

DEMO FOR PAPER 1 – ABM- CAIB (REVISED)

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MODULE A

CHAPTER 1 DEMAND & SUPPLY THEORY

Introduction

Economics may appear to be the study of complicated tables and charts, statistics and numbers, but, more specifically, it is the study of what constitutes rational human behavior in the endeavor to fulfill needs and wants. As an individual, for example, you face the problem of having only limited resources with which to fulfill your wants and needs, so, with your money, you must make certain choices. You'll probably spend part of your money on rent, electricity, and food. Then you might use the rest to go to the movies and/or buy a new pair of jeans. Economists, interested in the choices you make, inquire into why, for instance, you might chose to spend your money on a new DVD player instead of a replacing your old TV. They would want to know whether you would still buy a carton of cigarettes if prices increased by Rs.2 per pack. The underlying essence of economics is trying to understand how both individuals and nations behave in response to certain material constraints.

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V. NATIONAL INCOME AND RELATED AGGREGATES

Sectoral Composition of India's National Income

According to Colin Clark, the economic development of any country is the transitions from the development of primary sector to the secondary manufactured sector. Such as transformation from primary to secondary sectors involve development of factors of production, skill, technology, resource utilization, human resource development and careful planning. The primary sector is made up of activities like agriculture, forestry, fishing, mining etc. The secondary sector (Industry sector) comprises manufacturing, food processing, transportation equipment, petroleum, textiles, mining, machinery, chemicals, steel, cement and many others. The tertiary sector (Service sector) includes construction, trade, hotels, transport, restaurant, communication and storage, social and personal services, software, community, insurance, financing, business services, and real estate etc.

NATIONAL INCOME : It is the money value of all final goods and services produced within the domestic territory of a country in an accounting year plus net factor income from abroad.

Gross Domestic Product:- The total market value of all final goods and services produced in a country in a given year, equal to total consumer, investment and government spending, plus the value of exports, minus the value of imports.

1. Gross Domestic Product (GDP): Gross Domestic Product (GDP) is the total market value of all final goods and services currently produced within the domestic territory of a country in a year.

Four things must be noted regarding this definition.

First, it measures the market value of annual output of goods and services currently produced. This implies that GDP is a monetary measure.

Secondly, for calculating GDP accurately, all goods and services produced in any given year must be counted only once so as to avoid double counting. So, GDP should include the value of only final goods and services and ignores the transactions involving intermediate goods.

Thirdly, GDP includes only currently produced goods and services in a year. Market transactions involving goods produced in the previous periods such as old houses, old cars, factories built earlier are not included in GDP of the current year.

Lastly, GDP refers to the value of goods and services produced within the domestic territory of a country by nationals or non-nationals.

2. Gross National Product (GNP): Gross National Product is the total market value of all final goods and services produced in a year. GNP includes net factor income from abroad whereas GDP does not. Therefore,

$GNP = GDP + \text{Net factor income from abroad}$.

Net factor income from abroad = factor income received by Indian nationals from abroad – factor income paid to foreign nationals working in India.

3. Net National Product (NNP) at Market Price: NNP is the market value of all final goods and services after providing for depreciation. That is, when charges for depreciation are deducted from the GNP we get NNP at market price. Therefore'

$NNP = GNP - \text{Depreciation}$

Depreciation is the consumption of fixed capital or fall in the value of fixed capital due to wear and tear.

4. Net National Product (NNP) at Factor Cost (National Income): NNP at factor cost or National Income is the sum of wages, rent, interest and profits paid to factors for their contribution to the production of goods and services in a year. It may be noted that:

$NNP \text{ at Factor Cost} = NNP \text{ at Market Price} - \text{Indirect Taxes} + \text{Subsidies}$.

