Capital Markets Strategy

Essential inCights for the C-Suite

MUFG

The $31.381 Trillion Debt Ceiling

Political Risk Assessment, Expectations & Markets

MAY 2023

“Great powers don’t default.”

Matt Pottinger, Hoover Institute, and
Daleep Singh, PGIM in Foreign Affairs (April 27, 2023)

Treasury Secretary Alexander Hamilton's First Report on Public Credit to the US House of Representatives, January 1790

"That an adequate provision for the support of the Public Credit, is a matter of high importance to the honor and prosperity of the United States…

And as on the one hand, the necessity for borrowing in particular emergencies cannot be doubted, so on the other, it is equally evident, that to be able to borrow upon good terms, it is essential that the credit of a nation should be well established.

For when the credit of a country is in any degree questionable, it never fails to give an extravagant premium, in one shape or another, upon all the loans it has occasion to make. Nor does the evil end here; the same disadvantage must be sustained upon whatever is to be bought on terms of future payment.

From this constant necessity of borrowing and buying dear, it is easy to conceive how immensely the expenses of a nation, in a course of time, will be augmented by an unsound state of the public credit…

…This reflection derives additional strength from the nature of the debt of the United States. It was the price of liberty. The faith of America has been repeatedly pledged for it, and with solemnities, that give peculiar force to the obligation…"

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US Debt & Deficits

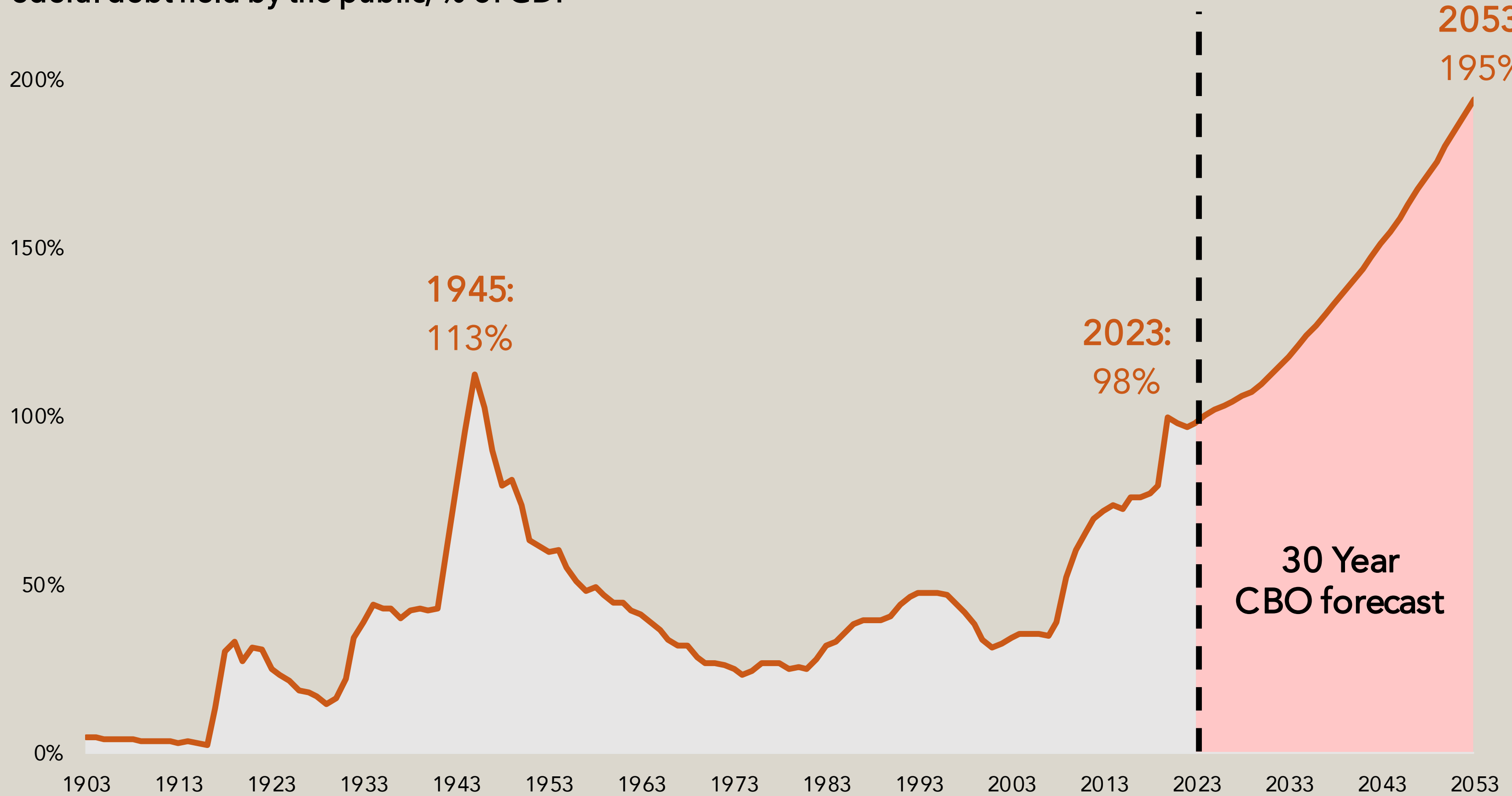
**“So full of artless jealousy is guilt.
It spills itself in fearing to be spilt.”**

William Shakespeare,
in Act 4, Scene 5 of his longest play, Hamlet (1599-1601)

Federal Debt to Reach 195% of GDP in 2053

Over the three years since COVID began, US Government debt/GDP increased from approximately 70% to nearly 100% today, a milestone previously not expected to be reached for a decade. Current CBO projections have US debt rising to nearly 120% in 2033, and 195% in 2053.

Federal debt held by the public, % of GDP

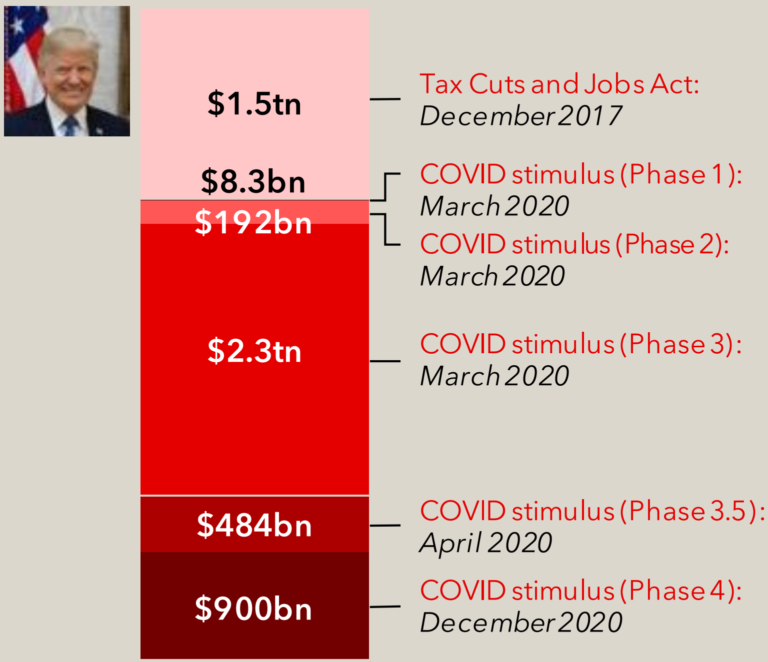


Source: (1) Congressional Budget Office. Long-Term Budget Projections (Feb 2023). Historical Data on federal Debt Held by the Public.

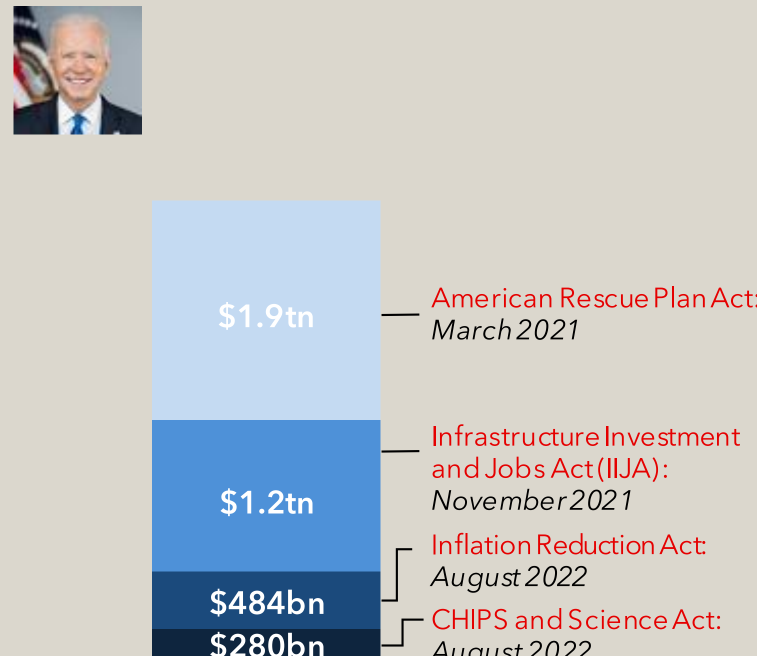
Nearly $10 Trillion of Stimulus in 5 Years

Over the last 5 years, the US government passed nearly $10 trillion of fiscal stimulus into law. While large portions of the COVID-era stimulus were needed, the build up of excess liquidity in the system has undoubtedly contributed to today's inflation and financial stability challenges.

Trump



Biden



$5.4 trillion + **$3.9 trillion** = **$9.3 trillion**

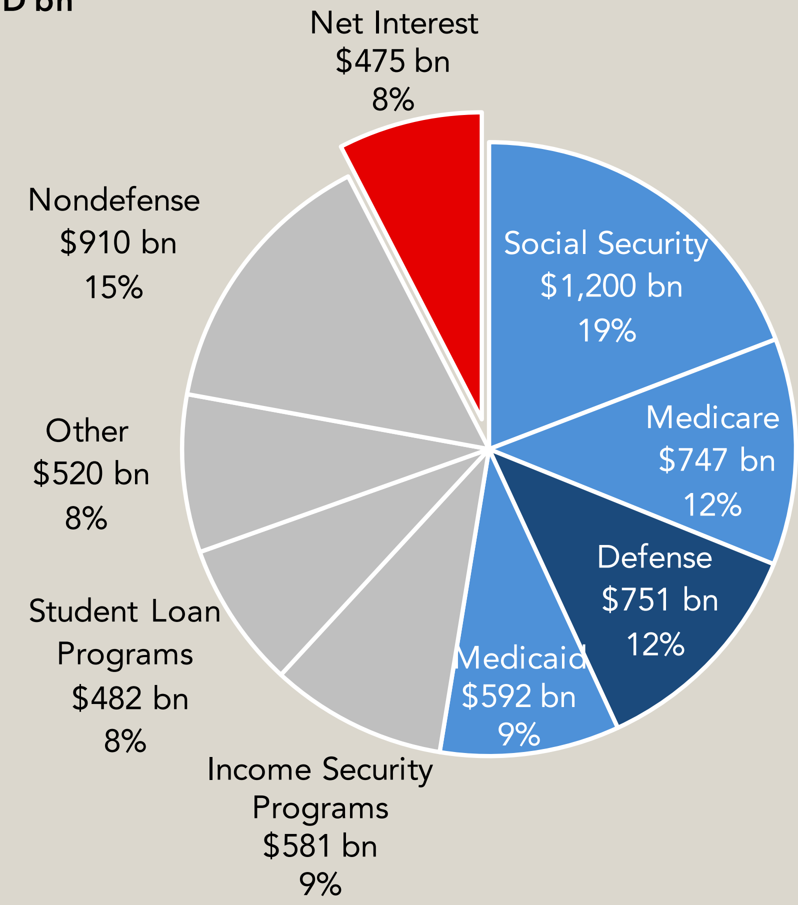
White House. US Congress. Investopedia "A breakdown of the fiscal and monetary responses to the pandemic". Note: Inflation Reduction Act does not include roughly $300 bn of deficit reduction provisions. The US Tax Cuts and Jobs Act was roughly $5tn, with roughly $1.5tn of deficit spending. Phase 4 represents the Consolidated Appropriations act of 2021 which included $900bn of stimulus. IIJA was partially paid for - CBO confirmed offsets are $180bn (from unclaimed COVID relief, proceeds from spectrum auctions, and expected economic growth return from infrastructure investment). Total new spending is $635bn, IRA spending is designed to be offset by minimum tax on large corporations, tax on stock buybacks, and funding for IRS enforcement and collection. Combined with savings from healthcare provisions, CBO estimates the IRA lowers government deficits by $237bn over the next 10 years.

US Government Spending (2022)

The three largest categories of "mandatory US spending" – Social Security, Medicare and Medicaid – accounted for nearly 40% of US Government outlays in 2022. Defense spending, which Congress is highly unlikely to reduce, accounts for an additional 12%. In the years ahead, net interest expense on US Gov't debt will rise to become the US government's largest individual outlay.

US federal budget in fiscal year 2022, USD bn

Total outlays:
$6.3 trillion

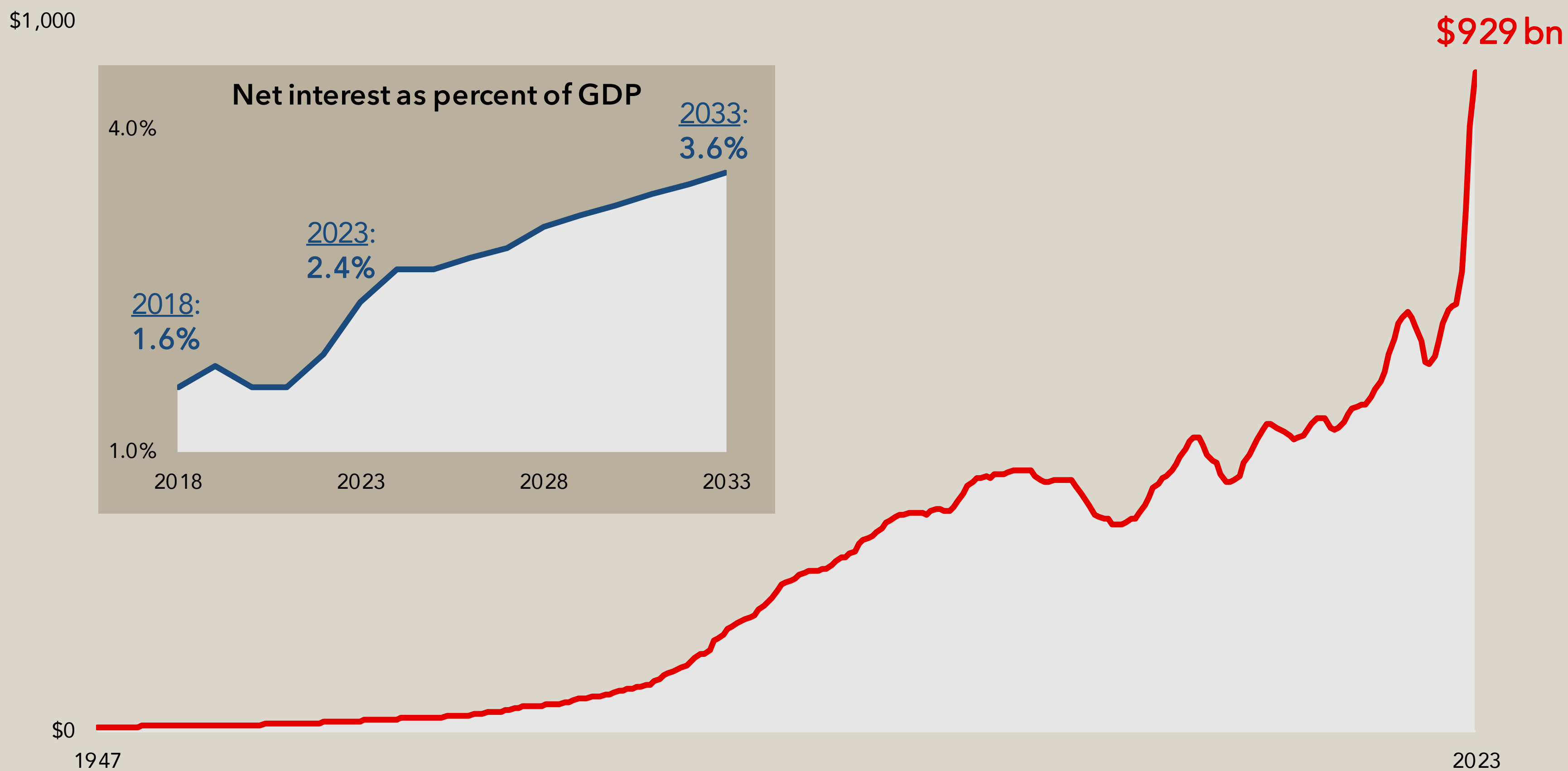


Source: (1) CBO, "The Federal Budget in Fiscal Year 2022: An Infographic." (March 28, 2023)

Annual Net Interest Expense Nearly $1 Trillion

A rapidly rising stock of US debt and higher interest rates are pushing government interest expense outlays sharply higher. In order for US debt levels to remain sustainable, US nominal GDP growth needs to remain well above the annual net interest expense obligations.

