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# A primer on tri-party repo

*by Richard Comotto*

A tri-party repo is a repo for which collateral management is delegated by the counterparties to a third-party agent (whose participation makes it a 'tri-party' repo).

## 1. The what

**What a tri-party repo is not!**

There is sometimes confusion about the nature of tri-party repo, so it is best to be clear from the start as to what it is not.

- A tri-party repo service is not a trading venue on which parties can execute transactions — in other words, a tri-party agent is not an exchange or a multilateral trading facility (MTF) [1]
- A tri-party repo service is not a principal intermediary, who becomes the seller to every buyer and the buyer to every seller, and who is able to net opposite transactions with its counterparties — in other words, a tri-party agent is not a central clearing counterparty (CCP)
- A tri-party repo service is not a settlement venue, where securities are delivered/received on behalf of the parties against the receipt/delivery of cash — in other words, a tri-party agent is not a central securities depository (CSD): it is responsible only for sending settlement instructions to a CSD. [2]

Nor is a tri-party repo an alternative form of transaction to a repurchase agreement (classic repo) or a sell buy-back. A tri-party repo can (in theory) take the form of either a repurchase agreement or a sell/buy-back. [3] A tri-party repo is defined by who manages the collateral, not the legal and operational character of the instrument.

**What is the function of a tri-party agent?**

A tri-party agent handles just one of the stages in the life of a repo: that of collateral management. In Europe, this function involves:

- selection of the securities to be delivered as collateral from the account of the seller to the account of the buyer at the start of the transaction;
- selection of the securities to be delivered as margin or substitutes from the account of one party to the account of the other during the life of a transaction (see below for more on substitution);
- issuing settlement instructions to a CSD for (1) the delivery-versus-payment of selected securities to the tri-party collateral account of the buyer at the start of the transaction and to the account of the seller at the end or (2) delivery free-of-payment in the case of margin and substitution;
- periodically measuring and comparing the value of cash owed to buyer and the value of the collateral held by the buyer against that risk and:
  - when the value of collateral falls short of the cash owed to the buyer, transferring margin in the form of extra collateral from the seller to the buyer; or
  - when the value of the collateral exceeds the cash owed to the buyer, transferring margin in the form of excess collateral from the buyer back to the seller;
  - in the case of collateral which is a gross-paying security, collecting income paid by the issuer and making a corresponding 'manufactured payment' to the seller; [4]
  - in the case of collateral which is a net-paying security, avoiding an income payment to the buyer, in order not to trigger undesirable tax consequences, by substituting the security before the income record date (see below); [5]
  - substituting securities held by the buyer as collateral for other reasons (see below).

In the US, tri-party agents are often not involved in collateral selection. In addition, they do not perform margining, manage income payments or substitute collateral. Instead, these functions are replaced by a daily cycle in which repos are automatically unwound and then reconstituted, which provides an opportunity for sellers to (1) withdraw securities rather than have to substitute them, (2) collect any income payments directly rather than have to wait for manufactured payments from buyers and (3) assemble a new portfolio of collateral valued at the latest prices rather than margining. The role of US tri-party agents is therefore largely about custody and settlement. However, it is expected that the functionality of the US system will move into line with that in Europe as the US tri-party system is progressively reformed in order to eliminate the risky interval between unwinding and reconstitution.

**What happens in a default?**

As tri-party agents are not principal intermediaries in the transactions they manage, they are not exposed to the risks created by these transactions. Thus, if one of the counterparty's defaults and the tri-party agent is informed, it will simply refuse further instructions from the defaulter, cease further collateral management and await instructions from the non-defaulter.

## 2. The how

**How collateral is selected**

The selection of collateral in a tri-party repo can be performed manually by the seller. In Europe, however, collateral selection is usually automated through the application by the tri-party agent of algorithms which look into the account of the seller for one or more issues of securities that are available in sufficient quantity to cover the buyer's counterparty credit and collateral liquidity risks, and which are:

- of the least value and usefulness as collateral to the seller — such collateral is described as 'cheapest-to-deliver' but are also
- acceptable ('eligible') as collateral to the buyer.

