



US DEBT CEILING IMPASSE AND MARKET IMPLICATIONS

Concerns about a US technical default are mounting as the debt ceiling “X-date”—projected to be on June 1 or soon thereafter—is fast approaching. The US debt limit, created by the Congress in 1917 is the total amount of money that the United States government is authorized to borrow. On January 19, 2023, US national debt reached the debt limit of \$31.4 trillion. On May 1, Treasury Secretary Janet Yellen sent a letter to the US House of Representatives warning about the inability of the Treasury to satisfy *all of the government’s obligations by early June, and potentially as early as June 1, if Congress does not raise or suspend the debt limit before that time*¹. At various points in time, the required increase of this “ceiling” led to a standoff in congress. Since 1960, Congress has been called to increase, temporarily extend, or revise the debt limit 78 separate times. In 2011, agreement was reached only shortly before the X-date, but that didn’t prevent the S&P from downgrading the US government from a AAA rating to AA. For the current episode, consensus expectation is still that the Congress will reach an agreement before June 1. However, market nervousness is surfacing, particularly in the Treasury bill and CDS markets. The 1-year US sovereign CDS spread has reached record highs (Figures 1 and 2) as market participants seek instruments to hedge against a technical default². This note provides an assessment of the US sovereign CDS market dynamics and gives insight into how the recent developments can be interpreted.

SOVEREIGN CDS MARKETS: A DYNAMIC MARKET?

A credit default swap (CDS) is a derivative contract that provides insurance against the default of an issuer of debt, the “reference entity”.³ The “buyer” of the contract pays a premium to the “seller”, in exchange for the protection against losses incurred if the reference entity defaults or triggers a credit event.⁴ This insurance premium, the CDS spread, reflects the probability of default as well as the expected loss given default.

The term structure of CDS spreads is normally upward sloping or flat, but this curve tends to invert when an imminent default becomes more likely (Figure 3). The most active and liquid contract is traditionally the 5-year CDS. Transaction volumes of CDS contracts for some emerging market issuers are sizeable, reflecting higher demand for insurance against sovereign defaults as well as “proxy hedging” by investors who hold non-sovereign (e.g., corporate) exposures in these EMs. For example, the number of CDS transactions over May for Türkiye and South Africa are 11 and 7 times than those of the U.S. (Figure 4). Short-term CDS contracts on creditworthy countries are usually very inactively traded. For example, according to DTCC data, no trades in US sovereign CDS contracts were registered through several consecutive months prior to the debt ceiling concerns.

However, as the debt ceiling debate has stalled, investors are becoming more nervous and started to hedge against a potential technical default. The spread on the 1-year US sovereign CDS contract has reached all-time-highs going from around 20 basis points prior to Secretary Yellen’s letter in January to around 145 basis points currently.⁵ CDS spreads for longer tenors increased much less, leading to an inversion of the term structure (Figure 3), suggesting that investors are more concerned about the debt ceiling standoff rather than the longer-term US credit quality. The bid-ask spreads have risen in absolute terms (Figure 2) but have fallen on a relatively basis (Figure 5). Trading volumes have increased, especially in the shorter tenors (Figure 6). Market contacts confirm that the US sovereign CDS market is currently active and more liquid.

DOES THE INCREASE IN SHORT-TERM US CDS SPREADS REALLY REFLECT HEIGHTENED US DEFAULT RISK?

CDS spreads should reflect the expected loss (EL) of the underlying assets. The EL is a product of the probability of a default (PD) and the loss-given-default (LGD). The loss-given-default, in turn, depends on how much value can be recovered after a default. For this recovery rate (RR), standard assumptions are often made. When a default is likely, bonds tend to trade close to the expected recovery value. However, under the payout process of a CDS contract, the recovery rate is equal to the value of the cheapest available bond the CDS seller—the party providing the protection—will receive in turn for paying out the insurance, which is the bond that has the lowest spot price to be delivered to satisfy the contract specifications). In case of a credit event, the Credit Derivatives Determination Committee (DC) of the International Swaps and Derivatives Association (ISDA), will publish a list of deliverable bonds. Currently, market participants assumed that the cheapest-to-deliver (CTD) bond is the 1.25% thirty-year bond issued in May 2020 and matures on May 15, 2050. This bond trades well below par not due to credit impairments but because its low coupon the price has declined substantially in a context of higher rates as the Fed has tightened aggressively its monetary policy. This means that the insurance premium—the CDS spread—is pushed to artificially high levels.⁶ Based on the current level of the CDS and considering the CTD bonds prices, the implied probability of default is low (3.5%, as of 23 May 2023),

even lower than in the previous debt ceiling episodes (Table 1). The effect of the recovery rate on the CDS spread is illustrated by the example in Figures 7 and 8.

