CANADIAN FIXED-INCOME FORUM | CIMPA

Best Practices for Valuation of Securities in Repurchase Transactions

November 25, 2026

Executive Summary

The repurchase (repo) market is a core funding market in Canada that allows financial system participants to safely borrow and lend cash and manage their securities inventory for trading activities. Correct valuation of the underlying repo collateral is one of the most important risk controls as it protects against a counterparty default, lowers funding costs and ensures continuity of funding liquidity.

The note lays out the Collateral Infrastructure and Market Practices Advisory Group's (CIMPA) recommended best practices for **the pricing and valuation of collateral** underlying **non-centrally cleared bilateral and triparty repo** transactions[1]. The adoption of these best practices will strengthen operational and financial risk controls and enable market participants to streamline their repo transaction management. Greater clarity and standardization in collateral valuation processes will support a more efficient Canadian repo market, facilitate onboarding of new participants and contribute to increased liquidity in both repo and cash markets.

The discussion will cover the following topics:

1. Structure of the Canadian Repo Market
2. Importance of Collateral Valuation
3. Collateral Pricing Sources
4. Price Types
5. Pricing Data Timing and Intraday Pricing
6. Collateral Coupons and Corporate Actions
7. Margin and Haircuts Methods
8. National Housing Act Mortgage-Backed Securities (to be added later)

This document focuses exclusively on the valuation of fixed income securities utilized within Canadian domestic repo market and does not address other aspects of repo transaction management. The recommendations provided herein apply to a broad range of fixed income asset classes but excludes equities and callable bonds. Best practices specific to National Housing Act Mortgage-Backed Securities will be incorporated at a later date, and this document may be updated from time to time as additional specific best practices emerge[2]. It is advised that this document be consulted in conjunction with the Haircut note issued by the CIMPA subgroup on Haircuts. These recommendations will be updated from time to time as new market conventions or best practices emerge.

These best practices should be considered non-binding guidelines outside regulatory frameworks. While not legally mandated, **CIMPA strongly encourages their broad adoption** by all types of financial market participants.

[1] The note is written by the members of CIMPA Collateral Valuation and Haircuts Subgroup working under the aegis of CIMPA and Bank of Canada

[2] For instance, the note does not document best practices specific to callable fixed income securities at present.

Category	Best Practice Recommendation
Pricing Sources	1. Both parties to an uncleared bilateral repo trade can value collateral using representative, reliable and robust pricing sources. 2. Repo participants are encouraged to maintain access to pricing from two independent data providers with documented waterfall methodology. 3. Counterparties should document fair-value pricing model methodology for securities without external price. 4. Firms with limited valuation capabilities may agree to rely on dealer-provided valuations, provided that the pricing sources meet the established criteria for being representative and reliable. 5. The CCMS triparty service should use recognized pricing provider(s) meeting industry standards for representativeness, reliability and robustness for all collateral types. Pricing source identities should be disclosed to participants. 6. Counterparties should define and review stale prices that remain unchanged for a predefined period (typically up to 3 days).
Price Types	7. Counterparties should agree on which clean-price type will be used to derive the dirty price for valuation and margining purposes. 8. The use of bid prices is recommended to provide a more prudent valuation basis and to align with practices of the Bank of Canada, as well as CDCC repo clearing and CCMS triparty repo services.
Pricing Data Timing	9. Bilateral repo parties should utilize the previous business day's end-of-day clean price plus accrued interest for margin maintenance on outstanding repo trades, while new repos should be valued using the prevailing intraday (current) price. 10. Firms that wish to enhance their market risk management by adopting intraday margin calls are encouraged to explore such arrangements on a bilateral basis with their counterparties. 11. CCMS triparty valuations for both new and outstanding trades should rely on prior-day closing prices. The adoption of intraday pricing should be reconsidered as market infrastructure matures and participants demonstrate increased operational capacity across both triparty and bilateral workflows.
Coupon Payments	12. For buy/sell-back transactions coupon is returned to collateral seller at repo maturity including compensation for the time value of money by accruing interest on the coupon amount at the repo rate from and including the coupon payment date and until and excluding the repo maturity date. 13. For standard repo agreements the coupon amount should be returned to the collateral giver on the day when the coupon is paid via a processed called manufactured payment or coupon passthrough. CCMS triparty automates this process for government related securities. 14. Collateral value on the pricing day is equal to the end-of-the day clean price plus the accrued interest for the next day (T+1).
Margin and Haircut Methods	15. The transaction exposure for purpose of margining depends on whether the repo transaction is subject to initial margining or a haircut. Both methods are acceptable, as agreed by counterparties.

