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Thinking the Unthinkable: Stress-Testing a U.S. Treasury Technical Default

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Introduction

The Congressional Budget Office and the U.S. Department of the Treasury projected that the United States government would no longer be able to pay its bills on June 5th, 2023, a date often referred to as the "X-date." This scenario was narrowly avoided with an agreement reached and passed into law on June 2nd, but had these talks failed and the United States slipped into technical default,[1] we could have reasonably expected a financial market crisis equal to or exceeding the 2008 crisis triggered by the collapse of Lehman Brothers. Given that the current agreement is only likely to cover debt requirements out to 2025, it is perhaps prudent for insurers to add a U.S. Treasury technical default scenario to their existing stress-testing framework.

But what impact might such a scenario have on financial markets? In this short article we discuss the likely effects of a technical default of Treasuries and introduce two possible scenarios for how the crisis might play out. These two scenarios could be used as a basis for current or future scenario analysis.

What Would Happen If the Debt Ceiling Were Breached?

With increasing political divisions within the U.S., the likelihood of a default scenario is perhaps higher now than at any other time in recent history. Given how close to the X-date agreement is often reached and the frequency with which the debt ceiling must be raised, it is a highly plausible scenario that the U.S. at some point in the future fails to meet its obligations to bond holders, either accidentally (e.g., from overestimating the X-date) or by political intransigence.

There is no historical precedent for such an event, but while the effects are perhaps difficult to predict, any default scenario, even if it was technical in the sense of a delay of several days in paying obligations, is likely to be accompanied by large equity drawdowns, increased yields and borrowing costs, higher unemployment, and shocks to credit spreads on corporate bonds. The effect on households and the real economy would be cataclysmic in the short and medium term, perhaps like no other crisis we have known. With few fiscal or monetary options to buffer households from the worst of the storm, the crisis would have to be solved at the negotiating table. By then the damage would be done, however, and the effect of the crisis compounded with the panoply of recent crises could take many years to recover from.

In this article, we consider two possible scenarios for the aftermath of a default: a brief and transitory default and a protracted default. These are discussed further in the sections below, and scenarios for the United States economy are proposed which could be used for stress-testing and scenario analysis.

Timeline of Recent Congressional Negotiations on the Debt Ceiling

To understand why it is important to include a U.S. Treasury technical default scenario as part of an ongoing scenario analysis framework, it is necessary to understand the historical context as well as the recurring nature of debt ceiling negotiations. While in many cases, an increase in the debt ceiling has been agreed to with little drama, over the past 20 years the United States has faced multiple instances of major political battles surrounding the issue.

The timeline below highlights some significant milestones:

2001: The debt ceiling is raised as part of the Economic Growth and Tax Relief Reconciliation Act.

2003: The debt ceiling is raised again, accompanied by the passage of the Jobs and Growth Tax Relief Reconciliation Act.

2006: The debt ceiling is raised once more, following the passage of the Tax Increase Prevention and Reconciliation Act.

2011: The debt ceiling negotiations become highly contentious,

1 In the case of most Sovereign debt defaults, including the type discussed here, payments are usually either delayed until tax revenues are collected or the bonds are restructured in some way, for instance by lengthening the term of the bond. For this reason we talk here about the default as being technical rather than a debt services default in which the issuer is (usually) insolvent.

resulting in the Budget Control Act and the creation of the "Super Committee" to address long-term deficit reduction.

2013: The debt ceiling is temporarily suspended as part of the Bipartisan Budget Act.

2015: Another temporary suspension of the debt ceiling occurs under the Bipartisan Budget Act.

2018: The debt ceiling is suspended once again, providing temporary relief.

2019: The debt ceiling is temporarily lifted as part of a bipartisan agreement.

2021: The debt ceiling is reached, and negotiations went down to the wire before an agreement was finally reached to extend the borrowing limit to cover its obligations out to 2023.

2023: An agreement to raise the debt ceiling through 2025 is agreed with the passing of The Fiscal Responsibility Act by the House (majority vote of 314 to 117), and narrowly in the Senate (63 to 36, with 60 votes needed to pass the bill) just days before a default.

Throughout this timeline, a pattern of recurring debates and temporary solutions surrounding the debt ceiling can be observed. The most recent negotiations reflect the ongoing challenges in reaching a consensus on fiscal policy and spending priorities.

