



Class:M.Sc Sem 3

Subject : Actuarial Practice 1

Chapter: Unit 1 Chapter 4

Chapter Name: Insurance Products

Today's Agenda

1. Features of Life Insurance Contracts
2. Life insurance terms
3. Pure endowment & endowment assurance
4. Whole life assurance
5. Term assurance
 1. Convertible or renewable term assurance
6. Immediate annuity
7. Deferred annuity
8. Income drawdown
9. Investment bonds
10. Income protection insurance
11. Critical illness insurance
12. Key person cover
13. Long term care & insurance
14. Investment types
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 1. General insurance terms
 2. Categories of General insurance
 3. Liability insurance
 4. Property damage insurance
 5. Financial loss insurance
 6. Fixed benefits

1 Features of Life Insurance Contracts

Features of life insurance contracts are

- Long term
- Usually allows only one claim per policy
- Known claim amount
- Provide protection against death, ill health
- Can be sold to an individual or a group of people
- Without profit
- With profit
- Unit linked
- Index linked

2 Life Insurance Terms

1. Contract Designing

The insurance company is in the business to make profits, hence profitability of the company is a key consideration when designing a product to be sold. Profitability is a result of an excess of cash inflow over outflow.

The cash inflows would be

2 Life Insurance Terms



An insurance company needs to make several assumptions when projecting the future profitability. They would be regarding:

2 Life Insurance Terms

2. Underwriting

Underwriting is the process of assessing the risk involved in selling the insurance policy to a potential policyholder. Underwriting helps us estimate whether the risk is higher than the standard risk and whether a higher premium amount needs to be charged, or whether to decline an insurance to the policyholder completely.

Medical underwriting is the most common form of life insurance underwriting. It involves questioning the policyholder on their age, sex, smoker status, any pre-existing disease, weight, etc.

3. Setting Premiums

Premium to be charged per policy is calculated using a pre-defined formula or a profit testing model taking the above mentioned factors into consideration.

4. Provisioning

Once a policy is sold, it is a regulatory requirement for life insurance companies to set up reserves or provisions for the policy. Reserve is an amount of money set aside, in order to meet future liabilities in the form of benefits promised and the expenses incurred. Reserves can be calculated using a profit testing models, with assumptions being more prudent than the ones used for calculating premiums

2 Life Insurance Terms

5. New Business Strain and Capital

- In the early stages of selling policies, a life insurance company will experience greater cash out-flows in the form of brokerage, administration and underwriting expenses, reserves, selling costs etc than the premiums earned. This is known as new business strain.
- Insurance companies need sufficient capital to write off this strain. As time passes, these losses are recouped by releasing the reserves and the premiums earned are now greater than the expenses incurred. This happens because reserves are calculated using a prudent approach.
- Capital is required for
 - Protection against adverse claim experience
 - For investment freedom – the greater the capital, the greater is the ability to invest in high return assets
 - To pay dividends and bonuses to the concerned stakeholders
 - For research and product development – to offer new and innovative products that can meet policyholders needs

2 Life Insurance Terms

6. Investment Strategy

Asset liability matching is one of the investment strategies adopted by life insurance companies. It requires understanding the characteristics of liabilities before investing. For example

- Fixed interest bonds, for policies where the benefits are guaranteed in monetary terms
- Index linked equities, for benefits that are inflation linked
- Assets that match the term of the liabilities, such as long and medium term assets in case of term or endowment assurance
- Derivatives such as forwards and futures to hedge some guarantees

There are several investment options available for the insurer, however certain regulations and the need to be tax efficient constrain their investment choices. For instance investing in government bonds can be tax efficient but may not provide returns as high as those provided by private companies

2 Life Insurance Terms

7. Risks faced by life insurance companies

Risk is the variance of the actual outcome from the desired outcome. A life insurance company faces several risks

