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# Mitigating Eligible Collateral Risks: From Documentation to Operations

## INTRODUCTION[1]

Regulatory changes have had a big impact on collateral management. The implementation of margin requirements for non-cleared derivatives, alongside mandatory clearing rules for standardized over-the-counter (OTC) derivatives, means there is more demand than ever for high-quality liquid assets (HQLAs) that can be used to meet initial margin (IM) and variation margin (VM) obligations.

According to the latest ISDA margin survey, IM and VM collected by the largest derivatives firms for non-cleared derivatives totaled $1.4 trillion at the end of 2022 compared to $1.3 trillion the year before. A further $384.4 billion of IM was posted at major central counterparties (CCPs) by all market participants for cleared interest rate derivatives and single-name and index credit default swaps, up by 18.8% from the end of 2021[2].

With margin demands increasing, it is important for the right collateral to be in the right place at the right time, particularly during periods of market stress and volatility. Automation of margin calls and collateral settlement is critical to achieving this – but while some headway has been made across the industry, more progress in adopting data standards and collateral management straight-through processing is necessary.

However, what does it actually mean to have the right collateral in the right place at the right time?

The answer can vary based on the type of firm or investment strategy that is posting and receiving the collateral, plus any relevant capital requirements for that entity and its counterparty. The short answer is: it depends.

This paper sets out some of the issues that firms should consider when negotiating credit support annexes (CSAs)[3] with eligible collateral schedules and custodian arrangements and establishing operational structures and workflows, based on input from ISDA members. It is not meant to propose a single approach - what is beneficial for the pledgor (also known as collateral provider) may not be advantageous for the receiver - but is intended to highlight potentially conflicting scenarios to improve the negotiation process for all parties.

The paper may be helpful for those firms that are new to posting collateral, especially other than cash. It could also be used as a resource for those institutions looking to expand from a 'cheapest-to-deliver' (CTD) approach to more holistic collateral optimization that incorporates better inventory management across multiple collateralized products, automated margin call, settlement and substitutions processing, and funding/collateral transformation.

While some of the issues are applicable to cleared exposures, this paper focuses mostly on collateral for non-cleared derivatives. That's because there are tighter constraints on margin in the cleared world: VM has to be paid in cash in the position currency and IM is often limited to cash or HQLAs. Clearing members might further restrict the collateral they are willing to accept.

[1] This whitepaper is intended as an information resource to assist market participants in determining eligible collateral for their over-the-counter derivatives transactions. It does not constitute legal, accounting or financial advice, and market participants should consult their legal or other professional advisors as appropriate for their specific transactions and documentation requirements. The precise selection of eligible collateral and documentation for each individual collateral arrangement remains the responsibility of the parties concerned. ISDA assumes no responsibility for any use to which the guidance provided herein may be put, including, without limitation, any use of this guidance to modify credit support annexes. Each party entering into a transaction must satisfy itself that the guidance contained herein is appropriate for any transactions, has been properly used and/or adapted for the transactions and that the documentation has generally been properly drafted, in each case, to reflect the commercial intentions of the parties

[2] ISDA Margin Survey Year-end 2022, www.isda.org/2023/05/09/isda-margin-survey-year-end-2022/

[3] There are other documents used by market participants that have similar objectives to a credit support annex

From the pledgor's perspective, a broad set of eligible collateral is generally better, but there are a number of constraints in the collateral management cycle that should be considered. These include:

- The ability to handle the chosen types of assets reliably and in a timely manner;
- The nature of the legal arrangements (regulated versus unregulated) and the type of custodian(s);
- The indirect/risk-weighted-asset (RWA) cost to a regulated financial institution of holding illiquid collateral;
- The ability to make use or dispose of any collateral received via rehypothecation rights that may be in place; and
- The ability of the receiving party to dispose of the collateral quickly if the counterparty defaults.

The risks of not considering the less quantitative or observable aspects of the collateralization relationship could include non-compliance with regulations or legally binding terms, holding non-HQLAs when cash is needed to meet margin calls, and having to absorb high RWA costs due to liquidity assessments during the life of the relationship.

The paper considers issues related to liquidity, volatility, CTD and wrong-way risk, as well as important logistical questions.

One of the first elements to consider is whether the CSA needs to be compliant with the margining rules for non-cleared derivatives or whether it can be negotiated based solely on bilateral factors. If it is the former, then firms need to determine if the collateral is expected to meet regulatory obligations. This must be considered separately for IM and VM because they are subject to different requirements – in particular, regulatory IM generally[4] cannot be rehypothecated while regulatory VM can[5].

[4] There are some exceptions – eg, the US Securities and Exchange Commission's margin rules allow initial margin to be rehypothecated in some cases

[5] There may be other regulations that require an entity to segregate variation margin and prevent rehypothecation – notably, US 1940 Act Funds

# DOCUMENTATION TO OPERATIONS

## Initial Margin and Custodian Capabilities

For IM, firms should determine if the intended collateral suits the custodial model (eg, triparty versus third party[6]). They should also ascertain if each custodian can accommodate the collateral being pledged and received. Each custodian will have different operational capabilities and constraints that will affect the counterparties' ability to meet their regulatory timelines for posting and settling collateral.

