DAFFODIL INSTITUTE OF INFORMATION TECHNOLOGY (DIIT)
Third Year, Sixth Semester
BBA (Honours) in Tourism and Hospitality Management (THM)
Fundamentals of Finance
Chapter -2
Concepts of Risk and Return

1. What is CAPM? What are the basic assumptions of CAPM? (2013, 2010, 2009)
CAPM: Capital Asset Pricing model (CAPM) is an empirical model used to determine a theoretically appropriate required rate of return of an asset. It is used to calculate the expected rate of return for any risky asset.

Capital Asset Pricing Model describes the relationship or trade-off between risk and expected return. CAPM measures the expected rate of return of an asset at a given level of risk.

According to C. P. Jones, "Capital Asset Pricing Model relates the required rate of return for any security with the risk of that security as measured by beta."

Formula of CAPM:
$$E(R) = R_f + (R_m - R_f) \beta$$
Where,
$E(R)$ = Required rate of return
R_m = The return on market
R_f = Risk free rate of return
β = The beta coefficient for the asset

The basic assumptions of CAPM:
CAPM is based on some assumption. They are given below:
1. There is no transaction cost.
2. There is no tax on income.
3. There is no inflation in the economy.
4. All the investor's expectation of investment is homogeneous.
5. Easily entrance and existence in the market.
6. Capital markets are in equilibrium.
7. There is no chance of being bankrupt.
8. Capital market will always be efficient.
9. All the investor should behave rationally.
10. Stock related information in the market will be available.

Or. What is CAPM?
In finance, the capital asset pricing model (CAPM) is used to determine a theoretically appropriate required rate of return of an asset, if that asset is to be added to an already well-

diversified <u>portfolio</u>, given that asset's non-<u>diversifiable</u> risk. The model takes into account the asset's sensitivity to non-diversifiable <u>risk</u> (also known as<u>systematic risk</u> or <u>market risk</u>), often represented by the quantity <u>beta</u> (β) in the financial industry.

2. What do you mean by portfolio? (2010) Or. What is a portfolio of assets?(2008)
Portfolio: A portfolio is a grouping of financial assets such as stocks, bonds and cash equivalents. Portfolio means make investment more than one security. Portfolio is a collection of investment held by an individual investor, company or financial institution.

According to L.J. Gitman, "Portfolio is a collection or group of assets."

The main them to create a portfolio is "do not put your all eggs in the same basket". It means make your investment in different securities like bond, share, mutual funds, and money market securities.

3. What is portfolio return? How to measure portfolio return?
Portfolio return: Portfolio return is the return that an investor gets from investing in a portfolio. The return that investor get by investing his/her total capital in a different financial assets.

According to L.J. Gitman, "The return on a portfolio is a weighted average of the return on the individual assets from which it is formed."
We can measure the portfolio return by the following formula.
$$R_p = \Sigma W_i \times \overline{X}_i$$
Where,
W_i = Weight of individual security in the portfolio.
$\overline{X}_i$ = Expected return of individual security in the portfolio.

4. What is portfolio risk? How to measure risk of a portfolio? Or. How is the riskiness of a portfolio measured?(2008)
The risk related to the portfolio is called portfolio risk. The decrease in return of profit from a portfolio investment is called portfolio risk. Chance that <u>combination</u> of <u>assets</u> or <u>units</u> within individual group of <u>investments</u> <u>fail</u> to <u>meet</u> <u>financial</u> <u>objectives</u>. In theory, portfolio risk can be eliminated by successful <u>diversification</u>.
The slandered deviation measures the risk of a portfolio. A higher standard deviation means a higher risk and higher possible return.
When probabilities of the returns are known, the formula for slandered deviation is:

$$\sigma = \sqrt{(x_i - \overline{x})^2 \times p_i}$$

When probabilities of the returns are known, the formula for slandered deviation is:

$$\sigma = \sqrt{\frac{(x_i - \overline{x})^2}{n-1}}$$

The formula of portfolio standard deviation:

$$\sigma_p = \sqrt{w_1^2 \times \sigma_1^2 + w_2^2 \times \sigma_2^2 + 2w_1 \times w_2 \times COV_{1,2}}$$

5. What are the three types of project risks and how are they measured? (2011)

There are three types of project risks associated with capital budgeting:

Stand-Alone Risk: Stand-alone risk is the risk associated with a single operating unit of a company or <u>asset</u>. **Stand-Alone Risk** means the risk related with an individual investment. It measures risk of a single security or asset.

Corporate Risk: A <u>risk</u> <u>inherent</u> in a firm's <u>operations</u> as a <u>result</u> of external or <u>internal factors</u> that can affect a firm's <u>profitability</u>. The risk of doing a business in a particular industry is called corporate risk or within firm risk. Corporate risk arise due to tough competition, reduction of demand, change in input cost.

Market Risk: Market risk is the possibility for an investor to experience losses due to factors that affect the overall performance of the financial markets. Market risk, also called "systematic risk," cannot be eliminated through diversification, though it can be hedged against.

