LEADING TREASURY PROFESSIONALS

GIVING DIRECTION

BRIEFING NOTE:

PRACTICAL STEPS TO INVESTING IN REPOS

MAY 2014
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The Association of Corporate Treasurers

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1 Background

The ACT's briefing note "Corporate investment of liquid funds" (March 2009[1]) describes the principles of liquid funds investment, together with the management of associated financial risks such as counterparty credit exposure and liquidity. This updated briefing note on 'Investing in repos' has been written at a time when many companies still retain large stock piles of cash. Bank deposits and Money Market Funds[2] continue to be the favoured vehicles for investing this surplus cash. Whilst these investment vehicles are unsecured, the focus on banks' credit risk together with the proposed regulatory changes of Money Market Funds[3] has caused many treasurers to look further afield[4].

Diversification of investments from single banks to other counterparties spreads risk, e.g. governments, corporates, money market funds etc. Whilst the majority of short term investment products used by corporates are unsecured, a repo is a secured money market instrument where the investor receives extra protection through the ownership of collateral.

At the time of writing this revised briefing note, repos are typically used by few corporates, even those holding hundreds of millions of excess cash. Whilst we have seen a growing trend of corporates using repos since the initial briefing note was drafted in November 2012 the growth has been slow.

2 Overview of short term liquid investment products

The treasurer's job is to provide funds in the right amount in the right place at the right time. When investing funds the treasurer's mantra is SLY, standing for:

- Security first
- Liquidity second and
- Yield last.

The security aspect is the counterparty's ability to repay the investment, on time and in full. Liquidity is the willingness of the counterparty to repay early, the opportunity to sell the investment to someone else at a fair price, or to use the investment as security for a borrowing or in a repo. Yield can be increased by taking on either more credit risk or reducing liquidity, or both.

Table 1 (on page 5) provides a high level overview of six short term liquid products available to corporate treasurers, comparing the security, liquidity, yield and a number of other features of these products.

"Repo" Definition:

'Repo' is the generic term for repurchase agreements (also known as 'classic repos') and sell/buy-backs. Repos are agreements to sell securities (usually bonds, gilts, treasuries or other government or tradeable securities) tied to an agreement to buy them back at a specified later date and price.

[1] See http://www.treasurers.org/investingcash

[2] ACT Cash Management Conference Spring 2014, delegate poll asking: "Which do you favour for your surplus cash? Bank deposits; Money market funds; Repos; Direct investment in government securities; or Other"

[3] Proposed regulatory changes to Money Market Funds refers to both the US and European proposals

[4] See ACT briefing note "Bank counterparty credit assessment for companies" accessible from the above website.

A reverse repo is the mirror image of the repo transaction, namely the investment of cash and purchase of security tied to an agreement to sell it back later at a pre-determined date and price. For this briefing note we will use the generic term "Repo" to refer to reverse repos.

There are two types of repos: Tri-party and bilateral. The distinguishing feature of a tri-party repo is that a tri-party agent (TPA) acts as an intermediary between the two parties to the repo. The TPA is responsible for the administration of the transaction including collateral allocation, mark to market valuation, and substitution of collateral.

Key features:

- Repos are **secured** investments whereby, if the bank counterparty defaults, the corporate investor can sell the collateralised security. Unsecured investment products such as money market funds and bank deposits do not provide this additional protection
- When investing in repos there are **one off set up costs** to negotiate pre-trade legal documentation (similar to an ISDA agreement)
- If using **bilateral repos** and not tri-party repos, the corporate investor needs systems, expertise and resource to value and manage the collateral daily
- **Tri-party repos** involve a tri-party agent (TPA) who values and manages the collateral. The TPA's services are typically free to the repo investor
- The ongoing **dealing, confirmation, settlement and reporting** processes are similar to any other investment product (however bilateral repos will require daily collateral management)
- The "3 Cs" – **counterparty, collateral and custodian,** need to be considered and understood by the investor's Board of Directors when investing in repos

In summary, repo investments may not be for every corporate.

Repos really only suit those corporates with large amounts of excess cash. The banks we spoke to when researching this paper quoted minimum investment sizes of $32-80m / €25-60m / £20-50m for overnight investment, reducing to $8-16m / €6-12m / £5-10m for a 3-month investment. There are also initial set up costs and this takes time, so repos are not necessarily suited for a one-off investment. Having said this, for those corporates that are able to and decide to invest, repos provide protection through the ownership of collateral in the form of securities and this is significantly more secure than investing in unsecured bank deposits or Money Market instruments.

