CANADIAN
FIXED-INCOME
FORUM

October 2024

Overview of the Canadian Repo Market

This paper outlines the structural, legal and operational characteristics of repurchase (repo) agreements and provides further background on the Canadian repo market. It also provides a high-level summary of the distinguishing features of tri-party versus bilateral repo agreements and highlights some key considerations for market participants. Furthermore, the paper underscores that tri-party repo transactions can be a beneficial, efficient, and viable economic vehicle to support the Canadian funding market, as well as a feasible tool for money market investors to invest their cash.

Canadian financial markets are undergoing a significant change because of the cessation of Bankers' Acceptances (BAs). On May 16, 2022, the regulated administrator for the Canadian Dollar Offered Rate (CDOR), Refinitiv Benchmark Services (UK) Limited (RBSL), announced that it would cease the publication of CDOR after June 28, 2024. With the cessation of CDOR's publication, the BA-based lending model, which has existed in Canada since the 1960's, will be discontinued which will mean the end of BAs. [1]

As outlined in the white paper published by the Canadian Fixed Income Forum (CFIF) in January 2023, BAs are important short-term Canadian dollar money market assets. According to DBRS, at the end of 2023, BAs represented 16% of available money market investments. Given their importance, an orderly transition away from BAs is vital for the well-functioning of Canadian financial markets. To help with this effort, CFIF formed a BA-related working group, the BA Transition Virtual Network (BATVN).

One of the key objectives of BATVN is to assess potential alternative investment products to replace BAs and to educate, promote and remove barriers for market participants where appropriate. In particular, repo transactions were identified as an area that could benefit from an informational paper. This paper has been created by BATVN to address that need and to provide background information about the Canadian repo market and highlight that the disappearance of BAs could potentially be an important catalyst to help develop a tri-party repo market in Canada. This paper does not, and is not intended to, constitute investment or legal advice. It is provided for general information purposes only.

1. Defining Repurchase Agreement (Repo) Transactions

A repo agreement is a financial contract that provides for the purchase/sale of securities while simultaneously entering into an agreement to resell/repurchase the same securities for a predetermined price at a later date, with the price difference being determined by the interest rate ("repo rate") on the transaction. The repo rate reflects the return on the invested cash (or the cost of the borrowing of the cash) -see illustrative example in Figure 1. Repo transactions are similar in form to a secured loan where collateral is provided in exchange for a loan granted to a borrower to secure the debt under a credit facility in the event there is a future default. However, repo transactions differ in that they are characterized as a purchase and sale, which allows for the securities to be rehypothecated for the buyer's use (e.g. to cover shorts, post as margin, resell, etc.). The repo transaction model enables the buyer to take possession of, and absolute title in, the purchased securities free and clear of any encumbrances. This right of rehypothecation allows the buyer to transact with the securities and benefit from their ownership until

[1] Although the BA lending model has been used in the past globally, Canada is the only major financial jurisdiction to have retained this lending structure.

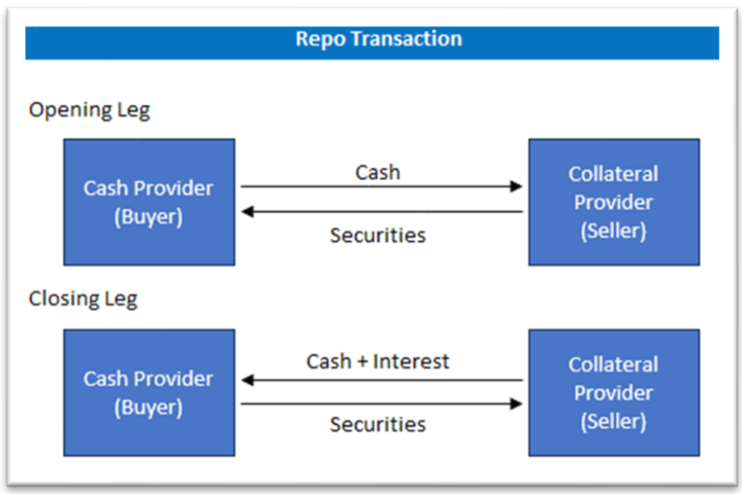
such time as the same securities are repurchased by the seller for the predetermined price.[2] The collateral can be liquidated by the buyer (cash provider) in the event of the seller's insolvency.

