Global Economics View

Debt Limit—Indecision Raises Long-Term Risks

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- Although the US government may hit the $16.7 trillion debt ceiling, default, however defined, is not a likely outcome. More worrisome is a chronic condition of factious politics, rising structural deficits, and high public debt burdens that will leave the US economy vulnerable to major downturns.
- Treasury's looming deadline and limited cash have raised questions about potential contingency plans. We suspect Treasury ultimately would resort to some combination of prioritization and delayed payments to postpone default.
- If US creditworthiness becomes suspect, current uses of Treasury securities as collateral in the repo market may become impaired. The current debt ceiling impasse is evident in the repo futures market pricing. Disruptive interest rate dynamics could make it difficult for levered fixed-income investors to hold their positions. This creates potential for disorderly unwinding in a low liquidity environment.
- Although the financial effects of the debt limit crisis seem unmistakable, the economic fallout is harder to see. There is now greater uncertainty around our base case view of a second-half pickup followed by 3% growth in 2014. Economic fundamentals are more favorable than in 2011.
- Three alternative scenarios to our baseline case incorporate a technical default and financial market distress. They all conclude that following an immediate default-imposed balanced budget, GDP declines 4 percentage points in the first quarter and the unemployment rate a year out would be considerably higher. Where financial conditions are repaired quickly, the economic damage is contained even where the initial hit from fiscal restraint is severe. Conversely, the recovery may struggle if financial headwinds persist even if fiscal damage is repaired.
- The large-scale immediate imposition of a balanced budget constraint would overwhelm the economy, in our view. We believe the scale and composition of such a radical retrenchment makes it almost impossible to consider this outcome seriously. Because spending and tax flows have a significant seasonal aspect, the balanced budget constraint would not actually obviate the need to borrow.
- The debt ceiling constrains Treasury but does not limit the ability of Congress to incur financial obligations or run deficits. The successful experience with the "PAYGO" framework through most of the 1990s compares favorably with current budgetary procedures. Structural deficiencies in the US fiscal framework will continue to dominate the fiscal outlook in the second half of this decade under current trends.

Debt Limit—Indecision Raises Long-Term Risks

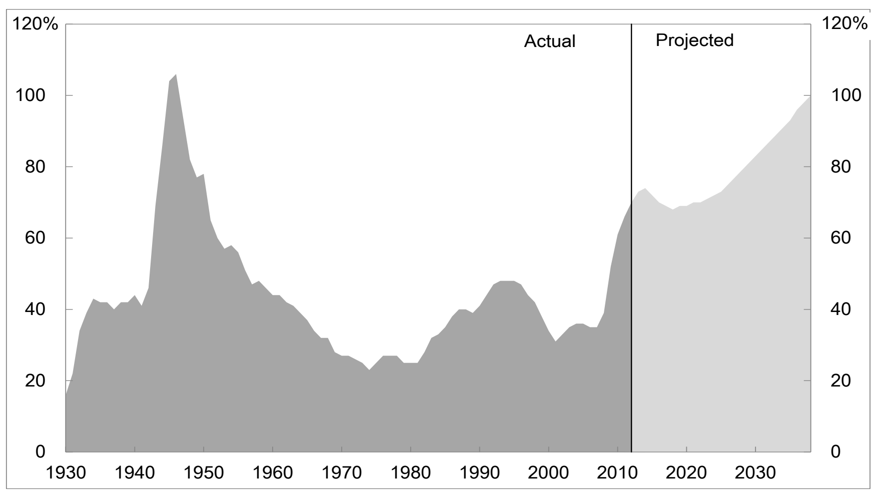
The US government approaches yet another precipice. This time the potential shock comes from hitting the $16.7 trillion debt ceiling.

In the aftermath of last year's fiscal cliff, the US government approaches yet another precipice. This time the potential shock comes from hitting the $16.7 trillion debt ceiling if the US Congress fails to pass legislation to raise the US borrowing limit by October 17.[1] Although the chances of default are widely viewed as remote, intractable political positions on both sides suggest at least a small risk of a very bad outcome. As the clock winds down, that prospect has begun to erode an otherwise favorable financial backdrop. Moreover, the 2011 debt limit crisis and the current shutdown of federal government operations caution about the limitations to fiscal brinkmanship. Warnings from US officials such as Treasury Secretary Lew and a wide range of commentators have prepared global market participants and the general public for a multitude of potentially disastrous outcomes that could threaten the foundations of US and global financial markets. However, we believe that even avoiding worst case outcomes may still impose significant financial damage and potentially meaningful economic costs beyond the current crisis.

Default, however defined, is not a likely outcome. More worrisome is the chronic dysfunction in the policy decision-making process.

We agree that default, however defined, is not a likely outcome.[2] However, more worrisome is the chronic dysfunction in the policy decision-making process that these developments reveal. This latest episode adds to a dubious track record of political impasses that led to 18 government shutdowns and 8 previous debt-ceiling

Figure 1. Federal Debt Held by the Public Under CBO's Extended Baseline, 1930-2038F



Source: Congressional Budget Office.

[1] This is the date that the Treasury estimates that it would exhaust its extraordinary funding measures and must resort to using only its cash balances ($30 billion) to meet expenditures. Of the $16.7 trillion in outstanding debt, $11.9 trillion is held by the public (including the Federal Reserve) and $4.8 trillion is held in government accounts

[2] Moody's (Moody's "Moody's Default Definition and its Application to Sovereign Debt," June 2011 https://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBC_134141) defines a default as "…a missed or delayed disbursement of a contractually obligated interest or principal payment (excluding missed payments that are cured within a contractually allowed grace period), as defined in credit agreements and indentures. " However, Moody's definition of default "… exclude[s]… payments owed on long-term debt obligations that are missed due to purely technical or administrative errors, which are (1) not related to the ability or willingness to make the payments, and (2) are cured in very short order (typically, one or two business days)." S&P default criteria similarly stresses timeliness of payment and has a provision for rating an issue Selective Default (SD) which resembles a technical default.

confrontations since 1974, along with the 2011 near-default crisis.[3] Notwithstanding recent cyclical and sequester-induced improvements to the deficit, official projections anticipate growing structural fiscal deficits will begin to dominate again within just a few years **(Figure 1)**.

