

## Chapter 2

### **Repurchase Agreements (Repos): Concept, Mechanics and Uses**

2.1. This Chapter provides general information on the concept of repos, its operational mechanism and uses. The discussion, provides insight into the intricacies involved in undertaking repos transactions. the terms used and its usefulness as a money market instrument.

#### **CONCEPT & MECHANISM**

2.2. Repo is a money market instrument, which enables collateralised short term borrowing and lending through sale/purchase operations in debt instruments. Under a repo transaction, a holder of securities sells them to an investor with an agreement to repurchase at a predetermined date and rate. In the case of a repo, the forward clean price of the bonds is set in advance at a level which is different from the spot clean price by adjusting the difference between repo interest and coupon earned on the security.

2.3. In the money market, this transaction is nothing but collateralised lending as the terms of the transaction are structured to compensate for the funds lent and the cost of the transaction is the repo rate .In other words, the inflow of cash from the transaction can be used to meet temporary liquidity requirement in the short term money market at comparable cost.

2.4. Repo rate is nothing but the annualised interest rate for the funds transferred by the lender to the borrower. Generally, the rate at which it is possible to borrow through a repo is lower than the same offered on unsecured (or clean) interbank loan for the reason that it is a collateralised transaction and the credit worthiness of the issuer of the security is often higher than the seller. Other factors affecting the repo rate include, the credit worthiness of the borrower, liquidity of the collateral and comparable rates of other money market instruments.

2.5. A reverse repo is the mirror image of a repo. For, in a reverse repo, securities are acquired with a simultaneous commitment to resell . Hence whether a transaction is a repo or a reverse repo is determined only in terms of who initiated the first leg of the transaction. When the reverse repurchase transaction matures, the counterparty returns the security to the entity concerned and receives its cash along with a profit spread. One factor which encourages an organisation to enter into reverse repo is that it earns some extra income on its otherwise idle cash.

2.6. A repo is also sometimes called a ready forward transaction as it is a means of funding by selling a security held on a spot (ready) basis and repurchasing the same on a forward basis.

2.7. When an entity sells a security to another entity on repurchase agreement basis and simultaneously purchases some other security from the same entity on resell basis it is called a double ready forward transaction.

#### **PRICING**

2.8. In a repo transaction where there are two legs of transactions viz. selling of the security and repurchasing of the same, in the first leg of the transaction for a nearer date, sale price is usually based on the prevailing market price for outright deals. In the second leg, which is for a future date, the price will be structured based on the funds flow of interest and tax elements of funds exchanged. This is on account of two factors. First, as the ownership of securities passes on from seller to buyer for the repo period, legally the coupon interest accrued for the period has to be passed on to the buyer. Thus, at the sale leg, while the buyer of security is required to pay the accrued coupon interest for the broken period, at the repurchase leg, the initial seller is required to pay the accrued interest for the broken period to the initial buyer.

2.9. Transaction-wise, both the legs are booked as spot sale/purchase transactions. Thus, after adjusting for accrued coupon interest, sale and repurchase prices are fixed so as to yield the required repo rate. The excess of the coupon at the first leg of repo would represent the coupon interest for the repo period. Thus, the price adjustment depends directly upon the relationship between the net coupon and the repo amount worked out on the basis of the repo interest agreed upon the total funds transferred. When repo rate is higher than current yield repurchase price will be adjusted upward signifying a capital loss. If the repo rate is lower than the current yield, then the repurchase price will be adjusted downward signifying a capital gain.

2.10. If the repo rate and coupon are equal, then the repurchase price will be equal to the sale price of security since no price adjustment at the repurchase stage will be required. If the repo rate is greater than the coupon, then the repurchase price is adjusted upward (with reference to sale price) to the extent of the difference between the two. And, if the repo rate is lower than the coupon then, the repurchase price is adjusted downward (with reference to sale price). Specifically, in terms of repo rate, there will be no price adjustment when the current yield on security calculated on the basis of sale value ( including accrued coupon) is equivalent to repo rate.

## **ELIGIBLE INSTRUMENTS**

2.11. Different instruments can be considered as collateral security for undertaking the ready forward deals and they include Government dated securities, Treasury Bills, corporate bonds, money market securities and equity.

