of marketable Treasury securities, such as bills, notes, bonds, and Treasury Inflation-Protected Securities (TIPS), that are sold through auctions and can be resold by whoever owns them. Treasury also issues a smaller amount of nonmarketable securities, such as savings securities and special securities for state and local governments. Debt held by the public primarily represents the amount the federal government has borrowed to finance cumulative cash deficits. Intragovernmental debt holdings represent balances of Treasury securities held in government accounts such as the Social Security trust funds. It increases when these accounts run a surplus or accrue interest on existing

securities.¹ Debt subject to the limit increased from roughly \$43 billion in 1940 to more than \$13,000 billion (or \$13 trillion) in 2010.

In the past, Congress has sought to link decisions about the level of debt to those about the level of federal spending and revenue by integrating changes to the debt limit into the larger budget process. For example, the Congressional Budget Act of 1974 requires that Congress include the levels of debt implied by the spending and revenue levels in the budget resolution for the next 5 years and allows for specific estimates of the increase in debt subject to the limit.² Until recently, the House of Representatives had a rule that automatically generated a joint resolution considered to have been passed in the House changing the debt limit by the amount recommended in the budget resolution for the next fiscal year.³ The Congressional Budget Act as amended also established an alternative procedure for changing the debt limit through reconciliation legislation that is subject to expedited procedures. Despite these rules and procedures, Congress usually votes on the debt limit after fiscal policy decisions affecting federal borrowing have begun to take effect.

Debt limit increases frequently involve protracted debate, regardless of prior votes on the budget resolution or other legislation that increases the need to borrow. This debate often occurs when federal debt is near or at the debt limit. Three pieces of legislation enacted to respond to the financial market crisis and economic downturn are recent exceptions—in each of these the debt limit was increased by roughly the amount the legislation was expected to increase debt. For example, in addition to spending and revenue provisions, the American Recovery and Reinvestment Act of 2009 (Recovery Act) increased the debt limit by \$789

¹A very small amount of total federal debt is not subject to the debt limit. This amount is primarily comprised of unamortized discounts on Treasury bills and Zero Coupon Treasury bonds; debt securities issued by agencies other than Treasury, such as the Tennessee Valley Authority; and debt securities issued by the Federal Financing Bank. As of September 30, 2010, 99.5 percent of federal debt was subject to the debt limit.

²Budget resolutions are concurrent resolutions, which are not presented to the President for his signature and do not become law. Therefore, debt limit increases must be passed as part of separate legislation such as a bill or joint resolution.

³This was House Rule XXVIII in the 111th Congress but was not included in the House Rules for the 112th Congress.

billion from \$11,315 billion to \$12,104 billion.⁴ Federal debt at the time of enactment was more than \$600 billion below the limit.

Treasury's normal cash management operations involve ensuring that there is enough cash on hand to pay government obligations as they come due. Treasury has two primary sources of funds to finance these obligations: (1) revenue collections, such as federal tax revenues and other fees the federal government imposes and (2) cash borrowed from the public through auctions of marketable securities. One of Treasury's goals is to finance the government's borrowing needs at the lowest cost over time by, among other things, issuing a wide range of securities in a regular and predictable pattern.⁵ Treasury currently issues bills that mature in a year or less, notes with maturities of 2 to 10 years, and bonds with maturities of greater than 10 years. Treasury also issues 5-year, 10-year, and 30-year TIPS, which offer inflation protection to investors who are willing to pay a premium for this protection in the form of lower interest rates.⁶ Treasury does not "time the market"—or seek to take advantage of low interest rates—when it issues securities. Instead, Treasury strives to lower its borrowing costs over time by relying on a regular preannounced schedule of auctions.

Treasury holds cash in its operating cash balance in an account at the Federal Reserve and in accounts at depository institutions across the country. Treasury can draw down its operating cash balance as debt approaches the limit, which allows Treasury to temporarily make payments without increasing the amount of debt subject to the limit.

⁴Pub. L. No. 111-5. The other acts were the Housing and Economic Recovery Act of 2008 (Pub. L. No. 110-289) and the Emergency Economic Stabilization Act of 2008 (Pub. L. No. 110-343).

⁵We have issued a number of prior reports on Treasury's efforts to achieve this goal including more recently *Debt Management: Treasury Was Able to Fund Economic Stabilization and Recovery Expenditures in a Short Period of Time, but Debt Management Challenges Remain*, GAO-10-498 (Washington, D.C.: May 18, 2010), *Debt Management: Treasury Inflation Protected Securities Should Play a Heightened Role in Addressing Debt Management Challenges*, GAO-09-932 (Washington, D.C.: Sept. 29, 2009), and *Debt Management: Treasury Has Refined Its Use of Cash Management Bills but Should Explore Options That May Reduce Cost Further*, GAO-06-269 (Washington, D.C.: Mar. 30, 2006).

⁶See <http://www.gao.gov/special.pubs/longterm/debt/>, which updates information in *Federal Debt: Answers to Frequently Asked Questions: An Update*, GAO-04-485SP (Washington, D.C.: Aug. 12, 2004).

However, cash balances in its account at the Federal Reserve must be kept at a sufficient level to avoid overdrawing this account since the Federal Reserve System cannot legally lend directly to the Treasury.

The issuance of cash management bills (CM bills) provides another way for Treasury to manage more closely the amount of additional debt subject to the limit. CM bills are flexible securities that Treasury issues outside of its regular preannounced auction schedule. Treasury sets the amount and time to maturity to meet its immediate borrowing needs at the time.⁷ Issuing CM bills allows Treasury to borrow cash for shorter periods than regular bills to help manage the uncertainty around the timing of increases to the debt limit. However, our past work showed that Treasury paid a premium, in the form of higher yields, for CM bills relative to regular bills.⁸

There are also a number of extraordinary actions currently available to Treasury to avoid exceeding the debt limit. These actions reduce uncertainty over future increases in debt subject to the limit or reduce the amount of debt subject to the limit. Table 1 provides an overview of each one. Two of these actions relate to the Civil Service Retirement and Disability Fund (CSRDF), which is the trust fund for two federal retirement plans that hold nonmarketable securities. To take these actions, Treasury must declare in advance a debt issuance suspension period (DISP)—a period in which Treasury determines that it cannot issue debt without exceeding the debt limit. Another four actions can be taken without first declaring a DISP.

⁷Treasury generally uses CM bills to finance intramonth funding gaps due to timing differences of large cash inflows and outflows but has also used them in recent years to raise funds for the Supplementary Financing Program—a temporary program begun in 2008 to assist the Federal Reserve with its monetary policy.

⁸For information on the costs associated with issuing CM bills, see [GAO-06-269](#) and [GAO-10-498](#).

Table 1: Extraordinary Actions Taken by Treasury to Manage Debt near the Debt Limit

Extraordinary actions that do not require the declaration of a DISP	
Suspension of new issuances of State and Local Government Series (SLGS) Securities	SLGS are special securities offered to state and local governments and other issuers of tax-exempt bonds. Suspending new SLGS issuances reduces uncertainty over future increases in debt subject to the limit. Suspending SLGS issuances eliminates a flexible, low-cost option that state and local government issuers have frequently used when refinancing their existing debt before maturity. Suspending new SLGS issuances is generally the first extraordinary action Treasury takes to manage debt near the debt limit.
Exchanging Federal Financing Bank (FFB) debt for debt subject to the limit	FFB is a government corporation under the general supervision and direction of the Secretary of the Treasury, which borrows from the Treasury to finance purchases of agency debt and agency guaranteed debt. It can also issue up to \$15 billion of its own debt—FFB 9(a) obligations—that is not subject to the debt limit. This debt can be exchanged with other federal debt (e.g., securities held by the CSRDF) to reduce the amount of debt subject to the limit.
Suspension of investments to the Government Securities Investment Fund of the Federal Employees' Retirement System (G-Fund) ^a	The G-Fund contains contributions made by federal employees toward their retirement as part of the Thrift Savings Plan program, which are invested in special one-day nonmarketable Treasury securities that are subject to the limit. As debt nears the limit and the Secretary determines that the G-Fund may not be fully invested without exceeding the debt limit, Treasury can suspend investment for the entire amount or a portion of the G-Fund on a daily basis to reduce debt subject to the limit. Treasury is required to restore lost interest on the G-Fund's uninvested funds after the debt limit has been increased. ^b
Suspension of Exchange Stabilization Fund (ESF) Investments	The ESF is used to help provide a stable system of monetary exchange rates. Dollar-denominated assets of the ESF not used for program purposes are generally invested in one-day nonmarketable Treasury securities that are subject to the debt limit. When debt approaches the limit, Treasury can suspend investment for the entire amount or a portion of the ESF's maturing nonmarketable Treasury securities. Treasury is not authorized to restore lost interest to the ESF when the debt limit is increased.
Extraordinary actions that require the declaration of a DISP	
Suspension of new CSRDF investments ^c	Once debt reaches the debt limit, Treasury is able to suspend investment of new receipts to the CSRDF. To do so, Treasury must send a letter notifying Congress that CSRDF receipts cannot be invested without exceeding the debt limit (i.e., declaring a DISP). Treasury is required to make the CSRDF whole after the DISP has ended.
Disinvestment of securities held by CSRDF ^c	Once debt reaches the debt limit, Treasury is able to disinvest Treasury securities held by the CSRDF. To do so, Treasury must send a letter notifying Congress that it will not be able to issue debt securities without exceeding the debt limit and provide the expected length of the DISP, which Treasury uses to determine the amount of CSRDF investments that can be disinvested. Treasury is required to restore lost interest after the DISP has ended.

Source: GAO.

^aUnder 5 U.S.C. § 8438(g), to repay lost interest on suspended G-Fund investments, Treasury must declare a separate DISP unrelated to the actions taken involving the CSRDF. The Secretary is required to notify Congress when a G-Fund DISP begins but is not required to determine the length of a G-Fund DISP in advance. For the purposes of this report, we use the term DISP to refer to the authorities that Treasury has related to the CSRDF under 5 U.S.C. § 8348(j) unless otherwise specified.

^b5 U.S.C. § 8438(g).

^c5 U.S.C. § 8348(j).

Since 1995, the debt limit has been increased 12 times. Prior to 6 of these, Treasury had to take one or more extraordinary actions to avoid

exceeding the debt limit. Figure 1 shows when the debt limit was increased and the extraordinary actions that were used.

- Prior to five of the six debt limit increases between 1996 and 2006, Treasury took extraordinary actions, including declaring a DISP.
- During the period immediately preceding the debt limit increase in August 1997, Treasury did not take any extraordinary actions.
- The federal government ran budget surpluses in fiscal years 1998 through 2001. Debt subject to the limit increased by \$293 billion during this period, but no increases to the debt limit were required.
- During the period immediately preceding the debt limit increase in September 2007, Treasury suspended the issuance of SLGS but did not take any other extraordinary actions or declare a DISP.
- In 2008 and 2009, three laws that were expected to increase the amount of debt held by the public included corresponding increases in the debt limit at the time of enactment.
- In December 2009 and February 2010, Treasury avoided taking extraordinary actions as debt approached the limit in part by allowing the Treasury securities it issued for the Supplementary Financing Program (SFP)—a temporary program begun in 2008 at the request of the Federal Reserve to drain reserves from the banking system and assist with its emergency liquidity and lending initiatives—to mature without rolling them over.