A chronic debilitating condition leaves the US economy vulnerable to major downturns.

These chronic symptoms point to a gradually debilitating condition that leaves the US economy vulnerable to unnecessarily deeper downturns. With larger structural deficits only a few years away and the public debt burden already very high, the inability to make timely policy choices may provide the last ingredient in a potentially toxic brew: When the next major recession approaches, countercyclical fiscal policy may be incapacitated and the output and employment losses could be severe. Most important, the current political and fiscal indecision enhances the likelihood that the US is on a course toward a “fiscal trap” of subpar growth, stubbornly high interest rates and greatly diminished scope for countercyclical policy flexibility.

Accepting this premise where the US is faced with an ongoing dysfunction in the policy-making process, and an incipient loss of fiscal policy capacity, this note assesses some near- and longer-term outcomes arising from a failure to raise the debt ceiling. We start by discussing the immediate demands on Treasury cash balances and the uncertainty in estimating the timing of a hard constraint on the ability of the Treasury to pay its obligations. We detail important milestones separating the October 17 date and default, and the efficacy of contingency plans. The next section acknowledges that the US is a special case in the context of a global history of sovereign defaults. Indeed, financial market reactions to the current ominous prospect for default appear muted and complacent, perhaps based on experience from previous episodes.

We next recall lessons learned about the macro implications of the 2011 debt limit crisis, and we construct a baseline scenario that we believe may manifest going forward. Failing to increase the debt limit implies having the federal government “live within its means” —a balanced budget solution. In the subsequent section we discuss the dire consequences such a solution (assuming that it would be possible to implement) would have on the macro economy based on model simulations. The final section concludes with our recommendations for a better fiscal framework that may avoid the disastrous economic and systemic consequences for global financial markets of our current path toward a fiscal trap (and outright default).

Estimating a Default Date—Treasury Cash Flow Demands

Pressure for a solution to the current impasse will rise when the following obligations come due (in addition to $10 billion average daily spending for ongoing government programs):[4]

- October 16, 23: additional Social Security benefit payments (approximately $12 billion each time)
- October 31: interest on Treasury securities (approximately $6 billion)
- November 1: regular Social Security, SSI, Medicare, military pay and veterans’ benefits (approximately $67 billion);

[3] See Tina Fordham and Matthew Dabrowski “Alert: Global Political Insights-Shutdown-apolooza” October 1, 2013 for a detailed discussion and analysis of events leading to and behind the shutdown.

[4] Based on CBO “Federal Debt and Statutory Limit, September 2013” found at http://www.cbo.gov/sites/default/files/cbofiles/attachments/44608-FederalDebt.pdf

- November 13: additional Social Security payments (approximately $12 billion)

- November 15: quarterly interest payments on Treasury securities (approximately $67 billion)

After paying the additional Social Security and interest payments between October 17 and November 1 and allowing for incoming revenues, there would not be enough left of the estimated $30 billion cash holdings to pay the regular November 1 Social Security and related obligations. It is unlikely that the cash-saving aspects of the shutdown have altered this timetable materially, and there remains some chance that Treasury could exhaust its cash on hand ahead of month end. Our working assumption is based on Treasury's experience with cash flow demands. A 98 percent confidence interval around point estimates of cash flow entails a range of plus or minus $18 billion over a one-week horizon and $30 billion two weeks ahead.

Treasury's looming deadline and limited cash has raised questions about potential contingency plans.

The looming deadline and limited cash has raised questions about potential contingency plans. The Treasury has been adamant that there are no legal and prudent alternatives to raising the debt ceiling once cash resources have run out. However, other options may involve possible asset sales, across-the-board payment reductions, and prioritizing or otherwise delaying certain payments. More radical suggestions would have Treasury borrow directly from the Fed, an option that is explicitly off limits based on Section 14 (b) of the Federal Reserve Act.[5]

In its review of Treasury's operations and planning during the 2011 debt limit crisis, the Inspector General's office has summarized the official Treasury positions for the various options.[6] On sales of gold or various financial assets under Treasury's control, Treasury officials worried about undermining confidence or even destabilizing markets for little gain. On many of the other options, Treasury officials did not believe that cash flows could be managed collectively because transactions were so numerous (80 million per month) payments were not organized or integrated. They believed that delaying payments until all obligations could be paid for a given day was probably the "least harmful option" but even this would be difficult because net payments would accumulate irregularly over time.

We suspect Treasury ultimately would resort to some combination of prioritization and delayed payments.

It is important to note that Treasury has no statutory authority to set priorities in payments and the IG report notes that officials probably would leave final decisions to the President in consultation with the Treasury Secretary.[7] In current circumstances, we suspect Treasury ultimately would resort to some combination of prioritization and delayed payments. This may be at least somewhat feasible in those cases where managers can identify large, discrete obligations that are known well in advance. More importantly, interest and principal payments can be separately identified because they are sent over Fedwire.

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[5] At various times in the Fed's history, Treasury has been allowed "overdraft privileges" and did use them up until amendments to the Federal Reserve Act to strengthen the Fed's independence in 1981. As it reads now, the Act indicates that the Fed may purchase direct obligations of the Treasury "but only in the open market."

[6] Response to the Ranking Member, Committee on Finance, U.S. Senate by the Chair of the Council of the Inspectors General on Financial Oversight and Inspector General, Department of the U.S. Treasury, August 24, 2012.