## **TYPES OF REPOS**

2.12. Broadly, there are four types of repos available in the international market when classified with regard to maturity of underlying securities, pricing, term of repo etc. They comprise buy-sell back repo, classic repo bond borrowing and lending and tripartite repos.

2.13. Under a buy-sell repo transaction the lender actually takes possession of the collateral . Here a security is sold outright and bought back simultaneously for settlement on a later date. In a buy-sell repo the ownership is passed on to the buyer and hence he retains any coupon interest due on the bonds. The forward price of the bond is set in advance at a level which is different from the spot clean price by actually adjusting the difference between repo interest and coupon earned on the security. The spot buyer/borrower of securities in effect earns the yield on the underlying security plus or minus the difference between this and the repo interest rate.

2.14. Classic repo is an initial sale of securities with a simultaneous agreement to repurchase them at a later date. In the case of this type of repo the start and end prices of the securities are the same and a separate payment of "interest" is made. Classic repo makes it explicit that the securities are only collateral for the loan of the cash. Here the coupon income will be accrued to the seller of the security.

2.15. Under a hold in custody repo the counterparties enter into an agreement whereby the securities sold are held in custody by the seller for the buyer until maturity of the repo thus eliminating the settlement requirements.

2.16. In a bond lending/borrowing transaction, the customer lends bonds for an open ended or fixed period in return for a fee. The fee charged would depend on the type of underlying instrument, size and term of the loan and the credit rating of the counterparty. The transaction would be taken care of by an agreement on securities lending and cash or other securities of equal value could be provided as collateral in the transaction.

2.17 Under a Tripartite repo a common custodian /clearing agency arranges for custody, clearing and settlement of repos transactions. They operate under a standard global master purchase agreement and provides for DVP system, substitution of securities, automatic marking to market, reporting and daily administration by single agency which takes care of the risk on itself and automatic roll overs while does not insist on disclosing the identities by counterparties. The system starts with signing of agreements by all parties and the agreements include Global Master Repurchase and Tripartite Repo Service Agreements. This type of arrangement minimises credit risk and can be utilised when dealing with clients with low credit rating.

## **REPO PERIOD**

2.18. Repo period could be overnight term, open or flexible. Overnight repos lasts only one day. If the period is fixed and agreed in advance, it is a term repo where either party may call for the repo to be terminated at any time although requiring one or two days' notice. Though there is no restriction on the maximum period for which repos can be undertaken generally term repos are for an average period of one week. In an open repo there is no such fixed maturity period and the interest rate would change from day to day depending on the money market conditions. In such cases the lender agrees to provide money for an indefinite period and the agreement can be terminated on any day. Under flexible repos the lender places funds, but they are withdrawn by the borrower as per his requirements over an agreed period.

## **RISKS**

2.19. As far as risks are concerned although repos are collateralised transactions they are still exposed to counterparty risk and the issuer risk associated with the collateral. As far as the counterparty risk is concerned, the investor should be able to liquidate the securities received as collateral, thus largely offsetting any loss. Against this the seller /lender of bonds will hold cash or other securities as protection against nonreturn of the lent securities. In both the cases it is to be ensured that the realisable value equals or exceeds the exposure. There is also the concentration risk resulting from illiquid issues which are used as collateral in the transaction.

2.20. Again, even where global agreements are signed full transfer of ownership as per contractual protections could be enforced only where a clean legal opinion is available in respect of jurisdiction concerned. In otherwords, repos are also prone to legal risks if care is

not taken.

## **ACCOUNTING**

2.21. Generally, norms are laid down for accounting of repos and valuation of collateral are concerned. While there are standard accounting norms, generally the securities used as collateral in repo transactions are valued at current market price plus accrued interest (on coupon bearing securities ) calculated to the maturity date of the agreement less "margin" or "haircut". The hair cut is to take care of market risk and it protects either the borrower or lender depending upon how the transaction is priced. The size of the haircut will depend on the repo period, riskiness of the securities involved and the coupon rate of the underlying securities.