US government interest payments, annualized, USD bn

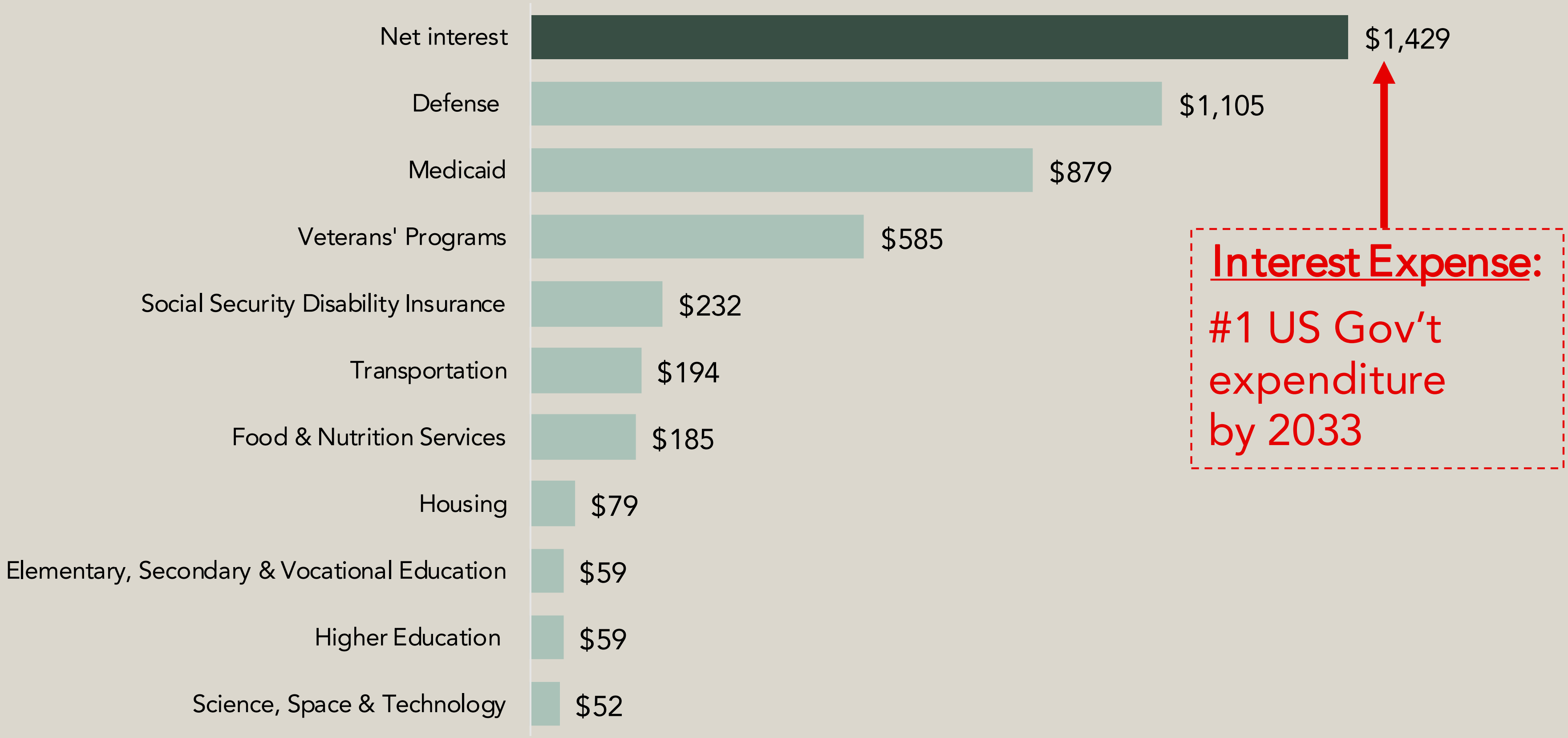


Source: (1) Congressional Budget Office. (2) Bloomberg. Data as of May 12, 2023.

Net Interest Will Exceed Key Programs in 2033

Within 10 years, the annual net interest on US Treasury securities will become the #1 outlay for the US Government.

Cost of key programs, USD bn

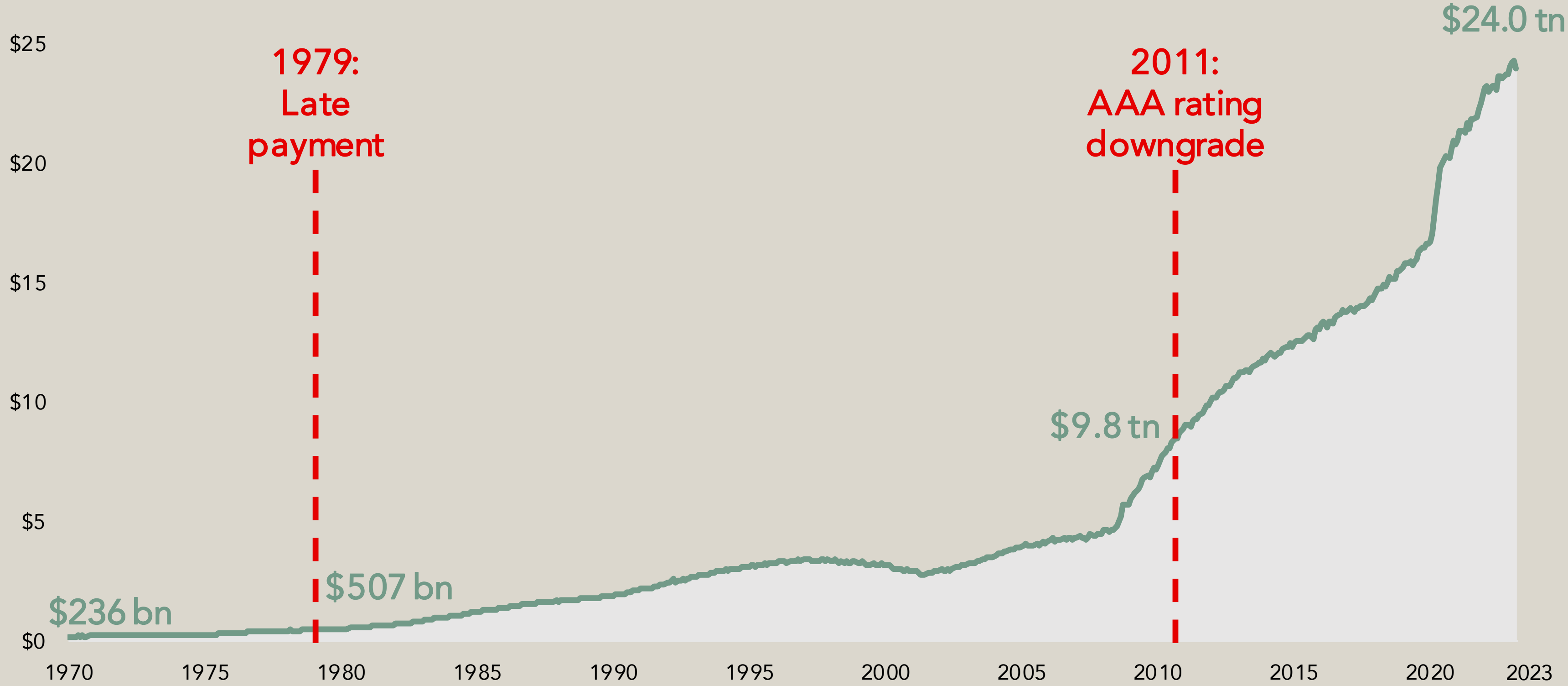


Source: (1) Congressional Budget Office.

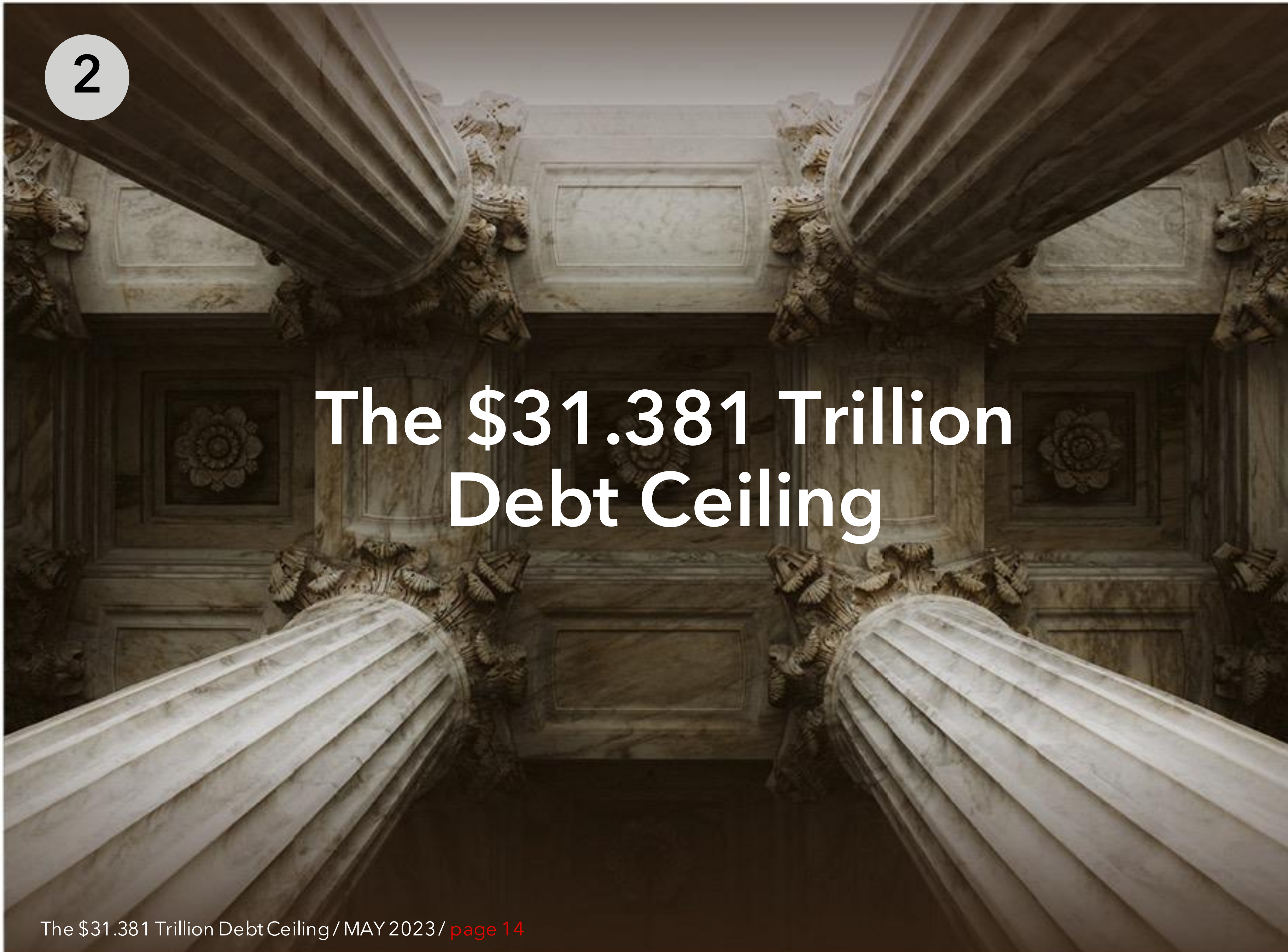
US Technical Default in 1979?

In 1979, the US Treasury was late in making payments on some of its maturing T-bills. While the late payment was not officially acknowledged as a default, it did meet the "common definition" of one. The event prompted lawsuits, compensation payments and a 60 bps jump in one-month T-Bill yields, a risk premium that continued after delayed payments were made. Unlike then, however, the US Treasury market has grown to $24 trillion in size and has become the risk-free benchmark for a multi-trillion global financial system.

Par value of US Treasury market



Source: (1) Bloomberg. Data as of May 12, 2023. Dallas Federal Reserve.



2

The $31.381 Trillion Debt Ceiling

"I think it's ridiculous. It's always resolved and not that it's 100% chance, but I think it gets resolved. The problem in the past has resulted in T-bill rates close to the point of potential default, moving 50-100 bps higher, and they have done that this time."

Bill Gross, Janus Capital Fund Manager,
previously Co-Founder of PIMCO

Historical Perspective on the Debt Ceiling

The US Debt Ceiling was created by Congress during World War I with the intent of making it easier for the country to manage its finances and issue debt during a time of war. Since 1941, when the Public Debt Act passed to set a single limit on US debt, the US debt ceiling has been raised nearly 90x.