- Mortality risk – with higher deaths than expected in case of term assurance
- Longevity risk – with more people living upto higher ages than expected in case of pure endowment and annuities
- Morbidity risk – with more number of people contracting a disease in case of health care
- Investment risk – with returns on investments being lower than expected or being volatile
- Expense risk – expenses being higher than those assumed while calculating premiums
- Early withdrawals – policyholders lapsing their policies, before sufficient premiums can be earned to cover expenses
- Credit risk – failure of a counterparty such as a reinsurer to perform his duties

2 Life Insurance Terms

8. Monitoring experience

As seen earlier in the Actuarial Control Cycle, monitoring the experience plays a crucial role in the functioning of a life insurance company, which is long term in nature. It helps with the doing away of incorrect and outdated assumptions that affect the profitability of the business.

Monitoring would particularly be with respect to:

- Claims experience – with respect to the number of people dying or falling sick
- Withdrawal rates – the number of people lapsing the policies and the reason for it
- Investment returns
- Expenses incurred and how the running of the company be made more cost-effective
- Sales volume and mix

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3 Pure Endowment and Endowment Assurance

- **Definition**

- A pure endowment product provides benefit to the insured upon survival to a specific date. Thus acting as a savings vehicle providing a lumpsum for certain purposes such as retirement or loan repayment
- An endowment assurance product provides benefits upon the survival to the specific date as well as upon death before the date. It acts as a savings vehicle as well as provides protection to the dependents in case of early death of the insured
- An endowment assurance also gives the freedom of surrendering the contract before maturity, in return for a surrender value which is lower than the benefit promised at the time of the contract. Thus providing protection in case of emergencies

3 Pure Endowment and Endowment Assurance

- **Use to meet customer's needs**

- An endowment assurance plan can act as guaranteed transfer mechanism for the insured to transfer sufficient amount of wealth to the dependents upon death
- It can be used to meet long term as well as short term financial goals, such as repaying a loan, paying for child's education, buying a house etc
- An endowment policy that matures when the insured retires, can act as a savings vehicle for retirement

- **Existence of a group version**

- Employers can take a group endowment assurance for his employees as a means of providing for their retirement or protection to their dependents upon early death of the employee.
- A group version brings along the task of administration and a risk of withdrawal if employees leave their jobs before the policy matures

4 Whole Life Assurance

- **Definition**

A whole life assurance provides guaranteed benefits upon the death of the insured, which is not constrained by the timing of the death, i.e this type of policy does not have a fixed time period, unlike and endowment assurance.

- **Use to meet customer's needs**

- Since it provides a lumpsum amount on the death of the insured, its general purpose is to provide financial security to his dependents, to cover certain costs that come with his death, such as funeral cost etc.
- If the dependents inherit any form of assets from the insured on his death, and that asset is subject to inheritance tax, then the benefits can be used to pay this tax liability.
- Fundamentally a whole life assurance policy is a safe way of transferring a substantial amount of wealth from a parent to his children, which without the policy would be a negligible amount in case the parent died at an early age.
- At times these contracts have the advantage of being tax efficient where the benefits promised may be free of tax

4 Whole Life Assurance

- The policy may be without profit, thus providing a fixed benefit, or may be with profit, where a certain bonus level is provided with the benefits
- A unit linked version of this policy, provides the flexibility of choosing the higher of the unit fund and the sum assured

- **Existence of a group version**

A group version of this policy is not a preferred option. Group policies are usually provided by employers to their employees who would like to undertake the employee's responsibility only till the time that he is employed at the company and not for his entire lifetime

5 Term Assurance

- **Definition**

A term assurance provides benefits upon the death on the insured, provided the death occurs within the term selected at the outset of the contract. It does not provide any benefits, if the death occurs after the specified term, unlike an endowment or whole life assurance and is hence provided at a lower level of premium.