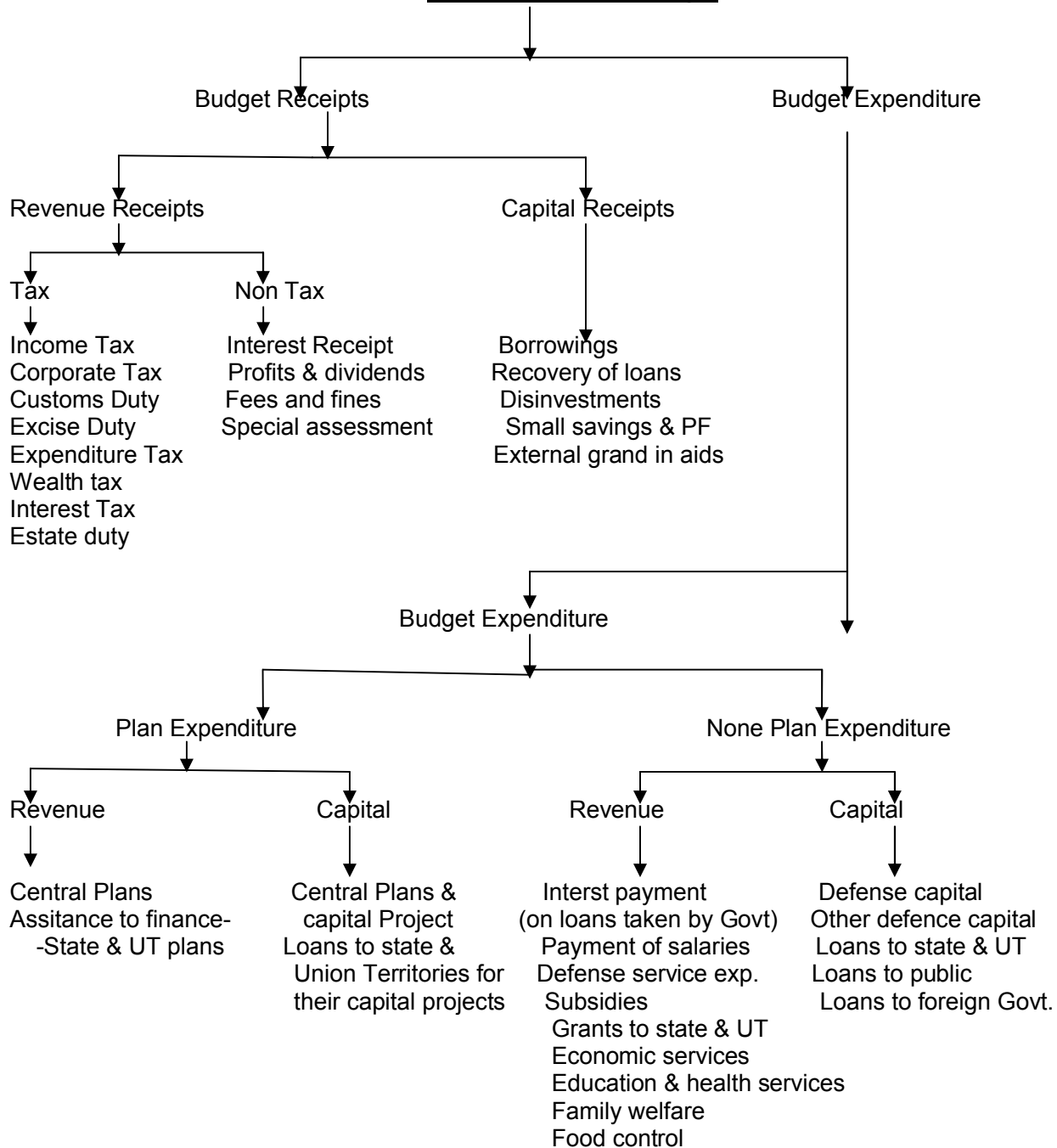
Solved Case study:

1. Calculate Gross National Product at market price and Personal Disposable income from the following data: (Rs crores)

(i) Subsidy 20 (ii) Net factor income from abroad (-) 60 (iii) Consumption of fixed capital 50 (iv) Personal tax 110 (v) Savings of private corporations 40 (vi) Dividend 20 (vii) Indirect tax 100 (viii) Corporation tax 90 (ix) Net national disposable income 1,000 (x) National debt interest 30 ...

UNION BUDGET

Structure of Govt. Budget



Solved Illustration 1: Following figures of X country has been given:

1. Tax Revenue (net to Centre)	186982
2. Non-tax Revenue	76896
3. Recoveries of Loans	67265
4. Other Receipts (capital nature)	16953
5. Borrowings and Other Liabilities	123272
6. Plan Expenditure	
On Revenue Account	78638

MODULE B

CHAPTER 1: TIME VALUE OF MONEY

A. Why Mathematics in Banking

To calculate interest on deposits and advances

To calculate yield on bonds in which banks have to invest substantial amount.

To calculate depreciation

To decide on buying/selling rates of foreign currencies

To calculate minimum capital required by the bank

To appraise loan proposals

B. Time Value of Money

Future value of Annuity:

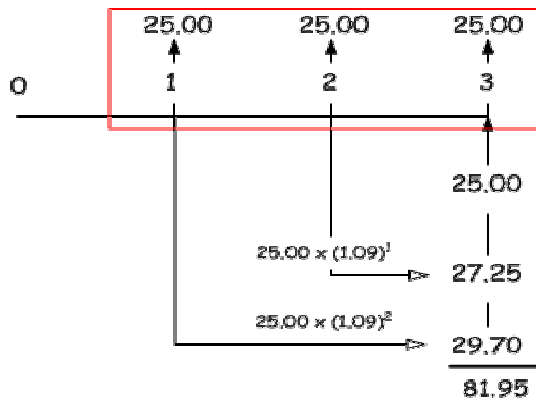
The Future Value of an Annuity is calculated at the end of the period in which the last annuity payment occurs. The Future Value of the Annuity is equal to the sum of the future values of the individual annuity payments at that time. Thus, the future value of a five year annuity is computed at the end of year five. This can be found in one step through the use of the following equation: It is also be called as FV of Ordinary Annuity

$$FVA_t = PMT \left[\frac{(1+r)^t - 1}{r} \right]$$

where

- FVA = The Present Value of the Annuity
- PMT = The Annuity Payment
- r = The Interest or Discount Rate
- t = The Number of Years (also the Number of Annuity Payments)

Example:-Ordinary annuity for Rs.25 for 3 years at 9%



Example:- Compute the future value of Rs.8,880 invested every year if the appropriate rate is 11.6% and you invest the money for 18 years with the first payment made one year from now.