1. Structure of the Canadian Repo Market

In Canada, market participants use two main types of repo transactions: repurchase agreements (hereafter, repo and reverse repo) and buy/sell agreements (hereafter, sell/buy-back and buy/sell-back). Buy/sell-back transactions are economically equivalent to repurchase agreements. In both structures full legal title to the collateral is transferred from the cash borrower to the cash lender. Both transaction types are typically documented under enforceable legal agreements, such as the Global Master Repurchase Agreement (GMRA). The only material difference between the two structures is how income (i.e., coupon) payments on the collateral securities are handled during the term of the repo (see Section 6).

Repo is typically a financing arrangement in which the repo originator borrows cash against general collateral (i.e., any security from a predefined list such as government securities that may be substituted with another eligible security from that list). **Sell/buy-back** tends to involve specific (i.e., fixed) collateral that the cash borrower does not expect to substitute during the life of the trade.

Several publications listed below describe the structure and functioning of the Canadian repo market. Interested readers are encouraged to consult these materials, as they provide valuable analytical and technical insights.

Title	Description
Overview of the Canadian Repo Market (2024) https://www.bankofcanada.ca/wp-content/uploads/2024/10/overview-canadian-repo-market.pdf	This paper outlines the structural, legal and operational characteristics of repo agreements and summarizes the distinguishing features of tri-party versus bilateral repos. The note also compares the Canadian repo market to its major international peers.
Canadian Repo Market Fact Sheet (2026) https://www.bankofcanada.ca/wp-content/uploads/2024/10/canadian-repo-market-fact-sheet.pdf	This report provides statistics in the Canadian repo market including trading volumes, repo outstandings, collateral and maturity breakdown, client type activity metrics, interdealer vs client activity, cleared vs uncleared repo volumes, and repo rates.
The new repo tri-party Canadian Collateral Management Service: Benefits to the financial system and to the Bank of Canada (2025) https://www.bankofcanada.ca/2025/02/staff-analytical-note-2025-6/	This paper describes the benefits of the Canadian triparty repo service for participants in Canadian financial markets and for the Bank of Canada. The note explains how the triparty is expected to enhance the functioning of the repo market and outlines how Canada's central bank stands to benefit from the new service.
Repo Haircuts in the Canadian Context (2023) https://cffim-fcmfi.ca/wp-content/uploads/2023/07/IIAC-2023-Repo-Haircut-Whitepaper.pdf	This paper discusses how haircuts are used across various facets of the financial markets, compares repo haircuts in the Canadian market relative to other select jurisdictions, and provides a quantitative analysis of fixed income collateral price movement during periods of stress.

Canadian Conventions in Fixed income Markets: A Reference Document of Fixed Income Securities (2007) https://cffim-fcmfi.ca/wp-content/uploads/Canadian-Conventions-in-FI-Markets-Release-1.3.pdf	This document illustrates conventions and formulas currently used by market participants for the calculation of prices, interest payments and yields on securities traded in the Canadian fixed income market.
Canadian Repo Market Ecology (2016) https://www.bankofcanada.ca/wp-content/uploads/2016/03/sdp2016-8.pdf	The document discusses the organization of the repo market in Canada, specifically the repo contract, the market infrastructures that support repo trading, trading strategies using repo, risks in the repo market, repo regulation, and the composition of the market participants including trading volumes by large banks and asset managers.

Several international documents also offer technical guidance on the management of repo transactions. As these documents originate from other jurisdictions, certain provisions may not be relevant to the Canadian repo market.

- A Guide to Best Practice in the European Repo Market (2025)
- Best Practice Recommendations for U.S. Treasury Repo Risk Management (2025)
- Non-Centrally Cleared Bilateral Repo and Indirect Clearing in the U.S. Treasury Market: Focus on Margining Practices (2025)
- International Capital Market Association Frequently Asked Questions on Repo (2019)

2. Importance of Collateral Valuation in Repo Transactions

Accurate valuation of collateral and streamlined operational processes (valuation, messaging, confirmations, settlements) are essential to the smooth functioning of repo markets.

Before turning to the specific topics related to collateral valuation, it is useful to summarize how a repo transaction is kept fully collateralized throughout its life. This overview provides context for the discussion that follows.

