THEORY

(1) TYPES OF RISK MANAGEMENT

TYPES

(1) Strategic Risk

Strategic becomes less effective

- Competition
- Technological change
- Demand shift

Eg: Kodak → Digital Camera

Nokia → Touch Screen

(2) Compliance Risk

- Business needs comply with rules & regulation
- Companies Act SEBI
- Non Compliance
- Penalty
- Imprisonment

(3) Operational Risk

- Risk related to internal risk
- Day to day operation of Business
- People as well process
- Cheques issue ₹ 1,00,000 instead of ₹ 10,000

(4) Financial Risk

Unexpected change in financial conditions

(i) Counter Party Risk

- Failure to deliver of goods

(ii) Interest Rate Risk

- Floating Rate Loan

(iii) Currency Risk

- Import/Export

(iv) Political Risk

- IFM

(v) Liquidity Risk

(2) EVALUATION OF FINANCIAL RISK

The financial risk can be evaluated from different point of views as follows:

(a) From stakeholder's point of view: Major stakeholders of a business are equity shareholders and they view financial gearing i.e. ratio of debt in capital structure of company as risk since in event of winding up of a company they will be least prioritized.

Even for a lender, existing gearing is also a risk since company having high gearing faces more risk in default of payment of interest and principal repayment.

(b) **From Company's point of view:** From company's point of view if a company borrows excessively or lend to someone who defaults, then it can be forced to go into liquidation.

(c) **From Government's point of view:** From Government's point of view, the financial risk can be viewed as failure of any bank or (like Lehman Brothers) down grading of any financial institution leading to spread of distrust among society at large. Even this risk also includes wilful defaulters. This can also be extended to sovereign debt crisis.

(3) VALUE-AT-RISK (VAR)

As per Wikipedia, VAR is a measure of risk of investment. Given the normal market condition in a set of period, say, one day it estimates how much an investment might lose. This investment can be a portfolio, capital investment or foreign exchange etc., VAR answers two basic questions –

(i) What is worst case scenario?

(ii) What will be loss?

It was first applied in 1922 in New York Stock Exchange, entered the financial world in 1990s and become world's most widely used measure of financial risk.

FEATURES OF VAR

Following are main features of VAR

(i) **Components of Calculations:** VAR calculation is based on following three components :

(a) Time Period

(b) Confidence Level – Generally 95% and 99%

(c) Loss in percentage or in amount

(ii) **Statistical Method:** It is a type of statistical tool based on Standard Deviation.

(iii) **Time Horizon:** VAR can be applied for different time horizons say one day, one week, one month and so on.

(iv) **Probability:** Assuming the values are normally attributed, probability of maximum loss can be predicted.

(v) **Risk Control:** Risk can be controlled by setting limits for maximum loss.

(vi) Z Score: Z Score indicates how many standard Deviations is away from Mean value of a population. When it is multiplied with Standard Deviation it provides VAR.

APPLICATION OF VAR

VAR can be applied

(a) to measure the maximum possible loss on any portfolio or a trading position.

(b) as a benchmark for performance measurement of any operation or trading.

(c) to fix limits for individuals dealing in front office of a treasury department.

(d) to enable the management to decide the trading strategies.

(e) as a tool for Asset and Liability Management especially in banks.

(4) APPROPRIATE METHODS FOR IDENTIFICATION AND MANAGEMENT OF FINANCIAL RISK

As we have classified financial risk in 4 categories, we shall discuss identification and management of each risk separately under same category.

COUNTER PARTY RISK

The various hints that may provide counter party risk are as follows:

(a) Failure to obtain necessary resources to complete the project or transaction undertaken.

(b) Any regulatory restrictions from the Government.

(c) Hostile action of foreign government.

(d) Let down by third party.

(e) Have become insolvent.

The various techniques to manage this type of risk are as follows:

(1) Carrying out Due Diligence before dealing with any third party.

(2) Do not over commit to a single entity or group or connected entities.

(3) Know your exposure limits.

(4) Review the limits and procedure for credit approval regularly.

(5) Rapid action in the event of any likelihood of defaults.

(6) Use of performance guarantee, insurance or other instruments.