By applying the above formula we will get the following answer:

$$FVA = \text{Rs.}8,880 \left[\frac{(1+0.1160)^{18} - 1}{0.1160} \right] = \text{Rs.} 475,386/-$$

Annuity Due FV:

$$FV_{AD} = \text{Pmt} \left[\frac{(1+i)^N - 1}{i} \right] (1+i)$$

where

- FVA = The Present Value of the Annuity
- PMT = The Annuity Payment
- r = The Interest or Discount Rate
- t = The Number of Years (also the Number of Annuity Payments)

STATISTICS

Sampling From a Finite Population:

You may recall that a finite population is a population which has a fixed upper bound. For example, there are 5,124 students enrolled at C.S.C. In cases of a finite population, an adjustment is made to the Z equation for sample means (equation 3 above). The adjustment is called correction factor, or finite population multiplier.

$$\sqrt{\frac{N-n}{N-1}}$$

Correction Factor

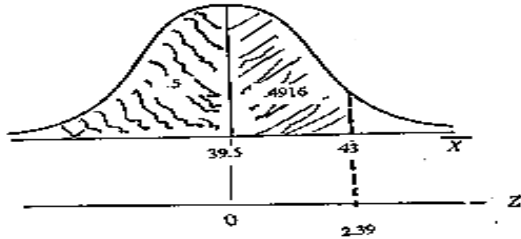
A rule of thumb is that if sampling is done without replacement from a finite population and the sample size n is greater than 5% of the population size N, i.e., $n/N > 0.05$, then the correction factor should be used to adjust the standard deviation (or standard error) of the mean. Thus, the following Z equation is used when samples are drawn from finite population.

$$Z = \frac{\bar{X} - \mu}{\frac{\sigma}{\sqrt{n}} \sqrt{\frac{N-n}{N-1}}}$$

Illustration:-

1. A production company's 250 hourly employees average 39.5 years of age, with a standard deviation of 9.3 years. If a random sample of 35 hourly employees is taken, what is the probability that the sample will have an average age less than 43 years? In this problem, the population mean is 39.5, with a population standard deviation of 9.3. The sample size is 35 which is drawn from a finite population of 250. The sample mean is 43.

Ans: The following graph shows the problem on a normal curve.



Using the Z equation with the correction factor (equation 4) gives a Z score of 2.39. From the standard normal distribution table, this Z value yields a probability of 0.4916. Therefore, the

MODULE C

HUMAN RESOURCE MANAGEMENT (HRM)

MEANING OF ORGANIZATION STRUCTURE:-

Organizational structure is the formal decision-making framework by which job tasks are divided, grouped, and coordinated. Formalization is an important aspect of structure. It is the extent to which the units of the organization are explicitly defined and its policies, procedures, and goals are clearly stated. It is the official organizational structure conceived and built by top management. The formal organization can be seen and represented in chart form. An organization chart displays the organizational structure and shows job titles, lines of authority, and relationships between departments.

Organisation Charts:

EMPLOYEE & EMPLOYER RELATIONSHIP:

The employer-employee relationship should not be looked at simply in economic terms. It is a significant human relationship of mutual dependency that has great impact on the people involved and both the employer and the employee have moral obligations arising from this relationship.

Employee attitude & behavior:

Attitudes and behaviors displayed in the workplace can directly affect the atmosphere and productivity within an organization. As an employer, you want to create an environment that's professional and safe. This keeps your employees motivated, wherein they're likely to work hard and successfully complete each assignment. But if your employees begin to develop a negative or bad attitude, this might translate into poor behavior.

Definition of Attitude

There are clear differences between employee's attitude and his behavior. Attitude describes the way employee feels inside. These are his feelings toward employer, his coworkers and his position within the company. Every employee has an attitude towards the environment -- either good or bad. This

attitude can also influence how he performs. Because attitude is an inward feeling, an employee's bad attitude might remain hidden. But if he's not careful, his bad attitude might show in his actions.

Definition of Behavior

Behavior is the way employee responds to his attitude. This response is either positive or negative, depending on how the employee views his position and the company. For example, an employee who disagrees with employer might overstep boundaries or ignore office protocol. In addition, an employee who dislikes another coworker or has little respect for a coworker might display this attitude by speaking harshly to this individual, being biased or engaging in other inappropriate acts, such as sexual harassment.

Impact:

Several situations within the office affect attitude and behavior. For an employee to consistently display good behavior in the workplace, he must maintain a positive attitude towards his job. If employee develops a dislike for his job, he might lose interest in his assignments or lack motivation. These negative feelings influence his behaviors and might trigger low productivity. In addition, an employee's negative attitude can become evident with other actions, such as poor performance, regularly staying away from work, poor business ethics and perhaps favoring one supervisor over another. To the contrary, employees who feel respected by employer and other coworkers, and those who maintain a good attitude, typically respond differently and exhibit appropriate behavior in the workplace.

Considerations:

Negative behaviors in the workplace include rudeness, yelling, gossiping and anger. Employees need to modify these behaviors. While attitude is internal, employees have control over their thoughts. Replacing negative thoughts with positive thoughts helps improve their attitude, as well as focusing on the good aspects of the job and recognizing their coworker's positive attributes.

Employer (Boss) personality:

Can "the boss" have a type? Can the type of boss be categorised?