In addition, repo transactions are marked-to-market daily. This means that the obligations owing by one party to another are valued every day. If the collateral value (i.e., the value of the security/securities) changes such that the transaction is under/overcollateralized, counterparties can demand additional collateral, or a return of collateral, subject to a minimum threshold amount (MTA), which is typically $250,000 (this can be subject to negotiation between counterparties). The legal agreement which governs repo transactions also contains certain events of default that would allow either party to terminate the transaction prior to the predetermined repurchase date.[3] For example, a party may terminate the agreement where the other party has failed to post collateral or has become insolvent.

Repo transactions can be conducted bi-laterally between two counterparties, or through a tri-party agent. They can also be cleared, in which case the counterparty to the trade becomes the associated Central Counterparty Clearing House (CCP).

Overall Advantages of Repo Transactions:

Figure 1 - Bilateral Repo Model



1. Repos are secured transactions, usually with highly rated liquid collateral.

2. Repos can provide a viable alternative investment option for cash providers and a low-cost funding option for cash borrowers. They can be tailored to specific client needs based on their risk and strategy profile.

3. The tenors of repo transactions are flexible (e.g., open, overnight or specific term).

4. Counterparties to repo transactions benefit from transparent pricing that is communicated at the time of the initial trade.

5. Counterparties can also benefit from the reduction in the daily operational maintenance of tracking collateral by establishing a pre-determined MTA that sets the daily margining threshold or outsource the operational tasks to a tri-party agent.

[2] The two transactions underlying the repo are deemed an outright purchase and sale from a legal perspective, but the classification could differ from an accounting perspective as it behaves economically like a collateralized or secured deposit/loan since the transaction unwinds at a defined future point in time.

[3] The two most common legal agreements governing repo transactions are the Master Repurchase Agreement (MRA) or Global Master Repurchase Agreement (GMRA) – see section 3 for additional details on the GMRA.

Background on the Canadian Repo Market

Evolution of the Canadian Repo Market
Over recent years, the volume of Canadian repo transactions has increased due to growth in the market as additional participants and customers seek alternative secured financing structures.[4] While domestic counterparties were initially the only participants to maintain a presence in Canada, global market participants have also entered the Canadian repo market. This has resulted in a more robust market with more flexible types of transaction structures and a wider range of underlying collateral types. For more statistical information on the Canadian repo market structure please see the Canadian repo market factsheet on the CIMPA website.

While the Canadian repo market was previously limited to only highly rated liquid collateral and short-term transactions, market participants are now looking to leverage the liquidity of other types of collateral. They are also looking to use alternative repo structures that provide greater flexibility and longer maturity terms, including extendable repos, which allow parties to continuously renew the maturity date by mutual agreement at maturity or pre-agreed reset dates, and evergreen repos, which allow parties to rollover the repo automatically after the completion of each maturity period until the agreement is cancelled by either party.

The introduction of CDCC as a central clearing counterparty in 2012 also acted as a catalyst for the market's growth as it provided participants balance sheet netting and capital relief in addition to reduced counterparty risk, especially in periods of market stress.[5]

International Repo Market Comparisons
Continental Europe, UK and US have the most developed repo markets in the world with broad participation across various types of market participants, including different types of buy-side and corporate cash providers. They all also have well-established tri-party and cleared repo infrastructure in place.