Scenario Definitions

Short/Transitory Default Scenario

A transitory default would most likely be characterized by equity markets plunging, a shock to Treasury yields, and spiking credit spreads, as everything dollar-related becomes less attractive to global investors. In this scenario, the assumption is made that the fallout is so severe that the political will to raise the debt ceiling will outweigh the desire for political brinkmanship, but not before significant damage is inflicted on the real economy, the reputation of U.S. Treasuries as the ultimate safe-haven, the dollar, and dollar-denominated assets. Under this scenario, an agreement to raise the debt ceiling is reached within only days of the X-date, but market effects including a recession are still being felt into the following year.

An expert judgment as to the possible effects of this transitory default scenario for a range of financial variables is shown in **Table 1**, based on an analysis of data from past crises and previous shocks to financial variables. As can be seen, the effects are likely to be instantaneous for liquid assets, with further negative impacts lasting three months after the X-date, before the economy and financial markets rebound, albeit not entirely to their previous levels. Under this scenario, unemployment spikes within the first quarter, credit spreads jump, with lower-rated bonds falling back to normal levels more slowly than higher-quality investment grade, and the U.S. falls into a long recession consistent with what was experienced in the aftermath of the Lehman Brothers crisis.

Protracted Default Scenario

The effects of a protracted default scenario would, in the short term, be similar to the transitory default scenario. The X-date effect would be identical, as the market would have identical information at the onset of the crisis, but panic sets in as it becomes clear to financial markets that a resolution to the crisis is

Table 1: Short/Transitory Default Scenario

			Absolute changes per quarter					
Horizon	Equity price return	Dividend yield	Treasury 3 month	Treasury 5 year	Treasury 10 year	AAA 3 month	AAA 5 year	AAA 10 year
X-Date	-25.00%	1.70%	2.00%	2.00%	2.00%	1.50%	1.18%	1.06%
+3 months	-10.00%	2.66%	2.00%	2.00%	2.00%	-1.35%	-1.06%	-0.96%
+6 months	5.00%	2.57%	-2.00%	-2.00%	-2.00%	-0.11%	-0.08%	-0.07%
+9 months	6.90%	1.76%	-1.50%	-1.50%	-1.50%	-0.05%	-0.04%	-0.03%
+12 months	6.90%	1.76%	-1.00%	-1.00%	-1.00%	0.00%	0.00%	0.00%

	Absolute changes per quarter							
Horizon	A 3 month	A 5 year	A 10 year	HY 3 month	HY 5 year	HY 10 year	Rate unemployment	Rate GDP
X-Date	1.90%	1.49%	1.41%	4.18%	3.90%	3.78%	3.50%	—
+3 months	-1.71%	-1.34%	-1.27%	-2.93%	-2.73%	-2.64%	5.00%	-0.73%
+6 months	-0.13%	-0.10%	-0.10%	-0.84%	-0.78%	-0.76%	4.90%	-1.87%
+9 months	-0.06%	-0.04%	-0.04%	-0.42%	-0.39%	-0.38%	4.50%	-3.26%
+12 months	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.00%	-3.02%

not rapidly forthcoming. Over subsequent quarters, global investors reassess their belief in the dollar as the ultimate safe haven; equity markets tumble, Treasury yields spike to historically high levels, and unemployment peaks at over 8%. The effect on household budgets becomes highly constraining, pushing the U.S. into the deepest recession since the Great Depression. Towards the end of the first quarter, and after much divisive political brinkmanship, a tacit agreement is reached which narrowly passes the upper house. A return to pre-crisis levels is slow, however, as markets demand legislative changes to the system for setting the debt ceiling, with the full understanding that any change is likely to take years to negotiate and pass into law, leaving the door open for a rerun of the crisis at some point in the near future.

Our expert judgment of the effects of this scenario on a range of financial market variables is shown in **Table 2**.

Other Scenarios to Consider

The scenarios presented above are two of the most probable paths if an agreement to raise the debt ceiling cannot be reached before the X-date. However, as Mark Twain famously said, "It is difficult to make predictions, particularly about the future," and there are scenarios that run counter to our natural understanding of financial market dynamics that are worth considering. Below we suggest three additional scenarios.