[7] One extreme option proposes that the President invoke Section 4 of the 14th Amendment, which dictates that the "validity of the public debt of the United States…shall not be questioned." Legal opinion has leaned against its applicability. The Constitution gives power over the debt to the legislature and while an executive decision might provide temporary relief, it would likely only further enflame political tensions and prevent policy compromise.

US Has Been Shielded from Market Reactions to Default

The credit history for the US has been (almost) flawless.

The credit history for the US has been (almost) flawless. Indeed any single default likely would not be considered important enough to be systemic (especially accompanied by mechanical failures as in 1979 when the US Treasury first failed to meet its interest obligations—see Annex 1). However, several subsequent failures to raise the debt ceiling in a timely fashion in 1985, and between October 1995 and March 1996 led to warnings from the major rating agencies, including a threat from Moody's for an actual downgrade.

Previously manageable political bickering behind the debt ceiling debate has become more extreme and threatens to push the US into default.

More recently, the historically manageable political bickering surrounding the debt ceiling has become more extreme and threatens to push the US into default. Up to now, there has never been any doubt about the capacity and willingness to pay obligation already incurred. However, now we see that the extreme polarization of the two political parties reflects fundamental disagreements over the size and role of the federal government. This tension not only led to the debt crisis of 2011, but has been magnified, and resulted in a Congressional impasse that shut down government operations.

If global investors and rating agencies perceive the current tendency to political gridlock as a "new normal," then the consequences of hitting the debt ceiling may become dire.

If the current trend that points to more intense and paralyzing political debates becomes perceived by global investors and rating agencies as a "new normal" for the US, then the consequences of hitting the debt ceiling may become dire. Instead of viewing each missed or late payment as a (forgettable) extraordinary event (as in 1979), a political risk premium will likely be embedded into the funding costs of US Treasuries. Such a premium would represent a risk of nonpayment associated with a dysfunctional government. We would enter an era where the US government is willing to hold payment of financial obligations hostage to achieving political ends. [8]

Financial Market Reactions to Prospective US Default

Current uses of Treasury securities as collateral in the repo market may become impaired.

A wide range of issues—legal and economic—associated with a default can be market-moving. On the legal front, US Treasury securities do not contain cross-default clauses, which limits the impact of a default to a specific set of securities.[9] Also, because Treasury securities are widely used as collateral and in repo markets, their questionable legal status would have implications for the ability of these important roles and markets to function smoothly. There is a not-small likelihood that current uses of Treasury securities as collateral in the repo market can become impaired. With money market funds (holding $1.6 trillion in credit market instruments) heavily reliant on repo operations collateralized by US Treasuries, there is potential for significant disruptions.

The current debt ceiling impasse is evident in the repo futures market.

The 2011 debt ceiling event (Aug. 2) raised short-term interest rates. Overnight repo rates spiked almost 30bp (from around 0bp) several days ahead of the debt ceiling vote **(Figure 2)**. This year's debt ceiling impasse is clearly seen in the repo futures market. The September futures market pricing for the average level of repo rates in October averaged 8bp. The more recent implied October average rate of 15bp indicates the expectation of a spike in repo rates later this month **(Figure 3)**.

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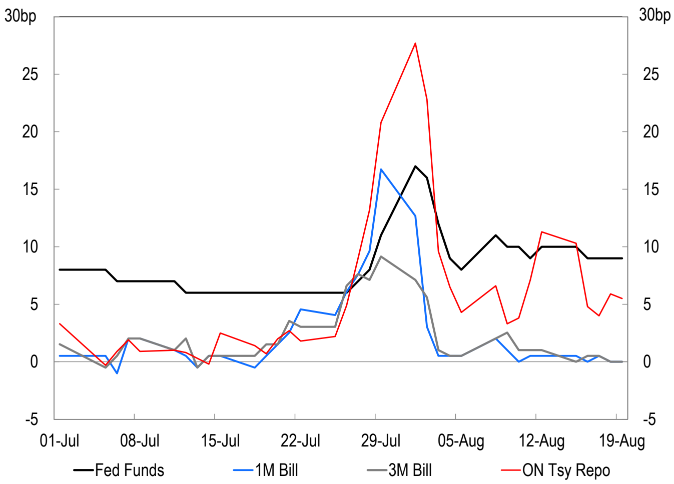
[8] Given that the costs of default have not proven to be prohibitively high (see below), that raises the question as to why sovereigns do not choose to default more often. The role of economic and political factors that drive the default decision is discussed in Buiter, Willem and Ebrahim Rahbari "Why Do Governments Default, and Why Don't They Default More Often," CEPR Discussion Paper No. 9492.

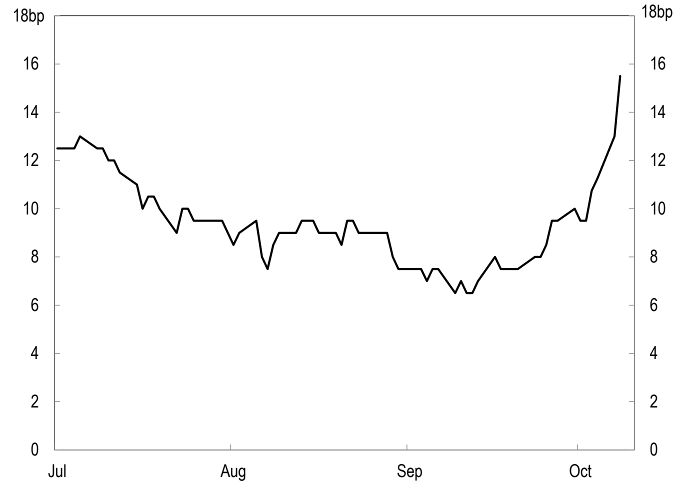
[9] It also is also unlikely that any U.S. debt securities currently allow investors to accelerate the maturities of their debt. One corollary of having a cross-default clauses would be to also allow investors to accelerate the maturities of their debt. For a more nuanced discussion, see Schwarcz, Steven "Rollover Risk: Ideating a U.S. Debt Default" Boston College Law Review, Vol. 55, No. 1, 2014. Available at SSRN: http://ssrn.com/abstract=2307569 or http://dx.doi.org/10.2139/ssrn.2307569

Figure 2. Short-Term Interest Rate Reaction to Debt Ceiling Debate, 2011



Source: Bloomberg.

