Sovereign credit default swaps: Managing risks when the fiscal house rumbles

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Abstract This paper seeks to dissect risks which stem from the features of a sovereign credit default swap under the architecture of the 2014 ISDA Credit Derivatives Definitions (the 2014 Definitions). The paper begins with an overview of the market structure and functions of a sovereign credit default swap, followed by a brief discussion of the landscape behind the product. It then provides a narrative on specific risk considerations, mapped under broad themes such as the Credit Derivatives Physical Settlement Matrix (the Matrix) terms published by the International Swaps and Derivatives Association, Inc. (ISDA) (including trigger obligations, deliverable obligations, credit events and settlement risk). Examples of Credit Derivatives Determinations Committee (DC) deliberations have been drawn in to elucidate aspects of how the product terms are applied in practice. The goal of the paper is to assist practitioners, infrastructure providers, risk managers, regulators, academics, sovereign issuers and creditors to identify risks and assess the efficiency of sovereign credit default swaps (SOVCDS) as a hedging tool. Due to the vastness of the subject, the paper focuses on SOVCDS traded as a *Standard* transaction type (TType) under the Matrix, where a DC credit event announcement crystallises settlement obligations.

Keywords: *credit default swap, credit event, debt distress, Determinations Committee, International Swaps and Derivatives Association, Inc. (ISDA), risk management, sovereign debt, 2014 ISDA Credit Derivatives Definitions*

SOVEREIGN CREDIT DEFAULT SWAPS

According to a report of the Bank for International Settlements, as of the second half of 2022, the market for credit default swaps (CDS) represented US$9,728bn outstanding, of which, US$1,146bn outstanding related to SOVCDS, an amount which is notably less than the amount of CDS written on financial firms (US$1,715bn outstanding) and non-financial firms (US$2,584bn outstanding).[1]

When policy makers perceived that the trading of 'naked' CDS had exacerbated the stability of the European Union (EU)'s sovereign debt market during the Euro sovereign debt crisis, the EU Short-Selling Regulation (SSR) came into force on

Table 1: Credit events during the period from 16th April, 2009 to 16th June, 2023

Reference entity	Credit event/Date	Transaction type
The Hellenic Republic	Restructuring (9th March, 2012)	Western European Sovereign
The Argentine Republic	Failure to Pay (22nd May, 2020) Potential Failure to Pay (22nd April, 2020) Failure To Pay (30th July, 2014)	Latin America Sovereign
Republic of Ukraine	Restructuring (11th August, 2022) Repudiation/Moratorium (4th October, 2015) Potential Repudiation/Moratorium (19th September, 2015) Failure to Pay (4th October, 2015)	Emerging European & Middle Eastern Sovereign
Bolivarian Republic of Venezuela	Failure to Pay (13th November, 2017) Potential Failure to Pay (13th October, 2017)	Latin America Sovereign
Lebanese Republic	Failure to Pay (16th March, 2020)	Emerging European & Middle Eastern Sovereign
Republic of Ecuador	Restructuring (17th April, 2020)	Latin America Sovereign
Republic of Zambia	Failure to Pay (13th November, 2020)	Emerging European & Middle Eastern Sovereign
The Russian Federation	Potential Failure to Pay (4th April, 2022) Failure to Pay (19th May, 2022)	Emerging European & Middle Eastern Sovereign
Republic of Ghana	Potential Repudiation/Moratorium (19th December, 2022) Failure to Pay (17th February, 2023) Repudiation/Moratorium (17th February, 2023)	Emerging European & Middle Eastern Sovereign

Data source: www.cdsdeterminationscommittees.org (the DC's webpage, which records all DC deliberations)
Note: The credit events also apply to both *Standard* and *non-Standard* transaction types.

1st November, 2012.[2] The SSR primarily prohibits natural and legal persons from entering into an 'uncovered'[3] credit default swap, unless an exemption or permission can be relied upon.[4]

Nonetheless, despite the tightening of SOVCDS regulation, the product has always been known to have great utility as a risk mitigation tool for the transfer and hedging of credit risk. Quite a number of sovereign borrowers have either defaulted or had to restructure their debt obligations to avert default, including Argentina, Belize, Ecuador, Lebanon, Suriname, Sri Lanka, Zambia, the Russian Federation, the Republic of Ukraine and Ghana, and Table 1 shows that some of these defaults have translated into credit events for CDS.[5] The credit events occurred primarily within an emerging market transaction type (TType).[6] Given that the IMF-World Bank Debt Sustainability Framework has reported that over half of low income countries are at high risk of, or face, debt distress and the World Economic Outlook has illustrated the pressures faced by many fiscal houses, SOVCDS can serve as a valuable tool for risk management.[7] In recent years, COVID-19 related debt, the Russia–Ukraine war, high inflation, low growth, depreciation of local currencies against the United States (US) dollar and the tightening of financial conditions have all compounded the likelihood of debt distress.

SOVCDS are not only used to hedge sovereign debt, but also function as a proxy hedge for exposures in other markets. This is premised on the notion that the default of a corporate or financial firms domiciled within the jurisdiction of a sovereign would be highly correlated with the default of the sovereign. As such, proponents of CDS have argued that the product also drives liquidity and lowers borrowing costs in the underlying debt markets where hedging is required.[8]

Further, the value of sovereign credit default swap spreads that provide market indicators of sovereign credit risk cannot be understated. For instance, in a report relating to the Euro redenomination crisis,[9] it was demonstrated that during the threat of a Euro break-up and the redenomination crisis, the gross notional amount outstanding of CDS written on Italy and Spain increased by 45 per cent (Italy) and

60 per cent (Spain) in 2012 as compared to 2010. Moreover, redenomination risk at three and five-year maturity on Italy's and Spain's CDS hovered around 30 and 40 basis points up to mid February 2012 but, in May 2012, rose in the case of Spanish CDS (given the weaker financial condition of Spain) to about 110 basis points for the three-year maturity and 95 basis points for the five-year maturity credit default swap.

LANDSCAPE BEHIND SOVCDS

The landscape surrounding SOVCDS differs substantially from that of corporate CDS. Creditors of a sovereign cannot force a bankruptcy, and although there have been international efforts to coordinate restructuring of sovereign debt through initiatives such as the Group of Twenty's Common Framework,[10] the lack of an organised legal framework that provides for an asset distribution plan when a sovereign is in distress creates perennial problems. Furthermore, when a sovereign is in distress, spillover effects in other markets can also occur.