Table 1 - High level comparison of short term liquid investment products

	Treasury Bill	Bank Deposit	Bank Cert. of Deposit (CD)	Money Market Mutual Funds[5][6]	Commercial Paper (CP)	Repo
Counterparty risk	Exposure to one government counterparty	Exposure to one bank counterparty	Exposure to one bank counterparty	Exposure to many counterparties	Exposure to one corporate counterparty	Primary exposure to one counterparty
Secured	no[7]	no	no	Typically no[8]	no	yes
Default risk	Primary counterparty	Primary counterparty	Primary counterparty	Underlying assets, not asset manager	Primary counterparty	Look to collateral if primary counterparty fails
Single name counterparty exposure	100%	100%	100%	10% [9]	100%	Can be as low as 5% if asset to dispose is highly liquid and good reactivity to default
Credit risk analysis	In-house assessment	In-house assessment	In-house assessment	Ultimate exposure delegated to the Asset Manager but review of fund investment policy etc. is by in-house assessment	In-house assessment	In-house assessment on a broader asset class

[5] The International Organisation of Securities Commissions (IOSCO) has been consulting on Reform of Money Market Funds. Refer http://www.treasurers.org/node/7957 for a link to the ACT's response (May 2012)

[6] In September 2013 the European Commission also put forward a Proposal for Regulation of Money Market Funds. Refer http://www.treasurers.org/node/9534 for a link to the European Association of Corporate Treasurers (EACTs) response

[7] Whilst treasury bills are not collateralised investments they are central government obligations

[8] Some assets in a Money Market fund may contain security

[9] Based on maximum allowable concentration ratio of 10% for any counterparty

	Treasury Bill	Bank Deposit	Bank Cert. of Deposit (CD)	Money Market Mutual Funds	Commercial Paper (CP)	Repo
Custodian required	yes	no	yes	no	yes	yes
Secondary market	yes	no	yes	no[10]	yes	no, but can sell the collateral[11]
Indicative yield[12]	0.30%	0.45%-0.95%	0.45%-0.85%	0.35%	0.30%-1.00%	0.30%-0.40% (based on AAA general collateral)
Administrative cost	low	low	low	Fees netted from fund's performance	low	• Bilateral = high • Tri-party Agency costs paid by bank
Pre-trade documentation	none	none	none	none	none	• GMRA • CMSA (Tri-party)

[10] No, but can redeem holdings in the fund

[11] Although there is no secondary market the corporate investor can sell the collateral which makes repos liquid. Selling collateral does not compromise the security of a repo. If the corporate fails to get it back, it can buy the security in the secondary market or negotiate a fail. In addition to selling the collateral, the corporate investor may re-hypothecate the securities it has received as collateral. Whilst this would increase yield and provide liquidity it does so at the expense of security. The corporate would need to ensure it received the securities back before the original repo trade matured. Refer section 4.4.5 Re-use or re-hypothecation of collateral.

[12] Yields as at beginning of May 2014 for a GBP 3-mth maturity. Rates are dependent on the credit quality of the borrower/fund.

3 Key characteristics of repos

	Overview	Tri-party repos	Bilateral repos
Duration	Flexible Repos can be used for very short term investment such as overnight or longer term investment up to many years. Rolling overnight repos can be used to allow same day access to the cash deposited. A repo that is agreed without fixing the maturity date is often called an *open repo* or *on demand repo*. Interest on an open repo accrues daily, is not compounded and is usually paid monthly if the repo is not terminated earlier. The repo rate will be similar to the overnight repo rate but does not change until the parties agree to re-set the rate. Rates will typically be re-set when there is a sizeable movement in rates, otherwise it saves the parties having to rollover the repo each day.		
Minimum investment[13]		Overnight : USD 32-80m EUR 25-60m GBP 20-50m 3 month: USD 8-16m EUR 6-12m GBP 5-10m	Overnight : USD 8-16m EUR 6-12m GBP 5-10m 3 month: USD 1.5-3m EUR 1.2-2.5m GBP 1-2m

[13] These minimum investment sizes are the normal market levels as provided by many banks at the time of writing. A lower amount may be possible depending on individual negotiations and the flexibility of the counterparty bank.