The securities which are cheapest-to-deliver for the seller are those of the lowest credit quality and liquidity and/or those held in the least convenient amounts. The logic of selecting the cheapest-to-deliver collateral is that the seller is left with his best collateral (which improves his liquidity). On the other hand, the buyer receives a higher repo rate, on the assumption that he is likely to receive lower quality collateral. 6

The buyer protects himself from being given unacceptably low-quality collateral by compiling a schedule of securities which he is willing to accept as collateral. This has to be done before transacting any tri-party repos. The buyer will further mitigate his risk by specifying concentration limits and by applying initial margins to each eligible security or eligible type of security. 7 Eligibility can be defined:

- directly — by listing specific issues (ISINs);
- indirectly — by specifying (1) eligible types of collateral in terms of minimum credit ratings, countries of issue, currencies, types of issuer, types of security, remaining term to maturity, maximum time since the last market price quote, etc; and (2) ineligible types of collateral such as new issues and own issues;
- a mix of both approaches.

A buyer may use more than one eligibility schedule. These will vary according to the riskiness of the securities included. Being able to choose between a range of eligibility schedules when negotiating a new repo provides the buyer with a broad level of control over the amount of risk that he takes with each new transaction.

**How collateral substitution is used**

Except for the Swiss tri-party platform operated by SIX, European tri-party repo platforms offer the seller unlimited rights of substitution of collateral. Collateral is substituted by a tri-party agent during the life of a repo whenever:

- securities which have been selected and delivered as collateral to the buyer are subsequently sold by the seller in a cash transaction and have to be retrieved in order to allow them to be delivered in settlement of that transaction — this facility makes tri-party repo attractive to securities dealers, who are able to lock in term funding but not lose access to the securities they provide as collateral and can therefore continue to actively trade those securities regardless of the fact that they have repoed them out
- securities delivered as collateral become ineligible (e.g. due to a ratings downgrade below the eligibility threshold set by the buyer)
- during the life of a tri-party repo, a seller receives new securities which are eligible for the buyer and are cheaper-to-deliver than the collateral already delivered — this is referred to as 'optimisation'
- as noted above, income is due to be paid on collateral that is a net-paying security
- securities delivered as collateral on an existing tri-party repo are required to avoid a failure to deliver by the seller on another tri-party repo — this is called 'fail-driven optimisation'.

**How collateral can be re-used by buyers and substituted by sellers**

One of the essential legal characteristics of a repo is that the buyer has the right to sell collateral to a third party in a new repo or a cash transaction. This right reflects the fact that the collateral in a repo becomes the property of the buyer. But re-use represents an operational challenge to tri-party agents offering unlimited rights of substitution to sellers. If the seller is allowed to exercise his legal right of re-use, how can the tri-party agent be sure that he can retrieve the collateral should he need to substitute it? For a long time, tri-party agents offered either re-use (e.g. SIX in Switzerland) or substitution (e.g. Euroclear and Clearstream) but not both.

Legally, preventing a buyer from re-using collateral poses a 're-characterisation risk' to the transaction. This is the risk that a court would take such a restriction as a sign that full legal title to the collateral had not been transferred to the buyer, which would materially undermine the buyer's confidence in the collateral in the event of a default by the seller. Tri-party agents have circumvented this problem by allowing buyers to re-use collateral but subject to the condition that, were they to do so, the transaction would cease to be a tri-party repo and would no longer be maintained by the agent.

However, the fact that, in practice, tri-party buyers were unable to re-use their collateral created a regulatory problem. Without the real possibility of re-use, regulators were unwilling to allow tri-party reverse repos to be included in the liquidity ratios of the buyers (reverse repos against high-quality collateral are normally treated as liquid assets, despite the fact that cash has been lent out, because the collateral can be sold at any time by the buyer). This problem was resolved by the introduction of re-use facilities, in which the buyer in one tri-party repo could sell his collateral in a second tri-party repo managed by the same agent. In this way, the agent always knows where each piece of collateral is located in case it needs to be substituted.