Figure 1: Extraordinary Actions Taken by Treasury Prior to Debt Limit Increases, 1995-2010

		March 29, 1996	August 5, 1997	June 28, 2002	May 27, 2003	November 19, 2004	March 20, 2006	September 29, 2007	July 30, 2008	October 3, 2008	February 17, 2009	December 28, 2009	February 12, 2010	Total number of times used since 1996
Extraordinary actions that do not require the declaration of a DISP	Suspension of new issuances of SLGS	✓		✓	✓	✓	✓	✓						6
	Exchanging FFB debt for debt subject to the limit ^a	✓			✓	✓								3
	Suspension of G-Fund investments	✓		✓	✓	✓								5
	Suspension of ESF investments	✓			✓	✓	✓							4
Extraordinary actions that require the declaration of a DISP	Suspension of new CSRDF investments	✓		✓	✓	✓								5
	Disinvestment of securities held by CSRDF	✓		✓	✓	✓								5

Source: GAO.

^aThe 1996 transaction did not involve FFB issuing FFB 9(a) obligations. Instead, FFB exchanged other financial assets—namely loans to federally chartered entities—that were also exempt from the debt limit for securities held by the CSRDF that were subject to the debt limit.

If debt is at the limit and the extraordinary actions are exhausted, Treasury may not issue debt without further action from Congress and could be forced to delay payments until sufficient funds become available. In the past, Congress and the Secretary of the Treasury have taken additional actions beyond those described above when necessary to ensure that the government paid its obligations as they came due without breaching the debt limit. For example, in 1996, Congress passed and the President signed legislation allowing Treasury to issue securities temporarily excluded from the debt limit in an amount equal to the March 1996 Social Security payments to ensure that benefit payments were made on time.⁹

⁹Pub. L. No. 104-103 (Feb. 8, 1996).

Treasury has never been unable to pay interest or principal on debt held by the public because of the debt limit. Treasury, credit rating agencies, and others agree that failure to pay principal or interest on Treasury securities because of the debt limit could have costly consequences for the U.S. government and financial markets including higher future borrowing costs for Treasury and the public; stress on the value of the dollar in currency markets; and major disruptions in capital markets due to the repricing of products, services, and transactions dependent on an efficiently functioning Treasury market.

Increased Borrowing and Limited Borrowing Capacity Provided by Extraordinary Actions Create Debt Management Challenges

Extraordinary Actions Provide Less Borrowing Capacity Relative to Borrowing Needs Than They Did in the Past

The borrowing capacity provided by the extraordinary actions has grown in size but has not kept pace with the growth in Treasury's borrowing needs. The amount potentially provided by the extraordinary actions for a 1-month DISP in fiscal year 2010 was less than the monthly increase in debt subject to the limit for most months of the year. As of August 31, 2010, the extraordinary actions available to Treasury could provide about \$147.5 billion in additional borrowing capacity without a DISP and an additional \$7.7 billion per month based on the length of the DISP declared. As table 2 shows, the amounts available from suspending G-Fund investments, suspending ESF investments and the disinvestment of CSRDF funds have all grown—with the bulk of the growth in the G-Fund. G-Fund growth results from an increase in federal employee retirement funds being invested in Treasury securities. However, the estimated total borrowing capacity provided by extraordinary actions available without a DISP is still \$15 billion below Treasury's average monthly borrowing needs in fiscal year 2010, which was over \$162 billion, and only 44 percent of the largest single monthly increase in debt subject to the limit, which was over \$330 billion. Treasury officials stated that there are no additional

extraordinary actions within their legal authorities that could be prudently used in the future to create additional borrowing capacity.

Table 2: Estimated Borrowing Capacity Provided by Extraordinary Actions

Dollars in billions

Extraordinary action	Fiscal year			
	2002	2005	2006	2010
Extraordinary actions that do not require the declaration of a DISP				
Exchanging FFB debt for debt that is subject to the limit ^a	\$0.0	\$1.0	\$1.0	\$4.8
Suspension of G-Fund investments	44.0	62.6	72.2	122.3
Suspension of ESF investments	9.8	15.2	15.6	20.4
Subtotal—extraordinary actions available without declaring a DISP	\$53.8	\$78.8	\$88.8	\$147.5
Extraordinary actions that require the declaration of a DISP (amount per month based on the length of the DISP declared)				
Suspension of new CSRDF investments ^b	1.7	2.0	2.1	2.0
Disinvestment of securities held by the CSRDF	4.0	4.6	4.8	5.7
Total	\$59.6	\$85.3	\$95.8	\$155.2

Source: GAO and Department of the Treasury.

Notes: These estimates represent an approximation of the additional borrowing capacity provided by the extraordinary actions as of August 31st of each year—the last month in the fiscal year for which data are typical of most months of the year. They do not reflect the actual amount of borrowing capacity Treasury obtained by taking extraordinary actions in any given year.

^aSome or all of the \$15 billion in FFB 9(a) securities that FFB can issue were already exchanged for debt subject to the limit.

^bTreasury can also suspend large investments to the CSRDF that are made three times a year. In June and December, Treasury makes semiannual interest payments to the CSRDF and in September, Treasury makes a onetime investment in the CSRDF for financing the unfunded liability of new and increased annuity benefits. These amounts would be added to the monthly averages calculated above.

Some of the options used in the past are either more limited or no longer available. FFB has the authority to issue up to \$15 billion in securities that are not subject to the debt limit that it can exchange for other Treasury securities to reduce the amount of debt subject to the limit. However, some or all of these FFB securities may be outstanding from previous transactions, including those made to manage the amount of debt subject to the limit in the past, and therefore unavailable. For example, as of August 31, 2010, the exchange of FFB securities for other Treasury securities could provide less than \$5 billion in additional borrowing capacity under the debt limit. In the past, FFB reversed these transactions by redeeming FFB 9(a) obligations prior to maturity once the debt limit was raised. However, Treasury officials said they no longer reverse these transactions because of the potential costs FFB and its counterparties

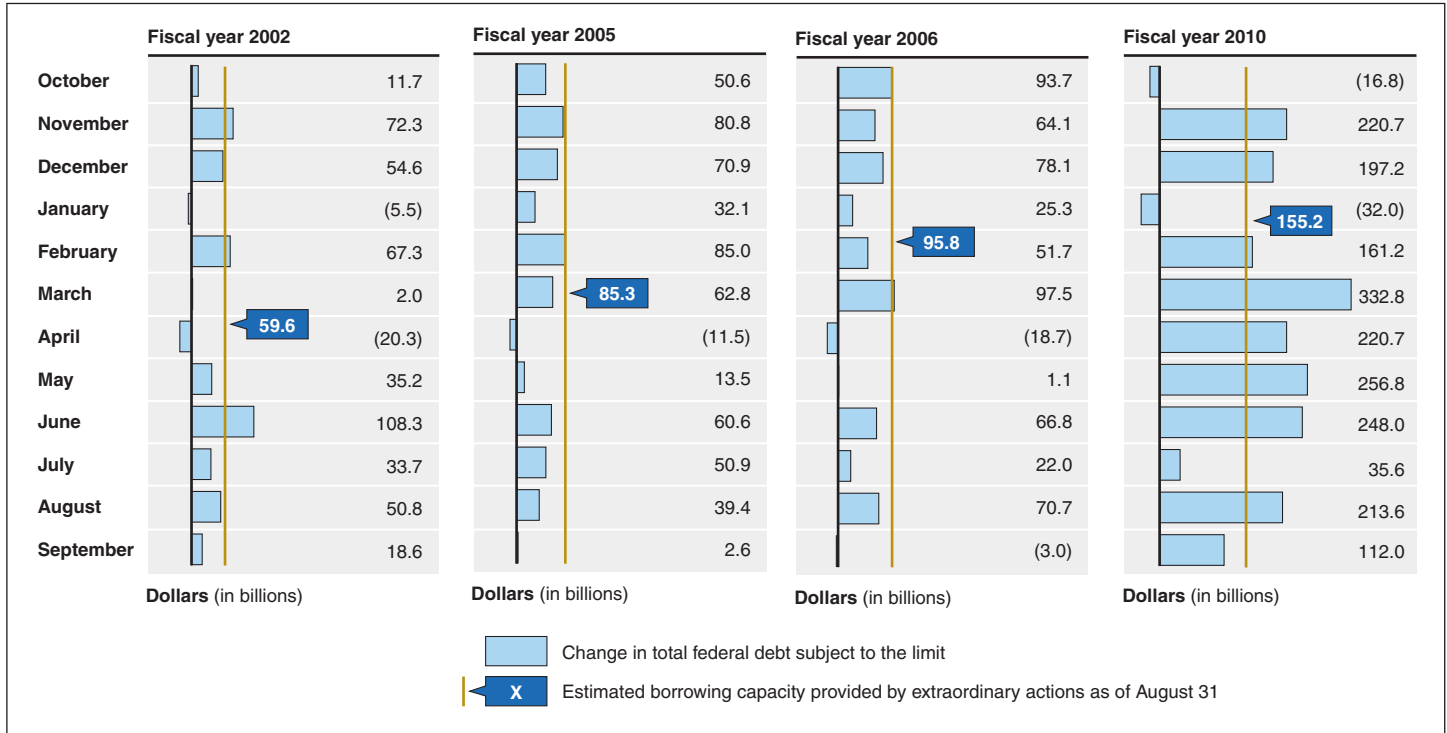
could incur as a result.¹⁰ Also, until March 2004, Treasury kept “compensating balances” in non-interest-bearing accounts at banks to compensate them for collecting federal receipts for the Treasury. This allowed Treasury to call back tens of billions of dollars when needed to pay obligations and avoid breaching the debt limit.¹¹ Since these compensating balances were replaced in March 2004 by direct payment to banks for services, this option is no longer available.

Assuming current borrowing trends, our estimates show that the borrowing capacity provided by the extraordinary actions would be sufficient to meet the government’s borrowing needs for as little as a few days to a few weeks during certain times of the year. This means that once debt approaches the debt limit, Treasury may not be able to manage the amount of debt subject to the limit for as long a period of time as it had in the past before the debt limit must be increased or payments must be delayed. Figure 2 below shows the estimated borrowing capacity provided by these actions for a 1-month DISP relative to the monthly change in debt subject to the limit for fiscal year 2010 and 3 previous fiscal years in which Treasury took extraordinary actions. The amount potentially provided by the extraordinary actions for a 1-month DISP in fiscal year 2010 was less than the monthly increase in debt subject to the limit in 8 of the 12 months. In contrast, in earlier years, the potential borrowing capacity provided by the extraordinary actions was greater than the monthly increase in debt subject to the limit in almost all months.

¹⁰For additional information on the costs associated with past transactions, see GAO, *Debt Ceiling: Analysis of Actions Taken during the 2003 Debt Issuance Suspension Period*, GAO-04-526 (Washington, D.C.: May 20, 2004).

¹¹Treasury also called back compensating balances after a cancellation of a 4-week bill auction the week of September 11, 2001, to help meet its obligations on time.

Figure 2: Estimated Borrowing Capacity Provided by Extraordinary Actions Based on a 1-Month DISP Relative to Actual Monthly Changes in Debt Subject to the Limit for Select Years



Source: GAO analysis of Treasury data.

The actions available without declaration of a DISP could potentially provide \$147.5 billion (as of Aug. 31, 2010), but the amount of time that these actions provide before debt reaches the limit depends on a number of factors. For instance, debt subject to the limit increases sharply certain days of the year. Treasury makes semiannual interest payments on a large amount of debt held in government accounts on the last day of June and December.¹² During the recent debt limit debate in early fiscal year 2010, debt increased by more than \$165 billion in a single day—December 31—because of \$81 billion in net nonmarketable securities issuances, including

¹²Interest payments on debt held in government accounts are credited to government accounts and do not require additional borrowing from the public, but the investment of these interest payments is subject to the debt limit.

interest payments to government accounts,¹³ as well as \$84 billion in net marketable securities issuances.