Years the US debt ceiling was raised since 1940

1940 - 1959	Jun 1940
	Feb 1941
	Mar 1942
	Apr 1943
	Jun 1944
	Apr 1945
	Jun 1946
	Aug 1954
	Jul 1956
	Feb 1958
	Sep 1958
	Jun 1959
1960 – 1979	Jun 1960
	Jun 1961
	Jul 1962
	Mar 1963
	Jun 1963
	Jun 1963
	Jun 1963
	Jun 1963
	Aug 1963
	Nov 1963
	Jun 1964
	Jun 1965

1960 – 1979	Mar 1967
	Jun 1967
	Jun 1968
	Apr 1969
	Jun 1970
	Mar 1971
	Mar 1972
	Oct 1972
	Jun 1974
	Feb 1975
	Nov 1975
	Mar 1976
	Jun 1976
	Sep 1976
	Apr 1977
	Oct 1977
	Aug 1978
	Apr 1979
	Sep 1979
1980 – 1999	Jun 1980
	Dec 1980
	Feb 1981
	Sep 1981
	Jun 1982
	Sep 1982

1980 – 1999	May 1983
	Nov 1983
	May 1984
	Jun 1984
	Oct 1984
	Nov 1985
	Dec 1985
	Aug 1986
	Oct 1986
	May 1987
	Aug 1987
	Sep 1987
	Aug 1989
	Nov 1989
	Aug 1990
	Oct 1990
	Nov 1990
	Apr 1993
	Aug 1993
	Mar 1996
	Aug 1997

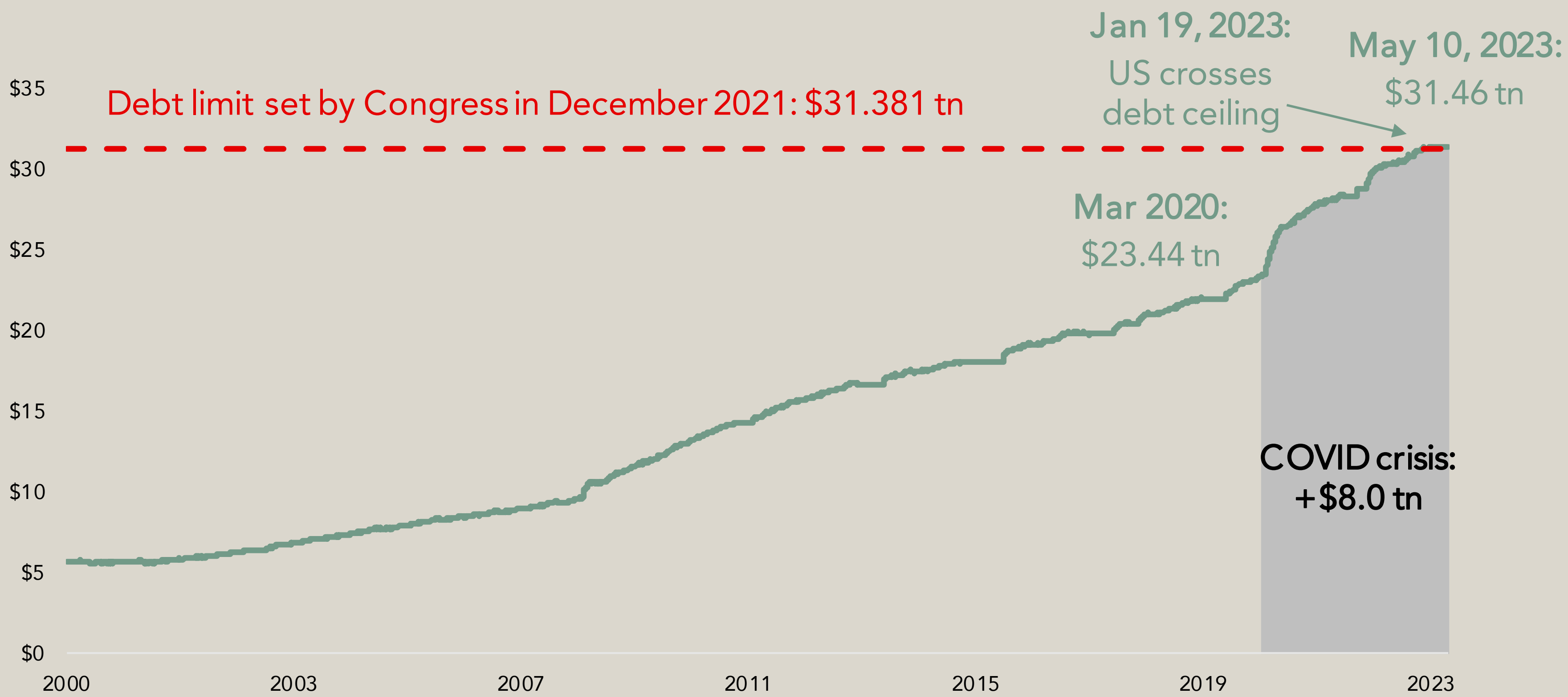
2000 - 2023	Jun 2002
	May 2003
	Nov 2004
	Mar 2006
	Sep 2007
	Jun 2008
	Oct 2008
	Feb 2009
	Dec 2009
	Feb 2010
	Jan 2012
	Feb 2013**
	May 2013
	Oct 2013**
	Feb 2014
	Mar 2015
	Oct 2015**
	Mar 2017
	Sep 2017**
	Mar 2019
	Aug 2019**
	Jul 2021
	Oct 2021
	Dec 2021
	Jun 2023?

*Note: ** Indicates debt ceiling suspended rather than raised*
Source: (1) Congressional Research Service.

The $31.381 Trillion US Debt Ceiling

In December 2021, the US Congress raised the debt ceiling to $31.381 trillion. On January 19, 2023, US gov't debt officially reached the new debt ceiling, requiring US Treasury Secretary Yellen to use "extraordinary measures" to fund the government. As announced by Secretary Yellen two weeks ago, the Treasury Department expects to exhaust those extraordinary measures and cash balances by June 1 – the so-called "X-date" that has become the focus of markets and policy-makers.

US daily total public debt outstanding, USD tn

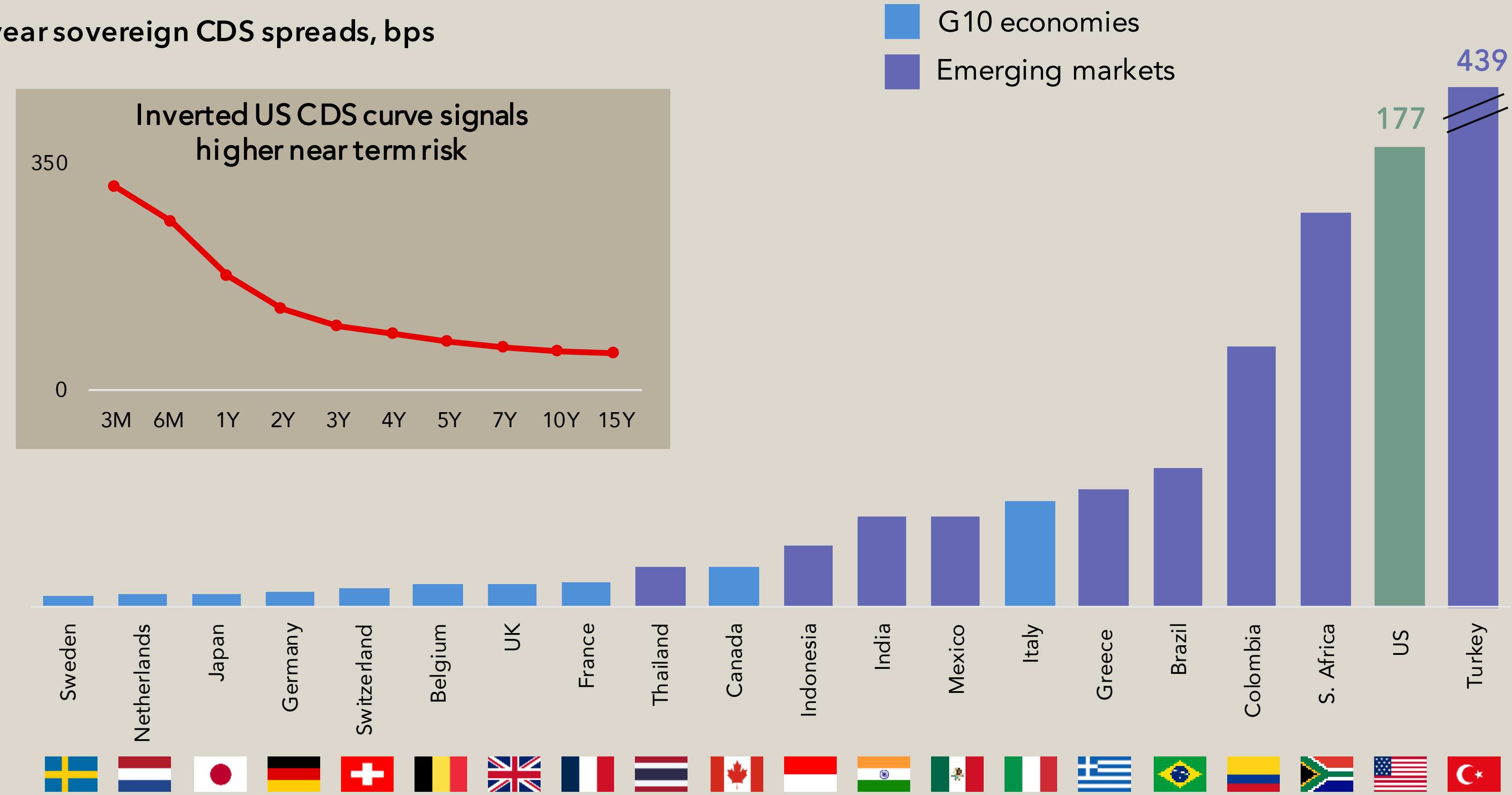


Source: (1) Bloomberg. Data as of May 12, 2023. US Treasury.

United States CDS at Significant Risk Premium

The cost of insuring US debt against default in the CDS market now eclipses that of all G10 countries, many emerging markets, and numerous non-investment grade rated countries - an adverse development for the world's risk free asset, US Treasuries. In fact, United States CDS is currently trading wider than Greece and Mexico, both countries that have defaulted on their debt multiple times with credit ratings well below the US.

1 year sovereign CDS spreads, bps

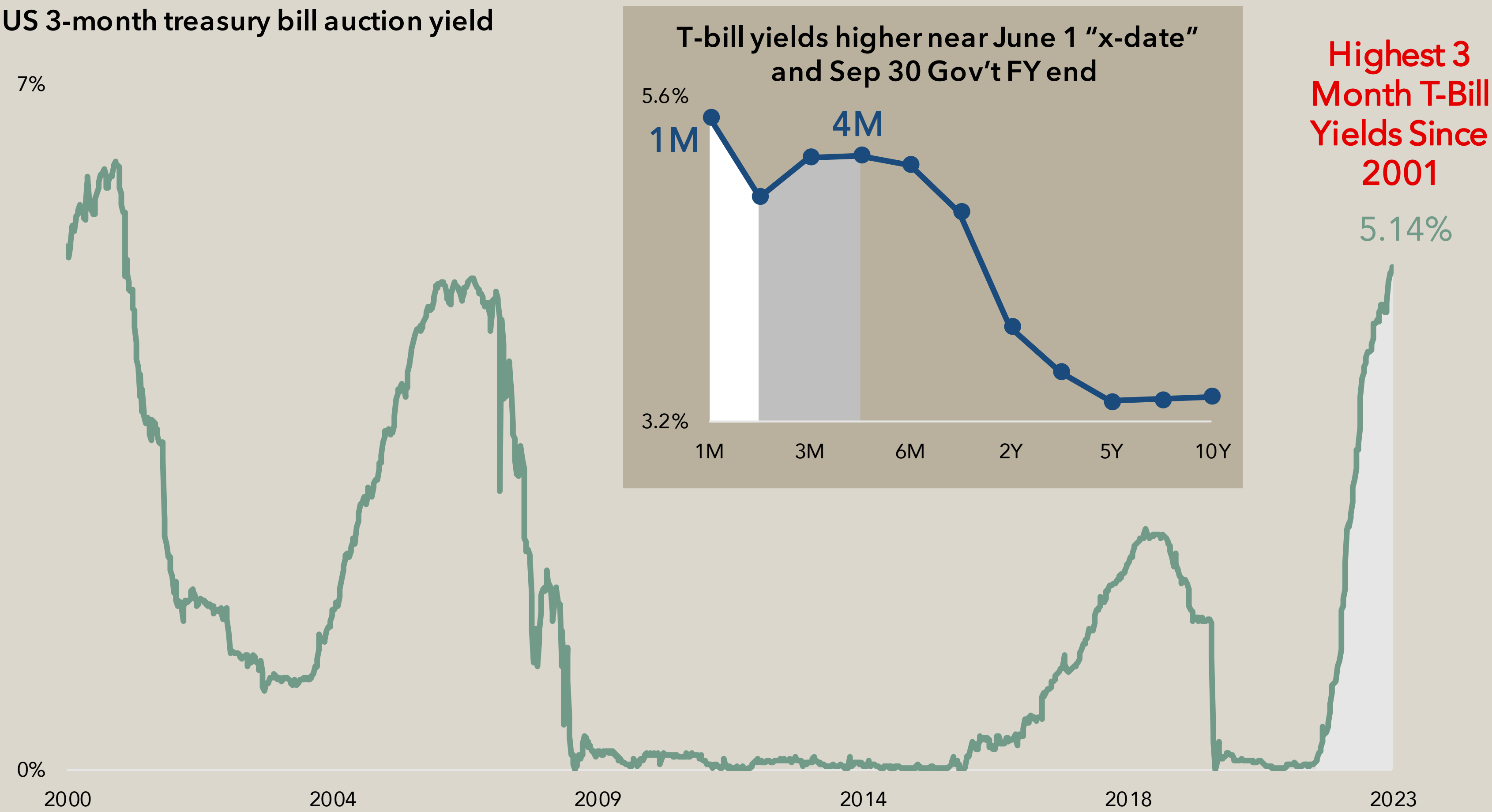


Source: (1-2) Bloomberg. Data as of May 12, 2023.

Investors Pricing Concern into Summer 2023

On Monday May 8, the US Government sold $57 bn of three-month Treasury bills in an auction at 5.14%, the highest yield in the benchmark since 2001. The elevated yield on the bonds, which mature on Aug 10, suggest investor discomfort on the debt ceiling through the summer period.

US 3-month treasury bill auction yield

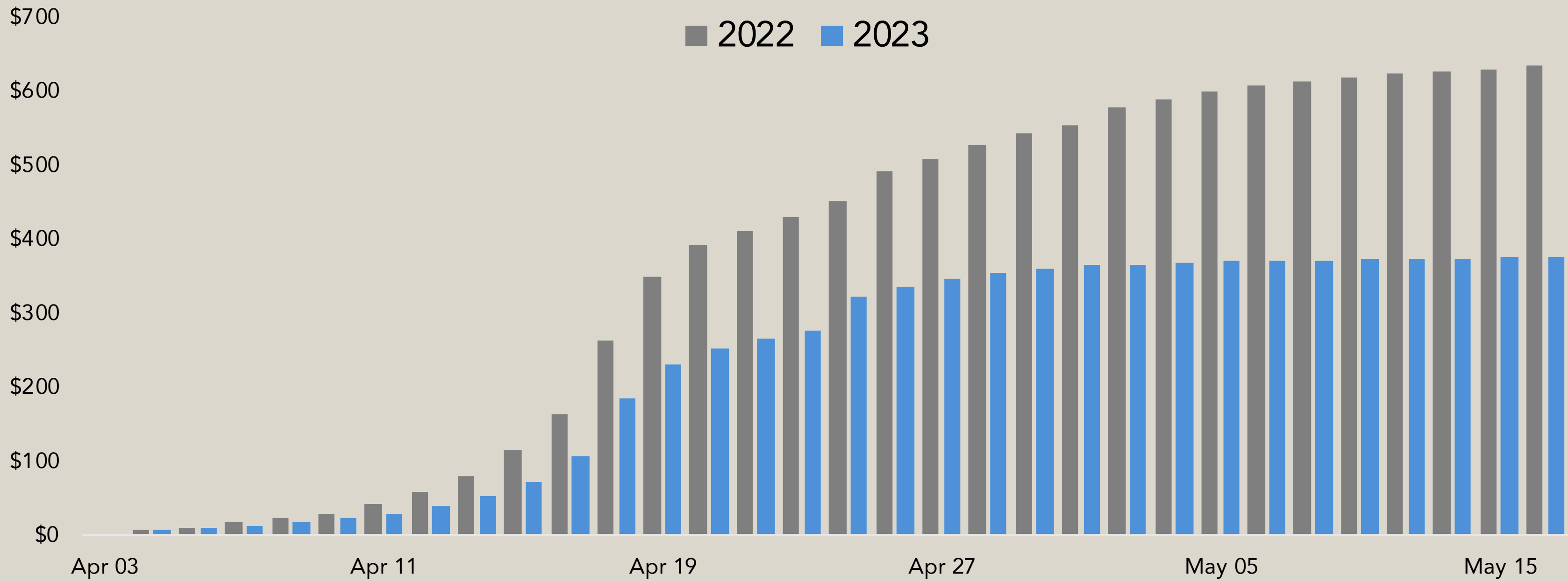


Source: (1-2) Bloomberg. Data as of May 12, 2023.

Lower Tax Receipts Force X-Date to June 1

US Gov't tax receipts in April 2023 came in lower than anticipated, and well below prior year levels, due primarily to lower capital gains and California's weather-induced extension of its tax deadline to mid-October. With less than expected revenue, Treasury Secretary Yellen moved the "X-date" forward to June 1st, which was 1-2 months sooner than previous consensus expectations.