HOW ABOUT PRICING IN THE TREASURY BILLS MARKET?

The previous analysis shows that CDS spreads do not only reflect the risk premia associated with a US default and that the probability of default remains small. This is consistent with the 6-month T-bill still trading at a yield close to the (near) risk-free overnight indexed swap rate, with the gap between the two far smaller than the CDS spread (Figure 9). However, the T-bill curve *does* show a deformation (Figure 10) with the T-bill maturing on the potential X-date of June 1st traded above 7% on May 24th (Figure 11); this could reflect foregone interest in case of delayed payments for the T-bills maturing in early June. Conversely, short-dated T-Bills that mature in May—before the X-date—have yields below OIS for two reasons. First, investors are willing to forego higher-yielding assets for the convenience of holding a T-bill that is very likely immune to a technical default. Second, it may also reflect the preference of institutional investors—such as money market funds (MMFs)—to hold more assets with shorter duration in this uncertain environment. For the few MMFs that already hold large amount of the Fed's overnight reverse repo facility—as pointed out in the May 17 2023 Update on [US Money Market Funds Post Market Turmoil](#)—T-bills maturing before June might be a good alternative investment.

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¹ Increasing or suspending is a recurrent debate in the US political landscape. Congress can potentially suspend the debt limit for a determined period of time or increase the debt limit by a determined dollar amount.

² A technical default can result from a situation where payments are delayed for only a short period. This differs from a fundamental default, which can be triggered by a credit event such as a failure to pay means, after the expiration of any applicable Grace Period—usually three business days for CDS on US sovereign debt – see ISDA definition.

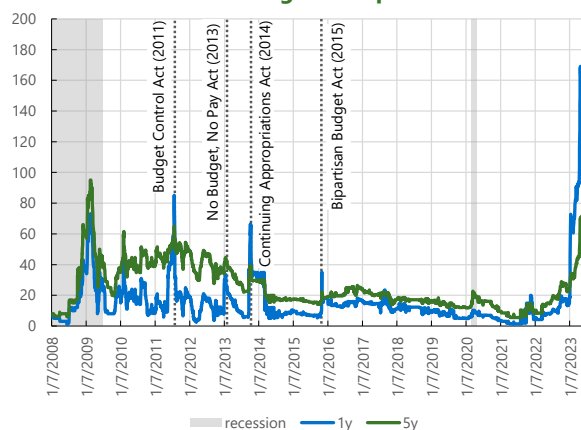
³ This note focuses on single-name CDS contracts which provide insurance against the default of a single debt-issuer. Multi-name and index CDS contracts also exist, but sovereign CDS contracts, the focus of the note, fall under the category of single-name contracts.

⁴ The rules governing a CDS contract typically follow the standards of the International Swaps and Derivatives Association (ISDA). A “determinations committee” decides whether a credit event has taken place. If this is the case, the contract seller must pay out an amount to the CDS buyer. In case of physical settlement, the protection buyer must provide an eligible security to the seller, who then pays the buyer in full. In case of cash settlement, the seller pays out only the loss, which in turn depends on the remaining value of the underlying debt. This “recovery value” is determined through an auction and is typically determined by the price of the cheapest eligible securities.

⁵ On January 19, Treasury Secretary J. Yellen notified the US House of Representatives the actions the Treasury has taken in regard of the debt ceiling.

⁶ A sharp increase in interest rates leads to a low value of CTD bond and recovery rate. This in turn results in a high LGD and high EL which can lead to a high CDS spread without an equivalent increase in the underlying probability of default.

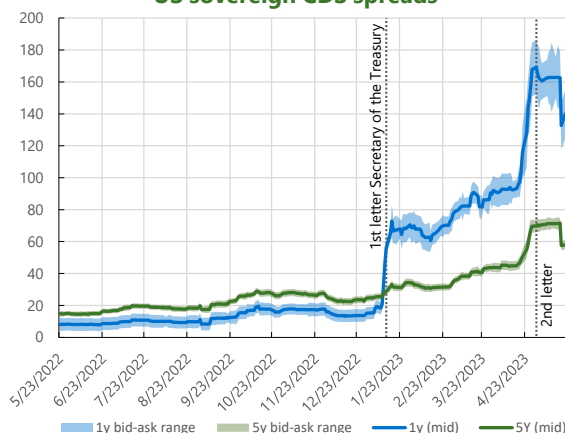
Figure 1
US sovereign CDS spread



Source: Refinitiv Datastream, NBER, IMF staff calculations. Notes: grey areas indicate recession periods.