The European and United Kingdom Repo Markets
The European Repo Market Survey that was conducted in December 2023 and published in May 2024 showed that the total value of repos and reverse repos outstanding on the books of the 60 entities who participated in this survey reached a new all-time high of EUR 10.9 trillion. In comparison, data published under the Securities Financing Transactions Regulation (SFTR) shows that the value of all outstanding repos reported to regulators was EUR 12.8 trillion in the EU. The outstanding value of tri-party repo in Europe expanded to reach a new all-time high of EUR 954.4 billion (a market share of 8.8%).[6] Approximately 48% of outstanding euro denominated repo transactions are cleared.[7]

In the United Kingdom, the SFTR data show that the value on December 15, 2023, of all outstanding repos reported to regulators was EUR 10 trillion. The share of UK government securities being held as collateral by the ICMA survey sample was largely unchanged at 11.2%.

[4] In 2018, Clearing and Depository Services Inc. (CDS) reported that the Canadian collateralized trading market was valued at CAD $446 billion and that there was approximately CAD $275 billion in bilateral repo transactions, which placed Canada as the fifth largest repo market globally.
[5] The vast majority of interdealer GoC repo is now centrally cleared, however, currently only four buy-side participants are set-up to centrally clear their GoC repos.
[6] The majority of tri-party repo in Europe is handled by Clearstream Banking Luxembourg, Euroclear and SIS.
[7] The proportion of repo turnover cleared across a CCP is likely to be even higher because the repos cleared in CCP tend to be short-term transactions and are therefore relatively understated in measures of outstanding volume.

The U.S. Repo Market

In 2022, SIFMA reported that the average daily aggregate repo and reverse repo outstanding in the U.S. was $4.3 trillion. The latest data from the Federal Reserve shows that the tri-party volume in June 2024 increased to $3.8 trillion from $2.3 trillion in January 2021 as more counterparties discovered the benefits and efficiencies from using tri-party agents. Since 2019 the Bank of New York Mellon has become the predominant clearing bank in the tri-party repo market for US government securities after JP Morgan Chase reduced its footprint in the tri-party market, although JPM remains very active in providing custodial services.

2. Distinguishing Features of Bilateral and Tri-party Repo Transactions

Historically, repo transactions were limited to bilateral arrangements whereby the seller would receive cash in exchange for the delivery of specific securities to the buyer, with settlement, valuation, margining, and the selection of security being managed solely by each of the two counterparties normally on a buy-sell back basis for a single line. In recent years however, there has been a greater emphasis on tri-party repo arrangements in more developed repo markets. As an alternative to bilateral repos, the tri-party model introduces the possibility of having a third-party agent who is responsible for the administrative and operational aspects of the purchase and transfer of the collateral, as well as security selection within pre-agreed parameters, for example through the use of specific collateral baskets (which contain multiple lines of possible collateral).

As the Canadian repo market remains dominated by bilateral repo agreements, it continues to face certain operational challenges that require securities purchasers to: (a) maintain clear and accurate records pertaining to the collateral, (b) verify that the collateral is adequately valued, (c) ensure that any applicable margins are correctly applied in those instances where the predetermined repurchase price of the collateral differs from its market value over the transaction's life, d) enable efficient substitutions when requested by counterparties, and e) separate settlement into blocks of $50m allotments . In addition, participants often have to accept a limited set of instruments eligible due to operational constrains. These core challenges of bilateral repo transactions have caused market participants in other jurisdictions to adopt the tri-party model or transact through a centrally cleared platform. Tri-party addresses the challenges described above and it also helps facilitate more efficient settlement of repo transactions. As a result, tri-party enables parties to enter a greater number of repo transactions with increased regularity and wider baskets of collateral eligibility , thereby ultimately improving liquidity.

Tri-party repo can alleviate some operational burden

To avoid some of the operational pain points securities (collateral) buyers and sellers experience under the bilateral repo structure, tri-party agents manage cash and securities accounts for both parties. This gives counterparties the ability to outsource the custodial and settlement functions of transferring the cash and securities between them. By outsourcing these mechanics to a third-party agent, market participants can have greater confidence in the underlying management of the purchased securities as it helps mitigate settlement risks and promotes greater efficiency and functionality within the market.