## 3. The why

**Why tri-party repo is used**

The principal purpose of applying tri-party services to repo is to alleviate the burden of collateral management on one or both of the parties, by delegating collateral management to the tri-party agent. The concept of tri-party repo was originally introduced in the US market as a replacement for hold-in-custody (HIC) repo. Under a HIC repo, possession of collateral (although not ownership) remains with the seller. Because it avoids the cost of settlement across a central securities depository (CSD), HIC repo is cheaper than delivery repo and makes it economic to repo out less liquid collateral, which trades in smaller amounts and is therefore expensive to settle (the fixed settlement fee becomes a larger overhead for smaller transactions). However, HIC repo is risky, as a buyer does not know if the seller has repoed out the same piece of collateral to more than one buyer ('double-dipping'). This happened in the US market in the 1980s.

In tri-party repo, the securities of sellers and buyers are held by the agent in a single 'omnibus' account at a CSD. The CSD does not know for whom the agent is holding these securities. The agent maintains its own internal record of ownership. When a transfer of collateral takes place between two clients, as it would for a tri-party repo, the agent changes its record of ownership by 'book entry'. There is no need for a movement of securities across the CSD. This avoids having to pay settlement fees to the CSD. Book-entry transfer makes tri-party repo as cheap as HIC repo but with the assurance that there has been a clear change in possession of the collateral, so no risk of double-dipping. The lower settlement cost of tri-party repo makes it attractive for less liquid collateral. In addition, settlement across the books of the tri-party agent facilitates delivery-versus-payment (DvP), which reduces counterparty credit risk. 8 Because settlement is across the books of the tri-party agent, it can also offer later settlement than a CSD and therefore the opportunity for later trading.

In Europe, the vast bulk of tri-party collateral is investment-grade (94% according to the ICMA repo survey of June 2014). Most is fixed income but there is a significant amount of equity (22%). The largest single share of collateral is issued by governments (39%), the rest by sovereigns, supranational and agencies (13%) and corporates (14%) or under covered bond programmes (8%) and as MBS (2%). In the US, as at November 2014, Treasuries (including STRIPS) accounted for 39%, Agencies for 39%, equity for 10%, corporates for 5% and ABS for 3%. The big difference between the two markets is the role of Agency securities in the US.

A tri-party agent charges a fee for his services. The size of the fee depends on the volume of business transacted. Together with internal costs (producing and maintaining eligibility schedules, connecting systems, etc), fees tend to restrict tri-party repo to larger institutions.

In the US, sellers and buyers share the fee paid to the tri-party agent. In Europe, the fee to the tri-party agent is paid by the seller, reflecting the fact that tri-party repo was established at the behest of securities dealers seeking to attract investors like central banks into the repo market and those investors had the market power to refuse to pay fees.

**Why tri-party repo is sometimes called GC trading**

Within the constraints set by the buyer in his eligibility schedule, collateral selection is left to the tri-party agent or, in the case of manual selection, to the seller. This means the buyer does not know in advance the security issue(s) that he is going to receive as collateral. For this reason, tri-party repo can only be used for transactions which are driven primarily by the need to borrow and lend cash, and where the precise identity of the collateral is irrelevant. Such cash-driven repo activity is known as general collateral (GC) trading.

GC repos tend to be larger than the average deal size. European tri-party repos are typically about EUR 250-300 million.

Like most cash-driven repo, tri-party repos tend to be overnight or open transactions (about 70% according to the ICMA European repo market survey).

Not only does the buyer in a tri-party repo not know in advance which particular security issues he will receive as collateral but, given the way that collateral selection algorithms work, he is also likely to receive a basket of several issues. In Europe, a typical tri-party transaction will be collateralised by up to 40 pieces of collateral but can be against as many as 300.