Figure 3. October Treasury Repo Futures Yield, Jul 13-8 Oct 13



Source: Bloomberg.

Market dynamics could make it difficult for levered fixed-income investors to hold their positions, implying a potential for disorderly unwinding in a low liquidity environment.

This suggests that if the current Congressional impasse goes past October 17, repo rates may become elevated at current or substantially higher levels. Such pricing dynamics would make it difficult for levered fixed-income investors to hold their positions, and there would be potential for a disorderly unwinding in a low liquidity environment.[10] All this disruption would contribute to raising market volatility.

Other Sovereign Defaults

The history and economic costs of sovereign defaults have been studied extensively. However, much of this global and historical precedence is not relevant for the US. One reason is that the US is the issuer of the world's major reserve currency and its debt serves as a major component of global central bank reserves (See Annex 2). Of course, if current trends continue and change global investor and public perceptions about US creditworthiness and its willingness to pay its debt obligations, then costs of sovereign default associated with other sovereigns will likely become relevant.

For most other sovereigns, the costs of default typically fall under four categories: reputational costs, international trade exclusion costs, output costs to the domestic economy from seizing up of the financial intermediation process, and political costs to the authorities.[11] While reputation costs are important for maintaining access to global capital markets, direct sanctions—such as trade embargoes—are becoming regarded as the main way to make governments of open economies repay their debts.[12]

Default costs are significant in size but they are often short lived.

The literature summarizing default experiences appears to conclude that while default costs are significant in size, they are often short lived. Reputation, as measured by credit ratings and spreads, is tainted but only for a relatively short time. Indeed, the research of Reinhart and Rogoff point to the prevalence of serial

[10] Our thanks to our Citi colleague Andrew Hollenhorst for this insight.

[11] See Borensztein, Eduardo and Ugo Panizza, "The Costs of Sovereign Default," IMF Working Paper WP/08/238 The following discussion summarizes their findings.

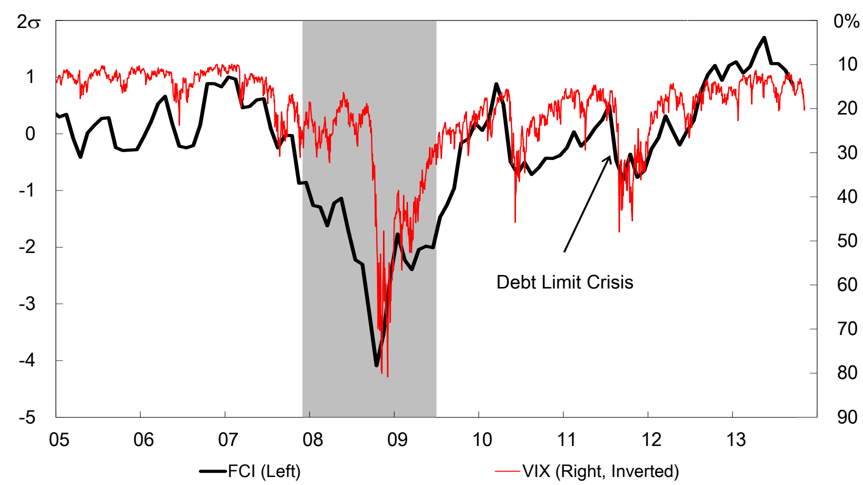
[12] Cross-country studies suggest that default reduces the volume of international trade, either through explicit retaliatory trade policy or else through tighter trade financing conditions for both importing and exporting firms.

defaulters among sovereign borrowers. Debt defaults seem to cause banking crises, and not vice versa, but there is some evidence of default-driven credit crunches in domestic markets. Finally, defaults seem to shorten the life expectancy of governments and officials in charge of the economy in a significant way—voters do remove governments for creating debt crises.

Macro Lessons From The 2011 Debt Limit Crisis

The fiscal showdown in the summer of 2011 offers the nearest precedent to the current standoff over the debt ceiling. Although there was no shutdown in 2011, the budget deficit was still in a range of $1.3 trillion or twice its current level, while "double dip" concern about recovery was the dominant sentiment. In a recent review of that period,[13] Treasury analysts highlight the sharp declines in business and consumer confidence that occurred as well as the increase in volatility that undermined asset prices and relative values across markets. Equities plunged by 17% during that standoff, with much of the damage inflicted after the Budget Control Act was passed and S&P downgraded the US's credit rating. Household wealth declined by $2.4 trillion in 3Q 2011 and credit spreads widened dramatically. Taken together, the events contributed to an abrupt 1.3 standard deviation decline in the Citi FCI in just two months to a borderline restrictive level consistent with subpar growth **(Figure 4)**.

Figure 4. Citi Financial Conditions Index and the VIX, 2005 - 7 Oct 13



Note: The Citi US Financial Conditions Index is a weighted index expressed as standard deviations from the mean of equity values, the dollar, mortgage rates, options-adjusted corporate spreads, money growth, and energy prices.
Sources: Chicago Board Options Exchange and Citi Research.

However, the actual economic fallout from that experience is more difficult to discern. There is no reliable way to know how activity would have fared in the absence of the financial shock. GDP expanded at a very slow 1.4% rate in 3Q, but that was just slightly better than the 0.9% pace of the first half of 2011. It may be that the impact of the fiscal crisis has been masked by the recovery from a collection of earlier drags.[14] The effects of those drags on output probably lingered into 3Q. At the same time, private final demand actually accelerated from 2¼% in

[13] See "The Potential Macroeconomic Effect of Debt Ceiling Brinkmanship," U.S. Department of the Treasury, October, 2013.