On the trade date, the parties agree on the purchase price of the fixed-income collateral using the dirty price (i.e., the clean price plus the security's accrued interest from the first day of the interest period to the repo start date). On the repo start date, the cash lender advances the agreed cash amount, and the cash borrower delivers the required par amount of securities such that their market value equals the cash advanced. The parties also agree on the repurchase leg (the second, or closing, leg), under which the cash borrower will repurchase the collateral on the repurchase date. The repurchase price is set so that the cash borrower returns the original purchase amount plus repo interest, representing the cost of funding over the term of the transaction.

Over the life of a repo transaction, the market value of the collateral fluctuates with market movements. If the collateral value declines, a collateral shortfall arises. For margining purposes, this shortfall can be measured as the purchase cash amount plus accrued repo interest, minus the current market value of the collateral based on the current dirty price. A shortfall creates counterparty credit exposure for the cash lender. To eliminate this exposure, the collateral giver must deliver additional eligible securities (or otherwise cure the deficiency by returning cash or posting cash margin) by the next business day. This additional delivery is commonly referred to as a margin call or variation margin. Variation margin amounts for today's settlement are typically calculated using the prior business day's closing (or another pre-agreed valuation time) dirty prices.

Conversely, if the value of the collateral increases, the resulting excess collateral (measured as the market value of the collateral minus the purchase cash amount plus accrued repo interest) creates counterparty exposure for the cash borrower, because the value of the collateral exceeds the cash received. In this case, a variation margin movement flows from the collateral buyer (the cash lender, or reverse repo party) back to the collateral seller (the repo party).

Collateral substitution, where the collateral giver replaces one security with another eligible security, also requires accurate valuation of both the outgoing and incoming securities. This ensures the cash lender remains fully collateralized throughout the substitution process.

Collateral valuation must also account for corporate actions and other lifecycle events, including coupon payments, notional changes for inflation-indexed securities (e.g., Real Return Bonds), and principal repayments (e.g., amortizing and prepayable securities).

Key definitions and valuation provisions are typically set out in the applicable repo agreements and their annexes. These parameters commonly include definitions of purchase and repurchase prices; whether clean or dirty prices are used; the valuation time; start and end dates for calculating repo accrued interest and collateral accrued interest; day-count conventions; margin and haircut calculation methods; and the treatment of entitlements and coupons. Counterparties should align valuation methodologies, price types, and pricing sources to minimize valuation discrepancies in bilateral trades where both parties independently mark-to-market collateral securities.

The following sections discuss key practical and operational issues related to the collateral valuation process.

3. Collateral Pricing Sources

The availability of high-quality pricing data for fixed income securities will facilitate daily variation margin movements and help resolve valuation discrepancies.

Bilateral Repo

It is recommended that **both parties to an uncleared bilateral repo trade possess the capability to value collateral using representative, reliable and robust pricing sources**.

- Representative prices reflect prevailing market conditions and the current economic value of the asset. They are derived from observable inputs, such as dealer quotes and executed trades, where available.
- Reliable prices are based on inputs from multiple contributors to avoid dependence on isolated data points. The valuation process should remain independent of the trading and risk-taking functions that rely on these prices. Pricing sources should offer sufficient transparency for users to understand price formations, data validation controls, and the associated governance framework.
- Robust prices are provided with sufficient frequency and consistency at defined valuation times.

In Canada, at the time of writing, CanDeal DNA and Bloomberg are two of the main pricing providers for Canadian debt securities. CanDeal's Reference Pricing Service provides pricing for approximately 95,000 Canadian fixed-income securities multiple times per day.[3] Bloomberg also provides high-quality fixed-income evaluated pricing to financial-market participants multiple times per day.[4] Other data providers may also be available; however, market participants should perform due diligence to confirm the reliability, robustness, and representativeness of the pricing data.

To support business continuity and maximize coverage of eligible securities, market participants are encouraged to maintain access to **pricing from two independent data providers** and to document a predefined **waterfall methodology** for situations where a preferred price is unavailable, stale, or fails quality checks.

Enabling both parties to mark the collateral allows the cash lender and cash borrower to independently verify exposure and margin sufficiency, while giving each counterparty the ability to identify pricing errors, stale marks, or pricing model discrepancies, particularly for less liquid instruments.

