Theory and Practice of Forex and Treasury Management
Module III
Theory and Practice of Forex and Treasury Management

(Module III)

Committee on Financial Markets and Investors Protection (CFMIP)
The Institute of Chartered Accountants of India
(Set up by an Act of Parliament)
New Delhi
## Contents

1. Gist of Important FEDAI Rules 1
2. A Few repeated terms in FX markets 9
3. The Difference between a Forward Contract and a Futures Contracts 10
4. Foreign Exchange Problems for Practice 11
5. An Overview of Financial Products 33
6. Treasury Problems for Practice 34
7. Fixed Income Securities Salient Points 38
8. Treasury Operations 40
9. Important Areas for Verification per as RBI Guidelines on Treasury Operations 42
10. List of Statements, Registers, Advices, Covering Letters, Messages, which are generated by the computer and printed daily, weekly, fortnightly & monthly. 43
11. Features of the Investment Policy 46
12. Risk Indicators 48
13. Possible Risks Facing a Bank 50
14. Market Terminology 52
15. Objective type Questions 57
   Derivatives – Forward Contracts 57
   Treasury Management 69
16. Forex – Terminology 74
17. Treasury – Terminology 98
19. Frequently Used Abbreviations 117
Rule 1: Hours of Business

1.1 The exchange trading hours for Inter-bank forex market in India would be from 9.00 a.m. to 5.00 p.m. No customer transaction should be undertaken by the Authorised Dealers after 4.30 p.m. on any working day.

1.2 Cut-off time limit of 05.00 p.m. is not applicable for cross-currency transactions. In terms of paragraph 7.1 of Internal Control Guidelines over Foreign Exchange Business of Reserve Bank of India (February 2011), Authorised Dealers are permitted to undertake cross-currency transactions during extended hours, provided the Managements lay down the extended dealing hours.

1.3 For the purpose of Foreign Exchange business, Saturday will not be treated as a working day.

1.4 “Known holiday” is one which is known at least 4 working days before the date. A holiday that is not a “known holiday” is defined as a “suddenly declared holiday”.

Rule 2: Export Transactions

2.1 Post-shipment Credit in Rupees

(a) Application of exchange rate: Foreign Currency bills will be purchased/discounted/negotiated at the Authorised Dealer’s current bill buying rate or contracted rate. Interest for the normal transit period and/or usance period shall be recovered upfront simultaneously.

(b) Crystallization and Recovery:

(i) Authorized Dealers should formulate own policy for crystallization of foreign currency liability into rupee liability, in case of non-payment of bills on the due date.

(ii) The policy in this regard should be transparently available to the customers.

(iii) For crystallization into Rupee liability, the Authorised Dealer shall apply its TT selling rate of exchange. The amount recoverable, thereafter, shall be the crystallized Rupee amount along with interest and charges, if any.
Module-III : Theory and Practice of Forex and Treasury Management

(iv) Interest shall be recovered on the date of crystallization for the overdue period at the appropriate rate; and thereafter till the date of recovery of the crystallized amount.

(v) Export bills payable in countries with externalization issues shall also be crystallized as per the policy of the authorised dealer, notwithstanding receipt of advice of payment in local currency.

(c) Realization of Bills after crystallization: After receipt of advice of realization, the authorised dealer will apply TT buying rate or contracted rate (if any) to convert foreign currency proceeds.

(d) Dishonor of bills: In case of dishonor of a bill before crystallization, the bank shall recover:

(i) Rupee equivalent amount of the bill and foreign currency charges at TT selling rate.

(ii) Appropriate interest and rupee denominated charges.

2.2. Application of Interest

(a) Rate of interest applicable to all export transactions shall be as per the guidelines of Reserve Bank of India from time to time.

(b) Overdue interest shall be recovered from the customer, if payment is not received within normal transit period in case of demand bills and on/or before notional due date/actual due date in case of usance bills, as per RBI directive.

(c) Early Realization: In case of early realization, interest for the unexpired period shall be refunded to the customer. The bank shall also pay or recover notional swap cost as in the case of early delivery under a forward contract.

2.3. Normal Transit Period:

Concepts of normal transit period and notional due date are linked to concessional interest rate on export bills. Normal transit period comprises the average period normally reckoned from the date of negotiation/purchase/discount till the receipt of bill proceeds.

It is not to be confused with the time taken for the arrival of the goods at the destination.

Normal transit period for different categories of export business are laid down as below:

(a) Fixed Due Date: In the case of export usance bills, where due dates are fixed, or are reckoned from date of shipment or date of bill of exchange etc, the actual due date is known. Therefore, in such cases, normal transit period is not applicable.

(b) Bills in Foreign Currencies – 25 days

(c) Exports to Iraq under United Nations Guidelines – Max. 120 days
Gist of Important FEDAI Rules

(d) Bills drawn in Rupees under Letters of Credit (L/C)
   (i) Reimbursement provided at centre of negotiation - 3 days
   (ii) Reimbursement provided in India at centre different from centre of negotiation - 7 days
   (iii) Reimbursement provided by banks outside India - 20 days
   (iv) Exports to Russia under L/C where reimbursement is provided by RBI - 20 days.

(e) Bills in Rupees not under Letter of Credit - 20 days

(f) TT reimbursement under Letters of Credit (L/C)
   (i) Where L/C provides for reimbursement by electronic means - 5 days
   (ii) Where L/C provides reimbursement claim after certain number of days from the date of negotiation - 5 days + this additional period.

2.4. Substitution/Change in Tenor:

(a) In case of change in the usance of a bill, interest on post-shipment credit shall be charged to the customer, as per RBI guidelines. In addition, the bank shall charge or pay notional swap difference. Interest on outlay of funds for such swaps shall also be recovered from the customer at rate not below base rate of the bank concerned.

(b) It is optional for banks to accept delivery of bills under a contract made for purchase of a clean TT. In such cases, the bank shall recover/pay notional swap difference for the relative cover. Interest at the rate not below base rate of the bank would be charged on the outlay of funds.

2.5. Export Bills sent for collection:

(a) Application of exchange rates: The conversion of foreign currency proceeds of export bills sent for collection or of goods sent on consignment basis shall be done at prevailing TT buying rate or the forward contract rate, as the case may be. The conversion to Rupee equivalent shall be made only after the foreign currency amount is credited to the nostro account of the bank.

(b) On receipt of credit advice/statement of nostro account and compliances of guidelines, requirements of the Bank and FEMA, the Bank shall transfer funds for the credit of exporter’s account within two working days.

(c) If the above stipulated time limit is not observed, the Bank shall pay compensation for the delayed period at the minimum interest rate charged on export credit. Compensation for adverse movement of exchange rate, if any, shall also be paid as per the compensation policy of the bank.
Module-III: Theory and Practice of Forex and Treasury Management

Rule 3: Import Transactions

3.1 Application of exchange rate:
(a) Retirement of import bills - Exchange rate as per forward sale contract, if forward contract is in place. Prevailing Bills selling rate, in case there is no forward contract.
(b) Crystallization of Import - same as above bill (vide para 3.3 below)
(c) For determination of stamp - As per exchange rate provided by the duty on import bills authority concerned.

3.2 Application of Interest:
(a) Bills negotiated under import letters of credit shall carry commercial rate of interest as applicable to banks’ domestic advances from time to time.
(b) Interest remittable on interest bearing bills shall be subject to the directive of Reserve Bank of India in this regard.

3.3 Crystallization of Import Bill under Letters of Credit.
Unpaid foreign currency import bills drawn under letters of credit shall be crystallized as per the stated policy of the bank in this respect.

Rule 4 Clean Instruments:

4.1 Outward Remittance: Outward remittance shall be effected at TT selling rate of the bank ruling on that date or at the forward contract rate.

4.2 Encashment of foreign currency notes and instruments, Foreign currency travelers’ cheques, currency notes, foreign currency in prepaid card, debit/credit card will be encashed at Authorised Dealer’s option at the appropriate buying rate ruling on the date of encashment.

4.3 Payment of foreign inward remittance, Foreign currency remittance up to an equivalent of USD 10,000/- shall be immediately converted into Indian Rupees. Remittance in excess of equivalent of USD 10,000 shall be executed in foreign currency. The beneficiary has the option of presenting the related instrument for payment to the executing bank within the period prescribed under FEMA.

4.4 The applicable exchange rate for conversion of the foreign currency inward remittance shall be TT buying rate or the contracted rate as the case may be.

4.5 Compensation for delayed payment: Authorised Dealers shall pay or send intimation, as the case may be, to the beneficiary in two working days from the date of receipt of credit advice / nostro statement. In case of delay, the bank shall pay the beneficiary interest @ 2 % over its savings bank interest rate. The bank shall also pay compensation for adverse movement of exchange rate, if any, as per its compensation policy.
Rule 5 Foreign Exchange Contracts:

5.1. **Contract amounts:** Exchange contracts shall be for definite amounts and periods. When a bill contract mentions more than one rate for bills of different deliveries, the contract must state the amount and delivery against each such rate.

5.2. **Option period of delivery:** Unless the date of delivery is fixed and indicated in the contract, the option period may be specified at the discretion of the customer subject to the condition that such option period of delivery shall not extend beyond one month. If the fixed date of delivery or the last date of delivery option is a known holiday, the last date for delivery shall be the preceding working day. In case of suddenly declared holidays, the contract shall be deliverable on the next working day. Contracts permitting option of delivery must state the first and last dates of delivery. For Example: 18th January to 17th February, 31st January to 29th Feb. 2012. “Ready” or “Cash” merchant contract shall be deliverable on the same day. “Value next day” contract shall be deliverable on the working day immediately succeeding the contract date. A spot contract shall be deliverable on second succeeding working day following the contract date. A forward contract is a contract deliverable at a future date, duration of the contract being computed from spot value date at the time of transaction”.

5.3. **Place of delivery:** All contracts shall be understood to read “to be delivered or paid for at the Bank” and “at the named place”.

5.4. **Date of delivery:** Date of delivery under forward contracts shall be:

(i) In case of bills/documents negotiated, purchased or discounted - the date of negotiation/purchase/ discount and payment of Rupees to the customer. However, in case the documents are submitted earlier than, or later than the original delivery date, or for a different usance, the bank may treat it as proper delivery, provided there is no change in the expected date of realization of foreign currency calculated at the time of booking of the contract. No early realization or late delivery charges shall be recovered in such cases.

(ii) In case of export bills/documents sent for collection - Date of payment of Rupees to the customer on realization of the bills.

(iii) In case of retirement/crystallization of import bills/documents - the date of retirement/ crystallization of liability, whichever is earlier?

5.5. **Option of delivery:** In all forward merchant contracts, the merchant, whether a buyer or a seller will have the option of delivery.

5.6. **Option of usance:** The merchant purchase contract should state the tenor of the bills/documents. Acceptance of delivery of bills/documents drawn for a different tenor will be at the discretion of the bank.
5.7. **Merchant quotations:** The exchange rate shall be quoted in direct terms i.e. so many Rupees and Paise for 1 unit or 100 units of foreign currency.

5.8. **Rounding off:** Rupee equivalent of the foreign currency Settlement of all merchant transactions shall be effected on the principle of rounding off the Rupee amounts to the nearest whole Rupee i.e. without paise.

**RULE 6 Early Delivery, Extension and Cancellation of Foreign Exchange Contracts**

6.1. **General**

(i) At the request of a customer, unless stated to the contrary in the provisions of FEMA, 1999, it is optional for a bank to: (a). Accept or give early delivery; or (b). Extend the contract.

(ii) It is the responsibility of a customer to effect delivery or request the bank for extension / cancellation as the case may be, on or before the maturity date of the contract.

6.2. **Early delivery:** If a bank accepts or gives early delivery, the bank shall recover/pay swap difference, if any.

6.3. **Extension:** Foreign exchange contracts where extension is sought by the customers shall be cancelled (at an appropriate selling or buying rate as on the date of cancellation) and rebooked simultaneously only at the current rate of exchange. The difference between the contracted rate, and the rate at which the contract is cancelled, shall be recovered from/paid to the customer at the time of extension. Such request for extension shall be made on or before the maturity date of the contract.

6.4. **Cancellation**

(i) In case of cancellation of a contract at the request of a customer, (the request shall be made on or before the maturity date) the Authorised Dealer shall recover/ pay, as the case may be, the difference between the contracted rate and the rate at which the cancellation is effected. The recovery/payment of exchange difference on cancellation of forward contracts before the maturity date may be either upfront or back-ended at the discretion of banks.

(ii) Rate at which cancellation is to be effected:

(a) Purchase contracts shall be cancelled at T.T. selling rate of the contracting Authorised Dealer

(b) Sale contracts shall be cancelled at T.T. buying rate of the contracting Authorised Dealer
Gist of Important FEDAI Rules

(c) Where the contract is cancelled before maturity, the appropriate forward T.T. rate shall be applied.

(iii) Notwithstanding the fact that the exchange contract between the customer and the bank becomes impossible of performance, for whatever reason, including Government prohibitory orders, the exchange contract shall not be deemed to have become void and the customer shall forthwith apply to the Authorised Dealer for cancellation, as per the provisions of paragraph 6.4.(i) and (ii) above.

(iv)

(a) In the absence of any instructions from the customer, vide para 6.1(ii), a contract which has matured shall be cancelled by the bank on the 7th working day after the maturity date.

(b) Swap cost, if any, shall be recovered from the customer under advice to him.

© When a contract is cancelled after the maturity date, the customer shall not be entitled to the exchange difference, if any, in his favour, since the contract is cancelled on account of his default. He shall, however, be liable to pay the exchange difference against him.

6.5. Swap cost/gain:

(i) In all cases of early delivery of a contract, swap cost shall be recovered from the customer, irrespective of whether an actual swap is made or not. Such recoveries should be made either back-ended or upfront at discretion of the bank.

(ii) Payment of swap gain to a customer shall be made at the end of the swap period.

6.6. Outlay and Inflow of funds:

Authorised Dealer shall recover interest on outlay of funds for the purpose of arranging the swap, in addition to the swap cost in case of early delivery of a contract.

If such a swap leads to inflow of funds, interest shall be paid to the customer. Funds outlay / inflow shall be arrived at by taking the difference between the original contract rate and the rate at which the swap could be arranged. The rate of interest to be recovered / paid should be determined by banks as per their policy in this regard.
A Few Repeated Terms in FX Markets

A Few repeated terms in FX markets are furnished below:

- Exchange Rate refers to the price of one currency against another currency.
- Spot transaction refers to the transaction wherein the settlement takes place two working days after the date of transaction. This is the standard basis on which majority of FX transactions are concluded.
- Where the transaction and the settlement take place on the same day of the date of the transaction itself, then such transaction is said to have taken place on Cash or Today value basis.
- TOM transaction refers to the transaction wherein the settlement takes place one working day after the date of the transaction. The term TOM stands for Value Tomorrow.
- Any transaction in respect of which the settlement takes place beyond the spot date is a Forward transaction.
- An outright transaction is one in which a particular currency is bought against another currency that is being sold for a given value date at a mutually agreed exchange rate.
- Swap transaction refers to purchase and sale of a given pair of currencies against each other for different maturity / value dates. In effect, it is a combination of two outright deals of varying maturity dates.
- Cross rate is the process of arriving at a value of a given currency through the medium of two different pairs of currencies in which there is a common currency in both the pairs.
- For instance, in order to arrive at EUR / INR price, market uses EUR / USD price and USD / INR Price.
- Direct Quotations refer to the quoting of a price wherein a given unit of Foreign Currency is kept constant and the home currency is expressed as a variable. Direct quotations are regarded as easy to understand, user-friendly and more transparent.
- Indirect quotations refer to the quoting of a price wherein the home currency is kept constant for a given unit and the foreign currency is expressed as variable.
A Few repeated terms in FX markets

- Since FX is akin to a commodity, there would be invariably a price differential between the buying and selling price which is called the bid / offer spread.
- When the forward price of a currency is higher than the spot price of the currency, the currency is said to be at a premium.
- When the forward price of a currency is lower than the spot price of that currency, the currency is said to be at a discount.
- Proprietary trading refers to the trading in FX markets on the Bank’s own account.
- Merchant trading refers to the entering of a particular transaction in the books of the Bank on behalf of a client. The Banks normally undertake immediate cover operations in respect of such deals so that they are insulated from any risks arising out of adverse exchange rate movements against the quotes already offered to the client.
The Difference between a Forward Contract and a Futures Contracts

The Difference between a Forward Contract and a Futures Contract can be summarized as follows:

A Futures Contract is an agreement to Buy or Sell a Standard Quantity and Quality of a given underlying.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Forwards</th>
<th>Futures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Essentially, OTC contracts involve only the buyer and the seller.</td>
<td>A contract is traded through an exchange. Buyer, Seller and Exchange are involved.</td>
</tr>
<tr>
<td>2.</td>
<td>Both the parties have to perform the contract.</td>
<td>The Contract need not necessarily culminate in the delivery of underlying.</td>
</tr>
<tr>
<td>3.</td>
<td>There is no payment of any initial margins.</td>
<td>To Trade in futures contract, one has to become a member of the exchange by paying the initial margin, and maintain a variable margin account too with the Futures Exchange.</td>
</tr>
<tr>
<td>4.</td>
<td>The maturity and size of the contract may be customized.</td>
<td>The maturity and Size of contracts are standardized.</td>
</tr>
<tr>
<td>5.</td>
<td>Settlement takes place only on the date of maturity.</td>
<td>Settlement is done on a daily basis, on all the outstanding contracts (Marking to Market on a daily basis).</td>
</tr>
<tr>
<td>6.</td>
<td>Credit or Counter Party Risk is High.</td>
<td>The Futures Exchange takes care of Credit or counterparty risk.</td>
</tr>
<tr>
<td>7.</td>
<td>Markets for forward contracts are not very liquid.</td>
<td>Futures contracts are highly liquid and can be closed out easily.</td>
</tr>
<tr>
<td>8.</td>
<td>Physical delivery takes place on the maturity date.</td>
<td>Hardly 2% of the total contracts are delivered and takes delivery of.</td>
</tr>
</tbody>
</table>
PROBLEM 1

On 26th August, M/s ABC Exporter tenders for purchase a Bill payable 60 Days from Sight and Drawn on New York for USD 25,650. The Dollar / Rupee rates in the interbank exchange market were as under:

- Spot USD 1 = ₹ 48.6525 / 6850
- Spot / September = 1500/1400
- Spot / October = 2800/2700
- Spot / November = 4200/4100
- Spot / December = 5600/5500

Exchange Margin of 0.10% is to be loaded.
Rate of Interest is 10% p.a.
Out-of-pocket expenses ₹ 500 to be recovered.

What will be the Exchange Rate to be quoted to the customer and Rupee Amount payable to him?

SOLUTION:

The notional due date is (60 + 25) days from 26th August, i.e., 19th November. (Note that transit period of 25 days is to be taken even if the question is silent). Since the dollar is at discount (forward margin is in descending order), this period will be rounded off to higher month, i.e., end November, and the rate quoted will be based on Spot / November rate for US dollar in the interbank market.

\[
\begin{align*}
\text{Dollar / Rupee market spot buying rate} & = ₹ 48.65250 \\
\text{Less: Discount for Spot / November} & = ₹ 0.42000 \\
\hline
& = ₹ 48.23250 \\
\text{Less: Exchange margin at 0.10% on ₹ 48.2325} & = ₹ 0.04823 \\
\hline
& = ₹ 48.18427
\end{align*}
\]
Rounded off to the nearest multiple of 0.0025, the rate quoted would be ₹ 48.1850 per dollar.

Rupee amount payable on the bill for USD 25,650

At ₹ 48.1850 per dollar = ₹ 12,35,935
Less: Interest for 85 days at 10% on ₹ 12,35,945 - ₹ 28,782
Out-of-pocket expenses ₹ 500 - ₹ 500

₹ 12,06,663

PROBLEM 2

From the following information you are required to calculate

(a) Ready Bill Buying Rate
(b) 2 Months Forward Buying Rate for Demand Bill
(c) Ready Rate for 60 Days Usance Bill and
(d) 2 Months Forward Buying Rate for 60 Days Usance Bill

Interbank rate US Dollar

<table>
<thead>
<tr>
<th>Period</th>
<th>Rate (in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spot</td>
<td>48.6000/6075</td>
</tr>
<tr>
<td>1 Month</td>
<td>3500/3600</td>
</tr>
<tr>
<td>2 Months</td>
<td>5500/5600</td>
</tr>
<tr>
<td>3 Months</td>
<td>8500/8600</td>
</tr>
<tr>
<td>4 Months</td>
<td>1.1500/1.1600</td>
</tr>
<tr>
<td>5 Months</td>
<td>1.3500/1.3600</td>
</tr>
<tr>
<td>6 Months</td>
<td>1.5500/1.6600</td>
</tr>
</tbody>
</table>

Transit period is 25 Days. All forward Rates are for Fixed Delivery Exchange Margin is 0.10%.

SOLUTION:

(a) Ready Bill buying Rate

\[
\text{Dollar / Rupee market spot buying rate} = ₹ 48.60000 \\
\text{Less: Exchange margin at 0.10\%} \\
\text{On ₹ 48.6000} - ₹ 0.04860 \\
\text{= ₹ 48.55140}
\]
Rounded off to nearest multiple of 0.0025, the rate quoted for ready bill buying is ₹ 48.5525.

(b) 2 Months Forward Buying Rate

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dollar / Rupee (market) spot buying rate</td>
<td>₹ 48.60000</td>
</tr>
<tr>
<td>Add: Forward premium for 2 months (Transit period 25 days and Forward period 2 months, Rounded off to lower month)</td>
<td>+ ₹ 0.55000</td>
</tr>
<tr>
<td></td>
<td>= ₹ 49.15000</td>
</tr>
<tr>
<td>Less: Exchange margin at 0.10% On ₹ 49.1500</td>
<td>- ₹ 0.04915</td>
</tr>
<tr>
<td></td>
<td>= ₹ 49.10085</td>
</tr>
</tbody>
</table>

Rounded off, the rate quoted for 2 months forward purchase of dollar bill is ₹ 49.1000.

(c) Ready Rate for 60 Days Usance Bill

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dollar / Rupee (market) spot buying rate</td>
<td>₹ 48.60000</td>
</tr>
<tr>
<td>Add: Forward premium for 2 months (Transit period 25 days And forward period 2 months, Rounded off to lower month)</td>
<td>+ ₹ 0.55000</td>
</tr>
<tr>
<td></td>
<td>= ₹ 49.15000</td>
</tr>
<tr>
<td>Less: Exchange margin at 0.10% on ₹ 49.1500</td>
<td>- ₹ 0.04915</td>
</tr>
<tr>
<td></td>
<td>= ₹ 49.10085</td>
</tr>
</tbody>
</table>

Rounded off, the rate quoted for ready purchase of 60 days' usance dollar bill is ₹ 49.1000.

(d) 2 Months forward rate for 60 days bill

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dollar / Rupee (market) spot buying rate</td>
<td>₹ 48.60000</td>
</tr>
<tr>
<td>Add: Forward premium for 4 months (Transit period 25 days and</td>
<td></td>
</tr>
</tbody>
</table>
Module-III : Theory and Practice of Forex and Treasury Management

Forward period 2 months, rounded
Off to lower month) + ₹ 1.15000

= ₹ 49.75000

Less: Exchange margin at 0.10%
On ₹ 49.7500 - ₹ 0.04975

= ₹ 49.700025

Rounded off, the rate quoted for 2 months' forward purchase of 60 days' usance dollar bill is ₹ 49.700.

Note: Compare (b), (c) and (d) to understand clearly the difference between ready and forward rates.