[14] At this time there was also a $25/bbl rise in oil prices, and the twin disasters in Japan that shut down production and trade supply lines, which shuttered parts of manufacturing and slowed retailers' access to consumer goods.

the first half to a 4% annual rate in 3Q, led by strong gains in business investment and consumer spending on durables, segments that should have been vulnerable to a shock to confidence.

Although the financial effects of the debt limit crisis seem unmistakable, the economic fallout is harder to see.

Although the financial effects of the debt limit crisis seem unmistakable, the economic fallout is harder to see. Moreover, some of the financial stresses of that period reflected fallout from the flare ups in European banking and sovereign debt markets. As financial conditions rebounded in subsequent months, this muted the potential economic impact. This experience may be helpful in thinking about how the current chapter will play out.

Simulating A Balanced-Budget Scenario

There is a greater uncertainty around our base case view of a second-half pickup followed by 3% growth in 2014. Economic fundamentals are more favorable than in 2011.

Scenario I (Base Case): Given the fiscal impasse, there's a greater uncertainty around our base case view of a second-half pickup followed by 3% growth in 2014. We have trimmed 0.3% off our October forecast for Q4 growth **(Figure 5)** and added the difference back into the first half of next year. This reflects the impact of a longer shutdown than we assumed previously, extending closer to a full month but on a smaller scale because some furloughed workers have been recalled. A temporary extension (or suspension) of the debt ceiling resolved between October 16 and October 31 would likely weaken financial conditions. However, the experience of 2011 suggests that activity may remain unaffected if sentiment recovers post-resolution.

Politics aside, we still judge that the economic fundamentals are more favorable with fewer obstacles to expansion than in 2011 and the Fed remains fully committed to underpinning financial conditions through both QE and aggressive guidance. If borrowing authority is extended by six weeks and a partial shutdown extends into November, that probably would immobilize a data-starved Fed easily into next year. For now, we have left in place a timetable for Fed tapering to begin in the next few months, with the greatest probability centered on December or January.

Nonetheless, the base case remains at the mercy of fiscal deliberations that reflect a surprising willingness on both sides to risk serious harm. If the debt limit is not resolved before Treasury exhausts cash around end-October or November 1 at the very latest, the chances of greater negative fallout on markets and the economy would rise quickly and significantly. So as with the threat of the fiscal cliff last year, the uncertain path of fiscal policy raises the value of analyzing alternative and more complicated fiscal and market scenarios. Although the restraint from higher taxes and sequestration are beginning to fade, the risks associated with shutdown and default now dominate but are especially hard to quantify. So the results below are intended as rough first guesses.

In its recent review of the 2011 debt showdown, Treasury noted that "a default would be unprecedented and has the potential to be catastrophic: credit markets could freeze, the value of the dollar could plummet, U.S. interest rates could skyrocket," and there could be a recession that would replay the crisis of 2008 or worse. We are not going to define a scenario to replicate this outcome. However, there may be value in scenarios that explore the effects of a massive fiscal shock compounded by severe erosion in financial conditions.

We ran three alternatives to our baseline incorporating a technical default and financial market distress.

We ran simulations based on three alternatives to our baseline **(Figure 5)**. There are three important distinctions. In the first case, we assume a temporary or technical default followed by a full recovery. In this first simulation, we mimic market outcomes similar to those of the 2011 crisis with a large but temporary (one quarter) financial shock compounded by a temporary balanced budget constraint. In a more extreme scenario, we assume an extended fiscal impasse in which the government

is forced to operate on a balanced budget basis and where the damage to financial conditions is not repaired. In the final case, we examine an outcome in which the shutdown ends after a delay with the budget constraint lifted, but the damage to financial conditions proves more lasting. We have heard concerns along these lines among a number of investors.

Figure 5. Economic Outcomes of Debt Ceiling Scenarios, 4Q 13-14

	4Q 13	1Q 14	2Q 14	3Q 14	4Q 14
I. Base Case					
Real GDP Growth Rate	2.4%	2.8%	2.9%	3.1%	3.2%
Unemployment Rate	7.1	7.0	6.9	6.7	6.6
II. Technical Default					
Real GDP Growth Rate	-4.1	3.2	2.5	5.1	4.4
Unemployment Rate	7.7	7.9	7.8	7.6	7.1
III. Extended Impasse					
Real GDP Growth Rate	-4.1	-3.3	-3.2	-0.3	1.3
Unemployment Rate	7.7	8.4	9.0	9.6	9.8
IV. Delayed CR, Lasting Financial Damage					
Real GDP Growth Rate	-4.1	3.2	0.1	3.0	2.7
Unemployment Rate	7.7	7.9	8.0	8.1	8.0

Source: Citi Research.

Scenario II (Technical Default): Based on the experience in 2011, we impose a two sigma event of deteriorating financial conditions (using the Citi FCI). This incorporates a 25% decline in equity values and a rise in credit spreads that raises mortgage rates by about 100 basis points. In addition, there would be a massive direct shock to the economy of several hundred billion dollars, due to an automatic pullback in government spending to balance the budget immediately. To remain true to historical experience captured in the model estimates, we made a less radical fiscal assumption that spending would drop by $220 billion, or not quite what a balanced budget would require. (See discussion of balanced budget non-solution below).

This alternative assumes a technical default in which Treasury runs out of cash and new borrowing authority is delayed, but there is an agreement that restores full government spending and the debt ceiling by yearend. In this simulation, markets revert back to our base case outlook for moderate growth and modestly accommodative financial conditions. In our simulation, the financial hit alone has a lagged effect that mainly dampens growth early in 2014. But the sudden fiscal drag crushes growth immediately. Compared to the base case, growth is down 6½% in the fourth quarter, more than enough to arrest even an improving economic expansion. This outcome implies the unemployment rate jumps toward 8% in the first half of 2014.