The increasingly heterogenous nature of sovereign debt has made reaching consensus on a restructuring a laborious process as investors are dispersed across multiple jurisdictions and the architecture of sovereign creditors has changed. Official creditors have decreased in count, while bilateral private creditors have shown growth, creating more tension as conflicting interests of different creditor committees need to be balanced.[11] The Republic of Ukraine restructuring, which concluded successfully after a three-week negotiation, can be said to be an exception rather than the norm; given the humanitarian crisis experienced by the war-torn nation, sentiments of solidarity appeared to have brought creditors together.[12] Further, new lending entrants outside of the Paris Club, such as commodity traders, have also used collateralised debt structures in transactions with sovereigns and debt terms have become less transparent,[13] adding to the difficulties in assessing the scale of any sovereign distress where data is already limited.[14]

Further, as seen in the case of the Argentine Republic, sovereign litigation risk can be heightened where a distressed sovereign has to battle with 'empty creditors' in the form of holdout creditors that continue to demand full principal payment.[15]

Although the International Capital Markets Association published model collective action clauses (CACs) for inclusion in sovereign debt securities as early as 2015,[16] specimen majority voting provisions formulated by the UK's HM Treasury convened private sector working group for inclusion in sovereign loan agreements were only published by the Loan Market Association in 2022.[17] Although these provisions are aimed at aiding sovereign loan restructurings, as highlighted in an IMF Staff Paper,[18] a large proportion of existing non-bond sovereign debt do not contain such provisions. Instead, lender unanimity is typically required for the rescheduling of loan payments, and this condition can stall restructurings. Further, where SOVCDS relate to sovereign guaranteed debt of corporates or government agencies, CACs may not be a feature at all with respect to the underlying debt being guaranteed.

There is also evidence that sovereigns have resorted to the law to facilitate a restructuring. For instance, in the Hellenic Republic (Restructuring) DC (2012) deliberation, the Greek Bondholders Act (Law 4050/2012) was enacted to provide legislative authority for the retrospective insertion of a CAC. Although this approach accelerated resolution, being more controversial in nature, it attracted litigation where the insertion of the CAC was tested in the context of a bondholder's right to property.[19]
In this regard, given issues of enforceability, the effectiveness of such forced amendments through law is ordinarily limited to local law governing instruments, making speedy implementation of resolution measures more difficult with respect to foreign law instruments.

Hence, in light of the challenges discussed above, it is no surprise that there are authors who have called for the development of a 'Chapter 11'-like sovereign debt restructuring.[20] As of 31st July, 2023, in New York, the 'Article 7' bill (currently being proposed for enactment), which seeks to amend New York Banking Law and provide a mechanism for restructuring unsustainable sovereign debt, can be said to be a step towards an organised sovereign restructuring framework. If enacted, the state may invoke the new procedures by submitting a debt restructuring plan that will become binding when agreed to by each class of creditor claims. Through the pooling of claims and majority voting provisions,

contractual rights can be altered retrospectively to facilitate sovereign restructurings.[21]

Targeted economic sanctions have also become part of the landscape of SOVCDS. Sanction orders can target not only the sovereign but also intermediaries within the payment or settlement system and issuers of underlying debt guaranteed by the sovereign. Sanctions implemented against the Russian Federation because of the Russia–Ukraine conflict vividly illustrate these facts. Further, in the context of trading CDS, there can also be compliance risk challenges and interpretation difficulties associated with sanctions regulations. For instance, uncertainty can arise as to (a) whether a credit event can be triggered, (b) the scope of *Obligations* and *Deliverable Obligations*, (c) the ability to continue with premium payment obligations, and (d) whether an auction and/or settlement can be conducted.[22] As demonstrated in the Russian Federation (Failure to Pay) DC (2022) deliberation, the orderly conduct of an auction can be disrupted where sanctions apply to a reference entity. The auction for CDS relies on two-way price submissions from participating bidders, and the settlement of a chain of *RAST* transactions which involve buy and sell orders related to deliverable obligations made by both participating bidders and their customers. All such parties can be impacted by a sanctions order. As alluded to in a whitepaper published by ISDA,[23] 'unquantifiable, open-ended and unhedged liabilities' can ensue if non-sanctioned entities are unable to settle derivatives transactions in the wake of sanctions.

Moving on to the US, a breach of the national debt ceiling (without a mandated lift in, or suspension of, the ceiling) could spark concerns of default risk. For instance, following an announcement on 19th January, 2023 by the US Treasury Secretary that the maximum debt ceiling had been reached (US$31.381tn), the US was forecasted to run out of cash to pay its bills on 5th June, 2023.[24] In addition to the risk of default this directly implied, preventive measures that involve debt reprofiling or prioritising of debt to avoid a default would have also led to an event of default. Ultimately, when the US Senate approved the deal agreed between the White House and Congress days before the 'X Date' to suspend the debt ceiling until 1st January, 2025, the US managed to avert a catastrophic default. Further, in 2013, when none of 12 appropriation bills had been passed by Congress for the 2014 fiscal year and a 16-day government shutdown occurred,[25] there was unrest within the market for fear of a US default and ISDA published CDS on US Sovereign Debt: FAQ.[26]

SOVCDS: MATRIX TERMS

It is worth recapping that, despite the fact that TTypes are described by reference to regional locations in the Matrix,[27] trading practice governs the TType applicable to a reference entity. For instance, it is settled practice that the US sovereign trades on the same credit events which apply to a *Western European Sovereign* TType.[28] Additionally, the outcome of a succession event such as that which occurred in the Cadbury Holdings Limited (Successor) DC (2011) deliberation can cause bifurcation within the market where a reference entity could trade under multiple TTypes simultaneously.[29]

Credit events

Under the Matrix, *'Failure to Pay'* (FTP), 'old' *'Restructuring'*[30] and *'Repudiation/Moratorium'* apply to all *Sovereign* TTypes. However, for TTypes relating to *Standard Latin America Sovereign*, *Standard Emerging European* and *Middle Eastern Sovereign and Standard Sukuk Sovereign* (Bucket 1 TType), (1) *'Obligation Acceleration'* applies as an additional credit event, (2) *Multiple Holder Obligation* does not apply in a *'Restructuring'* and (3) *Grace Period Extension* applies to a FTP. Given that a sovereign in distress will invariably be faced with the choice to (a) either selectively default or (b) restructure in an attempt to sustain its debt burden, one or more of the credit events can be affected as certain credit events involve elements of payment default and restructuring.

Obligations and Deliverable Obligations

For credit event trigger obligations, the scope of protection afforded in respect of *Obligations* varies between TTypes under the Matrix. While *Borrowed Money* is the *Obligation Category* for most TTypes, *Bond or Loan* applies to *Standard Singapore Sovereign and Standard Asia Sovereign* TTypes (Bucket 2 TType)

and *Bond* applies to Bucket 1 TType. Further, in relation to Bucket 1 and Bucket 2 TTypes, certain *Obligation Characteristics* apply, narrowing the ambit of protection further. In contrast, however, the Matrix provides that *Deliverable Obligation Category* and *Deliverable Obligation Characteristics* apply to all TTypes.