Well the answer is, Yes! The science of psychometrics has advanced to a level where Bosses can be categorised broadly into 8 different types. Most of the types overlap at times but certain distinguishing factors remain in each type that are exhibited vehemently by individuals. The behaviour pattern may be influenced or forced upon by chance/circumstance or just inherited! This excerpt is actually a retelling of a psychometric analysis called Managerial Response Exercise, a concept popularised by the 'The Blake and Mouton Managerial Grid'.

Boss can be categorized in the following fashion also:

Type A:

A typical Type A is aggressive, independent, ambitious, volatile, and rigid. They usually are fast talkers, have no patience for laziness, and do not eat or sleep well. Managers with a "Type A" personality are likely to be very focused on accomplishing specific goals and tasks. They aren't necessarily mean or cruel, but they are very deadline and goal-oriented and expect the same from their employees. The type A person is, by nature, competitive, fast-paced, high-strung and uncompromising.

Some of the important theories of motivation:

1. Abraham Maslow's "Need Hierarchy Theory" :

One of the most widely mentioned theories of motivation is the hierarchy of needs theory put forth by psychologist Abraham Maslow. Maslow saw human needs in the form of a hierarchy, ascending from the lowest to the highest, and he concluded that when one set of needs is satisfied, this kind of need ceases to be a motivator.

2. “Theory X and Theory Y” of Douglas McGregor :

McGregor, in his book “The Human side of Enterprise” states that people inside the organization can be managed in two ways. The first is basically negative, which falls under the category X and the other is basically positive, which falls under the category Y. After viewing the way in which the manager dealt with employees, McGregor concluded that a manager’s view of the nature of human beings is based on a certain grouping of assumptions and that he or she tends to mold his or her behavior towards subordinates according to these assumptions.

More than 200 multiple objective questions including case studies with answers....

DEMO FOR PAPER 2 – BFM- CAIIB(REVISED)

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BANK FINANCIAL MANAGEMENT

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CHAPTER 1 FOREIGN EXCHANGE

1. Global Foreign Exchange Markets

24 hour non-stop market:

The main feature of this market is that, it is continuous - i.e., open 24 hours a day. The time zones are as follows: The market begins with New York (6 p.m India time) , then Sydney, followed by Tokyo. When we come to work in the morning here in India, Tokyo is at lunch. The Frankfurt market opens at 10 a.m our time; then London (12.30 our time) and we go back full circle to New York again. This means that there is a price available always, anytime and you can transact whenever you want.

BASICS OF FOREIGN EXCHANGE

Discount and Premium

A currency is said to be at premium against another currency if it is more expensive in the forward market than in the spot market. In this case, its forward rate will be higher than its spot rate. This happens when the future spot rate is expected to be higher than the current spot rate. Conversely, a currency is said to be at a discount if it is cheaper in the forward market than in the spot market. In this case, its forward rate will be lower than its spot rate. This happens when the future spot rate is expected to be lower than the current spot rate. Let us assume the Rs/\$ quotes to be:

Rs/\$:	45.42/44
3-m Rs/\$:	46.62/70

Here, the bank is ready to give only Rs. 45.42 currently in exchange for a dollar, while it is ready to give Rs. 46.62 after 3 months. Similarly, the bank is charging only Rs. 45.44 for selling a dollar now, while it is charging Rs. 46.70 for a delivery 3 months hence. So the dollar is expected to be more expensive in the future, and hence is at a premium against the rupee. On the other hand, the rupee is expected to be cheaper in the future and hence is at a discount against the dollar.

Let us now assume the \$/£ quotes to be:

\$/£	:	1.6721/26
3-m \$/£	:	1.6481/92

Here the dollar is at a premium against the pound, while the pound is at a discount against the dollar. It is possible that a currency may be at a premium against one currency, while being at a discount against another at the same time. It is also possible that a currency be at a premium against another for a particular forward maturity, while being at a discount against the same currency for another forward maturity. E.g., the \$/£ quotes may be:

\$/£	:	1.6721/26
2-m \$/£	:	1.6726/34
3-m \$/£	:	1.6481/92

Here, the pound is at a premium against the dollar for the 2-month maturity, but at a discount for the 3-month maturity. It is also possible to have such a situation where a currency is at a premium against another for a particular forward maturity, but a discount between two forward maturities. E.g., the \$/£ quotes may be:

\$/£	:	1.6721/26
1-m \$/£	:	1.6730/37
2-m \$/£	:	1.6726/35

Here, the pound is at a premium against the dollar for both the forward maturities, but at a discount between the one-month and the two-month maturities.

Forward premium/discount is generally calculated as percentage per annum.

$$= \frac{(\text{Forward rate} - \text{Spot rate})}{\text{Spot rate}} \times 100$$

Where 'n' indicates the number of months till maturity of the forward contract

Margin by bank :-

Exchange margin is the extra amount or percentage charged by the bank over and above the rate quoted by bank.