PROBLEM 3

M/s ABC Export Customer requests the Bank on 15th July to book a Foreign Exchange Contract Delivery September covering 30 Days' Sight Bill on New York under an irrevocable Letter of Credit for USD 65,000.

Assuming US Dollars are quoted in the Local Interbank market as under:

Spot USD 1 = ₹ 49.5675 / 5750
Spot / July 800/900
Spot / August 1700/1800
Spot / September 2250/2325
Spot / October 3200/3300
Spot / November 4100/4200
Spot / December 5150/5250

What rates will the Bank quote to its customer bearing in mind the following factors?

Exchange Margin: 0.10%,
Transit Period? 25 Days?

SOLUTION:

Dollar is at premium. The rule is to take the earliest delivery. The option to the customer is over September. Taking earliest delivery, the date of delivery will be taken as 1st September. The usance of the bill will be 30 days and transit period of 25 days will work out to 24th
Foreign Exchange Problems for Practice

October as the probable date of the bank acquiring foreign exchange. This will be rounded off to the lower month, and the rate to the customer will be based on Spot / September buying rate in the interbank market.

Dollar / Rupee spot interbank buying rate =  \₹ 49.56750
Add: Premium for September +  \₹ 0.22500
____________________
=  \₹ 49.79250
Less: Exchange margin at 0.10% on  \₹ 49.7925  –  \₹ 0.04979
____________________
=  \₹ 49.74271
Rounded off, the rate quoted to the customer would be  \₹ 49.7425

PROBLEM 4

Your Import Customer of M/s XYZ has requested you to book a forward exchange contract for Swedish Kroners 35,000 for Fixed Delivery 6th Month.

Assuming Swedish Kroners are quoted in Singapore Foreign Exchange Market against US Dollars as under:

<table>
<thead>
<tr>
<th></th>
<th>USD 1 = SEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spot</td>
<td>6.0700 / 0750</td>
</tr>
<tr>
<td>3 Months Forward</td>
<td>950/1050</td>
</tr>
<tr>
<td>6 Months Forward</td>
<td>2300/2500</td>
</tr>
</tbody>
</table>

And the US Dollars are quoted in the Local Interbank Exchange Market as under:

<table>
<thead>
<tr>
<th></th>
<th>USD 1 =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spot</td>
<td>48.7000 / 8500</td>
</tr>
<tr>
<td>3 Months Forward</td>
<td>1.8000/1.6000</td>
</tr>
<tr>
<td>6 Months Forward</td>
<td>3.7000/3.5000</td>
</tr>
</tbody>
</table>

What Rate will you quote to your customer bearing in mind that your exchange margin is 0.15% for TT Selling and 0.20% for Bill Selling?

SOLUTION

Dollar / Rupee spot selling rate =  \₹ 48.8500
Less: Discount for 6 months –  \₹ 3.5000
____________________
=  \₹ 45.3500
Add:
Module-III : Theory and Practice of Forex and Treasury Management

Exchange margin at 0.15% for TT selling on ₹ 45.3500 + ₹ 0.0680

__________________________________________________________
= ₹ 45.4180

Add:
Exchange margin at 0.20% for Bill Selling on ₹ 45.4180 + ₹ 0.0908

__________________________________________________________
Forward bill selling rate for dollar = ₹ 45.5088

Dollar / Kroner spot buying rate= SEK 6.0700
Add: Premium for six months − SEK 0.2300

__________________________________________________________
= SEK 6.3000

Forward bills selling rate for Kroner (45.5008 / 6.300) = ₹ 7.2236
Rounded off, the rate quoted is ₹ 7.2225 per Kroner.

PROBLEM 05

M/s ABC Customer requests on 8th May to book a forward Contract to cover an Export Bill for Singapore Dollars 1,00,000 drawn on Singapore and payable 30 Days after sight with option to him over the month of July.

The following Rates prevail in the interbank market for US Dollars:

<table>
<thead>
<tr>
<th>Date</th>
<th>Spot 1 USD =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spot</td>
<td>₹ 49.4875/4925</td>
</tr>
<tr>
<td>Spot / May</td>
<td>1600/1700</td>
</tr>
<tr>
<td>June</td>
<td>3100/3200</td>
</tr>
<tr>
<td>July</td>
<td>4600/4700</td>
</tr>
<tr>
<td>August</td>
<td>6100/6200</td>
</tr>
<tr>
<td>September</td>
<td>7600/7700</td>
</tr>
<tr>
<td>October</td>
<td>9100/9200</td>
</tr>
</tbody>
</table>

At Singapore Market, Singapore Dollar is quoted at:

<table>
<thead>
<tr>
<th>Date</th>
<th>Spot 1 SGD =</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spot</td>
<td>SGD 1.4004/4078</td>
</tr>
<tr>
<td>1 Month Forward</td>
<td>70/75</td>
</tr>
<tr>
<td>.2 Months Forward</td>
<td>110/115</td>
</tr>
<tr>
<td>3 Months Forward</td>
<td>150/155</td>
</tr>
<tr>
<td>4 Months Forward</td>
<td>190/195</td>
</tr>
</tbody>
</table>
5 Months Forward 230/235
6 Months Forward 270/275

Transit period is 25 Days. Exchange Margin required is 0.10%. What Rate will you quote to your Customer?

**SOLUTION:**

US Dollar is at premium against rupee. Earliest delivery under the forward contract is on 1st July. Usance period of 30 days and transit period of 25 days, add up to 55 days making 25th August the due date of the bill. This will be rounded off to the lower month and the exchange rate to the customer will be based on Spot / July rate for US dollar in the interbank market.

\[
\text{US Dollar / Rupee spot buying rate} = \text{₹} \, 49.4875 \\
\text{Add: Premium for July} \quad + \text{₹} \, 0.4600
\]

\[
\text{Less:} \\
\text{Exchange margin at 0.10\% on ₹ 49.9475} \quad - \text{₹} \, 0.0499
\]

\[
\text{Forward buying rate for US Dollar} = \text{₹} \, 49.8976
\]

US dollar is at premium against Singapore dollar. Since selling rate is to be considered, taking latest delivery of 31st July, the bill is expected to realize on 20th September, which falls in the fifth month from 5th May. The forward rate to the customer will be calculated based on 5 months’ forward US dollar / Singapore dollar rate.

\[
\text{US Dollar / Singapore dollar spot selling rate} = \text{SGD} \, 1.4078 \\
\text{Add: Premium for 5 months} \quad + \text{SGD} \, 0.0235
\]

\[
= \text{SGD} \, 1.4313
\]

Forward buying rate for Sing. Dollar (49.8976 / 1.4313) = ₹ 34.8617

The rate quoted to the customer is ₹ **34.8625** per Singapore dollar.

**PROBLEM 6**

M/s Reddy & Company, Export customer has booked with you a Swiss Francs 1,00,000 forward Sale (i.e. your purchase) exchange contract delivery 31st August at ₹ 32.5200. However, on 30th August he informed you that it has not been possible to deliver the Swiss Francs as anticipated payment had not come from Zurich. You were therefore requested to extend the Contract for delivery to 30th September.
Module-III : Theory and Practice of Forex and Treasury Management

Assuming that Swiss Francs were quoted in Singapore market as under:

<table>
<thead>
<tr>
<th></th>
<th>Spot</th>
<th>One Month Forward</th>
<th>Two Months Forward</th>
<th>Three Months Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD 1 =</td>
<td>Sw. Fcs. 1.5315/5330</td>
<td>140/130</td>
<td>287/270</td>
<td>415/405</td>
</tr>
</tbody>
</table>

And US Dollars were quoted in the Local Interbank Market as under:

<table>
<thead>
<tr>
<th></th>
<th>Spot</th>
<th>One Month</th>
<th>Two Months</th>
<th>Three Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD 1 =</td>
<td>₹ 49.4225/4375</td>
<td>1200/1100</td>
<td>2700/2500</td>
<td>4500/4300</td>
</tr>
</tbody>
</table>

What will the extension Charges, if any, payable by the customer?

Exchange Margin 0.10% on buying as well as Selling.

**SOLUTION:**

First, the contract will be cancelled at the TT selling rate.

<table>
<thead>
<tr>
<th>Dollar / Rupee spot</th>
<th>= ₹ 49.4375</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add: Exchange margin at 0.010%</td>
<td>= ₹ 0.0494</td>
</tr>
<tr>
<td>______________________</td>
<td>------------</td>
</tr>
<tr>
<td>T.T. Selling rate for dollar</td>
<td>= ₹ 49.4869</td>
</tr>
<tr>
<td>______________________</td>
<td>------------</td>
</tr>
<tr>
<td>Dollar / Franc spot buying rate</td>
<td>= CHF 1.5315</td>
</tr>
<tr>
<td>Franc / Rupee Cross Rate (49.4869/1.5315)</td>
<td>= ₹ 32.3127</td>
</tr>
</tbody>
</table>

Rounded off, the rate is ₹ 32.3125.

| Bank buys Franc under original contract at | ₹ 32.5200 |
| It sells Franc under cancellation contract at | ₹ 32.3125 |
| ______________________ | ------------|
| Exchange difference per France payable by customer | ₹ 0.2075 |

Exchange difference for CHF 1,00,000 is ₹ 20,750 payable by customer as cancellation charges.

**Rebooking:**

Fresh purchase contract will be booked for delivery 30th September.

| Dollar / Rupee spot buying rate | = ₹ 49.4225 |
| Less: Discount for one month | = ₹ 0.1200 |
| ______________________ | ------------|
Foreign Exchange Problems for Practice

\[
= ₹ 49.3025 \\
- ₹ 0.0493 \\
= ₹ 49.2532 \\
\]

Dollar / Franc spot selling rate = ₹ 1.5330
Less: Discount for one month – ₹ 0.0130

\[
= ₹ 1.5200 \\
\]

Franc / Rupee Cross rate (₹ 49.2532 / 1.5200) = ₹ 32.4034
The rate quoted would be ₹ 32.4025
The forward contract would be extended at ₹ 32.4025 per Franc, after recovering cancellation charges of ₹ 20,750.

PROBLEM 7
M/s XYZ & Company, import customer booked a forward Contract with the bank on 10th April for USD 20,000 due 10th June at ₹ 49.4000. The bank covered its position in the market at ₹ 49.2800.

The exchange rates for dollar in the interbank market on 10th June and 20th June were:

<table>
<thead>
<tr>
<th></th>
<th>10th June</th>
<th>20th June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spot</td>
<td>USD 1 = ₹ 48.8000/8200</td>
<td>48.6800/7200</td>
</tr>
<tr>
<td>Spot / June</td>
<td>48.9200/9500</td>
<td>48.8000/8500</td>
</tr>
<tr>
<td>July</td>
<td>49.0500/0900</td>
<td>48.9300/9900</td>
</tr>
<tr>
<td>August</td>
<td>49.3000/3500</td>
<td>49.1800/2500</td>
</tr>
<tr>
<td>September</td>
<td>49.6000/6600</td>
<td>49.4800/5600</td>
</tr>
</tbody>
</table>

Exchange Margin 0.10%
Interest on outlay of funds 12%

How will the Bank react if the Customer requests on 20th June:
(i) To cancel the Contract
(ii) To Execute the Contract, or
(iii) To Extend the Contract with due date to fall on 10th August.

SOLUTION:
(a) Exchange Difference: The forward sale contracts will be cancelled at the spot TT purchase rate of the bank for dollar prevailing on the date of cancellation.

Dollar / Rupee market spot buying rate = ₹ 48,6800
Less: Exchange margin at 0.10% = ₹ 0.0487

₹ 48.6313

Rounded off, the rate applicable is ₹ 48.6325

Bank sells dollar under the original contract at ₹ 49.4000
It buys dollar under the cancellation contract at ₹ 48.6325

Exchange difference per dollar payable by customer ₹ 0.7675

Exchange difference for USD 20,000 is ₹ 15,300.

(b) Swap Loss: On 10th June, the bank does a swap of spot sale of dollar at the market buying rate of ₹ 48.8000 and forward purchase for June at the market selling rate of ₹ 48.9500.

Bank buys at ₹ 48.9500
It sells at ₹ 48.8000

$ 0.1500

(c) Interest on Outlay of Funds: On 10th April, the bank receives delivery under the cover contract at ₹ 49.2800 and sells spot at ₹ 48.8000.

Bank buys at ₹ 49.2800
It sells at ₹ 48.8000

Outlay per dollar ₹ 0.4800

Outlay for USD 20,000 is ₹ 9,600
Interest on ₹ 9,600 at 12% for 10 days is ₹ 32.

(d) Charges for Cancellation:

Exchange difference ₹ 15,300
Swap loss ₹ 3,000
Interest on outlay of funds ₹ 32

Total Charges ₹ 18,332
Foreign Exchange Problems for Practice

(e) **Execution of Contract:** Cancellation charges of ₹ 18,332 as computed above will be recovered. The contract will be executed at the spot TT selling rate calculated as follows:

\[
\begin{align*}
\text{Dollar / Rupee interbank spot selling rate} & = ₹ 48.7200 \\
\text{Add: Exchange margin at 0.10\%} & = ₹ 0.0487 \\
\hline & = ₹ 48.7687 \\
\end{align*}
\]

Rounding off, the rate applicable is ₹ 48.7675.

(f) **Extension of Contract:** Cancellation charges of ₹ 18,332 as computed above will be recovered.

The contract will be extended at the current rate.

\[
\begin{align*}
\text{Dollar / Rupee market forward selling rate for August} & = ₹ 49.2500 \\
\text{Add: Exchange margin at 0.10\%} & = ₹ 0.0492 \\
\hline & = ₹ 49.2992 \\
\end{align*}
\]

The exchange rate applicable for the extended contract is ₹ 49.3000.

**PROBLEM 8**

You, as a Foreign Exchange Dealer of your bank, are informed that your Bank has sold a T.T. on Copenhagen for Danish Kroner 10,00,000 at the Rate of Danish Kroner 1 = ₹ 6.5150. You are required to cover the transaction through London or New York, whichever course offers you a more profitable rate. The rates on that date are as under:

<table>
<thead>
<tr>
<th>Route</th>
<th>Selling Rate (DKK)</th>
<th>Buying Rate (INR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mumbai-London</td>
<td>11.4200</td>
<td>74.3000</td>
</tr>
<tr>
<td>Mumbai-New York</td>
<td>11.4350</td>
<td>49.2500</td>
</tr>
<tr>
<td>London-Copenhagen</td>
<td>7.5670</td>
<td>49.2500</td>
</tr>
<tr>
<td>New York-Copenhagen</td>
<td>7.5840</td>
<td>49.2625</td>
</tr>
</tbody>
</table>

Will you cover the transaction through London or New York and what will be the Exchange Profit on the transaction? Ignore brokerage at all Centres.

**SOLUTION:**

Amount realized on selling Danish Kroner 10,00,000 at ₹ 6.5150 per Kroner = ₹ 65,15,000.

**Cover at London:**

Bank buys Danish Kroner at London at the market selling rate. Pound sterling required for the purchase \((10,00,000 / 11.42000) = £87,565.67\).
Bank buys locally GBP 87,565.67 for the above purchase at the market selling rate of ₹74.3200. The rupee cost = ₹ 65,07,881.

Profit (₹ 65,15,000 – ₹ 65,07,881) = ₹ 7,119.

Cover at New York:

Bank buys Kroners at New York at the market selling rate. Dollars required for the purchase (10,00,000 / 7.5670) = USD 1,32,152.77.

Bank buys locally USD 1,32,152.77 for the above purchase at the market selling rate of ₹49.2625. The rupee cost = ₹ 65,10,176.

Profit (₹ 65,15,000 – ₹ 65,10,176) = ₹ 4,824.

The transaction would be covered through London which gets the maximum profit of ₹ 7,119.

PROBLEM 9

Your bank’s London Office has surplus funds to the extent of USD 5,00,000 for a period of 3 Months. The cost of the funds to the Bank is 4% p.a. It proposes to invest these funds in London, New York or Frankfurt and obtain the best Yield, without any exchange risk to the bank. The following rates of interest are available at the three centres for investment of domestic funds thereat for a period of 3 months:

<table>
<thead>
<tr>
<th>Centre</th>
<th>Rate of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>5% p.a.</td>
</tr>
<tr>
<td>New York</td>
<td>8% p.a.</td>
</tr>
<tr>
<td>Frankfurt</td>
<td>3% p.a.</td>
</tr>
</tbody>
</table>

The market rates in London for US Dollars and Euro are as under:

<table>
<thead>
<tr>
<th>Rate Date</th>
<th>Exchange Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>London on New York</td>
<td></td>
</tr>
<tr>
<td>Spot</td>
<td>1.5350/90</td>
</tr>
<tr>
<td>1 Month</td>
<td>15/18</td>
</tr>
<tr>
<td>2 Months</td>
<td>30/35</td>
</tr>
<tr>
<td>3 Months</td>
<td>80/85</td>
</tr>
<tr>
<td>London on Frankfurt</td>
<td></td>
</tr>
<tr>
<td>Spot</td>
<td>1.8260/90</td>
</tr>
<tr>
<td>1 Month</td>
<td>60/55</td>
</tr>
<tr>
<td>2 Months</td>
<td>95/90</td>
</tr>
<tr>
<td>3 Months</td>
<td>145/140</td>
</tr>
</tbody>
</table>

At which Centre will the investment be made and what will be the net gain (to the nearest pound) to the bank on the funds?
SOLUTION:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Currency</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of funds at 4% p.a. for 3 months (on GBP 5,00,000)</td>
<td>GBP</td>
<td>5,000</td>
</tr>
<tr>
<td>Amount invested</td>
<td>GBP</td>
<td>5,00,000</td>
</tr>
<tr>
<td></td>
<td>GBP</td>
<td>5,05,000</td>
</tr>
</tbody>
</table>

(a) Investment in London
- Interest earned on GBP 5,00,000 at 5% p.a. for 3 months | GBP | 6,250 |
- Less: Cost of funds | GBP | 5,000 |
- Net Yield on investment | GBP | 1,250 |

(b) Investment in New York
- The bank buys US dollars at the spot rate and invests the funds in New York. It also enters into a three months forward contract selling this amount together with interest thereon.
- The bank buys US dollars for GBP 5,00,000 at the market selling rate of USD 1.5350.
- Amount realized in US Dollars | USD | 7,67,500 |
- Interest earned on USD 7,67,500 at 8% for 3 months | USD | 15,350 |
- Total amount available at the end of three months | USD | 7,82,850 |
- This amount the bank sells to the market at the market three months forward buying rate of USD 1.5475 (USD 1.5390 + 0.0085)
- Amount realized in pound sterling (7,82,850 / 1.5475) | GBP | 5,05,880 |
- Less: Amount to be repaid | GBP | 5,05,000 |
- Net Yield | GBP | 880 |

(c) Investment in Frankfurt
- The bank buys Euro for GBP 5,00,000 at the market spot selling rate of EUR 1.8260.
- Amount realized in Euro | EUR | 9,13,000 |
- Interest at 3% p.a. for 3 months on EUR 9,13,000 | EUR | 6,847 |
- Total Amount available at the end of 3 months | EUR | 9,19,847 |
- This amount the bank sells to the market at the market 3 months forward buying rate of EUR 1.8150 (1.8290 – 0.0140)
- Amount realized in pound sterling (9,19,847 / 1.8150) | GBP | 5,06,803 |
- Amount to be repaid | GBP | 5,05,000 |
- Net Yield | GBP | 1,803 |

Investment will be made in Frankfurt where highest net yield of **GBP 1,803** is obtained.
Module-III : Theory and Practice of Forex and Treasury Management

PROBLEM 10

You are a dealer for your bank and find that when you open your books on the 20th November, your combined position in US Dollars is overbought USD 70,000 while your dollar account in New York, as at 19th November is overdrawn USD 1,30,000. During the day, you receive advices from your branches in respect of the following transactions undertaken by them:

- Documentary DDs purchased on 19th November USD 25,000
- TTs issued on 20th November (of which USD 20,000 is a Delivery under a forward contract booked on 1st Sept.) USD 50,000
- TT dated 15th November from New York paid on 19th November USD 10,000

**Forward Contracts booked on 19th November**

- Bills selling for delivery – 6 months (Import Bills under LC) USD 37,000
- TT Purchase – Delivery 1 month USD 12,000
- Purchase of 30 days sight bill – Delivery 3 month USD 10,000

**Forward Contracts Cancelled on 20th November**

- TT purchase due on that day USD 15,000

In addition you have to effect deliveries under the following

**Interbank contracts due on 20th November**

- TT Sale USD 50,000
- TT Purchase USD 20,000

(a) What would be your combined dollar position after talking the above transactions into account? And,

(b) What steps would you take to square your position while, at the same time, ensuring that your dollar account in New York is kept in sufficient funds to meet your immediate cash commitments and leave a credit balance of USD 10,000? (It is not, otherwise, necessary to match your cover purchase / sales with the actual delivery period of any of the transactions give above).
SOLUTION:

(A) Exchange Position (combined dollar position)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Purchases(USD)</th>
<th>Sales (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance b/d (Overbought)</td>
<td>70,000</td>
<td></td>
</tr>
<tr>
<td>Documentary DDs purchased</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>TTs issued (excluding USD 20,000 under forward contract)</td>
<td></td>
<td>30,000</td>
</tr>
<tr>
<td>TT paid</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Forward sale-delivery 6 months</td>
<td></td>
<td>37,000</td>
</tr>
<tr>
<td>Forward Purchase-delivery 1 month</td>
<td>12,000</td>
<td></td>
</tr>
<tr>
<td>Forward Purchase-delivery 3 months</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Forward Purchases contract cancelled</td>
<td></td>
<td>15,000</td>
</tr>
<tr>
<td></td>
<td>1,27,000</td>
<td>82,000</td>
</tr>
<tr>
<td>Balance c/d (Overbought)</td>
<td></td>
<td>45,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,27,000</td>
</tr>
</tbody>
</table>

(B) Cash Position

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Cr. USD</th>
<th>Dr. USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance b/d (Overdrawn)</td>
<td>1,30,000</td>
<td></td>
</tr>
<tr>
<td>TT Issued</td>
<td></td>
<td>50,000</td>
</tr>
<tr>
<td>TT Sale</td>
<td></td>
<td>50,000</td>
</tr>
<tr>
<td>TT Purchase</td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20,000</td>
<td>2,30,000</td>
</tr>
<tr>
<td>Balance c/d (Overdrawn)</td>
<td>2,10,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,30,000</td>
<td></td>
</tr>
</tbody>
</table>

Thus, to meet the immediate requirements at New York and leave a balance of USD 10,000 the bank will buy TT on New York for USD 2,20,000. This will increase the already overbought position of USD 45,000 to USD 2,65,000. This amount will be sold forward by the bank to square its position.
PROBLEM 11

For a futures contract in Canadian dollar, the initial margin and maintenance margin prescribed by the Exchange are USD 4,000 and USD 3,000 respectively. A Contract is concluded at a price of USD 0.75. The settlement prices in the exchange at the end of four subsequent days are as follows:

Day 1 USD 0.745  
Day 2 USD 0.730  
Day 3 USD 0.740  
Day 4 USD 0.755

At the end of each day, the margin accounts of both the buyer and the seller will be adjusted based on the settlement price for the day. Where the margin goes below the maintenance level, the buyer / seller will be required to reimburse to bring the balance to the initial level. If the margin is more than the initial level, the member concerned is free to withdraw the excess.