At this juncture, it is important to also highlight that although *Borrowed Money* denotes a wide category type, a complacent approach cannot be adopted with respect to the level of diligence required to ensure that this category type has been met in relation to an *Obligation* (obligation that can trigger a credit event). If payment in relation to contracts for the procurement of services to a sovereign has been discharged through the issuance of bonds by the relevant sovereign, or a hybrid instrument has been issued with equity-like features, such instruments may not, in fact, meet the definition of *Borrowed Money*, being an obligation for the payment or repayment of borrowed money.

Risk of no reference obligation

In accordance with the provisions of the 2014 Definitions,[31] the parties are free to specify a reference obligation which need not meet the conditions prescribed in the Matrix relating to a category or characteristics to constitute an *Obligation* or *Deliverable Obligation* (settlement obligations).

Despite the non-mandatory nature of a reference obligation, in light of the decisions in the Lebanese Republic (FTP) (2020) deliberation and the Republic of Zambia (FTP) (2020) deliberation (together, the Not Subordinated Matters), it would be short-sighted to exclude a reference obligation where such an obligation is necessary as a comparison obligation in a *Not Subordinated Obligation Characteristic* determination. This is because such a determination can be crucial to certain determinations as to whether a credit event is triggered. In the Not Subordinated Matters, the defaulted obligations had been subject to the *Not Subordinated Obligation Characteristic*, but the DC's FTP resolution was limited in scope and covered transactions that applied a reference obligation that it had examined or that was held to be *parri passu* to such obligations. Effectively, for transactions without a reference obligation, the DC was unable to make the relevant determination given that the *Not Subordinated* determination is assessed on the basis of a reference obligation as the comparison obligation.

Not Subordinated

It is crucial to note that in any *Not Subordinated* determination, the 2014 Definitions provide that, for SOVCDS, priorities arising by operation of law will be relevant when ascertaining whether *Subordination* exists. However, as indicated in the Not Subordinated Matters, although preference language may exist within the terms of the obligations being compared, implying potential subordination, the *Not Subordinated* characteristic may still be satisfied. This occurred when both the reference obligation and the defaulted bond had identical *parri passu* and preference language.

Standard reference obligation (SRO)

Despite the fact that the framework of the 2014 Definitions caters for an SRO, at the time of writing no SROs have been selected for sovereign reference entities.[32] Therefore, caution should be exercised if the intention is for more bespoke reference obligations other than the Markit RED Preferred™ reference obligation generally applied in practice, as a DC determination involving a reference obligation is confined ordinarily to those commonly used in the industry. Otherwise, uncertainties with respect to the scope of a DC ruling can arise.

Not Domestic Currency

It is also important to weigh in on the DC's interpretation in the Russian Federation (Not Domestic Currency/Specified Currency) DC (2022) deliberation relating to *Not Domestic Currency* as an *Obligation Characteristic* and *Specified Currency* as a *Deliverable Obligation Characteristic*. In this matter, the DC concluded that neither of these conditions were met where alternative payment currency provisions applied and, upon the occurrence of an alternative payment currency event, the sovereign was required to make payment in Russian roubles if a designated fallback currency could not apply. The

DC determined that the position would be the same even where such an alternative payment currency event had not occurred, since the sovereign, rather than the noteholder, would have the option of making payment in the domestic currency.

Transferable

The other characteristic in the context of *Deliverable Obligations* that can attract debate is *Transferable*, which can be affected when sanctions, restructurings and resolution measures are implemented. In this context, there have been several DC deliberations that have shown how satisfaction of this characteristic can be affected due to sanction orders, restrictive transfer orders and transfer provisions.[33] In the Russian Federation (FTP) DC (2022) deliberation, ultimately only eight deliverable obligations were included on the final list due to sanction orders. Restrictions within the clearing systems that blocked settlement of US and Russian (RU) ISIN bonds, permitted transfers solely within Clearstream for certain *XS*[34] ISINs and transfer restrictions on RU ISIN bonds which were cleared solely within the National Settlement Depositary of Russia were some of the considerations that drove the selection of *Deliverable Obligations* on the final list.

Other Deliverable Obligations, Excluded Deliverable Obligations and Excluded Obligations

Finally, when the scope of *Obligations* and *Deliverable Obligations* are relevant to any risk assessment, the following should also be considered:

(a) if asset package delivery (APD) is applicable,[35] a package observable bond (POB) that can apply as a *Deliverable Obligation*;[36]
(b) in relation to (a), the *2014 Sovereign No Asset Package Delivery Supplement* which disapplies APD and deems that no POB exists for certain sovereign reference entities;[37]
(c) the sovereign restructured deliverable obligation that can apply as a *Deliverable Obligation*;[38]
(d) the additional provisions published by ISDA, which define *Excluded Obligations* and *Excluded Deliverable Obligations* for certain sovereign reference entities.[39]

APD and POB

Under the architecture of the 2014 Definitions, APD can be a draconian settlement method from a seller's point of view as non-qualifying *Deliverable Obligations* (including non-financial assets) can be delivered in CDS settlement. However, its limited application to the POB (in the context of SOVCDS), a widely held instrument with large notionals, was seen to reduce any moral hazard risk. This delivery solution was needed as the threat of disappearing deliverable obligations through novel restructurings became a real risk. For instance the *PSI* consideration with respect to the exchange offer in the Hellenic Republic (Restructuring) DC (2012) deliberation, composed of new bonds with a face amount of 31.5 per cent of the face amount of exchanged bonds, detachable *GDP*-linked securities and notes issued by the European Financial Stability Facility (EFSF).[40] The latter instruments, however, failed to constitute *Deliverable Obligations* as the notes were issued by a third party.

Despite the restriction of APD to the POB to minimise moral hazard risk, it is important to bear in mind that the impact of APD remains far reaching, as it can be used for other non-asset package credit events as long as the preconditions for the application of APD are satisfied. With APD, the following key implications are crucial to risk management:

(a) an asset package (AP) related to a POB can be delivered in lieu of the POB;
(b) the assets can constitute non-transferable and non-financial instruments, and, in these cases, the assets will be ascribed a cash amount equal to its asset market value;
(c) the AP is also treated as having the same currency, outstanding principal balance (OPB) and due and payable amount (DPA) as the POB to which it corresponds had immediately prior to the AP credit event;
(d) if the AP is zero, the outstanding amount of the POB is deemed to have been delivered in full.

At the time of writing, it should be highlighted that POBs have been selected only with respect to the Hellenic Republic and the Argentine Republic sovereign reference entities.[41] Thus, if trades are being priced in reliance on APD, initiatives will need to be taken for POBs to be selected by the DC with respect to the relevant refence entity. Otherwise, the existing APD provisions within the 2014 Definitions can become redundant, and have a similar impact as in the case of (c) where the *2014 Sovereign No Asset Package Delivery Supplement* applies to a trade and APD is disapplied for some sovereign reference entities.