When we are given the Spot rate / forward rate with margin for buying rate and margin for selling rate then effective rate will be calculated as:

Deduct margin from buying rate to get desired exchange rate. Hence,

Now, buying rate will be = Bid rate – exchange margin

Example :- Given \$ = Rs. 54.480/.900 and Margin is 0.08% then the Bid rate after margin will be:

$$\text{\$} = \text{Rs.} 54.480 - 0.0435 \text{ (} 54.480 \times 0.08\% \text{) OR Rs. } 54.480 \text{ (} 1 - 0.0008 \text{)}$$

$$= \text{Rs. } 54.436$$

Add margin to selling rate to get the desired rate. Hence,

Now, selling rate = Ask rate + exchange margin

Example: Given \$ = Rs. 54.480/.900 and Margin is 0.08% then the Ask rate after margin will be:

$$\text{\$} = \text{Rs.} 54.900 + 0.0439 \text{ (} 54.900 \times 0.08\% \text{) OR Rs. } 54.900 \text{ (} 1 + 0.0008 \text{)}$$

$$= \text{Rs. } 54.9439$$

Practice Problems:-

Q 1. Calculate how many British pounds a London based firm will receive or pay for its following four foreign currency transactions:

(i) The firm receives dividend amounting to Euro 1,20,000 from its French Associate Company.

(ii) The firm pays interest amounting to 2,00,000 Yens for its borrowings from a Japanese Bank.

(iii) The firm exported goods to USA and has just received USD 3,00,000.

(iv) The firm has imported goods from Singapore amounting to Singapore Dollars (SGD) 4,00,000.

Given:

$$1\text{\$} = \text{£}0.50/0.51 \quad 1 \text{ Euro} = \text{£}0.60/0.61 \quad 1 \text{ SGD} = \text{£}0.39 /0.40$$

$$1 \text{ Yen} = \text{£}0.0049 / 0.0050$$

(i) Foreign Exchange Rate: 1 Euro = £0.60/0.61

The firm shall be selling Euros; the bank shall be buying the Euro @ £0.60. The firm will receive 1,20,000 x 0.60 i.e. £72,000.

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FOREX DERIVATIVES

Futures terminology:-

Some of the common terms used in the context of currency futures market are given below:

• **Spot price:** The price at which the underlying asset (\$, £, €, ¥ etc.) trades in the spot market.

• **Futures price:** The current price of the specified futures contract.

• **Contract cycle:** The period over which a contract trades. The currency futures contracts on the SEBI recognized exchanges have one-month, two-month, and three-month up to twelve-month expiry cycles. Hence, these exchanges will have 12 contracts outstanding at any given point in time.

• **Value Date/Final Settlement Date:** The last business day of the month will be termed as the Value date / Final Settlement date of each contract. The last business day would be taken to be the same

as that for Inter-bank Settlements in Mumbai. The rules for Inter-bank Settlements, including those for 'known holidays' and 'subsequently declared holiday' would be those as laid down by Foreign Exchange Dealers' Association of India (FEDAI).

- **Expiry date:** Also called Last Trading Day, it is the day on which trading ceases in the contract; and is two working days prior to the final settlement date.
- **Contract size:** The amount of asset that has to be delivered under one contract. Also called as lot size. In the case of USDINR it is USD 1000; EURINR it is EUR 1000; GBPINR it is GBP 1000 and in case of JPYINR it is JPY 100,000.
- **Initial margin:** The amount that must be deposited in the margin account at the time a futures contract is first entered into is known as initial margin.
- **Marking-to-market:** In the futures market, at the end of each trading day, the margin account is adjusted to reflect the investor's gain or loss depending upon the futures closing price. This is called marking-to-market.

CASE STUDIES:-

Example 1: An exporter of garments from India has contracted to export 10,000 pieces of shirt to a large retailer in US. The agreed price was USD 100 per shirt and the payment would be made three months after the shipment. The exporter would take one month to manufacture the shirt. The exporter had used the prevailing spot price of 45 as the budgeted price while signing the export contract. To avoid the FX risk, the exporter sells four month futures at the price of 46. The exporter receives USD well on time and he converts USD to INR in the OTC market at the then prevailing price of 47 and also cancels the futures contract at the same time at the price of 47.20. How much was the effective currency price for the exporter.

The effective price would be summation of effect of change in USDINR price on the underlying trade transaction and the effect of change in future price on the currency futures contract.

- Underlying trade transaction: Against the budget of 45, the exporter realizes the price of 47 and therefore there is a net positive change of Rs 2
- Futures contract: Against the contracted price of 46, the exporter had to settle the contract at 47.2 and therefore resulting in a net negative change of Rs 1.2
- Combined effect: The combined effect of change in USDINR spot price and change in future price i.e. (Rs 2) + (- Rs 1.2) = + Rs 0.8
- Effective price: Therefore the effective price was 45 (budgeted price) + 0.8 (effect of hedging and underlying trade transaction) i.e. Rs 45.8.

In the same example, assume that INR appreciated against USD at time of converting USD to INR the spot was 44 and futures contract's cancellation rate was 44.2, the effective currency price for the exporter would still be 45.8. This is because there would be a negative change of Rs 1 on underlying trade transaction and a positive change of Rs 1.8 on futures contract. Therefore the net effect will be summation of - 1 and + 1.8 i.e. Rs 0.8.

Please notice that because of the futures contract exporter always gets a price of 45.8 irrespective of depreciation or appreciation of INR. However, not using currency futures would have resulted in effective rate of 47 (in the first case when INR depreciated from 45 to 47) and effective rate of 44 (in the second case when INR appreciated from 45 to 44). Thus using currency futures, exporter is able to mitigate the risk of currency movement.