Term assurance policies do not have any early withdrawal benefits. If this happens, then policyholders who feel they are healthy, and will not be receiving any benefit once the term ends, will surrender their policies and receive a surrender benefit. This would leave the insurer with a higher proportion of healthy lives than sick lives

- **Use to meet customer's needs**

- It is usually used to provide financial security to the dependents.
- In case of a decreasing term assurance where the sum assured is paid on death within the specified term and a lower level of benefit if the insured survives the term, the amount can be used either as loan repayment or as protection for dependents

5.1 Convertible or Renewable Term Assurance

- **Definition**

- A term assurance where the policy can be converted to a different kind in case of the survival of the policyholder after the end of the term specified in the policy or if he feels his financial needs have changed during the term of the policy. The policy can be converted to a whole life or endowment assurance subject to certain terms and conditions laid out by the insurer. It can also be converted at any time during the term of the contract.
- A renewable term assurance is one where the insured can extend the term of the contract if he feels he is healthy and is unlikely to die within the term specified at the outset of the contract. The extension of the term is however subject to medical underwriting.

5.1 Convertible or Renewable Term Assurance



Nowadays insurance companies have come up with various types of term assurance policies. For example:

- Decreasing Term Assurance – here the level of benefit starts with a high face amount and then declines yearly, making the policy suitable for needs that go down over time such as protecting the unpaid balance of a mortgage.
- Increasing Term Assurance – here the level of benefit starts with a low amount of protection, increasing over time. Thus giving an extra death benefit if the insured dies during the later years of the term.
- Return of Premiums Term Assurance – this policy returns all premiums as a lumpsum or a majority of the premiums, if the insured outlives the term of the policy. In case of early withdrawal, a part of the premiums paid till date may be returned.

- **Use to meet customer's needs**

For individuals who do not have a sufficient income or savings currently, it provides a cheaper alternative of death cover as opposed to other expensive contracts, with the advantage of having it converted to a permanent contract such as a whole life or endowment assurance when it is affordable or having it renewed for a further period, with or without medical underwriting.

5.1 Convertible or Renewable Term Assurance

- **Existence of a group version**

A group term assurance provided by the employer, where the employee is given the option of converting it or renewing it at the end of the term. However after the conversion or renewal of the contract, the policy now becomes an individual policy and may be subject to new premium rates which may be higher than the group premium rates and which are to be paid by the employee

6 Immediate Annuity

- **Definition**

- The policyholder receives a stream of income in return for a single premium. The income stream commences as soon as the premium is paid.
- Annuities may be without profit where the income amounts are fixed and may be index linked where the income amount changes with respect to the index.
- In case of a with-profit annuity, the income receivable will be guaranteed amount plus some additional bonus. In case of a unit linked annuity, the income amount is the number of units multiplied by the value of each unit. This amount keeps varying as the value of unit changes.
- Impaired life annuities are a more recent innovation, where higher annuities are paid to those in poor health



Why would an annuity provider pay higher annuities to those in poor health ?

6 Immediate Annuity

- **Use to meet customer's needs**

An immediate annuity can be used by those who want a regular level income at fixed intervals for the rest of their lives, for example an individual in retirement. It can also be used by those who have fixed yearly expenses such as paying the children's education fee.

- **Existence of a group policy**

A group version of this can be used by an employer to fund the pensions of his employees at retirement

7 Deferred Annuity

- **Definition**

A deferred annuity is one where there is some time between the purchases of the annuity and the date from when the income streams become receivable. The policyholder pays a series of premiums up to the vesting date or a single premium at the start of the contract. The policyholder then gets a series of regular income from the vesting date. They differ from immediate annuities which start paying the income right away.

- **Use to meet customer's needs**

- A deferred annuity can be used by someone who wants to build his pension which becomes payable on his retirement. There is also an option of taking a lumpsum amount on the vesting date instead of a stream of regular income which can be used to pay a home loan.
- A similar arrangement can be made possible by taking an endowment assurance and then buying an immediate annuity from the benefit receivable when the endowment policy matures
- However, this would lead to the policyholder paying a brokerage for two contracts, and there is no surety of the level of annuity receivable at the time of buying the endowment policy

7 Deferred Annuity

- **Existence of a group version**

An employer can use a deferred annuity to secure pensions for his employees.