Finally, on (d), it should be noted that these additional provisions have also provided the industry with a contractual solution to carving out sanctioned debt from the scope of CDS to facilitate the trading and settlement of CDS on liquid sanctioned reference entities.[42]

CREDIT EVENTS

Credit risk period

Before diving into the specifics of credit events, the credit risk period, namely the period on or after the related *credit event resolution request date*,[43] and on or prior to the *extension date* (as described below), needs some mention. Principally, it represents the window within which the occurrence of an event will qualify as a credit event. Although the *extension date*, the last day of the credit risk period, is broadly the *scheduled termination date* (STD), but if certain conditions apply, a different date applies. For instance, the *extension date* would constitute:

(a) the *grace period extension date*,[44] where
 (1) a FTP and *Grace Period Extension* apply and
 (2) a *Potential FTP* occurs on or prior to the STD;
(b) the *repudiation/moratorium evaluation date*,[45] where a *'Repudiation/Moratorium'* applies.

Given that both dates in (a) and (b) could potentially occur after the STD, determinations relating to a *Potential FTP* and *Potential Repudiation/Moratorium*, which are crucial variables that drive the determination of the last day of the credit risk period, remain important for certain parties. In the Russian Federation (Potential FTP) DC (2022) deliberation,[46] the Bolivarian Republic of Venezuela (Potential FTP) DC (2017) deliberation, the Republic of Ghana (Potential Repudiation/Moratorium) DC (2023) deliberation and the Republic of Ukraine (Potential Repudiation/Moratorium) DC (2015) deliberation, certain buyers of SOVCDS could avail themselves of protection although the credit events occurred after the STD. Contrastingly, it was a catastrophic outcome for certain buyers of SOVCDS where no *Potential Repudiation/Moratorium* occurred in the Republic of Argentine (Potential Repudiation/Moratorium) DC (2014) deliberation and their contracts had expired when the sovereign had failed to pay on 30th July, 2014.[47]

FTP

Based on the provisions of the 2014 Definitions, FTP is couched in terms of a 'failure . . . to make, when and where due, any payment' in relation to an *Obligation*, but it materialises after expiry of the grace period, when the payment threshold is satisfied. In this connection, the distinction drawn in many historical deliberations between agreements that have the effect of amending the payment date and those that purely reflect a waiver of enforcement of rights can be crucial.[48] Fundamentally, a pure waiver of enforcement rights will not equate to an agreement to amend the payment date.[49]

In some cases, the governing contractual terms of an obligation may expressly address the event that discharges the sovereign's payment obligations, which goes to the root as to whether a FTP has occurred. This could occur when ultimate investors have, in fact, received payment, or it could occur sooner when payment is deposited with a third-party agent but, in the latter case, where evidence that the payment was made is with a third party, difficulties in establishing an FTP can arise.

Under the 2014 Definitions, a supervening deemed three *grace period business days* is imposed to carve out technical defaults where no grace period exists, or the grace period is less than three *grace period business days* under the debt terms.[50] Further, where *Grace Period Extension* does not apply, and the last day of the deemed grace period exceeds the STD, buyers of CDS will not be prejudiced, as the deemed grace

period cannot expire later than the STD. On the other hand, if *Grace Period Extension* applies, and the grace period cannot, by its terms, expire on or prior to the STD and a *Potential FTP* has occurred on or prior to the STD, an adjustment rule potentially permits the grace period to expire after the STD.[51]

Technical defaults

The provision in Section 4.1 of the 2014 Definitions (the 4.1 Provision) which allocates certain non-credit related risks to the seller is also crucial to risk management. For instance, sub-paragraph (b) and (c) of the 4.1 Provision provides that a credit event would occur whether or not it 'arises directly or indirectly from . . . any . . . illegality . . . any applicable law, order, regulation, decree or notice . . . '.

As an illustration of the abovementioned principle, the events in Table 2 show that default risk can be accelerated with the pressures of compliance with a court ruling (Event 1) and sanction orders (Event 2) and a 'no fault' sovereign can be poised into default.

Restructuring

Under the 2014 Definitions, a fundamental condition for a *'Restructuring'* to occur is that one or more of the 'Restructuring' events must occur in a form that binds all holders of an *Obligation*. This can be by way of:

(a) an agreement between the sovereign or governmental authority and a sufficient number of holders that binds all holders of an *Obligation*, or
(b) an announcement or decree by the sovereign or governmental authority.

As restructurings can be implemented selectively based on investor sectors (ie retail investors can be isolated from a restructuring), the satisfaction of this condition can depend on the restructuring approach. In this regard, if no conditionalities exist beyond receipt of the required resolution votes to make the restructuring effective on all investors, the noteholders resolution is likely to be sufficient to bind all holders of an obligation. Implementing conditions such as the execution of indenture can become irrelevant once the required consent solicitation votes are received, as seen in the Ecuador (Restructuring) DC (2020) deliberation where a *'Restructuring'* occurred when the drop in oil prices and the COVID-19 outbreak weighed on public finances.[55] In contrast, additional conditionalities did exist in the restructuring of Eurobonds and *GDP*

Table 2: Technical defaults

Event 1 — Rateable Payment Injunction — The Argentine Republic
An FTP credit event occurred on 30th July, 2014 in the Argentine Republic (FTP) DC (2014) deliberation when the sovereign failed to make payment on its 2005 and 2010 restructured debt in connection with its 2001 defaulted bonds issued under a 1994 Fiscal Agency Agreement (FAA Bonds). In favour of holdout creditors, the district court enjoined the sovereign from making payments on its restructured debt without making comparable payments on the FAA Bonds (the Injunction).[52] Default occurred when the sovereign made the fiscal choice of defaulting on the restructured debt to avoid the comparable payments requirement of the Injunction.
Event 2 — Sanction orders
Sanction orders can trigger compliance responsibilities on payment intermediaries, leading to increased scrutiny of transactions, lengthier processing times, and orders can prevent payment processing. As seen in the first sanctions driven FTP in the Joint Stock Company Russian Railways (FTP) DC (2022) deliberation, the non-payment of interest due on 10th March, 2022 resulted in a FTP on 28th March, 2022 (the expiry date of the grace period) due to 'legal and regulatory compliance obligations within the correspondent banking network'. Similarly, in the Russian Federation (FTP) DC (2022) deliberation, although the sovereign was determined to avert a payment default, a press report[53] showed that half of its foreign reserves (approximately US$315bn) were subject to sanctions. Hence, an FTP occurred on 19th May, 2022, the last day of the 30 calendar day grace period when the sovereign failed to make a post redemption interest payment which exceeded the payment threshold on its 4.5 per cent bonds due on 19th April, 2022. This amount had accrued after the redemption date, and was conditional on the bonds having been surrendered but only where principal had been 'improperly withheld or refused'.[54]

warrants witnessed with respect to the Republic of Ukraine (Restructuring) DC (2022) deliberation. The execution of the amendment indenture was also a pre-condition to the restructuring becoming effective, in addition to conditions relating to requisite consent, eligibility conditions, a 'cross condition', and receipt of government approvals. When all conditions were held to have been satisfied on 11th August, 2022, the *'Restructuring'* occurred.