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Role of RBI & Exchange Control

Before going ahead with FEDAI Rules, let us see about Nostro, Vostro & Loro accounts maintained by Authorised dealers:

The Foreign Exchange (FX) Market is one of the biggest and most liquid markets in which currencies are traded over the counter (OTC) involving players like central banks, corporate majors, hedge funds, investment banks, commercial banks etc. It aids activities such as cross-border trade, mergers

& acquisitions, tourism etc. In order to deal in the Foreign Exchange Market and transact in foreign currencies, banks maintain accounts with other banks globally. This is known as a Nostro Account. For instance, consider two banks: ABC Bank, New York and XYZ Bank, Mumbai. For XYZ Bank, its account in ABC Bank is a 'Nostro Account' (My account with you) and ABC Bank's account with it is a 'Vostro Account' (your account with me). 'Nostro' and 'Vostro' are Italian words for "Our" and "Your" respectively. Reconciliation of these accounts is called Nostro Account Reconciliation or simply Nostro Reconciliation. In India only Scheduled Commercial Banks (SCB) can maintain a Nostro Account, and three types of branches are permitted to deal in them. The A category branch owns, maintains and funds this account. After the Nostro Reconciliation, they submit the statutory returns to the appropriate authorities. The B category branch can operate the account maintained by A category branches and the C category branches are the remaining Scheduled Commercial Bank branches dealing through B or A category branches for their forex transactions.

Nostro debits may arise due to:

- Honoring the payment messages sent by the bank/payment of draft issued by the bank
- Charges debited in the Nostro accounts
- Reimbursement to negotiating bank, under Letters of Credit transactions
- Payments on account of interbank deals

Nostro credit may arise due to:

- Inward remittances received on behalf of customers
- Interest amount credited
- Receipts from interbank deals
- Realization of bills sent for collection
- Reimbursement of negotiated bills

Points to be remember:

- a. The purchase/sale of currency may be spot or forward
- b. Indian bank do not remit foreign currency in Nostro account from India. All receipt in FX and all payment/remittances in FX will be made through Nostro account maintained with foreign bank.
- c. Forward Purchase/Sale of FX do not affect Nostro A/C because there is no delivery of currency as on date of entering such contract.
- d. Spot purchase/Sales of CHF affects both exchange position as well as Nostro A/C (Cash Position)

Example for Nostro transactions:

Example No. 1 - A bank in India want to send a payment in GBP let's say the bank name is ABC Bank. This bank has a Nostro Acoount (in GBP) with a bank in UK e.g. XYZ Bank. However the beneficiary.....

Illustration 3:

Your bank's rate quotation for USD on 1.5.2013 is as under :

- TT (Buying) 54.35
- BB (Buying) 54.35
- TT (Selling) 54.80
- BB (Selling) 54.90

Certain transactions has been taken place for your customers. Pick up an appropriate rate for following USD transactions to effected for giving an effect in vostro account.

- a. Export bill to be purchased by you.
- b. Payment of DD issued by your New York branch.
- c. Retirement of Foreign Inward Bill for collection (Documentary).
- d. Realization of Foreign outward Bill for Collection.
- e. Remittance to US representing gift amount permissible under FEMA (1999) on behalf of your customer.

.....

RISK MANAGEMENT

Meaning and Scope

Though the term risk has got different connotations from different angles, it can be defined as the potential that events, expected or unexpected may have an adverse impact on a bank's earnings or capital or both. Both the risks having high probability low impact and low probability high impact are covered under the definition. This working definition would be useful throughout the discussion. It is useful to recall at this stage that risk and expected return are positively related; higher the risk, higher the expected return and vice versa. The scope of risk management function in any organization is to ensure that systems and processes are set up in accordance with the risk management policy of the institution.

1.3 CATEGORIES OF RISK

Banking risks can be broadly categorized as under:

- a) Credit Risk
- b) Interest Rate Risk
- c) Market Risk
- d) Liquidity Risk
- e) Operational Risk

1.4 STEPS IN RISK MANAGEMENT

1) **Risk Identification:** It is crucial that all the risks have to be identified first. The methodology normally followed is the risk matrix approach which appears as under:

Risk Matrix (Indicative)

Products	Credit Risk	Interest Rate Risk	Market Risk	Liquidity Risk	Operational Risk
Loans & Advances	YES	YES	NO	YES	YES
Investments	YES	YES	YES	YES	YES
Cash Management & Payment services	NO	NO	NO	NO	YES
Deposits	NO	YES	NO	YES	YES

The matrix above has been prepared for main products. The matrix can be detailed to go down to individual product level risks for better identification of risks present.

CHAPTER 2 ASSET LIABILITY MANAGEMENT

Categorisation of Bank Balance Sheet

At this juncture, it is important to understand how the assets & liabilities in the balance sheet of a bank are classified into Banking Book and Trading Book. The following are the points distinguishing one from the other:

Held-till-maturity vs. Short-term holding period

The intention of the bank in case of banking books is to hold the assets and liabilities till maturity whereas in case of trading book the holding period is extremely short and may vary between a few hours (or minutes in some cases) to a maximum of 90 days (as per the RBI's stipulation of holding period).