It is expected that once the tri-party repo model becomes more widely used in the Canadian market, stakeholders can anticipate that the repo market will experience the benefits seen in more mature markets such as Europe and the United States. A tri-party agent that performs the back-office services for the settlement of repo transactions will improve the administrative functions of trades and increase the liquidity of the collateral, while allowing for the participation of new counterparties who previously may not have had the operational capability to handle repo trades individually. The new Canadian Collateral Management Services (CCMS) being developed by TMX and Clearstream will create a Canadian tri-party solution for the Canadian repo market, which is expected to bring the operational efficiencies experienced in other markets to Canada. Consequently, market participants will likely engage in a greater number of repo transactions across a broader spectrum of collateral types, including less liquid assets like corporate securities. As such, increased efficiencies and higher liquidity across non-traditional collateral in repo financings will be realized, which will also help improve liquidity in the associated cash market. CCMS is also expected to facilitate the increased use of term repo given its ability to facilitate automatic unlimited collateral substitution while interfacing with settlement requirements within agreed parameters. This is a key point as the CCMS does not further fragment collateral and settlement obligations, rather instead integrates them for superior collateral mobilization and improved inventory management.

Types of collateral may be expanded under tri-party repo

Parties negotiate collateral eligibility schedules using different types of collateral (i.e., asset classes), including government securities, corporate bonds and equities, as well as other attributes such as collateral tenor and ratings. Tri-party repo agreements, however, give parties the ability to scale multi-asset financings and enhance collateral mobility by using common collateral baskets which group securities by pre-agreed to criteria. The third-party agent is responsible for optimizing the collateral provided to only those securities in the collateral basket(s), providing an additional layer of security in filtering out ineligible assets as compared to manual bilateral entry of a large number of securities, which is operationally cumbersome under the bilateral repo model. The use of a broader set of eligible collateral will also allow cash investors to potentially achieve a higher return than they would otherwise get with more traditional collateral such as government securities.

Tri-party repo can bring benefits to various market participants

Tri-party repo is a readily available source of funding for dealers' general (non-specific) collateral and an attractive investment vehicle for cash holders. In mature tri-party repo markets, buy-side participants (e.g. money market funds, insurance companies, pension funds etc.) largely make up the cash providers whereas sell-side participants (e.g. securities dealers) are primarily the cash borrowers (collateral sellers). While the bilateral repo market is predominantly used by dealers to support their client financing businesses and/or matched repo book trading, as well as to cover specific securities that they have shorted. Buy-side investors such as money market funds typically prefer the tri-party repo structure given the advantages of using a third party to help the operational requirements associated with repo transactions.

Key Differences between Bilateral and Tri-Party Repo Transactions

a) <u>Timing</u>: In US style tri-party repo transactions, the delivery of collateral typically takes place at a different time than the cash payment. While in bilateral repo transactions the transfer of collateral occurs seamlessly upon the settlement of cash. However, in European style tri-party delivery against payment is typically used, which is also the approach employed by CCMS.

b) <u>Rehypothecation</u>: In a tri-party repo, rehypothecation is typically restricted to transactions on the specific tri-party platform, as the tri-party agent retains controls of the securities in order to optimize their usage (liquidity). By contrast, securities buyers under the bilateral repo structure face no such restrictions when rehypothecating collateral which allows the collateral to be easily used to cover shorts. However, bilateral repo could result in increased settlement issues because of the requirement placed on each buyer and seller to manually track the collateral in their possession and to recall/return borrowed securities quickly. The tri-party repo structure also enables securities sellers to easily repossess specific collateral by arranging a substitution of the collateral solely through the tri-party agent, as opposed to substitutions under bilateral repo which require both parties to book additional trades and take on additional risks to settle the substituted collateral.