Literature on *'Restructuring'* often draws a distinction between 'voluntary' and 'mandatory' restructurings. However, given the absence of the use of these terms within the drafting of this credit event, introducing these differences in assessments of risk will only stray away from the actual requirements of the credit event. While the voluntary participation of a noteholder in a restructuring may not bind all holders of an obligation, such participation of a noteholder can contribute to a percentage count that can activate a CAC clause, as in the case of the Hellenic Republic (Restructuring) DC (2012) deliberation. Here, the activation of the CAC clause led to all noteholders being bound by the event and a *'Restructuring'* occurred on 9th March, 2012.

Subordination within restructuring

Given the role of multilateral development banks in crisis and countercyclical lending to sovereign borrowers, the *de facto* form of seniority, namely the preferred creditor status (PCS), accorded to entities such as the International Monetary Fund (the IMF) and the International Financial Corporation, can raise subordination concerns. PCS, in essence, allows for the debt of these institutions to be kept current in a default, over and above other creditors, including bilateral official creditors. It should be noted, however, that the DC's decision in the Republic of Ireland (Restructuring) DC (2011) deliberation, which resolved that no restructuring had occurred when the sovereign merely received financing from the IMF in 2011, is consistent with the understanding that the PCS does not have legal character but derives its roots from market practice.[56]

Further, restructurings implemented in a discriminatory matter can also touch on subordination issues, as amplified in the Hellenic Republic (Restructuring) DC (2012) deliberation. Here, the sovereign had excluded the European Central Bank and other national central banks from the restructuring exchange offer, but offered these entities new bonds on identical terms that preserved their economic positions. As the subordination conditions of *'Restructuring'* had not been met, the deliberation also led to no *'Restructuring'*.

Deterioration in the creditworthiness or financing condition of the reference entity

Before moving on to redenomination, some mention needs to be made of the element of subjectivity in the 2014 Definitions that has an impact on 'Restructuring' determinations: specifically, that a deterioration in the creditworthiness or financial condition of the reference entity must be established (the DCFC Condition). Principally, a causal connection between the restructuring event and the relevant deterioration must be shown. Here, a rating downgrade event on its own will not be sufficient to meet the condition, although, in the Cemex, S.A.B. de C.V (Restructuring) DC (2009) deliberation, the external review panel did use such information in support of other data which evidenced the condition.[57] This condition can be more problematic to prove in the context of corporate CDS where restructurings can be driven by commercial goals, as demonstrated in the Sharp Corporation (Restructuring) DC (2016) deliberation. Contrastingly, for SOVCDS, the satisfaction rate of this condition is much higher given that sovereign restructurings are often premised on fundamental issues relating to overborrowing that lead to unsustainable debt levels.

Redenomination restructuring

Although redenomination has not been the primary subject of a DC deliberation to date, the risk of a forced currency conversion remains a real risk for SOVCDS as it can be implemented as part of a resolution measure, or, as highlighted earlier, spreads relating to CDS did reflect an element of redenomination risk, following fears of an exit from the European Monetary Union.

The deficiencies in the redenomination provisions of the 2003 ISDA Credit Derivatives Definitions (the 2003 Definitions)[58] were recognised by the credit default swap industry, and when the 2014 Definitions

was overhauled, the relevant provisions were improved to align the product terms more closely with the commercial intention of the product. While some changes were clarificatory in nature,[59] where the redenomination is from euros into another currency, more prominence has been placed on the manner by which the redenomination occurs as a deciding factor on the test that would apply. Where the redenomination occurs as a result of action taken by a governmental authority of an EU member state which is of *general application* in the jurisdiction of such governmental authority, a haircut test,[60] rather than the DCFC Condition, will apply in certain cases. The incorporation of the haircut test, principally acknowledges the disparity between economies within the Eurozone that regain sovereignty; a currency appreciation rather than currency depreciation could arise with respect to stronger economies and a credit event would not be intended in those circumstances.

Further, under the 2003 Definitions, in the context of the Eurozone countries, redenomination into the lawful currencies of France, Germany and Italy and their successor currencies did not constitute protected risk as a *'Restructuring'* event. However, the 2014 Definitions places all Eurozone countries on the same level playing field, enabling protection to be purchased for redenomination of any payment of interest, principal or premium to the lawful currencies of Italy, France and Germany and their successor currencies. Given that redenomination risk had greater impact for CDS written on the Republic of Italy, in comparison to France and Germany,[61] the basis risk between the two definitions has had greater economic impact for the Republic of Italy, resulting in higher protection costs where it is traded under the 2014 Definitions. For that reason, trades on the Republic of Italy are still traded on the 2003 Definitions, where protection on redenomination risk is less of a concern.

Repudiation/Moratorium

It is a stylised fact of this credit event that, in accordance with the provisions of the 2014 Definitions, the actual occurrence of a repudiation/moratorium, among other contemplated events (together, PRM Events) only constitutes a *Potential Repudiation/Moratorium* rather than a credit event when the default threshold is satisfied in relation to an *Obligation*. The credit event is framed as a two-tier event and arises where, following a *Potential Repudiation/Moratorium*, a FTP or a *'Restructuring'* occurs on or prior to a *repudiation/moratorium evaluation date*, but on more flexible conditions where the respective payment and default thresholds are irrelevant to the FTP or restructuring assessments. Nonetheless, despite the watered-down status of a *Potential Repudiation/Moratorium*, its occurrence remains important; it effectively acts as a trump card, which, as discussed in the section headed 'Credit risk period' earlier, enables buyers of CDS with elapsed contracts to benefit from protection when the credit risk period is extended beyond the STD. This can only occur where the *repudiation/moratorium extension condition* is satisfied.[62]

On the face of it, although PRM Events appear relatively straightforward to establish, historic DC deliberations have shown that a high standard is applied with respect to the evidence to prove a *Potential Repudiation/Moratorium*. For instance, in the Republic of Argentina (Repudiation/Moratorium) DC (2014) deliberation, and the Russian Federation (Repudiation/Moratorium) DC (2022) deliberation, the relevant minister's statements carried no weight and no *Potential Repudiation/Moratorium* was established. In the first matter, the minister's statement had only highlighted that it would be 'impossible' for the Argentine Republic to honour its payment obligation on the restructured debt. In the second matter, although the finance ministry had reiterated that the Russian Federation would service its debts in full and on time, the ministry had also highlighted that such payments could be hampered by international sanctions.[63] Both these statements, however, lacked any decisiveness with respect to a PRM Event and did not give rise to a *Potential Repudiation/Moratorium*.