Accrual Income vs. Price Change

The assets & liabilities in the banking book accrue income and expenses respectively over time. The target variable in case of the banking book is the net accrual income. In case of the trading book, price appreciation (or depreciation) due to fluctuation in market price is the main target variable as the holding period is very short

Historical cost vs. Mark-to-market Value

The assets & liabilities in the banking book are valued at historical cost. Change in the values of

assets and liabilities are not recognized in the P&L account. The norm in case of trading book is periodic valuation (mark-to-market) and reflection of the market value of the assets and liabilities in the balance sheet. Any appreciation or depreciation with reference to the value prior to valuation would pass through the P&L account as profit or loss.

Examples:

Banking Book includes; Deposits, Borrowings, Loans and Advances

Trading Book comprises of securities such.....

Tools for Measurement of Market Risk

Measures for market risk are broadly categorized as under:

- a. Factor Sensitivity Measures
- b. Volatility Based Measures

a. Factor Sensitivity Measures: Factor sensitivity measures assess the impact of change in the major factors (which determine the market value of the positions) on the market value of the portfolio. The most prominent factor sensitivity measure is the modified duration. Modified duration is the direct measure of sensitivity in value of a security or a portfolio of bonds for a change in interest rates. The modified duration concept rests on a number of assumptions which are unrealistic in today's environment. Though a number of refinements to the original concept have been suggested to make it applicable in the current environment, a number of issues remain unattended. Important among them are the relevance of the tool in an environment of non-parallel shifts in the yield curve and adequacy of the concept for bonds embedded options in the form of calls, puts, caps, floors etc. The most significant application of the factor sensitivity measures is to use them for setting limits at portfolio level. For example, a bank may set the maximum modified duration of its bond portfolio as (say) 7. This means that the price sensitivity that the bank is willing to accept in case of the bond portfolio is maximum 7% of the value of the portfolio for 1% change in the interest rates. Any loss higher than 7% would not be tolerated by the bank.

b. Volatility Based Measures: While factor sensitivity measures are still very popular in our country and are practiced widely, in the recent past, volatility based measure popularly known as Value-at-Risk (VAR). The greatest advantage of VAR is its uniformity in measuring trading risk across various positions such as interest rates, currency, equity and commodity, which is the weakest thing as far as factor sensitivity measures are concerned. As a result of this uniformity of measurement, it is possible to aggregate risk across completely different positions, compare and contrast among various positions to assess the relative riskiness and so on. Apart from this, VAR has revolutionized the risk communication from trading desk to top management as the measure is extremely simple to understand unlike the factor sensitivity measures which make sense only to the respective trading and risk management community that uses them. It is important to recognize here that unless the risk reports are understood and acted upon by the top management, there would always be a possibility of a misalignment between what is perceived as acceptable risk by the top management and others who are in operating lines.

Type of the portfolio: GOI Bond Trading Portfolio

Market Value: Rs. 200 crores

VAR = Rs. 5 crores

Confidence Level used for VAR computation: 99%

Holding Period used for VAR computation (days): 1

The above information can be interpreted easily with a little knowledge of probability.

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We can calculate estimated daily volatility of security as follows :

1. If the volatility per annum is 25% and the number of trading days per annum is 252, find the

volatility per day.

- a. 1.58% b. 15.8% c. 158% d. 0.10

Solution:

Daily volatility of security = A

Total trading days is always to required to be taken at 252, and formula is

$$A = 25 \times \sqrt{1/252}$$

$$A = 1.58\%$$

CHAPTER 5 OPERATION RISK

5.6 METHODOLOGIES FOR MEASUREMENT OF OPERATIONAL RISKS

The Basle committee has outlined three methodologies for measurement of operational risks. They are:

- The Basic Indicator Approach,
- The Standardized Approach, and
- The Advanced Measurement Approaches.

Illustration:

From the following information calculate operational risk of Xis Bank Ltd for 31.03.2014 by Basic Indicator approach.

	Rs. in lakhs		
	31.03.11	31.03.12	31.03.12
Net Profit	2511.00	2860.00	3240.00
Reserves created for contingency	28.20	36.25	41.50
Provisions on NPA	85.00	112.00	78.00
Provisions on standard assets	12.00	16.00	28.00
Profit on sale of Trading investments	28.00	54.00	67.00
Loss on sale of HTM investments	-14.50	0	0

Solution:

Illustration:

From the following information calculate operational risk of Xis Bank Ltd by standardized approach for 31.03.2014.

	Rs. in lakhs		
	31.03.11	31.03.12	31.03.13
Corporate finance (b₁) – Beta Factor – 18%			
Interest received	255.10	320.18	387.90
Weighted average cost of funding	192.14	268.70	310.22
Non interest income	22.00	18.00	27.00
Retail Banking (b₃) – Beta Factor – 12%			
Interest received	458.90	520.11	670.90
Net income from derivatives	0	0	27.80
Fees & commission	32.20	44.78	69.34
Weighted average cost of funding	356.00	427.45	578.16
Commercial Banking (b₄) – Beta Factor -15%			
Net interest income	78.24	126.10	156.08
BG/LC Fees & commission	56.78	92.24	103.12

Solution:

TREASURY MANGEMENT

Problems on T- Bill:-

1. Assume an investor purchased a six-month T-bill with a Rs.10,000 par value for Rs.9,000 and sold it ninety days later for Rs.9,100. What is the yield?