8 Income Drawdown

- **Definition**

Under this arrangement, a fund is created over the years. Upon maturity, instead of buying an annuity using the fund, it remains invested and the member withdraws an amount of the fund each year. Now the amount may be only the returns earned on the fund, or may also include some of the fund capital.

An income drawdown contract is subject to certain legislations:

- There is a limit on the amount of fund that can be withdrawn each year
- A maximum age after which the drawdown must cease and a pension needs to be purchased with the remaining fund amount

- **Use to meet customer's needs**

A benefit of an income drawdown contract is that if the member dies before having the contract converted to an annuity, then his dependents can inherit the fund amount.

Income drawdown contract comes with certain risks and limitations:

- If a member draws only the income earned on the fund each year, then the income varies greatly
- If a member draws a high amount of income each year, then his overall fund value might reduce to zero, leaving him dependent on the state for his future arrangements

8 Income Drawdown

- Administration charges for an income drawdown are too high
- There are chances that any remaining fund at the end of the drawdown period might be insufficient for the dependents
- The remaining fund amount may be subject to taxation
- **Existence of a group version**
 - Income drawdown contracts are designed to be sold to individuals, because a group version where different members draw different amounts of income can be difficult and costly to administer

9 Investment Bonds

- **Definition**

- Here the member pays a single premium, in return for a higher lumpsum amount to be paid on death or if there is a fixed term, then at the end of that term. The lumpsum amount paid on maturity or death is guaranteed to be no less than the premium amount, but the actual value will depend on the returns earned over the years
- They are unit-linked or index-linked

- **Use to meet customer's needs**

- They can be used as a means of medium to long term investment option.
- Members have the advantage of withdrawing funds from the bond, subject to a certain penalty in the initial years. However in the later years withdrawals can be made without any penalty but there is a limitation on the frequency of withdrawals. This helps in the case of a financial emergency that may arise during the term of the investment.
- If the bond is taken on a fixed term basis and the member dies before the term ends, then a minimum guaranteed amount is payable to the dependents

9 Investment Bonds

- **Existence of a group version**
 - Investment bonds are sold on an individual basis, as preferences of each individual may vary making it difficult for a group version to fulfill the needs of each member and may also lead to high administration charges.

10 Income Protection Insurance

- **Definition**

- An income protection insurance, acts as a regular source of income for the member and his dependents, if the member is unable to earn in the event of an insured risks.
- Insured risks would typically consist of any long term illness or incapacity to earn due to an accident.

- **Use to meet customer's needs**

- The contract pays a regular income, till retirement and can be ceased if the insured is able to work again before retirement.
- However, the first claim made by a member under this policy is rejected as the insurer feels that the member may have other sources of income such as sick pay schemes or state benefits.

- **Existence of a group version**

- Employers may use this to provide a sick pay scheme to their employees.

11 Critical Illness Insurance

- **Definition**

- This contract provides a cash lumpsum to the member on the diagnosis of a critical illness, such as a heart stroke, cancer, etc. this lumpsum can then be used to provide for nursing and other hospital expenditures. The critical illnesses covered by the contract will be explicitly listed in the contract wording.

- **Use to meet customer's needs**

- It meets the important need for financial security, in the event of contracting the disease, which may leave the member incapable of earning.
- It reduces the burden on the dependents to fund the treatment costs.
- These contracts are stand-alone and there is no benefit payable on death of the member.
- It can however be provided as a rider along with some other contract such as a term, endowment or whole life assurance contract.
- This means that the member gets two sums assured, one on the diagnosis of the critical illness and other to his dependents on death

- **Existence of a group version**

- An employer may provide a stand alone version of this contract to secure his employees finances in case of contracting a critical illness

12 Keyperson Cover

- **Definition**

- A life or critical illness insurance taken to by a company to cover the life of a keyperson, i.e. someone without whom the business may find it difficult to function.
- For instance a partnership business where each of the partners has invested money. If one of the partners dies, or becomes incapable of working, then a keyperson insurance pays a benefit to the business

- **Use to meet customer's needs**

The money given to the business on the happening of the insured event can be used to:

- Buyout the keyperson's share of partnership
- Recover any losses as a result of the loss of the keyperson
- Can be used to cover the cost of recruiting, hiring and training a replacement for the deceased keyperson

- **Existence of a group version**

- A company can have only a few particular keyperson. Hence a group version covering all the employees is unlikely.