	Overview	Tri-party repos	Bilateral repos
Currency	EUR, USD, GBP The repo market started in the US and is highly liquid in USD. In the Eurozone there is high liquidity in EUR repos. While the UK has lower overall volumes the GBP market is still very liquid. The UK also has reasonable flows in USD and EUR.		
Pricing and quotation	Repos are typically quoted as a per annum interest rate e.g. 0.35% and is called repo interest. From a legal perspective the repo return is the difference between the purchase price and the repurchase price, hence the repurchase price is equal to the purchase price plus the repo interest.		
Credit evaluation	Investors in repos may be exposed to counterparty risk in the event of a counterparty default. As with any investment formal credit evaluations of the financial counterparty should be performed and counterparty credit limits set. These should be documented in the Investment policy. Given that repos are collateralised investments, counterparty credit limits would typically be higher than those for unsecured investments. ***Warning:*** *Corporate investors need to avoid the 'worst counterparty and best collateral' scenario*. The corporate's primary credit risk exposure is the counterparty bank with which they have transacted the repo. The preferred outcome is that the repo counterparty bank repays in full and on time. In effect the credit risk of the collateral is in a way secondary and a fall-back arrangement. The "3 Cs" counterparty, collateral and custodian need to be considered and understood by the Board when investing in repos. In		

	Overview	Tri-party repos	Bilateral repos
Credit evaluation (continued)	addition to the credit risk of the counterparty bank, the repo investor needs to be satisfied with the credit quality and liquidity of the collateral being provided as in the event of a default of the borrowing counterparty, the investor will assume ownership of the underlying securities. Initial margins and Haircuts are used to adjust the value of collateral in order to compensate for the anticipated loss of value if the collateral has to be liquidated should the counterparty default. Refer 4.4.2 Initial margin and Haircuts, for further details. The repo investor also needs to ensure that the custodian's processes provide adequate segregation of their collateralised assets. The repo investment policy should clearly define: - repo monetary limits per financial institution and per country - repo maturity limits - permitted collateral and what are appropriate haircuts - steps required to get comfortable with a custodian's processes: (usually an annual audit comfort letter)		
Collateral	The safety of repos ultimately relies on the adequacy of collateral. This requires corporates investing in repos to take liquid collateral or to accept illiquid collateral only subject to appropriate initial margins (i.e. haircuts) and limits. Collateral limits should be defined by the corporate investor in the Global Master Repurchase Agreement (GMRA) with each bank counterparty. The more narrow the defined collateral limits the more difficult it may be to purchase a repo in the market, e.g. if limited to GBP corporate paper there is typically very little in the market. The corporate investor ensures there is a clean opinion on the	Tri-party repos commonly have numerous different securities held as collateral and for these securities to be continuously substituted by the tri party agent (TPA) for other securities as per predefined limits. The TPA is responsible for ensuring the collateral is	Collateral held is managed and maintained by the corporate investor. As a result a bilateral repo tends to have one type of security as collateral. The corporate investor has the right to refuse any collateral at the point the deal is being done.

	Overview	Tri-party repos	Bilateral repos
Collateral (continued)	enforcement of collateral (i.e. is it legal for the borrower to grant the collateral at the time) in the legal documentation. The GMRA is signed by the corporate investor and the bank counterparty. Refer section 4.4 for further details on collateral including: - Choosing collateral - Initial margin and Haircuts - Substitution of - Coupon, dividend and other income paid on collateral - Re-use or re-hypothecation of collateral	legally enforceable.	Substitution of collateral is difficult.
Mark to market (re-pricing)	The value at which the asset is initially pledged in a repo is usually the same price at which it is being sold outright in the cash market. However, any doubts about the liquidity of an asset (will the repo investor be able to sell it quickly if the repo seller defaults?) or the quality of the repo counterparty may cause the repo investor to insist on paying less than market value by deducting a discount called an initial margin A decline in the market value of the securities held as collateral in repos creates a credit exposure for the corporate investor, as the value of the securities asset is now lower than the cash value. This risk is mitigated by revaluing repos on typically a daily basis. This mark-to-market of collateral allows the corporate investor to call for additional securities (i.e. margin calls) or be called to release collateral.	Initial margin is agreed on a trade by trade basis. Collateral is continuously revalued and security calls performed by the tri-party agent (TPA).	Initial margin is agreed on a trade by trade basis. The mark-to-market exposure is monitored by the corporate investor daily, based upon Close of Business (COB) Previous Working Day (PWD) prices. If any additional collateral is required this will be called for from the bank counterparty and the securities to cover this call agreed by both parties. The corporate investor must be

	Overview	Tri-party repos	Bilateral repos
Mark to market (re-pricing) continued			confident they have the appropriate systems and capability to calculate the collateral mark to market regularly (daily) and make or receive calls on securities from the borrower.
Gap risk	Whilst a repo investor receives extra protection relative to an unsecured investment product through the ownership of collateral, repos are not risk free. If a repo counterparty were to default there still exists "gap" risk i.e. the movement in securities' values from the time of counterparty default to selling the securities. The haircut that is added on the collateral values is there to cover a couple of days market volatility and accordingly is low for government bonds (say 2%), and higher for equities and corporate debt etc. The non-defaulting party can sell the collateral immediately in a default scenario, provided the requisite default notices are served correctly. At its choice it may hold collateral or certain types of collateral to maturity or for sale at a future date prior to maturity in order to avoid sale into a thin or falling market but this action needs careful consideration as it carries a substantial risk. This risk can be reduced by: 1. Holding good quality and easily liquidated securities as collateral 2. Having a good understanding of collateral positions held 3. Having an upfront plan on how to sell the collateral if needed	The TPA will report collateral positions on at least a daily basis.	The corporate must keep its own record of amount and type of securities held.