In some cases, a repo trade may involve illiquid securities (e.g., narrowly held private placements, certain asset-backed securities, or bespoke structured notes) for which reliable market pricing is not readily available. In such cases, it is important to adopt **a documented fair-value pricing methodology**. Valuation approaches may include cash-flow discounting using appropriate yield curves and credit spreads, option-adjusted valuation for instruments with embedded optionality, and comparables-based valuation using prices of similar issuers and maturities. Models should rely on relevant observable inputs, clearly documented assumptions, and formal governance. Haircuts and margining should be strongly considered for modelled prices to compensate for price uncertainty and model risk.

In certain dealer–client relationships within the repo market, it is standard and acceptable for the dealer to assume responsibility for valuing collateral securities. This can be a cost-efficient approach for clients that lack the expertise and infrastructure (models and systems) needed to value a broad range of fixed-income securities. Where the dealer is the sole valuation agent, the parties should specify the dealer's pricing sources, the frequency of valuation reporting, rights to verify prices, and a dispute-resolution mechanism.

[3] https://www.candeal.com/en/data-analytics and also available through resellers.
[4] https://www.bloomberg.com/professional/products/data/enterprise-catalog/pricing/evaluated-pricing/

Triparty repo

The Canadian Collateral Management Service (CCMS) triparty repo service provides an operationally efficient and highly standardized framework for managing repo transactions, including the valuation of nearly all collateral types used in Canada. The triparty service should act as an independent and unbiased valuation agent, applying a consistent valuation time and methodology across all triparty contracts. Pricing data may be sourced from one or more independent pricing providers. **The triparty service should use recognized pricing provider(s) meeting industry standards for representativeness, reliability and robustness, with their identities disclosed to triparty participants.** The triparty service must also be able to price, on a reliable basis, all collateral types included in market-wide general collateral repo baskets.

Even though CCMS offers an option for participants to use their own prices, **CCMS members should first consider using CCMS standard prices for collateral valuation purposes**. This approach is operationally efficient and supports consistent valuation across the triparty system.

Stale Prices and Rounding

A clean price may be considered stale when the most recently available price remains unchanged for a predefined number of business days (typically up to 3 days). Bilateral counterparties should identify and review collateral securities identified as stale, as unchanged prices may reflect limited market activity, stale inputs, or rounding effects.

Prices should be rounded in accordance with prevailing conventions in the Canadian fixed-income market.[5] Rounding practices vary by security type and quoting convention and should be applied consistently across valuation, margining, and dispute-resolution processes.

4. Price types

For avoidance of confusions and disputes, bilateral counterparties should agree on what price type they will use.

Dirty prices used for collateral valuation represent the clean price plus the security's accrued interest. Because pricing vendors typically publish bid, mid, and ask **clean** prices, **counterparties should agree up front on which clean-price type will be used to derive the dirty price for valuation and margining purposes.**

While the bilateral repo market references both mid and bid prices, market participants rely more heavily on bid prices in practice. Mid prices are regarded as a neutral estimate of fair value that doesn't favor the buyer (who would prefer a lower bid price) or the seller (who would prefer a higher ask price). By averaging bid and ask quotes, mid prices dampen the impact of bid–ask spread volatility, reducing

[5] https://cffim-fcmfi.ca/wp-content/uploads/Canadian-Conventions-in-FI-Markets-Release-1.3.pdf

noise arising from statistical sampling effects and transient fluctuations in dealers' indicative bids. In such cases using mid prices can reduce valuation noise and help limit disputes.

Bid prices are commonly used when collateral buyer seeks more conservative risk management; for example, in cases of higher risk aversion, lower-quality collateral, or elevated counterparty credit risk. In these situations, bid prices may better approximate the collateral's expected liquidation value in a counterparty default. Bid pricing may also be appropriate for transactions with zero initial margin or haircut. Conversations with pricing data providers indicate that bid prices for illiquid securities are generally easier to obtain from contributing dealers. Dealers are often willing to provide indicative bid quotes to purchase securities from clients but may be reluctant to quote ask prices for securities they do not already own due to limited liquidity and difficulty of going short such securities. Consistent with this conservative approach, bid prices are used by the CCMS triparty repo service, by the Bank of Canada, and by CDCC for cleared repos.

We therefore recommend the use of bid prices to provide a more prudent valuation basis and to align with practices of the Bank of Canada, CDCC and CCMS. For high quality, highly liquid federal and provincial government securities, bid–ask spreads are typically tight, so the choice between mid and bid prices is less consequential.