Another factor that determines the amount of time that Treasury is able to manage debt near the debt limit is the size of Treasury's operating cash balance. Treasury can draw down its operating cash balance to pay obligations rather than increase borrowing. While the size of Treasury's operating cash balance routinely fluctuates throughout the year depending on the timing of withdrawals and deposits, table 3 shows that Treasury's average operating cash balance was roughly twice as high in fiscal year 2009 and fiscal year 2010 as it was in the previous 6 fiscal years. From December 15, 2009, to February 11, 2010, when debt was approaching the debt limit, Treasury's operating cash balance (excluding the SFP account balance) rarely fell below \$90 billion.¹⁴ Higher cash balances helped ensure that Treasury had enough cash available to make large disbursements on short notice. Treasury officials explained that higher cash balances were not related to the debt limit but rather to regular and predictable financing patterns coupled with large receipts and expenditures related to the Troubled Asset Relief Program (TARP), Recovery Act, and other legislation to address the financial crisis and the economic downturn.

Table 3: Average Operating Cash Balance Less Supplementary Financing Program Account Balance, Fiscal Years 2003-2010

Dollars in billions								
Fiscal year	2003	2004	2005	2006	2007	2008	2009	2010
Average operating cash balance	17.9	20.5	25.9	26.4	30.6	24.9	58.9	57.7

Source: GAO analysis of Treasury data.

The amount of additional borrowing capacity provided by disinvesting CSRDF securities depends on the length of the DISP declared by the Secretary.¹⁵ For past DISPs, the Secretary determined the amount of disinvestments based on the length of the DISP and the estimated monthly

¹³The increase in nonmarketable debt on December 31, 2009, includes roughly \$18 billion in interest payments on debt held by the CSRDF trust fund that Treasury could choose to suspend during a DISP.

¹⁴Cash held in the Treasury's Supplementary Financing Program account is excluded because it has not been used to finance federal expenditures.

¹⁵The amount of disinvestment of securities held by CSRDF is determined based on the length of the declared DISP, which affects the total amount of the available extraordinary actions.

CSRDF benefit payments that would occur during this time. For example, Treasury declared a DISP from May 16 to June 28, 2002, and disinvested about \$4 billion in Treasury securities held by the CSRDF. This amount was roughly equal to the amount that would have been needed to make 1 month's worth of Civil Service benefit payments. Similarly, Treasury declared a 12-month DISP in November 1995 and disinvested \$39.8 billion in Treasury securities held by the CSRDF, roughly the equivalent of 12 months' worth of benefit payments. The statute does not require that disinvestments be made only for the purpose of making CSRDF benefit payments. However, Treasury cannot disinvest additional securities later to make those benefit payments. As a result, the amount provided by the CSRDF declines over the period of the DISP. In the past 16 years, the Secretary of the Treasury declared DISPs ranging from 14 days to 14 months. The period of time between the declaration of a DISP and the debt limit increase ranged from 1 day to 4-½ months.

Treasury Diverts Resources from Other Priorities to Manage Debt near the Limit

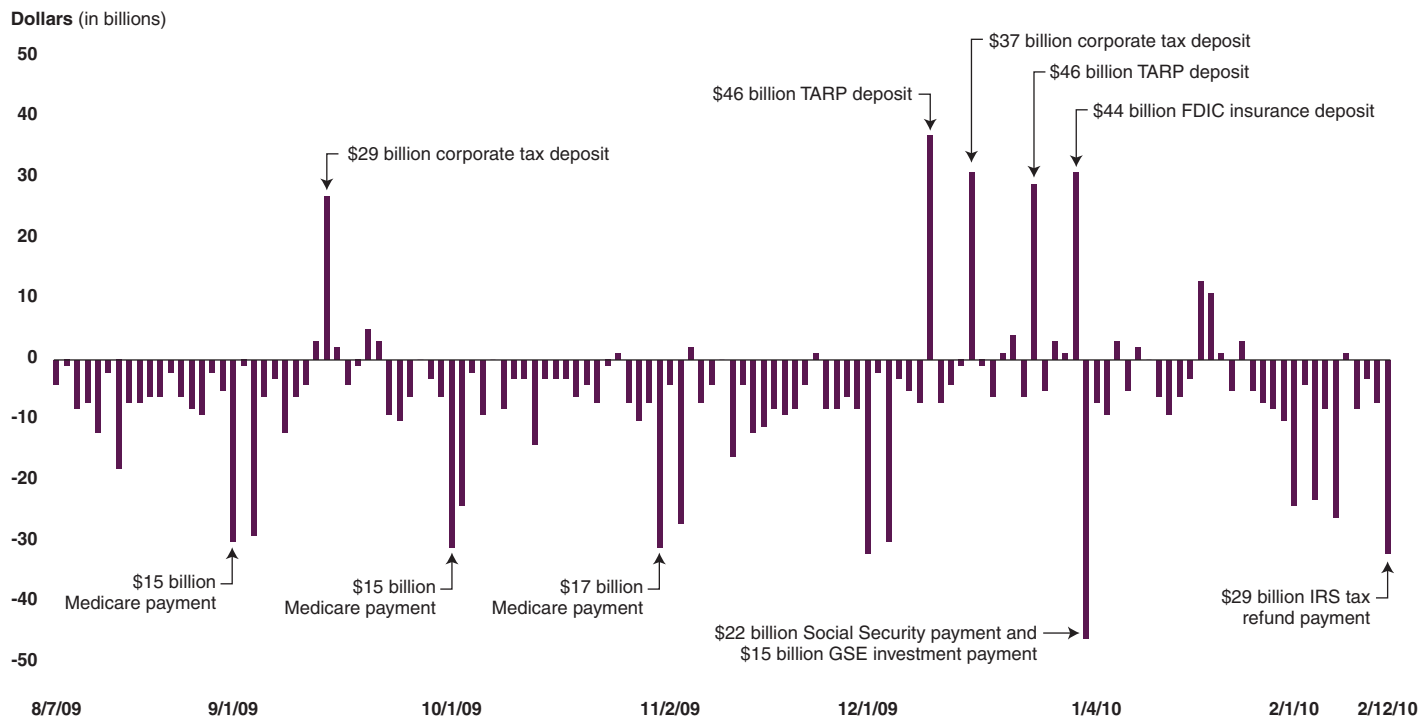
Debt and cash management require more time and Treasury resources as debt nears the debt limit. The size and timing of auctions must be adjusted when nearing the debt limit; cash and borrowing needs must be forecasted and monitored with increasing frequency and in increasing detail; and contingency plans and alternative scenarios for the possible implementation of extraordinary actions must be developed, reviewed, and tested. These activities divert time and Treasury resources from other cash and debt management issues. We reviewed estimates provided by the Office of Debt Management (ODM), the Office of Fiscal Projections (OFP), and the Bureau of the Public Debt (BPD) that overall indicated they devoted as much as several hundred hours per week to managing debt near the debt limit.

Treasury's operational focus on the debt limit begins as early as 6 to 9 months before the debt limit is expected to be reached and increases as debt nears the limit. Since this work involves contingency planning, it is undertaken whether or not the debt limit is raised prior to the use of extraordinary actions or the declaration of a DISP. For example, Treasury staff develop projections under multiple scenarios of when debt might reach the debt limit. As debt nears the debt limit, these projections and scenarios are developed weekly, then daily, and finally as often as multiple times a day. According to Treasury, these projections and scenarios may take 3 of OFP's 11 staff members between 2 to 4 hours per day to produce.

While Treasury needs accurate cash-flow forecasts to project changes in the amount of debt subject to the limit, the precision and frequency

increases when debt is near or at the limit. While large regular and predictable payments and receipts—such as Medicare and Social Security payments and receipts from corporate taxes—cause predictable swings in daily deposits and withdrawals, an official from OFP said that it was uncertainty about other revenue and irregular payments that made planning and forecasting more difficult as debt approached the debt limit in fiscal year 2010. For example, as figure 3 shows, Treasury received an influx of repayments of more than \$90 billion from financial institutions under TARP in December 2009. However, since Treasury did not know for certain when these payments would be received, Treasury officials ran multiple projections of when the debt limit would be reached.

Figure 3: Daily Change in Net Cash Flows during Recent Debt Limit Event Period, August 7, 2009, to February 12, 2010



Source: GAO analysis of Treasury data.

Note: Net cash flow is equal to deposits less withdrawals. This excludes federal debt transactions including noncash transactions involving debt held in government accounts such as large regularly occurring interest payments in late December.

Treasury uses the projections of debt subject to the limit not only for operational scenarios but also in meetings to inform senior Treasury officials—including the Secretary. These meetings also increase in

frequency from monthly to as often as daily as debt approaches the limit. The meetings, which have included 10 or more executives and senior career staff, are used to discuss strategies for managing debt near the debt limit including the potential use of extraordinary actions. According to Treasury, these meetings can require several hours of preparation. While Treasury officials and staff can draw on previous experiences managing debt near the debt limit, they told us that each debt limit event presents new and different issues to be considered and addressed; in addition, there are often senior officials who have not been through the experience and must be fully briefed and prepared.

BPD—the bureau within Treasury that is responsible for implementing the extraordinary actions and the accounting associated with those transactions—also dedicates extensive resources on operations related to the debt limit. BPD estimates that a 2-month DISP results in roughly 1,900 hours of work including the time spent before, during, and after the debt limit increase. This includes more than 400 hours in the 6 weeks prior to the implementation of any extraordinary actions spent on meetings to prepare for when the debt limit is reached, preparation of parallel accounts and spreadsheets in the event that extraordinary actions involving the G-Fund and CSRDF are used, tests of the accounting system, and a mock auction to practice and verify procedures for potential auction postponements. BPD also estimates that it spends in excess of 140 hours on debt limit–related activities each week once the first extraordinary action is taken, and over 270 hours on activities such as unwinding past transactions and preparing reports after the debt limit has been increased. The increased workload could result in overtime hours for BPD employees.

Treasury officials said that the increased focus on debt limit–related operations in the months and weeks approaching the debt limit can divert time and attention from other tasks that could improve Treasury operations. For example, according to Treasury, OFP is able to spend less time working to update or improve the models it uses in routine forecasting of tax receipts, expenditures, and borrowing needs. Similarly, Treasury officials said that ODM is able to spend less time analyzing short-term financing needs that could help inform auction amounts. Both of these activities help Treasury more accurately project future borrowing needs to avoid the following:

(1) Borrowing more than is needed to fund the government’s immediate needs, which results in increased interest costs.

(2) Borrowing less than is sufficient to maintain Treasury's operating cash balance at a minimum level through regularly scheduled issuances of marketable Treasury securities. This may require Treasury to issue CM bills with little advance notice to the market, resulting in potentially higher interest costs for the federal government.

Approaching the Debt Limit Can Add Uncertainty in the Treasury Market

Postponed Auctions and Other Disruptions May Lead to Increased Borrowing Costs

Some of the actions Treasury takes to manage the amount of debt as it approaches the debt limit disrupt the regular and predictable auction schedule that Treasury relies on to promote liquid markets and finance the government's borrowing needs at the lowest cost over time. Regular and predictable auctions provide investors greater certainty and better information with which to plan their investments. Meanwhile, a liquid market allows investors to more easily buy and sell Treasury securities in the secondary market. Market participants that we spoke with said that any actions that Treasury takes to manage debt as it approaches the limit that cause Treasury to deviate from its otherwise regular and predictable schedule or reduce liquidity introduce uncertainty into the Treasury market and have the potential to increase Treasury's borrowing costs.

Since 1995, Treasury delayed the announcement of 17 regularly scheduled auctions by 1-½ hours to 7 business days and postponed the auction date for 11 auctions by as many as 8 business days (see table 4). Treasury also reduced the offering size of a 13-week bill by \$7 billion after the initial auction announcement in October 1995 in order to stay under the debt limit. These actions introduced uncertainty into the market for Treasury securities, and in some circumstances may have increased borrowing costs.