There are advantages and disadvantages in choosing a triparty or third-party custodial model, so the client's preferences and trading needs should dictate which to adopt. For example, using a triparty custodian may expedite the pledging of collateral from the longbox of the pledgor to the segregated account of the receiver. However, a client may wish to only allocate assets for collateral at each and every margin call and use a third-party custodian. Each counterparty needs to post and collect, and the operational abilities of both counterparties' custodians will add to the logistical considerations of the custody services chosen.

Assuming the proposed collateral can be adequately handled by each custodian and the assets meet all the relevant regulatory requirements imposed on the trading pair, then the next step is to consider the counterparties' ability to continuously source the proposed collateral.

For example, given the risk profile of the derivatives being traded, can the assets specified as collateral be easily sourced in a scenario in which the portfolio might be substantially out of the money? In other words, is there a dependency between the prompt availability of those assets and any market scenario in which the liabilities of either counterparty spike[7]? If that is the case, then the pledgor would likely want to have the broadest list of eligible collateral to maximize availability in times of market stress or volatility.

Once all the logistical aspects have been addressed and an agreed set of eligible collateral for regulatory IM is identified, the daily routines will be largely governed by a suitable algorithm for the CTD asset. In many cases, the CTD is specific to each counterparty – there is no universal set of rules for that daily determination, especially given the non-trivial constraints imposed by the global rules on eligible collateral types, wrong-way risk and concentration limits, which become more complex depending on the number of different regulatory jurisdictions relevant to the trading pair.

In practice, counterparties may establish a set of rules within their collateral management systems or with the triparty custodians they are using for pledging activities. Benefits to automating the collateral selection include:

- Optimizing collateral inventory;
- Reducing operational risks, including collateral-selection-related disputes; and
- Mitigating manual operations and respective costs.

[6] Read more about the differences between a triparty and third-party custodial model here: Segregated Approaches – Triparty and Third Party – Explained, www.isda.org/a/M52TE/Triparty-vs.-Third-Party-11.7.19.pdf

[7] In September 2022, a sharp rise in UK gilt yields left those pension schemes pursuing liability-driven investment strategies facing large variation margin calls on their interest rate derivatives positions. Many were forced to sell gilts to raise cash, leading to a self-reinforcing spiral of higher gilt yields, further margin calls and additional forced gilt sales

## Variation Margin and Rehypothecation Opportunities

The factors related to VM differ from IM because of the permission to rehypothecate (reuse) assets when non-cash collateral is allowed.

As well as considering the custodians' operational capabilities (if a party is using a custodian for VM), the selection of eligible collateral might also depend on the counterparty's other relationships. For example, can an asset received from one counterparty be easily rehypothecated to another existing relationship? If not, that collateral would not provide any relief on collateral funding charges related to other agreements and would be an inefficient element in the firm's financial resources management framework.

While rehypothecation offers economic benefits from the collateral receiver's perspective, there are operational risks that need to be mitigated. If the receiver has rehypothecated a pledged asset that is later recalled by the pledgor, then the receiver would need to return those assets within specific time parameters.

## CSAs and Eligible Collateral: A Long-term Decision

Establishing a CSA is a long-term proposition and future amendments should not be assumed to be free of cost and economic consequences, or even possible. Parties should consider the full scope of their CSAs and other collateral arrangements to determine whether they are consistent in the use of collateral available across their investment strategies. This should help to reduce collateral funding drag. If each entity can post and receive the same types of collateral across all its counterparties, operational efficiencies and lower collateral transformation costs can be realized – which is a strategic factor in managing an investment portfolio or business.

Unregulated arrangements where IM and VM terms are governed by the same CSA essentially have no distinction in the criteria for each margin type. That's because margin balances are typically operationally comingled rather than being segregated (except for 1940 Act Funds) and can therefore be rehypothecated when these rights are stipulated in the CSA. Even with unregulated arrangements, however, parties can agree to segregate IM if they feel the benefit outweighs the cost, and some jurisdictions require regulated entities to notify counterparties that this possibility exists.

In all cases (regulated or unregulated and IM or VM), the general starting point for any collateral selection negotiation is likely to be liquid, low volatility assets to support a streamlined and operationally efficient collateral management process for both parties, but there will be cases when specific regulations or limitations on a counterparty's ability to source certain types of collateral will affect the outcome.

For example, financial institutions are required under US regulations to label each collateral holding (at CUSIP/ISIN levels) as liquid or illiquid, and banks are subject to additional RWA requirements for illiquid collateral, which may affect pricing.

Even when counterparties agree to the same collateral within the CSA's eligible collateral schedule, the operating systems of counterparties and custodians may not be in sync for both the pledgor and receiver, which can require manual intervention and interpretation. Using industry standards[8] such as the Common Domain Model[9] and shared digital representations of collateral will help to reduce collateral-eligibility-related disputes.