4 Pre-investment requirements

4.1 Questions/Issues that need to be answered/actioned before investing in a repo:

Amount of excess funds to invest?	•Overnight repos typically require minimum investment sizes of between £20 -50m depending on the counterparty (less for say 3-mth repos) and a repo investment programme takes time and money to establish. Does your company have the appropriate level of excess cash?
Bi-lateral vs tripartite?	•This will be depend on the ability of the corporate to value the collateral daily and manage the daily margin call process or appoint an agent to do this •If tripartite is chosen than a tri party agent (TPA) must be selected (refer 4.3 Tri-Party Agents)
Custodian	•If a tripartite agent is used then their custodian bank or clearing organisation will be used •If a bilateral repo then a custodian bank needs to be selected
Collateral	•Collateral lists and limits need to be agreed including types of securities, currencies, credit ratings •Return is relative to risk so a corporate that will only accept AAA-rated government bonds as collateral will receive a lower repo return
Legal document-ation	•A Global Master Repurchase Agreement (GMRA) is a once off legal hurdle which will require legal resource and take time (as with an ISDA document) - refer 4.2 Legal documentation •A Collateral Management Service Agreement (CMSA) is required with the custodian or clearing organisation who will hold your collateral - refer 4.2 Legal documentation
Collateral liquidation plan	•A plan needs to be developed upfront to liquidate collateral rapidly in case a counterparty defaults

4.2 Legal documentation

4.2.1 Global Master Repurchase Agreement (GMRA)

The GMRA is a framework agreement containing standard terms which the parties wish to apply to all the repo trades, thereby saving the need to agree these provisions each time a trade is transacted. Counterparty credit risk is minimised by the use of collateral and haircuts (see "Credit evaluation", on page 8) and close out netting (i.e. in the event of a party's default, the ability of the non-defaulting party to accelerate/terminate all outstanding transactions and all sums due are set off or "netted" with the result that a single sum is payable by one party to the other). The collateral is transferred outright (legally and beneficially) to the secured party. Therefore, in a default scenario, the non-defaulting party has the ability to immediately sell any non-cash collateral or to hold them to maturity or for later sale.

The Global Master Repurchase Agreement (GMRA) is commonly used for repos and a separate GMRA is required with each bank counterparty.

The following are normally included in master agreements:

- Capacity of the parties, either as agents or principals
- Authority of the parties to purchase or sell securities
- Absolute transfer of legal title
- Market risk management such as mark to market, initial margin or haircut percentages, substitution or re-pricing
- Arrangements for delivery/receipt of securities
- Treatment of dividends payments and timing of payments
- Default procedures and the consequential rights and obligation of the counterparties, including rights of set-off
- Governing law of the agreement

The negotiation of the GMRAs for TPA or each financial counterparty are a cost to the corporate investor. Standardised documentation published by ICMA, the International Capital Market Association, simplify negotiation. See link to the Global Master Repurchase Agreement (GMRA) 2011 in Appendix 1.

4.2.2 Collateral Management Service Agreement (CMSA)

A Collateral Management Service Agreement (CMSA) is required with the custodian or clearing organisation that will hold your collateral. Collateral for tri-party repos will be in an account opened with the TPA to which the securities will be credited. The custodian is responsible for the custody of the collateral securities, clearing and settlement. Custodians include companies such as Clearstream and State Street Global Services.

Appendices to Collateral Management documentation will include: the eligible collateral criteria such as:

- Collateral eligibility, including:
  - Products
  - Countries
  - Credit ratings
  - Maturities
- Valuation
- Corporate actions
- Substitution processes

Refer section 4.4.1 for more details on choosing collateral.

The negotiation of the CMSA for each custodian are a cost to the corporate investor.

4.2.3 Clearstream Repurchase Conditions (CRCs)

Clearstream[14] have established a new master repurchase agreement that enables the corporate investor to sign one document that is applicable for any number of counterparties[15]. The CRCs are an addendum to the CMSA and contain standardised master repurchase conditions supporting tri-party repos.

Where a GMRA already exists with a financial counterparty the GMRA takes legal precedence over the CRC agreement.[16]

4.3 Tri-party agents (TPAs)

The purpose of appointing a TPA is to outsource the daily administration of marking to market collateral securities and managing the margin calls, ensuring the level of collateral required against your cash meets all of the minimum requirements several times during the day.