US individual income tax payments, USD bn



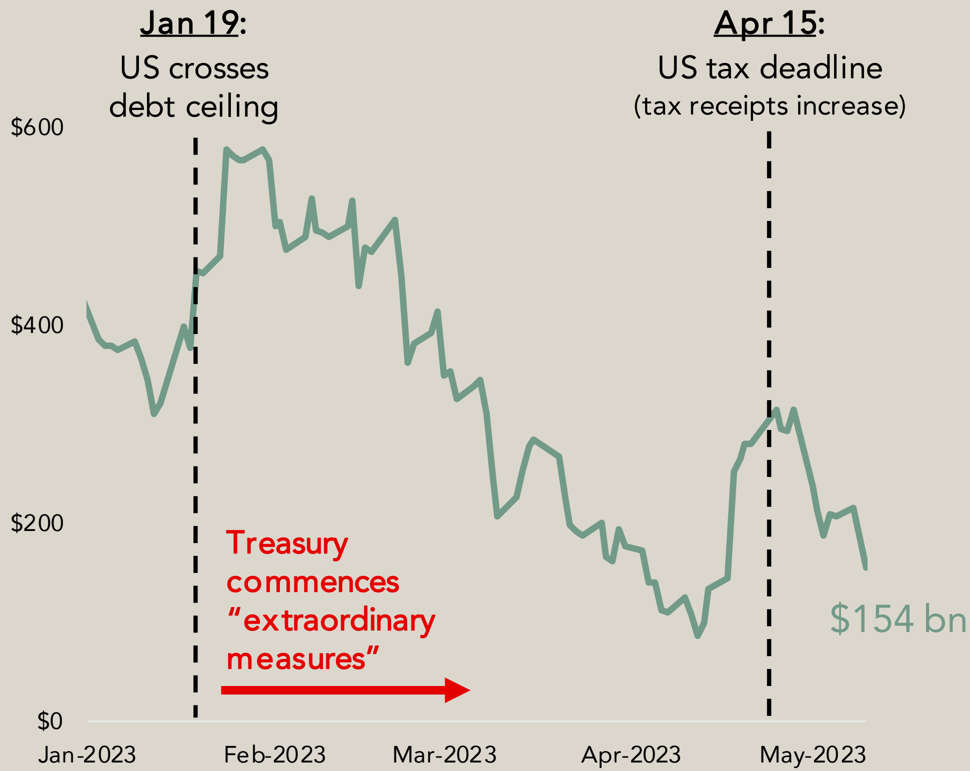
Additional US tax receipts on June 15 could provide flexibility on the X-date. Markets and Rating Agencies, however, may think otherwise, treating June 1 as the real date.

Source: (1) Oxford Economics., "June is off the table for a debt limit crisis, but July is not." Data is cumulative, non-withheld individual income tax payments starting April 1 for 2023 and 2022 through mid-May. Data for 2023 through May 1 are actual, data May 2 – May 16 Oxford projections (Nancy Vanden Houten).

Treasury Cash Balances Depleting Rapidly

The US Treasury had approximately $500 bn in cash on-hand at the time it hit the $31.4 tn statutory debt ceiling limit on Jan 19, 2023. Since the US Government spends more money than it receives in taxes, Secretary Yellen was forced to employ "extraordinary measures" to increase Treasury account balances until the debt ceiling can be lifted. With disappointing tax receipts in April, US Treasury cash balances are depleting rapidly, which led Secretary Yellen to identify June 1 as the "X-date" for US debt ceiling negotiations. An additional jump in tax receipts is expected on June 15.

US treasury cash balance at the Federal Reserve, USD bn



"Extraordinary Measures"

- Suspend sales of State & Local Gov Treasury securities
- Suspend new investments in the Civil Service Retirement and Disability Fund (CSRDF)
- Suspend new investments in the Postal Service Retiree Health Benefits Fund (PRHBF)
- Suspend reinvestment of the Gov Securities Investment fund (GSIF)
- Suspend reinvestment of the Exchange Stabilization Fund (ESF)

Source: (1) Bloomberg. Data as of May 12, 2023.

3

2023 is Not 2011

“The propensity to trade, barter and exchange one thing for another is common to all men, and to be found in no other race of animals.”

Adam Smith, the “Father of Economics” in
The Wealth of Nations (1776)

The Stakes are Higher This Time

With 3 of the 4 largest US bank failures of the last 20 years having occurred in the last two months, and a US Treasury market that is more than double the size of 2011, we believe the stakes of a US debt ceiling crisis and default are much higher today.

Size of UST Market: Today's $24 trillion UST market is 2.5x larger than 2011, and the anchor to trillions of contracts in the global financial system

Less US Hegemony: China is a more formidable economic and global power than in 2011, offering a more predictable and competitive alternative to Washington

China & EM Reserves Past Peak: China's FX reserves, and the need to cycle into US Treasuries, peaked in 2014. Since then, global central banks have purchased more gold than US Treasuries.

Russia-Ukraine: Unlike 2011, the US is driving the largest G20 economic and financial sanctions campaign in history. Weaponizing US dollar dominance has increased incentives for alternatives.

Dollar Dominance: Multi-currency settlement has increased post Russia-Ukraine, and could proliferate further if confidence is damaged

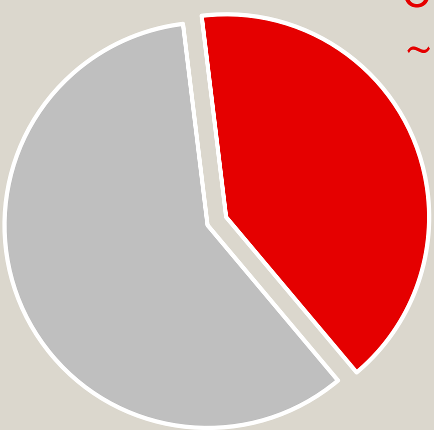
Market Sensitivity: Given the long shadow of the 2011 AAA downgrade, markets today are more sensitive to US debt ceiling and default risk, as evidenced by CDS today vs 2011

Digitized Financial Markets: The speed and magnitude of risk-off deposit and capital outflows are measurably higher today than in 2011. Structural volatility is significantly higher.

The Stakes are Higher This Time

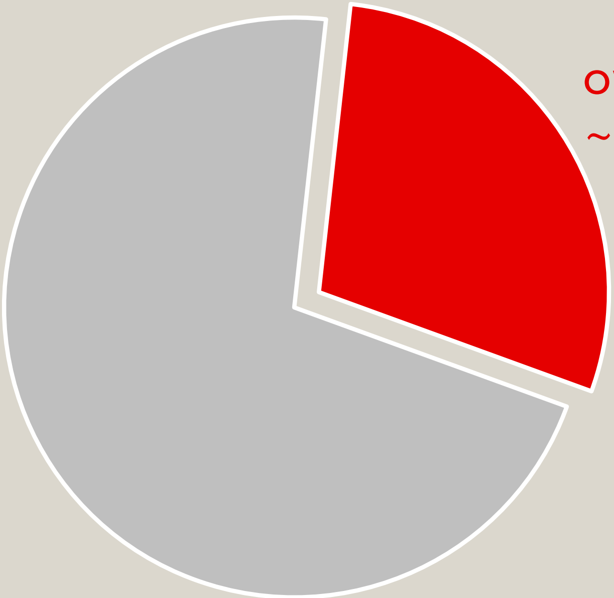
After a decade of extraordinary policy easing during which financial assets grew at a much higher rate than the real economy, the US Treasury market at $24 trillion is one of the largest markets in the world, more than double its size a decade ago. Further, the US Treasury market has become the bedrock of a much larger global financial system, playing a critical role as the world's risk free asset, and the cornerstone of trillions of dollars of global financial contracts across dozens of asset categories.

2011



Total UST market:
$9.8 trillion

2023



Total UST market:
$24.3 trillion

The Risk is Lower This Time

While the risk of US default and protracted brinkmanship should be taken VERY seriously, we believe that the risk of US default is arguably lower today than during the debt ceiling crisis and US AAA downgrade of 2011. We recognize that House Speaker Kevin McCarthy's precarious hold on his Speakership does introduce more risk and complexity to this conclusion.

Less GOP Leverage: GOP coming off massive House gains in 2010 midterms. GOP under-performed expectations in 2022 midterms just 7 months ago.

Narrow GOP Majority: 24 person GOP House majority in 2011. Only 4 person House GOP majority today.

Politics of Austerity: While debt reduction is critically important today, the "politics of austerity" were arguably stronger in 2011, with 63 Tea Party Republicans driving a debt reduction mandate.

2024 Presidential Election: With less leverage than 2011, narrower majorities, and 2022 Midterm underperformance, moderate GOP members may be more focused on projecting "governance" going into the 2024 election season.

Entitlement Spending: Represents > 60% of US spending today. With a rapidly aging population, support for Social Security and Medicare, the two largest US Gov't outlays, is much stronger than a decade ago. McCarthy has taken cuts to both "off the table."

Defense Spending: With a more complicated multi-polar geopolitical climate than 2011, strong bipartisan support in 2023 for increased defense spending.

Debt Ceiling Polling: Surveys suggest more Americans today support an increase in the debt ceiling than a decade ago. Polling signals strong bipartisan support for avoiding default.

The Long Shadow of 2011: Although 2/3 of House lawmakers were not here in 2011 and 2013, the shadow of S&P's AAA downgrade in 2011 still looms large. Markets today are also more sensitive to debt ceiling risk than 2011.

Source: Henrietta Treyz (Veda Partners). Libby Cantrill (PIMCO). Roger Hollingsworth (MUFG). Washington research and media.

Viable Options for US Debt Ceiling Resolution

At this point, it is simply "too close" to call whether a negotiated deficit reduction bill that increases the debt ceiling beyond the US Presidential election, or simply a short-term "kick the can" extension to Sept 30, is more likely. On the margins, we think the "tougher" path of modest deficit reduction bill to raise the US debt ceiling to Q1 2025 is slightly more likely.

Debt Ceiling Increase with 2 Year Spending Cap

Increases debt ceiling to Q1 2025. Cap set at FY 2023 rate. Entails $300-500bn in cuts.

Debt Ceiling Increase with Modest Spending Cuts

Increases debt ceiling to Q1 2025. $300-500 bn in deficit reduction over 10 years (i.e., recapturing unused COVID, other minor cuts).

Short-term CR with Debt Ceiling Extension to Sept 30

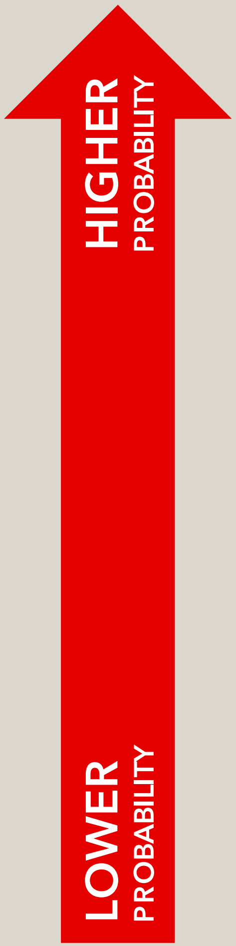
Would require $400-500 bn of Gov funding. Effectively, "kicks can down the road" by 4 months. Easiest short term path, but creates challenge for Sept 30 a time of other priorities (budget, Gov shutdown risk).

Other Non-traditional and Non-Viable Options

"Clean" debt ceiling lift without deficit reduction; prioritizing payments; invoking 14th Amendment; discharge petition; premium bonds; platinum coins; gold certificates

Non-Viable Options for US Debt Ceiling Resolution

While the menu of potential options is expansive, many are viewed as non-viable, gimmicky, non-traditional, potentially illegal, too time-consuming, and/or incongruent with the confidence required for the world's risk-free asset.



Prioritize Certain Government Payments Over Others. Current and prior UST Secretaries have dismissed as non-practical. Rating Agency Fitch has singled AAA ratings downgrade likely under this path.

"Discharge Petition" House Procedural Maneuver. Too challenging to obtain 5 GOP votes in the House to side-step Speaker McCarthy with a Democrat sponsored bill. Time period required too long.

Invoke 14th Amendment. Legally complicated and high risk. Potential Constitutional crisis. Outcome too uncertain and time consuming in courts. Confidence damaging. Markets could treat this outcome as tantamount to default scenario.

"Premium Bond" Issuance at Higher Yields. Complexity and risk of issuance to redeem existing bonds. Treasury unlikely to issue bonds that deviate from its "regular and predictable" issuance mandate. Reputation and confidence damage.

Issue Gold Certificates Backed by US Gold Reserves. 1953 President Truman precedent. Fed may not accept. Non-traditional, inflationary, high risk, dilutes market confidence.

Issue Platinum Coins in Denominations at Treasury Secretary Discretion. Reliance on a 1990s statute. Fed may not accept. Non-traditional, inflationary, high risk, dilutes market confidence.

Default on US Debt. Most catastrophic outcome with irreparable damage. Deep recession. Destructive damage to trillions of global financial contracts. Permanent damage to UST as risk free asset and dollar dominated global financial system. Endorsed by President Trump in May 10th CNN townhall, complicating vote path for Speaker McCarthy.

Invoking the 14th Amendment

The 14th Amendment in the US Constitution was adopted as part of the Reconstruction Amendments after the US Civil War and is one of the most litigated parts of the US Constitution. The amendment primarily addresses citizenship rights and equal protection under the law, however, Section 4 prohibits a current Congress from abrogating a contract of debt incurred by a prior Congress. Many legal analysts and scholars have argued Section 4 gives the President unilateral authority to raise or ignore the debt ceiling.

Section 4. The validity of the public debt of the United States, authorized by law, including debts incurred for payment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States, or any claim for the loss or emancipation of any slave; but all such debts, obligations and claims shall be held illegal and void.

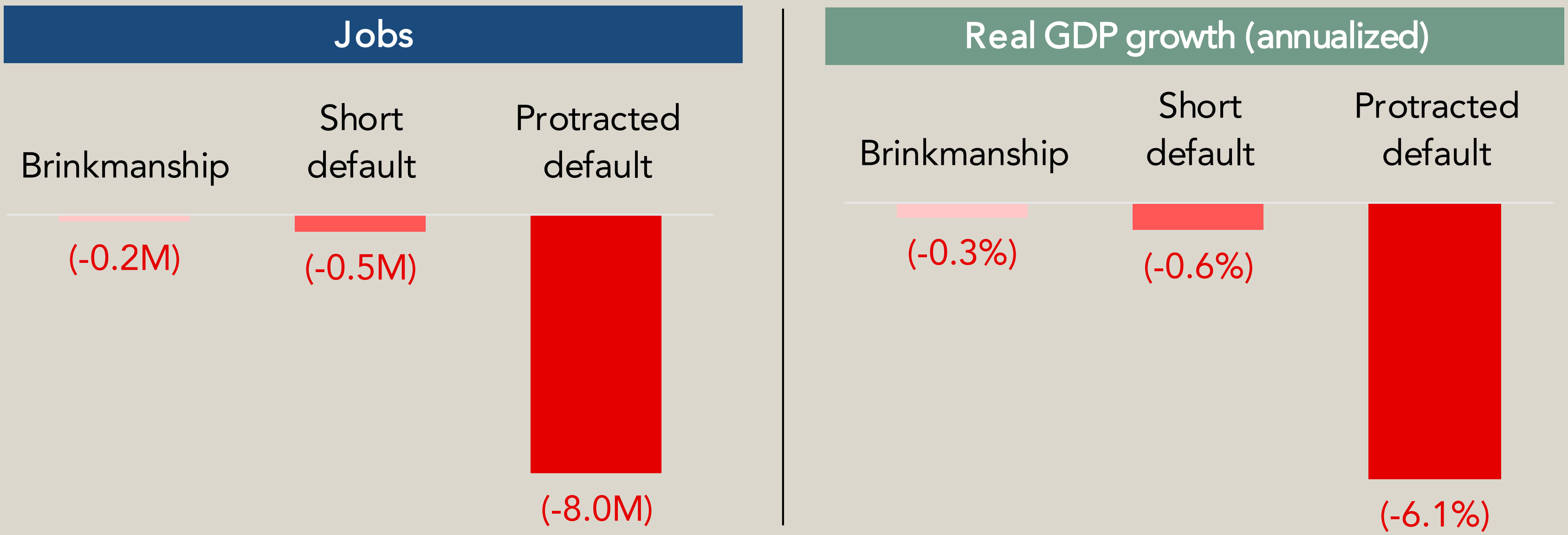
US Constitution, Amendment XIV, adopted on July 9, 1868

Constitutional Crisis? If President Biden invokes the 14th Amendment to raise or ignore the US debt ceiling, a series of legal actions may effectively require the Supreme Court to adjudicate the Constitutionality of the President's action. Thus far, both President Biden and Secretary Yellen appear reticent to take this non-traditional, higher risk approach. While such bold action could permanently eliminate the debt ceiling, from a legal perspective, it would likely be too high risk, complicated and time-consuming. From a markets perspective, investors and overseas UST stake-holders may also view the move as tantamount to a default.