The fact that government spending is restored in the first quarter and markets rebound, means that this shock has no lasting effects on growth. Our simulation shows that growth quickly returns to the base case in the first half and by the second half of 2014 growth is significantly higher as the economy catches up to the previous trend.

Scenario III (Extended Impasse): In this case, the debt ceiling is binding for an extended period (and as discussed below, a virtually unworkable outcome in reality and only possible in the abstract), and is much more damaging to the economy. In that case, financial markets do not recover their losses and the cuts in government

spending remain in place. The permanent market hit alone causes a loss of growth in 2014 of more than 2 percentage points. Beyond that, the permanent reduction in government spending causes a full-blown recession. Economic activity contracts for three consecutive quarters (starting now), and over a four-quarter span GDP would decline by 2.7%. The unemployment rate rises to about 9½% by the end of 2014.

Scenario IV (Delayed CR, Lasting Financial Damage): Our last scenario allows for the resolution of the fiscal deadlock without significant fiscal drag. However, in this case global markets are less forgiving and the cumulative effects of fiscal dysfunction begin to weigh more permanently on financial conditions. Although this outcome is not our base case, it may be a legitimate foreshadowing of global investors and the public's growing concern about the medium-term costs of the U.S.'s unsustainable public debt and the lack of focus on structural reforms to produce a viable and credible fiscal framework.

All these alternatives conclude that the unemployment rate a year out would be considerably higher.

On balance, all these alternatives carry important warnings. First, in all cases, the unemployment rate a year out is considerably higher than it would be otherwise; a half point higher in the least bad outcome. In that scenario, GDP still would be about a full percentage point lower in one year than in our base case for growth. In the more extreme version, GDP is more than five points lower than in the base case and unemployment roughly 3 points higher in a year.

Where financial conditions are repaired quickly, the economic damage is contained even if the initial hit from fiscal restraint is severe.

Second, the exercise illustrates (to the extent that historical relationships can predictably capture the channels through which default would operate) the importance of how financial conditions react and settle in the wake of fiscal turmoil. When financial conditions are repaired quickly, the economic damage is contained even where the initial hit from fiscal restraint is severe. The converse also holds where even if fiscal damage is repaired, the recovery may still struggle if financial headwinds persist.

All of these scenarios illustrate the potentially damaging and immediate effects of imposing a balance budget virtually overnight. In each instance, GDP declines 4% in the first quarter.

Finally, all of these scenarios illustrate the potentially damaging and immediate effects of imposing a balance budget virtually overnight. In each instance, GDP declines 4% in the first quarter.

The Balanced Budget Non-Solution

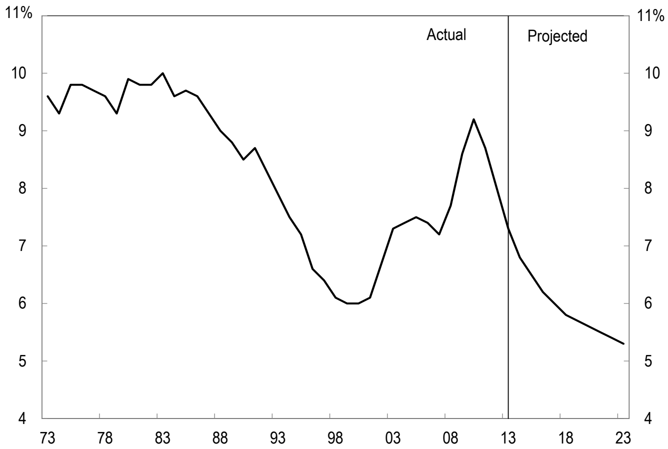
Our simulations demonstrate that a large-scale immediate imposition of a balanced budget constraint would overwhelm the economy and bring the recovery to an abrupt halt. On paper, the cuts to spending would impose fiscal restraint that would rival the fiscal cliff dodged at the start of the year, something on the order of 4% of GDP.

The large-scale immediate imposition of a balanced budget constraint would overwhelm the economy.

The scale and composition of such a radical retrenchment makes it almost impossible to consider this outcome seriously.

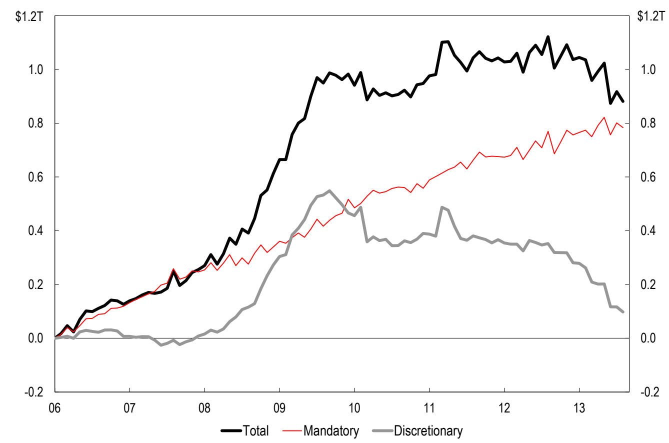
However, the scale and composition of such a radical retrenchment makes it almost impossible to consider this outcome seriously. Apart from the economic effects of this pullback, some of the most basic functions of the federal government would be undermined fairly quickly. Because most federal spending is mandatory or outside of the annual budget appropriation process, all of the required spending cuts would fall on already shrinking discretionary areas of the budget, that are approaching only 5% of GDP, the lowest in decades **(Figure 6)**. Indeed, this is where recent deficit-reduction efforts have been concentrated as the 2011 spending caps and this year's sequester have forced discretionary spending nearly back to dollar levels that prevailed before the recession **(Figure 7)**.