## 4. The who

**Who uses tri-party repo?**

The typical buyer in a tri-party repo is a cash-rich, risk averse investor who probably lacks an internal infrastructure for collateral management and securities settlement. Tri-party repo is therefore often the easiest route into the repo market for cash investors who are not securities dealers. This includes money market mutual funds, pension funds and insurance companies, official sector investors such as central banks, supranationals and sovereign wealth funds, securities lending agents with cash collateral to re-invest and large corporate treasuries, as well as commercial banks. In the US, almost two-thirds of tri-party repo investors are money market mutual funds or securities lending agents with cash collateral to invest.

Most tri-party sellers tend to be securities dealers. They participate in tri-party repo because it offers a source of funding that might not otherwise be accessible (many cash investors would be deterred from repo by the operational requirements if tri-party services were not available). But tri-party repo can also be a compelling proposition for securities dealers where they have to finance collateral with which their operations department lacks familiarity or in which the tri-party agent can offer economies of scale. This is usually the case with corporate bonds, equity, ABS, MBS, covered bonds and structured securities. Most such ‘credit repo’ is managed by tri-party agents.

In Europe, the outstanding value of tri-party repos managed by the top four agents is about EUR 1.3 trillion (June 2014). In the US, tri-party stands at some USD 1.6 trillion (November 2014). Although the two markets are similar in value, tri-party repo is relatively much more important in the US, where it is estimated to represent 60% or more of the overall repo market. In Europe, tri-party repo is only about 10% of the market. The difference reflects in part the fact that tri-party repo services have been much cheaper in the US, because of greater economies of scale and a much simpler (if riskier) infrastructure. This has made it economic to delegate the management of US Treasury repo to tri-party agents. In Europe, tri-party services have been too expensive for repo against government securities, at least those issued by major governments. In addition, some European government bond markets have not been easily accessible to tri-party agents (the government securities managed by European tri-party agents have tended to be those issued by smaller governments). The scale of US tri-party repo also benefits from the large Agency repo market. This type of collateral is more difficult to manage than Treasuries and so there is more incentive to delegate its management to tri-party agents. US tri-party repo volumes may also reflect the size of the GCF repo market. Although this is an inter-dealer market, collateral management is delegated to tri-party repo agents. The only European equivalent is the smaller Eurex Euro GC Pooling market.

**Who are the tri-party agents?**

Tri-party services are provided by (1) custodian banks and (2) CSDs. In Europe, examples of the former include Bank of New York Mellon, Citibank and JP Morgan. Examples of the latter are the ICSDs, Clearstream Bank Luxembourg and Euroclear, and the Swiss CSD, SIX. These types of institution have clearing and settlement infrastructures that can readily be adapted to provide tri-party services.

In the US, there are only two tri-party agents, Bank of New York Mellon and JP Morgan. Bank of New York Mellon has a market share of about 80%.

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*1. However, a tri-party agent can be owned by a group which also operates an exchange or MTF, e.g. tri-party agent Clearstream Bank Luxembourg is part of the Eurex Group that includes the electronic repo trading platform, Eurex Repo.*

*2. Tri-party repo agents are not themselves CSDs but are owned by CSDs (e.g. Clearstream Luxembourg and Euroclear are international CSDs (ICSDs)) or custodian banks (e.g. Bank of New York Mellon).*

*3. To date, tri-party repo services have only been offered for repurchase agreements. But, if a sell/buy-back were to be documented, it should be possible to have tri-party sell/buy-backs.*

*4. A gross-paying security is one on which coupons are paid gross of withholding tax, i.e. this tax is not deducted at source by the issuer.*

*5. A net-paying security is one on which coupons are paid net of withholding tax, i.e. this tax is deducted at source by the issuer.*

*6. In practice, the seller may only have higher quality collateral to finance. In this case, the buyer will receive a better rate than he might have earned on an equivalent bilateral repo.*

*7. Of course, eligibility schedules and initial margins are not entirely under the control of the buyer. They need to be agreed with the seller or no business would be possible.*

*8. In order to exchange cash and securities internally, tri-party agents have to be banks, so that they can operate cash and securities accounts.*

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