Figure 2

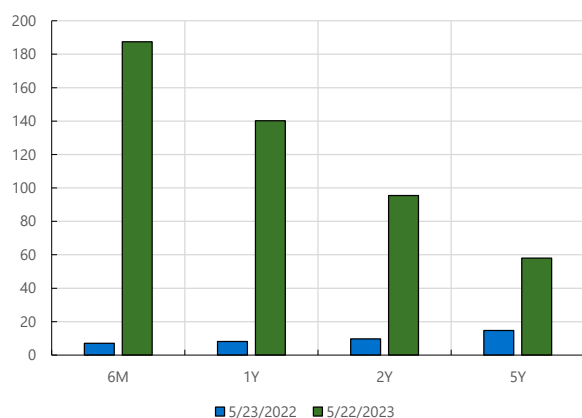
US sovereign CDS spreads



Source: Refinitiv Datastream, Bloomberg L.P., IMF staff calculations. CDS spreads reflect the mid-price-point, bands reflect the bid-ask range. Vertical lines indicate two letters to congress from Secretary of the Treasury Janet L. Yellen, respectively on [January 13](#) and [May 1](#).

Figure 3

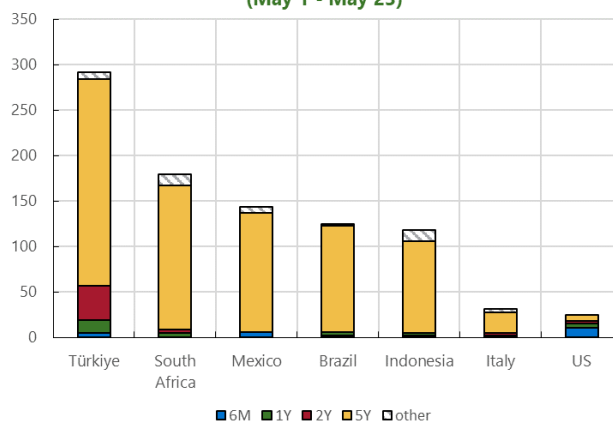
US sovereign CDS spread term structure



Source: Refinitiv Datastream, IMF staff calculations.

Figure 4

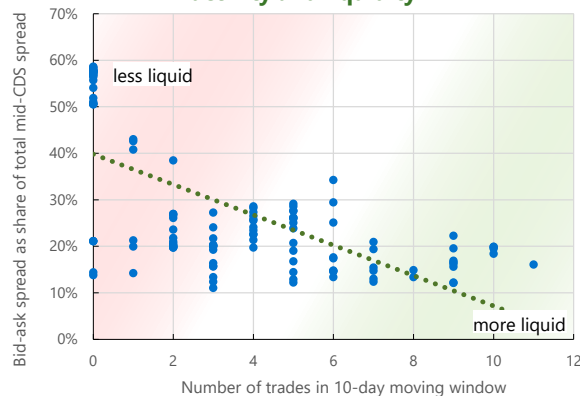
**Number of CDS contracts traded
(May 1 - May 23)**



Source: Bloomberg L.P., IMF staff calculations. Notes: based on Depository Trust & Clearing Corporation (DTCC) data provided by Bloomberg.

Figure 5

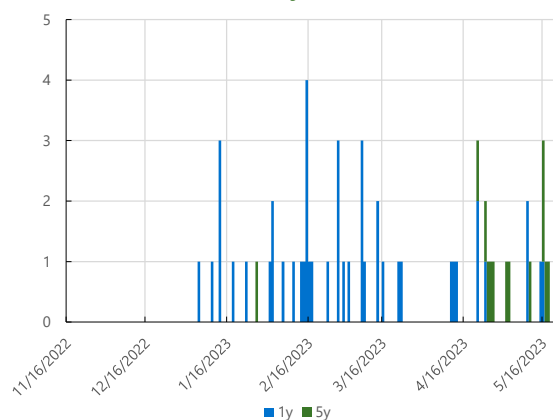
Relative 1Y US CDS bid-ask spread, trading activity and liquidity



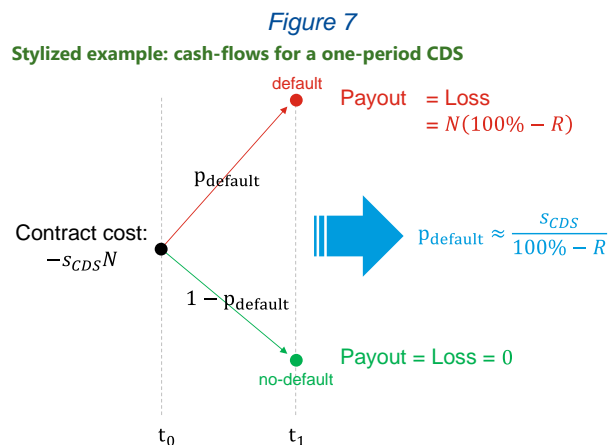
Source: Bloomberg L.P., IMF staff calculations. Notes: based on Depository Trust & Clearing Corporation (DTCC) data provided by Bloomberg.