Figure 6. Discretionary Spending as Percent of GDP (Forecasts are from CBO), 1973-2023F



Source: Congressional Budget Office.

Figure 7. Federal Outlays By Type (Cumulative Change), 2006-Aug 13

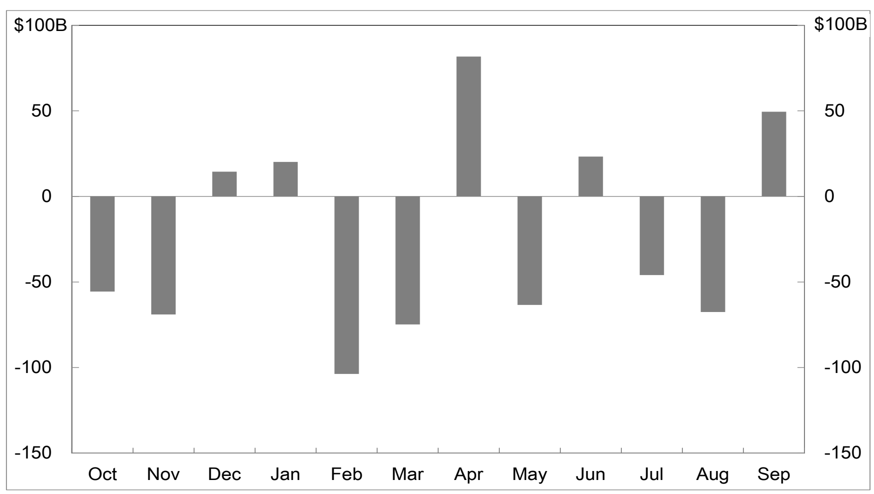


Sources: U.S. Treasury and Citi Research.

Because spending and tax flows have a significant seasonal aspect, the balanced budget constraint would not actually obviate the need to borrow.

Assuming round numbers, the deficit (before feedback effects) could approach around $500 billion this fiscal year. With spending caps leaving discretionary spending below $1.2 trillion, that would imply cuts of roughly 40% for areas including much of national defense, homeland security, a wide array of core government functions as well as research and development, education and social programs outside the entitlement net. Moreover, because spending and tax flows have a significant seasonal aspect to them the balanced budget constraint would not actually obviate the need to borrow. **Figure 8** illustrates this seasonal pattern to cash flows based on the average experience of the non-recession years between 2002 and 2007. Typically, the fiscal year begins with a relative dearth of revenues and deep deficits well into the first calendar quarter, especially as tax refunds cumulate ahead of final spring tax payments. As a result, the burden on Treasury would prove overwhelming from the outset.

Figure 8. Average Monthly Budget Balance (Billions of Dollars), 2002-2007



Source: U.S. Treasury.

Policy Options to Limit Unsustainable Deficits and Debt

The debt ceiling does not limit the ability of the government to incur financial obligations or run deficits.

Despite rhetoric to the contrary, the debt ceiling does not limit the ability of the government to incur financial obligations or run deficits.[15] One reason the US has incurred repeated near-crises involving the debt ceiling is because of legacy requirements for a nominal debt limit is inconsistent with the ability to legislate expenditures with little regard for funding.[16] Indeed those countries with fiscal frameworks and rules that attempt to limit the size of deficits and debt (e.g., Germany) do so with caps on the ratio of deficits and debt to GDP, not a nominal limit.

The successful experience with the "PAYGO" framework through most of the 1990s compares favorably with current budgetary procedures.

Although fiscal rules are no guarantee of stability, the successful experience with the "PAYGO" framework through most of the 1990s compares favorably with the unpredictability and pathology of current Congressional-Executive Branch decision making procedures.[17] While it's true that the 2011 spending caps and this year's sequestration have played a part in shrinking deficits, these actions have placed virtually the entire burden of consolidation on a very small part of the budget that includes basic government operations and leaves untouched a growing structural shortfall in funding retirement and health care commitments.

Structural deficiencies in the US fiscal framework will continue to dominate the fiscal outlook in the second half of this decade.

Most important, these structural deficiencies in the US fiscal framework will continue to dominate the fiscal outlook in the second half of this decade when the US already has an outsized public debt burden. Under most reasonable scenarios, that large debt relative to GDP will resume growing later this decade and will likely overshadow the immediate cyclical improvement. The political forces that enabled the growth of entitlements coupled with the aging US demographic profile will be the fodder of future government shutdowns and debt limit standoffs.

Concluding Thoughts

As we write, financial markets have steadied for the moment and there is news that the Administration and Congressional Republicans are getting together with the possibility of building at least a short-term bridge to avoiding default. As yet, there is no credible basis for optimism that negotiations will yield more than a delay to stave off worst-case outcomes. In testimony this morning, Secretary Lew reaffirmed that extraordinary measures to remain within the debt ceiling will be exhausted no later than October 17, while the shutdown and its economic effects have made estimates of near-term cash flows more uncertain. Most important, he indicated that "there are

[15] According to the General Accountability Office report "Debt Limit" GAO Report GAO-12-701 July 2012 found at http://www.gao.gov/assets/600/592832.pdf : "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."

[16] Legislating an aggregate debt ceiling was an innovation in 1917. Prior to that time the Congress separately authorized the size of each debt issue.

[17] PAYGO was a feature of the Budget Enforcement Act of 1990 that required all increases in direct spending or revenue decreases to be offset and be deficit neutral. PAYGO helped to lower the deficit from 4.5 percent of GDP and contributed substantially to a surplus of 2.5 percent in 2000. Congress began to circumvent PAYGO rules in the late 90s and it was allowed to expire in 2002, paving the way for large tax cuts and entitlement expansion. More recent attempts to resurrect it were not sustained.

no legal and prudent options to extend the nation's borrowing authority and provide Congress with more time to act.