Table 4: Postponed Auctions and Delayed Auction Announcements, 1995-2010

Type of Security	Originally scheduled announcement date	Date of actual auction announcement	Original auction date	Actual auction date	Length of delay in announcement (business days)	Length of auction postponement (business days)
3-year note	11/1/1995	11/13/1995	11/7/1995	11/20/1995	7	8
10-year note	11/1/1995	11/13/1995	11/8/1995	11/21/1995	7	8
52-week bill	11/2/1995	11/13/1995	11/9/1995	11/15/1995	6	3
2-year note	6/19/2002	6/28/2002	6/26/2002	6/28/2002	7	2
13-week bill	6/27/2002	6/28/2002	7/1/2002	7/1/2002	1	0
26-week bill	6/27/2002	6/28/2002	7/1/2002	7/1/2002	1	0
13-week bill	5/15/2003	5/19/2003	5/19/2003	5/20/2003	2	1
26-week bill	5/15/2003	5/19/2003	5/19/2003	5/20/2003	2	1
4-week bill	5/19/2003	5/19/2003	5/20/2003	5/21/2003	—	1
13-week bill	5/22/2003	5/27/2003	5/27/2003	5/28/2003	2	1
26-week bill	5/22/2003	5/27/2003	5/27/2003	5/28/2003	2	1
2-year note	5/22/2003	5/27/2003	5/28/2003	5/29/2003	2	1
4-week bill	11/15/2004	11/19/2004	11/16/2004	11/19/2004	4	3
13-week bill	11/18/2004	11/19/2004	11/22/2004	11/22/2004	1	0
26-week bill	11/18/2004	11/19/2004	11/22/2004	11/22/2004	1	0
2-year note	11/18/2004	11/19/2004	11/23/2004	11/23/2004	1	0
13-week bill	3/16/2006	3/16/2006	3/20/2006	3/20/2006	0 ^a	0
26-week bill	3/16/2006	3/16/2006	3/20/2006	3/20/2006	0 ^a	0

Source: GAO analysis of Treasury data

^aTreasury's auction announcement release time was delayed from 11:00 a.m. to 12:30 p.m.

Treasury officials and market participants both stated that postponing the announcement or auction of longer-dated securities such as notes and bonds is more disruptive to the Treasury market than postponing shorter-dated securities such as bills. This is due in part to the fact that dealers generally require additional time to work with customers and secure financing for note and bond auctions. There is generally about a week between the announcement of a note auction and the actual auction. The announcement of a 2-year note auction was delayed 7 business days in 2002, reducing the time that dealers had to prepare bids from 5 business days to less than 1. This auction had the lowest bid-to-cover ratio—the ratio of dollar value of bids at auction to the amount accepted—for any 2-year note auction since these data began to be recorded in 1998. It is difficult to say with certainty how much in additional interest Treasury paid because of the postponement of this auction. Based on one estimate

that assumes that the rate on the note would have been roughly equal to the constant maturity rate, or the closing rate on actively traded Treasury securities maturing at the same time on the day that the auction actually took place, Treasury paid an additional 7 basis points—or 0.07 percentage points—on the \$27 billion in 2-year notes issued that day. This equals almost \$19 million in additional interest costs each year. Based on an alternative estimate that assumes that Treasury would have received the prevailing interest rate on 2-year notes in the secondary market on the day that the auction was originally scheduled to take place, the increased interest costs would be even greater.

The level of disruption resulting from a postponed auction depends in part on how early Treasury forewarns the market. Unlike the 2-year note auction in 2002, Treasury discussed the prospect of postponing a 3-year note and a 10-year note auction with members of the Treasury Borrowing Committee at its regular committee meeting a week before the original auction date and released the auction announcement a week before the postponed auction took place. The yields at the subsequent auctions on November 20 and 21, 1995 were roughly the same as the constant maturity rate for each maturity on the day of the auction.

Auctions that are postponed beyond the maturity date of a previously issued security can cause significant disruptions. Treasury generally makes the actual exchange of Treasury securities for cash—the settlement—a few days or more after the auction. Settlements frequently occur around the same time that previously issued securities are maturing. This allows Treasury to refund maturing securities—to use some or all of the cash that it raised in the auction to redeem maturing securities. It also allows investors to easily roll over, or reinvest, cash received from maturing securities in newly issued securities. Treasury stated that when the settlement date of a new security is moved past the maturity date of a previously issued security, investors are unable to rollover their investments in a timely way. As a result, they may choose to invest in a financial instrument other than Treasury securities. This could affect auction demand. Most of the postponed auctions in the past 16 years were delayed by only 1 to 3 days and therefore did not affect the refunding of maturing securities. However, in November 1995, the 3- and 10-year note auctions intended to refund notes maturing on November 15, 1995, were postponed past the maturity date. In this instance, Treasury bridged the gap between the maturity and settlement date by auctioning a short-term CM bill.

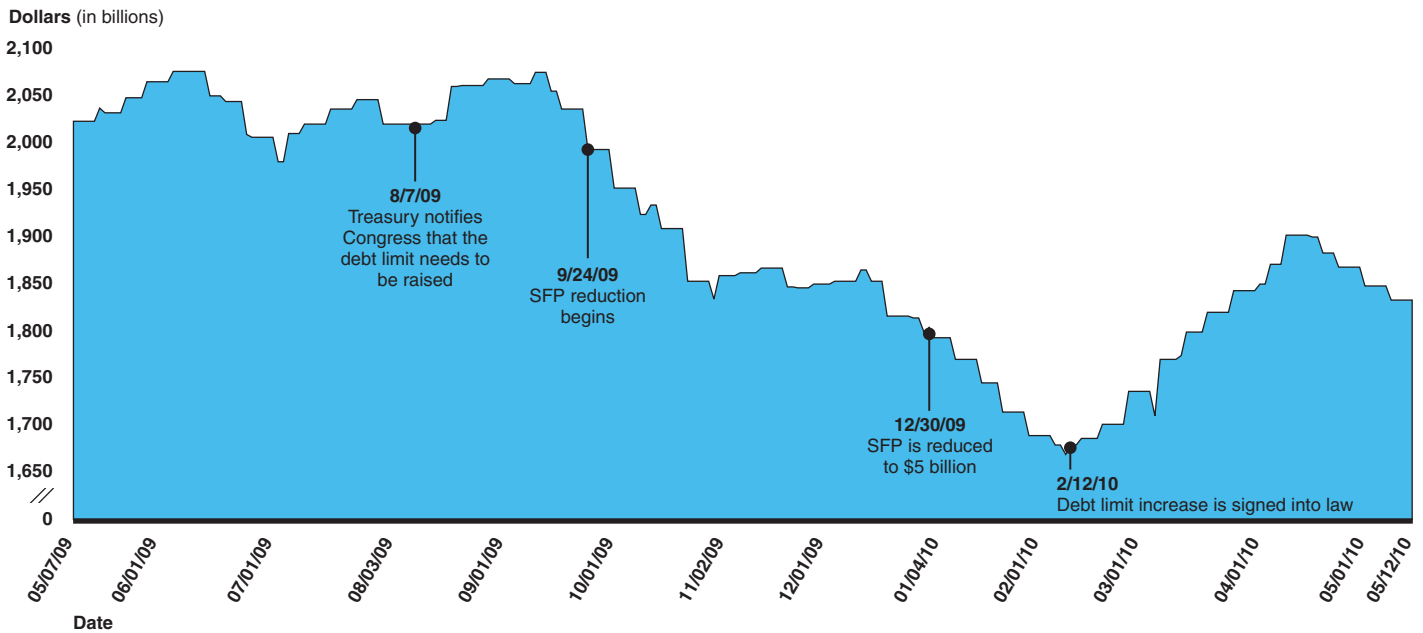
Overall, Treasury issued 20 CM bills totaling more than \$300 billion during DISPs in the past 16 years to manage the amount of debt near the limit. In some cases, these were used to augment Treasury's regular schedule of bill auctions. For example, because of debt limit constraints, Treasury delayed the 4-week bill auction scheduled for November 16, 2004. Treasury then auctioned a 5-day CM bill for \$7 billion on November 17, 2004. As mentioned previously, our prior work found that Treasury may have paid a premium, in the form of higher interest, on these CM bills compared to bills of a similar maturity.¹⁶

Treasury Sharply Reduced the Supply of Bills during Recent Debt Limit Debate

While Treasury did not postpone any of its regularly scheduled auctions during the most recent debt limit debate, it sharply reduced the total dollar amount of bills outstanding primarily to manage the amount of debt as it approached the limit. The total amount of Treasury bills outstanding dropped by \$350 billion (or about 17 percent) from September 23, 2009, to February 12, 2010, (see fig. 4). Roughly \$200 billion of this was related to reductions to the SFP. The decline in Treasury bills outstanding was accompanied by a decline in short-term rates paid by Treasury. However, Treasury officials and market participants stated that a sharp and irregular bill reduction in such a short period of time could affect liquidity in the near term and add uncertainty in the market over the longer term. While several different types of investors use bills to invest their funds in the short term in a safe and highly liquid asset, market participants we spoke with said that money market funds were likely most affected by the reduction in bill supply. Market participants also noted that if Treasury had to make similar reductions to its issuance of notes or bonds because of proximity to the debt limit, the effect on the Treasury market would be greater.

¹⁶[GAO-06-269](#).

Figure 4: Supply of Treasury Bills Decreased Sharply during Debt Limit Event



Source: GAO analysis of Treasury data.

This sharp reduction in Treasury bills was unique to this most-recent debt limit debate and largely related to the SFP, though large TARP repayments in December, a reduction in Treasury’s operating cash balance, and the transition to longer-dated securities were also factors. When Treasury approached the debt limit earlier in the decade, the amount of Treasury bills outstanding tended to fluctuate within a narrower range. To finance the SFP program, Treasury auctions a series of CM bills, and places the proceeds in a special account at the Federal Reserve Bank of New York. These outstanding CM bills count against the debt limit. On September 16, 2009, Treasury announced it intended to reduce the SFP account from \$200 billion to \$15 billion to preserve flexibility in debt management. This amount dropped to as low as zero in December 2009. As late as February 2, 2010, Treasury announced that both the outlook for Treasury bills issuance and the future of the SFP were uncertain. Shortly after the debt limit was raised on February 12, 2010, Treasury returned the SFP account to approximately \$200 billion.