Commercial pricing providers may publish multiple price categories, for example: **composite** prices derived directly from observable dealer quotes; **evaluated** prices produced using models and quantitative techniques; or a combination of these two approaches. **Evaluated prices are commonly used for collateral valuation and end-of-day marks, particularly for less liquid securities**. Composite prices are often used by trading and execution desks as an indication of a tradable level when a security is actively quoted or traded. When choosing a particular price category repo users should ensure that the price exists for all eligible securities across time to ensure continuity, and that the price offers a good proxy for fair value of securities.

5. Pricing Data Timing

Repo parties should utilize the previous business day's end-of-day dirty prices for margin maintenance on outstanding repo trades, while new repos should be valued using the prevailing intraday (current) price.

Cleared Repo[6]

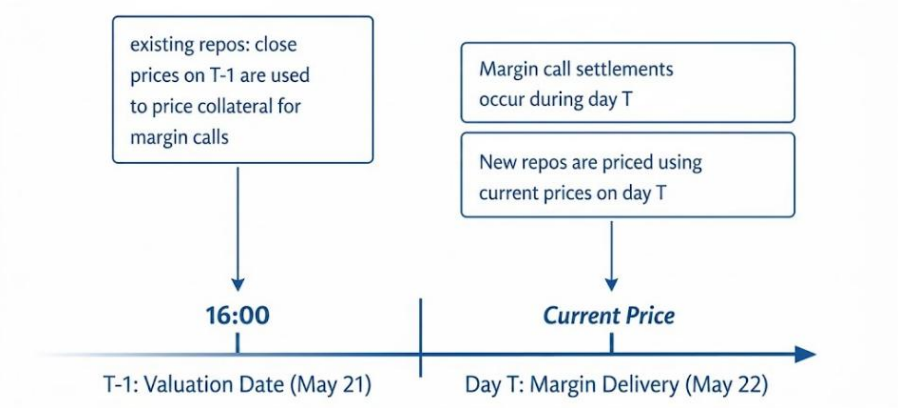
In Canada, intraday repricing and margin calls 3 times per day are standard for repos cleared via CDCC. These pricing practices are dictated by the CDCC risk management rules and are applicable to all CDCC participants. Settlement of the intraday margin calls in CDCC are facilitated by the settlement deadlines during the day and special priority settlement process in CDS, a Canadian central securities depositary.

[6] Cleared general collateral triparty repo service is scheduled to be launched by the end of 2027

Bilateral Repo (Uncleared)

In contrast to cleared repos, current market practice in Canada for uncleared repos is as follows:

- **Outstanding repos:** On valuation date, collateral for margin call purposes is valued using the end-of-day (close) dirty prices. Accrued interest included in the dirty price is typically calculated from the most recent coupon payment date up to the and including the valuation date.[7] Margin call/return are processed and settled on the next business day from the pricing date.
- **New repos**: Collateral for new repos whose opening (front) leg settles on the same day or on a next-business-day (tom-next) basis is valued using the most recent intraday dirty price, as mutually agreed between the counterparties.[8]



The closing price for Canadian fixed-income assets is typically defined as the price recorded at 16:00 ET, when regular market trading ends and the delivery-vs-payment settlement cycle closes. Those closing prices and resulting valuations are then applied to the next business-day margining cycle, as explained above. Historically, reliance on prior-day closing prices instead of same-day prices reflected the limited availability of reliable intraday pricing, the need to validate and reconcile margin calls, and operational and settlement constraints associated with margin movements. This approach has provided a balance between pricing timeliness and operational practicality, while mitigating counterparty credit risk through daily mark-to-market valuations.

Recent developments have made usage of **intraday or same-day morning prices for margining** more technically feasible. Major pricing providers and large dealers now produce reliable intraday price feeds for vast majority of securities and certainly for government securities that constitute most of repo collateral. Many market participants have automated their operational and settlement processes, enabling smoother same day settlement of margin deliveries. Using same day prices provides a timelier assessment of collateral values by incorporating Asian and European overnight and North American morning market moves. Intraday pricing is also suitable for intraday repos, although these transactions represent a small segment of the overall repo market.

[7] Section 6 discusses the rationale for extending the accrued period end date to the valuation date plus one day.
[8] Repo trades done very early in the morning may use previous day close price if there are no significant overnight price moves.

Despite these advances, several considerations prevent this working group from recommending routine use of same day or intraday pricing for margin calls.