c) Operational Costs: Tri-party repo transactions are far less operationally burdensome for counterparties as the tri-party agent provides the required back-office functions during the life cycle of the transaction. Comparatively, bilateral counterparties must rely on in-house resources and technology to administer, monitor and settle bilateral repo transactions which can be more costly and require more time to resolve any disagreements - see Section 4 for more details.

d) Flexibility of Collateral: Tri-party repo transactions are typically used for the purchase and sale of general collateral (e.g. from a basket of investment grade corporate or Government of Canada securities) whereas bilateral repo transactions are largely used for the purchase and sale of CUSIP-specific collateral (e.g., a specific corporate or GoC bond). The amount of funding, the number of securities, as well the breath of the types of securities used tend to be larger under tri-party repo transactions due to the collateral optimization and operational efficiencies afforded by the tri-party platform. Tri-party repo allows investors to maximize return by taking on additional credit risk while offering the use of sophisticated risk parameters to mitigate counterparty risk.

3. Legal Characterization of Repo Transactions

The GMRA, as published by the International Capital Market Associations (ICMA), is the most commonly used standard legal repurchase agreement for short-term repo transactions, including both domestic and cross-border transactions, in both North America and Europe. The GMRA contains standard provisions to the repurchase transaction as well as an annex setting out the unique terms agreed to by the parties and any supplemental terms or conditions thereto. On an annual basis, on behalf of its associate members, ICMA commissions industry opinions from local legal counsel across more than 65 jurisdictions globally, including Canada, that cover the enforceability of the standard GMRA agreement, including the effectiveness of title transfers of purchased securities, and the mechanics for close-out netting in an insolvency situation. For example, the annual Canadian legal opinion[8] specifically addresses the treatment of title transfers and insolvency proceedings under the GMRA in a Canadian context, as well as the treatment of any posted variation margin. The Canadian legal opinion confirms that repo transactions under the GMRA will effectively transfer absolute title of the purchased securities from the seller to the purchaser, and the purchaser will only have a contractual obligation to transfer the equivalent number of securities to those purchased on the original transaction date at the closing leg, also known as repurchase date, except for any applicable margin that may be required. Furthermore, CCMS also has the innovation of a multilateral repo agreement, which is only negotiated once and can be used with any other counterpart on the platform that has also signed the agreement (Clearstream Repurchase Conditions or CRC agreement). This solution is a key enabler to increasing repo counterparts in the buy side including Corporates.

Repo transactions, whether they be bilateral or tri-party arrangements, may be used for a variety of collateral types, including for both general collateral (e.g. any bonds that fit within a pre-agreed collateral basket) and specific collateral (e.g. GoC, provincial or corporate bonds). A repo agreement may also be structured to include either a specified repurchase date (e.g. a "closed-term" repo) or a variable end date (e.g. "open" repo where the repurchase date will be set by the parties at a later date), or the repurchase date may be automatically renewed unless either of the counterparties provides notice (as seen with an

[8] Note: The annual GMRA legal opinion delivered to ICMA is issued by local counsel at Osler, Hoskin & Harcourt LLP and is available to subscribing Tier 1, 2a and 2b members, as well as some Tier 3 members, through ICMA's website as part of the membership fee.

“evergreen” repo). The rate on the repo can also be linked to a specific floating rate benchmark, such as the Canadian Overnight Repo Rate Average (CORRA). While not as common, sell and buyback, or buy and sell back type transactions are also present in the Canadian market but differ from the typical repo transaction structure as the interest payments in these are embedded in the purchase price of the securities and payments owed and owing to the parties are not paid until the repurchase date.