Evidence Suggests Borrowing Costs Increased during Some Debt Limit Event Periods

Our analysis suggests that the general uncertainty surrounding some debt limit events including the most recent in 2009-2010 increased Treasury's borrowing costs in the months immediately prior to a debt limit increase.¹⁷ To measure changes in Treasury's borrowing costs, we examined the spread between 13-week (i.e., 3-month) Treasury bill yields and 3-month commercial paper yields around debt limit events since 2001.¹⁸ Rates for Treasury bills, commercial paper, and other financial assets can fluctuate from day to day in response to changes in the broader economy. By focusing on a yield spread rather than changes in individual interest rates, we are able to better measure changes in the relative risk of 3-month Treasury bills and identify potential risk premiums. A narrowing of the spread indicates that the market perceives the risk of Treasury bills to be closer to that of commercial paper, while a widening of this spread means that Treasury bills are perceived to be less risky relative to commercial paper. We found that Treasury paid a premium on 3-month Treasury bills issued during debt limit events in 2001–2002 and 2002–2003, but not in 2004–2005 and 2005–2006.¹⁹ For the most-recent debt limit event—which lasted from August 7, 2009, to February 12, 2010—we found that Treasury again paid a premium on 3-month Treasury bills. Figure 5 shows that the average spread narrowed during the debt limit event in 2009–2010 compared to the average for the proceeding 3 months, implying that

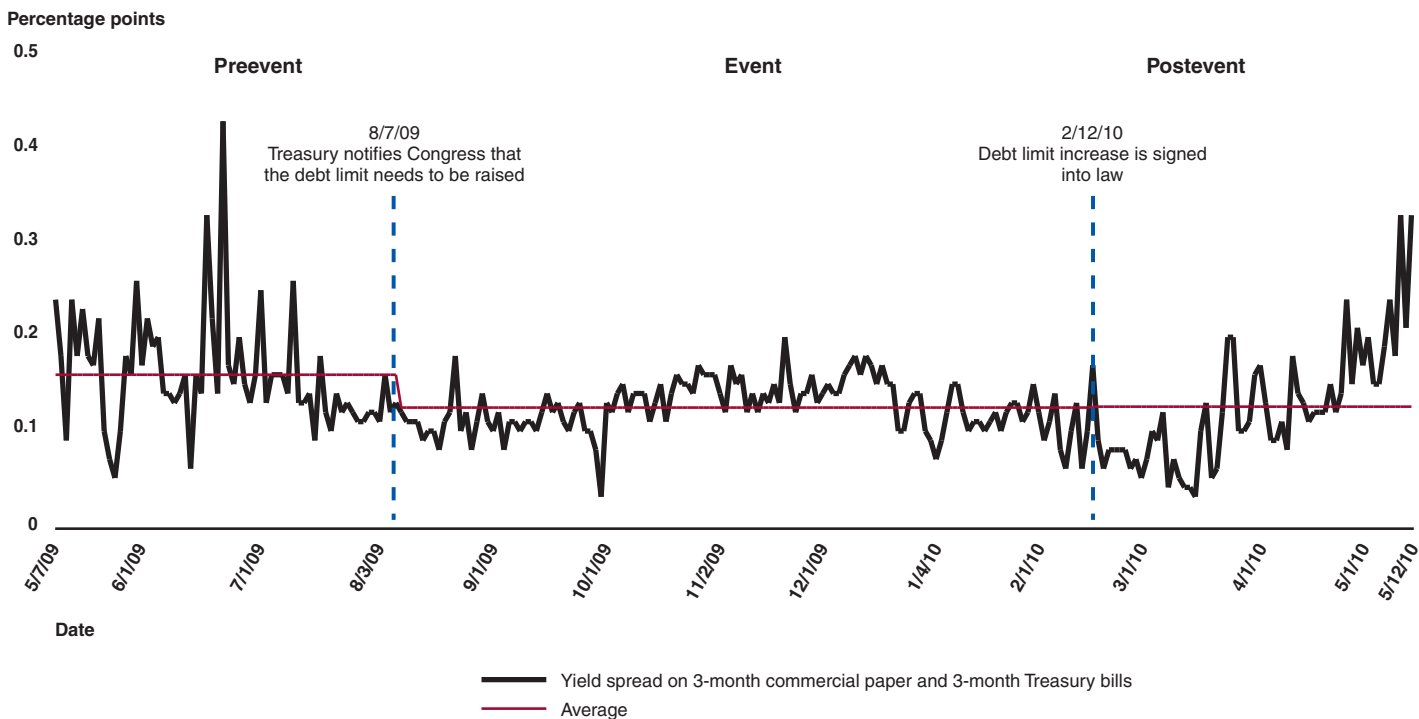
¹⁷Our methodology was based on a prior academic study: Pu Liu, Yingying Shao, and Timothy J. Yeager, "Did the repeated debt ceiling controversies embed default risk in U.S. Treasury securities?" *Journal of Banking & Finance*, vol. 33 (2009): 1464-1471. The regression specification we used for the recent debt limit was different from the Liu et al. regression specification because the financial markets were operating in unique economic conditions (e.g., the Federal Reserve began purchasing commercial paper in 2008 to enhance the liquidity of the commercial paper market). We also reviewed a similar study: Srinivas Nippani, Pu Liu, and Craig T. Schulman, "Are Treasury Securities Free of Default?" *Journal of Financial and Quantitative Analysis*, vol. 36, no. 2 (2001): 251-265. This study also found that the market charged a premium on Treasury securities issued during the debt limit debate in 1995-1996. See app. II for more information.

¹⁸For the purposes of this study, a debt limit event period begins when Treasury first warns of the need to raise the debt limit and ends when legislation to raise the limit is passed. For the first four debt limit events, we use the same dates used by Liu et al. (2009). For the fifth debt limit event in 2009–2010, the event period began when Treasury notified Congress that the debt limit needed to be raised and ended when legislation increasing the debt limit was signed into law.

¹⁹This is consistent with the Liu et al. (2009). The authors of the study hypothesized that during these latter two debt limit events, investors may have assumed based on past experience that members of Congress would resolve their differences before there were any serious disruptions in the Treasury market and therefore did not charge a premium on securities issued near the debt limit.

Treasury paid a premium on 3-month Treasury bills issued during this time period.

Figure 5: Spreads between Yields of 3-Month Commercial Paper and 3-Month Treasury Bills Were Lower during the 2009–2010 Debt Limit Event Period



Source: GAO analysis of Board of Governors of the Federal Reserve System data.

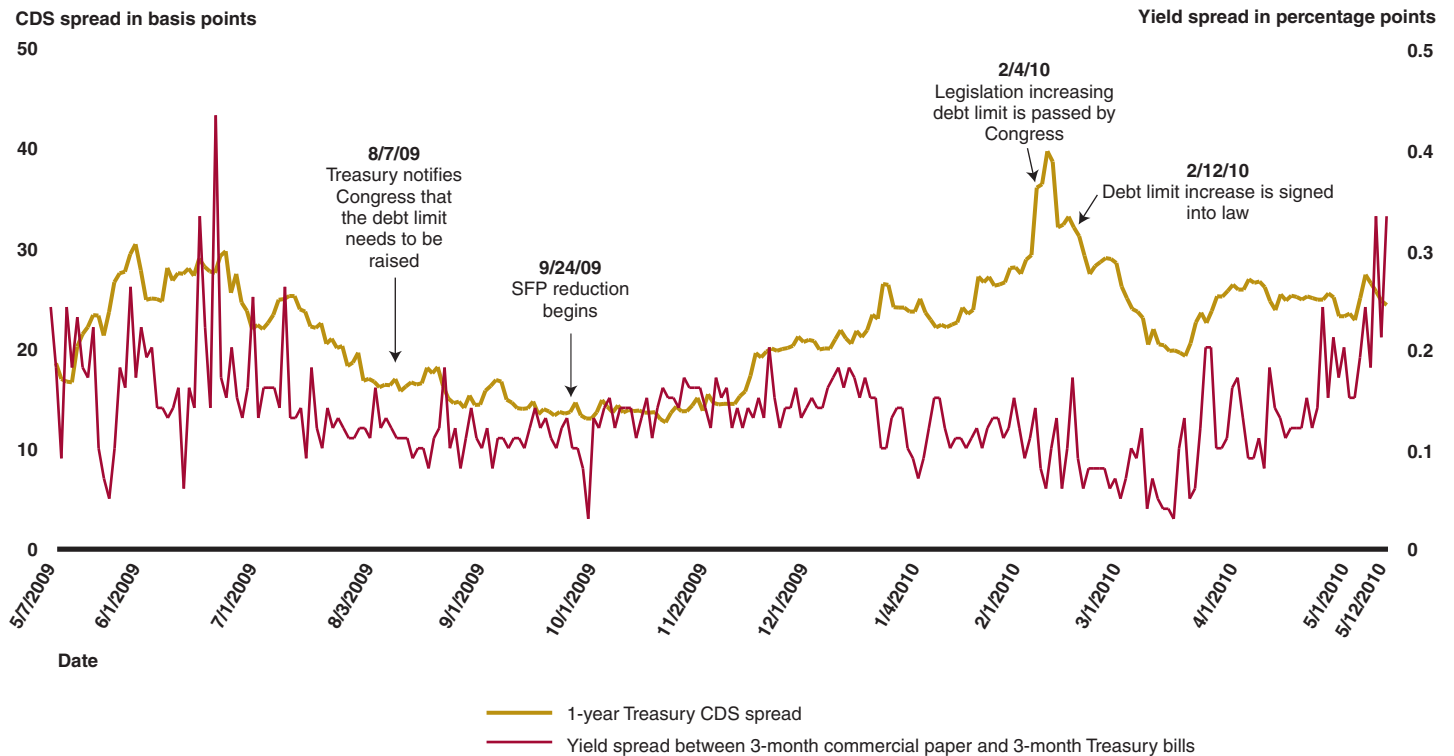
After controlling for other factors that could have affected the yield spread, such as economic uncertainty and liquidity in the bill market, we estimated that the debt limit added a premium of about 4 basis points during the debt limit event period in 2009–2010.²⁰ Applying this premium to all 3-month Treasury bills issued during this period, we estimate that Treasury paid \$78 million in additional borrowing costs as a result of the debt limit. We did not estimate the effects of nearing the debt limit on yields of other Treasury securities, and therefore, do not know whether a premium of the same size would apply to Treasury securities with longer

²⁰The 95 percent confidence interval of the premium estimate ranges from 1.0 to 7.1 basis points.

or shorter terms to maturity. However, even a smaller premium on the large amount of Treasury securities issued during the debt limit event period would result in a notable increase in borrowing costs. For instance, for each additional basis point paid on bills issued during the 2009–2010 debt limit event period, Treasury’s borrowing cost would increase by roughly \$92 million. For more information on our statistical analysis, including a discussion of the limitations, see appendix II.

Trends in U.S. credit default swap (CDS) premia, or “spreads” also suggest that Treasury securities were perceived to be relatively more risky as debt approached the limit in 2009-2010. While CDS are used in a variety of ways other than to insure against a default, such as hedging against counterparty risk, or the risk that another party will not fulfill its contractual obligation, CDS spreads serve as an indicator of changes in the market’s perception of risk in the Treasury market. U.S. CDS spreads increase when risk in the Treasury market increases and therefore have an inverse relationship to the yield spread. Not long after Treasury notified Congress that the debt limit would need to be raised and Treasury began reducing issuance of CM bills for the SFP, rates for 1-year U.S. CDS spreads increased while the yield spread trend decreased (see fig. 6). Similarly, in the weeks after the debt limit was raised, U.S. CDS spreads decreased sharply. Some of the increase in U.S. CDS spreads likely reflects general uncertainty about the global economy rather than the debt limit; CDS spreads increased from late 2009 to early 2010 for other countries, not just for the United States. However, 1-year U.S. CDS spreads tended to increase more than comparable spreads for Germany, Japan, and the United Kingdom during the event period.

Figure 6: Trends in Treasury’s CDS Spreads Were Consistent with Trends in the Yield Spread for the 2009–2010 Debt Limit Event



Source: GAO analysis of Board of Governors of the Federal Reserve System data and Datastream data.

Overall, the debt limit requires Treasury to deviate from its regular debt management practices in ways that add uncertainty to the Treasury market. While there are limitations to our analysis of changes to the auction schedule and to Treasury yields around debt limit events, collectively the analyses provide strong evidence that this uncertainty does not come without a cost.

Beyond the immediate costs associated with the debt limit, some market participants and others that we spoke with said that failing to raise the debt limit in a timely manner added an additional level of risk to the Treasury market. As noted above, the extraordinary actions provide less borrowing capacity and therefore less time for debate about raising the debt limit once debt reaches the limit than they have in the past. Analysts and observers—including former congressional staff—expressed concern that a miscalculation in when the debt limit needs to be increased by could

trigger a financial crisis in the Treasury market. Despite these concerns, most of those whom we spoke with believe that Congress will raise the debt limit before there is a significant market disruption and that Treasury will continue to successfully manage debt near the debt limit as it has done in the past. Treasury continues to consistently borrow at relatively low interest rates, and demand for Treasury securities both in the United States and abroad remains strong during periods of economic instability because of their liquidity and low risk.