13 Long-Term Care and Insurance

- **Definition and use to meet customer's needs**
 - The contract can be used to help provide financial security against the risk of needing either home or nursing home care as an elderly person, post retirement. The contract pays a cash lumpsum or an annuity to contribute towards the cos of care in return for a single premium or a series of regular premiums.
 - Claims can be made if the member is deemed disabled and is unable to perform day to day living activities.
 - The claim amount can be used to cover the cost of being cared at either at home, a residential home or a residential nursing home
- **Existence of a group version**
 - A group version of the contract may be provided by the employer to cover the cost of care of his employees and their spouses or parents

14 Investment Types

1. Without Profit

- A without profits life insurance contract, is non-discretionary in nature, where the insurer has no thoughts on the level of benefits to be payable. The benefit amount or the method of calculating it, is stated in the policy wording.
- The policyholder knows the level of premiums and benefits at the outset. Only the surrender benefits if any will be left at the discretion of the insurer.
- The selling point of a without profits contract is the certainty that it provides with respect to the benefits

2. With Profit

- The policyholder is entitled to receive a share in the profits made by the company. The level of profits he earns is at the discretion of the company. However the members are also promised a guaranteed amount giving them some form of security.
- The primary purpose of with profits contract is to earn high expected returns on a member's savings, which is why the savings are invested in assets riskier than without profits contracts.

14 Investment Types

- The policy providers need to consider the following points, when setting bonuses in a with profits contract:
 - Not all profits generated in a year, need to be distributed among the members, some of it can be held back as a buffer for the years in which no profits may be earned.
 - Expectations of the policyholders based on the company's past performance, as well as the bonus provided competitors selling similar products.
 - The level of bonuses allowed by regulation



A 20-year conventional with-profit endowment assurance has a benefit comprising

- A guaranteed sum assured of \$20,000
- Regular bonuses of 3% compound per year
- A terminal bonus of 25% of the guaranteed sum assured plus regular bonuses

Calculate the total maturity benefit for a policyholder who survives to maturity

14 Investment Types

3. Unit-linked

- Unit linked contracts are unitized contracts, whose value of units is directly linked to the value of the underlying assets.
- It involves investing the policyholder's funds into pooled invested funds, where the shareholder's share is represented in the form of units. The policyholder has some discretion in the choice of funds he wants to invest in.
- The benefit payable to the policyholder upon maturity is the product of the number of units and the value of each unit minus any charges levied by the insurer, thus adding a savings feature to the policy.
- A protection element of the policy would be if it promises a fixed sum or a fixed value of units, below which the benefit will not fall.
- Premiums are allocated to the unit fund which is the policyholder's fund and the non-unit fund which is the insurers fund. The insurer also levies different charges such as administration, fund management mortality charge on the unit fund. The profits for the insurer arises from the difference between the charges levied and the actual cost of these expenses and the cost of guaranteed death benefits.
- A unit linked contract enables consumers either to obtain a higher expected level of benefits for a given level of premium or a lower expected level of premium for a given level of benefits, than a non linked version of the contract. This happens because by accepting greater risk, the consumer expects a higher return at the expense of a possibility that the actual return might be lower than a non-linked contract.