Contemplating the Unthinkable: US Default

On May 3rd, the White House Council of Economic Advisors (CEA) published a new analysis quantifying the economic impact of several debt ceiling delay and default scenarios. Under most adverse scenarios, a broad range of implications would likely follow including US recession, sharp financial market correction (credit, equities), disruption to contracts linked to financial benchmarks, and significant damage in the confidence critical to the world's most important risk-free asset.

Estimated economic effects of different debt ceiling outcomes in the US in Q3 2023



"Default is inevitable, might as well get it out of the way now."

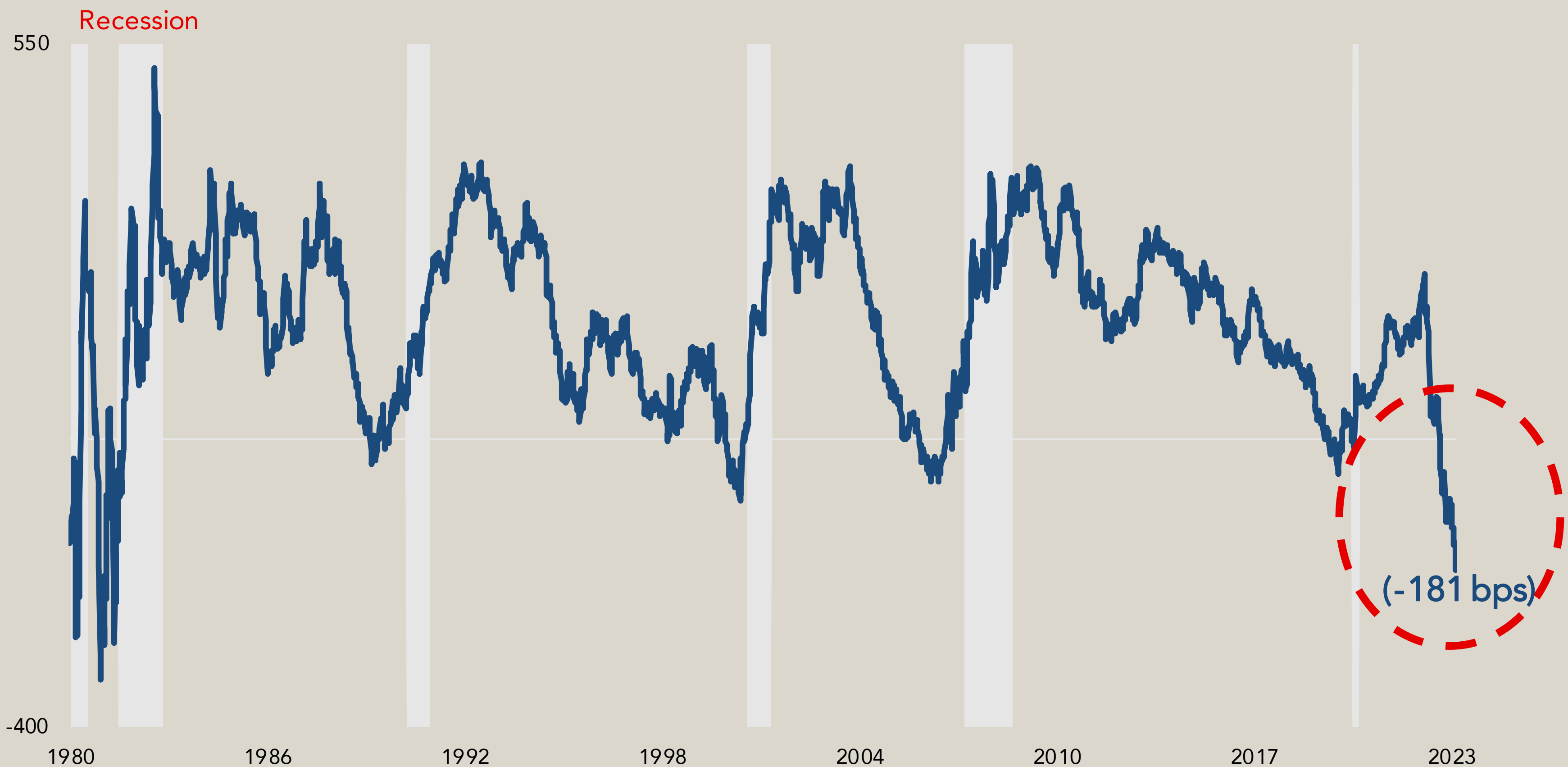
- Former US President Donald Trump in May 10th CNN Town Hall

Source: (1) White House Council of Economic Advisors. Statista.

June 1 Guidance Deepens YC Inversion

US T-Bill rates have jumped sharply since US Treasury Secretary Janet Yellen provided guidance on June 1 as the "x-date" for the US debt ceiling stand-off. Three-month T-bills surged above 5.25% in recent days, nearly a full 200 bps above 10 year yields, the widest margin in over three decades

3M-10year UST yield curve



Source: (1) Bloomberg. Data as of May 12, 2023.

Treasury Markets After the Debt Ceiling?

When and if the debt ceiling is resolved and raised in early June, the most important Treasury market question for investors will pivot to the size and duration of issuance that Secretary Yellen will initiate in the 2H 2023 to refill the Treasury Department cash balances. With as much as $650-$700 bn of new UST issuance in 2H 2023, and QT continuing at the same time, the decline in UST market liquidity in recent months may get worse.

US government securities liquidity index

Source: (1) Bloomberg. Data as of May 12, 2023.

4

Resolution May Require Market Stress

“Time is a sort of river of passing events, and strong is its current. No sooner is a thing brought to sight than it is swept by and another takes its place, and this too will be swept away.”

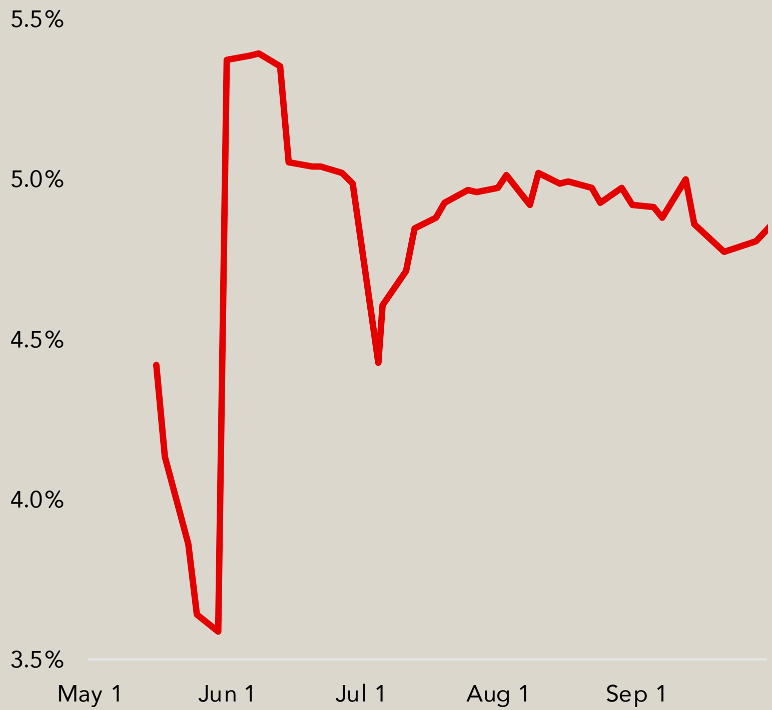
Marcus Aurelius, Last Roman Emperor
of the Pax Romana (121 – 180 AD)

Severe Market Stress Required to Facilitate Resolution

Reasonably "severe" market stress may be required to create sufficient "political cover" for Republicans and Democrats to resolve the debt ceiling. In our view, markets have become "more sensitive" to debt ceiling brinkmanship and default risk than prior years. We therefore expect market pressure to rise acutely as we approach closer to June 1. Failure to take the June 1 "x-date" seriously may also precipitate adverse Rating Agency action.

T-Bill Curve Signaling June 1 Timing

US treasury bill curve

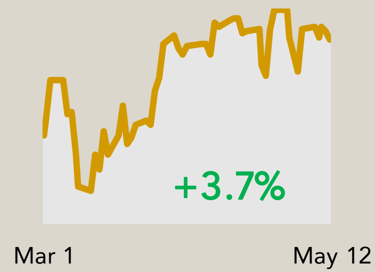


Significant Equity Stress Required for Political Cover

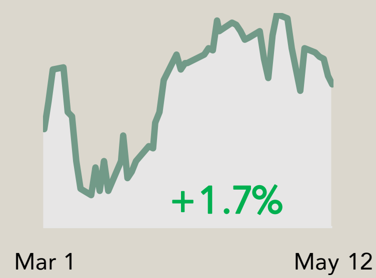
Equity performance since March 1, 2023

NASDAQ

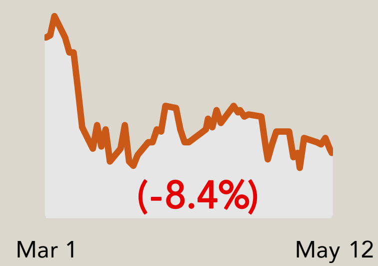
S&P 500



Dow Jones



Russell 2000

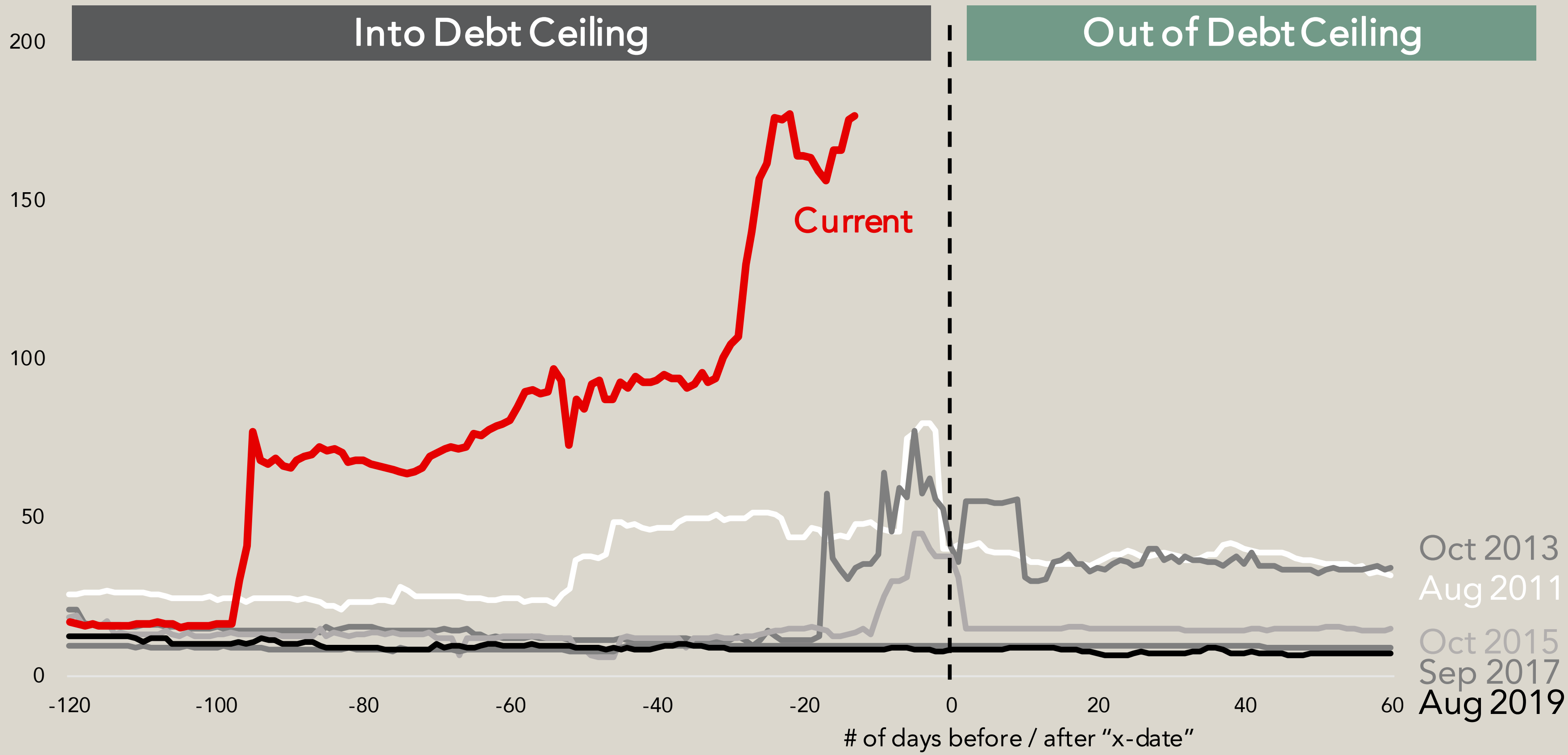


Source: (1-5) Bloomberg. Data as of May 12, 2023.

Markets More Sensitive This Time

With the long shadow of the 2011 AAA downgrade and other debt ceiling stand-offs looming large, and with the "stakes" much higher this time (larger UST market, bank stress, geopolitical backdrop), we believe that markets are more sensitive during the current debt ceiling crisis – a development we expect to accelerate in the weeks ahead

US 1 year CDS level around debt ceiling, bps

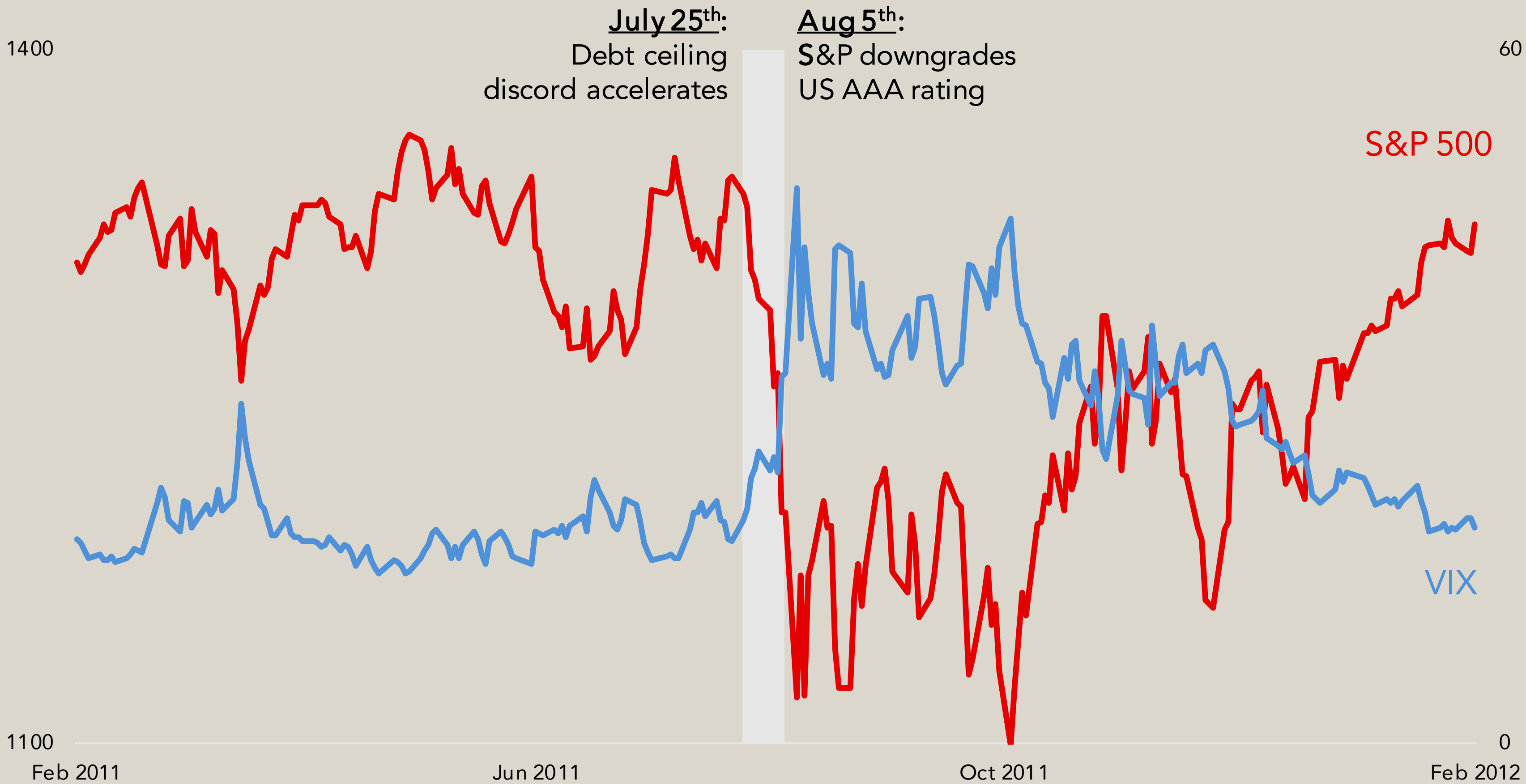


Source: (1) Bloomberg. Data as of May 12, 2023. FRED. MUFG Rates Strategy (George Goncalves).