Experts and Practices of Other Countries Offer Insights for Better Linking Policy Decisions with Their Effect on Debt

Tying Debt Limit Increases to Annual Budget Decisions Is Similar to a Practice Used in Some Other Countries

We spoke with participants, observers, analysts, and other experts representing a range of backgrounds and political perspectives—including former congressional staff, former CBO Directors, former Treasury officials, and representatives from credit rating agencies—about the role of the debt limit in the U.S. budget process. Many cited the failure to link fiscal policy decisions to changes in the debt limit as a weakness in the process. Credit rating agencies, for example, consider a number of different factors when assigning a credit rating to sovereign nations' debt, including the strength of the national economy, overall levels of government debt, and monetary policy, as well as the budgetary framework. While the debt limit has not compromised the United States' AAA credit rating, credit rating agencies expressed concern about separating the vote for spending increases and revenue decreases that increase debt from the vote for additional borrowing authority. One credit rating agency described this delinking as a weakness in the U.S. budgetary framework.²¹ Another credit rating agency said that anything that has the potential to delay the timely redemption of federal debt is viewed as a

²¹Standard & Poor's, *The U.S. Debt Ceiling: As Headroom Shrinks, It's Time to Raise the Room Beams* (Oct. 9, 2009).

negative.²² In 1996, Moody's Investors Service (Moody's) indicated a possible downgrade for some Treasury securities with interest payments coming due in part because Treasury had nearly exhausted its options for managing debt near the debt limit. According to Moody's this was the only time that Moody's has officially taken a negative rating action related to U.S. Treasury securities. None of the experts that we spoke with said that the existence of the debt limit served to restrain spending and tax decisions prior to the debt limit debate, but some believe the debt limit has served a useful purpose in highlighting the growth of federal debt.

Many of the experts that we spoke with identified possible changes to the legislative process that would better link decisions about fiscal policy and debt. Some suggested that since the budget resolution reflects aggregate fiscal policy decisions, it should be used to consider the level of debt implied by those decisions. The budget resolution generally sets out the level for spending, revenues, and debt for the next fiscal year and the following 4 fiscal years. Some favored a mechanism similar to what was House Rule XXVIII in the 111th Congress. This rule provided for the automatic engrossment and transmittal to the Senate of a joint resolution changing the debt limit by the amount specified in the budget resolution. This joint resolution was considered to have passed the House and was then sent to the Senate. The Senate did not have a similar rule; it sometimes, though not always, passed the joint resolution from the House, albeit with a lag. In the last 16 years, this lag has ranged from 1 month to more than 10 months. Others believed that this process still gave too little visibility to the implications of spending and tax decisions on federal debt and preferred separate votes on stand-alone legislation. They too believed that the vote should be timed to go with the budget resolution—in part to keep the link and in part to avoid reaching the debt limit later in the year after the spending and tax decisions had been made.

Opinions varied on how to address increases in borrowing needs not contemplated in budget resolutions. The actual amount of debt can differ from the amount anticipated in the budget resolution because of newly enacted legislation or because of the automatic stabilizers through which changes in the economy affect government spending and revenue.²³ Some

²²Moody's, *U.S. Statutory Debt Limit to be Raised; Longer-Term Fiscal Strategy the Real Question* (September 2009).

²³Automatic stabilizers are provisions built into the structure of the federal budget that alter tax or spending levels based on economic fluctuations without any explicit government action.

supported a formal or informal process whereby any legislation that would increase debt beyond that envisioned in the resolution would contain a separate title raising the debt limit by the appropriate amount. Congress took this approach with three pieces of legislation enacted in 2008 and 2009 in response to the financial market crisis and economic downturn. The Housing and Economic Recovery Act of 2008, the Emergency Economic Stabilization Act of 2008, and the Recovery Act each included a separate provision increasing the debt limit. Some congressional observers pointed out that while this would tie spending and revenue decisions to the debt-level effect of those decisions, it would not address increases in debt arising from an economic downturn. Some of the ideas for dealing with both the policy linkage and any increases in debt driven by economic conditions were (1) considering further changes to the debt limit at the time that the annual mid-session review is released;²⁴ (2) setting aside a reserve fund in the budget resolution for unanticipated borrowing needs; and (3) delegating additional authority to Treasury to borrow for intrayear financing needs that resulted from changes in the economy rather than direct policy decisions.

The practice of approving borrowing authority in connection with approval of the annual budget is used in other countries we examined. For example, in Canada, the Ministry of Finance is provided with a fixed amount that it is authorized to borrow for the fiscal year. When necessary, the Ministry of Finance can request increased borrowing authority from the executive branch of government to fund unforeseen borrowing needs. In Sweden, the legislature approves borrowing authority annually; however, it is limited to purpose—to finance current deficits, provide loans, and redeem national debt, for example—rather than by amount.

Some Suggested Delegating Broader Authority to Treasury—a Practice Used in Some Other Countries

Some budget experts and a former Treasury official said that Congress could delegate authority to Treasury to borrow as needed to fund congressionally approved expenditures subject to a periodic review. They suggested that Congress could vote to renew this authority at the start of a new Congress or a new legislative session. This would preserve Congress's ability to have periodic debates over the current path of federal debt, they argue, but change the trigger for debate from proximity to the debt limit to

²⁴Under 31 U.S.C. § 1106, the President is required to submit an update of the federal budget, often referred to as a mid-session review, before July 16 of each year.

another point in the legislative process to minimize disruptions to debt management and the Treasury market.

Providing finance departments with broad authority to borrow is consistent with practices in four of the countries we examined. In the United Kingdom, for example, the Treasury is given broad authority to raise money in a manner it “considers expedient for the purpose of promoting sound monetary conditions.” In New Zealand, the Minister of Finance is given similarly broad borrowing authority to borrow in the public interest. However, when comparing borrowing authority across countries, it is important to recognize that the division of power between the legislative and executive branches varies among different political systems. In parliamentary systems, the government is generally formed by the political party that has the support of the majority of the parliament; therefore, the interests of the legislative and executive branches are likely more aligned, making the delegation of borrowing authority more of a formality and not a subject of extensive deliberation. Of the countries that we reviewed, only Denmark has a fixed nominal debt limit that is raised through legislation outside the annual budget process comparable to the U.S. debt limit. According to a Danish official, the limit is set high enough that it does not impede debt managers’ ability to issue debt.

Some of those with whom we spoke said that tying delegation of borrowing authority to a fixed nominal debt limit creates an action-forcing event that draws attention to the growth in federal debt. They noted that previous debt limit debates provided opportunities for the Congress and the President to consider the implications of past fiscal policy decisions on federal borrowing and sometimes played a role in the enactment of budget process agreements intended to slow the growth of future federal borrowing. For example, debt limit increases were passed jointly with budget controls legislation five times between 1985 and 1997²⁵—and again in February 2010 with the reenactment of a statutory pay-as-you-go, or PAYGO, rule.²⁶ Meanwhile, others said that the debate over debt limit

²⁵Congress reached agreement on budget procedures in the Balanced Budget and Emergency Deficit Control Act of 1985 (Pub. L. No. 99-177), Balanced Budget and Emergency Deficit Control Reaffirmation Act of 1987 (Pub. L. No. 100-119), the Budget Enforcement Act of 1990 (Pub. L. No. 101-508), the extended budget process provisions of the Budget Enforcement Act of 1990 (Pub. L. No. 103-66), and the Budget Enforcement Act of 1997 (Pub. L. No. 105-33).

²⁶PAYGO is a procedure requiring that the aggregate effect of increases in mandatory spending or reductions in revenue generally be offset (Pub. L. No. 111-139).

increases played a smaller role in fiscal policy discussions in recent years than it had in the past and expected that the debt limit would not be needed to trigger debate over federal borrowing in the future given the already increasing attention to debt and deficits. In addition, some thought that risks associated with the debates—such as the potential for Congress to delay or to miscalculate the timing of a debt limit increase given the small amount of borrowing capacity provided by the extraordinary actions—outweighed the benefits.

Some Countries Have Mechanisms to Increase Attention to or Control over Fiscal Policy Decisions That Lead to an Increase in Debt

The United States is unusual among the countries we reviewed in using the authorization of additional borrowing authority as an occasion to draw attention to past fiscal policy decisions. Other countries that we reviewed generally use fiscal rules or targets to increase attention to or control over fiscal policy decisions that lead to an increase in debt. Fiscal rules generally refer to permanent or multiyear constraints on fiscal policy through simple numerical limits on budgetary aggregates. For example, Switzerland has adopted a constitutional “debt brake” that places a limit on expenditures that is equal to the expected revenue for the year adjusted to reflect the country’s place in the current business cycle. Differences between estimated and actual numbers are recorded in a separate account that must by law be reduced if it reaches a certain level. Germany has adopted a “golden rule” limiting net borrowing to the amount of investment spending. Germany also approved a constitutional amendment in 2009 requiring that structural deficits not exceed 0.35 percent of gross domestic product (GDP)—or very close to balance.

Instead of budget constraints, some countries use debt targets to establish an acceptable outcome for policymakers to work toward when making fiscal policy decisions. These can be either statutory requirements or political commitments by the current government. For example, in part to keep debt at a sustainable level, Sweden targets a net surplus of 1 percent of GDP over the course of the business cycle. In New Zealand, the government is required to maintain debt at a “prudent level” and set specific short-term and long-term targets for meeting this goal. If the government deviates from these targets, the Minister of Finance must explain the approach the government intends to take to return to prudent levels. Members of the European Union agreed to target a ratio of gross general government debt to GDP of 60 percent and budget deficits of not more than 3 percent of GDP. Several nations have struggled to meet these targets in recent years, raising concerns about the effectiveness of the current enforcement mechanisms. In general, budget experts and other observers have noted that the success of fiscal rules depends on effective

enforcement along with a sustained commitment by policymakers and the public.

Specific fiscal rules and targets used in other countries may not be appropriate for the United States given differences in the national economies and political institutions. Nevertheless, some of the fiscal rules and targets that we reviewed shared some common features that distinguish them from the U.S. debt limit and offer insights for increasing attention to or control over fiscal policy decisions that lead to an increase in debt. These rules and targets

(1) measure debt in relation to the overall size of the economy (e.g., debt-to-GDP ratio),

(2) take into consideration whether the economy is in a period of expansion or contraction,

(3) provide a near-term or medium-term debt target, as opposed to a ceiling, for policymakers to work toward.

In recent years, several bipartisan and nonpartisan groups have suggested the establishment of fiscal rules with one or more of these features in the United States such as a debt-to-GDP target.²⁷

Conclusions

The debt limit does not control or limit the ability of the federal government to run deficits or incur obligations. Rather, it is a limit on the ability to pay bills incurred. The decisions that create the need to borrow are made separately from—and generally earlier than—the decision about the debt limit. Debates surrounding the debt limit may raise awareness about the federal government’s current debt trajectory and also provide Congress with an opportunity to debate the fiscal policy decisions driving that trajectory. However, since this debate generally occurs after tax and

²⁷These are the National Commission on Fiscal Responsibility and Reform, *The Moment of Truth: Report of the National Commission on Fiscal Responsibility and Reform* (Washington, D.C.: December 2010); Bipartisan Policy Center, *Restoring America’s Future: Reviving the Economy, Cutting Spending and Debt, and Creating a Simple Pro-Growth Tax System* (Washington, D.C.: November 2010); National Research Council and National Academy of Public Administration, *Choosing the Nation’s Fiscal Future* (Washington, D.C.: 2010); and Peterson-Pew Commission on Budget Reform, *Red Ink Rising: A Call to Action to Stem Mounting Federal Debt* (Washington, D.C.: December 2009).

spending decisions have been enacted into law, Congress has a narrower range of options to effect an immediate change to fiscal policy decisions and hence to federal debt.