In Europe there are four significant TPAs, Bank of New York Mellon, Clearstream, Euroclear and JP Morgan Chase. In the US the two principal TPAs are JP Morgan Chase and Bank of New York Mellon.

All TPAs have different strengths in their customer base and the type of collateral they hold for those customers.

To increase access to different collateral assets and to diversify counterparties consideration should be given to choosing more than one TPA.

TPAs should provide a comprehensive system for the corporate investor to specify their collateral requirements including type of asset, its rating, its currency, concentration limits etc. TPAs typically also have standardised baskets of collateral available across the risk appetite range.

TPA fees are paid for by the collateral provider and not by the corporate investor.

4.4 Collateral

4.4.1 Choosing collateral

Whilst collateral mitigates the counterparty credit risk of the counterparty bank defaulting, a collateral agreement also introduces other types of risk:

- Operational risk
  New collateral processes might be introduced in a bi-lateral repo programme or alternatively the non-financial corporate should seek some comfort over the TPAs process in a tri-party repo programme
- Market risk
  Margin calls will ensure additional collateral is put forward by the counterparty bank if the market value of the security falls however if there is

[14] At the time of writing (April 2014) we are not aware of other firms making such a service available in Europe. If you know of any please let us know.

[15] At the time of writing (April 2014) Clearstream have signed up with 24 financial counterparties

[16] Legal reassurance should be obtained to ensure the CRC provides an equivalent protection to signatories as the GMRA in the event of a counterparty default. The CRC is based on Luxembourg law, while the GMRA relies on UK law.

a significant fall there may be a delay between calculating the valuation of the existing collateral and the fall in prices

- Liquidity risk
  The market liquidity of each type of security held as collateral needs to be considered
- Concentration risk
  Consider using concentration limits to reduce over-exposure to securities by issuer, by country, by credit rating, and by asset type (e.g. bonds)
- Correlation risk
  Consider also the correlation between the risk of the bank counterparty defaulting and the market value of the securities held as collateral. Securities held as collateral should never be with the same counterparty bank as the repo transaction e.g. a Lehman Brothers bond or equity held as collateral for a repo transacted with Lehman Brothers.

4.4.2 Initial margin and Haircuts

Initial margins and Haircuts are used to adjust the value of collateral in order to compensate for the anticipated loss of value if the collateral has to be liquidated if the counterparty defaults.

Initial margin is an agreed premium applied to the purchase price of a repo in order to determine the required market value of collateral to be delivered to the corporate investor. The initial margin can be defined as a percentage or a ratio, i.e. the market value as a percentage of the purchase price, or a ratio of the market value to the purchase price. An initial margin of 100% means there is no initial margin.

A Haircut is in principal the same as Initial margin, however a Haircut is expressed as a percentage of the market value of collateral and hence is arithmetically different. Hence a 5% Haircut is arithmetically not the same as a 105% Initial margin.

Example: Purchase price of repo with collateral of 10,000,000 and 105% or 1.05 Initial margin:

$$\frac{10{,}000{,}000}{1.05} = 9{,}523{,}810$$

Example: Purchase price of repo with collateral of 10,000,000 and 5% Haircut:

10,000,000 x (1.05) = 9,500,000

Initial margins and Haircuts are agreed at the time of dealing the repo.

In the GMRA, initial margin is called Margin Ratio (paragraph 2(bb) of GMRA 2011 – refer Appendix 1 for link to this document).

4.4.3 Substitution of collateral

Many counterparty banks are active traders of securities and obtain from the corporate investor the right to substitute collateral at any time during the repo with an alternative asset that is acceptable to the corporate investor.

Repos with rights of substitution typically pay a higher repo rate than one without.

4.4.4 Coupon, dividend and other income paid on collateral

A repo transaction involves the outright transfer of legal title to the collateral to the corporate investor. If during the term of a repo a coupon, dividend or some other income is paid by the issuer of the collateral then legally that income is the corporate investors as they are the legal owner of the collateral during the term of the repo. However, the corporate investor is contractually obliged to pay an equal sum of money to the counterparty bank as they are taking the risk on the collateral (having committed to repurchase the security at a fixed or calculable repurchase price) and hence expect to receive the corresponding return.

4.4.5 Re-use or re-hypothecation of collateral

Re-hypothecation is the right, which a borrower (collateral-giver) providing collateral through a pledge can give to the lender (collateral-taker), to sell that collateral at any time during the pledge. In a pledge where a right of re-hypothecation has been given, the title to collateral remains with the collateral-giver until the collateral-taker exercises his right of re-hypothecation. At this point, the collateral-giver is left with an unsecured contractual right to receive back equivalent collateral. In return for giving the right of re-hypothecation to the collateral-taker, the collateral-giver normally receives cheaper funding or cash.