Equities & Volatility in July 2011

During the most acute two-week stretch of the 2011 debt ceiling crisis and ratings downgrade, US equities dropped sharply and volatility spiked.

S&P 500 and equity volatility (VIX) during 2011 Debt Ceiling Crisis



Source: (1) Bloomberg. Data as of May 12, 2023.

Rating Agency Risk Rises Closer to June 1

Rating agencies have expressed confidence in 2023 that lawmakers will resolve the current debt ceiling impasse while warning of the dire consequences if resolution is not reached. Failure to resolve or extend the debt ceiling by June 1 could potentially precipitate an adverse agency ratings action.

Recent commentary from rating agencies

S&P Global Market Intelligence	"The fraught negotiations in 2011 moved S&P Global Ratings to downgrade the U.S. government credit rating from AAA to AA+. In the current fight, ***Ratings expects a "protracted debate" before a resolution is found."*** *"With US default date looming, divided Congress risks repeat of market shocks", March 9, 2023*
Moody's	"We ***expect Congress to pass a series of small extensions that push the X-date back until the end of the fiscal year (30 September)*** to align it with the annual budgetary appropriations negotiations. The convergence of two separate but intertwined issues could seriously complicate both negotiations and ***sets the stage for a dangerous fiscal cliff reminiscent of the brinkmanship in 2011*** that ultimately resulted in forced spending cuts. Should that recur, reductions in non-defense discretionary government spending and entitlement program reforms will likely have ***negative credit effects on public finance debt issuers***." *Moody's Credit Outlook, May 8, 2023*
FitchRatings	"As we have previously stated, ***we believe the debt limit will be raised or suspended to avoid a default***. If, ahead of the X-date, we were to assess the risk of a default as having become more material, ***the US's rating would likely be placed on Rating Watch Negative and further rating action could be considered***." *"Short-Term US Debt Limit Increase Would Not Prevent Future Standoffs", April 25, 2023*

Source: (1) S&P. Moody's. Fitch.

Key Milestones for a June 1 X Date

Treasury Secretary Janet Yellen has suggested the debt ceiling could be breached as early as June 1. While there are still several extraordinary measures in the Treasury toolkit, in order to meet an early June deadline, Congress will need to act quickly, producing a bill by the May 15 week.

Potential Congressional timeline to meet June 1 debt ceiling deadline	
Week of May 8th	▪ President Biden and "Big 4" bipartisan leaders met in White House ▪ Negotiations between President, leadership and staff continued
Week of May 15th	▪ Latest week for Senate votes in order to meet June 1 deadline ▪ Multiple Senate votes possible: o On the House Bill (won't pass) o On debt ceiling raise with no spending cuts (won't pass) o On deficit reduction debt ceiling increase or ST extension (will pass)
Week of May 22nd	▪ House vote on bill passed in US Senate the prior week ▪ Members scheduled to leave for Memorial Day on Thursday, May 25
Thursday, June 1st	▪ Current "X date" estimated by Treasury Secretary Yellen
Saturday, September 30th	▪ Last day of US Government FY 2023 ▪ Potential date for short term extension of US debt ceiling

US Congress Schedule to Resolve Debt Ceiling

April

						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	**17**	**18**	**19**	**20**	21	22
23	24	**25**	**26**	**27**	**28**	29
30						

May

	1	2	3	4	5	6
7	8	**9**	**10**	**11**	**12**	13
14	**15**	**16**	**17**	**18**	19	20
21	**22**	**23**	**24**	**25**	26	27
28	29	30	31			

June

				1	2	3
4	**5**	**6**	**7**	**8**	9	10
11	**12**	**13**	**14**	**15**	16	17
18	19	**20**	**21**	**22**	**23**	24
25	26	27	28	29	30	

July

						1
2	3	4	5	6	7	8
9	10	**11**	**12**	**13**	**14**	15
16	**17**	**18**	**19**	**20**	21	22
23	24	**25**	**26**	**27**	**28**	29
30	31					

August

		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September

					1	2
3	4	5	6	7	8	9
10	11	**12**	**13**	**14**	**15**	16
17	**18**	**19**	**20**	**21**	22	23
24	25	**26**	**27**	**28**	**29**	30

Congress in session (bold dates)

5

A Closer Look at 2011

“You never know what worse luck your bad luck has saved you from.”

Cormac McCarthy, Pulitzer Prize Winning American Novelist in
“No Country for Old Men” (2005)

Aug 5, 2011: S&P Downgrades US' AAA Rating

In April 2011, S&P placed the US' AAA rating on "Negative Watch" citing concerns around 11% budget deficits and debt/GDP on a path to 80% by 2013. On August 5th, 2011, S&P took the unprecedented step of downgrading the US' AAA to AA+, highlighting the failure to pass comprehensive fiscal consolidation, political brinkmanship and the "threat of default" as a political bargaining chip.

S&P Lowers United States Credit Rating to AA+
August 5, 2011

"The political brinksmanship of recent months highlights what we see as **America's governance and policymaking becoming less stable, less effective, and less predictable than what we previously believed.**

The statutory debt ceiling and the threat of default have become political bargaining chips in the debate over fiscal policy.

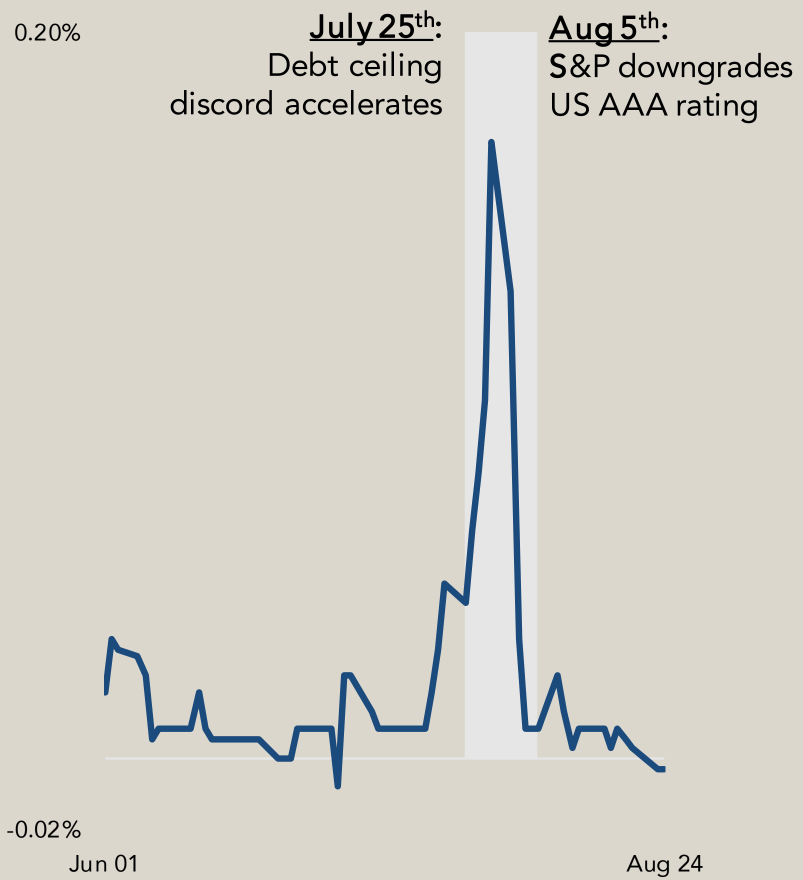
Despite this year's wide-ranging debate, in our view, the differences between political parties have proven to be extraordinarily difficult to bridge, and, as we see it, **the resulting agreement fell well short of the comprehensive fiscal consolidation program that some proponents had envisaged until quite recently."**

S&P Global

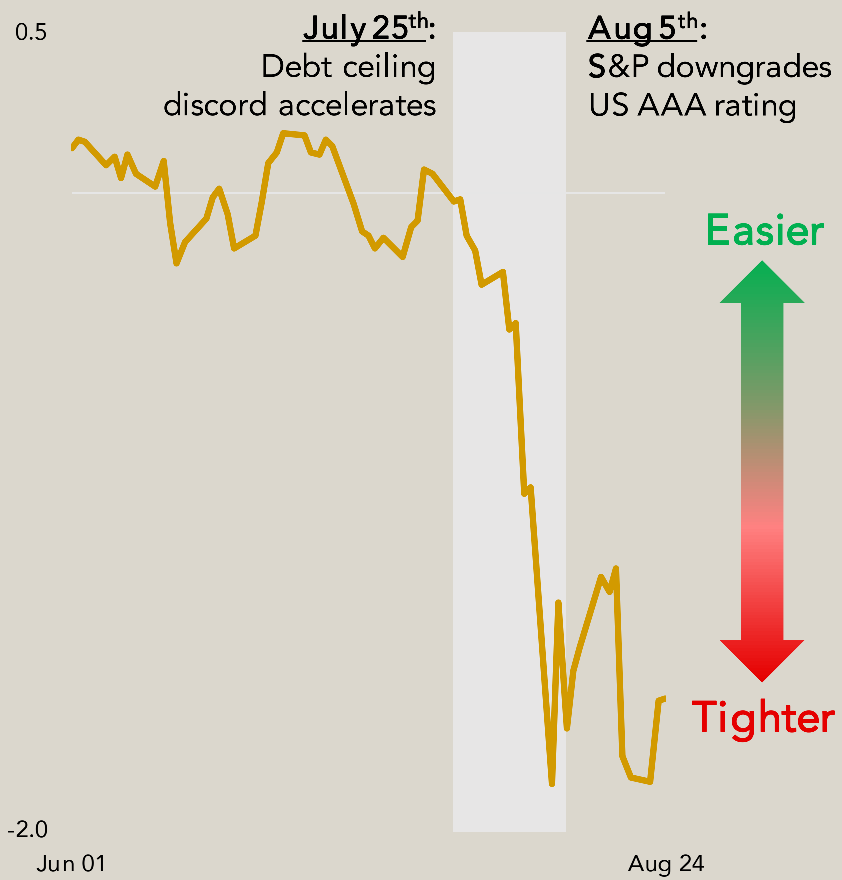
T-Bills & Financial Conditions in July 2011

US T-Bill yields jumped during the debt ceiling stress of July 2011, and financial conditions tightened sharply, much as they are doing today.

One Month T-Bills



Financial conditions

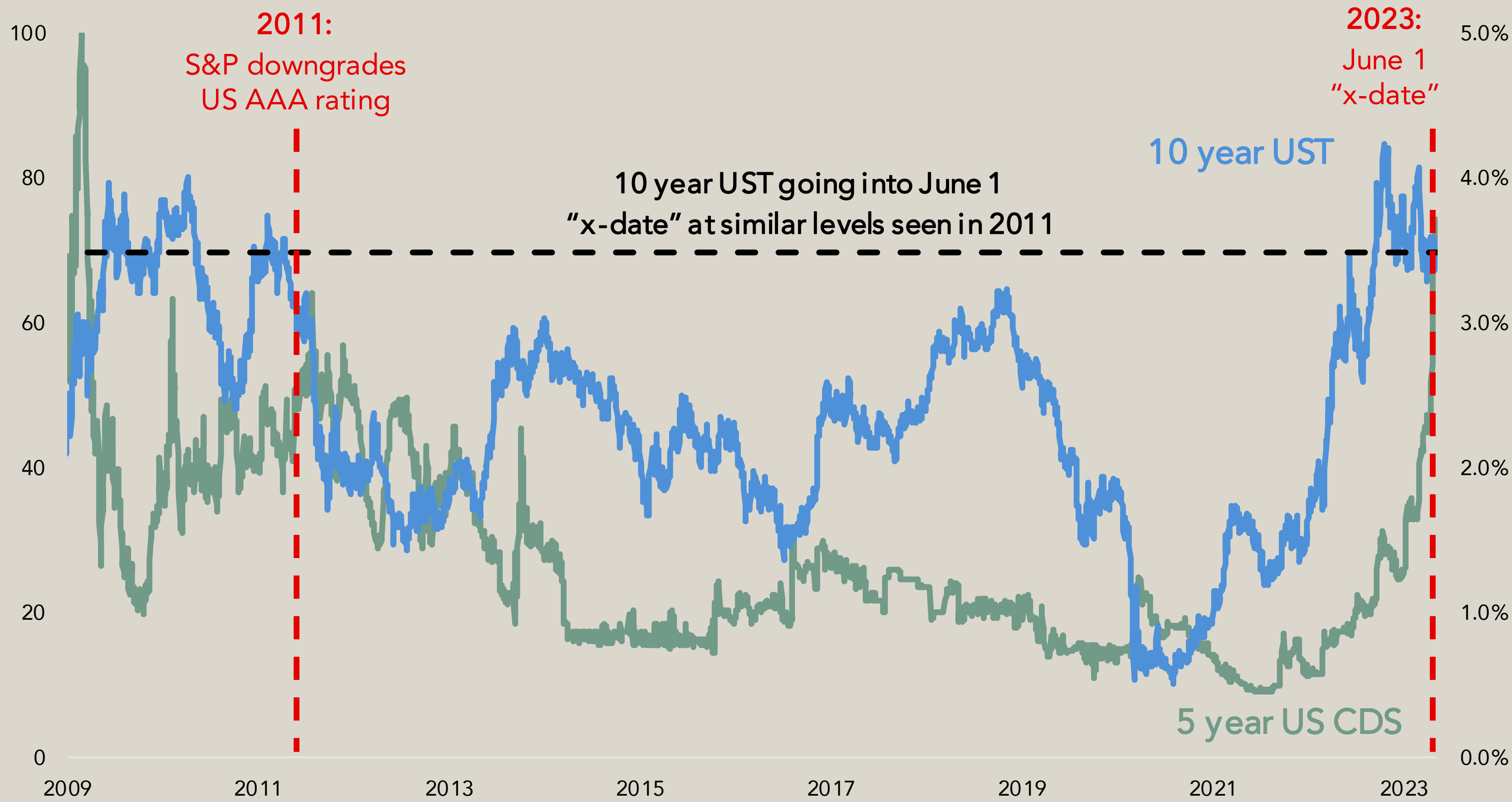


Source: (1-2) Bloomberg. Data as of May 2, 2023.