In contrast, the *Potential Repudiation/Moratorium* which occurred in the Republic of Ukraine (Potential Repudiation/Moratorium) DC (2015) deliberation and the Republic of Ghana (Potential Repudiation/Moratorium) DC (2023) deliberation were both premised on announcements which provided for the suspension of payment on certain *Obligations*, which were clearly defined. However, in the former case, the technical suspension was

construed as conditional on the occurrence of a restructuring and the occurrence of the *Potential Repudiation/Moratorium* was delayed beyond the announcement date to the time when the implementing condition was satisfied; ie the date the legislation had been promulgated to procure the restructuring (19th September, 2015). On the other hand, in the Republic of Ghana (Potential Repudiation/Moratorium) DC (2023) deliberation, the *Potential Repudiation/Moratorium* occurred on the announcement date, 19th December, 2022.[64]
With respect to both these events where a *Potential Repudiation/Moratorium* occurred, a *'Repudiation/ Moratorium'* eventually crystallised following a FTP which occurred in relation to the Republic of Ghana on 17th February, 2023 and the Republic of Ukraine on 4th October, 2015. The relevant dates also represented the date of the *'Repudiation/ Moratorium'*.

Obligation Acceleration

As highlighted previously, *'Obligation Acceleration'* is unique to Bucket 1 TTypes, but, at the time of writing, the DC's webpage does not show any sovereign event that has triggered this credit event.

Under the 2014 Definitions, this credit event principally arises when an *Obligation* has become due and payable on the basis of an event of default or similar condition, other than as a result of a failure to pay. The default threshold also applies to this credit event. Given that the credit event requires actual acceleration in relation to an obligation to occur, it would appear that the credit event will be more easily triggered where the terms of an obligation provide for automatic acceleration in comparison to a situation where there are prescriptive procedures that must be met before acceleration can occur. In the latter case, non-action by certain parties, including delays in acceleration, can prevent the occurrence of the credit event.

SETTLEMENT RISK

Risk of no auction

The application of the *300/5* DC rule,[65] which guides the DC as to when an auction should be held, can result in the risk of there being no auction where a less liquid reference entity is affected, as in the case of the Republic of Zambia (FTP) DC (2020) deliberation and Republic of Ghana (FTP) DC (2023) deliberation. However, as observed in the Russian Federation (FTP) DC (2022) deliberation, a liquid reference entity is also subject to similar risk where compliance with law takes precedence over the *300/5* DC Rule. Here, investment prohibitions relating to entities in the Russian Federation existed and prevented US persons from purchasing both new and existing debt and equity securities issued by an entity in the Russian Federation. Ultimately, OFAC's General License No. 46 on 22nd July, 2022 which authorised the 'purchase or receipt of debt obligations of the Russian Federation . . . for the period beginning two business days prior to the announced date of the auction and ending eight business days after the conclusion of the auction' acted as the saving grace for the auction to proceed. However, in order to comply with the above-mentioned trading window, the auction settlement timelines were truncated, similar to the approach with respect to the settlement of international law obligations in the Hellenic Republic (Restructuring) DC (2012) deliberation. In that deliberation, however, the driver for the accelerated timeline was to enable auction participants to participate in the tender offer of an upcoming restructuring.

Auction final price

The auction final price is also dependent on the prescribed rules of the auction and, as highlighted below, can have detrimental consequences for buyers or sellers of CDS, as applicable.[66] For instance:

(a) if the open interest is not filled, the auction final price will be the greater of (i) 100 per cent and (ii) the highest offer received (open interest is a bid to purchase deliverable obligations) or zero (if the open interest is to sell deliverable obligations); or
(b) a credit default swap transaction will be deemed to settle at 100 per cent if the auction final price is more than 100 per cent, but RAST transactions that need to settle are not subject to that cap.

Further, the trading price of the cheapest to deliver (CTD) instrument, demand and supply within the auction, and the timing of the auction can also influence the auction final price. As a result, buyers of CDS may not truly recover actual losses suffered on their protected debt. For instance, in the Russian Federation (FTP) DC (2022) deliberation, an auction final price of 56.125 per cent, was achieved, with a net open interest to buy at USD$502.4m, although the initial market midpoint was lower at 48.375 per cent.[67] The high demand against limited supply of bonds had inflated the recovery level, and resulted, arguably, in inadequate compensation, given that Russian bonds were trading at 20 per cent of face value following Russia's invasion of Republic of Ukraine.[68] On the other hand, in the Hellenic Republic (Restructuring) DC (2012) deliberation, where the final list constituted the exchanged bonds, the auction final price settled at 21.5 per cent.[69] There were sentiments in the market that the achieved auction final price had, in fact, represented a fair value price, but purely due to the coincidence that the CTD obligation in the auction had been trading at about the same price as the old debt.[70]

While a no auction announcement date can recreate risks relating to physical settlement, which the auction procedure was deigned to avoid, where no *Deliverable Obligations* exist when a credit event occurs, as in the case of the eircom Ltd (Bankruptcy) DC (2012) deliberation, buyers of protection will receive no compensation, a result equivalent to having achieved an implied auction final price of 100 per cent.

Redenomination risk

Finally, no assessment of settlement risk would be complete without addressing the impact of redenomination, given that the auction for CDS contemplates *deliverable obligations* that are denominated in a currency that is different from the auction settlement currency. In this connection, it is important to bear in mind that the auction administrators ordinarily determine the exchange rate for any relevant currency pair two business days before the auction, and where the TType relates to the Americas, one business day before the auction.[71]

Package observable bond and sovereign restructured deliverable obligation

In the section earlier headed 'APD and POB', a glimpse of the similarity between the operation of a POB in the context of APD and a sovereign restructured deliverable obligation was seen. However, for the purposes of settlement, there are some distinctions between these settlement obligations, as the latter obligation applies only to a *'Restructuring'*, whereas APD, where certain conditions are satisfied, can apply to all credit events.

Apart from the above, a crucial distinguishing feature between the two obligations relates to redenomination risk; APD effectively counteracts redenomination risk, unlike the case of a sovereign restructured deliverable obligation. Principally, under the 2014 Definitions, the AP is treated as having the same currency, OPB and DPA as the POB to which it corresponds had immediately prior to the AP credit event.

CONCLUSION

This paper has presented crucial risk considerations in the life cycle of SOVCDS under the terms of the 2014 Definitions mapped to different aspects of the product. The paper showed that a 'no fault' sovereign that is cash strapped, whether due to political divide on the debt ceiling or court and sanction orders, cannot battle with the force of the 4.1 Provision, and default risk can be magnified.