Failure to raise the debt limit could lead to serious negative consequences in the Treasury market and for the ability of the United States to finance federal debt at the lowest cost over time. Any delay in raising the debt limit that affects Treasury's regular and predictable schedule of auctions can create uncertainty in the Treasury market. So too some of the actions Treasury takes to manage the amount of debt near the debt limit, such as reducing the size of auctions, can compromise the certainty of supply that Treasury relies on to achieve the lowest borrowing cost over time. This uncertainty can, in turn, raise the cost of financing the federal debt. In addition, managing debt near the debt limit diverts Treasury's limited resources away from other cash and debt management issues at a time when Treasury already faces significant challenges in lengthening the average maturity of its debt portfolio, which reduces rollover risk and uncertainty about future interest payments.

Recently—and for the foreseeable future—Treasury's actions take place in the context of rapidly growing federal debt. Treasury's past success at managing cash and debt when near or at the debt limit is no guarantee that it can continue to manage successfully in the future and may be misleading. Given the size of current and projected borrowing needs, the extraordinary actions Treasury uses to manage debt near or at the debt limit will be more limited in coming years. As a result, once debt is at the debt limit, Congress will likely have less time to debate raising the debt limit before there are disruptions to government programs and services and to the Treasury market.

Observers and participants with whom we spoke suggested that improving the link between the spending and revenue decisions that increase the need to borrow and changes in the debt limit would improve the situation. Better alignment could be possible if decisions about the debt level occur in conjunction with spending and revenue decisions as opposed to the after-the-fact approach now used. This would help avoid the uncertainty and disruptions that occur during debates on the debt limit today. It might also facilitate efforts to change the fiscal path by highlighting the implications of these spending and revenue decisions on debt. This will be particularly important in coming years as the federal government addresses the challenge of unsustainable increases in federal debt.

Matter for Congressional Consideration

The projections of a growing debt burden have raised concerns both in Congress and in the public. Well-designed budget processes and metrics can help as Congress and the President seek to address the federal government's long-term fiscal challenge. The current design of the debt limit does not engender or facilitate debate over specific tax or spending proposals and their effect on debt. In addition, the uncertainty it creates can lead to disruptions in the Treasury market and in turn to higher borrowing costs. To avoid these potential disruptions to the Treasury market and to help inform the fiscal policy debate in a timely way, Congress should consider ways to better link decisions about the debt limit with decisions about spending and revenue. Such a process would build on the approach used in 2008 and 2009 when Congress passed and the President signed three laws that were expected to increase borrowing with a corresponding increase in the debt limit.²⁸ This report presents a number of approaches that could serve as a basis for better linking decisions about spending and revenue with decisions about the debt limit.

Agency Comments

We requested comments on a draft of this report from the Secretary of the Treasury. Treasury officials told us they appreciated the in-depth and careful analysis contained in the report. They also provided technical comments, which we incorporated as appropriate.

We will send copies of this report to interested congressional committees, the Secretary of the Treasury, and other interested parties. We will also make copies available at no charge on the GAO Web site at <http://www.gao.gov>.

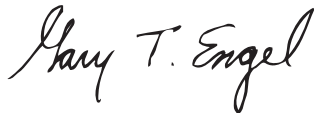
If you or your staff have any questions about this report, please contact Susan J. Irving at (202) 512-6806 or irvings@gao.gov or Gary T. Engel at (202) 512-3406 or engelg@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page

²⁸The American Recovery and Reinvestment Act of 2009 (Pub. L. No. 111-5), the Housing and Economic Recovery Act of 2008 (Pub. L. No. 110-289) and the Emergency Economic Stabilization Act of 2008 (Pub. L. No. 110-343).

of this report. GAO staff who made major contributions to this report are listed in appendix III.



Susan J. Irving
Director for Federal Budget Analysis
Strategic Issues



Gary T. Engel
Director
Financial Management and Assurance

Appendix I: Objectives, Scope, and Methodology

Our objectives were to (1) describe the actions that the Department of the Treasury (Treasury) has taken to manage debt near the debt limit and challenges that arise, (2) analyze the effects that approaching the debt limit had on the market for Treasury securities, including Treasury's borrowing costs, and (3) in light of the disconnect between the debt limit and the policy decisions that have an effect on the size of federal debt, describe alternative triggers or mechanisms that would permit consideration of the link between policy decisions and the effect on debt when or before decisions are made.

To answer our first objective, we reviewed Treasury documents and prior GAO reports describing the actions that Treasury has taken during debt limit debates since 1995. We used publicly available data including Treasury's Monthly Statement of Public Debt and federal investment account statements to estimate the amount of potential borrowing capacity these actions could provide in fiscal year 2010 in comparison to previous years since 2002 in which debt approached the debt limit. To identify challenges that might arise when managing debt near the debt limit, we examined publicly available data from the Daily Treasury Statement to identify trends in federal receipts and expenditures, issuance and redemption of federal debt, and changes in Treasury's operating cash balance. To understand how managing debt near the debt limit affected agency operations, we reviewed documents provided by Treasury, interviewed Treasury officials involved in both the decision-making process and implementation of extraordinary actions, and obtained estimates when possible of the time and staff involved in planning for when the debt limit will be reached and implementing the extraordinary actions. To assess the reasonableness of Treasury estimates, we reviewed calendar appointments and other supporting documents. However, we did not obtain sufficient supporting documentation to independently verify Treasury's estimates. We were also unable to independently verify the foregone opportunities that Treasury identified, such as less time to analyze short-term financing needs, in part because it is difficult to prove what would happen in the absence of the debt limit event.

To identify the potential effects of approaching the debt limit on the market for Treasury securities, we reviewed publicly available Treasury documents such as minutes from meetings of the Treasury Borrowing Advisory Committee and academic literature, and interviewed Treasury officials. Our review covered the last 16 years (1995–2010) in order to include a particularly disruptive debt limit debate in 1995–1996 that required Treasury to take a number of extraordinary actions, as well as the most recent debt limit increase. In February 2010, we asked eight market

experts including six primary dealers for their general views on the effects of delays in raising the debt limit on the market for Treasury securities and Treasury operations.

On the basis of this initial analysis, we performed the following: (1) We used press releases, auction announcements, and historical auction data since 1995 to identify instances when auctions or auction announcements or both, were delayed as a result of the debt limit. We compared the yields at postponed auctions with yields on Treasury securities of the same maturity being sold in the secondary market to estimate the effect of delaying auctions or auction announcements on Treasury's borrowing costs. We discussed our methodology with Treasury officials and staff at the Federal Reserve Bank of New York and incorporated their suggestions and feedback when appropriate. (2) We used data provided by Treasury to analyze changes in the amount of Treasury bills outstanding during debt limit debates since 2002. (3) We performed a multivariate regression analysis to estimate the effect of the debt limit on Treasury's borrowing costs. See appendix II for more details on our methodology used for estimating these costs and limitations to our analysis. (4) In August 2010, we received written or oral responses to a standard questionnaire from four primary dealers and managers of a large mutual fund asking for their views on postponed auctions, reductions in bills outstanding, Treasury's extraordinary actions, and the general uncertainty related to the timing of debt limit increases. To obtain a broader perspective on the effects of approaching the debt limit on financial markets, we also spoke with representatives from two of the three major rating agencies, a major trade organization representing securities firms and other financial institutions, a research and consulting firm for the municipal bond market, and a State and Local Government Series securities subscriber.

To examine the disconnect between the debt limit and the policy decisions that have an effect on the size of federal debt, we conducted a literature review and reviewed the legislative history of laws increasing the debt limit. We began our review with the debt limit increase enacted on December 12, 1985, because (1) this was the first in a series of debt limit increases enacted in legislation containing budget process reforms, and (2) after 1985, Congress provided Treasury with its current authorities related to the G-Fund and Civil Service Retirement and Disability Fund (CSRDF) thereby changing the way in which Treasury manages debt near or at the debt limit.

To identify and describe alternative triggers or mechanisms that would permit consideration of the link between policy decisions and the effect on

debt when or before decisions are made, we reviewed articles in academic journals and reports and other information published by credit rating agencies and policy research organizations. We conducted semistructured interviews with budget and legislative experts. To ensure that we captured a broad range of perspectives, we sought to include a minimum number of representatives from the following categories: former congressional staff with experience working for one or more of relevant committees (i.e., the House Budget Committee, the House Committee on Ways and Means, the Senate Budget Committee, and the Senate Finance Committee) or senior party leadership in the House or Senate; former Congressional Budget Office or Office of Management and Budget Directors; representatives from a broad range of policy research organizations that focus on issues related to the federal debt; and academics and other experts on the legislative process. We interviewed a total of 17 budget and legislative experts representing one or more of these different categories. Five of those interviewed also had experience working at Treasury.

To put U.S. practices into perspective, we examined triggers and mechanisms used by members of the Organisation for Economic Co-operation and Development (OECD)—an international organization comprised of countries committed to democracy and market-based economies. To identify countries for review, we analyzed countries' responses to the 2007 OECD International Database of Budget Practices and Procedures Survey, particularly questions asking about debt, deficit, and other fiscal rules used when developing a budget.¹ We selected countries for further review based on their responses to the survey as well as our review of reports by the OECD and the International Monetary Fund. We sought to include countries that provided a range of different mechanisms for (1) monitoring or controlling debt and (2) delegating borrowing authority from their legislature to debt managers. Our selection was limited to those countries with information on fiscal rules and borrowing authority available in English. We chose seven countries for further review: Canada, Denmark, Germany, New Zealand, Switzerland, Sweden, and the United Kingdom. We contacted representatives from budget offices, debt management offices, or supreme audit institutions in each of these countries for additional information on their respective country's fiscal rules and borrowing authority. While selected countries offer illustrative examples, their experiences are not always applicable to the United States given differences in political systems and economies.

¹See www.oecd.org/gov/budget/database for the results of the survey.

In order to assess the reliability of the data used in this report, including proprietary data from Datastream and IHS Global Insight and publicly available data from Treasury and the Federal Reserve, we examined the data to look for outliers and anomalies and, when possible, compared data from multiple sources for consistency. In general, we chose databases that were commonly used by Treasury and researchers to monitor changes in federal debt and related transactions. Where possible and appropriate, we corroborated the results of our data analysis with other sources. On the basis of our assessment, we believe the data are reliable for the purpose of this review.

We conducted our work from December 2009 to January 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Detailed Methodology and Findings of Statistical Analysis of Treasury Borrowing Costs near the Debt Limit

To measure changes in the Department of the Treasury's (Treasury) borrowing costs when debt is approaching the debt limit, we performed a multivariate regression analysis of yields paid on 13-week (i.e., 3-month) Treasury bills issued during the five debt limit events beginning in fiscal year 2002. For our purposes, a debt limit event begins when the Secretary notifies Congress that the debt limit needs to be raised and ends when legislation increasing the debt limit is signed into law. The dependent variable in our analysis is the spread, or difference, between yields on 3-month Treasury bills and yields on 3-month commercial paper. We used yield spreads during the preevent period 3 months prior to the Secretary's letter as a benchmark against which yields during the event can be compared. A narrowing of the spread indicates that the market perceives the relative risk of Treasury bills to be closer to that of commercial paper, increasing their cost to Treasury. Conversely, a widening of the spread indicates that the market perceives the relative risk of Treasury bills to be less than that of commercial paper, making them less costly to Treasury. We regressed the yield spread on key variables affecting risk and liquidity of the financial market. Our results suggest that Treasury paid a premium ranging from 1 to 4 basis points on 3-month Treasury bills issued during debt limit events in 2001–2002, 2002–2003, and most recently in 2009–2010.¹ However, we did not observe premiums in 2004–2005 and 2005–2006.