The term re-hypothecation is sometimes used, particularly in the US, as a synonym for 're-use'. However, outside the US, where repos are based on pledging, they are two very different concepts. In other markets, where repo is based on the transfer of title to collateral through an outright sale from seller to buyer, re-use refers to the outright sale of collateral by the buyer to a third party (i.e. the buyer receives the collateral through a repo and then sells or repos it on). Whereas, the right of re-hypothecation in a pledge is given to a collateral-taker at the discretion of the collateral-giver, the right of re-use in a repo is the proprietary right of the repo buyer, since he has purchased the collateral outright and title has been transferred to him at the start of the repo.

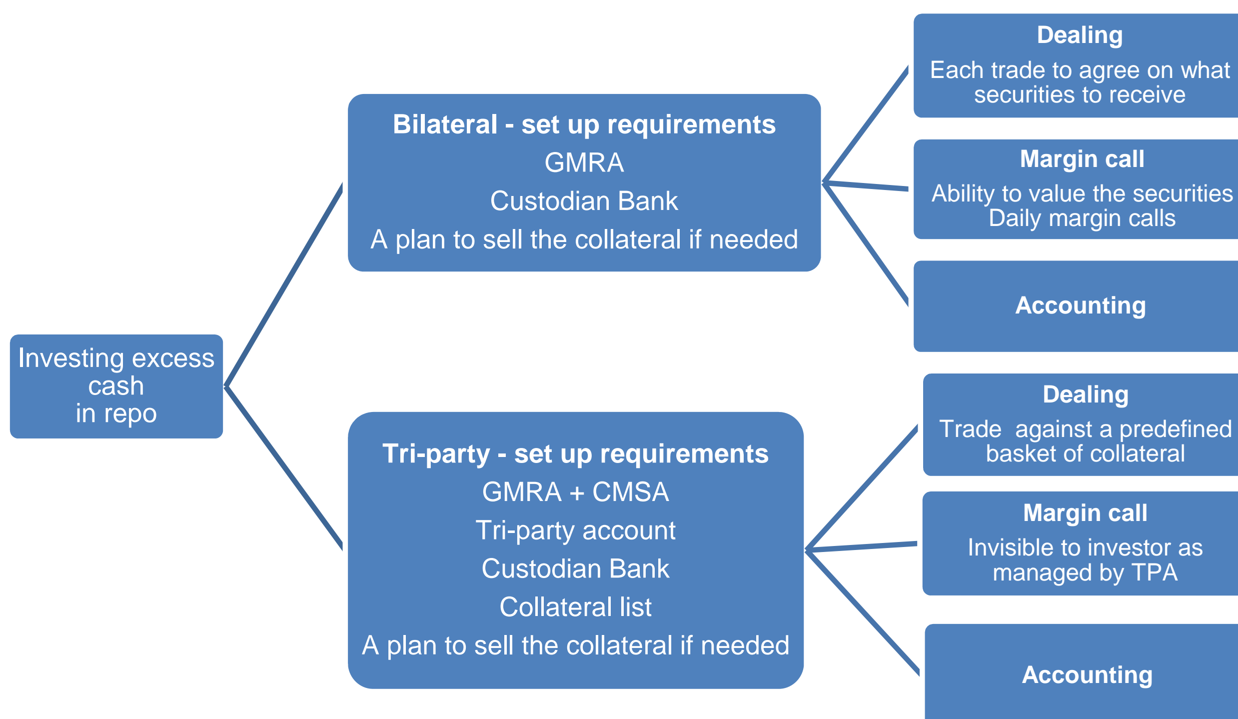
Non-financial corporates do not typically re-use their collateral as the collateral is providing security in the event of the counterparty bank defaulting. However the ACT is aware of a non-financial corporate who re-uses collateral received on repos to replace collateral already pledged for exchange-traded derivatives, receiving cash in return.

5 The operational aspects of investing in repos

5.1 Overview of bilateral and tri-party repo set up and operational requirements

See Diagram 1 (below)