Perceptions of credit risk can suddenly shift. For instance, the Republic of Ghana, referred to in African Business[72] as the 'darling of the eurobond markets', eventually defaulted. Even highly rated sovereigns can fall into the dangerous territory of potential default.[73] But the story does not end here. Given the default correlation risk between a sovereign and other entities within its jurisdiction, the credit default swap industry is likely to witness the fall of several other dominoes trading on different TTypes when a sovereign is in distress. This can raise challenges in risk management where credit events occur simultaneously involving different TTypes as different product terms apply to different TTypes. This can also occur where a single credit event impacts both the 2003 and 2014 Definitions and conflicting credit event resolutions can arise due to different product terms.[74]

This paper also canvassed that the landscape behind the portrait of SOVCDS contains many uncertain variables, resulting in risk management being predicated on many uncertainties. Uncertainties can arise from unpredictable resolution measures, court rulings, political decisions, and the outcome of political brinkmanship on the one hand, to sanctions regulations, on the other. The appellate process of the judiciary, which can overturn a judgment, particularly where divided interpretations of law exists, also adds to the challenges.

On sanctions specifically, the paper stresses the importance of monitoring sanctions regulations, given the daily expanding orders. In this regard, central depositories of information created by industry bodies such as ISDA can provide useful information.[75] Further, greater engagement with dedicated working groups such as the Sanctions Group, and ISDA's Credit Steering Committee can be pivotal in generating solutions tailored to address any market concerns relating to SOVCDS.

As has been shown in the narratives of this paper, the uncertain variables can result in the overshooting of the credit risk period in some contracts, resulting in buyers of protection being denied protection and, if settlement is disrupted, the settlement period can be extended infinitely. With respect to reforms in addressing distressed sovereigns, the IMF has articulated the need for cooperative global policies to stop the spread of crises.[76] In addition, there have also been calls for greater engagement by the bilateral sovereign creditor community in shaping the reforms needed and for (a) the use of CAC clauses within sovereign loan documentation and (b) cross default provisions relating to sovereign instruments to be revisited.[77]

Where, however, product terms are concerned, over the years, CDS have demonstrated an agile nature. Product terms have been renewed through the publication of the 2014 Definitions, updated Matrix terms and the creation of new TTypes, such as the *Financial* (including *European CoCo* and *European Senior Non-Preferred*) TType. In addition, supplements have been published, among others to (a) facilitate the trading of senior non-preferred obligations and capital contingent instruments, given the surge in issuances, (b) address market and regulatory concerns relating to narrowly tailored credit events affecting *Corporate* TTypes and (c) exclude sanctioned debt from the trading of CDS. It is expected that lessons learned from past, present and future credit events that threaten the status of SOVCDS as a hedge will lead to further improvements to the product terms. However, even when this occurs, the most robust risk management framework will be one that migrates from pure considerations of credit and financial modelling of default risks to one that also embraces risk considerations resulting from product terms that apply to SOVCDS. This approach can mitigate the risks of sudden surprises with costly consequences and is more likely to meet the high-grade standards required of an effective hedging and risk transfer mechanism, the safety valve for sovereign debt.

AUTHOR'S NOTE

The views expressed in this paper are solely those of the author and do not constitute legal advice. Readers are recommended to refer to the full text of the 2014 Definitions, and other relevant material for further details on the relevant references made herein.

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4 The SSR also requires a qualitative or quantitative correlation test to be satisfied in some cases to benefit from certain exceptions to trading uncovered CDS. See also European Securities and Market Authority (2018) 'Question and Answers on the Regulation on Short Selling and Certain Aspects of Credit Default Swaps (SSR)', ESMA 70-145-408, available at: https://www.esma.europa.eu/sites/default/files/library/esma70-145-408_qa_on_ssr.pdf (accessed 19th April, 2023); and European Union (2012b) 'Commission Delegated Regulation (EU) No. 918/2012 of 5th July, 2012 Supplementing Regulation (EU) No. 236/2012 of the European Parliament and of the Council on Short Selling and Certain Aspects of Credit Default Swaps with Regard to Definitions, the Calculation of Net Short Positions, Covered Sovereign Credit Default Swaps, Notification Thresholds, Liquidity Thresholds for Suspending Restrictions, Significant Falls in the Value of Financial Instruments and Adverse Events', *Official Journal of the European Union* 55(L274), pp. 1–15, available at: http://data.europa.eu/eli/reg_del/2012/918/oj.80 (accessed 19th April, 2023).

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29 Transactions which referenced Cadbury Holdings Limited traded as *European Corporate* TType and this remained the case after the reference entity jointly became a successor with Kraft Foods Inc., that traded as a *North American Corporate* TType.
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deliberation and Bankia SA (Restructuring) DC (2013) deliberation. In the Europcar Mobility Group SA (FTP) DC (2020) deliberation, the final list stated that no seller could be made to adhere to the lock up agreement and the affected obligation subject to such agreement was excluded from the auction.

34 XS ISIN codes are used for certain international securities cleared through pan-European clearing systems such as Euroclear and CEDEL.

35 Section 8.8 of the 2014 Definitions. APD will only apply provided an asset package credit event (for a SOVCDS, *'Restructuring'* where *'Restructuring'* applies) occurs on or after the credit event backstop date relating to a DC credit event announcement applicable to an *event determination date* and a POB exists immediately prior to such AP credit event.

36 Section 3.4 of the 2014 Definitions. POBs are published on the 'POB list.' The obligation must constitute a *Deliverable Obligation* as determined under Section 3.2(a) and (b) of the 2014 Definitions immediately preceding the date when the AP credit event was legally effective.

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44 Section 1.45 of the 2014 Definitions. Where a *Potential FTP* has occurred on or prior to the STD, the date that is the number of days in the grace period after the date of the *Potential FTP*.

45 Section 4.6 (b) of the 2014 Definitions. Where the *Potential Repudiation/Moratorium* occurs on or prior to the STD, for bonds, the later of (a) the date that is 60 days after the *Potential Repudiation/Moratorium* or (b) the first payment date after the date of the *Potential Repudiation/Moratorium* (or if later, the expiry date of the grace period related to the payment date) and for non–bonds, the date that is 60 days after the date of the *Potential Repudiation/Moratorium*. The date can only occur after the STD if the *repudiation/moratorium extension condition* is satisfied.

46 The transfer of Russian roubles in lieu of USD to the National Settlement Depository was not sufficient to discharge Russia's payment obligations under the terms of the USD 4.50 per cent notes due April 2022 (principal and interest) and on the USD 5.625 per cent Bonds due April 2042 (interest). A *Potential FTP* occurred on 4th April, 2022.