4. Operational Considerations

When market participants are considering operationalizing their firm to conduct repo transactions, they should consider what custodial services they have in place to ensure they are well-equipped to manage both the cash and collateral during the initial trade as well as any related lifecycle events throughout the course of the transaction. This includes the administration of functions such as daily mark-to-market recording and income (i.e., coupon) processing. They should also ensure that they are equipped to support their desired volume of repo trades. For market participants that already have repo operational teams and processes in place to manage the daily settlement and margining of transactions, one can argue that the bilateral repo workflow can be functionally simpler, although the amount of transaction volume that they are able to do could still be constrained. However, for parties that are not as experienced in secured financing or do not have full operational capabilities, utilizing a tri-party agent could be more effective, thereby reducing the need to build internal capabilities.

The newly launched CCMS supports the efficient operation of tri-party repo in the Canadian market. It also introduces some important additional Canadian specific features to its tri-party design, including:

- Standardized pricing sources and conventions (timing, source and application) to value collateral across exposures and counterparties on a consistent basis.
- Ability to maintain existing custodian/client account relationships. What this means in essence is that there will not need to be a separate or operated intermediated custody account *(long box)* for collateral givers to move collateral into. Instead, existing accounts for clients are used within their existing settlement arrangements with their custodians to source collateral from
- Standardized collateral management eligibility rules (collateral profiles) which ensure that non-eligible collateral cannot be posted.
- Automated end-to-end processing of any collateral operation during the life-cycle of the exposures, including automated margin calls, unlimited substitutions, etc.
- Centralized maintenance of standard settlement instructions (SSIs) and automated generation and sending of required settlement messages for the timely and orderly settlement of the collateral movements, as well as monitoring of the settlement process.
- Using existing connectivity to custodians to ensure settlement timelines, messaging and treatment (pledges/title transfer) for collateral are consistent.
- Tracking collateral across exposures and counterparties, including where re-use is permitted and agreed upon between counterparties.
- The CRC multi-lateral repo agreement complementing the end-to-end transaction automation.

5. Investor Insights

Following CDOR's cessation many participants expect that repo may become one of the primary investment vehicles to replace BAs for transactions, especially for tenors of less than 1-month. BATVN buy-side participants have identified the following advantages to repo transactions as an alternative to BAs:

1. *Maturity Date* – Parties can negotiate bespoke maturity dates (i.e., term) at which time the collateral will be repurchased. This is a benefit to investors who manage cash investments that are grouped by common tenors (e.g. weekly, monthly or quarterly intervals) who can then plan for anticipated cash injections. Note that should the investor need access to their cash prior to the maturity date, they can either unwind the repo with the repo counterparty, or alternatively obtain the cash by entering into a separate repo with the existing collateral.

2. *Yield* – Repo transactions are generally higher yielding than equivalent term T-bills with the yield being dependent on the credit quality of the repo counterparty and the nature of the underlying collateral used in the repo transaction. In general their yield is less than BAs from the same counterparty since they are a secured exposure to that counterparty against collateral that is revalued daily.

Further, tri-party repo arrangements are particularly attractive to buy-side market participants because:

- In general, there are no additional direct costs for the collateral buyer/cash investor when engaging a third-party agent, as these fees are born by the collateral seller;

- Outsourcing the post-trade administration of a repo transaction is operationally less burdensome and provides more accurate collateral tracking for activities such as daily margining, the selection of collateral, as well as the creation, execution and settlement of collateral movement. Note that the counterparty risk to the trade remains the same whether the repo is transacted bilaterally or through CCMS;

- Centralised reporting and tracking of collateral helps to reduce settlement issues (risk) should there be a need to reuse the collateral;

- It is easier to transact for longer repo terms due to the efficiencies of collateral substitution;

- A tri-party service can increase the liquidity of the collateral in the system which will also help cash market liquidity;

- Buy-side participants who have not developed internal collateral management systems can engage in more repo transactions, which will encourage greater market activity; and

- It allows for a larger number of securities with similar characteristics to be transacted using a specific or tailored (to a counterpart or set of counterparts) collateral basket, thereby also promoting greater liquidity in those securities.

- Access to larger pool of counterparties thanks to the multilateral nature of the tri-party platform and Repo agreement.