SOLUTION:

The adjustments to be made in the margin money of buyer and seller are tabulated below:

Opening Price: **USD 0.750**  
Contract Value: **USD 75,000**

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Day1 USD</th>
<th>Day2 USD</th>
<th>Day3 USD</th>
<th>Day4 USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settlement Price</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Value</td>
<td>74,500</td>
<td>73,000</td>
<td>74,000</td>
<td>75,500</td>
</tr>
<tr>
<td>Margin Money Account of Buyer:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Opening Balance</td>
<td>4,000</td>
<td>3,500</td>
<td>4,000</td>
<td>4,000</td>
</tr>
<tr>
<td>2. Amount adjusted for change in value of contract</td>
<td>-500</td>
<td>-1,500</td>
<td>1,000</td>
<td>1,500</td>
</tr>
<tr>
<td>3. Adjusted balance</td>
<td>3,500</td>
<td>2,000</td>
<td>5,000</td>
<td>5,500</td>
</tr>
<tr>
<td>4. Amount deposited / withdrawn</td>
<td></td>
<td>2,000</td>
<td>-1,000</td>
<td>-1,500</td>
</tr>
<tr>
<td>Closing Balance</td>
<td>3,500</td>
<td>4,000</td>
<td>4,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Margin Money Account of Seller:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Opening Balance</td>
<td>4,000</td>
<td>4,000</td>
<td>4,000</td>
<td>3,000</td>
</tr>
<tr>
<td>2. Amount adjusted for change in value of contract</td>
<td>500</td>
<td>1,500</td>
<td>-1,000</td>
<td>-1,500</td>
</tr>
<tr>
<td>3. Adjusted balance</td>
<td>4,500</td>
<td>5,500</td>
<td>3,000</td>
<td>1,500</td>
</tr>
<tr>
<td>4. Amount deposited / withdrawn</td>
<td>-500</td>
<td>-1,500</td>
<td>-2,500</td>
<td></td>
</tr>
<tr>
<td>Closing Balance</td>
<td>4,000</td>
<td>4,000</td>
<td>3,000</td>
<td>4,000</td>
</tr>
</tbody>
</table>
The buyer of futures contracts gains by an increase in the value of the contract. His margin account is increased by this value. Correspondingly, the seller loses and his margin account is reduced by the value. This is only a notional gain/loss because the contract has to be settled at the ruling price for the contract.

**PROBLEM 12**

Given the following information, compute the price for call option using Black-Scholes model:

- **Spot Rate** 46.50
- **Strike Rate** 47.00
- **Option to mature in** 90 Days
- **Standard deviation of Exchange rate** 0.3
- **Risk free interest rate in India** 6%
- **Risk free interest rate in USA** 4%

**SOLUTION:**

Call price as per Black-Scholes model is given by the formula:

\[ C = e^{-r \cdot t} \left[ F \cdot N(d1) - K \cdot N(d2) \right] \]

\[ t = \frac{90}{365} = 0.2466 \text{ years} \]

Interest differential = 6 – 4 = 2%.

\[ F = S \cdot e^{r \cdot t} = 46.50 \cdot e^{(0.02 \times 0.2466)} = 46.73 \]

\[ d1 = \frac{\ln(46.73/47.00)}{0.3 \times \sqrt{0.2466}} + 0.5 \times 0.3 \times \sqrt{0.2466} = 0.0358 \]

\[ d2 = 0.0358 - 0.1490 = -0.1132 \]

\[ N(d1) = 0.5143 \text{ (from Table)} \]

\[ N(d2) = 0.3216 \text{ (from Table)} \]

Substituting the values in the formula:

\[ C = e^{-0.06 \times 0.2466} \left[ 46.73 \times 0.5143 - 47.00 \times 0.3216 \right] \]

\[ = \text{ ₹} 2.07 \]

**PROBLEM 13**

The closing price of a future is ₹ 99.80. The following securities are available for delivery under the contract. Select the cheapest to deliver security for the seller.

<table>
<thead>
<tr>
<th>Security</th>
<th>Market Price</th>
<th>Conversion Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.24% 2018</td>
<td>₹ 99.80</td>
<td>1.0750</td>
</tr>
<tr>
<td>5.69% 2018</td>
<td>₹ 87.65</td>
<td>0.9171</td>
</tr>
</tbody>
</table>
Module-III : Theory and Practice of Forex and Treasury Management

SOLUTION:

Security 8.24% : ₹ 99.80 – (₹ 98.00 x 1.0750) = ₹ – 5.55
Security 5.69% : ₹ 87.65 – (₹ 98.00 x 0.9171) = ₹ – 2.2258

The result is lowest for 8.24% security. It is the cheapest to delivery security.

PROBLEM 14

Government of India security with coupon of 8.24% is maturing on 22nd April 2018. Compute the conversion factor for the purpose of March 2010 interest rate futures.

SOLUTION:

From 1st March 2010 till 22nd April 2018, there are 8 years, one month and 21 days. This period will be rounded off to 8 years. The security will earn interest of ₹ 4.12 every half year for 16 half years. At the end of the sixteenth half year, the principal of ₹ 100 is repaid. These cash flows will be discounted at the rate of 3.5% per half year to arrive at the present value of the security as on 1st March 2010.

\[
PV \text{ of Security} = 16 \sum_{i=1}^{16} \left( \frac{4.12}{1.305^t} + \frac{100}{1.305^{16}} \right)
\]

\[
= 49.8278 + 57.6708
\]

\[
= 107.4984
\]

Conversion factor = PV of the Security / Face value of the Security.

\[
= 107.4984 / 100 = 1.07984 \text{ or } 1.0750
\]

PROBLEM 15

Government of India Security with coupon of 6.05% is maturing on 12th June, 2018. Compute its conversion factor for the purpose of March 2010 interest rate futures.

SOLUTION

The security has a residual life of 9 years, 3 months and 11 days. Half yearly interest payable is ₹ 3.025. As a first step, it is assumed that one installment of interest is paid on 1st June 2010. The present value of the security as on this date is:

\[
= 3.025 + 18 \sum_{i=1}^{18} \left( \frac{3.025}{1.305^t} + \frac{100}{1.305^{18}} \right)
\]

\[
= 3.0250 + 39.8987 + 53.8361
\]

\[
= 96.7598
\]

To bring the present value of the security as on 1st June 2010 to the present value as on 1st March 2010, it is discounted for a period of 3 months (or half the period of 6 months):

\[
= 96.7598 / 1.035^{1/2} = 95.1143
\]
The interest of ₹ 3.025 paid on 1st June includes interest for 3 months previous to 1st March. Deducting this, the present value of the bond security is \((95.1143 - 1.5125) = 93.6018\).

Conversion factor is \(93.6018 / 100 = 0.936018\) or 0.9360.

**PROBLEM 16**

In April, M/s Indsoft Ltd., Singapore, concludes a contract under which it is expecting to receive USD 1.5 million in October. The Spot rate for US Dollar is SGD 1.7200.

The following quotations are available in the market:

(a) Forward contract due six months SGD 1.7350  
(b) Futures due September SGD 1.7300, due December SGD 1.7200  
(c) Option due October: Strike Price SGD 1.7425, Premium SGD 0.01

The standard deviation of the Exchange rate between US Dollar and Singapore dollar in the past one year has been 2%. In the recent months, US dollar has been appreciating.

Discuss the choice of hedging best suited, if the management estimates that by October:

(a) The trend in the exchange rate will continue till October;  
(b) The US dollar is most likely to depreciate by 5% p.a. and  
(c) The US dollar is most likely to appreciate by 5% p.a.

**SOLUTION**

The first decision the management has to take is whether to hedge the position or not. This depends on the expectation of the management about the spot rate for US dollar likely to prevail in October. If the firm strongly believes that US dollar will appreciate, it may decide to keep the position open. A conservative management may decide not to take any view on the exchange rate and cover entirely by a forward contract. A via media approach would be to cover a portion with a hedging instrument and leave the balance uncovered. The idea is to balance the effect of exchange rate movements.

When it is decided to cover the position by a financial instrument, the choice has to be made among forward, futures and option.

A. When the exchange rate fluctuates between +/- 2% p.a., the exchange rate will be between SGD 1.7028 and SGD 1.7372. The choice of the cover would be forward contract. There is a possibility of foregoing opportunity of gain of SGD 0.0022 per US dollar, but the protection obtained against fall in the value of September or December and the number of futures may be either one or two. The difference between the forward price and future price is not sufficient to encourage taking the additional risk of different maturity periods and different sizes of cover. Option is also not a good choice.
Module-III : Theory and Practice of Forex and Treasury Management

The premium payable is SGD 0.01. If the spot rate happens to be SGD 1.7372, the option will be exercised and the net rate obtained per US dollar will be SGD 1.7325, which is worse than the rate under forward.

B. If the US dollar is most likely to depreciate by 5% p.a., the spot rate in October is expected to be SGD 1.6770. Any of the hedging instruments is better than keeping the position open. Between forward and option, forward would be preferred because of higher net realization as we discussed in the previous situation.

C. If the US dollar is expected to appreciate by 5% p.a. the likely spot rate in October is SGD 1.7630. If the firm strongly believes this rate would prevail, it may not go for hedging its position. It will not be advisable to book forward contract or futures which will spoil the prospect of earning higher realization per US dollar. However, there is always a contingency that the estimate may go wrong. To provide for such an eventuality, and also share in the appreciation of the US dollar, it would be advisable to hedge the exposure using currency option. For a premium of SGD 0.01 per US dollar, the firm can participate in the appreciation of US dollar.

PROBLEM 17

Marico Marines Limited has to pay USD 500,000 at the end of six months from today. It is considering the following alternatives to manage the exposure:

1. Use forwards
2. Use Money market hedge
3. Use Options and
4. Remain un-hedged.

It has collected the following information to take a decision:

(a) Spot rate for US Dollar ₹ 44.80
(b) Six months forward rate for US Dollar ₹ 44.95
(c) Interest rates:
   Rupee 7.15 / 7.25
   Dollar 6.30 / 6.40
(d) Call option due 6 months – Strike Price ₹ 44.98, Premium ₹ 0.05.
(e) Forecast spot rate for 6 months:
   ₹ / Dollar Probability
   ₹ 44.90 60%
   ₹ 45.00 30%
   ₹ 45.10 10%

Examine the alternatives and suggest the method that Marico Marines may adopt.
SOLUTION:

(A) **Forward Contract:**

The firm can book forward contract at ₹ 44.95 per dollar. The rupee cost is: ₹ 44.95 x 5,00,000 = ₹ 2,24,75,000.

(B) **Money market hedge:**

The firm can buy dollars in the spot market and invest them for 6 months. This requires borrowing in rupees for 6 months to fund the transaction.

The number of dollars purchased is such that along with interest at 6.3% p.a. it amounts to USD 500,000.

Dollars borrowed = 5,00,000 / (1.0315) = USD 484,731

Rupees required to buy USD 484,731 at ₹ 44.80 = ₹ 2,17,15,949

Interest at 7.25% for 6 months = ₹ 7,87,203

Total = ₹ 2,25,03,152

(C) **Call option:** In the market, there will be more than one quotation for call option, each with a set of strike price and premium. Before comparing option with other instruments, the firm will first choose the best among the quotes for options. We assume the present quote to be the best.

For forwards and money market hedge, the outcome is certain. For call option, the outcome depends on the spot rate that will prevail on the due date. Since this is uncertain, there are only probable outcomes depending on the estimated spot rates and the strength of probability associated with them. For each anticipated spot rate to prevail on the due date, the outcome for the call option is calculated as under:

<table>
<thead>
<tr>
<th>Expected Spot Rate</th>
<th>Option Executed</th>
<th>Rupee Cost per Dollar Including Premium</th>
<th>Total Rupee Cost</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 44.90</td>
<td>No</td>
<td>₹ 44.95</td>
<td>₹ 2,24,75,000</td>
<td>60%</td>
</tr>
<tr>
<td>₹ 45.00</td>
<td>Yes</td>
<td>₹ 45.03</td>
<td>₹ 2,25,15,000</td>
<td>30%</td>
</tr>
<tr>
<td>₹ 45.10</td>
<td>Yes</td>
<td>₹ 45.03</td>
<td>₹ 2,25,15,000</td>
<td>10%</td>
</tr>
</tbody>
</table>
(D) **Open position:** When the exposure remains unhedged, the rupee cost is dependent on the spot rate prevailing on the due date.

<table>
<thead>
<tr>
<th>Expected Spot Rate</th>
<th>Rupee Cost</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹ 44.90</td>
<td>₹ 2,24,50,000</td>
<td>60%</td>
</tr>
<tr>
<td>₹ 45.00</td>
<td>₹ 2,25,00,000</td>
<td>30%</td>
</tr>
<tr>
<td>₹ 45.10</td>
<td>₹ 2,25,50,000</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Analysis:** As between forward contract and money market hedge, forward contract is preferable because the rupee cost is lower under forward contract.

Between forward contract and call option, the outcome is the same in both cases with 60% probability. In the balance 40% probability, the rupee cost is higher under call option. Therefore, forward contract is preferred against call option also.

The open position proves to be the least-cost alternative with a probability of 60%.

It may be advisable for the firm to keep its position open. However, the position should be reviewed at least at monthly intervals, to examine the situation under current cost conditions. For instance, in the next review, the forward rate for 5 months, call option for 5 months, expected spot rate due 5 months, etc. should be considered. Where the study reveals hedging as a better choice, the position should be covered using the best alternative.
An Overview of Financial Products
PROBLEM
On 1 January 2014, an entity grants an interest free loan of ₹ 100 to an employee. It is repayable on December 31, 2014. The market rate of interest is 8%.

Determine the fair value of the loan and the accounting for the difference between the fair value and the transaction price.

Solution
The fair value of the loan is ₹ 92.59 (₹ 100/1.08). The difference of transaction price (i.e. 100) and fair value (i.e. 92.59) is ₹ 7.41 that is considered as employee remuneration.

PROBLEM
An entity issues a perpetual debt instrument for consideration of ₹ 100. Market rate of interest of Rs 6 is payable annually in perpetuity. The instrument is not redeemable.

Determine the effective interest rate?

Solution
The effective rate that discounts ₹ 6 annually in perpetuity to ₹ 100 is 6 %. ₹ 6 will be recognized each year the profit or loss and there would be no amortization of the principal amount.

PROBLEM
Entity A could sell its financial asset in two different markets:

<table>
<thead>
<tr>
<th>Market</th>
<th>Quoted market price</th>
<th>Transaction cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>₹ 80</td>
<td>₹ 2</td>
</tr>
<tr>
<td>B</td>
<td>₹ 85</td>
<td>₹ 10</td>
</tr>
</tbody>
</table>

Determine the most advantageous market and the fair value of the financial asset.

Solution
While determining the most advantageous market, Entity A would consider the market that provides higher cash flow in comparison to the other.
Net cash flow in Market A = ₹ 78
Net cash flow in Market B = ₹ 75

Therefore the most advantageous market would be market A and the estimate of the fair value would be ₹ 80 (disregarding transaction costs that will be incurred on disposal).

**PROBLEM**

Entity A acquires a financial asset for Rs 110, which is not quoted in an active market. The asset's fair value based on the entity's own valuation technique amounted to Rs 115. However, that valuation technique does not solely use observable market data, but relies on some entity-specific factors that market participants would not normally consider.

Determine whether Entity A can recognize a “day 1” profit of ₹ 5 and record the asset at Rs 115.

**Solution**

No. The entity cannot recognize a 'day 1' profit of Rs 5 and record the asset at ₹ 115. The use of unobservable entity-specific inputs to calculate a fair value that is different from transaction price on 'day 1' is so subjective that its reliability is called into question. Hence, recognition of a 'day 1' gain or loss is not appropriate. Accordingly, the entity restricts its valuation to the transaction price and the asset is recorded at ₹ 110.

**PROBLEM**

On January 1, 2010, an entity originates a loan of ₹ 100 Million that is measured at amortized cost. The loan is repayable in five annual repayments of ₹ 25 Million on December 31, 2010 to December 31, 2014. Ignoring future credit losses, it is expected that all contractual cash flows will be received; hence effective interest rate is 7.93%.

The carrying amount of the loan is, therefore, ₹ 82.93 Million as on December 31, 2010. On January 1, 2011, the entity receives information regarding the future prospects of the sector in which the borrower operates. This information coincides with a downgrading of the borrower’s credit rating. Together, these two occurrences are deemed to constitute a loss event and it is now expected that the 2013 and 2014 repayments will not be received.

**Solution**

Present value of estimated cash flows discounted at the original effective interest rate@7.93% - ₹ 25/1.0793 + ₹ 25/(1.0793)^2 = ₹ 44.62 Million.

Carrying amount of the loan as at Jan 1, 2011-₹ 82.93 Million

Impairment loss to be recognized = ₹ 38.31 Million

(₹ 82.93 Million – ₹ 44.62 Million)
PROBLEM

Entity D acquires an investment in an available-for-sale instrument debt instrument at 1/1/2011. Entity D has a calendar year reporting period end and applies IAS 39 in measuring and classifying its financial assets.

At 31/12/2013, there was objective evidence of impairment and the fair value loss recognized in other comprehensive income is reclassified from equity to profit or loss in accordance with IAS 39.

At 31/12/2014 there is objective evidence that the impairment loss has reversed.

Determine the accounting for the impairment reversal.

Solution

The gain recognized in other comprehensive income is reclassified from equity to profit or loss. This however may not necessarily equal the amount of loss recognized earlier in profit or loss, i.e. the loss recognized in 2013.

Example: Repo Transaction computation

Bank A agrees to borrow approximately ₹ 10 Crores from Bank B for a period of 3 days at an interest rate of 5%.

<table>
<thead>
<tr>
<th>Borrower</th>
<th>Bank A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lender</td>
<td>Bank B</td>
</tr>
<tr>
<td>Tenor</td>
<td>3 days</td>
</tr>
<tr>
<td>Repo Rate</td>
<td>5.00%</td>
</tr>
</tbody>
</table>

6.85% GOI 2012
(Government of India security with a coupon rate of 6.85% and maturing on 05 April 2012)

<table>
<thead>
<tr>
<th>Security</th>
<th>15 November 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready Leg Date</td>
<td>18 November 2005</td>
</tr>
<tr>
<td>Forward Leg Date</td>
<td></td>
</tr>
</tbody>
</table>

**Ready Leg Computation**

| Ready Leg Price of Security | ₹ 100/- |
| Face Value of Security      | ₹ 10,00,00,000/- |
| Principal Value of Security | ₹ 10,00,00,000/- |
| Last Interest Date          | 05 October 2005 |
| Accrued Interest on Security| ₹ 7,61,111.11  |
| Ready Leg Proceeds (A+B)    | ₹ 10,07,61,111.11 |

**Forward Leg Computation**

| Repo Interest Amount | (₹ 10,07,61,111.11) x .05 x 3/365 |
Question

A 3-day repo is entered into on 10th July, 2001, at 11.99% 2009 security, maturing on 7th April, 2009. The face value of the transaction is ₹3,00,00,000. The price of the security is ₹116.42. If the repo rate is 7%, what is the settlement amount on 10th July, 2001?

Answer

Settlement amount on 10th July, 2001 is the transaction value for the securities plus accrued interest.

Transaction Value:

\[ 3,00,00,000 \times 116.42 / 100 = ₹3,49,26,000. \]

Accrued Interest:

The security’s maturity date is 7th April, 2009. Using the Coupdays function, we can find the number of days from last coupon date. (Settlement: 10th July, 2001; Maturity: 7th April, 2009; Frequency:2; Basis:4; The number of day is 93.

\[ \text{Accrued Interest} = 3,00,00,000 \times 11.99\% \times 93/360 = ₹9,29,225.00 \]

Therefore, the settlement amount is:

\[ ₹3,49,26,000 + ₹9,29,225.00 = ₹3,58,55,225.00 \]

Question

Using the same date as mentioned in the above question, determine the settlement amount for the second leg of the repo transaction.

Solution

The settlement amount for the second leg involves the following:

Interest on the Amount borrowed:

\[ = 35855225 \times .07 \times 3/365 \]
\[ = ₹20,629.03 \]

Amount to be settled:

\[ 35855225 + 20629.03 = ₹35875854.03 \]
Fixed Income Securities Salient Points

- Money has Time Value. Ready possession of money is preferable.
- People prefer ready possession of money, because money earns interest, its value may be eroded due to inflation, and present consumption will have to be postponed if one were to receive the money due to it today at a future date.
- Interest is paid on a simple basis or on a compounded basis.
- The factor used to find the present value of a future cash flow is called a discount factor, and the factor which is used to find the future value of a present investment is called a compounding factor.
- Cash flows can be either single or multiple.
- Fixed income securities are debt instruments which pay a periodic interest rate (coupon) on the investment for a given maturity.
- A coupon payment structure of fixed income security is similar to an annuity.
- The value of a fixed income security is arrived at by computing the present value of all its promised cash flows in future.
- The price of fixed income security is inversely related to the market interest rate.
- The appreciation in price, when interest rate goes down is greater than the depreciation in price when the interest rate rises higher by the same degree.
- The longer the maturity, the more volatile will be the price of a bond.
- Bonds with lower coupon will be more volatile in their price movements when interest rate changes in the market.
- Between two bonds of same maturity and coupon rates, the bond with higher frequency of coupon payments will be less volatile in its price changes when interest rate changes in the market.
- Duration is a neutral point of time in the life of a fixed income security when the reinvestment risk is compensated by the price risk.
- Duration is in essence, the effective maturity of the bond.
- Duration is directly related to the maturity of a bond.
Fixed Income Securities Salient Points

- Duration is inversely related to coupon and market interest rates.
- Duration of a coupon paying bond is less than its maturity.
- Duration of a floating rate bond is equal to the interest resetting period, or the period remaining to the next resetting.
- Duration of a zero coupon bond is equal to its maturity.
- Duration of a portfolio of bonds is additive.
- Modified duration is refinement over Duration, as the latter does not capture price changes accurately when market interest rate changes.
- Modified Duration too captures price changes only for small changes in interest rates.
- Convexity together with Modified Duration captures price changes of bonds accurately, when the market interest rate changes.
Treasury Operations

Front Office
Finacle presents a comprehensive dealer-friendly front office module that enables efficient deal capture. The treasury solution provides the flexibility to price and capture deals through the front office, or import them from external sources through seamless interfaces.

- Trade entry
- User-friendly interface
- Personalized layout
- Online updates
- Multi-dimensional organization structure
- Blotters
- Pricing
- Simulation
- Limits monitoring
- Real time position keeping and P & L

Middle Office
Finacle offers real-time tools to view positions and manage market, currency and credit risks effectively.

- Multiple revaluation methodologies
- Risk management
- Limits management
- Value at risk
Back Office

Finacle offers a comprehensive back office module for real-time management of treasury instruments and their derivatives. This comprises complete deal processing including deal settlement, updating, verification, confirmation, Nostro reconciliation and tickets printing.