Treasury Yields Fall — A counterintuitive yet plausible scenario worthy of consideration is that Treasury yields, or those for some maturities, fall rapidly. It is not clear what would be considered the risk-free asset in the case of a technical default on Treasuries; however, the market volatility caused by such an event would trigger margin calls and a flight to quality, the effects of which are difficult to predict. It is still possible that the market would view a technical default as purely technical with no immediate consequences to the safety of capital invested. In this situation, the increased demand for Treasuries would push yields lower rather than higher. Additionally, we might see yield curve shapes that are far from what we consider to be normal.

Negative Spreads on High-Quality Corporate Bonds — In a protracted crisis, there is potential for the market to view high-quality, AAA-rated corporate bonds as safer than the equivalent government bond, pushing credit spreads negative. This might be especially true if the dollar were to devalue significantly, making dollar-denominated exports more attractive and cash flows from contingent claims on high-quality corporate bonds more stable. Additionally, profitable, well-capitalized corporate issuers with no near-term refinancing pressures may be viewed as safe on a relative basis.

Flight to Bunds — In this article we have taken a decidedly U.S. perspective, however any crisis hitting the safety of Treasury bonds would have global repercussions. It could be imagined, for instance, that the German Bund temporarily becomes attractive to investors as the go-to safe-haven asset. This could push bund yields lower or once again negative as demand outstrips supply. The outpouring of capital from the dollar would further weaken the currency.

Table 2: Protacted Default Scenario

			Absolute changes per quarter					
Horizon	Equity price return	Dividend yield	Treasury 3 month	Treasury 5 year	Treasury 10 year	AAA 3 month	AAA 5 year	AAA 10 year
X-Date	-25.00%	1.70%	2.00%	2.00%	2.00%	1.50%	1.18%	1.06%
+3 months	-20.00%	2.66%	3.50%	3.00%	2.50%	-1.35%	-1.06%	-0.96%
+6 months	0.00%	2.57%	0.00%	0.00%	0.00%	-0.25%	-0.24%	-0.24%
+9 months	1.00%	2.31%	-1.00%	-1.00%	-1.00%	0.00%	0.00%	0.00%
+12 months	2.00%	2.08%	-1.50%	-1.00%	0.50%	0.20%	0.30%	0.30%

	Absolute changes per quarter							
Horizon	A 3 month	A 5 year	A 10 year	HY 3 month	HY 5 year	HY 10 year	Rate unemployment	Rate GDP
X-Date	1.90%	1.49%	1.41%	4.18%	3.90%	3.78%	3.50%	—
+3 months	-1.71%	-1.34%	-1.27%	-2.93%	-2.73%	-2.64%	8.50%	-5.77%
+6 months	-0.07%	-0.05%	-0.05%	-0.42%	-0.39%	-0.38%	6.00%	-1.87%
+9 months	-0.03%	-0.02%	-0.02%	-0.21%	-0.19%	-0.19%	6.00%	-3.26%
+12 months	-0.10%	-0.07%	-0.07%	-0.63%	-0.58%	-0.57%	6.00%	-3.02%

Summary

The prospect of the United States government defaulting on its debt, even temporarily, is hard to imagine. However, it is the job of risk management to contemplate the unthinkable and ensure the robustness of a business in the aftermath of any plausible event or scenario. In this article, we have looked at two possible scenarios of how a technical default on U.S. Treasuries might play out in the financial markets. These should be used for stress-testing along with traditional approaches, such as the use of stochastic models embedded within an economic scenario generator such as the GEMS® Economic Scenario Generator from Conning to ensure adequate risk capital coverage.

The possibility of a technical default on U.S. Treasuries poses significant risks to the financial markets and the broader economy. Insurers and risk managers should act now to better understand these risks and ensure their business's resilience.

About the Author

Matthew Lightwood, Ph.D, BSC (HONS), is a Director at Conning where he is responsible for product management, quantitative modeling and providing technical expertise in economic modeling to support both prospective and new clients using the GEMS® Economic Scenario Generator. Prior to joining Conning in 2010, he was employed as a Senior Risk Consultant, where he was responsible for financial modeling as well as managing and implementing large professional services projects for financial clients. Matthew is a graduate of the University of Manchester and University College London, where he earned a BSC (HONS) in Physics with Astrophysics and a Ph.D in High Energy Particle Physics.

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