POLITICAL RISK

From the following actions by the Governments of the host country this risk can be identified:

1. Insistence on resident investors or labour.
2. Restriction on conversion of currency.
3. Expropriation of foreign assets by the local govt.
4. Price fixation of the products.

Since this risk mainly relates to investments in foreign country, company should assess country risk

(1) By referring political ranking published by different business magazines.

(2) By evaluating country's macro-economic conditions.

(3) By analyzing the popularity of current government and assess their stability.

(4) By taking advises from the embassies of the home country in the host countries.

Further, following techniques can be used to mitigate this risk.

(i) Local sourcing of raw materials and labour.

(ii) Entering into joint ventures

(iii) Local financing

(iv) Prior negotiations

INTEREST RATE RISK

Generally, interest rate Risk is mainly identified from the following:

1. Monetary Policy of the Government.
2. Any action by Government such as demonetization etc.
3. Economic Growth
4. Release of Industrial Data
5. Investment by foreign investors
6. Stock market changes

The management of Interest risk has been discussed in detail in separate chapter later on.

CURRENCY RISK

Just like interest rate risk the currency risk is dependent on the Government action and economic development. Some of the parameters to identity the currency risk are as follows:

(1) **Government Action:** The Government action of any country has visual impact in its currency. For example, the UK Govt. decision to divorce from European Union i.e. Brexit brought the pound to its lowest since 1980's.

(2) **Nominal Interest Rate:** As per interest rate parity (IRP) the currency exchange rate depends on the nominal interest of that country.

(3) **Inflation Rate:** Purchasing power parity theory discussed in later chapters impact the value of currency.

(4) **Natural Calamities:** Any natural calamity can have negative impact.

(5) **War, Coup, Rebellion etc.:** All these actions can have far reaching impact on currency's exchange rates.

(6) **Change of Government:** The change of government and its attitude towards foreign investment also helps to identify the currency risk.

So far as the management of currency risk is concerned, it has been covered in a detailed manner in a separate chapter.

CHAPTER – 07

SECURITY ANALYSIS

Question – 01

Closing Values of NIFTY Index from 3rd to 12th day of the month of January 2022 were as follows:

Days	Date	Closing Values of NIFTY Index
1	03/01/2022	17626
2	04/01/2022	17805
3	05/01/2022	17925
4	06/01/2022	17746
5	07/01/2022	17813
6	10/01/2022	18003
7	11/01/2022	18056
8	12/01/2022	18212

The simple moving average of NIFTY Index for the month of December 2021 was 17174.

You are required to calculate

(i) The value of exponent for 15 days EMA.

(ii) The exponential moving average (EMA) of NIFTY during the above period. (Calculations to be done up to 2 decimals only)

(iii) Analyze the buy & sell signal on the basis of your calculations.

(Exam May – 2022)

Solution:

(i) Value of exponent of 15 days EMA

$$= \frac{2}{n+1}$$

$$= \frac{2}{15+1} = 0.125$$

(ii) Calculation of EMA

Date	Closing Price	EMA= Previous EMA + (Price – Previous EMA) AF	EMA
03/1/22	17,626	17,174 + (17,626 – 17,174) 0.125	17,230.50
04/1/22	17,805	17,230.5 + (17,805 – 17,230.50) 0.125	17,302.31
05/1/22	17,925	17,302.31 + (179,25 – 17,302.31) 0.125	17,380.15
06/1/22	17,746	17,380.15 + (17,746 – 17,380.15) 0.125	17,425.88
07/1/22	17,813	17,425.88 + (17,813 – 17,425.88) 0.125	17,474.27
10/1/22	18,003	17,474.27 + (18,000 – 17,474.27) 0.125	17,540.36
11/1/22	18,056	17,540.36 + (18,056 – 17,540.36) 0.125	17,604.82
12/1/22	18,212	17,604.82 + (18,212 – 17,604.82) 0.125	17,680.71

(iii) Since EMA is upward trend, hence market is bullish, it is buy signal.