- Straight Through Processing (STP)
- Deal lifecycle
- Permissioning system
- Exceptions management
- Blotter operations
- Nostro blotter
- Setup of static data
- Accounting
- Reporting
- Electronic messaging infrastructure
- Message management
Important Areas for Verification as per RBI Guidelines on Treasury Operations

(i) If branch has acted within HO instructions for purchase and sale of securities.
(ii) Periodic confirmation of Derivative contracts with counterparties.
(iii) Adherence to regulatory guidelines with respect to Treasury deals/structured deals.
(iv) Controls around deal modification/cancellation/deletion, wherever applicable.
(v) Cancellation of forward contracts and passing/recovery of exchange gain/loss.
(vi) Gaps and OPL maintained in different currencies vis-à-vis prescribed limit for the same.
(vii) Reconciliation of Nostro and Vostro accounts-balances in Nostro accounts in different foreign currencies are within the limits prescribed by the bank.
(viii) Collection of underlying documents for Derivative & Forward contracts. Delays, if any.
(ix) Instances of booking and cancellation of forward contracts with the same counterparty within a span of couple of days or a few days.
(x) Sample check of some of the deals and comment on the correctness of computation.
(xi) Checking of application money, reconciliation of SGL account, compliance to RBI norms.
(xii) Checking of custody of unused BR Forms & their utilization in terms of Master Circular on Prudential Norms on Classification, Valuation and Operations of Investment Portfolio by banks.
(xiii) To ensure that the treasury operations of the bank have been conducted in accordance with the instructions issued by the RBI from time to time.
List of Statements, Registers, Advices, Covering Letters, Messages, Which are Generated by the Computer and Printed Daily, Weekly, Fortnightly & Monthly

Daily Printout:
- Rupee funding deals today
- Ready Deals done today
- Bills purchased today
- Forward Contracts Book today
- Bills Reversed today
- Interbank Deals Register
- Daily Position Balancing
- Nostro Ledger
- Nostro Balances
- Country Exposure
- Counterparty Exposure
- Advance Bills Outstanding
- Daily Advance Bills Reports
- Gap Daily
- Forward Contract Advices to Customers
- Supplementary Cash Book
- Summary of Nostro Accounts Valuation
Module-III : Theory and Practice of Forex and Treasury Management

- 5 day’s Summary of Funds
- Rupee settlement-Interbank Contracts maturing on a given date (Purchase and Sale against Rupees)
- Interbank Contracts maturing on a given date (Forward Deals) including TOM / SPOT / FORWARD
- Confirmations
- Interbank Settlement Vouchers
- Money Market Settlement Vouchers
- Money Market Confirmation
- Rupee Funding Statement
- Payment Message by Swift
- Payment / Receipts to RTGS, NEFT etc.
- Currency-wise and date-wise consolidated Forward Purchases and Sales Statements for Next Two Months. This is generated for making use of funding/reducing gap through swap.
- Funds on given date
- Funds Summary
- Forex Outstanding Deals

Weekly Printout:
- Forward Diary
- Friday Position

Fortnightly Printouts:
- Forward Diary
- R Returns and Supplement
- Sales & Purchase Sheets

Some Monthly Printouts:
- O/s Interbank
- O/s Bills
List of Statements, Registers, Advices, Covering Letters, Messages ....

- O/s Ready
- O/s Advance Bills
- True Position Statement
- R Returns & Supplement
- Friday Position
- Nostro Valuation
- Forward Valuation
- Brokerage
- FEDAI Rates
- RBI Sales
- Rupee Funding
- Merchant / Interbank Ratio
- Interbank Turnover
- Merchant Turnover
- Currency Turnover
- Money Market Funds Position
- Reconciliation Ledger

(O/s = Outstanding)
An investment policy should ideally have the following features:

1. **Objectives** – The Policy should set forth the objectives of investment business, whether it is to manage liquidity, to improve returns, or to achieve capital growth. Quite often, the objective would be a mix of all the three components and the policy should set forth the type of funds to be outlayed, in terms of proportion to total.

2. **Sources of Funds** – Investment policy should identify whether the investible funds should come from equity, or from floating funds, or from any other source. The Policy should also lay down what should be the optimum level of investment, consistent with the objectives of the corporate.

3. **Asset Quality** – The policy should prescribe the minimum credit rating requirements and such other minimum requirements to the net worth and financial position of the issuer. The policy should prescribe the acceptable maturities for investment. The Policy may also prescribe minimum and maximum maturity as per the clause of the issuer, e.g. Sovereign or non-sovereign.

4. **Risk Management** – The Policy should provide risk management guidelines in terms of acceptable level of interest rate exposure. Appropriate risk measure such as duration should be prescribed for the investment portfolio. Similar guidelines for credit exposure in terms of counter party limits should also be contained in the policy.

5. **Stop** – Loss limits should be prescribed for securities trading, preferably with different limits for different types of securities. The trader should also be required to operate within the prevailing economic environment and in case of any major change (say, currency depreciation or regulatory restrictions) should seek fresh guidelines from the management.

6. **Valuation** – The securities portfolio is to be revalued from time to time and provisions for the depreciation in market values should be made in accordance with generally accepted accounting principles. The revaluation of securities would also help the management to assess the performance of the trader from time to time.
7. Separate guidelines need to be issued to the securities traders as to the hedging of business risks and use of derivatives. In several countries, central banks insist on necessary approvals from the top management at board level, for use of derivatives.

8. Sound internal control systems are to be built up with segregation of front and back offices and regular audit and inspection of accounting records.
Risks very rarely occur as accidents. There are symptoms that indicate the possibility of risk. These indicators can be used to take pre-emptive actions. These actions may not eliminate the risks but they would at least facilitate minimizing their impact. Some of the indications are given below:

- Lack of supervision of lending / investment activities by designated officers.
- Lack of specific lending or treasury policies or failure to enforce the existing policies.
- Lack of code of conduct or failure to enforce existing code.
- Dominant figure allowed to exerting influence without restraint.
- Lack of separation of duties.
- Lack of accountability.
- Lack of written policies and / or internal controls.
- Circumvention of established policies and / or controls.
- Lack of independent members of management and / or Board.
- Entering into transactions where the institution lacks expertise.
- Excessive growth through low quality loans.
- Unwarranted concentrations.
- Volatile sources of funding such as short-term deposits from out-of-area brokers.
- Too much emphasis on earnings at the expense of safety and soundness.
- Compromising credit policies.
- High rate high risk investments.
- Underwriting criteria allowing high risk loans.
- Lack of documentation or poor documentation.
- Lack of adequate credit analysis.
- Failure to properly obtain and evaluate credit data, collateral, etc.
Risk Indicators

- Failure to properly analyze and verify financial statement data.
- Too much emphasis on character and collateral and not enough emphasis on credit.
- Lack of proper mix in asset portfolio.
- Unresolved exceptions or frequently recurring exceptions on exception reports.
- Out-of-balance conditions.
- Funds used for purposes other than the purpose recorded.
- Lax Policies on payment of checks against uncollated funds.
- The institution is a defendant in a number of lawsuits alleging improper handling of transactions.
## Possible Risks Facing a Bank

<table>
<thead>
<tr>
<th>Type of Risk</th>
<th>Possible Risk Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Risk</td>
<td>Environment Compliance, contamination, employment theft and public health.</td>
</tr>
<tr>
<td>Country</td>
<td>Civil disorders, economic shock, expropriation, natural disasters.</td>
</tr>
<tr>
<td>Fiscal</td>
<td>Change of Government, corporate / sales tax rate changes.</td>
</tr>
<tr>
<td>Litigation</td>
<td>Product liability, safety, side effects.</td>
</tr>
<tr>
<td>Regulatory</td>
<td>Capital adequacy, competition policy, tariff barriers, trade policy.</td>
</tr>
<tr>
<td>Security</td>
<td>Intellectual property theft, sabotage, physical property theft.</td>
</tr>
<tr>
<td>Fund Management</td>
<td>Dealing Market information, inappropriate internal information, market collapse, personnel, rogue dealing.</td>
</tr>
<tr>
<td>Risk</td>
<td>Processing Collusion, dealing error, fraud, input / output error.</td>
</tr>
<tr>
<td>Statutory</td>
<td>Financial regulation, legal issues, taxation treaties.</td>
</tr>
<tr>
<td>Trading</td>
<td>Documentation, execution accuracy, settlement, valuation methodology.</td>
</tr>
<tr>
<td>Infrastructure Risk</td>
<td>Human Resource Lack of staff, quality of staff, strike action, lack of training, succession planning.</td>
</tr>
<tr>
<td></td>
<td>Organizational Objectives, policies, alliances, market image, authority limits, audit, sales force profile.</td>
</tr>
<tr>
<td></td>
<td>Planning Accuracy of situation appraisal, incorrect budgeting, poor quality of data, forecasting inaccuracies.</td>
</tr>
</tbody>
</table>
### Possible Risks Facing a Bank

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reporting</strong></td>
<td>Accounting policies, data flow, complex management policy.</td>
</tr>
<tr>
<td><strong>Systems</strong></td>
<td>Inadequate performance, alignment to business strategy, availability of systems, data integrity, disaster planning, programming quality, network security, telecommunications, verified algorithms.</td>
</tr>
<tr>
<td><strong>Liquidity Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Cash Flow</td>
<td>Business interruption, customer confidence, forecasting quality, access to finance.</td>
</tr>
<tr>
<td>Counter Party</td>
<td>Default (credit) risk, financial performance of counterparty, credit rating, bank confidence, liquidity, supplier confidence.</td>
</tr>
<tr>
<td>Rating</td>
<td>Market confidence, market sector re-rating, shareholder risk.</td>
</tr>
<tr>
<td><strong>Operational Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Logistics</td>
<td>Delivery mechanism, global distribution handling of shortages.</td>
</tr>
<tr>
<td>Procurement</td>
<td>Alternative source identification, quality of parts, stock exchanges, supplier profile.</td>
</tr>
<tr>
<td>Production</td>
<td>Cost, make versus buy, process problems, quality reviews, technology.</td>
</tr>
<tr>
<td><strong>Position (Market) Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Currency</td>
<td>Non-convertibility of currency, economic factors, transaction risk, translation risk, mismatches, volatility.</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>Basis risk, parallel yield curve shifts, twists in yield curve, incorrect day count basis.</td>
</tr>
<tr>
<td><strong>Proposition Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Competitive</td>
<td>Competitor product action, inferior product, product imitation, patent expiry.</td>
</tr>
<tr>
<td>Economic</td>
<td>Client pricing, competitor pricing, market share, market developments, product expiry.</td>
</tr>
<tr>
<td>Strategy</td>
<td>Business portfolio, communication, development methodology efficiency, human resource profile, initial pricing, lack of competitor knowledge, poor market identification, poor market strategy, reputation, research focus, tracking against plan.</td>
</tr>
</tbody>
</table>
## Market Terminology

The commonly used expressions, in the Money and Debt Markets in India and their generally accepted meanings are as under:

<table>
<thead>
<tr>
<th>Expressions</th>
<th>Generally accepted meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Bid / Buy</td>
<td>The Price at which I am willing to buy.</td>
</tr>
<tr>
<td>I Offer / Sell</td>
<td>The Price at which I am willing to sell.</td>
</tr>
</tbody>
</table>
| Quotes / Prices| Typically the dealers quote only the decimal places omitting the integer part. It is assumed the players know the integer part in the prevailing market price.  
Example:1  
If on a given day the security 11.40GOI2008 is being quoted at a price of around ₹ 117.50 then the bid at 45/offer at 55 would mean that the dealer is willing to buy the security at ₹ 117.45 and sell it at ₹ 117.55.  
Example:2  
If on a given day the Treasury Bill maturing on 18th October, 2008 is being quoted at a yield of around 6.90 then the bid at 95 / offer at 90 would mean that the dealer is willing to buy the security at 6.95 and sell it at 6.90.  
However, the complete price should be used while confirming deals. |
| Clean Price    | The price of a bond, excluding the accrued interest since the last interest payment date. |
| Dirty Price    | The price of a bond, including the accrued interest since the last interest payment date. This is also known as the gross price. |
| Hair Cut       | The difference between the actual market value and the value ascribed to the collateral used in a repo transaction. |
| Mine           | I Buy at the Price you have offered. |
| Yours          | I Sell at the Price you have bid. |
| Close / Done   | I conclude the deal at the mutual agreed price. |
## Market Terminology

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two Way Quote</td>
<td>Quote which includes both Buy and Sell Price. Example: 45/50 indicate that the dealer is willing to buy at ₹ 117.45 and sell at ₹ 117.50.</td>
</tr>
<tr>
<td>Choice Quote</td>
<td>Choice Quote is a single price quoted by a dealer and it means that he/she is willing to Buy as well as Sell at that price. Example: A Quote of ’5 Choice’ for a security means that the dealer will buy as well as sell at 5 paise.</td>
</tr>
<tr>
<td>Final Price</td>
<td>No more negotiations. It is the price at which the dealer is willing to close the deal.</td>
</tr>
<tr>
<td>Level / Indicative Price</td>
<td>Prices quoted by dealers to indicate the level at which they are interested in doing the deal but are willing to negotiate.</td>
</tr>
<tr>
<td>Big Figure</td>
<td>The integer part of the price. Example: If the ruling price of a security is 117.50, then the Big Figure here is 117.</td>
</tr>
<tr>
<td>Figure</td>
<td>Price when quoted in integers without the decimal part is known as Figure. Example: When the dealer is willing to deal 11.40GOI2008 at 117.00 (when the ruling quote is 116.95/117.05), he will state that he is willing to do the deal at Figure.</td>
</tr>
<tr>
<td>Check</td>
<td>“Check” during chat means that the dealer is withdrawing his / her quote with immediate effect.</td>
</tr>
<tr>
<td>Check Before Closing (CBC)</td>
<td>“CBC” during chat means that the dealer has the freedom to modify the price and / or amount during the chat. Hence, the counter-party dealer / broker should seek confirmation before concluding the deal.</td>
</tr>
<tr>
<td>Pass / No Interest / Squared</td>
<td>I am not interested in the deal at the moment.</td>
</tr>
<tr>
<td>Referring to Securities during chat</td>
<td>Dated Government Securities are generally identified by their coupon and year of maturity. In case of securities having identical coupons in the same year of maturity, the actual nomenclature should be used to differentiate them. Example: 11.5008,11.5010 11.50 GOI2011, 11.50 GOI2011A</td>
</tr>
</tbody>
</table>
Module-III : Theory and Practice of Forex and Treasury Management

Treasury Bills, Commercial Papers and Certificate of Deposits should be referred to using their date of maturity and the actual nomenclature should be used for confirmation. Example:
TB 18/10102, 3640 TB Maturing on 18/10102
ACC Maturing on 20/12/01. Confirmation calls for full particulars.
SBI Maturing on 20102/02, Confirmation calls for full particulars.

<table>
<thead>
<tr>
<th>Same day value / Value Today</th>
<th>Settlement to be effected at “t + O”, where t is the trade date.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOM / Value TOM / Value ‘t + n’</td>
<td>TOM and Value TOM mean that the settlement will be done on the next settlement date. Value ‘t + n’ means that settlement will be done on settlement day after the trade date (excluding holiday(s) observed by RBI, Mumbai).</td>
</tr>
<tr>
<td>Quantum / Amount</td>
<td>It will be assumed that the quote is for the standard market lot of ₹ 5 crore, unless otherwise explicitly stated.</td>
</tr>
<tr>
<td>I to borrow clean</td>
<td>The dealer intends to borrow cash clean (without collateral).</td>
</tr>
<tr>
<td>I to borrow under Repo</td>
<td>The dealer intends to borrow cash against the collateral of securities.</td>
</tr>
<tr>
<td>I to lend clean</td>
<td>The dealer intends to lend cash clean (without collateral).</td>
</tr>
<tr>
<td>I to lend under Repo</td>
<td>The dealer intends to lend cash against the collateral of securities.</td>
</tr>
</tbody>
</table>

Given below could be a typical conversation between dealers during negotiation:

**Bank A Calls Bank B**

<table>
<thead>
<tr>
<th>Bank</th>
<th>Terminology used</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank A</td>
<td>11.4008 for 25 crore</td>
<td>Bank A is asking Bank B for a 2-way quote on 11.40% maturing 2008 for a total amount of ₹ 25 crore (face value) for settling today.</td>
</tr>
<tr>
<td>Bank B</td>
<td>12/18 for 15 crore</td>
<td>Bank B has given a price to buy at ₹ 117.12 and to sell at ₹ 117.18 and the quote is valid for ₹ 15 crore only.</td>
</tr>
<tr>
<td>Bank A</td>
<td>Any improvement, me to buy</td>
<td>Bank A tells Bank B that he is looking to buy but at a lower price.</td>
</tr>
</tbody>
</table>
Bank B is willing to reduce the price for the buyer to ₹117.17.

Bank A concludes the deal.

Bank B confirms the deal specifying security, amount, price, settlement date and counterparty.

### Swap Market Terminology

Some of the expressions used in the interest rate swaps market are given below (apart from the typical expressions given above).

<table>
<thead>
<tr>
<th>Expressions</th>
<th>Generally accepted meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIS (Overnight Indexed Swap)</td>
<td>Overnight Indexed Swaps bench market typically against FIMMOA – NSE MIBOR rates.</td>
</tr>
<tr>
<td>Two way Quote</td>
<td>A two-way quote in the OIS parlance would mean that the dealer is ready to Pay and Receive Fixed Rate. The quote should also specify the tenor. If not otherwise specified, the FIMMOA-NSE Overnight MIBOR should be taken as the bench mark. Example: A quote of “7.60/7.70 for 2 months” indicates the dealer’s willingness to Pay a Fixed Rate of 7.60% and to Receive a Fixed Rate of 7.70% per annum for a period of 2 months.</td>
</tr>
<tr>
<td>Mine / I receive</td>
<td>I receive the Fixed Rate quoted against paying the Floating benchmark.</td>
</tr>
<tr>
<td>Yours / I Pay</td>
<td>I pay the Fixed Rate quoted against receiving the Floating benchmark.</td>
</tr>
<tr>
<td>INR-MIBOR</td>
<td>Pay simple Fixed Rate against receipt of overnight Floating Rate for tenors up to (and including) 1 Year. Pay simple semi-annual Fixed Rate against receipt of overnight Floating Rate for tenors of longer than 1 Year.</td>
</tr>
<tr>
<td>INR-MITOR</td>
<td>Pay simple Fixed Rate against receipt of overnight Floating Rate for tenors up to (and including) 1 Year. Pay simple semi-annual Fixed Rate against receipt of overnight Floating Rate for tenors of longer than 1 Year.</td>
</tr>
<tr>
<td>INR-MIFOR</td>
<td>Pay annual Fixed Rate against receipt of 3 month Floating Rate for tenors up to (and including) one year. Pay semi-annual Fixed Rate against receipt of 6 month Floating Rate for tenors of longer than one year.</td>
</tr>
<tr>
<td>INR-MIOIS</td>
<td>Pay annual Fixed Rate against receipt of 3-month Floating Rate for tenors up to (and including) one year. Pay semi-annual Fixed Rate against receipt of 6 month Floating Rate for tenors of longer than one year.</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>INR-BMK</td>
<td>Pay annual Fixed Rate against receipt of annualized Floating Rate for all tenors.</td>
</tr>
<tr>
<td>INR-CMT</td>
<td>Pay annual Fixed Rate against receipt of annualized Floating Rate for all tenors.</td>
</tr>
</tbody>
</table>
1. Derivatives can be used by an exporter for managing-
   (a) Currency Risk
   (b) Cargo Risk
   (c) Credit Risk
   (d) All of the above

2. The term RISK in business refers to-
   (a) Chance of losing Business
   (b) Chance of making Losses
   (c) Uncertainty associated with expected event leading to loss or gain
   (d) Threat from competitors

3. Derivatives are so called because -
   (a) They are subsidiary products in the market
   (b) They are derived from combination of different assets
   (c) Their value is dependent on the value of some other fundamental variable
   (d) They are traded on derivative exchanges

4. The following is not a feature of a derivative instrument-
   (a) It is a financial instrument
   (b) Its use always leads to profit
   (c) It is executable on a future date
   (d) Its pay-off is dependent on the value of any other basic variable
5. A derivative can be -
   (a) OTC product only
   (b) Exchange traded product only
   (c) **OTC product or exchange-traded product**
   (d) Always OTC Product and exchange-traded product combined

6. The following is not a feature of exchange-traded derivative -
   (a) It is a standard size
   (b) It is available only on specified exchanges
   (c) **The seller is always a bank**
   (d) None of the above

7. Under the forward exchange contract-
   (a) The exchange rate is determined on the future date
   (b) The parties agree to meet at a future date for finalization
   (c) **Delivery of foreign exchange is done on a predetermined future date**
   (d) None of the above

8. Forward contract facility is available only for-
   (a) Genuine trade transaction
   (b) **Genuine foreign exchange exposure**
   (c) Exporters
   (d) Traders in Goods

9. A bank has entered into an option forward contract with an export customer. That means -
   (a) The bank has the option to accept or not to accept delivery under the contract
   (b) The customer has the option delivery or not to delivery foreign exchange under the contract
   (c) **The customer has the option to deliver the foreign exchange during the option period**
   (d) The bank has the option to accept foreign exchange under the contract during the option period
10. The option period for a forward contract can be for a maximum period of-
   (a) 21 days
   (b) **One month**
   (c) 10 days
   (d) Six months

11. The bank should verify the letter of credit/sale contract for booking a -
   (a) Forward sale contract
   (b) **Forward purchase contract**
   (c) Cancelling a forward contract
   (d) None of the above

12. Forward purchase contract cannot be booked for -
   (a) Exporters of services
   (b) Full-fledged money changers
   (c) Deferred exporters
   (d) **None of the above**

13. Normally, forward purchase contract booked should be used by the customer -
   (a) **For executing the export order for which the contract was booked**
   (b) For any export order from the same buyer
   (c) For any export order for the same commodity
   (d) For any export order

14. The period for which a forward purchase contract is booked -
   (a) Should not be earlier than 6 months from the expected date of shipment of the goods concerned
   (b) **Should not be later than 6 months from the expected date of shipment of the goods concerned**
   (c) Should be within 6 months from the date of booking
   (d) Can be any period for which the bank can find cover
Module-III : Theory and Practice of Forex and Treasury Management

15. For booking a forward sale contract, the bank should verify -
   (a) The letter of credit
   (b) The import licence
   (c) **The letter of credit or purchase order**
   (d) None of the above

16. For extending the due date of a forward contract, the bank should take prior permission from -
   (a) Reserve Bank of India
   (b) FEDAI
   (c) Bank’s board of directors
   (d) **None of the above**

17. Forward contracts without production of documentary evidence and on the declaration of the customer can booked -
   (a) Only for exporters
   (b) **Upto 50% of the limits worked on previous performance basis**
   (c) Up to 100% of the limits worked on previous performance basis
   (d) Without any limit

18. Cancellation and re-booking of forward contracts is permitted -
   (a) **For exposures for any period for exporters and for exposures up to one year for others**
   (b) Only for exporters
   (c) Only for importers
   (d) When cancelled within six months of booking the contract

19. Currency future is not -
   (a) Traded on futures exchanges
   (b) A special type of forward contract
   (c) Of standard size
   (d) **None of the above**
Objective Type Questions

20. The margin for a currency future should be maintained with the clearing house by-
   (a) The buyer
   (b) The seller
   (c) **Both the buyer and the seller**
   (d) Either the buyer or the seller as per the agreement between them

21. The **marking-to-market** in respect of a currency future refers to
   (a) Putting up for sale specific lot of futures
   (b) Adjusting the margin money of buyer and seller to reflect the current value of futures
   (c) Quoting rates for different maturities
   (d) Allotting futures among different brokers

22. The futures exchange prescribes an initial margin of USD 5,000 and maintenance margin of USD 3,000 against one Euro futures. The maximum level of margin that buyer of futures should keep with the exchange for one futures is -
   (a) **USD 5,000**
   (b) USD 3,000 and if a special call is given USD 5,000
   (c) USD 8,000
   (d) USD 5,000 and if a special call is given additional USD 3,000

23. The marking to market of a futures contract is done -
   (a) Daily, based on the opening price for the day
   (b) Weekly, based on the opening price for the week
   (c) **Daily, based on the closing price for the previous day**
   (d) Weekly, based on the closing price for the previous week

24. For the balance kept in the margin account for futures-
   (a) Interest is paid at riskless rate
   (b) Interest is paid at LIBOR rate
   (c) Interest is paid for the surplus over the required minimum
   (d) **No interest is paid**
Module-III : Theory and Practice of Forex and Treasury Management

25. A feature of currency options that distinguishes it from other derivatives is -
   (a) It carries premium to be paid upfront
   (b) It is option to enter into the contract
   (c) The buyer has only right, but no obligation to execute the contract
   (d) The seller has the right, but no obligation to execute the contract