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50 International Swaps and Derivatives Association Inc., ref 26 above.

51 Section 1.46(b) of the 2014 Definitions. The grace period will be deemed to be the lesser of the grace period contained in the terms of the obligation and the period specified in the trade terms (30 calendar days will be applied as a default in the absence of a grace period contained in the trade terms).

52 The sovereign was held to have violated its *parri passu* covenant when it honoured payment obligations under the restructured debt but not the FAA Bonds. The default occurred after the second US Circuit Court of Appeals affirmed the controversial decision and lifted the stay on the Injunction, including other third-party injunctions that barred payment on the restructured debt.

53 CNN Business (2022) 'US Pushes Russia to the Brink of Default', available at: https://www.cnn.com/2022/04/06/investing/russia-default-sanctions/index.html (accessed 19th April, 2023).

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56 International Monetary Fund (2016) 'IMF Financial Operations', available at: http://www.imf.org/external/pubs/ft/finop/2016/pdf/chapter6.pdf (accessed 19th April, 2023). The IMF PCS status is attributable to: (1) the recognition by both the creditor community and sovereign debtors that it is in their interest and that of the international community at large to exclude the IMF from the debt restructuring process, and (2) the IMF's legal limitation to restructure its claims on its members under its Articles of Agreement.

57 Credit Derivatives Determinations Committee (2009) 'Decision of The External Review Panel With Respect to Cemex, S.A.B. de C.V.', available at: https://www.cdsdeterminationscommittees.org/docs/CEMEX_External_Review_Panel_Decision.pdf (accessed 19th April, 2023) and Rajaratnam, ref 22 above.

58 International Swaps and Derivatives Association Inc. (2003) '2003 ISDA Credit Derivatives Definitions', available at: http://www.isda.org (accessed 19th April, 2023).

59 For instance, in Section 4.7(a)(v) of the 2014 Definitions, the successor currency to the euro has been clarified to refer to the currency which succeeds to, and replaces, the euro in whole.

60 Section 4.7(b)(ii) of the 2014 Definitions. If a freely available market rate of conversion between the euros and the other currency existed at the time of the redenomination, and there is no reduction in the rate or amount of interest principal or premium payable by reference to the rate of conversion, no *'Restructuring'* will occur.

61 De Santis, ref 9 above.

62 Section 4.6(d) of the 2014 Definitions. A valid request is effectively received on or prior to the date which is 14 calendar days after the STD of a transaction and the DC has determined that a *Potential Repudiation/Moratorium* has occurred on or prior to the STD.

63 Bloomberg (2014) 'Argentina Says Next Bond Payment "Impossible", Default Looms', available at: https://www.bloomberg.com/news/articles/2014-06-19/argentina-won-t-make-june-30-debt-payment-because-of-u-s-ruling (accessed 19th April, 2023) and Reuters (2022c) 'Russia Warns Sovereign Bond Holders that Payments

Depend on Sanctions', available at: https://www.reuters.com/markets/rates-bonds/russia-says-sovereign-bond-payments-will-depend-sanctions-2022-03-06/ (accessed 19th April, 2023).

64 Ghana Ministry of Finance (2022) 'Suspension of Payments on Selected External Debts of the Government of Ghana', available at: https://mofep.gov.gh/press-release/2022-12-19/suspension-of-payments-on-selected-external-debts-of-the-government-of-ghana (accessed 19th April, 2023).

65 DC Administration Services, Inc. (2020) 'Credit Derivatives Determinations Committees Rules (September 28, 2018 Version, updated on October 3, 2020)', available at: https://www.cdsdterminationscommittee.org (accessed 19th April, 2023). The rule prescribes that an auction will be held where there are 300 or more relevant transactions and five or more of the dealers on the DC are party to such transactions.

66 DC Administration Services, Inc. (2022) 'The 2022 Russian Federation Credit Derivatives Auction Settlement Terms', available at: https://www.cdsdeterminationscommittees.org/cds/the-russian-federation-3/ (accessed 19th April, 2023).

67 IHS Markit (2022) 'Auction Price for Russian Federation', available at: https://www.creditfixings.com/CreditEventAuctions/results.jsp?ticker=RUSSIA (accessed 19th April, 2023).

68 International Financing Review (2022) 'Russia CDS to Pay Out Finally Following Auction', available at: https://www.ifre.com/story/3512897/russia-cds-finally-settles-following-auction-y6tvhqv2yh (accessed 19th April, 2023).

69 IHS Markit (2012) 'Auction Price for the Hellenic Republic,' available at: https://www.creditfixings.com/CreditEventAuctions/results.jsp?ticker-GREECE (accessed 19th April, 2023).

70 *Financial Times* (2012) 'Greek CDS Drama Holds Lessons for Investors,' available at: https://www.ft.com/content/0997e7f4-71c4-11e1-b853-00144feab49a (accessed 19th April, 2023).

71 DC Administration Services, Inc., ref 66 above.

72 African Business (2023) 'Ghana's Long Road to a Debt Solution', available at: https://african.business/2023/01/finance-services/ghanas-long-road-to-debt-solution (accessed 19th April, 2023).

73 See BBC News (2011) 'US Loses AAA Credit Rating after S&P Downgrade,' available at: https://www.bbc.co.uk/news/world-us-canada-14428930 (accessed 19th April, 2023). In 2011, the budget dispute in Congress led to a US downgrade from AAA to AA+. On the other hand, the day after the Russia–Ukraine war began, it was reported that the Russian Federation had investment grade rating (Baa3 from Moody's and BBB — from Fitch) as it had one of the lowest debt levels globally at just 20 per cent of GDP, and approximately US$650bn of currency reserves. However, by 3rd March, 2022, the two rating agencies had downgraded the sovereign to junk status (see Reuters (2022) 'Fitch, Moody's Slash Russia's Sovereign Rating to Junk', available at: https://www.reuters.com/markets/europe/fitch-downgrades-russias-sovereign-rating-b-2022-03-02/, [accessed 19th April, 2023]). Note that at that time, Standard & Poor's had already downgraded the sovereign to junk status (see Reuters [2022] 'S&P cuts Russia's Rating to Junk, Moody's Issues Junk Warning', available at: https://www.reuters.com/markets/rates-bonds/moodys-puts-russia-ukraine-ratings-review-downgrade-2022-02-25/ [accessed 19th April, 2023]).

74 Rajaratnam ref 22 above.

75 International Swaps and Derivatives Association Inc. (2022) 'Russian Sanctions and Market Impacts InfoHub', available at: https://www.isda.org/2022/03/17/russian-sanctions-and-market-impacts-infohub/ (accessed 19th April, 2023).

76 International Monetary Fund (2022), ref 7 above.

77 International Monetary Fund (2021), ref 7 above.

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