Question – 02

Closing values of BSE Sensex from 6th to 17th day of the month of January of the year 20XX were as follows:

Days	Date	Day	Sensex
1	6	THU	29,522
2	7	FRI	29,925
3	8	SAT	No Trading
4	9	SUN	No Trading
5	10	MON	30,222
6	11	TUE	31,000
7	12	WED	31,400
8	13	THU	32,000
9	14	FRI	No Trading
10	15	SAT	No Trading
11	16	SUN	No Trading
12	17	MON	33,000

Compute Exponential moving Average (EMA) of Sensex during the above period. The 30 days simple moving average of Sensex can be assumed as 30,000. The value of exponent for 30 days EMA is 0.062.

Provide detailed analysis on the basis of your calculations.

(Exam May – 2018)

Solution:

Date	Closing Price	EMA= Previous EMA + (Price – Previous EMA) AF	EMA
6	29522	30,000 + (29,522 – 30,000) 0.062	29,970.36

7	29925	29,970.36 + (29,925 – 29,970.36) 0.062	29,967.55
10	30222	29,967.55 + (30,222 – 29,967.55) 0.062	29,983.33
11	31000	29,983.33 + (31,000 – 29,983.33) 0.062	30,046.36
12	31400	30,046.36 + (31,400 – 30,046.36) 0.062	30,130.29
13	32000	30,130.29 + (32,000 – 30,130.29) 0.062	30,246.21
17	33000	30,246.21 + (33,000 – 30,246.21) 0.062	30,416.94

On the basis of EMA it is expected that market is bullish hence investor should take long position on Sensex.

CHAPTER – 08

FINANCIAL POLICY

Question – 01

The Balance Sheet of M/s. Sundry Ltd. as on 31-03-2023 is follows:

(₹ in lakhs)

Liabilities	₹	Assets	₹
Share Capital	3,000	Fixed Assets	6,000
Reserves	2,000	Inventory	5,000
Long Term Loan	4,000	Receivables	2,400
Short Term Loan	3,000	Cash	600
Payables & Provisions	2,000		
Total	**14,000**	**Total**	**14,000**

Sales for the year was ₹ 6,000 lakhs. The sales are expected to grow by 20% during the year. The profit margin and dividend pay-out ratio are expected to be 4% and 50% respectively.

The company further desires that during the current year Sales to Short Term Loan and Payables and Provision should be in the ratio of 4 : 3. Ratio of fixed assets to Long Term Loans should be 1.5. Debt Equity Ratio should not exceed 1.5.

You are required to determine:

(i) The amount of External Fund Requirement (EFR)

(ii) The amount to be raised from Short Term, Long Term and Equity funds.

(SM May – 2025)

Solution:

(i) External Funds Requirement (EFR) :

	(₹ in lakhs)
Expected sales (₹ 6,000 + 20% of ₹ 6,000)	7,200.00
Profit margin @ 4%	288.00
Dividend payout ratio @ 50%	144.00

Balance to be ploughed back (A)	144.00
Additional funds required (₹ 14,000 – ₹ 2,000) × 0.20 (B)	2,400.00
Balance to be met from external source (B – A)	2,256.00

* As current liabilities shall also be increased proportionately with increase in sales.

(ii) Amount to be raised from different sources with following conditions:

- Sales to short term loans and payables & provisions 4:3
- Ratio of fixed assets to long term loans 1.5
- Debt equity ratio should not exceed 1.5

(1) Amount to be raised from short term funds;

	(₹ in lakhs)
New amount of short-term loans and payable & provision $\left(\frac{3}{4} \times 7{,}200\right)$	5,400
Less: Existing Amount of short-term loans and payables & provision (2,000 × 1.20 + 3,000)	5,400
Amount to be raised from short term funds.	Nil

(2) Amount to be raised from long term funds:

	(₹ in lakhs)
New fixed assets (₹ 6,000 + 20% of ₹ 6,000)	7,200
New long-term loans (₹ 7,200/1.5)	4,800
Less: Existing long-term loans	4,000
Amount to be raised from long term funds	800

(3) Amount to be raised from equity funds:

	(₹ in lakhs)
Amount to be raised from external sources	2,256.00
Less: Amount to be raised from short term funds	-----
Less: Amount to be raised from long term funds	800.00
Balance amount to be raised from equity funds	1,456.00