10 Year UST Yield Trading Near 2011 Levels

The 10 year UST yield is going into the June 1, 2023 "x-date" at levels quite similar to 2011

US 5 year CDS and 10 year UST

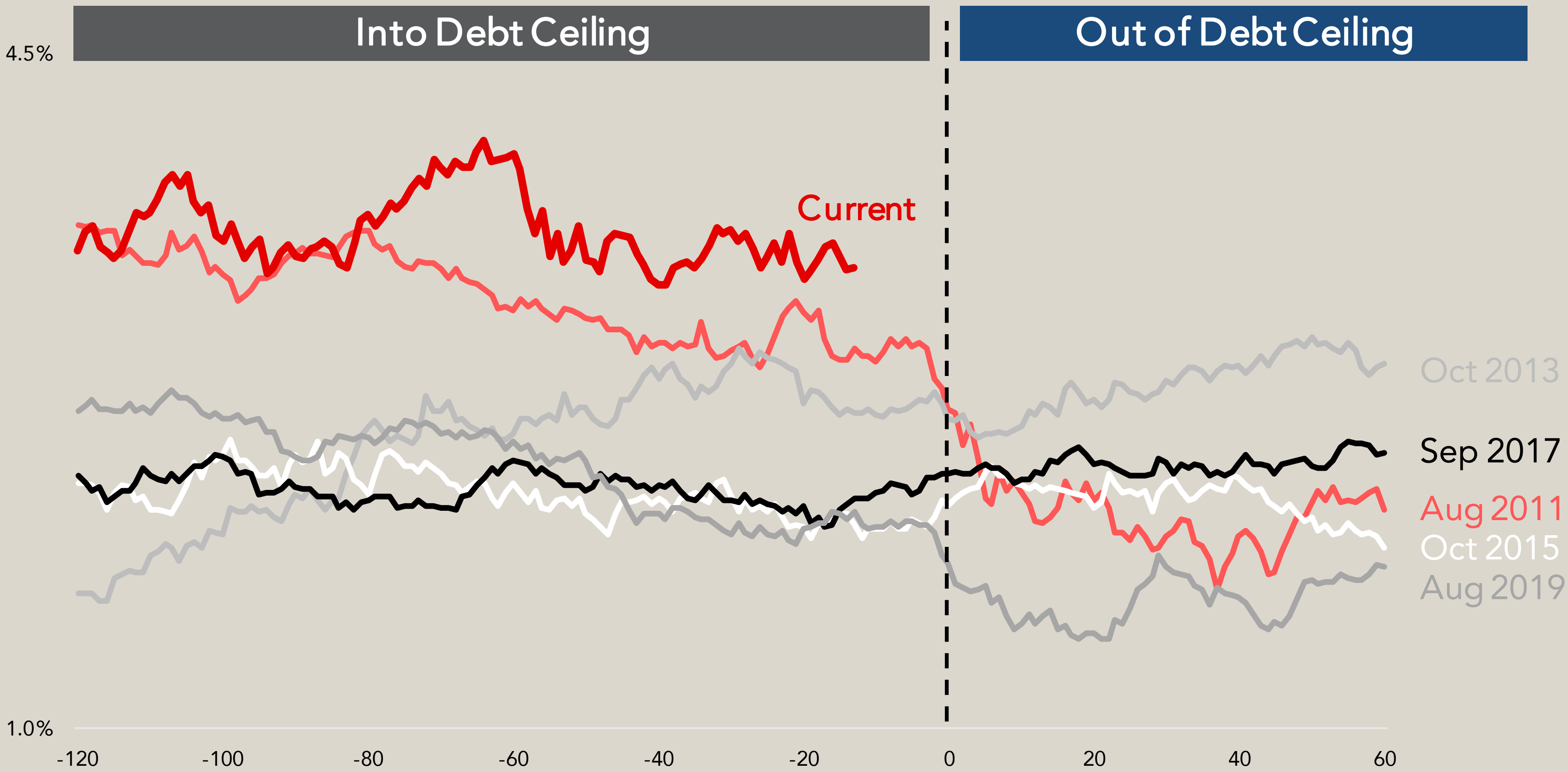


Source: (1) Bloomberg. Data as of May 12, 2023. MUFG Rates Strategy (George Goncalves).

Treasuries Have Trended Lower Post Debt Ceiling Events

10 Year UST yields have generally trended lower following debt ceiling events, most acutely so in 2011 given the risk-off in global markets following the US AAA downgrade.

10 year UST around debt ceiling

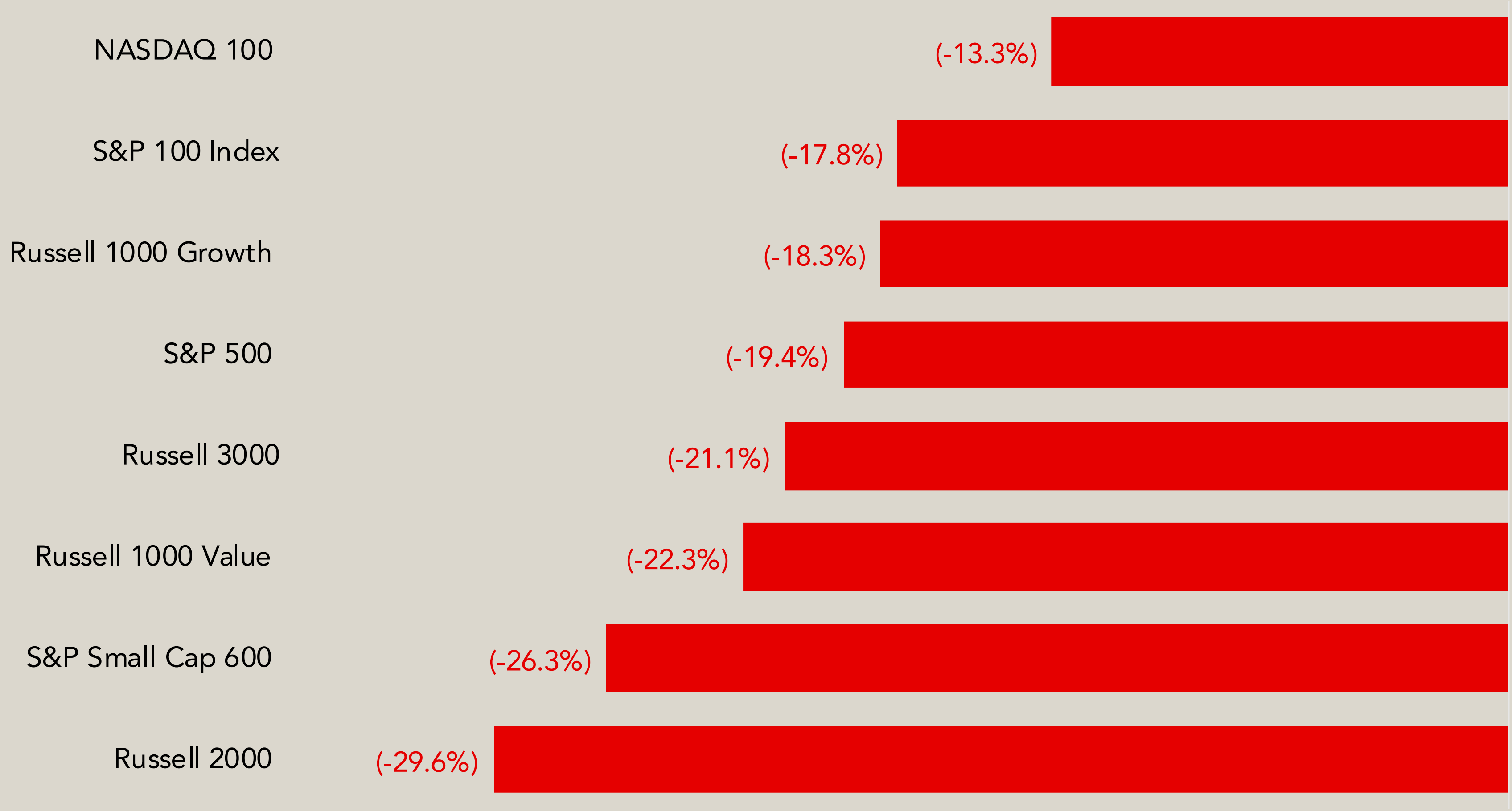


Source: (1) Bloomberg. Data as of May 12, 2023. MUFG Rates Strategy (George Goncalves).

Peak-to-Trough Equity Declines in 2011

The 2011 debt ceiling crisis and ratings downgrade precipitated a significant correction across US equity markets, with small cap stocks faring worse than high tech and growth

Index price return during 2011 Debt Ceiling Crisis (April high to October low)

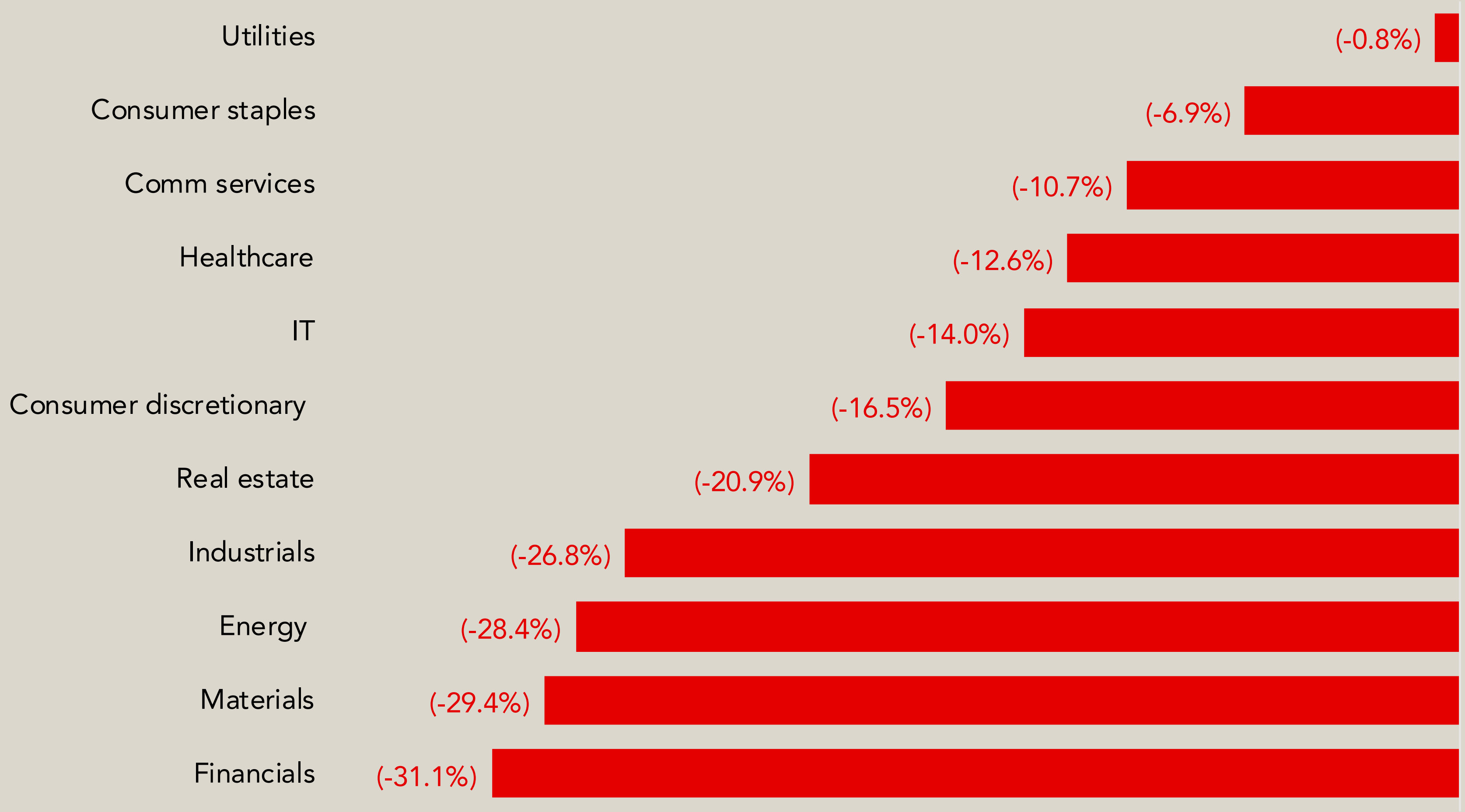


Source: (1) LPL Research. Bloomberg.

2011 Equity Market Declines by Sector

Financial stocks led the sharp underperformance across sectors during the debt ceiling crisis of 2011.

Sector price return during 2011 Debt Ceiling Crisis (April high to October low)



Source: (1) LPL Research. Bloomberg.

6

The Exorbitant Privilege of Dollar Dominance

“Both the geopolitical incentive and operational capacity to reduce exposure to dollars is on the rise, another debt ceiling drama needlessly gives other countries further justification to consider alternatives.

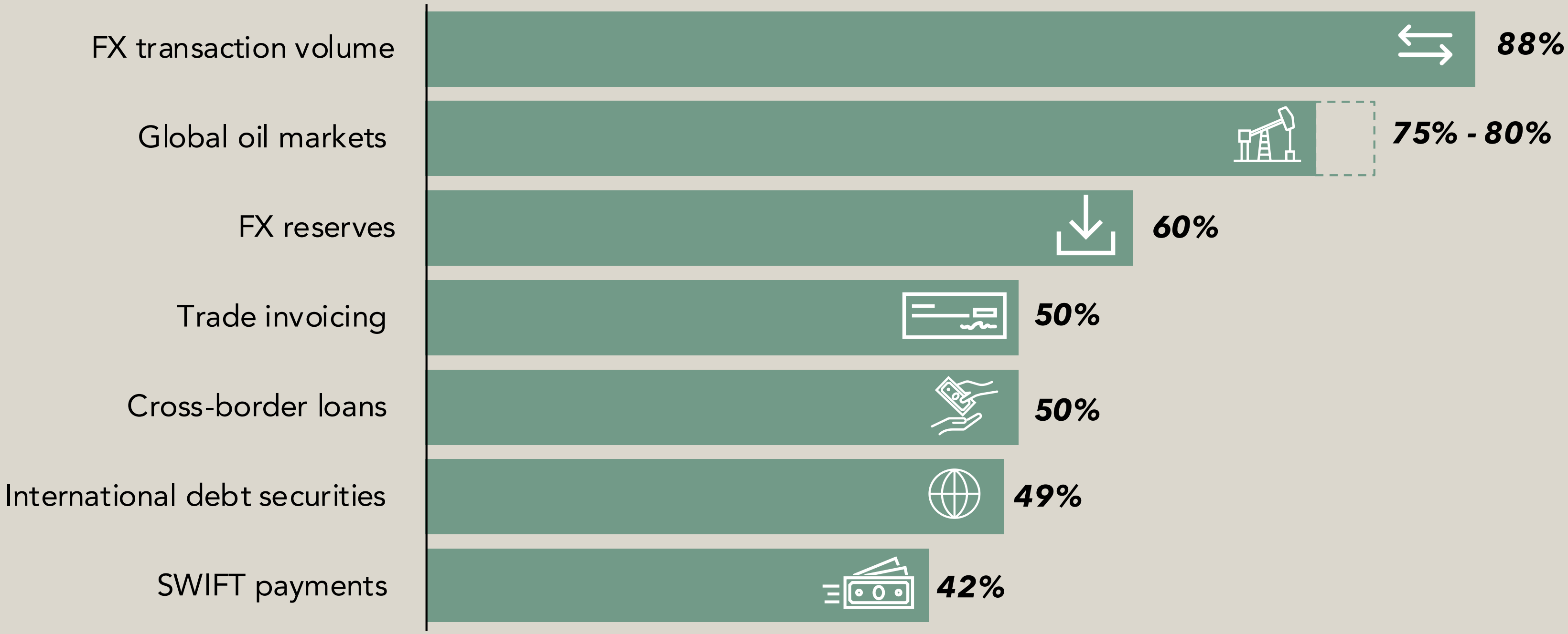
No one should underestimate the stakes involved. US dollar primacy is a national treasure…allowing American households, businesses and governments at all levels to fund themselves far more cheaply than would otherwise be the case.”