26. The following statement with respect to currency option is wrong-
   (a) Call option will be used by exporters
   (b) Put option gives the buyer the right to sell the foreign currency
   (c) Foreign currency – rupee option is available in India
   (d) An American option can be executed on any day during its currency

27. For contingency exposure of foreign exchange, the best derivative that can be used to hedge is -
   (a) Forwards
   (b) Futures
   (c) Options
   (d) Swaps

28. The strike price under an option is -
   (a) The price at which the option is auctioned
   (b) The exchange rate at which the currencies are agreed to be exchanged under the contract
   (c) Lower of the market price and the agreed price
   (d) None of the above

29. An option is at-the-money when -
   (a) The strike price is greater than the spot price, in the case of a call option
   (b) The strike price is greater than the spot price, in the case of a put option
   (c) The option has a ready market
   (d) The strike price and spot price are same
30. The intrinsic value of an option is -
   (a) The difference between the option price and spot price at the time of entering into the contract
   (b) The difference between the option price and spot price estimated to prevail on the due date
   (c) The difference between the option price and spot price prevailing on the due date
   (d) None of the above

31. Where an option is out of the money -
   (a) The premium will be refunded to the buyer
   (b) The buyer is unable to take up the contract
   (c) The seller gains to the extent of the premium received
   (d) No further purchase by the buyer is permitted

32. Banks permitted to run option book are required to fulfill the condition of -
   (a) Continuous profit for at least 3 years
   (b) Minimum CRAR of 9%
   (c) Minimum net worth of ₹ 200 crores
   (d) All the above

33. In India, option contracts cannot be used to cover contingency exposure except -
   (a) By export houses
   (b) For submission of bids in foreign exchange
   (c) By units in SEZs
   (d) None of the above

34. The customers are entitled to write options only by fulfilling the condition -
   (a) They make adequate protective measures
   (b) They write only upto 25% of their exposures
   (c) That it is done as a cost reduction measure and does not result in net receipt of premium
   (d) That premium receivable is higher than the premium payable
35. A knock-in option becomes effective -
   (a) When the spot rate reaches a particular level from below
   (b) When the spot rate reaches a particular level from above
   (c) Either (a) or (b)
   (d) Neither (a) nor (b)

36. This is a barrier option -
   (a) Knock-in-option
   (b) Asian option
   (c) Plain vanilla option
   (d) None of the above

37. Range Forwards and Ratio Range Forwards are -
   (a) Cost effective methods of option contracts
   (b) The range for which forward contracts are available
   (c) The option period under forward contract
   (d) Types of special derivative instruments

38. In a participatory forward, the buyer is-
   (a) Protected fully from losses and gains fully from exchange rate changes
   (b) Protected fully from losses but does not gain from exchange rate changes
   (c) Protected partially from losses and gains partially from exchange rate changes
   (d) Protected fully from losses and gains partly from exchange rate changes

39. While borrowing for long term on floating rate basis, the interest risk is -
   (a) The interest rate may fall in the market in future
   (b) The interest rate may increase in the market in future
   (c) The loan may not be renewed, if interest rate falls in the market
   (d) None of the above

40. The Capital Risk caused by an increase in Market Rate of interest is-
   (a) Interest outgo will be higher on borrowings
   (b) Investors do not share in the market rate increase
Objective Type Questions

(c) Holders of Fixed Income Securities find the value of the assets falling
(d) Both borrowers and investors lose on tax

41. An Interest rate swap helps the user to -
   (a) Fix the cost of borrowing
   (b) **Reduce the Cost of Borrowing**
   (c) Cover Exchange Risk
   (d) Avail Tax Benefit

42. Zero Coupon Swap is an agreement -
   (a) Involving Exchange of Zero coupon bonds
   (b) Whereby only one party makes payment periodically
   (c) **Whereby one of the counterparties makes payment in lump sum instead of periodically**
   (d) None of the above

43. The acronym CIRCUS Stands for -
   (a) Currency Interest Rate Swap
   (b) Circular Currency Swap
   (c) Combined Income Range Currency Swap
   (d) **Combined Interest Rate and Currency Swap**

44. A forward rate agreement helps the user to -
   (a) **Fix the cost of borrowing**
   (b) Reduce the cost of borrowing
   (c) Cover exchange Risk
   (d) Avail Tax benefit

45. The swap arrangement where principal amounts are not exchanged, but only periodical interest payments are made will be a -
   (a) Currency swap
   (b) Cross currency interest rate swap
   (c) **Interest rate swap**
   (d) Non-financial swap
46. Under the interest rate option, the buyer -
   (a) Avoids unfavorable movement in interest rates
   (b) Gains from favorable movement in interest rates
   (c) Both (a) and (b) above
   (d) Gains nothing, only the seller gains

47. An interest rate cap is a series of -
   (a) Call options
   (b) Put options
   (c) Periodical payments
   (d) Differential payments

48. FRAs can be used for -
   (a) Hedging
   (b) Arbitraging
   (c) Speculating
   (d) Any of the above

49. Interest rate collar involves -
   (a) Simultaneous purchase of interest rate cap and floor
   (b) Purchasing a series of caps
   (c) Purchase of cap and sale of floor
   (d) Purchasing caps for half value

50. Which of the following statements is true?
   (a) Exchange exposure leads to exchange risk
   (b) Exchange risk leads to exchange exposure
   (c) Exchange exposure and exchange risk are unrelated
   (d) None of the above

51. The net potential gain or loss likely to arise from exchange rate changes is -
   (a) Exchange exposure
   (b) Exchange risk
Objective Type Questions

52. The exchange loss / gain due to transaction exposure is reckoned on -
   (a) Entering into a transaction in foreign exchange
   (b) Quoting a price for a foreign currency transaction
   (c) **Conversion of foreign currency into domestic currency**
   (d) Entry in the books of accounts

53. Transaction exposure can be hedged -
   (a) By internal methods only
   (b) By external methods only
   (c) Either by internal methods or by external methods, but not by both
   (d) **Either by internal methods or by external methods or a combination of both**

54. The external methods of hedging transaction exposure do not include-
   (a) Forward contract hedge
   (b) Money market hedge
   (c) **Cross hedging**
   (d) Futures hedging

55. The true cost of hedging transaction exposure by using forward market is -
   (a) The difference between agreed rate and the spot rate at the time of entering into the contract
   (b) **The difference between agreed rate and the spot rate on the due date of the contract**
   (c) The forward premium / discount annualized
   (d) None of the above

56. Money market hedge involves -
   (a) **Borrowing / investing the concerned currency in the money market and squaring the position on the due date of receivable / payable.**
   (b) Borrowing / investing the concerned currency in the money market and covering the position immediately in the forward market.
Module-III : Theory and Practice of Forex and Treasury Management

(c) Covering an exposure in the domestic currency.
(d) Simultaneous borrowing and lending the money market.

57. The cost of hedging through options includes -
(a) Option premium
(b) Interest on option premium till due date of the contract
(c) Both (a) and (b) above
(d) (a) above and difference between option price and spot price

58. Hedging with options is best recommended for -
(a) Hedging receivables
(b) Hedging payables
(c) Hedging contingency exposures
(d) Hedging foreign currency loans

59. A firm operating in India cannot hedge its foreign currency exposure through -
(a) Forwards
(b) Futures
(c) Options
(d) None of the above

60. Internal hedge for transaction exposure does not include
(a) Exposure netting
(b) Choosing currency of invoicing
(c) Cross hedging
(d) None of the above

61. Foreign currency exposure can be avoided by -
(a) Entering into forward contracts
(b) Denominating the transaction in domestic currency
(c) Exposure netting
(d) Maintaining foreign currency account
62. Maintaining a foreign currency account is helpful in -
   (a) Avoiding transaction cost
   (b) Avoiding exchange risk
   (c) **Avoiding both transaction cost and exchange risk**
   (d) Avoiding exchange risk and domestic currency depreciation

63. The following method does not result in sharing of exchange risk between importer and exporter -
   (a) Denominating in a third currency
   (b) Denominating partly in the importer’s currency and partly in the exporter’s currency
   (c) Entering an exchange rate clause in the contract
   (d) **Denominating in domestic currency**

64. Leading refers to –
   (a) Advancing of receivables
   (b) Advancing of payable
   (c) **Advancing payments either receivables or payables**
   (d) Advancing of receivables and delaying of payables

**Treasury Management**

1. If A invests ₹ 24 at 7 % interest rate for 5 years, total value at end of five years is:
   (a) 31.66
   (b) **33.66**
   (c) 36.66
   (d) 39.66

2. What is the effective annual rate of 12% compounded semi-annually?
   (a) 11.24%
   (b) 12.00%
   (c) **12.36%**
   (d) 2.54%
Module-III : Theory and Practice of Forex and Treasury Management

3. What is the effective annual rate of 12% compounded continuously?
   (a) 11.27%
   (b) 12.00%
   (c) 12.68%
   (d) 12.75%

4. A study is done to see if there is a linear relationship between the life expectancy of an individual and the year of birth. The year of birth is ______________.
   (a) Unable to determine
   (b) dependent variable
   (c) independent variable
   (d) None of the above

5. Which of the following is an example of using statistical sampling?
   (a) Statistical sampling will be looked upon by the courts as providing superior audit evidence.
   (b) **Statistical sampling requires the auditor to make fewer judgmental decisions.**
   (c) Statistical sampling aids the auditor in evaluating results.
   (d) Statistical sampling is more convenient to use than non-statistical sampling.

6. Which of the following best illustrates the concept of sampling risk?
   (a) An auditor may select audit procedures that are not appropriate to achieve the specific objective.
   (b) The documents related to the chosen sample may not be available for inspection.
   (c) A randomly chosen sample may not be representative of the population as a whole.
   (d) An auditor may fail to recognize deviations in the documents examined.

7. The advantage of using statistical sampling techniques is that such techniques
   (a) **Mathematically measure risk.**
   (b) Eliminate the need for judgmental decisions.
   (c) Are easier to use than other sampling techniques.
   (d) Have been established in the courts to be superior to non-statistical sampling.
Objective Type Questions

8. Gradual shifting of a time series over a long period of time is called:
   (a) periodicity
   (b) cycle
   (c) regression
   (d) trend

9. Seasonal components,
   (a) cannot be predicted
   (b) are regular repeated patterns
   (c) are long runs of observations above or below the trend line
   (d) reflect a shift in the series over time

10. Short-term, unanticipated, and nonrecurring factors in a time series provide the random variability known as:
    (a) uncertainty
    (b) the forecast error
    (c) the residuals
    (d) the irregular component

11. The focus of smoothing methods is to smooth:
    (a) the irregular component
    (b) wide seasonal variations
    (c) significant trend effects
    (d) long range forecasts

12. Linear trend is calculated as $T_t = 28.5 + .75t$. The trend projection for period 15 is:
    (a) 11.25
    (b) 28.50
    (c) 39.75
    (d) 44.25
Module-III : Theory and Practice of Forex and Treasury Management

13. The forecasting method that is appropriate when the time series has no significant trend, cyclical, or seasonal effect is:
(a) moving averages
(b) mean squared error
(c) mean average deviation
(d) qualitative forecasting methods

14. In 3 years you are to receive 50,000. If the interest rate were to suddenly increase, the present value of that future amount to you would.
(a) fall.
(b) rise*
(c) remain unchanged
(d) cannot be determined without more information

15. You are considering investing in a zero-coupon bond that sells for 2,500. At maturity in 16 years, it will be redeemed for 10,000. What approximate annual rate of growth does this represent?
(a) 8 percent
(b) 9 percent
(c) 12 percent
(d) 25 percent

16. For 1,000 you can purchase a 5-year ordinary annuity that will pay you a yearly payment of 263.80 for 5 years. The compound annual interest rate implied by this arrangement closest to 1000=263.80(PVIFA, X%, 5) is:
(a) 8 percent
(b) 9 percent
(c) 10 percent
(d) 11 percent

17. The value of a 4 year 12 per cent bond with face value of ₹ 100, if coupon payments are made every half year and a prevailing interest rate is 10%, is:
(a) 96.46
(b) 106.46
Objective Type Questions

(c) 116.46
(d) 86.46

18. If the prevailing interest rate is greater than coupon rate of a bond then the
   (a) Bond is traded at a premium
   (b) **Bond is traded at a discount**
   (c) Bond is available at zero premium
   (d) Bond price does not matter

19. Value of a bond depends on its yield. Following is appropriate when price of a bond goes up:
   (a) Yield goes up
   (b) **Yield goes down**
   (c) Yield remains unchanged
   (d) Yield and bond price go hand in hand

20. Consider a bond maturing in 3 years with face value of ₹ 100 and coupon rate of 6 per cent. The price prevailing today at prevailing interest rate of 8 per cent is:
   (a) ₹ 96.43
   (b) ₹ **94.85**
   (c) ₹ 98.15
   (d) ₹ 100.00
Forex - Terminology

Accrual
The apportionment of premiums and discounts on forward exchange transactions that relate directly to deposit swap (interest arbitrage) deals, over the period of each deal.

Adjustment
Official action normally occasioned by a change either in the internal economic policies to correct a payment imbalance or in the official currency rate.

Aggressive
Traders and/or price action are acting with conviction.

Arbitrage
The simultaneous purchase or sale of a financial product in order to take advantage of small price differentials between markets.

Asian central banks
Refers to the central banks or monetary authorities of Asian countries. These institutions have been increasingly active in major currencies as they manage growing pools of foreign currency reserves arising from trade surpluses. Their market interest can be substantial and influence currency direction in the short-term.

Ask (offer) price
The price at which the market is prepared to sell a product. Prices are quoted two-way as Bid/Ask. The Ask price is also known as the Offer.

In FX trading, the Ask represents the price at which a trader can buy the base currency, shown to the right in a currency pair. For example, in the quote USD/CHF 1.4527/32, the base currency is USD, and the Ask price is 1.4532, meaning you can buy one US dollar for 1.4532 Swiss francs.

In CFD trading, the Ask also represents the price at which a trader can buy the product. For example, in the quote for UK OIL 111.13/111.16, the product quoted is UK OIL and the Ask price is £111.16 for one unit of the underlying market.
AUS 200
A name for the Australian Securities Exchange (ASX 200) which is an index of the top 200 companies (by market capitalization) listed on the Australian stock exchange.

At best
An instruction given to a dealer to buy or sell at the best rate that can be obtained.

At or better
An order to deal for a specific price or better.

Balance of trade
The value of a country's exports minus its imports.

Barrier level
A certain price of great importance included in the structure of a Barrier Option. If a Barrier Level price is reached, the terms of a specific Barrier Option call for a series of events to occur.

Barrier option
Any number of different option structures (such as knock-in, knock-out, no touch, double-no-touch-DNT) that attaches great importance to a specific price trading. In a no-touch barrier, a large defined payout is awarded to the buyer of the option by the seller if the strike price is not 'touched' before expiry. This creates an incentive for the option seller to drive prices through the strike level and creates an incentive for the option buyer to defend the strike level.

Base currency
The first currency in a currency pair. It shows how much the base currency is worth as measured against the second currency. For example, if the USD/CHF rate equals 1.6215, then one USD is worth CHF 1.6215. In the FX market, the US Dollar is normally considered the 'base' currency for quotes, meaning that quotes are expressed as a unit of $1 USD per the other currency quoted in the pair. The primary exceptions to this rule are the British Pound, the Euro and the Australian Dollar.

Base rate
The lending rate of the central bank of a given country.

Basis point
A unit of measurement used to describe the minimum change in the price of a product.
Module-III : Theory and Practice of Forex and Treasury Management

**Bearish / Bear market**

Negative for price direction; favoring a declining market. For example, "We are bearish EUR/USD" means that we think the Euro will weaken against the dollar.

**Bears**

Traders who expect prices to decline and may be holding short positions.

**Bid price**

The price at which the market is prepared to buy a product. Prices are quoted two-way as Bid/Ask.

In FX trading, the Bid represents the price at which a trader can sell the base currency, shown to the left in a currency pair. For example, in the quote USD/CHF 1.4527/32, the base currency is USD, and the Bid price is 1.4527, meaning you can sell one US Dollar for 1.4527 Swiss francs.

In CFD trading, the Bid also represents the price at which a trader can sell the product. For example, in the quote for UK OIL 111.13/111.16, the Bid price is £111.13 for one unit of the underlying market.

**Bid/ask spread**

The difference between the Bid and the Ask (Offer) price

**Big figure**

Refers to the first 3 digits of a currency quote, such as 117 USD/JPY or 1.26 in EUR/USD. If the price moves by 1.5 big figures, it has moved 150 pips.

**BIS**

The Bank for International Settlements located in Basel, Switzerland, is the central bank for central banks. The BIS frequently acts as the market intermediary between national central banks and the market. The BIS has become increasingly active as central banks have increased their currency reserve management. When the BIS is reported to be buying or selling at a level, it is usually for a central bank and thus the amounts can be large. The BIS is used to avoid markets mistaking buying or selling interest for official government intervention.

**Bollinger bands**

A tool used by technical analysts. A band plotted two standard deviations on either side of a simple moving average, which often indicates support and resistance levels.

**Book**

In a professional trading environment, a 'book' is the summary of a trader's or desk's total positions.
British Retail Consortium (BRC) shop price index
A British measure of the rate of inflation at various surveyed retailers. This index only looks at price changes in goods purchased in retail outlets.

Buck
Market slang for 1 million units of a dollar-based currency pair or for the US dollar in general.

Bullish / Bull market
Favoring a strengthening market and rising prices. For example, "We are bullish EUR/USD" means that we think the Euro will strengthen against the dollar.

Bulls
Traders who expect prices to rise and who may be holding long positions.

Buy
Taking a long position on a product.

Cable
The GBP/USD pair. “Cable” earned its nickname because the rate was originally transmitted to the US via a transatlantic cable beginning in the mid 1800's when the GBP was the currency of international trade.

Call option
A currency trade which exploits the interest rate difference between two countries. By selling a currency with a low rate of interest and buying a currency with a high rate of interest, the trader will receive the interest difference between the two countries while this trade is open.

Canadian Ivey Purchasing Managers (CIPM) index
A monthly gauge of Canadian business sentiment issued by the Richard Ivey Business School.

Candlestick chart
A chart that indicates the trading range for the day as well as the opening and closing price. If the open price is higher than the close price, the rectangle between the open and close price is shaded. If the close price is higher than the open price, that area of the chart is not shaded.

Capitulation
A point at the end of an extreme trend when traders who are holding losing positions exit those positions. This usually signals that the expected reversal is just around the corner.

Cash market
The market in the actual underlying markets on which a derivatives contract is based.
Module-III : Theory and Practice of Forex and Treasury Management

**Cash price**
The price of a product for instant delivery; i.e. the price of a product at that moment in time.

**Central bank**
A government or quasi-governmental organization that manages a country’s monetary policy. For example, the US central bank is the Federal Reserve and the German central bank is the Bundesbank.

**CFDs**
A Contract for Difference (or CFD) is a type of derivative that gives exposure to the change in value of an underlying asset (such as an index or equity). It allows traders to leverage their capital (by trading notional amounts far higher than the money in their account) and provides all the benefits of trading securities, without actually owning the product. In practical terms, if you buy a CFD at $10 then sell it at $11, you will receive the $1 difference. Conversely, if you went short on the trade and sold at $10 before buying back at $11, you would pay the $1 difference.

**Choppy**
Short-lived price moves with limited follow-through that are not conducive to aggressive trading.

**Cleared funds**
Funds that are freely available, sent in to settle a trade.

**Clearing**
The process of settling a trade.

**Closed position**
Exposure to a financial contract, such as currency, that no longer exists. A position is closed by placing an equal and opposite deal to offset the open position. Once closed, a position is ‘squared’.

**Closing**
The process of stopping (closing) a live trade by executing a trade that is the exact opposite of the open trade.

**Closing price**
The price at which a product was traded to close a position. It can also refer to the price of the last transaction in a day trading session.
Collateral
An asset given to secure a loan or as a guarantee of performance.

Commission
A fee that is charged for buying or selling a product.

Commodity currencies
Currencies from economies whose exports are heavily based in natural resources, often specifically referring to Canada, New Zealand, Australia and Russia.

Components
The dollar pairs that make up the crosses (i.e. EUR/USD + USD/JPY are the components of EUR/JPY). Selling the cross through the components refers to selling the dollar pairs in alternating fashion to create a cross position.

Confirmation
A document exchanged by counterparts to a transaction that states the terms of said transaction.

Consolidation
A period of range-bound activity after an extended price move.

Construction spending
Measures the amount of spending towards new construction, released monthly by the U.S. Department of Commerce's Census Bureau.

Contagion
The tendency of an economic crisis to spread from one market to another

Contract
The standard unit of forex trading.

Contract note
A confirmation sent that outlines the exact details of the trade.

Contract size
The notional number of shares one CFD represents.

Controlled risk
A position which has a limited risk because of a Guaranteed Stop.
Module-III : Theory and Practice of Forex and Treasury Management

Convergence of MAs
A technical observation that describes moving averages of different periods moving towards each other, which generally forecasts a price consolidation.

Corporate action
An event that changes the equity structure (and usually share price) of a stock. For example, acquisitions, dividends, mergers, splits and spinoffs are all corporate actions.

Counter currency
The second listed currency in a currency pair.

Counterparty
One of the participants in a financial transaction.

Country risk
Risk associated with a cross-border transaction, including but not limited to legal and political conditions.

Crater
The market is ready to sell-off hard.

Crown currencies
Refers to CAD (Canadian Dollar), Aussie (Australian Dollar), Sterling (British Pound) and Kiwi (New Zealand Dollar) – currencies of the Commonwealth countries.

CTAs
Refers to commodity trading advisors, speculative traders whose activity can resemble that of short-term hedge funds; frequently refers to the Chicago-based or futures-oriented traders.

Currency pair
The two currencies that make up a foreign exchange rate, for example EUR/USD.

Currency risk
The probability of an adverse change in exchange rates.

Currency symbols
A three-letter symbol that represents a specific currency, for example USD (US Dollar).

Current account
The sum of the balance of trade (exports minus imports of goods and services), net factor income (such as interest and dividends) and net transfer payments (such as foreign aid). The balance of trade is typically the key component to the current account.
Day trader
Speculators who take positions in commodities and then liquidate those positions prior to the close of the same trading day.

Day trading
Making an open and close trade in the same product in one day.

Deal
A term that denotes a trade done at the current market price. It is a live trade as opposed to an order.

Dealer
An individual or firm that acts as a principal or counterpart to a transaction. Principals take one side of a position, hoping to earn a spread (profit) by closing out the position in a subsequent trade with another party. In contrast, a broker is an individual or firm that acts as an intermediary, putting together buyers and sellers for a fee or commission.

Dealing spread
The difference between the buying and selling price of a contract.

Defend a level
Action taken by a trader, or group of traders, to prevent a product from trading at a certain price or price zone, usually because they hold a vested interest in doing so, such as a barrier option.

Deficit
A negative balance of trade or payments.

Delisting
Removing a stock’s listing on an exchange.

Delivery
A trade where both sides make and take actual delivery of the product traded.

Delta
The ratio between the change in price of a product and the change in price of its underlying market.

Devaluation
When a pegged currency is allowed to weaken or depreciate based on official actions; the opposite of a revaluation.
Module-III : Theory and Practice of Forex and Treasury Management

Discount rate
Interest rate that an eligible depository institution is charged to borrow short-term funds directly from the Federal Reserve Bank.

Divergence
In technical analysis, a situation where price and momentum move in opposite directions, such as prices rising while momentum is falling. Divergence is considered either positive (bullish) or negative (bearish); both kinds of divergence signal major shifts in price direction. Positive/bullish divergence occurs when the price of a security makes a new low while the momentum indicator starts to climb upward. Negative/bearish divergence happens when the price of the security makes a new high, but the indicator fails to do the same and instead moves lower. Divergences frequently occur in extended price moves and frequently resolve with the price reversing direction to follow the momentum indicator.