[8] Download the ISDA Collateral Asset Definitions at www.isda.org/book/collateral-asset-definitions/

[9] The Common Domain Model (CDM) is a standard for financial products, trades in those products and the lifecycle events of those trades. It is a free-to-use model that aligns data, systems and processes and is available as code in multiple languages for easy implementation across technologies. Developed by industry leaders, the CDM is live and can be used by firms to implement requirements consistently, reducing the need for reconciliations and providing the foundation for automation. For more details, visit www.isda.org/category/infrastructure/common-domain-model/

## Managing Collateral: Risks

Managing collateral risks can vary in priority and scope, depending on whether the counterparty is the pledgor or the receiver.

Market practice for handling collateral exchanges is to first return any non-cash collateral received by a counterparty to its original pledgor when the portfolio's intrinsic value swings in the opposite direction. This to an extent mitigates the risk of holding less-than-ideal collateral if there is a default event and also reduces funding costs. Any remaining due balance after the return of the original non-cash collateral is typically optimized based on CTD algorithms. Pledging counterparties need to monitor collateral balances and recall any excess – the receiving counterparty will not return collateral unless a request is sent and processed.

Wrong-way risk should also be carefully considered for both the pledgor and the receiver, as it may result in collateral being ineffective for the receiver following a counterparty default and could lead to a collateral dispute for both parties if not identified correctly. Specific wrong-way risk – for example, when a counterparty posts its own bonds or the debt of a related entity – is easy to identify and avoid. However, general wrong-way risk – for example, when a change in market risk factors increases the exposure to a counterparty and its probability of default and affects the value of the collateral – may be more challenging to identify.

Attempting to avoid general wrong-way risk can result in a reduced universe of liquid assets that can be chosen as collateral, which may be undesirable. In any case, total avoidance may not be possible, as it depends on the evolution of the portfolio's composition over time. Wrong-way risk should be continuously measured and monitored via stress testing and sensitivity analysis. For regulated margin relationships, several global regulators have specific rules on wrong-way risk (from definition to handling) that should also be considered.

Counterparties should ensure they make a safe initial determination of terms such as haircuts (which will eventually become stale). The anticipated adequacy of elected collateral types over time should be central to any decision taken by a risk manager.

Certain terms in a CSA can have direct economic consequences for the trading relationship. Collateral funding costs (which are a function of rehypothecation rights, the eligible collateral set, the currencies involved, haircuts and mark-to-market frequency, among other things) will explicitly dictate the derivative's final price, and every request for an exception should be taken with due attention and foresight.

## Settlement Timing and Processing

When choosing which type or types of collateral to include in a CSA, firms should ensure they can process and settle the chosen collateral efficiently to meet settlement timing requirements. Time zone implications, location of staff around the world and custodian cut-off times should all be considered.

## Valuing Collateral

Whether it's VM or IM for OTC derivatives or any other type of collateralized product, counterparties will value collateral and may maintain records with and without the respective haircuts[10]. Firms need to have streamlined procedures in place to quickly value the collateral they are posting and receiving to help mitigate disputes.

[10] For more information on collateral haircuts, see the Eligible Collateral Comparison by Jurisdiction table, www.isda.org/a/lLogE/Eligible-Collateral-Comparison-6.22.23-2.pdf

## Capital Ramifications

When a buy-side pledgor begins the eligible collateral negotiation process, it is important to be aware of its counterparty's regulatory obligations beyond the margin requirements, such as capital rules. Not all counterparties have to conduct regulatory-required capital calculations, but regulated banks do, and the collateral they receive from their counterparties will impact their capital calculations. Although there are differences in regulatory requirements between jurisdictions, high-quality, shorter-maturity assets generally have a lower capital impact than lower-quality, longer-maturity assets – which is very similar in concept to eligible collateral haircuts used for collateral valuation.

Although certain types of collateral, including equities and gold, may be allowed under the rules for the margining of non-cleared derivatives, some counterparties may reject these assets when negotiating an eligible collateral schedule because of the potential capital implications.

## SPECIFIC COLLATERAL CONSIDERATIONS

It is important to understand the pros and cons of each type of collateral, especially as one kind of collateral that is beneficial to a firm's operations or investment strategy may not be helpful for its counterparty.

While this paper focuses on margin for non-cleared derivatives, it includes references on how each type of collateral can be used at CCPs for exchange-traded and OTC cleared derivatives. Clearing members might set their own restrictions and/or provide collateral transformation services that should also be considered.

### Cash

According to ISDA's margin survey, 73.8% of regulatory VM received by the 20 largest derivatives dealers was cash at the end of 2022. In the US, swap dealers have to post cash for VM to other swap entities, although entities that are not swap dealers can use other types of eligible collateral. Cash is allowed for IM under all margin regulations, but there are some restrictions in certain jurisdictions – for example, cash must be transformed to another type of eligible collateral as soon as reasonably practicable in the US. Cash comprised just 2% of regulatory IM received by the largest derivatives dealers at the end of 2022, according to the ISDA margin survey.

While some counterparties use triparty structures for pledging and receiving IM, certain triparty firms do not have the capability to process cash.

In the cleared world, VM has to be paid to CCPs in cash. While VM is traditionally posted from an end user to a clearing member in cash, clearing members may transform other types of collateral into cash for VM. Most CCPs also accept cash as IM and may require a minimum amount of IM to be paid in cash as part of the CCP's liquidity management. For many CCPs, default fund contributions also have to be paid in cash.