14 Investment Types

4. Index-linked Contracts

- This contract provides benefits, that moves in line with the performance of an index specified in the contract. The index may be an investment or an economic one. Premiums may be fixed or may move in line with the index.
- Indices may be domestic or international equity market indices

15 Features of General Insurance Contracts

A general insurance contract is one that provides protection on anything apart from an individual's life. There may be a variety of general insurance contracts such as fire, marine, motor, home, accident and other miscellaneous non-life insurance. These tangible assets are susceptible to damages and there arises a need to protect their economic value. General insurance aims at reimbursing this loss in economic value. General insurance may be split into:

- Personal lines :when policies are sold to individuals such as motor and home insurance
- Commercial lines : when policies are sold to businesses such commercial property, employers' liability etc

The features of general insurance are:

- They are short term in nature, usually for a single year and hence need to be renewed every year
- They offer the advantage of making multiple claims on the same asset
- Claim amounts are to the extent of damage to the asset, and are therefore not known in advance. There can be a fixed upper limit to the claim amounts
- Delays in claims reporting and settlement

15.1 General Insurance Terms

1. Short Tail vs Long Tail Business

- A short tail business is one where the insurance will be made and settled quickly
- A long tail business is where there high incurred but not reported (IBNR) claims, as they take a long time to be reported and settled.
- It is important to characterize insurance policies into short and long tailed business, as it determines the kind of risks associated with them and the kind of investments that need to be made to match them in terms of amount and timing.
- Reporting delay is the time from the occurrence of the event, till the time they are notified to the company. If a policyholder feels that damage is too small to make a claim or the effects of the damage are seen quite sometime after the claim event has occurred.
- Settlement delay the time from which the claim has been reported till the time it is settled. Administration processing, estimating the claim amount, determining whether the insurer is liable for a settlement etc leads to settlement delays

15.1 General Insurance Terms

2. Underwriting

- Just like life insurance, underwriting in general insurance is used to measure the risk factor of a policy and to estimate the premium to be charged. Underwriting strategies vary with the type of general insurance. For policies that are more on the personal lines, underwriting is done via questions asked on the proposal forms. In case of commercial policies, a more prudent underwriting approach is used which involves collating from brokers, surveyors, fire officers etc as it involves a higher risk factor and larger claim amounts.
- Information collected in the underwriting process form rating factors, which help in assessing the riskiness of a policyholder



A rating factor is a factor used to determine the premium rate of a policy, which is measurable in an objective way and relates to the likelihood and/or severity of the risk. It must therefore be a risk factor or a proxy to a risk factor. For example rating factors that affect the premium of a home insurance would be the location of the house, the replacement cost, roof condition, age of the home, home safety and protection features such as fire alarms and sprinklers etc.

15.1 General Insurance Terms

3. Contract Designing

Just like life insurance companies, profitability is a key consideration for general insurance companies.

The cash inflows would be:

- There is no increase in reserves for general insurance companies as it is accounted for under the claims incurred head.

15.1 General Insurance Terms

4. Setting Premiums

- General insurance companies, estimate what is known as the risk premiums. They use sufficient past claims data and fit a distribution to the claims frequency and the claim amount. The data needs to be cleaned of any outliers and one-off events or trends. Companies also need to project future trends while allowing for inflation.
- Risk premium = expected claims frequency × expected cost per claim
- The risk premium found is the basic premium. Using generalized linear model, companies then find rating factors and the percentage adjustments that need to be applied to the basic premium to account for different categories of policyholders.
- The risk premiums are then adjusted for loadings that account for commission, bonuses, expense, reinsurance cost etc.
- Insurance companies need to provide competitive premiums with respect to companies selling similar products. Charging the theoretical premiums may at times prove to be uncompetitive and may lead to the company losing out on business. Thus companies may have varying rates of new and renewal premiums, where the lower new premium rate is compensated for in the renewal premiums.



Suggest some rating factors that could be used for car insurance premiums

15.1 General Insurance Terms

5. Provisioning

Just like life insurance companies, regulations require general insurance companies to hold reserves to pay for future liabilities. General insurance companies have to hold several reserves

- Outstanding reported claims reserve – for claims that the company knows of but haven't been settled yet
- Incurred but not reported (IBNR) reserve – for claims that have occurred but haven't been reported to the company
- Unexpired risk reserve – for claims and expenses relating to the unexpired periods of risk for which the insurer has already received premiums or expects to receive premiums
- Catastrophe reserve – for large number of claims arising at the same time due to unexpected disasters
- Claims handling expenses reserve

6. New Business Strain

Like life insurance companies, general insurers need sufficient capital to overcome new business strain. The level of this strain is directly proportional to the level of business written and the risk associated with the new business.