2.22. Since fluctuations in market prices of securities would be a concern for both the lender as well as the borrower it is a common practice to reflect the changes in market price by resorting to marking to market. Thus, if the market value of the repo securities decline beyond a point the borrower may be asked to provide additional collateral to cover the loan. On the other hand, if the market value of collateral rises substantially, the lender may be required to return the excess collateral to the borrower.

## **DOCUMENTATION**

2.23. Legal title to the collateral security which is used in repo transaction, passes to the buyer during the repo period. As a result in case the seller defaults the buyer does not require to establish right on the collateral security.

2.24. Many legal regimes across the world do not require repo agreements to be documented. In fact, the legal infrastructure varies with the social, economic and political conditions of the societies in which they operate. Both legs of the repo are transacted under the written formal agreement in the West and European countries. While in the USA it is the PSA Agreement which is in vogue, in Europe the PSA/ISMA General Master Repo Agreement is increasingly used in the case of domestic repos. The PSA/ISMA Global Master Repurchase Agreement with the relevant buy/sell back annex contains a full set of contractual rights and obligations including rights of repricing and clearly defined events of default. The contract allows obligations under all outstanding trades to be set off against each other upon the default or insolvency of the counterparty. On the other hand, when a repo is undertaken as a securities lending transaction, similar protections could be had under the Overseas Securities Lending Agreement (OSLA) developed by the International Stock Lenders Association.

2.25. The master agreements set out the relationships between parties and general positions applicable to all repos in terms of definition, delivery and payment obligations of the parties, margin mechanics, rights of substitution, treatment of income on securities involved, notice provisions etc. The matters to be covered in the agreement, in detail should include provisions for the absolute transfer of title to securities, marking to market of transactions, appropriate initial margin and the maintenance of margin whenever the mark to market reveals a material change of value. Also, there is need to specify clearly the events of default and the consequential rights and obligation of the counterparties. Further, the agreements will elaborate on details on full set off of claims in the event of default between the counterparties and clarification of rights of the parties regarding substitution of collateral and the treatment of coupon and interest payments in respect of securities subject to it, including for example

the timing of any payment.

## **DEALING AND SETTLEMENT**

2.26. A suitable dealing and settlement system is an integral part of a repo market. There are a number of alternative approaches followed by countries ranging from the development of an inhouse solution through to the purchase of an existing solution. The key features of the system incorporated are always the delivery versus payment mechanism, confirmation and matching of trades with automated settlement, an extensive registry/sub registry system with full reporting capabilities on holders, turnover, closing of books and record dates, securities reconciliation etc.

## **USES**

2.27. There are a variety of advantages repos can provide to the financial market in general, and debt market, in particular as under:

- An active repo market would lead to an increase in turnover in the money market, thereby improving liquidity and depth of the market;
- Repos would increase the volumes in the debt market as it is a tool for funding transactions. It enables dealers to deal in higher volumes. Thus, repos provide an inexpensive and most efficient way of improving liquidity in the secondary markets for underlying instruments. Debt market also gets a boost as repos help traders to take a position and go short or long on security. For instance, in a bullish scenario one can acquire securities and in a bearish environment dispose them of thus managing cash flows taking advantage of flexibility of repos.
- For institutions and corporate entities repos provide a source of inexpensive finance and offers investment opportunities of borrowed money at market rates thus earning a good spread;
- Tripartite repos will offer opportunities for suitable financial institutions to intermediate between the lender and the borrower.
- A large number of repo transactions for varying tenors will effectively result in a term interest rate structure, especially in the interbank market. It is well known that absence of term money market is one of the major hindrances to the growth of debt markets and the development of hedging instruments.
- Central banks can use repo as an integral part of their open market operations with the objective of injecting/withdrawing liquidity into and from the market and also to reduce volatility in short term in particular in call money rates. Bank reserves and call rates are used in such instances as the operating instruments with a view to ultimately easing /tightening the monetary conditions.

2.28. The foregoing discussion on the concept, mechanism of repose provides some insight into the operational technicalities and intricacies involved in repo transactions apart from the type of instruments eligible for undertaking repos apart from its legal validity, risks involved and uses.