Matt Pottinger, Hoover Institute, and Daleep Singh, PGIM
in *Foreign Affairs* (April 27, 2023)

The Exorbitant Privilege of Dollar Dominance

More than 50 years after President Nixon closed the door on Bretton Woods, a US Dollar-based global financial system has become a national treasure. Dollar dominance has become a pillar of global financial market stability and allows American households, businesses and governments to fund themselves at markedly lower rates than would otherwise be the case. However, Washington should be careful not to take this exorbitant privilege for granted. As Pottinger and Singh have noted in Foreign Affairs, the geopolitical incentive and operational capacity to reduce exposure to dollars is on the rise.

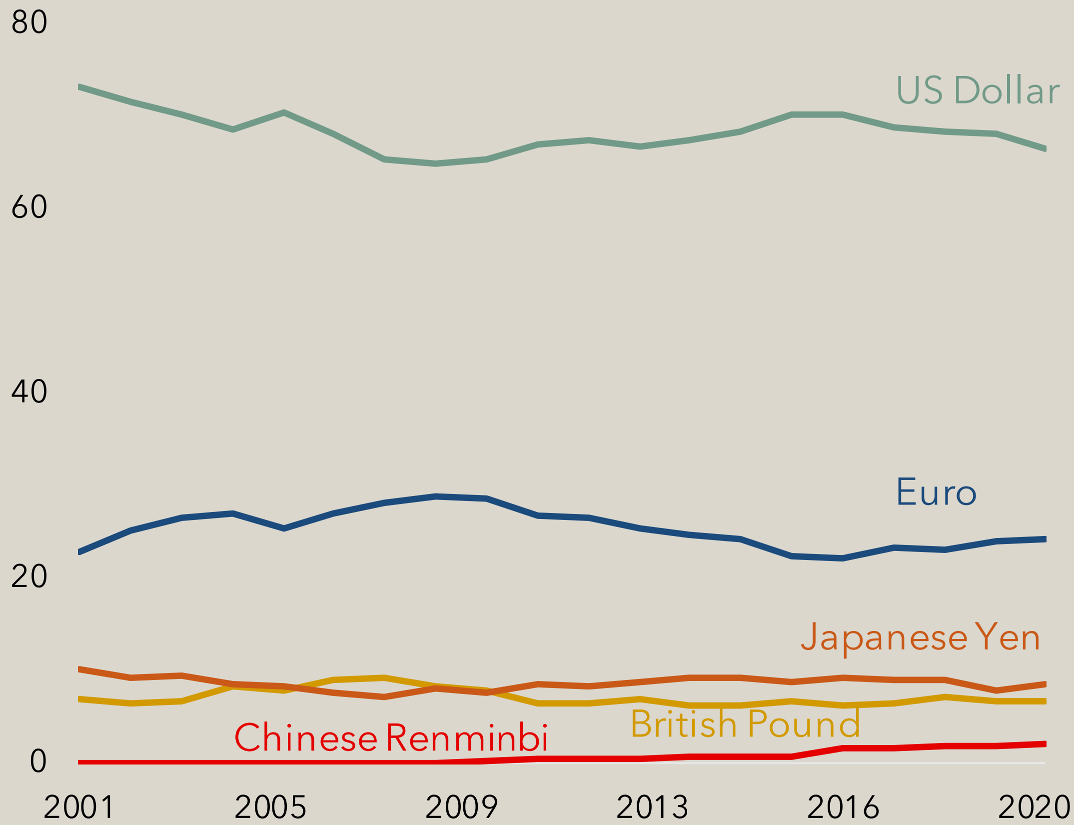
USD share of global markets



Source: (1) BIS, "The Global Foreign Exchange Market in a Higher-Volatility Environment" (December 2022). G Gopinath, "The international price system", NBER Working Papers, no 2164, 2015; IMF; Bloomberg; CPB World Trade Monitor; SWIFT; BIS debt securities statistics; BIS locational banking statistics; BIS Triennial Central Bank Survey. Foreign Affairs ("Great Powers Don't Default: The Dangers of Debt Ceiling Brinkmanship" by Matt Pottinger and Daleep Singh)

The Dollar Dominated Global Financial System

Index of international currency usage



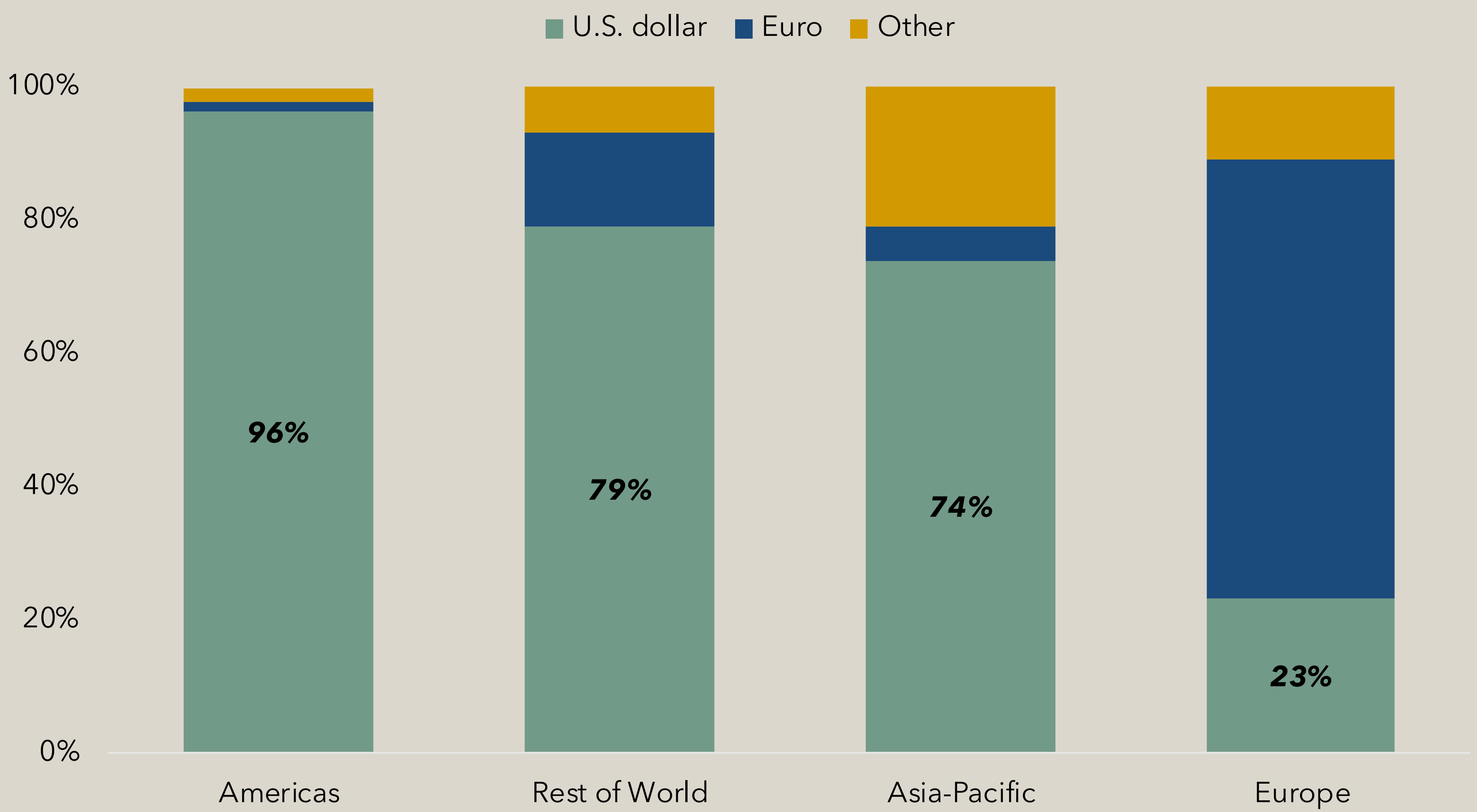
5 measures of currency usage

1. Official FX reserves
2. FX transaction volume
3. FX debt instruments outstanding
4. Cross-border deposits
5. Cross-border loans

Source: (1) The Federal Reserve "The International Role of the U.S. Dollar" (October 6, 2021). IMF direction of trade; Central Bank of the Republic of China. Average annual currency composition of export invoicing, where data are available. Data extend from 1999 through 2019. Regions are those defined by the IMF.

US Dollar Share of Global Trade Settlement

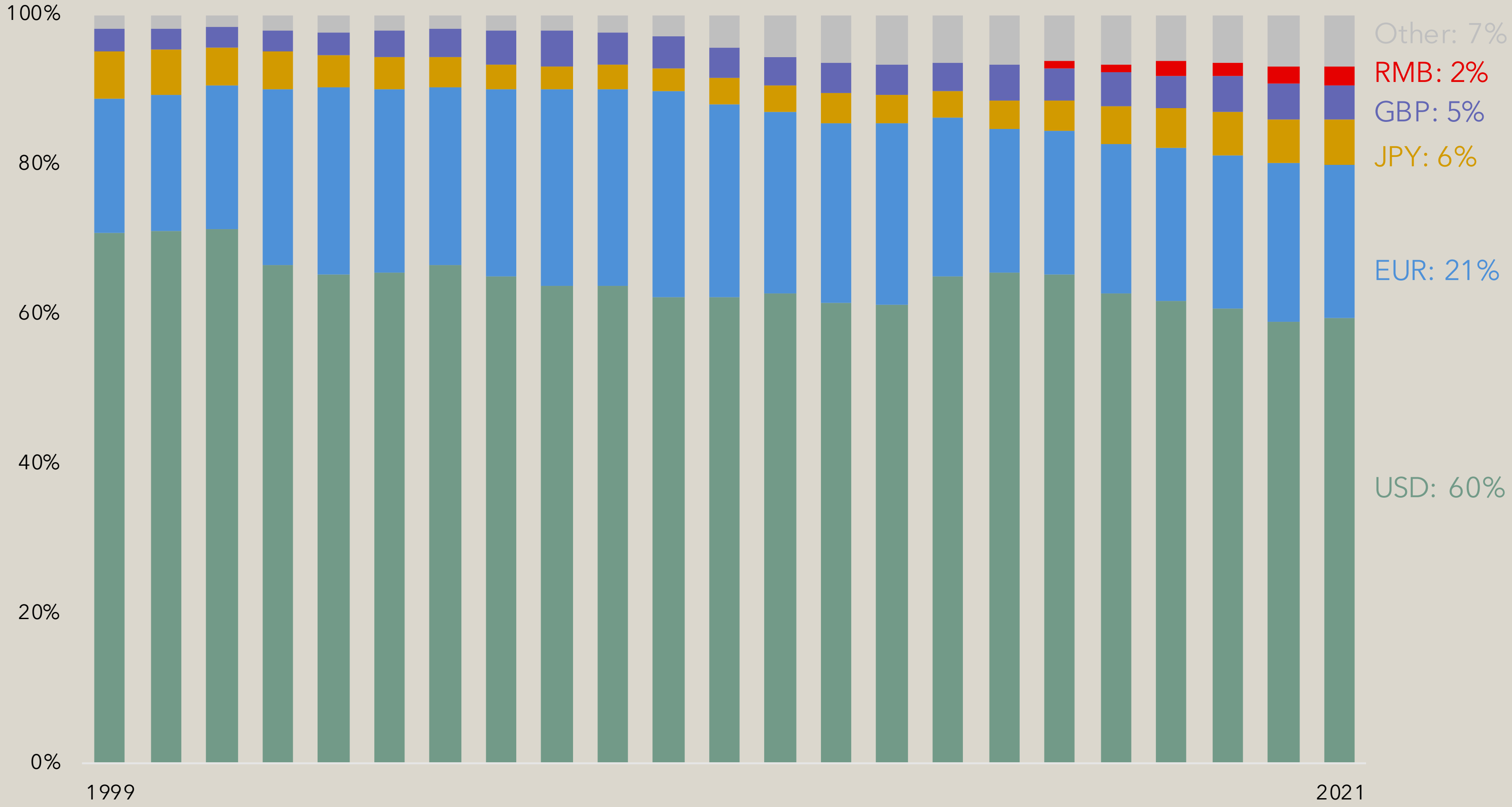
Share of export invoicing



Source: (1) The Federal Reserve "The International Role of the U.S. Dollar" (October 6, 2021). IMF direction of trade; Central Bank of the Republic of China. Average annual currency composition of export invoicing, where data are available. Data extend from 1999 through 2019. Regions are those defined by the IMF.

US Dollar Share of Global FX Reserves

FX reserves



Source: (1) The Federal Reserve "The International Role of the U.S. Dollar" (October 6, 2021). IMF. COFER. Share of globally disclosed FX reserves at current exchange rates. 2021 is Q1 only. Chinese Renminbi is 0 until Q2 2015.

About the Authors

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Role

Tom Joyce is a Managing Director and Capital Markets Strategist within MUFG's global capital markets and investment banking business. Based in New York, Tom heads a team that creates customized analytical content for multi-national S&P 500 companies. His team provides in depth analysis on the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Experience

Tom has over 25 years of Investment Banking experience in New York, London, Hong Kong, and San Francisco. Over the last 15 years, Tom created and built the Capital Markets Strategy role, advising corporate C-Suite executives (Boards, CEOs, CFOs, and Treasurers) on the pervasive macro forces driving markets. Tom also presents at dozens of corporate events each year including Board meetings, CEO ExCo sessions, CFO and Treasury off-sites, corporate leadership events and conferences.

Education

Tom's educational background includes a year of study at Oxford University from 1991 - 1992, a Bachelor of Arts in Political Science from Holy Cross College in 1993, and a MBA from Kellogg Business School, Northwestern University in 2000.

Personal

Tom resides in New Canaan, CT with his wife and four sons, where he serves on the Board of Trustees of the New Canaan Library as well as the Holy Cross College President's Council.

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Role

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Experience

Hailey has over a decade of Wall Street experience, including three years as a Consumer Sector Specialist in Equity Sales and nine years as a Capital Markets Strategist. Hailey is also a member of MUFG's Inclusion & Diversity Council and has devoted years to participating in and developing Wall Street recruiting programs.

Education

Hailey graduated with honors from the University of Michigan's Ross School of Business with a BBA and a minor in International Studies.

Personal

In March 2020, Crain's New York Business Magazine named Hailey one of the "Rising Stars in Banking and Finance".

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Experience

Stephanie has spent over five years as a Capital Markets Strategist. She is an active member of the University of Michigan recruiting team and is focused on the diversity recruiting effort at MUFG. Stephanie is also a part of MUFG's DEI, Culture & Philanthropy (DCP) Council.

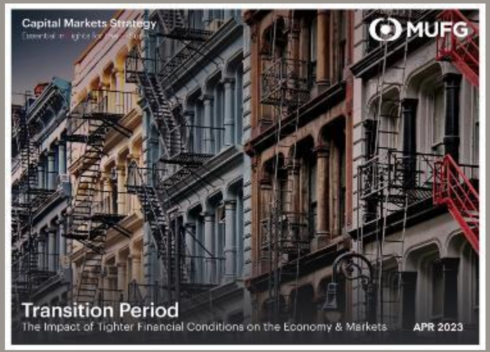
Education

Stephanie graduated with honors from the University of Michigan's Ross School of Business with a BBA .

Personal

Stephanie is actively involved in NYC's iMentor program, mentoring high school students with their journey to college graduation.

MUFG's Capital Markets Strategy Team



MUFG's Capital Markets Strategy Team

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