Divergence of MAs
A technical observation that describes moving averages of different periods moving away from each other, which generally forecasts a price trend.

DJIA or Dow
Abbreviation for the Dow Jones Industrial Average or US30.

Dove
Dovish refers to data or a policy view that suggests easier monetary policy or lower interest rates. The opposite of hawkish.

Downtrend
Price action consisting of lower-lows and lower-highs.

DXY$Y
Symbol for US Dollar Index.

ECB
European Central Bank, the central bank for the countries using the Euro.

Economic indicator
A government-issued statistic that indicates current economic growth and stability. Common indicators include employment rates, Gross Domestic Product (GDP), inflation, retail sales, etc.
End of day order (EOD)
An order to buy or sell at a specified price that remains open until the end of the trading day, typically at 5pm / 17:00 New York.

EST/EDT
The time zone of New York City, which stands for United States Eastern Standard Time/Eastern Daylight time.

ESTX50
A name for the Euronext 50 index.

EURO
The currency of the Eurozone.

European Monetary Union (EMU)
An umbrella name for the group of policies that aims to coordinate economic and fiscal policies across EU Member States.

European session
07:00 – 16:00 (London).

Euro zone labor cost index
Measures the annualized rate of inflation in the compensation and benefits paid to civilian workers and is seen as a primary driver of overall inflation.

Euro zone Organization for Economic Co-operation and Development (OECD) leading indicator
A monthly index produced by the OECD. It measures overall economic health by combining ten leading indicators including average weekly hours, new orders, consumer expectations, housing permits, stock prices and interest rate spreads.

Expiry date / price
The precise date and time when an option will expire. The two most common option expiries are 10:00am ET (also referred to as 10:00 NY time or NY cut) and 3:00pm Tokyo time (also referred to as 15:00 Tokyo time or Tokyo cut). These time periods frequently see an increase in activity as option hedges unwind in the spot market.

Extended
A market that is thought to have traveled too far, too fast.
Module-III: Theory and Practice of Forex and Treasury Management

**Fair value**
The difference between the price of a derivative contract and the underlying cash market price. Fair value means there are no arbitrage opportunities between the two prices.

**Fed**
The Federal Reserve Bank, the central bank of the United States, or the FOMC (Federal Open Market Committee), the policy-setting committee of the Federal Reserve.

**Figure / The figure**
Refers to the price quotation of ‘00’ in a price such as 00-03 (1.2600-03) and would be read as ‘figure-three.’ If someone sells at 1.2600, traders would say ‘the figure was given’ or ‘the figure was hit.’

**Fill**
When an order has been fully executed.

**Fill or kill**
An order that, if it cannot be filled in its entirety, will be cancelled.

**Fix**
One of approximately 5 times during the FX trading day when a large amount of currency must be bought or sold to fill a commercial customer’s orders. Typically these times are associated with market volatility. The regular fixes are as follows (all times NY):

- 5:00 am – Frankfurt
- 6:00 am – London
- 10:00 am – WMHCO (World Market House Company)
- 11:00 am – WMHCO (World Market House Company) – more important
- 8:20 am – IMM
- 8:15 am – ECB

**Flat/square**
Dealer jargon used to describe a position that has been completely reversed, e.g. you bought $500,000 and then sold $500,000, thereby creating a neutral (flat) position.

**Follow-through**
Fresh buying or selling interest after a directional break of a particular price level. The lack of follow-through usually indicates a directional move that will not be sustained and may reverse.
Forex – Terminology

FOMC
Federal Open Market Committee, the policy-setting committee of the US Federal Reserve.

FOMC minutes
Written record of FOMC policy-setting meetings are released 3 weeks following a meeting. The minutes provide more insight into the FOMC’s deliberations and can generate significant market reactions.

Forward
The pre-specified exchange rate for a foreign exchange contract settling at some agreed future date, based upon the interest rate differential between the two currencies involved.

Forward points
The pips added to or subtracted from the current exchange rate to calculate a forward price.

FRA40
A name for the index of the top 40 companies (by market capitalization) listed on the French stock exchange. FRA40 is also known as CAC 40.

FTSE 100
The name of the UK 100 Index.

Fundamental analysis
The assessment of all information available on a tradable product to determine its future outlook and therefore predict where the price is heading. Often non-measurable and subjective assessments, as well as quantifiable measurements, are made in fundamental analysis.

Future
An agreement between two parties to execute a transaction at a specified time in the future when the price is agreed in the present.

Futures contract
An obligation to exchange a good or instrument at a set price and specified quantity grade at a future date. The primary difference between a Future and a Forward is that Futures are typically traded over an exchange (Exchange- Traded Contacts - ETC), versus Forwards, which are considered Over The Counter (OTC) contracts. An OTC is any contract NOT traded on an exchange.
Module-III : Theory and Practice of Forex and Treasury Management

G7
Group of 7 Nations - United States, Japan, Germany, United Kingdom, France, Italy and Canada.

G8
Group of 8 - G7 nations plus Russia.

Gap / Gapping
A quick market move in which prices skip several levels without any trades occurring. Gaps usually follow economic data or news announcements.

Gearing (also known as leverage or margin)
Gearing refers to trading a notional value that is greater than the amount of capital a trader is required to hold in his or her trading account. It is expressed as a percentage or a fraction.

GER30
An index of the top 30 companies (by market capitalization) listed on the German stock exchange – another name for the DAX.

Given
Refers to a bid being hit or selling interest.

Giving it up
A technical level succumbs to a hard-fought battle.

Going long
The purchase of a stock, commodity or currency for investment or speculation – with the expectation of the price increasing.

Going short
The selling of a currency or product not owned by the seller – with the expectation of the price decreasing.

Gold (Gold’s relationship)
Commonly accepted that gold moves in the opposite direction of the US dollar. The long-term correlation coefficient is largely negative, but shorter-term correlations are less reliable.

Gold certificate
A certificate of ownership that gold investors use to purchase and sell the commodity instead of dealing with transfer and storage of the physical gold itself.
Gold contract
The standard unit of trading gold is one contract which is equal to 10 troy ounces.

Good 'til cancelled order (GTC)
An order to buy or sell at a specified price that remains open until filled or until the client cancels.

Greenback
Nickname for the US dollar

Gross domestic product (GDP)
Total value of a country's output, income or expenditure produced within its physical borders.

Gross national product
Gross domestic product plus income earned from investment or work abroad.

Guaranteed order
An order type that protects a trader against the market gapping. It guarantees to fill your order at the price asked.

Guaranteed stop
A stop-loss order guaranteed to close your position at a level you dictate, should the market move to or beyond that point. It is guaranteed even if there's gapping in the market.

Gunning, gunned
Refers to traders pushing to trigger known stops or technical levels in the market.

Handle
Every 100 pips in the FX market starting with 000.

Hawk – hawkish
A country's monetary policy-makers are referred to as ‘hawkish’ when they believe that higher interest rates are needed, usually to combat inflation or restrain rapid economic growth or both.

Hedge
A position or combination of positions that reduces the risk of your primary position.

Hit the bid
To sell at the current market bid.

HK40 / HKHI
A name for the Hong Kong Hang Seng Index.
Illiquid
Little volume being traded in the market; a lack of liquidity often creates choppy market conditions.

IMM
International Monetary Market, the Chicago-based currency futures market that is part of the Chicago Mercantile Exchange.

IMM futures
A traditional futures contract based on major currencies against the US dollar. IMM futures are traded on the floor of the Chicago Mercantile Exchange.

INDU
Abbreviation for the Dow Jones Industrial Average.

Inflation
An economic condition whereby prices for consumer goods rise, eroding purchasing power.

Interbank rates
The Foreign Exchange rates which large international banks quote to each other.

Intervention
Action by a central bank to affect the value of its currency by entering the market. Concerted intervention refers to action by a number of central banks to control exchange rates.

ISM manufacturing index
An index that assesses the state of the US manufacturing sector by surveying executives on expectations for future production, new orders, inventories, employment and deliveries. Values over 50 generally indicate an expansion, while values below 50 indicate contraction.

ISM non-manufacturing
An index that surveys service sector firms for their outlook, representing the other 80% of the US economy not covered by the ISM Manufacturing Report. Values over 50 generally indicate an expansion, while values below 50 indicate contraction.

Japanese economy watchers survey
Measures the mood of businesses that directly service consumers such as waiters, drivers and beauticians. Readings above 50 generally signal improvements in sentiment.
Japanese machine tool orders

Measures the total value of new orders placed with machine tool manufacturers. Machine tool orders are a measure of the demand for companies that make machines, a leading indicator of future industrial production. Strong data generally signals that manufacturing is improving and that the economy is in an expansion phase.

Keep the powder dry

To limit your trades due to inclement trading conditions. In either choppy or extremely narrow markets, it may be better to stay on the sidelines until a clear opportunity arises.

Kiwi

Nickname for NZD/USD.

Knock-ins

Option strategy that requires the underlying product to trade at a certain price before a previously bought option becomes active. Knock-ins is used to reduce premium costs of the underlying option and can trigger hedging activities once an option is activated.

Knock-outs

Option that nullifies a previously bought option if the underlying product trades a certain level. When a knock-out level is traded, the underlying option ceases to exist and any hedging may have to be unwound.

Leading indicators

Statistics that are considered to predict future economic activity.

LIBOR

The London Inter-Bank Offered Rate. Banks use LIBOR as a base rate for international lending.

Limits / Limit order

An order that seeks to buy at lower levels than the current market or sell at higher levels than the current market. A limit order sets restrictions on the maximum price to be paid or the minimum price to be received. As an example, if the current price of USD/YEN is 117.00/05, then a limit order to buy USD would be at a price below the current market, e.g. 116.50.

Long position

A position that appreciates in value if market price increases. When the base currency in the pair is bought, the position is said to be long. This position is taken with the expectation that the market will rise.
Lot
A unit to measure the amount of the deal. The value of the deal always corresponds to an integer number of lots.

Macro
The longest-term trader who bases their trade decisions on fundamental analysis. A “macro” trade’s holding period can last anywhere from around 6 months to multiple years.

Margin call
A request from a broker or dealer for additional funds or other collateral on a position that has moved against the customer.

Market capitalization
The total value of a listed company – share price multiplied by the number of shares issued.

Market maker
A dealer who regularly quotes both bid and ask prices and is ready to make a two-sided market for any financial product.

Mark-to-market
Process of re-evaluating all open positions in the light of current market prices. These new values then determine margin requirements.

MoM
Abbreviation for month over month, which is the change in a data series relative to the prior month's level.

Net position
The amount of currency bought or sold which has not yet been offset by opposite transactions.

Offer (also known as the Ask price)
The price at which the market is prepared to sell a product. Prices are quoted two-way as Bid/Offer. The Offer price is also known as the Ask. The Ask represents the price at which a trader can buy the base currency, which is shown to the right in a currency pair. For example, in the quote USD/CHF 1.4527/32, the base currency is USD, and the ask price is 1.4532, meaning you can buy one US dollar for 1.4532 Swiss francs.

In CFD trading, the Ask represents the price a trader can buy the product. For example, in the quote for UK OIL 111.13/111.16, the product quoted is UK OIL and the ask price is £111.16 for one unit of the underlying market.
Forex – Terminology

Open order
An order that will be executed when a market moves to its designated price. Normally associated with Good ‘til Cancelled Orders.

Open position
An active trade with corresponding unrealized P&L, which has not been offset by an equal and opposite deal.

Option
A derivative which gives the right, but not the obligation, to buy or sell a product at a specific price before a specified date.

Over the counter (OTC)
Used to describe any transaction that is not conducted via an exchange.

Overnight position
A trade that remains open until the next business day.

Pair
The forex quoting convention of matching one currency against the other.

Paneled
A very heavy round of selling.

Parabolic
A market that moves a great distance in a very short period of time, frequently moving in an accelerating fashion that resembles one half of a parabola. Parabolic moves can be either up or down.

Pips
The smallest unit of price for any foreign currency, pips refer to digits added to or subtracted from the fourth decimal place, i.e. 0.0001.

Political risk
Exposure to changes in governmental policy which may have an adverse effect on an investor’s position.

Portfolio
A collection of investments owned by an entity.
Position
The net total holdings of a given product.

Premium
The amount by which the forward or futures price exceeds the spot price.

Price transparency
Describes quotes to which every market participant has equal access.

Purchasing managers index (PMI)
An economic indicator which indicates the performance of manufacturing companies within a country.

Put option
A product which gives the owner the right, but not the obligation, to sell it at a specified price.

Rally
A recovery in price after a period of decline.

Range
When a price is trading between a defined high and low, moving within these two boundaries without breaking out from them.

Real money
Traders of significant size including pension funds, asset managers, insurance companies, etc. They are viewed as indicators of major long-term market interest, as opposed to shorter-term, intraday speculators.

Resistance level
A price that might act as a ceiling. The opposite of support.

Retail investor
An individual investor who trades with money from personal wealth, rather than on behalf of an institution.

Revaluation
When a pegged currency is allowed to strengthen or rise as a result of official actions; the opposite of a devaluation.

Rollover
A rollover is the simultaneous closing of an open position for today’s value date and the opening of the same position for the next day’s value date at a price reflecting the interest rate differential between the two currencies.
In the spot forex market, trades must be settled in two business days. For example, if a trader sells 100,000 Euros on Tuesday, then the trader must deliver 100,000 Euros on Thursday, unless the position is rolled over. As a service to customers, all open forex positions at the end of the day (5:00 PM New York time) are automatically rolled over to the next settlement date. The rollover (or swap) adjustment is simply the accounting of the cost-of-carry on a day-to-day basis.

**Round trip**
A trade that has been opened and subsequently closed by an equal and opposite deal.

**Running profit / loss**
An indicator of the status of your open positions; that is, unrealized money that you would gain or lose should you close all your open positions at that point in time.

**SEC**
Securities and Exchange Commission.

**Short position**
An investment position that benefits from a decline in market price. When the base currency in the pair is sold, the position is said to be short.

**Short squeeze**
A situation in which traders are heavily positioned on the short side and a market catalyst causes them to cover (buy) in a hurry, causing a sharp price increase.

**Short-covering**
After a decline, traders who earlier went short begin buying back.

**Shorts**
Traders who have sold, or shorted, a product, or those who are bearish on the market.

**Sidelines, sit on hands**
Traders staying out of the markets due to directionless, choppy, unclear market conditions are said to be ‘on the sidelines’ or ‘sitting on their hands’.

**Simple Moving Average (SMA)**
A simple average of a pre-defined number of price bars. For example, a 50 period daily chart SMA is the average closing price of the previous 50 daily closing bars. Any time interval can be applied.

**Sovereign names**
Refers to central banks active in the spot market.
Module-III : Theory and Practice of Forex and Treasury Management

**Spot market**
A market whereby products are traded at their market price for immediate exchange.

**Spot price**
The current market price. Settlement of spot transactions usually occurs within two business days.

**Spot trade**
The purchase or sale of a product for immediate delivery (as opposed to a date in the future). Spot contracts are typically settled electronically.

**Spread**
The difference between the bid and offer prices.

**Square**
Purchase and sales are in balance and thus the dealer has no open position.

**Stop loss hunting**
When a market seems to be reaching for a certain level that is believed to be heavy with stops. If stops are triggered, then the price will often jump through the level as a flood of stop-loss orders are triggered.

**Stop order**
A stop order is an order to buy or sell once a pre-defined price is reached. When the price is reached, the stop order becomes a market order and is executed at the best available price. It is important to remember that stop orders can be affected by market gaps and slippage, and will not necessarily be executed at the stop level if the market does not trade at this price. A stop order will be filled at the next available price once the stop level has been reached. Placing contingent orders may not necessarily limit your losses.

**Stop entry order**
This is an order placed to buy above the current price, or to sell below the current price. These orders are useful if you believe the market is heading in one direction and you have a target entry price.

**Stop loss order**
This is an order placed to sell below the current price (to close a long position), or to buy above the current price (to close a short position). Stop loss orders are an important risk management tool. By setting stop loss orders against open positions you can limit your potential downside should the market move against you. Remember that stop orders do not guarantee your execution price – a stop order is triggered once the stop level is reached, and will be executed at the next available price.
Forex – Terminology

**Stops building**
Refers to stop-loss orders building up; the accumulation of stop-loss orders to buy above the market in an up move, or to sell below the market in a down move.

**Strike price**
The defined price at which the holder of an option can buy or sell the product.

**Suspended trading**
A temporary halt in the trading of a product.

**Swap**
A currency swap is the simultaneous sale and purchase of the same amount of a given currency at a forward exchange rate.

**T/P**
Stands for “take profit.” Refers to limit orders that look to sell above the level that was bought, or buy back below the level that was sold.

**Takeover**
Assuming control of a company by buying its stock.

**Technical analysis**
The process by which charts of past price patterns are studied for clues as to the direction of future price movements.

**Tomorrow next (Tom/Next)**
Simultaneous buying and selling of a currency for delivery the following day.

**Trade balance**
Measures the difference in value between imported and exported goods and services. Nations with trade surpluses (exports greater than imports), such as Japan, tend to see their currencies appreciate, while countries with trade deficits (imports greater than exports), such as the US, tend to see their currencies weaken.

**Trade size**
The number of units of product in a contract or lot.

**Trading bid**
A pair is acting strong and/or moving higher; bids keep entering the market and pushing prices up.
Module-III : Theory and Practice of Forex and Treasury Management

Trading halt
A postponement to trading that is not a suspension from trading.

Trading heavy
A market that feels like it wants to move lower, usually associated with an offered market that will not rally despite buying attempts.

Trading offered
A pair is acting weak and/or moving lower, and offers to sell keep coming into the market.

Trading range
The range between the highest and lowest price of a stock usually expressed with reference to a period of time. For example: 52-week trading range.

Trailing stop
A trailing stop allows a trade to continue to gain in value when the market price moves in a favorable direction, but automatically closes the trade if the market price suddenly moves in an unfavorable direction by a specified distance. Placing contingent orders may not necessarily limit your losses.

Transaction cost
The cost of buying or selling a financial product.

Trend
Price movement that produces a net change in value. An uptrend is identified by higher highs and higher lows. A downtrend is identified by lower highs and lower lows.

Two-way price
When both a bid and offer rate is quoted for an FX transaction.

Ugly
Describing unforgiving market conditions that can be violent and quick.

UK HBOS house price index
Measures the relative level of UK house prices for an indication of trends in the UK real estate sector and their implication for the overall economic outlook. This index is the longest monthly data series of any UK housing index, published by the largest UK mortgage lender (Halifax Building Society/Bank of Scotland).
Unrealized gain/loss
The theoretical gain or loss on open positions valued at current market rates, as determined by the broker in its sole discretion. Unrealized Gains/Losses become Profits/Losses when the position is closed.

Uptick
A new price quote at a price higher than the preceding quote.

Uptick rule
In the US, a regulation whereby a security may not be sold short unless the last trade prior to the short sale was at a price lower than the price at which the short sale is executed.

US prime rate
The interest rate at which US banks will lend to their prime corporate customers.

Value date
Also known as the maturity date, it is the date on which counterparts to a financial transaction agree to settle their respective obligations, i.e., exchanging payments. For spot currency transactions, the value date is normally two business days forward.

Variation margin
Fund traders must hold in their accounts to have the required margin necessary to cope with market fluctuations.

VIX or Volatility index
Shows the market's expectation of 30-day volatility. It is constructed using the implied volatilities of a wide range of S&P 500 index options. The VIX is a widely-used measure of market risk and is often referred to as the "investor fear gauge."

Wedge chart pattern
Chart formation that shows a narrowing price range over time, where price highs in an ascending wedge decrease incrementally, or in a descending wedge, price declines are incrementally smaller. Ascending wedges typically conclude with a downside breakout, and descending wedges typically terminate with upside breakouts.

Whipsaw
Slang for a highly volatile market where a sharp price movement is quickly followed by a sharp reversal.

Wholesale prices
Measures the changes in prices paid by retailers for finished goods. Inflationary pressures typically show earlier than the headline retail.
Arbitrage
In its simplest form, involves buying and selling the same security, more or less simultaneously, to profit from a price disparity. In the forex market, arbitrage trades capitalize on forward exchange rates being out of line with the interest differential.

Call Option
A financial (DERIVATIVE) instrument giving the right but no obligation to the holder to buy a security (or currency) at a predetermined price (or exchange rate) from the option seller. The option holder (buyer) pays the option seller a \textit{premium} for this privilege. If the option can be exercised at any time before its maturity, it is called an \textbf{American} option. \textbf{European} options, in contrast, can be exercised only on maturity.

Call and PUT options in cross-currencies (i.e., USD/JPY, Euro/USD, GBP/USD, etc.) are allowed to be bought and sold by banks in India on a fully hedged basis. The option seller should be a bank abroad. USD/INR options are on the anvil.

In the context of bonds, a call option gives the issuer the right to redeem the bonds before maturity. This will happen if interest rates have fallen since the issue was made. A put option enables investors to redeem the bond before maturity and will happen if interest rates rise after the issue.

Capital Adequacy
The minimum unencumbered, undiluted capital, consisting of paid-up equity, free reserves and long-term subordinated debt that a bank must maintain as a percentage of its risk assets. Currently 9%.

Capital Fund
Comprises Tier I and Tier II capital of the Bank.

Cash Market
The market in a financial instrument like bonds, equities, foreign exchange.

Cash Reserve Ratio (CRR)
CRR is the percentage of Net Demand and Time Liabilities (NDTL) that scheduled commercial banks must maintain with the RBI as cash.
Clearing
The process of exchanging securities and funds through a Clearing House after a trade/deal is concluded.

Clearing House
An Indian example of a Clearing House is CCIL, which clears trades in G-Secs. Some Clearing Houses (abroad) combine the functions of clearing and custody.

Clean Price/Dirty Price
The price of a debt instrument excluding interest for the period elapsed since the last coupon was paid is called the clean price. Market prices are clean prices. Dirty price includes interest from the last coupon date to the settlement date.

Country Risk
The possibility that a country will default on its Government’s obligations to foreigners and/or on the foreign liabilities of its banking system/private sector for lack of foreign exchange reserves.

Current / Capital Account Transactions
1. Transactions involving imports and exports of goods and services and interest/dividends on financial investments are current account transactions.
2. Transactions involving deposits and financial investments in India or abroad by foreigners/foreign entities and Indian individuals/entities respectively are capital account transactions.

Current Yield
Annual coupon on a bond divided by the purchase price or market price of the security

CRISIL
Short for Credit Rating Information Services of India Ltd, which rates debt issues and other financial obligations in the Indian market.

Demat
The existence of securities in electronic form in depositories and depository participants

Dematted / Dematting
The process of converting physical securities to electronic (demat) form.

Depository Participant(s) (DPs)
Satellites of apex depositories - NSDL or CDSL. They maintain records of ownership of securities.
Derivatives

Financial instruments or contracts based on an underlying cash instrument. An example is a forward contract in foreign exchange in which the purchase/sale of a currency for a future date is fixed today. The forward contract is "derived" and exists because of spot transactions between the two currencies, that is, the existence of a spot (cash) market, which is a fundamental condition. The price of a derivative is a function of the price of the underlying instrument or product in the cash market and other variables such as interest rates, time to maturity of the derivative and volatility of prices in the cash market.

FEDAI

Short for Foreign Exchange Dealers' Association of India, a body comprising representatives of the foreign exchange departments of banks and entrusted with the formulation of norms for inter-bank and merchant forex transactions and self-regulation of forex markets.

