Course Summary

Financial Risk Management

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Certain Important Perspectives Review

- What is the risk?
  - A potential loss in the future
- How to measure the risk
  - Use the historical data to simulate the distribution of return rate of your portfolio
  - For example, 2-year data to picture the distribution curve
  - Assume the return rate in the next trading day will be drawn from the same distribution
- How to picture the distribution?
  - Mean and Standard errors
  - Correlation coefficients

What is Risk? How to define?

Risk is the chance (or probability) of a deviation from an anticipated outcome. It is not limited to consideration of losses, but looks at the extent and probability of all of the deviations. It is a function of objectives.

Without an objective or intended outcome, there is only uncertainty.

Risk Stratification Bryan Wynne (1992) proposed a four level stratification Risk :

1.where probabilities are known Uncertainty :

2.where the main parameters are known, but quantification is suspect Indeterminacy :

3.where the causation or risk interactions are unknown :

risks have escaped detection or have not manifested themselves

4.Risk can be quantified; whereas uncertainty cannot.

Structure of Financial Risk Management

- **Manage the risk**
- **Reduce the risk**
    - Hedge
    - Diversification
    - Capital preparation

Risk allocation

- Which unit takes the risk?

Performance evaluation

- Risk-adjusted performance

What Is Financial Risk Management?

Process to deal with the uncertainties resulting from financial markets.

FRM involves assessing the financial risks facing an organization and developing management strategies consistent with internal priorities and policies

Strategies for risk management often involve derivatives.

The risk management process involves both internal and external analysis.

This part of the process involves identifying and prioritizing the financial risks facing an organization and understanding their relevance.

There are three broad alternatives for managing risk:

1. Do nothing and actively, or passively by default, accept all risks.
2. Hedge a portion of exposures by determining which exposures can and should be hedged.
3. Hedge all exposures possible

The four standard market risk factors are

1.Time period.
2.Equity risk, or the risk that stock prices will
Volatility is expressed in annualized terms change.
Interest rate risk, or the risk that interest expressed as an absolute number (5$) or a rates will change. fraction of the initial value (5%).
3.Currency risk, or the risk that foreign exchange rates will change.
4.Volatility is often viewed as a negative in that it represents uncertainty and risk.

However, volatility1 can be good in that if one shorts on the peaks, and Although the risks apply to any organization in buys on the lows one can make money, with business it is of particular relevance to the banking greater money coming with greater volatility. The regime where regulators are responsible for possibility for money to be made via volatile establishing safeguards to protect against systemic markets is how short term market players like dayfailure of the banking system and the economy.

Risk Management Approach

1. If we use the term risk factor to refer to a particular risk, then the total risk will be made up of one or more risk factors.
2. A risk profile is a graphical representation of the payoffs associated with changes in the risk factor.
3. Rather than focusing on risk elimination, the firm typically considers the trade-off between risk taken and the expectation of reward.
4. Liquidity risk arises when there may not be a counterparty willing to transact at a price close to the previously recorded transaction, within a reasonable time.

Steps to Risk Identification Awareness :

(1) risks that are unknown,
(2) risks that are known but not measurable,
(3) risks that are known and measurable.

Measurement : the task is to model the risk in order to measure its impact, thus allowing decisions to be made on a course of action.

Adjustment : changing the nature, probability or impact of the risk.

Risk Adjustment includes behavior change, insurance (transfer), operational hedging and financial hedging.