### Government Securities

Government securities made up 20% of regulatory VM and 74.9% of regulatory IM received by the 20 largest derivatives dealers at the end of 2022, according to ISDA's latest margin survey.

Some securities, such as Japanese government bonds, take much longer to settle than other types of government securities, and settlements and substitutions can be more complex to manage.

Any type of non-cash collateral must be monitored carefully to keep track of maturities, corporate actions and coupon payments, and substitutions and recalls must be planned with some extra time before the specific asset is required, especially if used as VM that has been rehypothecated.

Many CCPs will accept government bonds for IM, at least from selected low-risk jurisdictions.

### Corporate Bonds and Equities

Based on the margin rules for non-cleared derivatives, corporate bonds and equities may be used for both VM and IM. According to the latest ISDA margin survey, 6.2% of regulatory VM and 23.1% of regulatory IM received by the 20 largest derivatives dealers was classified as 'other securities'. With cash being required for cleared VM, trends in the industry point to more pension funds and insurance companies using corporate bonds for non-cleared VM. Non-cash VM CSAs are sometimes referred to as 'dirty CSAs', while cash-only agreements are known as 'clean CSAs'.

Some CCPs accept corporate bonds, but many do not. Similarly, equities are accepted by some CCPs, especially those that clear products linked to equities – for instance, a CCP that clears equity futures or options is likely to also accept equities as IM.

## Money Market Funds

Money market funds (MMFs) can be used for both VM and IM, but there are some operational and regulatory challenges.

As an operational matter, MMFs are not posted from one party to the other or to its custodian. Instead, a party generally posts cash to a custodian, which may then (if permitted by the custodial arrangement) use that cash to purchase MMFs via a 'sweep'. Because of the profile of the MMF is not exactly the same as cash and may require a different haircut under regulatory margin requirements, both firms and the custodian will need to track the cash swept into an MMF, as well as the details of the MMF's haircut, too.

It is likely a US investor or fund will invest in a US-based MMF, and this may be stipulated in the investment management agreement with the end investor (and similarly with an EU investor or fund and EU-based MMFs).

There is a lack of harmonization between US and EU rules on MMFs. US regulators currently do not allow MMFs that may use securities lending or repo[11], while the EU and UK do. This means any US counterparty facing an EU or UK counterparty (or vice versa) cannot post an MMF that meets both counterparty's respective rules. However, the UK does allow third-country funds to be used.

Similarly, regulation in the US and EU diverges for cleared transactions. While US CCPs are permitted to accept MMFs, EU and UK CCPs are not.

## Letters of Credit

Letters of credit are not allowed under rules for the margining of non-cleared derivatives. However, some CCPs do permit them for cleared derivatives under special circumstances. It is important to review the collateral requirements of both the clearing member and CCP to determine if letters of credit are a viable option. OTC derivatives trades that are not in scope of the margin rules for non-cleared derivatives may use letters of credit.

## Gold

Although gold is a permissible type of eligible collateral under the margin rules for non-cleared derivatives, it is currently only allowed if it is physically delivered. However, the logistical challenges associated with settling collateral via the delivery of gold bars means this would be extremely problematic.

There has been discussion in the industry about tokenizing or digitizing gold, which could potentially be a viable collateral solution in the future.

Some CCPs, especially those that clear gold and other precious metals, do accept gold as collateral, but most do not.

[11] The US Commodity Futures Trading Commission has proposed an amendment to remove the asset transfer restriction within money market funds as eligible collateral

## Tokenized and Digitized Assets

Mobilization of assets is key to ensure collateral reaches the right place at the right time. If a firm can more quickly transfer collateral from one location to another, it can avoid having to lock up capital in different locations to address the risk that it might be needed to satisfy a collateral call.

Tokenized or digital assets that settle via a blockchain or distributed ledger can be transferred near-instantaneously, so the use of these technologies can increase collateral mobility. There is potentially a wide variety of assets that may settle in this manner today or in the future. This includes tokenized or digital securities, which have economic terms similar to traditional securities, entitling the holder to claim future payments from an issuer denominated in fiat currency. It also includes cryptocurrencies, which are digital assets but do not represent any such claim. Cryptocurrencies are not recognized as eligible collateral under existing regulatory margin regimes. Although they may be used in unregulated collateral relationships, and are used in specific circumstances, they are not a high priority for much of the industry at this time.

The universe of tokenized and digital assets is actively developing and presents a number of interesting opportunities in the collateral space. This will raise novel questions on legal, regulatory and operational issues[12], which are being addressed in various different jurisdictions and will need to be resolved before these assets are used more widely for collateral.

## Additional Requirements

Although this paper focuses on collateral issues for OTC derivatives, firms should break down the silos of their collateral operations and their approach for managing different collateralized products.

Sourcing collateral for cleared and non-cleared OTC derivatives, exchange-traded derivatives and other non-derivatives collateralized products can be managed alongside securities lending and repo activities, with shared goals and objectives and interoperable systems that use common data standards. Digitally referencing collateral in the same way across multiple systems will help improve data transfers and collateral velocity. Adopting innovative solutions can also provide more flexibility.