Forward Premium

A currency is at a premium in the forward market when fewer can be bought for a forward maturity than spot.

Forward Discount

Refers to the value of a currency in the forward market, i.e., for future delivery. When a currency is at a discount compared to the spot rate, it is worth less or, in other words, is cheaper to buy in the forward market than for spot settlement.

FIMMDA

Acronym for Fixed Income Money Market and Derivatives Association of India, a body comprising representatives of the treasury departments of banks and entrusted with the responsibility of self-regulation of money markets and fixed income and derivative markets.

Floors

An interest rate option product which protects lenders/investors from falling interest rates.

FRAs

Short for Forward Rate Agreements. Enables FRA buyer or seller to lock-in a rate of interest for a future period. An example of how it is structured is a bank selling a 6-6 FRA @7%. This means the FRA buyer will pay 7% interest for the 6-month period commencing 6 months hence (nomenclature, therefore, as 6-6), irrespective of the actual market rate for 6 months at that time.

Forward Contracts (Forex)

Forex deals between two currencies to be settled on a future date specified at the time of the deal.
Hedging

Insulating (for example) interest rate exposures from market fluctuations, mostly using derivative instruments like swaps and futures. (See Interest Rate Swap below).

Interest Rate Swap (IRS)

A derivative transaction in which one party pays a fixed rate of interest and the counterparty pays a floating rate of interest (reset at predetermined intervals) on an agreed principal.

For example, Bank A might pay 9% fixed (semi-annually) to Bank B and Bank B pays MIBOR + 0.25%, (half-yearly) to Bank A on ₹ 100cr. No exchange of principal takes place at the beginning or end. Only interest payments or the net flow from Bank A to Bank B or vice-versa at six-monthly intervals takes place.

This swap protects Bank A’s investments from a rise in interest rates as it receives and pays offsetting fixed rates through the swap.

INFINET

Short for Indian Financial Network. A secure closed-user group (CUG) hybrid network consisting of VSATs and closed lines. Membership is restricted to entities having SGL and current accounts with the RBI. All banks and PDs are obliged to become members of INFINET, as only INFINET members can participate in the NDS and CCIL Settlements.

Issuing and Paying Agent (IPA)

The bank responsible for due diligence, issue and redemption in the issue of Commercial Paper (CP) by a corporate.

Liquidity Adjustment Facility (LAF)

A facility designed by the RBI to mop up excess liquidity or supply liquidity to the banking system on a daily basis through repo/reverse repo auctions.

Thus, if the market is surplus in funds, the RBI will attract more reverse repos. When the market is liquidity—short, LAFs will attract more repos. (Repos and reverse repo are used here from the perspective of the RBI—it borrows cash in a repo and borrows securities in a reverse repo).

LIBOR

London Interbank Offer Rate, the rate at which banks in London lend and borrow U.S. dollars from one another.
Module-III : Theory and Practice of Forex and Treasury Management

Market Participants and Players

<table>
<thead>
<tr>
<th>Product</th>
<th>Participants/Players</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Call Money, Notice/Term Money</td>
<td>Banks, Primary Dealers, Financial institutions, mutual funds, insurance companies – the last three only as lenders.</td>
</tr>
<tr>
<td>2. Repos</td>
<td>Banks, PDs and mutual funds</td>
</tr>
<tr>
<td>3. Certificates of Deposit (CDs)</td>
<td>Can be issued only by banks and financial institutions. For issues by financial institutions, the maturity should be at least one year. No restrictions on the buy side.</td>
</tr>
<tr>
<td>5. Government of India securities</td>
<td>T-bills/Issued by Government of India/State Governments through the RBI. No restrictions on buy side.</td>
</tr>
<tr>
<td>State Government securities</td>
<td></td>
</tr>
<tr>
<td>8. Spot Foreign Exchange</td>
<td>Only forex authorised branches of banks and term-lending institutions (IDBI, IFCI) on both buy and sell sides. Corporates and individuals must have underlying physical and approved current/capital account transactions and must route their deals through authorised dealers.</td>
</tr>
<tr>
<td>9. Forward Contracts in Foreign</td>
<td>As for spot foreign exchange</td>
</tr>
<tr>
<td>11. Equities and Mutual Funds</td>
<td>Primary issues by corporates/mutual funds. No restrictions on buy and sell sides.</td>
</tr>
</tbody>
</table>

Market makers
Entities (brokers, banks, institutions) which maintain a market (liquidity) in a security or a currency by always quoting buy (bid) and sell (offer) prices for the security or currency.
Marked-to-Market
The valuation of a security at its market price on a continuous basis. Applied generally on trading positions in the securities and forex markets to determine the profit (or loss) on these exposures.

MIBOR
Mumbai Inter-bank Offer Rate (MIBOR) is the interest rate at which a bank can borrow in the money market.

MIFOR
Mumbai Inter-bank Forward Offered Rate indicates the sum of LIBOR and the forward premium on USD/INR.

NDTL
Short for Net Demand and Time Liabilities.
The liability base of a bank, as defined by the RBI, on which the bank must maintain minimum CRR and SLR as prescribed by the RBI.

Net Owned Funds (NOF)
Paid-up equity plus free unencumbered reserves – also called net worth – of a bank.

NSE
Acronym for National Stock Exchange.

Nostro Accounts
Nostro Accounts are foreign currency accounts maintained with correspondent banks to facilitate clearing forex transactions of the Bank.

Non-SLR Bonds/Securities
Debt instruments that do not qualify for inclusion in the SLR of a bank. Usually corporate bonds.

NSDL
Short for National Securities Depository Ltd, the apex depository for electronic custody, ownership and transfer of securities, of which DPs are members.

Offer(s)
The price(s) at which market makers / sellers want to sell securities or foreign exchange to the market.
Open Market Operations (OMOs)
When the RBI itself buys securities from or sells securities to the market, they are called open market operations or OMOs. The RBI’s actions have the effect of decreasing the money supply when selling securities to the market and increasing the money supply when buying securities from the market.

On-the-run
Recently – issued or latest issues of G-Secs. which are generally most active in the secondary market.

On balance sheet
Items of assets and liabilities which figure in the balance sheet. Examples are paid-up capital, reserves, borrowings, investments, fixed assets, etc.

Off balance sheet
Items which do not appear in the main balance sheet. Examples are contingent liabilities such as guarantees and LCs. Swaps are also treated as such.

PDO (Public Debt Office)
RBI’s department maintaining SGL accounts and handling SGL transfers.

Put Option
A financial instrument giving the holder the right but no obligation to sell a security at a predetermined price and during or at a predetermined time to the option seller.

Primary Dealers (PDs)
These are the intermediaries between the RBI and the market. They are under an obligation to take a minimum percentage of the primary issues of securities by the RBI through the central bank’s auctions as and when they take place. For this commitment, they are paid a commission by the RBI, based on the value of securities absorbed by them.

Reporting Fortnight/Friday
This is the day of the week, every alternate week, for which banks must report their closing Net Demand and Time Liabilities (NDTL) to the RBI. The RBI checks their compliance with the Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) obligations based on the NDTL data provided by the banks on reporting Fridays. Reporting fortnight refers to the gap between two reporting Fridays.
Repo/Reverse Repo

Repo is short for repurchase agreement.

A repurchase agreement, as the name suggests, is a contract to buy securities today and sell them back on a future date at a price fixed today. The securities are nominally transferred to the buyer but the seller has full entitlement to interest/dividends and all other benefits accruing as if he is the owner of the securities between the time of sale and buyback.

The difference between the repurchase price (future) and sale price (today) is normally based on the inter-bank rate of interest for the tenor of the repo.

The buyer of securities in a repo in effect borrows securities and gives cash while the seller in the repo lends securities and receives cash. The transaction is termed repo for the seller of securities and reverse repo for the buyer of securities.

Risk Weight

The full capital ratio for ‘risky’ assets is 9%. Risk weight is the proportion of the full capital ratio applicable to individual assets/asset categories. For example, G-Secs carry a risk weight of 2.5%. This means the capital provision for the G-Secs asset category should be 2.5% of 9%, i.e., 0.225% of the investment in G-Secs. Similarly, if the risk weight is 50%, the capital provision required for the asset is 4.5%.

RTGS (Real Time Gross Settlement)

System of clearing trades in securities immediately on completion of a deal. Is possible on STP platform. RBI/INDS/CCIL plan to move to RTGS mode in the near future in the G-Secs market.

Securitization

The conversion of loans into tradable securities based on the underlying cash flows from the loans for interest payments and principal amortization.

Settlement

The process of exchanging securities and funds after a trade/deal is concluded. If done through a clearing house, called clearing. The custodian is responsible for accepting or delivering securities bought or sold by its clients. Depository participants are examples of custodians. In Western countries, major banks also perform the role of custodians. They may even settle and guarantee trades on behalf of their clients.

Settlement of foreign exchange deals involve crediting and debiting nostro accounts for cross-currency deals (i.e., deals entirely in foreign currencies) and nostro account and rupee account for USD/INR deals.
Sensex
The BSE index of its 30 most actively traded shares.

Short(s)
A sale position in the cash or futures markets without the investor actually owning the underlying shares. The trade anticipates the price will decline, enabling squaring up the (short) sale at a lower price.

Short selling
Selling securities without actually owning the securities, in the expectation of buying them back at a lower price later.

SGL Depository and SGL
The SGL (short for Subsidiary General Ledger) Depository is a computerized system of records of ownership of SLR securities issued by the Government of India and State Governments.

The RBI pays the coupons and redeems the SGL securities on the interest due and redemption dates.

SLR Bonds / Securities
Securities notified by the RBI the ownership of which by a bank qualifies for inclusion in computation of the SLR of the bank.

Statutory Liquidity Ratio (SLR)
The Statutory Liquidity Ratio is the mandatory minimum percentage of Net Demand and Time Liabilities (NDTL), which scheduled commercial banks must invest in notified securities (also called SLR Securities). This is monitored by the RBI with reference to the NDTL position in each bank at the close of every reporting fortnight (alternate Fridays). Currently the SLR is 25%.

Subsidiary General Ledger (SGL)
An electronic record of ownership of G-Secs / T-bills / State Government Securities maintained by the RBI.

STRIPS
Separation of interest from principal in a fixed – income instrument. Each interest payment till maturity is converted into a security, which is priced on prevailing market interest rates for that maturity. The principal becomes a separate security representing a one-off payment on maturity and is similarly priced. A stripped security becomes, in essence, a series of zero coupon securities representing interest and principal cash flows from the security.
Spot
Foreign exchange deals between two currencies to be settled two working days after the deal.

SWIFT
‘Society for Worldwide Interbank Financial Telecommunication’ is a co-operative society created under Belgian law and having its Corporate Office at Brussels. The Society, which has been in operation since May 1977 and covers most of Western Europe and North America, operates a computer-guided communication system to rationalize international payment transfers. It comprises a computer network system between participating banks with two operating centers, in Amsterdam and Brussels, where messages can be stored temporarily before being transmitted to the relevant bank’s terminal.

Standard Assets
Loans/investments which are not in arrears or default with regard to interest and principal.

Trading Portfolio
As defined by the RBI, the trading portfolio of a bank consists of securities bought with a view to profit from short-term upward movements in their prices. They must be compulsorily marked-to-market.

T-bills

Tail
The lower among the bid prices is an auction, if bids are arranged in descending order.

Tier I Capital
Consists of paid-up equity and free reserves and constitutes the core capital of the Bank.

Tier II Capital
Consists of revaluation reserves, general provisions and loss reserves and subordinated debt in the form of long-term bonds and Investment Fluctuation Reserve.

Subordinated debt issued by banks/FIs/NBFCs to meet Tier II capital requirements are called Tier II bonds.

TT Buying/Selling Rates
Rates quoted by a bank for immediate purchases/sales of foreign exchange. Usually the inter-bank rate ± bank’s spread. TT buying/selling rates are converted to TT forward rates by applying the applicable forward premiums on the foreign currency.
Module-III : Theory and Practice of Forex and Treasury Management

Vostro Accounts
Vostro Accounts are rupee accounts maintained by banks outside India with Bank of Baroda to clear their rupee transactions.

Value Date
Payment date to settle a transaction, that is, the date on which funds will actually be credited or debited.

Volatility
The standard deviation (average deviation of individual prices from the mean) of a series of prices of a financial instrument. Measures the fluctuation over time in the market price of an instrument and is extensively used in the valuation of financial instruments.

Yield Curve
A plot of YTM against time for various maturities for a specific class of bonds. Usually done for G-Seecs (or Treasuries), in which case it is described as the Treasury benchmark (risk-free) yield curve.

YTM (Yield to Maturity)
The rate of interest which equates the present value of future interest payments and principal redemption with today’s price of the bond.

Zero Coupon Yield
The yield on bonds paying no coupons and cumulating interest till maturity.
Asset
An asset is anything of value that is owned by a person or business.

Available for Sale
The securities available for sale are those securities where the intention of the bank is neither to trade nor to hold till maturity. These securities are valued at the fair value which is determined by reference to the best available source of current market quotations or other data relative to current value.

Balance Sheet
A balance sheet is a financial statement of the assets and liabilities of a trading concern, recorded at a particular point in time.

Banking Book
The banking book comprises assets and liabilities, which are contracted basically on account of relationship or for steady income and statutory obligations and are generally held till maturity.

Basel Capital Accord
The Basel Capital Accord is an Agreement concluded among country representatives in 1988 to develop standardised risk-based capital requirements for banks across countries. The Accord was replaced with a new capital adequacy framework (Basel II), published in June 2004. Basel II is based on three mutually reinforcing pillars that allow banks and supervisors to evaluate properly the various risks that banks face.

These three pillars are: minimum capital requirements, which seek to refine the present measurement; supervisory review of an institution's capital adequacy and internal assessment process; and market discipline through effective disclosure to encourage safe and sound banking practices.
Basel Committee on Banking Supervision

The Basel Committee is a committee of bank supervisors consisting of members from each of the G10 countries. The Committee is a forum for discussion on the handling of specific supervisory problems. It coordinates the sharing of supervisory responsibilities among national authorities in respect of banks' foreign establishments with the aim of ensuring effective supervision of banks' activities worldwide.

Basic Indicator Approach

An operational risk measurement technique permitted under Basel II. The approach sets a charge for operational risk as a fixed percentage ("alpha factor") of a single indicator. The indicator serves as a proxy for the bank's risk exposure.

Basis Risk

The risk that the interest rate of different assets, liabilities and off-balance sheet items may change in different magnitude is termed as basis risk.

Capital

Capital refers to the funds (e.g., money, loans, equity) which are available to carry on a business, make an investment, and generate future revenue. Capital also refers to physical assets which can be used to generate future returns.

Capital adequacy

A measure of the adequacy of an entity's capital resources in relation to its current liabilities and also in relation to the risks associated with its assets. An appropriate level of capital adequacy ensures that the entity has sufficient capital to support its activities and that its net worth is sufficient to absorb adverse changes in the value of its assets without becoming insolvent. For example, under BIS (Bank for International Settlements) rules, banks are required to maintain a certain level of capital against their risk-adjusted assets.

Capital reserves

That portion of a company's profits not paid out as dividends to shareholders. They are also known as undistributable reserves.

Convertible Bond

A bond giving the investor the option to convert the bond into equity at a fixed conversion price or as per a pre-determined pricing formula.

Core Capital

Tier 1 capital is generally referred to as Core Capital.
Credit risk
Risk that a party to a contractual agreement or transaction will be unable to meet their obligations or will default on commitments. Credit risk can be associated with almost any transaction or instrument such as swaps, repos, CDs, foreign exchange transactions, etc. Specific types of credit risk include sovereign risk, country risk, legal or force majeure risk, marginal risk and settlement risk.

Debentures
Bonds issued by a company bearing a fixed rate of interest usually payable half yearly on specific dates and principal amount repayable on a particular date on redemption of the debentures.

Deferred Tax Assets
Unabsorbed depreciation and carry forward of losses which can be set-off against future taxable income which is considered as timing differences result in deferred tax assets. The deferred Tax Assets are accounted as per the Accounting Standard 22. Deferred Tax Assets have an effect of decreasing future income tax payments, which indicates that they are prepaid income taxes and meet definition of assets; whereas deferred tax liabilities have an effect of increasing future year's income tax payments, which indicates that they are accrued income taxes and meet definition of liabilities.

Derivative
A derivative instrument derives much of its value from an underlying product. Examples of derivatives include futures, options, forwards and swaps. For example, a forward contract can be derived from the spot currency market and the spot markets for borrowing and lending. In the past, derivative instruments tended to be restricted only to those products which could be derived from spot markets. However, today the term seems to be used for any product that can be derived from any other.

Duration
Duration (Macaulay duration) measures the price volatility of fixed income securities. It is often used in the comparison of the interest rate risk between securities with different coupons and different maturities. It is the weighted average of the present value of all the cash flows associated with a fixed income security. It is expressed in years. The duration of a fixed income security is always shorter than its term to maturity, except in the case of zero coupon securities where they are the same.

Foreign Institutional Investor
An institution established or incorporated outside India which proposes to make investment in India in securities; provided that a domestic asset management company or domestic portfolio manager who manages funds raised or collected or brought from outside India for
Module-III: Theory and Practice of Forex and Treasury Management

investment in India on behalf of a sub-account shall be deemed to be a Foreign Institutional Investor.

Forward Contract
A forward contract is an agreement between two parties to buy or sell an agreed amount of a commodity or financial instrument at an agreed price for delivery on an agreed future date. In contrast to a futures contract, a forward contract is not transferable or exchange tradable, its terms are not standardized and no margin is exchanged. The buyer of the forward contract is said to be long the contract and the seller is said to be short the contract.

General provisions and loss reserves
Such reserves, if they are not attributable to the actual diminution in value or identifiable potential loss in any specific asset and are available to meet unexpected losses, can be included in Tier II capital.

General risk
Risk that relates to overall market conditions while specific risk is risk that relates to the issuer of a particular security

Hedging
Taking action to eliminate or reduce exposure to risk

Held for Trading
Securities where the intention is to trade by taking advantage of short-term price/interest rate movements.

Horizontal Disallowance
A disallowance of offsets to required capital used the BIS Method for assessing market risk for regulatory capital. In order to calculate the capital required for interest rate risk of a trading portfolio, the BIS Method allows offsets of long and short positions. Yet interest rate risks of instruments at different horizontal points of the yield curve are not perfectly correlated. Hence, the BIS Method requires that a portion of these offsets be disallowed.

Hybrid debt capital instruments
In this category fall a number of capital instruments which combine certain characteristics of equity and certain characteristics of debt. Each has a particular feature which can be considered to affect its quality as capital. Where these instruments have close similarities to equity, in particular when they are able to support losses on an ongoing basis without triggering liquidation, they may be included in Tier II capital.
Interest rate risk
Risk that the financial value of assets or liabilities (or inflows/outflows) will be altered because of fluctuations in interest rates. For example, the risk that future investment may have to be made at lower rates and future borrowings at higher rates.

Long Position
A long position refers to a position where gains arise from a rise in the value of the underlying.

Market risk
Risk of loss arising from movements in market prices or rates away from the rates or prices set out in a transaction or agreement.

Modified Duration
The modified duration or volatility of an interest bearing security is its Macaulay Duration divided by one plus the coupon rate of the security. It represents the percentage change in the securities’ price for a 100-basis point change in yield. It is generally accurate for only small changes in the yield.

\[ MD = - \frac{dP}{dY} x \frac{1}{P} \]

Where, MD= Modified Duration
P= Gross price (i.e. clean price plus accrued interest)
dP= Corresponding small change in price
dY = Small change in yield compounded with the frequency of the coupon payment.

Mortgage-backed security
A bond-type security in which the collateral is provided by a pool of mortgages. Income from the underlying mortgages is used to meet interest and principal repayments.

Mutual Fund
Mutual Fund is a mechanism for pooling the resources by issuing units to the investors and investing funds in securities in accordance with objectives as disclosed in offer document. A fund established in the form of a trust to raise monies through the sale of units to the public or a section of the public under one or more schemes for investing in securities, including money market instruments.

Net Interest Margin
Net interest margin is the net interest income divided by average interest earning assets

Net NPA
Net NPA = Gross NPA – (Balance in Interest Suspense account + DICGC/ECGC claims
received and held pending adjustment + Part payment received and kept in suspense account + Total provisions held)

**Nostro accounts**

Foreign currency settlement accounts that a bank maintains with its overseas correspondent banks. These accounts are assets of the domestic bank.

**Off-Balance Sheet exposures**

Off-Balance Sheet exposures refer to the business activities of a bank that generally do not involve booking assets (loans) and taking deposits. Off-balance sheet activities normally generate fees, but produce liabilities or assets that are deferred or contingent and thus, do not appear on the institution's balance sheet until or unless they become actual assets or liabilities.

**Open position**

It is the net difference between the amounts payable and amounts receivable in a particular instrument or commodity. It results from the existence of a net long or net short position in the particular instrument or commodity.

**Option**

An option is a contract which grants the buyer the right, but not the obligation, to buy (call option) or sell (put option) an asset, commodity, currency or financial instrument at an agreed rate (exercise price) on or before an agreed date (expiry or settlement date). The buyer pays the seller an amount called the premium in exchange for this right. This premium is the price of the option.

**Risk**

The possibility of an outcome not occurring as expected. It can be measured and is not the same as uncertainty, which is not measurable. In financial terms, risk refers to the possibility of financial loss. It can be classified as credit risk, market risk and operational risk.

**Risk Asset Ratio**

A bank's risk asset ratio is the ratio of a bank's risk assets to its capital funds. Risk assets include assets other than highly rated government and government agency obligations and cash, for example, corporate bonds and loans. The capital funds include capital and undistributed reserves. The lower the risk asset ratio the better the bank's 'capital cushion'.

**Risk Weights**

Basel II sets out a risk-weighting schedule for measuring the credit risk of obligors. The risk weights are linked to ratings given to sovereigns, financial institutions and corporations by external credit rating agencies.
Securitization
The process whereby similar debt instruments/assets are pooled together and repackaged into marketable securities which can be sold to investors. The process of loan securitisation is used by banks to move their assets off the balance sheet in order to improve their capital asset ratios.

Short position
A short position refers to a position where gains arise from a decline in the value of the underlying. It also refers to the sale of a security in which the seller does not have a long position.

Specific risk
Within the framework of the BIS proposals on market risk, specific risk refers to the risk associated with a specific security, issuer or company, as opposed to the risk associated with a market or market sector (general risk).

Subordinated debt
Refers to the status of the debt. In the event of the bankruptcy or liquidation of the debtor, subordinated debt only has a secondary claim on repayments, after other debt has been repaid.

Tier one (or Tier I) capital
A term used to refer to one of the components of regulatory capital. It consists mainly of share capital and disclosed reserves (minus goodwill, if any). Tier I items are deemed to be of the highest quality because they are fully available to cover losses. The other categories of capital defined in Basel II are Tier II (or supplementary) capital and Tier III (or additional supplementary) capital.

Tier two (or Tier II) capital
Refers to one of components of regulatory capital. Also known as supplementary capital, it consists of certain reserves and certain types of subordinated debt. Tier II items qualify as regulatory capital to the extent that they can be used to absorb losses arising from a bank’s activities. Tier II’s capital loss absorption capacity is lower than that of Tier I capital.

Trading Book
A trading book or portfolio refers to the book of financial instruments held for the purpose of short-term trading, as opposed to securities that would be held as a long-term investment. The trading book refers to the assets that are held primarily for generating profit on short-term differences in prices/yields. The price risk is the prime concern of banks in trading book.
Module-III : Theory and Practice of Forex and Treasury Management

Underwrite

Generally, to underwrite means to assume a risk for a fee. Its two most common contexts are:

(a) Securities: a dealer or investment bank agrees to purchase a new issue of securities from the issuer and distribute these securities to investors. The underwriter may be one person or part of an underwriting syndicate. Thus the issuer faces no risk of being left with unsold securities.

