PRINCIPLES OF RISK MANAGEMENT AND INSURANCE

CLASS NOTES

Chapter 1

Risk and Its Treatment

- Definitions of Risk
- Chance of Loss
- Peril and Hazard
- Classification of Risk
- Major Personal Risks and Commercial Risks
- Burden of Risk on Society
- Techniques for Managing Risk

Different Definitions of Risk

- Chance of loss: The probability that an event will occur
- Objective Probability vs. Subjective Probability
  - Objective probability refers to the long-run relative frequency of an event based on the assumptions of an infinite number of observations and of no change in the underlying conditions
  - Subjective probability is the individual's personal estimate of the chance of loss

Chance of Loss vs. Objective Risk

- Chance of loss is the probability that an event that causes a loss will occur.
- Objective risk is the relative variation of actual loss from expected loss

The chance of loss may be identical for two different groups, but objective risk may be quite different!

City	# homes	Average # fires	Range	Chance of Fire	Objective Risk
Philadelphia	10,000	100	75 – 125	1%	25%
Los Angeles	10,000	100	90 - 110	1%	10%

Peril and Hazard

- A peril is defined as the cause of the loss
  - In an auto accident, the collision is the peril
- A hazard is a condition that increases the chance of loss
  - A physical hazard is a physical condition that increases the frequency or severity of loss
  - Moral hazard is dishonesty or character defects in an individual that increase the frequency or severity of loss

  - Attitudinal Hazard (Morale Hazard) is carelessness or indifference to a loss, which increases the frequency or severity of a loss
  - Legal Hazard refers to characteristics of the legal system or regulatory environment that increase the frequency or severity of loss

Classification of Risk

- Pure and Speculative Risk
  - A pure risk is a situation in which there are only the possibilities of loss or no loss (earthquake)
  - A speculative risk is a situation in which either profit or loss is possible (gambling)
- Diversifiable Risk and Nondiversifiable Risk
  - A diversifiable risk affects only individuals or small groups (car theft). It is also called nonsystematic or particular risk.
  - A nondiversifiable risk affects the entire economy or large numbers of persons or groups within the economy (hurricane). It is also called systematic risk or fundamental risk.
  - Government assistance may be necessary to insure nondiversifiable risks.
- Enterprise risk encompasses all major risks faced by a business firm, which include: pure risk, speculative risk, strategic risk, operational risk, and financial risk
  - Strategic Risk refers to uncertainty regarding the firm's financial goals and objectives.
  - Operational risk results from the firm's business operations.
  - Financial Risk refers to the uncertainty of loss because of adverse changes in commodity prices, interest rates, foreign exchange rates, and the value of money.
- Enterprise Risk Management combines into a single unified treatment program all major risks faced by the firm:
  - Pure risk
  - Speculative risk
  - Strategic risk
  - Operational risk
  - Financial risk
- As long as all risks are not perfectly correlated, the firm can offset one risk against another, thus reducing the firm's overall risk.
- Treatment of financial risks requires the use of complex hedging techniques, financial derivatives, futures contracts and other financial instruments.

Major Personal Risks

- Personal risks are risks that directly affect and individual or family. They involve the possibility of a loss or reduction in income, extra expenses or depletion of financial assets, due to:
  - Premature death of family head
  - Insufficient income during retirement
  - Poor health (catastrophic medical bills and loss of earned income)
  - Involuntary unemployment

- Property risks involve the possibility of losses associated with the destruction or theft of property
- Direct loss vs. indirect loss
  - A direct loss is a financial loss that results from the physical damage, destruction, or theft of the property, such as fire damage to a home
  - An indirect or consequential loss is a financial loss that results indirectly from the occurrence of a direct physical damage or theft loss, e.g., the additional living expenses after a fire
- Liability risks involve the possibility of being held legally liable for bodily injury or property damage to someone else
  - There is no maximum upper limit with respect to the amount of the loss
  - A lien can be placed on your income and financial assets
  - Legal defense costs can be enormous

Major Commercial Risks

- Firms face a variety of pure risks that can have serious financial consequences if a loss occurs:
  - Property risks, such as damage to buildings, furniture and office equipment
  - Liability risks, such as suits for defective products, pollution, and sexual harassment
  - Loss of business income, when the firm must shut down for some time after a physical damage loss
  - Other risks to firms include crime exposures, human resource exposures, foreign loss exposures, intangible property exposures, and government exposures

Burden of Risk on Society

- The presence of risk results in three major burdens on society:
  - In the absence of insurance, individuals and business firms would have to maintain large emergency funds to pay for unexpected losses
  - The risk of a liability lawsuit may discourage innovation, depriving society of certain goods and services
  - Risk causes worry and fear

Techniques for Managing Risk

- Risk Control refers to techniques that reduce the frequency or severity of losses:
  - Avoidance
  - Loss prevention refers to activities to reduce the frequency of losses
  - Loss reduction refers to activities to reduce the severity of losses
- Risk Financing refers to techniques that provide for payment of losses after they occur:
  - Retention means that an individual or business firm retains part or all of the losses that can result from a given risk.

- Active retention means that an individual is aware of the risk and deliberately plans to retain all or part of it
  - Passive retention means risks may be unknowingly retained because of ignorance, indifference, or laziness
  - Self Insurance is a special form of planned retention by which part or all of a given loss exposure is retained by the firm
- A Noninsurance transfer transfers a risk to another party.
  - A transfer of risk by contract, such as through a service contract or a hold-harmless clause in a contract
  - Hedging is a technique for transferring the risk of unfavorable price fluctuations to a speculator by purchasing and selling futures contracts on an organized exchange
  - Incorporation of a business firm transfers to the creditors the risk of having
- For most people, insurance is the most practical method for handling major risks
  - Risk transfer is used because a pure risk is transferred to the insurer.
  - The pooling technique is used to spread the losses of the few over the entire group
  - The risk may be reduced by application of the law of large numbers

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