Variables and Model Specifications

The existing literature on the effect of the debt limit on Treasury's borrowing costs is limited. Our analysis was based in part on a prior study of the effect of debt limit events on Treasury interest rates by Liu, Shao, and Yeager.² Similar to the results of our analysis, Liu et al. (2009) found that during debt limit events in 2001–2002 and 2002–2003, the spread between 3-month Treasury bill yields and 3-month commercial paper yields narrowed, implying that Treasury bills were relatively more costly during this period; however, this relationship was not observed in either the 2004–2005 or 2005–2006 debt limit events. The authors hypothesized that, during these latter two debt limit events, investors may have assumed based on past experience that members of Congress would resolve their differences before there were any serious disruptions in the Treasury

¹One basis point is equal to 1/100th of 1 percent. Thus, 4 basis points is 0.04 percent.

²Pu Liu, Yingying Shao, and Timothy J. Yeager, "Did the repeated debt ceiling controversies embed default risk in U.S. Treasury securities?" *Journal of Banking and Finance*, vol. 33 (2009): 1464-1471.

market and therefore did not charge a premium on securities issued near the debt limit. We also reviewed an earlier study by Nippani, Liu, and Schulman which found that Treasury paid a premium on 3-month and 6-month Treasury bills issued during the debt limit event in 1995-1996.³

On the basis of discussions with Treasury officials, staff at the Federal Reserve Bank of New York, and market experts such as primary dealers and larger investment funds, we determined that the model developed by Liu et al. (2009) provided a reasonable starting point for our analysis. We made modifications to reflect the Federal Reserve's purchases of commercial paper through its Commercial Paper Funding Facility (CPFF) in 2008 to enhance the liquidity of the commercial paper market. We included a variable to control for the volume of commercial paper held by the Federal Reserve as a percentage of total commercial paper outstanding. We also included the Chicago Board Options Exchange's Volatility Index (VIX) to control for volatility and uncertainty in financial markets. The equation we used is

$$\text{Yield Spread} = B0 + B1 * \text{EVENT} + B2 * \text{POST} + B3 * \text{SPRET} + B4 * \text{VIX} + B5 * \text{LOG}(\text{CPISSUE}) + B6 * \text{LOG}(\text{TBILLTRANS}) + B7 * \text{CPFFSHARE} + \text{Error}$$

Table 5 below describes each of the variables in the equation and indicates the expected sign of the coefficient. Treasury officials and market experts said that our modifications to their equation were reasonable.

³Srinivas Nippani, Pu Liu, and Craig T. Schulman, "Are Treasury Securities Free of Default?" *Journal of Financial and Quantitative Analysis*, vol. 36, no. 2 (2001): 251-265.

**Appendix II: Detailed Methodology and
Findings of Statistical Analysis of Treasury
Borrowing Costs near the Debt Limit**

Table 5: Variables Used in Multivariate Regression

Variable name	Variable description
EVENT	This variable is equal to 1 during the event period and is 0 otherwise. Consistent with the academic literature, we defined the debt limit event period as beginning when Treasury notified Congress that the debt limit needed to be raised and as ending when the legislation is passed to raise the debt limit. We expect the variable's coefficient to be negative because debt limit events may raise the perceived risk of Treasury securities and reduce the yield spread compared to the preevent period.
POST	This variable is equal to 1 in the 3-month postevent period and is otherwise 0. A negative coefficient indicates that the perceived increased risk of Treasury securities persisted beyond the end of the debt limit event period.
SPRET	This variable is the daily return of the Standard & Poor's 500 index and is an indicator of the market's assessment of economic activity. We expect the variable's coefficient to be negative because a stronger economy should reduce the default risk of commercial paper, lower its yield, and reduce the yield differential. The data for this variable were downloaded from Thomson Reuters' proprietary statistical database Datastream.
VIX	This variable represents the market expectations of volatility over the next 30-day period and is calculated by the Chicago Board Options Exchange using Standard & Poor's 500 stock index option bid/ask quotes. The variable is intended to control for volatility and uncertainty in financial markets. We expect the coefficient to be positive because increased financial market uncertainty should cause investors to move from private-sector securities into Treasury securities and reduce Treasury yields relative to other securities. The data for this variable were downloaded from proprietary data provider IHS Global Insight.
LOG(CPISSUE)	This is the natural log of weekly AA commercial paper issues with a maturity greater than 80 days and is intended to control for the liquidity of commercial paper. Weekly data for this variable were downloaded from the Board of Governors of the Federal Reserve System Web site and then back-filled to obtain daily values. ^a We expect the variable's coefficient to be negative because an increase in liquidity should raise commercial paper prices, lower their yields, and thus decrease the yield spread.
LOG(TBILLTRANS)	This is the natural log of weekly transactions in Treasury bills traded among primary dealers and is intended to control for the liquidity of Treasury bills. Weekly data for this variable were downloaded from the Federal Reserve Bank of New York's Web site and then back-filled to obtain daily values. ^b We expect the variable's coefficient to be positive because an increase in the liquidity of Treasury bills should reduce their yield and increase the yield spread.
CPFFSHARE	This variable is the volume of commercial paper held by Federal Reserve through its Commercial Paper Funding Facility (CPFF) as a percentage of total commercial paper outstanding. The variable is intended to control for temporary increases in liquidity from CPFF purchases. The CPFF was initiated in October 2008 to enhance the liquidity of commercial paper during the financial crisis. Because this facility did not exist during previous debt limit events, it is included only in the 2009–2010 debt limit regression. Weekly data for this variable were downloaded from the Board of Governors of the Federal Reserve System Web site and then back-filled to obtain daily values. ^c We expect the variable's coefficient to be negative because increases in liquidity should raise commercial paper prices and reduce yields, thus decreasing the yield spread.

Source: GAO analysis.

^aDownloaded from <http://www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP> on May 17, 2010.

^bDownloaded from <http://www.newyorkfed.org/markets/statrel.html> on May 18, 2010.

^cDownloaded from <http://www.federalreserve.gov/datadownload/Choose.aspx?rel=H41> on May 13, 2010.

The regression results based on the variables listed above are presented in table 6. Negative EVENT coefficients suggest that debt limit events

Appendix II: Detailed Methodology and Findings of Statistical Analysis of Treasury Borrowing Costs near the Debt Limit

reduced the spread between commercial paper and Treasury yields compared to the preevent period. Consistent with the Liu et al. (2009) study, the EVENT coefficients for the debt limit events in 2001–2002 and 2002–2003 had the expected negative sign and were statistically significant.⁴ In addition, the coefficient of the EVENT variable had the expected negative sign and was statistically significant for the most recent debt limit event in 2009–2010.

Table 6: Regression Results for Debt Limit Event Periods from Fiscal Year 2002 to 2010

		2001–2002	2002–2003	2004–2005	2005–2006	2009–2010
	Expected sign	Event 1 coefficients	Event 2 coefficients	Event 3 coefficients	Event 4 coefficients	Event 5 coefficients
CONSTANT	n.a.	-0.540	0.246	1.395	-0.595	-0.642
EVENT	–	-0.011	-0.038	0.025	-0.006	-0.040
POST	–/+	-0.011	-0.041	0.034	0.034	-0.030
SPRET	–	-0.268	-0.433	-1.092	0.579	0.083
VIX	+	0.000	-0.002	-0.008	0.005	0.005
LOG(CPIISSUE)	–	0.014	-0.001	0.006	-0.010	0.007
LOG(TBILLTRANS)	+	0.052	-0.004	-0.107	0.084	0.060
CPFFSHARE	–	n.a.	n.a.	n.a.	n.a.	-0.515
Number of variables with correct sign and are statistically significant		3	3	2	3	4
Adjusted R-squared		0.102	0.241	0.228	0.029	0.187

Source: GAO analysis.

Note: The bolded coefficients have the correct signs while the cells highlighted in gray are the estimated coefficients that are statistically significant at least at the 10 percent level.

n.a.= not applicable.

We explored a variety of alternative specifications to see whether our model could be improved but found that no specification proved particularly robust across all the events studied. On the basis of discussions with Treasury staff and market experts, we added, replaced, and removed variables and defined the event period differently. For example, we explored several alternative controls for credit risk, including

⁴Because these are estimates, a test of statistical significance attempts to rule out an effect purely attributable to chance. Our criterion for statistical significance is that there is less than a 10 percent probability of rejecting the null hypothesis that the coefficient is zero when the null hypothesis is true.

the spread between London interbank offer rate (LIBOR) and the Overnight Indexed Swap that measures risk and liquidity in the money market, and the spread between Baa corporate bond yields and 10-year Treasury note yields. We also redefined the event period to begin when Treasury took its first extraordinary actions or, in the case of 2009–2010, reduced the amount in the Supplementary Financing Program (SFP). None of the alternative variables or specifications produced statistically significant results. Using the Liu et al. (2009) specifications did not result in statistically significant results for the most recent event in 2009–2010.

Effect of Debt Limit on Borrowing Costs

On the basis of our analysis, we estimate that Treasury paid \$78 million in additional interest costs for newly issued 3-month securities issued during the 2009–2010 debt limit event period. We arrived at this estimate by translating the coefficient of the EVENT in 2009–2010 (-0.040) to basis points (4) and multiplying by the amount of 3-month Treasury bills issued during the event period. We selected 3-month bills for our analysis because it is a commonly used benchmark in economic indicators such as the TED spread—a key indicator of credit risk.⁵ We did not estimate the effects of the debt limit on other Treasury securities with longer terms to maturity in part because of a lack of reliable data on yields for private-sector fixed-income assets with maturity dates comparable to medium-term Treasury securities such as a 2-year note. Therefore, we do not know whether the same 4-basis-point premium would apply to other Treasury securities with longer or shorter terms to maturity issued during the debt limit event period. Nippani et al. (2001) found that the effect of the debate over the debt limit in 1995–1996 was greater on 3-month Treasury bills than on 6-month Treasury bills, indicating the investors may have believed that debate over the debt limit would be resolved over time and that longer-dated securities would therefore be less affected. However, even a smaller premium when applied to the large amount of Treasury securities offered by Treasury would result in a notable increase in borrowing costs. For instance, for each additional basis point paid on bills issued during the 2009–2010 debt limit event period, Treasury’s borrowing cost would increase by roughly \$92 million.

⁵The TED spread is the difference between the 3-month LIBOR rate and 3-month Treasury yield.

Limitations of the Analysis

There are a number of limitations to using a multivariate regression to measure changes in Treasury's borrowing costs. First, the results of our analysis explain only a small portion of the variation in the yield spread, as indicated by the relatively low R-squared statistics. Any equation attempting to explain the yield spread would have limited explanatory power given inherent randomness in daily time series data such as Treasury bill and commercial paper yields. Furthermore, the estimates are subject to omitted variable bias. Second, there was substantial variation in the sign, size, and significance of the estimated coefficients across debt limit events. However, the EVENT variable's coefficient, which is the central focus of our analysis, had the expected negative sign in four of the five debt limit periods included in our analysis and was significant in three of these periods. We discussed these and other limitations with Treasury officials, staff at the Federal Reserve Bank of New York, and other market experts such as primary dealers and incorporated their suggestions and feedback when appropriate. Despite these limitations, the estimates do suggest that a debt limit event may result in a premium.

Appendix III: GAO Contacts and Staff Acknowledgments

GAO Contacts

Susan J. Irving, (202) 512-6806 or irvings@gao.gov

Gary T. Engel, (202) 512-3406 or engelg@gao.gov.

Staff Acknowledgments

In addition to the contacts named above, Melissa Wolf, Assistant Director; Dawn Simpson, Assistant Director; Thomas J. McCabe, analyst-in-charge; Richard Krashevski, Claire Li, Inna Livits, and Nicole McGuire made key contributions to this report.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday afternoon, GAO posts on its Web site newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to www.gao.gov and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's Web site, <http://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Ralph Dawn, Managing Director, dawnr@gao.gov, (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548