(b) Insurance: a person or company agrees to provide financial compensation against the risk of fire, theft, death, disability, etc., for a fee called a premium.

Undisclosed Reserves

These reserves often serve as a cushion against unexpected losses, but they are less permanent in nature and cannot be considered as ‘Core Capital’. Revaluation reserves arise from revaluation of assets that are undervalued on the bank’s books, typically bank premises and marketable securities. The extent to which the revaluation reserves can be relied upon as a cushion for unexpected losses depends mainly upon the level of certainty that can be placed on estimates of the market values of the relevant assets, the subsequent deterioration in values under difficult market conditions or in a forced sale, potential for actual liquidation at those values, tax consequences of revaluation, etc.

Value at risk (VAR)

It is a method for calculating and controlling exposure to market risk. VAR is a single number (currency amount) which estimates the maximum expected loss of a portfolio over a given time horizon (the holding period) and at a given confidence level.

Venture capital Fund

A fund with the purpose of investing in start-up business that is perceived to have excellent growth prospects but does not have access to capital markets.

Vertical Disallowance

In the BIS Method for determining regulatory capital necessary to cushion market risk, a reversal of the offsets of a general risk charge of a long position by a short position in two or more securities in the same time band in the yield curve where the securities have differing credit risks.
Frequently Used Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACH</td>
<td>Automated Clearing Houses</td>
</tr>
<tr>
<td>ACU</td>
<td>Asian Clearing Union</td>
</tr>
<tr>
<td>AD</td>
<td>Authorised Dealer</td>
</tr>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>ADR</td>
<td>American Depository Receipt</td>
</tr>
<tr>
<td>AFS</td>
<td>Available for Sale</td>
</tr>
<tr>
<td>AIFI</td>
<td>All India Financial Institutions</td>
</tr>
<tr>
<td>ALD</td>
<td>Aggregate Liabilities to the Depositors</td>
</tr>
<tr>
<td>ALM</td>
<td>Asset Liability Management</td>
</tr>
<tr>
<td>AMFI</td>
<td>Association of Mutual Funds in India</td>
</tr>
<tr>
<td>AML</td>
<td>Anti Money Laundering</td>
</tr>
<tr>
<td>AMS</td>
<td>Aggregate Measures of Support</td>
</tr>
<tr>
<td>ARCIL</td>
<td>Asset Reconstruction Company of India Ltd.</td>
</tr>
<tr>
<td>ARDC</td>
<td>Agriculture Refinance and Development Corporation</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of South East Asian Nations</td>
</tr>
<tr>
<td>BCBS</td>
<td>Basel Committee on Banking Supervision</td>
</tr>
<tr>
<td>BCP</td>
<td>Business Continuity Plan</td>
</tr>
<tr>
<td>BFS</td>
<td>Board for Financial Supervision</td>
</tr>
<tr>
<td>BFSI</td>
<td>Banking, Financial Services and Insurance</td>
</tr>
<tr>
<td>BIFR</td>
<td>Board for Industrial and Financial Reconstruction</td>
</tr>
<tr>
<td>BIS</td>
<td>Bank for International Settlements</td>
</tr>
<tr>
<td>BoP</td>
<td>Balance of Payments</td>
</tr>
<tr>
<td>BPLR</td>
<td>Benchmark Prime Lending Rate</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>BPSS</td>
<td>Board for Payment and Settlement Systems</td>
</tr>
<tr>
<td>CBLO</td>
<td>Collateralized Borrowing and Lending Obligation</td>
</tr>
<tr>
<td>CBoT</td>
<td>Chicago Board of Trade</td>
</tr>
<tr>
<td>CCIL</td>
<td>Clearing Corporation of India Limited</td>
</tr>
<tr>
<td>CD</td>
<td>Certificate of Deposit</td>
</tr>
<tr>
<td>CDR</td>
<td>Corporate Debt Restructuring</td>
</tr>
<tr>
<td>CEPT</td>
<td>Common External Preferential Tariff</td>
</tr>
<tr>
<td>CFMS</td>
<td>Centralized Funds Management System</td>
</tr>
<tr>
<td>CFS</td>
<td>Consolidated Financial Statement</td>
</tr>
<tr>
<td>CFTS</td>
<td>Centralized Funds Transfer System</td>
</tr>
<tr>
<td>CGRA</td>
<td>Currency and Gold Revaluation Account</td>
</tr>
<tr>
<td>CGTSI</td>
<td>Credit Guarantee Fund Trust for Small Industries</td>
</tr>
<tr>
<td>CIB</td>
<td>Capital Indexed Bond</td>
</tr>
<tr>
<td>CIBIL</td>
<td>Credit Information Bureau of India Limited</td>
</tr>
<tr>
<td>CLF</td>
<td>Collateralized Lending Facility</td>
</tr>
<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
</tr>
<tr>
<td>CPI-IW</td>
<td>Consumer Price Index for Industrial Workers</td>
</tr>
<tr>
<td>CPR</td>
<td>Consolidated Prudential Report</td>
</tr>
<tr>
<td>CP</td>
<td>Commercial Paper</td>
</tr>
<tr>
<td>CPSS</td>
<td>Committee on Payment and Settlement Systems</td>
</tr>
<tr>
<td>CRAR</td>
<td>Capital to Risk-Weighted Assets Ratio</td>
</tr>
<tr>
<td>CRM</td>
<td>Country Risk Management</td>
</tr>
<tr>
<td>CRR</td>
<td>Cash Reserve Ratio</td>
</tr>
<tr>
<td>CSGL</td>
<td>Constituents' Subsidiary General Ledger Account</td>
</tr>
<tr>
<td>CVPS</td>
<td>Currency Verification and Processing System</td>
</tr>
<tr>
<td>DBOD</td>
<td>Department of Banking Operations and Development</td>
</tr>
<tr>
<td>DBS</td>
<td>Department of Banking Supervision</td>
</tr>
<tr>
<td>DCA</td>
<td>Debtor-Creditor Agreement</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>DFHI</td>
<td>Discount and Finance House of India</td>
</tr>
<tr>
<td>DFI</td>
<td>Development Finance Institution</td>
</tr>
<tr>
<td>DFRC</td>
<td>Duty Free Replenishment Certificate</td>
</tr>
<tr>
<td>DICGC</td>
<td>Deposit Insurance and Credit Guarantee Corporation</td>
</tr>
<tr>
<td>DNSS</td>
<td>Deferred Net Settlement System</td>
</tr>
<tr>
<td>DP</td>
<td>Depository Participant</td>
</tr>
<tr>
<td>DRI</td>
<td>Differential Rate of Interest</td>
</tr>
<tr>
<td>DRS</td>
<td>Disaster Recovery System</td>
</tr>
<tr>
<td>DSS</td>
<td>Debt Swap Scheme</td>
</tr>
<tr>
<td>DRT</td>
<td>Debt Recovery Tribunal</td>
</tr>
<tr>
<td>DTA</td>
<td>Domestic Tariff Area</td>
</tr>
<tr>
<td>DTL</td>
<td>Demand and Time Liabilities</td>
</tr>
<tr>
<td>D v P</td>
<td>Delivery versus Payment</td>
</tr>
<tr>
<td>EC</td>
<td>Exchange Control</td>
</tr>
<tr>
<td>ECB</td>
<td>External Commercial Borrowing</td>
</tr>
<tr>
<td>ECD</td>
<td>Exchange Control Department</td>
</tr>
<tr>
<td>ECGC</td>
<td>Export Credit Guarantee Corporation</td>
</tr>
<tr>
<td>ECR</td>
<td>Export Credit Refinance</td>
</tr>
<tr>
<td>ECS</td>
<td>Electronic Clearing Services</td>
</tr>
<tr>
<td>EDI</td>
<td>Electronic Data Interchange</td>
</tr>
<tr>
<td>EEA</td>
<td>Exchange Equalization Account</td>
</tr>
<tr>
<td>EEFC</td>
<td>Exchange Earners' Foreign Currency Account</td>
</tr>
<tr>
<td>EFT</td>
<td>Electronic Funds Transfer</td>
</tr>
<tr>
<td>EKMS</td>
<td>Enterprise Knowledge Management System</td>
</tr>
<tr>
<td>EME</td>
<td>Emerging Market Economy</td>
</tr>
<tr>
<td>EMU</td>
<td>European Monetary Union</td>
</tr>
<tr>
<td>EOU</td>
<td>Export Oriented Unit</td>
</tr>
<tr>
<td>EPCG</td>
<td>Export Promotion Capital Goods</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EXIM</td>
<td>Export Import</td>
</tr>
<tr>
<td>FCA</td>
<td>Foreign Currency Assets</td>
</tr>
<tr>
<td>FCNRA</td>
<td>Foreign Currency Non-Resident Account</td>
</tr>
<tr>
<td>FCNR (B)</td>
<td>Foreign Currency Non-Resident (Banks)</td>
</tr>
<tr>
<td>FCRA</td>
<td>Forward Contract Regulation Act</td>
</tr>
<tr>
<td>FCCB</td>
<td>Foreign Currency Convertible Bond</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct investment</td>
</tr>
<tr>
<td>FEDAI</td>
<td>Foreign Exchange Dealers' Association of India</td>
</tr>
<tr>
<td>FED</td>
<td>Foreign Exchange Department</td>
</tr>
<tr>
<td>FEMA</td>
<td>Foreign Exchange Management Act</td>
</tr>
<tr>
<td>FER</td>
<td>Foreign Exchange Reserves</td>
</tr>
<tr>
<td>FET-ERS</td>
<td>Foreign Exchange Transactions Electronic Reporting System</td>
</tr>
<tr>
<td>FII</td>
<td>Foreign Institutional Investor</td>
</tr>
<tr>
<td>FIMMDA</td>
<td>Fixed Income Money Market and Derivatives Association of India</td>
</tr>
<tr>
<td>FRA</td>
<td>Forward Rate Agreement</td>
</tr>
<tr>
<td>FRB</td>
<td>Floating Rate Bond</td>
</tr>
<tr>
<td>FRBM</td>
<td>Fiscal Responsibility and Budget Management</td>
</tr>
<tr>
<td>FSSA</td>
<td>Financial System Stability Assessments</td>
</tr>
<tr>
<td>FTT</td>
<td>Foreign Travel Tax</td>
</tr>
<tr>
<td>G-20</td>
<td>Group of Twenty</td>
</tr>
<tr>
<td>GAAP</td>
<td>Generally Accepted Accounting Principles</td>
</tr>
<tr>
<td>GATS</td>
<td>General Agreement on Trade in Services</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
</tr>
<tr>
<td>GDCF</td>
<td>Gross Domestic Capital Formation</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GDS</td>
<td>Gross Domestic Saving</td>
</tr>
<tr>
<td>GDR</td>
<td>Global Depository Receipt</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>GFCF</td>
<td>Gross Fixed Capital Formation</td>
</tr>
<tr>
<td>GFD</td>
<td>Gross Fiscal Deficit</td>
</tr>
<tr>
<td>GRF</td>
<td>Guarantee Redemption Fund</td>
</tr>
<tr>
<td>GSO</td>
<td>Green Shoe Option</td>
</tr>
<tr>
<td>HFT</td>
<td>Held for Trading</td>
</tr>
<tr>
<td>HTM</td>
<td>Held to Maturity</td>
</tr>
<tr>
<td>IAS</td>
<td>Integrated Accounting System</td>
</tr>
<tr>
<td>ICA</td>
<td>Inter-creditor Agreement</td>
</tr>
<tr>
<td>ICDs</td>
<td>Inter-Corporate Deposits</td>
</tr>
<tr>
<td>ICOR</td>
<td>Incremental Capital Output Ratio</td>
</tr>
<tr>
<td>IDL</td>
<td>Intra-day Liquidity</td>
</tr>
<tr>
<td>IDMD</td>
<td>Internal Debt Management Department</td>
</tr>
<tr>
<td>IDR</td>
<td>Indian Depository Receipt</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>IFCI</td>
<td>Industrial Finance Corporation of India</td>
</tr>
<tr>
<td>IFI</td>
<td>International Financial Institution</td>
</tr>
<tr>
<td>IFR</td>
<td>Investment Fluctuation Reserve</td>
</tr>
<tr>
<td>IIBI</td>
<td>Industrial Investment Bank of India</td>
</tr>
<tr>
<td>IIP</td>
<td>Index of Industrial Production</td>
</tr>
<tr>
<td>IIP</td>
<td>International Investment Position</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>IMFC</td>
<td>International Monetary and Financial Committee</td>
</tr>
<tr>
<td>INFINET</td>
<td>Indian Financial Network</td>
</tr>
<tr>
<td>IRB</td>
<td>Internal Rating Based</td>
</tr>
<tr>
<td>IRDA</td>
<td>Insurance Regulatory and Development Authority</td>
</tr>
<tr>
<td>IRF</td>
<td>Interest Rate Future</td>
</tr>
<tr>
<td>IRS</td>
<td>Interest Rate Swap</td>
</tr>
<tr>
<td>ISA</td>
<td>Information System Audits</td>
</tr>
</tbody>
</table>
Module-III : Theory and Practice of Forex and Treasury Management

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISP</td>
<td>Information Security Policy</td>
</tr>
<tr>
<td>LAF</td>
<td>Liquidity Adjustment Facility</td>
</tr>
<tr>
<td>LaR</td>
<td>Liquidity at Risk</td>
</tr>
<tr>
<td>LC</td>
<td>Letter of Credit</td>
</tr>
<tr>
<td>LIBOR</td>
<td>London Inter-Bank Offered Rate</td>
</tr>
<tr>
<td>LIFFE</td>
<td>London Inter-Bank Financial Futures Exchange</td>
</tr>
<tr>
<td>M3</td>
<td>Broad Money</td>
</tr>
<tr>
<td>MBS</td>
<td>Mortgage-Backed Securities</td>
</tr>
<tr>
<td>MFA</td>
<td>Multi Fiber Agreement</td>
</tr>
<tr>
<td>MICR</td>
<td>Magnetic Ink Character Recognition</td>
</tr>
<tr>
<td>MIFOR</td>
<td>Mumbai Inter-Bank Forward Offered Rate</td>
</tr>
<tr>
<td>MNBC</td>
<td>Miscellaneous Non-Banking Company</td>
</tr>
<tr>
<td>MoU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>MPBF</td>
<td>Maximum Permissible Bank Finance</td>
</tr>
<tr>
<td>MPI</td>
<td>Macro-Prudential Indicator</td>
</tr>
<tr>
<td>MSS</td>
<td>Market Stabilization Scheme</td>
</tr>
<tr>
<td>MTFRP</td>
<td>Medium-Term Fiscal Reforms Programme</td>
</tr>
<tr>
<td>NAV</td>
<td>Net Asset Value</td>
</tr>
<tr>
<td>NFA</td>
<td>Net Foreign Assets</td>
</tr>
<tr>
<td>NBFC</td>
<td>Non-Banking Financial Company</td>
</tr>
<tr>
<td>NCAER</td>
<td>National Council of Applied Economic Research</td>
</tr>
<tr>
<td>NCD</td>
<td>Non-Convertible Debenture</td>
</tr>
<tr>
<td>NDA</td>
<td>Net Domestic Assets</td>
</tr>
<tr>
<td>NDS</td>
<td>Negotiated Dealing System</td>
</tr>
<tr>
<td>NDTL</td>
<td>Net Demand and Time Liabilities</td>
</tr>
<tr>
<td>NEER</td>
<td>Nominal Effective Exchange Rate</td>
</tr>
<tr>
<td>NEFT</td>
<td>National Electronic Funds Transfer</td>
</tr>
<tr>
<td>NHAI</td>
<td>National Highway Authority of India</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>NIC</td>
<td>National Industrial Credit</td>
</tr>
<tr>
<td>NMS</td>
<td>Network Management System</td>
</tr>
<tr>
<td>NOF</td>
<td>Net-Owned Fund</td>
</tr>
<tr>
<td>NPA</td>
<td>Non-Performing Asset</td>
</tr>
<tr>
<td>NPC</td>
<td>National Payments Council</td>
</tr>
<tr>
<td>NRE</td>
<td>Non-Resident External</td>
</tr>
<tr>
<td>NRI</td>
<td>Non-Resident Indian</td>
</tr>
<tr>
<td>NR(NR)RD</td>
<td>Non-Resident (Non-Repatriable) Rupee Deposits</td>
</tr>
<tr>
<td>NRO</td>
<td>Non-Resident Ordinary Accounts</td>
</tr>
<tr>
<td>NRSR</td>
<td>Non-Resident Special Rupee Deposits</td>
</tr>
<tr>
<td>NSSF</td>
<td>National Small Saving Fund</td>
</tr>
<tr>
<td>NSDL</td>
<td>National Securities Depository Ltd.</td>
</tr>
<tr>
<td>NSS</td>
<td>National Settlement System</td>
</tr>
<tr>
<td>NIC</td>
<td>National Industrial Credit</td>
</tr>
<tr>
<td>OBU</td>
<td>Offshore Banking Unit</td>
</tr>
<tr>
<td>OCB</td>
<td>Overseas Corporate Body</td>
</tr>
<tr>
<td>OLTAS</td>
<td>Online Tax Accounting Systems</td>
</tr>
<tr>
<td>OMO</td>
<td>Open Market Operation</td>
</tr>
<tr>
<td>ONGC</td>
<td>Oil and Natural Gas Commission</td>
</tr>
<tr>
<td>OPAC</td>
<td>Online Public Access Catalogue</td>
</tr>
<tr>
<td>OPEC</td>
<td>Organisation of Petroleum Exporting Countries</td>
</tr>
<tr>
<td>OSMOS</td>
<td>Off-site Monitoring and Surveillance</td>
</tr>
<tr>
<td>OTCEI</td>
<td>Over-the-Counter Exchange of India</td>
</tr>
<tr>
<td>OTS</td>
<td>One-Time Settlement</td>
</tr>
<tr>
<td>PCA</td>
<td>Prompt Corrective Action</td>
</tr>
<tr>
<td>PCD</td>
<td>Partially Convertible Debenture</td>
</tr>
<tr>
<td>PD</td>
<td>Primary Dealer</td>
</tr>
<tr>
<td>PDO</td>
<td>Public Debt Office</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>PFI</td>
<td>Public Financial Institution</td>
</tr>
<tr>
<td>PIO</td>
<td>Person of Indian Origin</td>
</tr>
<tr>
<td>PKI</td>
<td>Public Key Infrastructure</td>
</tr>
<tr>
<td>PLR</td>
<td>Prime Lending Rate</td>
</tr>
<tr>
<td>PMO</td>
<td>Primary Market Operations</td>
</tr>
<tr>
<td>PMS</td>
<td>Portfolio Management Services</td>
</tr>
<tr>
<td>PSRS</td>
<td>Prudential Supervisory Reporting System</td>
</tr>
<tr>
<td>PSSC</td>
<td>Payment and Settlement Systems Committee</td>
</tr>
<tr>
<td>PTA</td>
<td>Preferential Trading Agreement</td>
</tr>
<tr>
<td>QIS</td>
<td>Quantitative Impact Study</td>
</tr>
<tr>
<td>RBS</td>
<td>Risk-Based Supervision</td>
</tr>
<tr>
<td>RC</td>
<td>Reconstruction Companies</td>
</tr>
<tr>
<td>RDBMS</td>
<td>Relational Data Base Management System</td>
</tr>
<tr>
<td>REER</td>
<td>Real Effective Exchange Rate</td>
</tr>
<tr>
<td>RFC (D)</td>
<td>Resident Foreign Currency (Domestic)</td>
</tr>
<tr>
<td>Repo</td>
<td>Ready Forward/Repurchase Agreement</td>
</tr>
<tr>
<td>RIB</td>
<td>Resurgent India Bond</td>
</tr>
<tr>
<td>RIDF</td>
<td>Rural Infrastructure Development Fund</td>
</tr>
<tr>
<td>RIN</td>
<td>Risk Intelligence Network</td>
</tr>
<tr>
<td>RNBC</td>
<td>Residuary Non-Banking Company</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Total Assets</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on Equity</td>
</tr>
<tr>
<td>RPT</td>
<td>Risk Profile Template</td>
</tr>
<tr>
<td>RSSS</td>
<td>Recommendations for Securities Settlement System</td>
</tr>
<tr>
<td>RTGS</td>
<td>Real Time Gross Settlement</td>
</tr>
<tr>
<td>RTIA</td>
<td>Regional Trade and Investment Area</td>
</tr>
<tr>
<td>SAFE</td>
<td>South Asian Federation of Stock Exchanges</td>
</tr>
<tr>
<td>SAFTA</td>
<td>South Asian Free Trade Agreement</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>SASF</td>
<td>Stressed Assets Stabilization Fund</td>
</tr>
<tr>
<td>SCRA</td>
<td>Securities Contracts (Regulation) Act, 1956</td>
</tr>
<tr>
<td>SDF</td>
<td>Submission of Declaration Form</td>
</tr>
<tr>
<td>SDRM</td>
<td>Sovereign Debt Restructuring Mechanism</td>
</tr>
<tr>
<td>SDR</td>
<td>Special Drawing Right</td>
</tr>
<tr>
<td>SEFER</td>
<td>Securities held as Foreign Exchange Reserves</td>
</tr>
<tr>
<td>SEFT</td>
<td>Special Electronic Funds Transfer</td>
</tr>
<tr>
<td>SFMS</td>
<td>Structured Financial Messaging Solution</td>
</tr>
<tr>
<td>SGL</td>
<td>Subsidiary General Ledger</td>
</tr>
<tr>
<td>SIPS</td>
<td>Systemically Important Payment System</td>
</tr>
<tr>
<td>SITP</td>
<td>Strategic Information Technology Plan</td>
</tr>
<tr>
<td>SLR</td>
<td>Statutory Liquidity Ratio</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
</tr>
<tr>
<td>SPV</td>
<td>Special Purpose Vehicle</td>
</tr>
<tr>
<td>SSS</td>
<td>Securities Settlement System</td>
</tr>
<tr>
<td>STP</td>
<td>Straight Through Processing</td>
</tr>
<tr>
<td>SIFI</td>
<td>Systemically Important Financial Intermediaries</td>
</tr>
<tr>
<td>SWIFT</td>
<td>Society for Worldwide Inter-bank Financial Telecommunications</td>
</tr>
<tr>
<td>TAC</td>
<td>Technical Advisory Committee</td>
</tr>
<tr>
<td>TBT</td>
<td>Technical Barriers to Trade</td>
</tr>
<tr>
<td>TFPG</td>
<td>Total Factor Productivity Growth</td>
</tr>
<tr>
<td>TIN</td>
<td>Tax Information Network</td>
</tr>
<tr>
<td>UIP</td>
<td>Uncovered Interest Parity</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference for Trade and Development</td>
</tr>
<tr>
<td>VaR</td>
<td>Value at Risk</td>
</tr>
<tr>
<td>WADR</td>
<td>Weighted Average Discount Rate</td>
</tr>
<tr>
<td>WAN</td>
<td>Wide Area Network</td>
</tr>
<tr>
<td>WCDL</td>
<td>Working Capital Demand Loan</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>WDM</td>
<td>Wholesale Debt Market</td>
</tr>
<tr>
<td>WMA</td>
<td>Ways and Means Advance</td>
</tr>
<tr>
<td>WPI</td>
<td>Wholesale Price Index</td>
</tr>
<tr>
<td>Y-on-Y</td>
<td>Year-on-Year</td>
</tr>
<tr>
<td>YTM</td>
<td>Yield-to-Maturity</td>
</tr>
</tbody>
</table>