

Fundamental of Risk Management

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Group Discussion

Answer

Q1: In finance, risk is the probability that actual results will differ from expected results. In the Capital Asset Pricing Model (CAPM), risk is defined as the volatility of returns. The concept of "risk and return" is that riskier assets should have higher expected returns to compensate investors for the higher volatility and increased risk.

There are four broad categories of financial risks such as:

- **Market Risk.** is what happens when there is a substantial change in the particular marketplace in which a company competes.
- **Credit Risk.** is when companies give their customers a line of credit; also, a company's risk of not having enough funds to pay its bills.
- **Liquidity Risk.** refers to how easily a company can convert its assets into cash if it needs funds; it also refers to its daily cash flow.
- **Operational Risks.** emerge as a result of a company's regular business activities and include fraud, lawsuits, and personnel issues.

Q2: We could use the following formulas:

Expected return for the equity fund = T-bill rate + Risk premium = 6% + 10% = 16%

Expected return of client's overall portfolio = $(0.6 * 16\%) + (0.4 * 6\%) = 12\%$

Standard deviation of clients overall portfolio = $0.6 * 14\% = 8.4\%$

From this we see the following:

Expected return for the equity fund is **16%**, standard deviation of clients overall portfolio is **8.4%**, expected return of client's overall portfolio is **12%**.

Q3: Banks raise cash to manage the liquidity risk by:

- **Analysis of Financial Ratios:** The bank should be analyzing their financial condition, and the most common ratios are Quick Ratio, Current Ratio. To do this method, it helps the bank to manage the risk of liquidity. Also, Good liquidity management means performing financial ratios analysis as they provide a business with current indicators of liquidity risk based on its past performance, allowing it to make the required financial and operational tweaks to ensure it attains desired future financial and operational outcomes.
- **Cash Flow Forecasting:** The bank should re-evaluate their operational strategy and profitability forecast. Importantly, management must have good visibility into potential liquidity difficulties and opportunities. A cash flow analysis must be realistic and informational, allowing visibility and execution of management's plans, justifying the merits of business strategies and aiding accountability.
- The bank should actively monitor and control liquidity risk exposures and funding needs when they raise the cash within and across legal entities, business lines and currencies, regulatory and operational limitations to the transferability of liquidity.
- The bank should actively manage its intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis and thus contribute to the smooth functioning of payment and settlement systems when they raise cash in order to avoid the risk of liquidity.
- The bank should establish a funding strategy that provides effective diversification in the source and tenor of funding, and maintain ongoing presence.

Q4: There are 7 credit risk components:

- **Default risk.** a possibility that a counterparty in a financial contract will not fulfill a contract commitment to meet his obligations stated in the contract.
- **Migration risk.** the potential for direct loss due to internal/external ratings downgrade as well as the potential indirect losses that may arise from a credit migration event
- **Exposure risk.** risk of fluctuations in the market value of the claim on the counterparty
- **Counterparty risk.** the probability that the other party in an investment, credit, or trading transaction may not fulfil its part of the deal and may default on the contractual obligations
- **Recovery risk.** uncertainty in the fraction of the claim recovered after default
- **Spread risk.** the reduction in market value of the financial contract due to decline of the credit quality of the debtor or counterparty
- **Correlation and concentration risk.** the level of risk in a bank's portfolio arising from concentration to a single counterparty, sector or country. The rise arises from the observation that more concentrated portfolios are less diverse and therefore the returns on the underlying assets are more correlated.

Default events are:

1. Defaulting on payment
2. Bankruptcy
3. Debt restructuring.

Q5: Interest rate risk occurs when earnings are sensitive to the movement of interest rates. For example, loans, investments, and deposits generate revenues or costs which are driven by interest rates.

Interest rate gaps are the differences between assets and liabilities of which interest rate shares a common reference. The gaps are calculated for fixed-rate or for variable-rate assets and liabilities. By convention, it is calculated as below:

Fixed interest rate gap = Fixed rate assets - Fixed rate liabilities

Variable interest rate gap = Interest rate sensitive assets - Interest rate sensitive liabilities

Q6: **Future** is a contract involving two parties who agree to buy and sell an asset at a specific price on a future date. Because these contracts are traded on organised exchanges, they have clearing houses that guarantee the transactions, and thus, reducing the probability of default to almost zero.

Forward is a privately-negotiated agreement between a buyer and seller to trade an asset at a future date at a specified price. For example, a forward loan would lock in an interest rate for a future period. The loan gains value if interest rates decline and loses value if they move up. Unlike future contracts, forward contracts are traded over the counter. Since they are private agreements, there is a high degree of counterparty default risk.

MCQ Answer:

1. B $\Rightarrow (-11\% + 15\% + 20\%) / 3 = 8\%$
2. B
3. B
4. B
5. B $\Rightarrow \$10,000 * (1 - (0.0486 * 90) / 360) = \$9,878.50$
6. C $\Rightarrow 104.5313\% (1000 / 100) = \$1,045.31$