- Intraday pricing could amplify market stress during periods of extreme volatility, particularly when price movements are driven by technical factors such as flash crashes, forced liquidations, or deleveraging dynamics.
- Intraday margin calls would increase collateral and liquidity management demands across both buy-side and sell-side firms. Sourcing additional collateral on short notice would be especially difficult during periods of funding stress.
- Transitioning all repo market participants to intraday pricing simultaneously would be difficult. Applying different prices to economically similar repos and reverse repos could increase collateral requirements for dealers operating large matched repo books, potentially increasing cost of market making and impairing liquidity.
- Reliance on high-quality intraday pricing from reputable data providers would entail additional costs, while intraday prices for less liquid securities may be less robust or reliable.
- Regular intraday collateral settlements could require significant enhancements to operational workflows and technology infrastructure.
- If a firm must apply prior-day close prices with some counterparties and intraday prices with others, its trading systems may not support simultaneous dual pricing marks of the same collateral securities.

Taking these considerations into account, the working group recommends that uncleared bilateral and tri-party repo counterparties **continue to use the previous business day's end-of-day dirty prices to value collateral for margining purposes, with the adjustment to the accrued interest period to manage the collateral overvaluation risk on coupon date for repos with coupon pass-through (see next section)** Any incremental collateral shortfall risk arising from the use of prior-day prices can be mitigated through appropriate haircuts and ongoing monitoring of counterparty credit risk. The application of haircuts and margining is standard practice at CDCC, is used by the Bank of Canada, and can be readily operationalized within the CCMS tri-party platform. Haircuts are addressed separately within CIMPA's Valuations and Haircuts workstream.

This recommendation may be revisited in the future should the industry move toward same-day or intraday pricing for a broad range of repo transactions. **Firms that wish to enhance their market risk management by adopting intraday margin calls are encouraged to explore such arrangements on a bilateral basis with their counterparties**. At the outset of a trading relationship, counterparties should explicitly agree on whether intraday margining may be used, designate the calculation agent, identify acceptable pricing sources, and define the timing and triggers for intraday repricing.

Triparty Repo

Currently, the CCMS uses previous day's closing prices to value both margin calls and new repo transactions executed during the current trading session. This approach differs from the bilateral repo market, where traders typically apply current today's prices when pricing new repo trades.

This difference arises because the triparty platform applies a single pricing set for both margining of existing transactions and pricing of new trades. If CCMS were to adopt intraday pricing, which is technically feasible, the updated prices would immediately revalue all outstanding repos and automatically trigger a full margining cycle, including collateral reallocation and the generation of settlement instructions.

As a result, CCMS participants would be required to actively manage their triparty collateral-giver accounts on an intraday basis to ensure the availability of sufficient eligible collateral to meet potential intraday margin calls. At present, routine intraday pricing would therefore introduce additional operational complexity and collateral management challenges and could slow the adoption of the triparty repo service by increasing the operational burden on participants. As noted above, CCMS participants can already manage market risk effectively through the use of bilaterally negotiated haircuts applied to CCMS repo transactions.

That said, the workstream recommends that **the potential adoption of intraday pricing be revisited** once triparty repo platforms achieve broader market adoption and major participants become more proficient in managing both triparty and bilateral repo activity.

6. Coupon Payment Issues for Repo Collateral

For buy/sellback transactions coupon is returned to collateral seller at repo maturity, while for standard repo agreements the coupon amount should be returned to the collateral giver on the day when the coupon is paid.

In Canada, repo transactions involve the full legal transfer of title to the underlying securities from the repo seller to the repo buyer for the duration of the trade. As a result, if a collateral security pays a coupon during the life of a repo, the coupon is paid by the issuer to the collateral buyer, provided the buyer is the registered owner on the security's "record date" for coupon payments.[9] However, because the repo seller retains the economic benefit of the collateral, the coupon amount must be returned to the repo seller.

Coupon returns on repo collateral are commonly managed in one of the following two ways depending on the legal agreement underpinning the trade:

- **Returning Coupon at Repo Maturity** (buy/sell back style): The collateral buyer retains the coupon cash received on the coupon payment date and returns an equivalent amount to the collateral seller on the repo maturity date.[10] Operationally, this is achieved by reducing the Repurchase Price (and therefore the Repurchase Amount) payable at repo maturity by the coupon amount plus interest. Because the collateral buyer holds the coupon cash between the coupon

[9] For example, the Government of Canada bonds have a record date one business day prior to the coupon payment date. NHA MBS record date is the last business day of the month with the coupon payment occurring on the 15th day of the month.