Diagram 1. Bilateral and Tri-party Repo set up and operational requirements



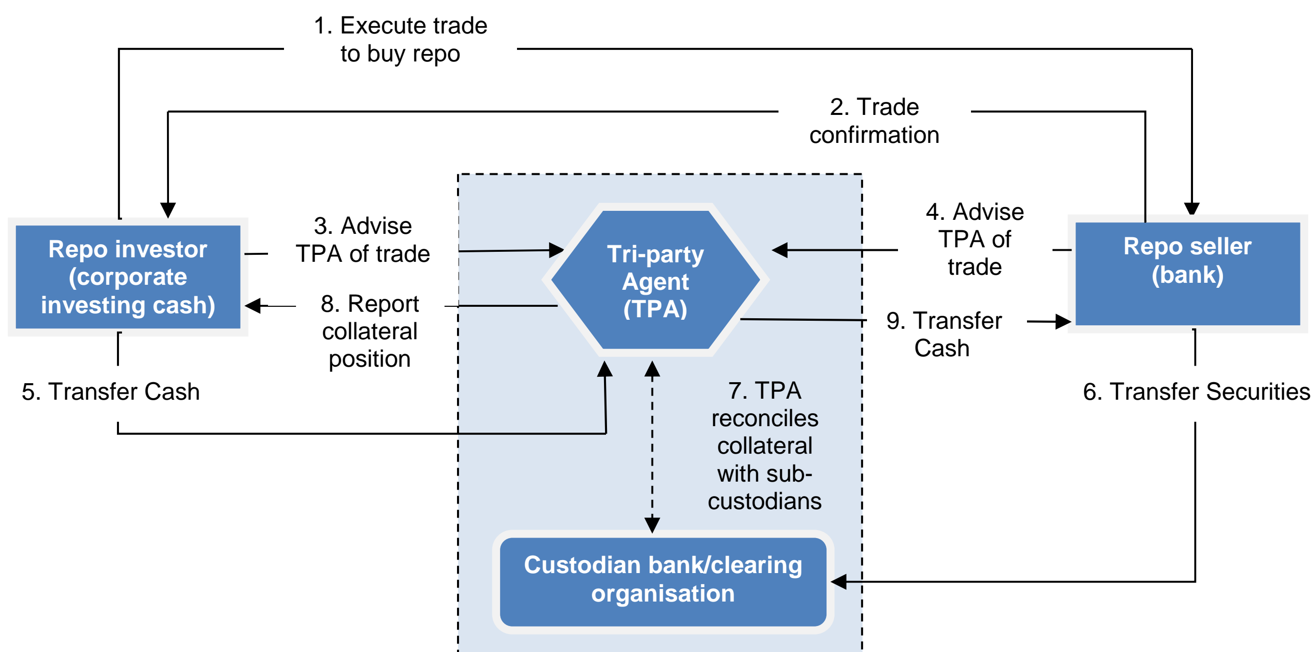
5.2 Collateral management tri-party vs bilateral

	Tri-party	Bilateral
Deal and Settlement Date	• Agree cash, duration and rate • Instruct the tri-party agent of the cash, duration and rate • Transfer the cash to the tri-party agent	• Agree cash, duration and rate • Agree individual securities to be used as collateral • Value the individual securities and calculate margins • Agree trade and settlement date • Exchange agent bank, SWIFT and account details • Inform counterpart of securities to be used • Instruct back office to match your counterpart • Monitor settlement
During the term of the deal	• Nothing	• Value the collateral • As needed agree on margin call with counterpart • Instruct the settlement • Monitor the settlement • Monitor for upcoming income events • Monitor for upcoming corporate actions • As needed arrange for substitutions
End of deal	• Receive cash and interest back from the counterparty	• Instruct return of collateral • Monitor settlement

Source: BNY Mellon

5.3 Overview of tri-party repo transaction flows

Diagram 2. Tri-party Repo Transaction Flow



5.3.1 Dealing

- There are a number of ways a corporate can place a repo deal:
  - over the phone directly with the bank selling the repo
  - using the bank's online dealing platform
- Sometimes different trading desks within a bank will deal with different repos (dependent on security asset class).
- The corporate notifies the TPA of the repo transaction either via a SWIFT message (MT527) or the TPA's web-based application.

5.3.2 Confirmation

- A confirmation message corresponding to the effective movements of securities against cash should be sent for each instruction.

5.3.3 Settlement

- The Repo investor (Collateral in) will instruct on the reverse repurchase agreement details, two instructions will be required, one for the settlement of the opening leg and one for the closing settlement.
- The Repo seller (Collateral out) will instruct on the repurchase agreement details, two instructions will be required, as above.

5.3.4 Daily margin calls

- Tri-party agents make margin calls on behalf of its customers.
- The cash investment amount remains unchanged, only a top-up or withdrawal of securities is required.

5.3.5 Reporting

- Tri-party Agents report collateral positions on at least a daily basis.
- A corporate investing in a bilateral repo will need to mark its value to market and report the collateral on a daily basis, dependent on the volatility of the security held.