For example, the large proportion of derivatives trades that are now cleared means there is an acute VM need for cash. It may therefore be necessary to prioritize cash for cleared activity and use non-cash for non-cleared collateral obligations. Alternatively, firms may need to access the repo market more frequently to raise cash for collateral and factor the resulting need for repo collateral into their overall collateral operations.

When considering holistic collateral management, there may be circumstances when the same legal entity will accept one type of collateral for repo but not for stock lending or derivatives.

[12] Navigating Bankruptcy in Digital Asset Markets: Netting and Collateral Enforceability, www.isda.org/2023/01/26/navigating-bankruptcy-in-digital-asset-markets-netting-and-collateral-enforceability/

## CONCLUSION

Firms can strategically plan what collateral they wish to post and receive based on their available inventory, their custodial model and that of their counterparties, operational capabilities (such as valuation and settlement processing) and any capital implications, if applicable.

Firms should balance these concerns when negotiating new CSAs and eligible collateral schedules or amending existing documents, while also striving to increase levels of automation and adopt data standards to reduce operational friction and risks.

**Visit ISDA's Collateral Initiatives page for more information (www.isda.org/2023/02/16/isda-collateral-initiatives/) or contact collateralinitiatives@isda.org**

# APPENDIX

This section includes example eligible collateral schedules for review. For more examples, please visit ISDA Template Collateral Schedules on the ISDA website: www.isda.org/book/isda-template-collateral-schedules/. An ISDA.org login is required.

## Collateral Schedule Templates

As part of the ongoing effort to facilitate efficient implementation of remaining Phases of the Uncleared Margin Rules, ISDA has worked with member firms to develop template collateral eligibility schedules. These schedules are designed to ease the burden of documentation negotiation by providing counterparties with pre-selected lists of eligible collateral types and minimum regulatory haircuts (depending on the applicable credit quality), which can be used as a convenient starting point for negotiations. It should be noted that these schedules are intended to form a base level, which individual firms can amend by adding or removing assets, or agreeing alternative haircuts, when setting the eligible collateral for a specific initial margin arrangement.

**Legal Disclaimer:** ISDA does not endorse any specific collateral types or ratings for use by counterparties. Each party is responsible for determining the collateral it is willing to collect and post and for determining the applicable haircuts based on its individual commercial preference and applicable regulations. The template collateral eligibility schedules are not and do not constitute or contain legal, regulatory, accounting, tax or financial advice. ISDA assumes no responsibility for any use of this document and undertakes no duty to update it to reflect future regulatory or market developments.

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# SCHEDULE 1

(Bucket 1, Minimum A-/A3; US/EU/JP rules apply to either party)

The following is a sample collateral schedule that may be added to the parties' Collateral Transfer Agreement, Credit Support Annex or Credit Support Deed to supplement the definition of Eligible Collateral (IM) (or Eligible Credit Support (IM), as appropriate)[1]. *[NOTE TO DRAFT: This document has been prepared referencing the defined term "Eligible Collateral (IM)" and "Pledgor" as such terms are used in the ISDA 2018 Credit Support Annex for Initial Margin (IM). When this document is used with the ISDA 2019 Collateral Transfer Agreement for Initial Margin (IM) all references to the term "Pledgor" would be replaced with the term "Security-provider". When this document is used with the ISDA 2018 Credit Support Deed for Initial Margin (IM) all references to the term "Eligible Collateral (IM)" would be replaced with the term "Eligible Credit Support (IM)" and all references to the term "Pledgor" would be replaced with the term "Chargor".]*

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The assets set forth in the table below under ["Items of Eligible Collateral (IM)"] will qualify as [Eligible Collateral (IM)] as long as, subject to the other terms of this [Annex][Agreement][Deed][2], such assets also meet the following conditions:

a. Any debt obligation, or the issuer of such debt obligation, must have a Rating equal to or higher than one of the ratings shown in the Eligible Collateral (IM) Table below applicable to such issuer.

"**Rating**" means either:

(a) a rating of the debt obligation for long-term or short-term debt published by [at least one of] [Standard & Poor's Ratings Services ("**S&P**")], [Moody's Investor Service ("**Moody's**")] or [Fitch Ratings Inc. ("**Fitch**")], [and where a debt obligation has more than one such rating, the Rating shall be deemed to be the [highest][lowest] such rating], provided that any short term rating may only be taken into consideration if it applies to the relevant debt obligation, or

(b) if the debt obligation does not have a rating under (a), a long-term rating of the issuer of the debt obligation published by [at least one of] [S&P], [Moody's] or [Fitch], [and where an issuer has more than one such rating, the Rating shall be deemed to be the [highest][lowest] such rating].

b. [Any debt obligation is not in the form of [Separate Trading of Registered Interest and Principal of Securities ("**STRIPS**")], [Treasury Inflation-Protected Securities ("**TIPS**")], [tranched debt], [indexed debt] or [zero coupon bonds].]

*[Note to Draft: Title descriptions in "Items of Eligible Collateral (IM)" list to be confirmed. Some entities may choose to use ICAD codes in lieu of descriptive titles, for example, instead of "negotiable debt obligations issued by the U.S. Treasury Department", listing "US-TBILL, US-TNOTE, US-TBOND" (ICAD Codes as defined under the ISDA publication Collateral Asset Definitions: First Edition - June 2003.)]*

[1] Note to Draft: These sample collateral schedules contemplate the use of debt securities as Eligible Collateral (IM). Parties may wish to include other forms of Eligible Collateral (IM) , such as cash or Money Market Funds.