Barring an unlikely "grand bargain" solution in the next days or weeks, the authorities might very well avoid the worst of the fiscal and financial meltdown scenarios that we have outlined. But they may still continue to march the US economy down a precarious path over a longer horizon approaching the next cyclical downturn. We believe this episode underscores that the US is on a course toward a "fiscal trap" of unsatisfactory growth, higher real interest rates and narrowing scope for countercyclical policy flexibility. The three key elements of this are a) a broken policy-making process, b) rising medium-term deficits, and c) an already high debt burden. Resolving the first of those would relieve much of the risks attached to the latter two but as events have shown, policymakers' inaction has already reinforced concern. Ultimately, a more robust and transparent fiscal framework that reconciles political and economic goals is needed if the U.S. is going to avoid a future public debt crisis.

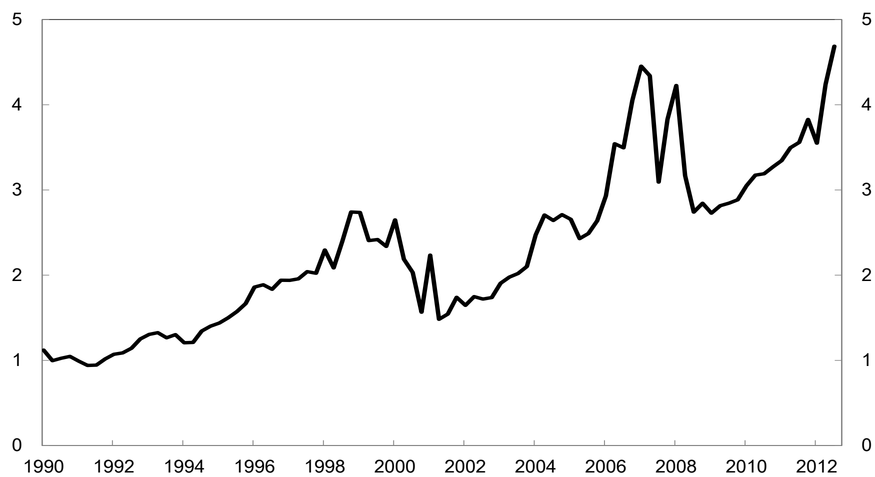
Annex 1—The 1979 US Default

In 1979, the debate and subsequent delays in lifting the federal debt ceiling contributed to a technical default on US Treasury bills over a three week period. Delays in passing an increase to the debt ceiling in April 1979 (along with massive failures of Treasury word processing equipment) prevented the U.S. government from borrowing sufficient funds and repaying debt maturing on April 26, May 3, and May 10.[18] Following a lawsuit by investors, and the passage of subsequent legislation (the Gephardt Bill HR6054) compensation was offered (and accepted by 80 percent of plaintiffs) for the delay. Econometric evidence from an event study suggests this "technical default" contributed to a prolonged increase in Treasury rates by 60 basis points (when average rates were 9.7 percent) or about $12 billion in additional funding costs.[19] Despite its unprecedented nature, this event has gone almost unnoticed until recently.

Annex 2—The US Dollar As A Reserve Currency

Unlike most sovereigns studied in the literature, the US holds a special status as an anchor for many other currencies, and as the issuer of the world's reserve currency.[20] If US creditworthiness and political stability are questioned because of sequential technical defaults stemming from political dysfunction, global investors may want to shift to alternative currencies.

Figure 9. Ratio of Foreign Holdings of US Federal Debt to US Private Savings, 1990-2Q 12



Sources: Bureau of Economic Analysis and U.S. Treasury.

[18] Moody's defines a default as "…a missed or delayed disbursement of a contractually obligated interest or principal payment (excluding missed payments that are cured within a contractually allowed grace period), as defined in credit agreements and indentures. " However, Moody's definition of default "… exclude[s]… payments owed on long-term debt obligations that are missed due to purely technical or administrative errors, which are (1) not related to the ability or willingness to make the payments, and (2) are cured in very short order (typically, one or two business days)." S&P default criteria similarly stresses timeliness of payment and has a provision for rating an issue Selective Default (SD) which resembles a technical default.

[19] Zivney, Terry L. and Richard D. Marcus, "The Day the United States Defaulted on Treasury Bills," Financial Review., Aug. 1989

[20] As of 2010, 90 countries maintained dollar pegs, 8 other countries were dollarized or had currency boards against the dollar, and 9 countries maintained a managed float with the dollar as the reference currency. Also the US dollar constitutes a majority (62 percent) share of the $11.1 trillion stock of official foreign exchange reserves.

Currently, alternative assets are scarce given the economic and political difficulties in the euro area, and the lack of convertibility of the Chinese Renminbi. Nevertheless, a small shift in the demand for U.S. Treasury debt by foreigners may significantly raise funding costs. As shown in the **Figure 9**, foreign debt holdings are currently at a historic high relative to U.S. private savings. A small reallocation of reserve holdings (e.g., change in rollover policy) would swamp the relatively small level of US savings available to crowd in to replace the foreign demand. Moreover, foreign Treasury holdings are relatively concentrated in a few countries (i.e., 23 percent of marketable U.S. debt owned by foreigners is owned by investors in China and 20 percent is owned by investors in Japan), which may amplify the likelihood of such a portfolio switch.

A diminished role for the US dollar as a reserve currency and for U.S. Treasuries as a safe haven would also likely raise uncertainty about the dollar and perhaps weaken it. Following the credit ceiling event in 2011, the standard deviation of daily changes in the dollar index rose by 10 percent while indications from the futures market implied that this volatility surge was temporary. Along with increased dollar volatility, the weaker dollar could influence the stance of U.S. monetary policy by creating price pressures to tighten prematurely.

Appendix A-1

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