[10] In other words, this retention of the coupon amount by cash lender may be viewed as a partial prepayment of the repo loan with the associated reduction in repo interest.

payment date and repo maturity, the buyer compensates the repo seller for the time value of money by accruing interest on the coupon amount at the repo rate. This interest is typically calculated as "repo rate × coupon amount × day-count" where the accrual period runs from (and including) the coupon payment date up to (but excluding) the repo maturity date. If the coupon payment date falls on a non-business date, accrual period should start from the next business day.

- **Coupon Passthrough or Manufactured Payment** (standard repo style): The collateral buyer remits the coupon amount back to the collateral seller on the coupon payment date (typical arrangement) or on the next business day. If the coupon is passed through on the next business day from the payment date, collateral buyer should compensate collateral seller for keeping the coupon over this period by using the repo rate as the interest rate. In rare cases a security fails to make a full coupon payment of the scheduled day. These events need to be managed on an individual basis. The coupon pass-through can be operationally intensive, as it requires processing both receipt and repayment of the coupon cash. In CCMS triparty repos, however, this process is fully automated, which significantly reduces operational burden. The manufactured payments may also have tax and withholding implications, depending on the parties and the applicable tax regime.

All dealers and buy-side firms active in the Canadian repo market can support both coupon-treatment approaches. A new counterparty entering the market should decide whether it intends to trade both repo types or only one. If both are in scope, the firm should ensure its trading, collateral, and settlement systems (and related controls) can handle each coupon-processing method, including associated impacts on lifecycle events such as collateral substitutions.

An alternative approach to avoid coupon-related cash flows is for the collateral seller to substitute the coupon-paying security prior to, or on, the coupon record date and replace it with an eligible security that does not pay a coupon. Such arrangements are rare in bilateral repo transactions due to operational effort required to execute timely collateral substitutions. By contrast, it is more common in triparty repo services that can readily support unlimited same day substitutions and automate the associated processing.

CCMS triparty repo service in Canada is using a hybrid approach that significantly reduces operational burden to manage coupon passthrough:

- CCMS automatically returns the coupons to the repo seller **for federal, provincial and municipal government-issued and guaranteed securities.** These collateral types comprise more than 90% of all repos outstanding.
- CCMS automatically substitutes out coupon paying securities **for all other security types such as corporate bonds**. The substitutions are executed by making coupon paying security ineligible for the repo trade on Record Date minus 2 business days until Record Date. CCMS uses standard settlement approach to execute this and all other substitution types, i.e., first the eligible sub-in collateral is delivered via free of payment settlement from the collateral giver account, and then CCMS releases the equivalent market value of the coupon paying security via the free of payment mechanism. However, this option would not be available if the collateral seller does not have enough eligible securities to substitute in. In this situation, the collateral will remain in the buyer's collateral triparty account and the coupon will be paid to the collateral buyer who will then need to pass the payment back to the collateral seller using their own internal systems outside of standard triparty processes.

Collateral valuation issues on coupon payment dates

For standard repo transactions with coupon pass-through (i.e., manufactured payment), repo collateral may be temporarily overvalued on coupon payment dates. This occurs because collateral valuation for margining purposes is typically based on the previous day's closing dirty prices, as discussed in Section 5. On a coupon payment date, the previous-day dirty price still includes the full accrued interest amount, even though the coupon payment itself is returned to the collateral giver on that same day.

As a result, including the coupon amount in the collateral value on the coupon payment date overstates the market value of collateral and creates a short-lived credit exposure for the cash lender. If the cash borrower were to default on the coupon payment date after receiving the coupon payment remittance but before the next margin call, the cash lender may face a collateral shortfall. This is fundamentally a one-day timing issue that resolves itself on the next business day when accrued interest resets, security is repriced and the margin call is issued, if necessary.

The same issue arises in the CCMS triparty repo system where collateral on day T is valued using day T-1 dirty prices, which include the full accrued interest amount on a coupon payment date. The CCMS automatically returns the coupon amount to collateral giver by 2:00pm ET on the coupon payment date. This creates a period of temporary collateral overvaluation between 2:00pm and next day's collateral revaluation which occurs early morning at 3:30am ET when the collateral is repriced and margin calls are issued. Again, this issue only arises on coupon payment dates.