[2] Note to draft: Delete as appropriate for use in conjunction with a Credit Support Annex, Collateral Transfer Agreement or Credit Support Deed.

## Defined Terms

"AAA/Aaa to AA-/Aa3 Ratings Band" means that the Rating in respect of a debt obligation is between AAA/Aaa and AA-/Aa3 for long-term ratings and A-1+/F1+/P-1 for short-term ratings.

"A+/A1 to A-/A3 Ratings Band" means that the Rating in respect of a debt obligation is between A+/A1 and A-/A3 for long-term ratings and A-1/F1/P-2 for short-term ratings.

"Group 1 Debt" means negotiable debt obligations issued by:

U.S. Treasury Department
Central government of Canada
Central government of the French Republic
Central government of the Republic of Germany
Japan on the Bank of Japan book entry system
Central government of the United Kingdom

**Eligible Collateral (IM) Table**

| | Items of Eligible Collateral (IM) | [In respect of Party A's posting obligation] | [In respect of Party B's posting obligation] | Valuation Percentage |
|---|---|---|---|---|
| (a) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date < 1 year | [ ] | [ ] | 99.5% |
| (b) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date ≥ 1 year and ≤ 5 years | [ ] | [ ] | 98% |
| (c) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date > 5 years | [ ] | [ ] | 96% |
| (d) | Group 1 Debt in the A+/A1 to A-/A3 Ratings Band; remaining maturity from Valuation Date < 1 year | [ ] | [ ] | 99% |
| (e) | Group 1 Debt in the A+/A1 to A-/A3 Ratings Band; remaining maturity from Valuation Date ≥ 1 year and ≤ 5 years | [ ] | [ ] | 97% |
| (f) | Group 1 Debt in the A+/A1 to A-/A3 Ratings Band; remaining maturity from Valuation Date > 5 years | [ ] | [ ] | 94% |
| [FX Haircut Percentage] | | [In respect of Party A's posting obligation: [8]% [, unless the Eligible Collateral (IM) is denominated in the Termination Currency specified with respect to Party B under the Agreement (including, without limitation, pursuant to this Annex), in which case, 0%.] | | |
| | | [In respect of Party B's posting obligation: [8]% [, unless the Eligible Collateral (IM) is denominated in the Termination Currency specified with respect to Party A under the Agreement (including, without limitation, pursuant to this Annex), in which case, 0%.] | | |
| [Termination Currency][3] | | With respect to Party A: [ ]. | | |
| | | With respect to Party B: [ ]. | | |
| | | In relation to a calculation pursuant to Section 6(e)(ii)(2) in respect of an Early Termination Date resulting from a Termination Event where there are two Affected Parties: [ ]. | | |

[3] Note that if Party A and Party B agree that Party B may post in a specific currency (e.g., for FX Haircut purposes), then following the words 'with respect to Party A', the parties should specify the currency that Party B will post in. The same point applies vice versa to the Party B election immediately below.

# SCHEDULE 2

(Bucket 1, Minimum BBB-/Baa3; US/EU/JP rules apply to either party)

The following is a sample collateral schedule that may be added to the parties' Collateral Transfer Agreement, Credit Support Annex or Credit Support Deed to supplement the definition of Eligible Collateral (IM) (or Eligible Credit Support (IM), as appropriate)[4]. *[NOTE TO DRAFT: This document has been prepared referencing the defined term "Eligible Collateral (IM)" and "Pledgor" as such terms are used in the ISDA 2018 Credit Support Annex for Initial Margin (IM). When this document is used with the ISDA 2019 Collateral Transfer Agreement for Initial Margin (IM) all references to the term "Pledgor" would be replaced with the term "Security-provider". When this document is used with the ISDA 2018 Credit Support Deed for Initial Margin (IM) all references to the term "Eligible Collateral (IM)" would be replaced with the term "Eligible Credit Support (IM)" and all references to the term "Pledgor" would be replaced with the term "Chargor".]*

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The assets set forth in the table below under ["Items of Eligible Collateral (IM)"] will qualify as [Eligible Collateral (IM)] as long as, subject to the other terms of this [Annex][Agreement][Deed][5], such assets also meet the following conditions:

a. Any debt obligation, or the issuer of such debt obligation, must have a Rating equal to or higher than one of the ratings shown in the Eligible Collateral (IM) Table below applicable to such issuer.

"**Rating**" means either:

(a) a rating of the debt obligation for long-term or short-term debt published by [at least one of] [Standard & Poor's Ratings Services ("**S&P**")], [Moody's Investor Service ("**Moody's**")] or [Fitch Ratings Inc. ("**Fitch**")], [and where a debt obligation has more than one such rating, the Rating shall be deemed to be the [highest][lowest] such rating], provided that any short term rating may only be taken into consideration if it applies to the relevant debt obligation, or

(b) if the debt obligation does not have a rating under (a), a long-term rating of the issuer of the debt obligation published by [at least one of] [S&P], [Moody's] or [Fitch], [and where an issuer has more than one such rating, the Rating shall be deemed to be the [highest][lowest] such rating].

b. [Any debt obligation is not in the form of [Separate Trading of Registered Interest and Principal of Securities ("**STRIPS**")], [Treasury Inflation-Protected Securities ("**TIPS**")], [tranched debt], [indexed debt] or [zero coupon bonds].]

