Insurance and risk

- 1 Definition
- 2 Basic characteristics
- 3 Ideally insurable risk
- 4 Adverse selection and insurance
- 5 Insurance compared
- 6 Cyber liability insurance
- 7 Benefits of insurance to society
- 8 Costs of insurance to society
- 9 Insurance market dynamics Underwriting Cycle Consolidation in the Insurance Industry Capital Market Risk-Financing Alternatives

Ambrose Bierce “Insurance: An ingenious modern game of chance in which the player is permitted to enjoy the comfortable conviction that he is beating the man who keeps the table.”

What do you think about it?

Insurance is the pooling of fortuitous losses by transfer of such risks to insurers, who agree to indemnify insureds for such losses, to provide other pecuniary benefits on their occurrence, or to render services connected with the risk.

1. Pooling of losses

- the spreading of losses incurred by the few over the entire group, so that in the process, average loss is substituted for actual loss
- involves the grouping of a large number of exposure units so that the law of large numbers can operate to provide a substantially accurate prediction of future losses
- implies the sharing of losses by the entire group
- the prediction of future losses with some accuracy based on the law of large numbers

- Purpose: to reduce the variation in possible outcomes as measured by the standard deviation or some other measure of dispersion, which reduces risk.
- e.g.: Assume that 2 business owners each own an identical storage building valued at $50,000. Assume there is a 10% chance in any year that each building will be destroyed by a peril, and that a loss to either building is an independent event. Expected loss = 0.90 X $0 + 0.10 X $50,000 = $5,000 SD = p 0.90(0 − $5, 000)2 + 0.10($50, 000 − $5, 000)2 = $15, 000

- Suppose instead of bearing the risk of loss individually, the 2 owners decide to pool (combine) their loss exposures, and each agrees to pay an equal share of any loss that might occur. Under this scenario, there are 4 possible outcomes: Possible outcomes Probability Neither building is destroyed 0.90 X 0.90 = 0.81 First building destroyed,second building no loss 0.10 X 0.90 = 0.09

First building no loss, second building destroyed 0.90 X 0.10 = 0.09 Both buildings are destroyed 0.10 X 0.10 = 0.01 EL = 0.81 X $0 + 0.09 X $25,000 + 0.09 X $25,000 + 0.01 X $50,000 = $5,000 SD = $10,607

- The EL for each owner remains $5,000. • Note that while the EL remains the same, the probability of extreme values, $0 and $50,000, have declined.
- The reduced probability of the extreme values is reflected in a lower SD.
- As additional individuals are added to the pooling arrangement, the SD continues to ↓ while the EL remains unchanged.
- e.g.: with a pool of 100 insureds, the SD is $1,500; with a pool of 1,000 insureds, the SD is $474; and with a pool of 10,000, the SD is $150.

2. Payment of Fortuitous Losse

- is one that is unforeseen and unexpected by the insured and occurs as a result of chance
- the loss must be accidental. The law of large numbers is based on the assumption that losses are accidental and occur randomly.
- e.g.: A person may slip on an icy sidewalk and break a leg. The loss would be fortuitous

3. Risk Transfer

- transfer means pure risk is transferred from the insured to the insurer, who typically is in a stronger financial position to pay the loss than the insured.
- e.g.: the risk of premature death, excessive longevity, poor health, disability, destruction and theft of property, and personal liability lawsuits-

4. Indemnification

- means that the insured is restored to his or her approximate financial position prior to the occurrence of the loss.
- e.g.: If your home burns in a fire, a homeowners policy will indemnify you or restore you to your previous position. If you are sued because of the negligent operation of an automobile, your auto liability insurance policy will pay those sums that you are legally obligated to pay. If you become seriously disabled, a disability-income insurance policy will restore at least part of the lost wages.

Ideally insurable risk

1. There must be a large number of exposure units.

• purpose: the law of large numbers

• e.g.: a large number of wood frame dwellings in a city can be grouped together for purposes of providing property insurance on the dwellings.