This temporary collateral overvaluation can be addressed in several ways:

- Collateral buyer accepts the relatively low risk associated with this short-lived overvaluation
- Collateral buyer mitigates the risk by using haircuts or initial margin
- In bilateral repo transactions collateral buyer may pass the coupon through on the next business day from the coupon payment date (note that market practice is to pass the coupon on the same day)
- Collateral may be valued using intraday (morning) prices on day T rather than previous end-of-day prices
- The accrued interest period may be increased by one day. That is, collateral value on the pricing day is equal to the end-of-the day clean price plus the accrued interest for the next day (T+1). On the coupon payment date, the accrued interest will become zero, consistent with the coupon pass-through back to the collateral giver. **This is a recommended approach for regular bilateral and triparty repos.**

Example:

May 30: Government of Canada bond is evaluated using the clean price for end-of-day May 30 plus the accrued interest from previous coupon date (December 1) to May 31 for a total of 181 days for a non-leap year.

May 31: Record date for the Government of Canada bond that pays a coupon on June 1. Repo collateral valuation on May 31 uses the end-of-day close clean price for May 31 plus the accrued interest calculated from the previous coupon date to (December 1) to June 1. Because June 1 is a coupon payment date the accrued interest will be zero.

June 1: the bond pays the coupon to collateral receiver that passes it back to collateral giver on the same day. Government of Canada bond is evaluated using the clean price for end-of-day June 1 plus the accrued interest from previous coupon date (June 1) to June 2 for a total of 1 day.

June 1: the cash lender will receive, through CCMS or bilaterally, collateral to cover any shortfall resulting from the valuation of the repo underlying collateral based on accrued interest of zero.

The above recommendation does not apply to:

- NHAMBS due to their unique conventions (record date at the end of the month while coupon payment dates are made mid-month). NHA MBS modalities for repo transactions may be added to this document in the future.
- CORRA-based Floating Rate Notes (FRNs) as their coupon calculation periods are typically defined with a day shift. Modalities for CORRA FRNs may be introduced in the future as this security type becomes more widely used as collateral in repo transactions.

7. Margin and Haircuts Methods

The transaction exposure for purpose of margining depends on whether the repo transaction is subject to initial margining or a haircut.

Under the GMRA agreement, the definition of "transaction exposure for the purpose of margining" is calculated by marking each transaction to market. The mark-to-market calculations depend on whether the transaction is subject to an initial margin or a haircut[11].

Two alternative calculation methods are defined.

Method A: Initial Margin Approach. The initial margin is expressed as a percentage relative to the purchase price and subsequently to the repurchase price. Under this method, the purchase and repurchase prices are adjusted by the agreed initial margin rate in order to calculate transaction exposure using this formula, *Post Margin Price* = *Pre-Margin Repurchase Price* / (1 + *Margin Rate*)

Method B: Haircut Approach. Under this method, the market value of the collateral is reduced by the haircut percentage, i.e., *Post-Haircut Market Value* = *Pre-Haircut Market Value* × (1 – *Haircut Rate*).

Although the two methods are conceptually similar, their arithmetic differs. For a given Purchase Price, the amount of collateral required under Method A is generally lower than that required under Method B. This difference can become material for large-value repo transactions or when high initial margins or deep haircuts are applied, as outlined the comparison between the two methods in the below table.

Both Method A and B are used in the Canadian repo market and are acceptable. However, Method B (Haircuts) appears to be more popular.

[11] https://www.icmagroup.org/assets/ERCC-Guide-to-Best-Practice-March-2025.pdf

Method A: Initial Margin Method (A)	Method B: Haircuts Method (B)
A repo with a purchase price of CAD 500MM is subject to an initial margin of 105%. The required collateral amount would be 500MM × 1.05 = CAD 525 MM The purchase price can be calculated from the posted collateral amount. For a collateral worth $500MM CAD with an initial margin of 105%, the purchase price would be 500MM / 105% = 476.2MM CAD	A haircut is the difference between collateral and purchase price calculated as a percentage of collateral value. (Market Value of Collateral – Purchase Price) / (Market Value of Collateral) × 100 The collateral amount for a purchase price of 500MM CAD and 5% haircut would be 500MM / (100%-5%) = 526.3 MM CAD. Conversely, the purchase price can be calculated from the posted collateral value. For a collateral value of 500MM with 5% haircut, the purchase price is 500MM × (100%-5%) = 475MM

8. NHA MBS Pricing

To be completed when NHA MBS WG finalizes its recommendations for CCMS NHA MBS Repo