*[Note to Draft: Title descriptions in "Items of Eligible Collateral (IM)" list to be confirmed. Some entities may choose to use ICAD codes in lieu of descriptive titles, for example, instead of "negotiable debt obligations issued by the U.S. Treasury Department", listing "US-TBILL, US-TNOTE, US-TBOND" (ICAD Codes as defined under the ISDA publication Collateral Asset Definitions: First Edition - June 2003.)]*

[4] Note to Draft: These sample collateral schedules contemplate the use of debt securities as Eligible Collateral (IM). Parties may wish to include other forms of Eligible Collateral (IM) , such as cash or Money Market Funds.

[5] Note to draft: Delete as appropriate for use in conjunction with a Credit Support Annex, Collateral Transfer Agreement or Credit Support Deed.

## Defined Terms

"AAA/Aaa to AA-/Aa3 Ratings Band" means that the Rating in respect of a debt obligation is between AAA/Aaa and AA-/Aa3 for long-term ratings and A-1+/F1+/P-1 for short-term ratings.

"A+/A1 to BBB-/Baa3 Ratings Band" means that the Rating in respect of a debt obligation is between A+/A1 and BBB-/Baa3 for long-term ratings and between A-1/F1/P-2 and A-3/F3/P-3 for short-term ratings.

"Group 1 Debt" means negotiable debt obligations issued by:

U.S. Treasury Department
Central government of Canada
Central government of the French Republic
Central government of the Republic of Germany
Japan on the Bank of Japan book entry system
Central government of the United Kingdom

**Eligible Collateral (IM) Table**

| | Items of Eligible Collateral (IM) | [In respect of Party A's posting obligation] | [In respect of Party B's posting obligation] | Valuation Percentage |
|---|---|---|---|---|
| (a) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date < 1 year | [ ] | [ ] | 99.5% |
| (b) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date ≥ 1 year and ≤ 5 years | [ ] | [ ] | 98% |
| (c) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date > 5 years | [ ] | [ ] | 96% |
| (d) | Group 1 Debt in the A+/A1 to BBB-/Baa3 Ratings Band; remaining maturity from Valuation Date < 1 year | [ ] | [ ] | 99% |
| (e) | Group 1 Debt in the A+/A1 to BBB-/Baa3 Ratings Band; remaining maturity from Valuation Date ≥ 1 year and ≤ 5 years | [ ] | [ ] | 97% |
| (f) | Group 1 Debt in the A+/A1 to BBB-/Baa3 Ratings Band; remaining maturity from Valuation Date > 5 years | [ ] | [ ] | 94% |

| | |
|---|---|
| **[FX Haircut Percentage]** | [In respect of Party A's posting obligation: [8]% [, unless the Eligible Collateral (IM) is denominated in the Termination Currency specified with respect to Party B under the Agreement (including, without limitation, pursuant to this Annex), in which case, 0%.] |
| | [In respect of Party B's posting obligation: [8]% [, unless the Eligible Collateral (IM) is denominated in the Termination Currency specified with respect to Party A under the Agreement (including, without limitation, pursuant to this Annex), in which case, 0%.] |
| **[Termination Currency]**[6] | With respect to Party A: [ ]. |
| | With respect to Party B: [ ]. |
| | In relation to a calculation pursuant to Section 6(e)(ii)(2) in respect of an Early Termination Date resulting from a Termination Event where there are two Affected Parties: [ ]. |

[6] Note that if Party A and Party B agree that Party B may post in a specific currency (e.g., for FX Haircut purposes), then following the words 'with respect to Party A', the parties should specify the currency that Party B will post in. The same point applies vice versa to the Party B election immediately below.

# SCHEDULE 3

(Bucket 1, Minimum BBB-/Baa3; US/EU/JP rules apply to either party)

The following is a sample collateral schedule that may be added to the parties' Collateral Transfer Agreement, Credit Support Annex or Credit Support Deed to supplement the definition of Eligible Collateral (IM) (or Eligible Credit Support (IM), as appropriate)[7]. *[NOTE TO DRAFT: This document has been prepared referencing the defined term "Eligible Collateral (IM)" and "Pledgor" as such terms are used in the ISDA 2018 Credit Support Annex for Initial Margin (IM). When this document is used with the ISDA 2019 Collateral Transfer Agreement for Initial Margin (IM) all references to the term "Pledgor" would be replaced with the term "Security-provider". When this document is used with the ISDA 2018 Credit Support Deed for Initial Margin (IM) all references to the term "Eligible Collateral (IM)" would be replaced with the term "Eligible Credit Support (IM)" and all references to the term "Pledgor" would be replaced with the term "Chargor".]*

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The assets set forth in the table below under ["Items of Eligible Collateral (IM)"] will qualify as [Eligible Collateral (IM)] as long as, subject to the other terms of this [Annex][Agreement][Deed][8], such assets also meet the following conditions:

a. Any debt obligation, or the issuer of such debt obligation, must have a Rating equal to or higher than one of the ratings shown in the Eligible Collateral (IM) Table below applicable to such issuer.