6 Additional considerations

6.1 Accounting for repos

Accounting treatment for repos can differ across jurisdictions however the general treatment for the repo investor is that the collateral securities are not recognised as an asset (the counterparty bank keeps the securities on their balance sheet). The cash invested would be recognised as an asset and accounted for on an amortised cost basis with the interest income being accrued over the life of the repo. The notes to the financial statements and the accounting policies need to detail the accounting treatment adopted and disclose the details of the collateral received.

Under International Financial Reporting Standards (IFRS), IAS 39: Recognition and Measurement defines "repurchase agreement" (Repo) as an agreement to transfer a financial asset to another party in exchange for cash or other consideration and a concurrent obligation to reacquire the financial asset at a future date for an amount equal to the cash or other consideration exchanged plus interest".

The IFRS implications: IAS 39, AG 51(a) for the repo investor is that the collateral purchased, subject to commitment to resell at a future date, is <u>not</u> recognised on the balance sheet. The amount invested i.e. paid to the bank, is recognised as a deposit/advance to the bank and is shown as assets collateralised by security.

6.2 Taxation of repos

Taxation of repos differs by jurisdiction. In the UK the return on the cash leg is treated as interest and is taxed as income[17]. Non-financial corporates should check the tax status of their repo transactions including the securities as collateral prior to investing in them.

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[17] Source: ICMA Collateral: Securities Lending, Repo, OTC Derivatives and the Future of Finance by Danny Corrigan and Natasha de Terán (published December 2007)

7 Appendix

Appendix 1 Useful references and links

Global Master Repurchase Agreement (GMRA) 2011

The International Capital Market Association (ICMA) based in Switzerland in conjunction with the Securities Industry and Financial Markets Association (SIFMA) based in the US has developed a standard master agreement for repo transactions. The first version of the GMRA was published in 1992 and followed by substantially revised versions in 1995 and 2000. The fourth version of the GMRA - the GMRA 2011 – reflecting markets developments since 2000 - was published in May 2011.

A link to the GRMA 2011 on the ICMA website: http://www.icmagroup.org/assets/documents/Legal/GMRA-2011/GMRA-2011/GMRA%202011_2011.04.20_formular.pdf

Guidance notes for use with the Global Master Repurchase Agreement (2011 version) can be downloaded from the ICMA website page: http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/global-master-repurchase-agreement-gmra-2011/

A Guide to Best Practice in the European Repo Market

The European Repo Council of the International Capital Markets Association (ICMA) published in March 2014 a very useful repo guide providing best practice recommendations on the trading and settlement of repos. For corporates seeking more detailed information on repos and the repos market refer:

- Annex 1 – Understanding the nature and mechanics of repo
- Annex 2 – Repo margining best practices
- Annex 3 – Glossary of repo terminology

Frequently Asked Questions on repo

In addition to the above publication ICMA published in February 2013 a 35 page document covering FAQs covering:

- Understanding repo and the repo market
- How repos are managed
- Topical issues

Glossary of terms

The ACT's Glossary of terms maybe useful for explaining terminology used in this briefing note:

http://www.treasurers.org/glossary

POLICY & TECHNICAL BRIEFING NOTES

ACT briefing notes provide practical best practice guidance on important treasury matters. These briefing notes, and more, are available to download from the ACT website.
treasurers.org/briefingnotes

Regulation

EUROPEAN REGULATION OF OTC DERIVATIVES: Implications for non-financial companies (revised May 2014)
treasurers.org/otc
A full explanation of the implications of the new derivative regulations, including clearing, reporting to a trade repository and risk mitigation procedures.

Cash and liquidity management

INVESTING LIQUID FUNDS
treasurers.org/investingcash
Two briefing notes which encapsulate the longstanding education material of the ACT and the practical approach of professional treasurers in relation to the risk in investing a company's liquid funds.

Capital markets and funding

BORROWER'S GUIDE TO LMA LOAN DOCUMENTATION (April 2013 edition)
treasurers.org/loandocumentation
A clause by clause guide for borrowers to the implications, pros and cons of the drafting in the Loan Market Association documentation, and flagging points for negotiation. The principles covered are also applicable to other loan agreements.

LETTERS OF COMFORT (revised September 2013)
treasurers.org/lettersofcomfort
Aspects to consider when issuing a letter of comfort, including their legal status.

Contingency planning and preparing for the future

CONTINGENCY PLANNING FOR A DOWNTURN: A treasurer's checklist
treasurers.org/contingencyplanning
How to cope with a downturn in the economy or sustained lack of liquidity in financial markets and the effects on your company.

LIBOR ADMINISTRATOR CHANGE TO ICE BENCHMARKS FROM BBA LIBOR
treasurers.org/icelibor
An explanation of the 2014 changes to LIBOR and an outline of the reviews and legislative changes still pending.

THE ACT WELCOMES COMMENTS ON THIS REPORT

Please send your comments to
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