2. The loss must be accidental and unintentional.

• reasons: the law of large numbers (random occurrence of events); moral hazard

3. The loss must be determinable and measurable.

• means the loss should be definite as to cause, time, place, and amount

• purpose: to enable an insurer to determine if the loss is covered under the policy, and if it is covered, how much should be paid 4 The loss should not be catastrophic.

• Several approaches for a catastrophic loss.

• Reinsurance is an arrangement by which the primary insurer that initially writes the insurance transfers to another insurer (called the reinsurer) part or all of the potential losses associated with such insurance.

5. The chance of loss must be calculable.

• e.g.: floods, wars, and cyclical unemployment occur on an irregular basis, and prediction of the average frequency and severity of losses is difficult. Thus, without government assistance, these losses are difficult for private carriers to insure.

• reason: a proper premium can be charged that is sufficient to pay all claims and expenses and yields a profit during the policy period.

6. The premium must be economically feasible.

• The insured must be able to afford the premium for the insurance to be an attractive purchase, the premiums paid must be substantially less than the face value, or amount, of the policy.

• most personal risks, property risks, and liability risks can be privately insured because the ideal characteristics of an insurable risk generally can be met

6. The premium must be economically feasible.

- most market risks, financial risks, production risks, and political risks are difficult to insure by private insurers
- speculative, and calculation of a correct premium may be difficult because the chance of loss cannot be accurately estimated
- e.g.: insurance that protects a retailer against loss because of a change in consumer tastes, such as a style change, generally is not available.

Cyber liability insurance

- Although cyber liability is not a new risk (coverage has been available since around 2000), liability arising from some well-publicized data breaches (e.g., Target and Home Depot), combined with the ISO’s exclusion endorsement used with its liability forms, fueled the growth of the cyber liability insurance market.
- It covers damages arising from the failure of a data holder to protect private information from being accessed by an unauthorized party. Because the cyber insurance market is relatively new, there are no standard coverages available.

2 Approaches:

1 stand-alone cyber liability insurance forms

2 cyber liability endorsement that can be added to a businessowners policy (BOP) or to a policy packaging management liability coverages (e.g., D&O, fiduciary liability, employment practices liability, and other coverages)

- Coverage can be purchased for liability arising from a data breach, the cost of responding to the breach, and fines and penalties owed as a result of the breach.
- Coverage is usually not limited to losses from hackers.

Smart phones and iPads may have valuable business information. If such a device is lost or stolen, the data stored on the device may be accessed, creating a cause of action.

Cyber coverage can also be purchased for property losses caused by computer breaches.

- e.g.: A hacker might plant malware in a computer system, rendering the system useless. Restoration costs and business income losses may mount until the system can be restored.
- Errors and omissions (E&O) insurance provides protection against loss incurred by a client because of negligent acts, errors, or omissions by the insured.

Benefits of Insurance to society

1. Indemnification for Loss

• permits individuals and families to be restored to their former financial position after a loss occurs

• to business firms also permits firms to remain in business and employees to keep their jobs. Suppliers continue to receive orders, and customers receive the goods and services they desire.

The community also benefits because its tax base is not eroded.

2. Reduction of Worry and Fear

• before and after a loss

3. Source of Investment Funds

• Insurance industry is an important source of funds for capital investment and accumulation

• Premiums are collected in advance of the loss, and funds not needed to pay immediate losses and expenses can be loaned to business firms.

4. Source of Investment Funds

- The investments increase society’s stock of capital goods, and promote economic growth and full employment.
- The cost of capital to business firms that borrow is lower than it would be in the absence of insurance.

5.Loss Prevention

- loss-prevention programs
- safety engineers and specialists in fire prevention, occupational safety and health, and products liability.

6. Enhancement of credit

- Insurance enhances a person’s credit. Insurance makes a borrower a better credit risk because it guarantees the value of the borrower’s collateral or gives greater assurance that the loan will be repaid.
- e.g.: A business firm seeking a temporary loan for Christmas or seasonal business may be required to insure its inventories before the loan is made.

Thank you for your attention!