Figure 6

Number of daily US CDS trades



Source: Bloomberg L.P., IMF staff calculations. Notes: based on Depository Trust & Clearing Corporation (DTCC) data provided by Bloomberg.



Source: IMF staff calculations. Notes: for simplicity, the risk-free rate is assumed to be zero in the example. N denotes the contract's nominal amount, R the recovery rate, and s_{CDS} the CDS spread. Real-world probabilities are not necessarily equal to the risk-neutral probabilities. The infographics provide a stylized example. In reality, the paid premium is fixed, and an upfront-payment accounts for the differential between the fixed premium and the priced spread. Implied default probabilities do not reflect current implied default probabilities for US CDS contracts but are purely illustrative to demonstrate that given a CDS spread, the recovery rate assumption affects the implied probability of default.

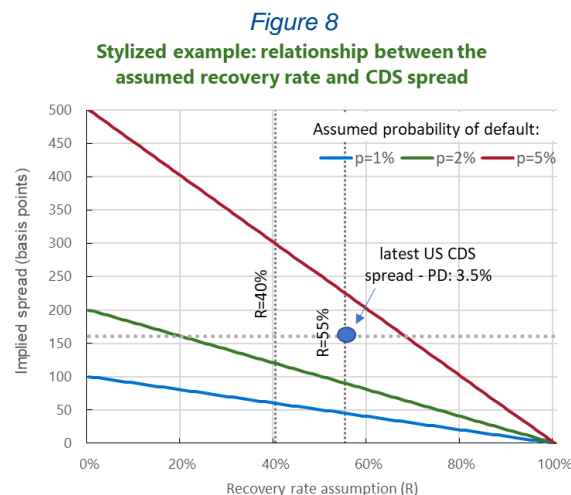
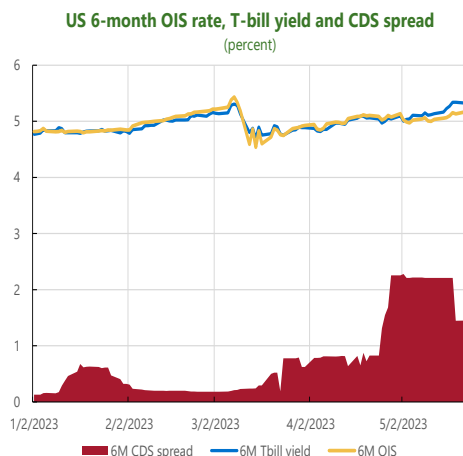
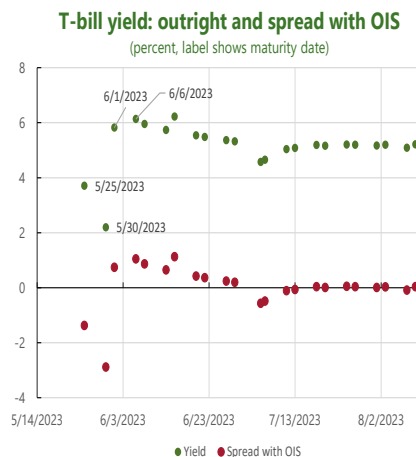


Figure 9



Source: Bloomberg L.P., Refinitiv Datastream, IMF staff calculations.

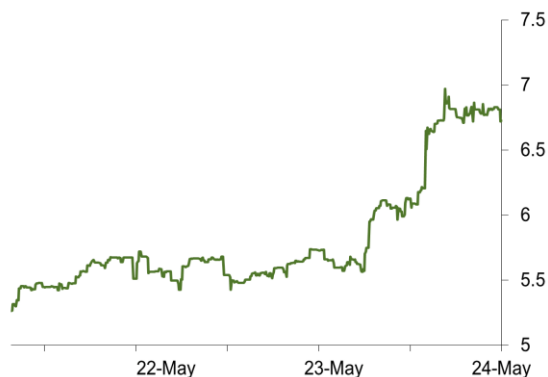
Figure 10



Source: Bloomberg L.P., IMF staff calculations.

Figure 11

Yield on Bill due 1 June 2023



Source: Bloomberg L.P., IMF staff calculations.

Table 1

CDS Spreads, CTD Prices & Implied Default Probability

Date	CDS Spread (in bps)	Price of CTD Security	Implied Probability of Default
27-Jul-11	90.00	87.657	7.29%
09-Oct-13	86.76	82.194	4.87%
26-Oct-15	50.06	92.311	6.51%
22-May-23	160.56	54.578	3.53%

Source: Bloomberg L.P., IMF staff calculations.