"**Rating**" means either:

(c) a rating of the debt obligation for long-term or short-term debt published by [at least one of] [Standard & Poor's Ratings Services ("**S&P**")], [Moody's Investor Service ("**Moody's**")] or [Fitch Ratings Inc. ("**Fitch**")], [and where a debt obligation has more than one such rating, the Rating shall be deemed to be the [highest][lowest] such rating], provided that any short term rating may only be taken into consideration if it applies to the relevant debt obligation, or

(d) if the debt obligation does not have a rating under (a), a long-term rating of the issuer of the debt obligation published by [at least one of] [S&P], [Moody's] or [Fitch], [and where an issuer has more than one such rating, the Rating shall be deemed to be the [highest][lowest] such rating].

b. [Any debt obligation is not in the form of [Separate Trading of Registered Interest and Principal of Securities ("**STRIPS**")], [Treasury Inflation-Protected Securities ("**TIPS**")], [tranched debt], [indexed debt] or [zero coupon bonds].]

*[Note to Draft: Title descriptions in "Items of Eligible Collateral (IM)" list to be confirmed. Some entities may choose to use ICAD codes in lieu of descriptive titles, for example, instead of "negotiable debt obligations issued by the U.S. Treasury Department", listing "US-TBILL, US-TNOTE, US-TBOND" (ICAD Codes as defined under the ISDA publication Collateral Asset Definitions: First Edition - June 2003.)]*

[7] Note to Draft: These sample collateral schedules contemplate the use of debt securities as Eligible Collateral (IM). Parties may wish to include other forms of Eligible Collateral (IM) , such as cash or Money Market Funds.

[8] Note to draft: Delete as appropriate for use in conjunction with a Credit Support Annex, Collateral Transfer Agreement or Credit Support Deed.

## Defined Terms

"AAA/Aaa to AA-/Aa3 Ratings Band" means that the Rating in respect of a debt obligation is between AAA/Aaa and AA-/Aa3 for long-term ratings and A-1+/F1+/P-1 for short-term ratings.

"A+/A1 to BBB-/Baa3 Ratings Band" means that the Rating in respect of a debt obligation is between A+/A1 and BBB-/Baa3 for long-term ratings and between A-1/F1/P-2 and A-3/F3/P-3 for short-term ratings.

"Group 1 Debt" means negotiable debt obligations issued by:

U.S. Treasury Department
Central government of Canada
Central government of the French Republic
Central government of the Republic of Germany
Japan on the Bank of Japan book entry system
Central government of the United Kingdom

**Eligible Collateral (VM) Table for Non-Swap Dealers (Party A) to Swap Dealers (Party B)**

| | Items of Eligible Collateral (VM) | [In respect of Party A's posting obligation] | [In respect of Party B's posting obligation] | Valuation Percentage |
|---|---|---|---|---|
| (a) | Cash<br>Eligible currencies: USD, CAD, EUR, JPY, and GBP | [ ] | [ ] | 100% |
| (b) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date < 1 year | [ ] | N/A | 99.5% |
| (c) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date ≥ 1 year and ≤ 5 years | [ ] | N/A | 98% |
| (d) | Group 1 Debt in the AAA/Aaa to AA-/Aa3 Ratings Band; remaining maturity from Valuation Date > 5 years | [ ] | N/A | 96% |
| (e) | Group 1 Debt in the A+/A1 to BBB-/Baa3 Ratings Band; remaining maturity from Valuation Date < 1 year | [ ] | N/A | 99% |
| (f) | Group 1 Debt in the A+/A1 to BBB-/Baa3 Ratings Band; remaining maturity from Valuation Date ≥ 1 year and ≤ 5 years | [ ] | N/A | 97% |
| (g) | Group 1 Debt in the A+/A1 to BBB-/Baa3 Ratings Band; remaining maturity from Valuation Date > 5 years | [ ] | N/A | 94% |
| **[FX Haircut Percentage]** | | [In respect of Party A's posting obligation: [8]% [, unless the Eligible Collateral (VM) is denominated in the Termination Currency specified with respect to Party B under the Agreement (including, without limitation, pursuant to this Annex), in which case, 0%.] | | |
| | | [In respect of Party B's posting obligation: [8]% [, unless the Eligible Collateral (VM) is denominated in the Termination Currency specified with respect to Party A under the Agreement (including, without limitation, pursuant to this Annex), in which case, 0%.] | | |
| **[Termination Currency]**[9] | | With respect to Party A: [ ]. | | |
| | | With respect to Party B: [ ]. | | |
| | | In relation to a calculation pursuant to Section 6(e)(ii)(2) in respect of an Early Termination Date resulting from a Termination Event where there are two Affected Parties: [ ]. | | |

[9] Note that if Party A and Party B agree that Party B may post in a specific currency (e.g., for FX Haircut purposes), then following the words 'with respect to Party A', the parties should specify the currency that Party B will post in. The same point applies vice versa to the Party B election immediately below.