ANSWER:

$$\begin{aligned} Y_t &= \frac{SP - PP}{SP} \times \frac{365}{n} \\ &= \frac{Rs\ 9100 - Rs\ 10000}{9,000} \times \frac{365}{90} \\ &= 4.51\% \end{aligned}$$

REPO & Reverse REPO Transactions:

Repo rate or repurchase rate is the rate at which banks borrow money from the central bank (read RBI for India) for short period by selling excess Non SLR securities (mostly government bonds or treasury bills) to the central bank with an agreement to repurchase it at a future date at predetermined price. It is similar to borrowing money from anybody by selling him something with a promise to buying it back later at a pre-fixed price (fixed at the time of borrowing itself). E.g, A bank is having Non SLR securities of Rs.300 cr. They don't have much of the liquidity due to asset mismatch and hence they will sell these securities to RBI with promise to purchase it within next 15 days. For 15 days they need pay interest prevailing at that time, currently rate is 7.25%.....

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BASEL - III

Introduction:

The main objective of the **Basel III** framework issued by the Basel Committee on Banking Supervision (BCBS) in Dec. 2010 is to improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing the risk of spillover from financial sector to real economy. The reform package will amend certain provisions existing under Basel II framework (NCAF) and introduce some new concepts and requirements. These new global regulatory and supervisory standards mainly seek to raise the quality and level of capital to ensure banks are better able to absorb losses on both a going concern and a gone concern basis, increase the risk coverage of the capital framework, introduce leverage ratio to serve as a backstop to the risk-based capital measure, raise the standards for the supervisory review process and public disclosures etc. The macro prudential aspects of Basel III are largely enshrined in the capital buffers. Both the buffers i.e. the capital conservation buffer and the countercyclical buffer are intended to protect the banking sector from periods of excess credit growth.

DEFINITION OF CAPITAL FUNDS

Common Equity TIER-I, Additional Tier I AND TIER-II CAPITAL FOR INDIAN BANKS:

Common Equity TIER-I (also known as core capital) provides the most permanent and readily available support to a bank against unexpected losses.

Common Equity TIER-I capital comprises:

- i) Common shares (All common shares should ideally be the voting shares as detailed in RBI M. Cir., mostly equity share capital & Perpetual Non-Cumulative Preference Shares)

Note: While complying with minimum Tier 1 of 7% of risk weighted assets, a bank cannot admit, Perpetual Non-Cumulative Preference Shares (PNCPS) together with Perpetual Debt Instruments (PDI) in Additional Tier 1 Capital, more than 1.5% of risk weighted assets. However, once this minimum total Tier 1 capital has been complied with, any additional PNCPS and PDI issued by the bank can be included in Total Tier 1 capital reported. Excess PNCPS and PDI can be reckoned to comply with Tier 2 capital if the latter is less than 2% of RWAs. PNCPS shall not be issued with a 'put option'.

ii) Stock surplus (share premium) resulting from the issue of common shares;

iii) Statutory reserves

Illustration 1: From the following information relating to DSW Bank Ltd., calculate the Tier 1, Additional Tier 1 capital and Tier 2 capital as on 31st March, 2014.

Rs. in lakhs

Capital & Liabilities		Amount	Amount
Paid up capital	A1		5,544.00
Reserves & Surplus			4,39,170.50
Statutory Reserve	B1	11736.50	
Special Reserve	B2	48,848.70	
(Out of which created out of last current profit) - 236.00	B3		
Securities premium	B4	114957.70	
Unrealised Investment reserves	B5		4.90
Capital reserve	B6	2,417.90	
Foreign currency translation reserve	B7	34984.50	
Reserve fund	B8	50.90	
(Out of which created out of last current profit) - 1.20	B9		
Revenue and other reserves	B10	59636.30	
(Out of which created out of last current profit) - 898.00	B11		

Solution:

Transitional Arrangements

As per Basel III terms, in order to ensure smooth migration without any near stress, appropriate transitional arrangements for capital ratios have been made which commenced as on 01.04.2013. Capital ratios and deductions from Common Equity will be fully phased-in and implemented as on 31.03.2018 and accordingly the phase-in arrangements for Schedule Commercial Bank operating in India are drawn as under:-

Transitional Arrangements (Excl. Local area bank and RRBs)

Minimum Capital Ratio	01.04.2013	31.03.14	31.03.15	31.03.16	31.03.17	31.03.2018
Common Equity Tier I	4.50%	5.00%	5.50%	5.50%	5.50%	5.50%
Additional Tier I	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Minimum Tier I	6.00%	6.50%	7.00%	7.00%	7.00%	7.00%
Tier II	3.00%	2.50%	2.00%	2.00%	2.00%	2.00%

Illustration 2:

In Illustration 1 if regulatory deductions is added then the calculations of CET1, Additional Tier 1 & tier 2 will change. It will be subject to transitional arrangements. The following regulatory deduction is given as on 31st March,2014.

	Rs. in lakhs
Prudential valuation adjustments	187.10
Goodwill (net of related tax liability)	62.70
Other intangibles	1.80
Cash-flow hedge reserve	22.60
Securitisation gain on sale	14.50

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Solution:

.More than 200 multiple objective questions including case studies with answers....