6. Explain the difference between business risk and financial risk. (2011,2010,2007)

Particulars	Business risk	Financial risk
Definition	Business risk is the possibility that a company will have lower than expected profits, or loss rather than profit.	The risk which arises due to taking long term loan is called financial risk.
Source	Business risk arise due to tough competition, reduction of demand, change in input cost.	Financial risk arises due to the increase of debt capital in capital structure.
Measure	It is measured by variance & standard deviation.	It is measured by financial leverage.
Insurability	Business risk is insurable.	Financial risk is not insurable.
Risk bearer	Generally shareholder and employees of the bear business risk.	Investor of the firm bears the financial risk.
Dependency	Business risk depends on investment plan.	Financial risk depends on investment plan and capital structure.
Avoidable	Business risk is not fully avoidable.	Financial risk can be avoidable by changing capital structure.

7. Define and distinguish between systematic risk and unsystematic risk. (2011,2007)

Subject	Systematic risk	Unsystematic risk
Definition	The risk which cannot eliminate through diversification is called systematic risk or non- diversifiable risk.	Unsystematic risk is the risk which occurred due to the action of management and it is unique from firm to firm.
Affected	Systematic risk affects all firm of an industry simultaneously.	Non- systematic risk affects individual firm or industry.
Minimized	Systematic risk can be minimized through diversification.	Non-systematic risk can be eliminated through diversification.
Avoid	It is unavoidable risk.	It is avoidable risk.
Source	Systematic risk arises due to change in government, change in government policy, inflation, increase in the tax rate, change in foreign exchange rate etc.	Systematic risk arises due to labor unrest, mismanagement in production process, taking large amount of long term debt, imprudence of management, enter new competitor in the market etc.
Diversify	It cannot be diversified.	It can be diversified.
Types	Market risk, Interest rate risk, inflation risk are systematic risk.	Business risk, financial risk, liquidity risk are non-systematic risk.
Identification	Systematic risk is measured by beta (β).	It is indicated by error terms.
Called	It is also called general risk, market risk, and non-diversifiable risk.	It is also called specific risk, diversifiable risk and issuer risk

8. What are the difference between the Capital Market Line (CML) and the Security Market Line (SML)? (2014, 2013, 2012, 2008).

Particular	Security Market Line (SML)	Capital Market Line (CML)
Meaning	SML stands for Security Market Line.	CML stands for Capital Market Line.
Definition	SML, which is also called a Characteristic Line, is a graphical representation of the market's risk and return at a given time.	The CML is a line that is used to show the expected rates of return, and levels of risk for a specific portfolio.
Relationship	SML shows the relationship between risk and return of an individual security at a given time.	CML shows the relationship between standard deviation of portfolio and

		expected return of a portfolio at a given time.
Risk factors	Beta coefficient determines the risk factors of the SML.	Standard deviation is the measure of risk for CML.
Define	Security Market Line graphs defines both efficient and non-efficient portfolios.	While the Capital Market Line graphs define efficient portfolios
Y-axis	Return of security is shown along the Y-axis for SML.	Expected return of security is shown along the X-axis for SML.
X-axis	Beta of security is shown along the X-axis for SML.	Standard deviation of the portfolio is shown along the X-axis for CML
Shows	SML shows the risk or return for individual stocks.	The CML determines the risk or return for efficient portfolios.
Graph		

9. Differentiate between portfolio risk and stand-alone risk. (2014,2010)

Particulars	Stand-alone risk	Portfolio risk
Definition	The risk which is associated with an individual investment is called stand-alone risk.	The decrease in return of profit from a portfolio investment is called portfolio risk.
Risk measuring tools	Individual standard deviation, variance & Coefficient and variation.	Portfolio standard deviation, variance & portfolio covariance.
Diversification	Stand alone risk measure the undiversified risk of an individual asset.	A portfolio is constructed to diversify the risk arise from different sources.
Risk consideration	It measures risk of an individual asset.	It measures the risk of total asset of a portfolio.

10. What is stand along risk?

Stand-Alone Risk: Stand alone risk is the risk associated with a single operating unit of a company or <u>asset</u>. **Stand-Alone Risk** means the risk related with an individual investment. It measures risk of a single security or asset.

11. What are the factors which effect business risk? (2013,2012,2008)

Business risk: The risk of doing a business in a particular industry is called business risk. It may arise due to change in demand, input price cost, tough competition in the market etc. For example, Airtel faces business risk in the telecommunication industry because of tough competition.

Business risk is the possibility that a company will have lower than anticipated profits, or that it will experience a loss rather than a profit. Business risk is influenced by numerous factors, including.

1. **Intensity of Competition:** The higher the level of competition, the higher the business risk
2. **Higher Fixed Cost Structure:** Generally, if a business has higher fixed costs it will result in higher business risk. If the business's cost structure comprises mainly variable costs, it has a much lower business risk than one that has fixed costs
3. **Size of business:** The smaller the firm, the higher the business risk as it is more difficult for a small firm which is usually a new firm to compete or be more adaptable compared to a bigger or established firm.
4. **Growth prospect:** Rapid growth/expansion would expose the firm to higher business risk as it can cause earnings to be more volatile.
5. **Product diversification:** The more a firm is dependent on one product, the higher the business risk compared to a firm which has a more products.