Cosmo School

Class: 10
Subject: Finance & Banking
Chapter: 04 (Risk & Uncertainty)

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Important Topics Exposition:

[The important information of this chapter has been provided here at a glance.]

1. Concept of Uncertainty:

When the probability of happening, something cannot be determined mathematically, then it is called uncertainty.

So, uncertainty refers to the difficulty of predicting outcomes because of limited or inexact knowledge.

2. Concept of Risk:

The possibility of actual result to be different from the expected result is called risk. Risk is the part of uncertainties that can be measured.

3. Differences Between Risk And Uncertainty:

Matters of difference	Risk	Uncertainty
Definition	The probability of occurring any event that can be measured.	The possibility of occurring any event.
Control	Controllable	Uncontrollable
Minimization	Yes	No
Ascertainment	Can be measured	Cannot be measured

4. Concept of Business Risk:

Risk arises from the inability of the firm to meet its operating costs is called business risk.

The ability of the firm to meet its operating costs depends on the combination between its stability of sales return and operational cost. If the firm collects its fund from only internal sources, and not from any external sources, the risk related with earning is known as business risk.

5. Concept of financial risk:

The inability to repay the loan creates financial risk.

The risk of failure to pay the loan interest including the principle amount on time is called financial risk. Taking out a loan basically creates a liability in the company. Because it is a must to pay interest against the actual of a loan.

6. Concept of Liquidity Risk:

Liquidity risk arises from failing to sell the assets quick enough to minimize the loss.

Liquidity is the ability of a company to pay the debts without suffering much loss. However, companies always do not get lucky to liquidate their investments whenever they want. From this uncertainty, risk of liquidity arises. This kind of risk is higher for sale proprietorship and partnership firms.

7. Concept of Risk-Free Return:

When the expected return equal to the actual return this is called risk free return.

Generally, income from treasury stocks and treasury bonds issued by the government of a country is considered as risk-free. As the earnings from these securities are fixed, they are deemed to be free from any risk. There is no risk premium in this income. This is why it is called risk free return.

8. Concept of Interest Rate Risk:

Interest rate risk occurs from buying bond, or the fixed income investment will suffer as the result of a change in interest rates.

Generally, business organizations invest in bonds and debentures to earn profit. However, these investment tools are related with some risk. The reason is the value of the investment moves upward or down ward. If interest rate increases, market value of these investments goes down. On the other hand, if the interest rate decreases, the value also goes up. The possibility of decreasing or increasing this value is know a interest rate risk.

9. Concept of Standard Deviation:

Standard deviation is the average of the sum of the squared deviations of actual values from the expected value.

The formula of Standard Deviation -

$$SD = \sqrt{\frac{\sum(Income\ Rate - Average\ rate)}{n-1}}$$

CQs for Self-assessment (Board CQ):

1. Five years ago, Mr. Maheraj invested money in two projects named ‘Sorna’ and ‘Zorna’. From the project last five years received rate of return are as follows:

Project	Year – 1	Year – 2	Year – 3	Year – 4	Year – 5
Sorna	10%	12%	18%	14%	11%
Zorna	9%	14%	21%	8%	13%

   a. What is risk?
   b. Inability to paid operating expenses create which risk? Explain.
   c. Calculate the standard deviation of Sorna’s project.
   d. Which project should be close of Mr. Maheraj? Analyze.

2. Mr. Sajin would like to invest his capital in two projects. But he cannot accept two projects due to limitation of capital. The rate of return of two project during the last four years are given below:

Project	Year – 1	Year – 2	Year – 3	Year – 4
Rupsha Project	18%	-2%	23%	26%
Karnophuli Project	16%	21%	-4%	32%

   a. What is standard deviation?
   b. Why is investment tool issued by government risk free? Explain.
   c. Calculate the average squared deviation of Karnophuli project.
   d. Which of the following project should Mr. Sajin accept? Give your own opinion with logic.

3. Star Co. Ltd. Financed from 20% general share, 40% debenture and 40% bond of capital. There is an opportunity of investment of the collected money in the two projects of company. It is expecting that next 5 years it can get return from “Project – Jupiter” 8%, 10%, -7% and 0% respectively. On the other hand, analyzing the standard deviation of ‘Project Shony”, it has got 11%.

   a. What is uncertainty?
   b. What do you mean by risk free return? Explain.
   c. What type of risk is involved in case of ‘Star Co. Ltd’? Explain.
   d. In which project should ‘Star Co. Ltd’ invest? Give opinion by determining standard deviation.