The risk factor of new businesses is based on

- Whether the it is a short tailed or a long tailed business
- The claims frequency and volatility (presence of a heterogeneous business mix)
- The companies exposure to disasters eg. if the company insures houses situated in earthquake prone areas
- The level of reinsurance rate for a particular class of business

15.1 General Insurance Terms

7. Investment Strategy

- Insurance companies follow asset-liability management strategy, which is why it is important to consider the characteristics of their liabilities in terms of value and timing before making investment choices. Investment choices are often restricted due to regulations and the need to be tax efficient
- General insurance companies are exposed to inflation risks as most of the claims amount are settled in real terms. For instance property damage claims tend to be affected by inflation in repair and replacement costs. They need to hold investments in
 - Cash or assets that are highly liquid to cover uncertain liabilities that may arise out of the blue
 - Fixed assets such as bonds to meet liabilities that are certain to be met
 - Assets whose returns match the liabilities in their term
 - Assets denominated in domestic and foreign currency, to cover claim amounts for costs incurred overseas if the policy wording allows it
 - Real assets to cover inflation linked liabilities and expenses

15.1 General Insurance Terms

8. Risks Faced by General Insurance Companies

Insurers write business on several lines and face a number of risks such as

- Claims risk – claim amounts or frequency being higher than expected
- Accumulation of risks due to disasters which may affect an entire class of business
- Investment risk – returns being lower and more volatile and being unable to fulfil liabilities
- Expenses being higher than expected
- New business volumes being too high leading to a higher business strain or not getting enough business to spread the fixed costs
- Operational risks due to system failure or sudden changes in regulations
- Credit risk – failure of reinsurer to oblige his duties

15.1 General Insurance Terms

9. Monitoring Experience

An important element of the Actuarial Control Cycle that helps in rectifying mistakes, doing away with outdated assumptions, improving the robustness of a model and hence improving profitability. General insurers need to monitor claims experience, expenses, lapses and renewal rates, investment returns, reinsurance performance etc. They will need to monitor for:

- Setting assumptions for premium rating
- Assess profitability and its substantial contributors
- Terms of reinsurance and if they need to be improvised to make them more favouring to the insurer
- Marketing for new and innovative contracts
- Determine an appropriate investment strategy

15.2 Categories of General Insurance



Typically the intention of insurance benefits is to indemnify the insured, i.e. compensate the insured for financial loss as a result of the insured event. The principle of indemnity is to restore the insured to the same financial position after a loss as before the loss.

The type of cover provided by a general insurance product can be categorised into the following types with some products having elements of more than one type of this cover:

- Liability
- Property damage
- Financial loss
- Fixed benefits



A peril is a type of event, whether manmade (theft) or due to natural disasters (earthquake) that may cause losses.

15.3 Liability Insurance

- Liability insurance provides some form of indemnity where the insured due to some form of negligence, is legally liable to pay compensation to a third party. Any legal expenses relating to such liability are usually covered, however any illegal act of negligence will often invalidate the cover.
- For instance the company will compensate the home owner if the house is burnt due to fire caused by a short circuit, but will not pay any amount, if the fire is caused by negligence such as smoking near a highly inflammable substance
- Unless the policy wording mentions any reinstatement clause, once a claim has been settled by the company, the level of cover provided for the rest of the year, will be reduced by the claim amount paid. If the policyholder wishes to reinstate the original amount of cover, he will be required to pay additional premium
- The benefit provided to indemnify the policyholder, will be such that covers the entire financial loss, however subject to any statutory requirements this amount may be restricted by
 - A maximum amount per claim or per event
 - An aggregate maximum per year
 - An excess where the first part of any claim is not paid

15.3 Liability Insurance



Suggest reasons for a company having an excess, where only claim amounts the excess are paid.

- The extent of the insurer's legal liability to pay depends on international laws in case of marine and aviation liability and in other cases such as employee or motor liability, national laws prevail.
- Types of liability insurance are:
 - Employers' liability
 - Motor third party liability
 - Public liability
 - Product liability
 - Professional indemnity

15.3 Liability Insurance

1. Employers' Liability

The insurance indemnifies the insured against the legal liability of paying employees or their dependents for accidental bodily injuries, disease or death as a result of the employer's incapacity in providing safe working conditions.

Apart from industrial accidents, the policy also covers perils caused due to exposure to harmful substances or harmful working conditions. Factory workers often suffer from asbestosis, deafness, chronic stress etc.

2. Motor Third Party Liability

The insurance company indemnifies the owner of a motor vehicle against compensation payable to third parties for death, personal injury or damage to their property. In most countries such as India, under the Motor Vehicles Act, it is mandatory for vehicle owners to purchase this policy, with or without an upper limit on the amount of compensation

3. Public Liability

The insured is indemnified against legal liability of paying compensation to third parties for death, bodily injury or damage caused to their property, other than those liabilities covered by other liability insurances.

Public liability insurance is an umbrella term that covers different types of insurances under it. For instance compensation paid by a restaurant for aggravating a customer's peanut allergy despite being informed about it can be paid under commercial policy taken by the owner.

15.3 Liability Insurance

4. Product Liability

The insured is indemnified against the legal liability for the death of, or bodily injury or disease to a third party or for damage to property belonging to a third party, which results from a product fault. There could be a faulty design, faulty manufacturing, incorrect or misleading instructions etc.



A company producing rechargeable batteries was hit with numerous claims and lawsuits over its product causing fires and burn injuries when the batteries exploded while charging. The claims and defense cost totaled nearly \$200,000 which was paid by product liability insurance coverage



An insurance company is considering the information it will require from a company manufacturing talcum powder for babies in deciding whether to offer them a product liability cover, and if so then what price to charge. List the information you would advise the company to obtain.

15.3 Liability Insurance

5. Professional Indemnity

The insured is indemnified against the legal liability resulting from negligence in the provision of a service eg. Unsatisfactory medical treatment or incorrect advice from a solicitor, actuary, etc with the perils depending on the insured's profession

An architect being sued by a construction company, for breaching his duty to exercise reasonable skill and care in the design and supervision of the construction work and to ensure that the development was fit for its intended purpose.

15.4 Property Damage Insurance

The main purpose is to indemnify the policyholder against loss or damage to material property, with the benefit payable subject to any limits or excess at the time of the occurrence of the incident.

1. Household and Commercial Buildings Property

Here peril caused by fire is the principal peril insured against, but policies may also offer cover against others such as explosion, lightning, storm, flood and theft which may result in damage caused due to forceful entry

2. Moveable Property

This typically consists of household contents, which may include the insured's personal and household goods as well as the personal possessions of a visitor present at the time of the event, however policy wordings will precisely define what moveable property is covered by the company.

Household contents are written on a new for old basis, where new goods are provided to replace the lost or damaged ones whatever their age or condition

3. Motor Property

The perils include accidental or malicious damage to the insured vehicle and fire or theft of the vehicle. In many countries including the UK, this cover is typically provided with motor third party cover, whilst in some it is taken as a separate policy.

15.4 Property Damage Insurance

4. Marine Property and Aviation

Provides cover for damage to marine hull, marine cargo, marine freight and aviation insurance as a result of :

- Perils of the sea
- Fire
- Explosion
- Jettison
- Piracy

15.5 Financial Loss Insurance

The benefit provided is to indemnify against financial losses arising from a peril covered by the policy. Financial loss insurance can be categorized as follows:

1. Pecuniary Loss

Any insurance that mitigates financial losses such as mortgage indemnity insurance, which protects the insured against bad debts or the failure of a third party.

Mortgage indemnity insurance protects the lender, covers the risk of the borrower defaulting on his loan payments, or the sale proceeds from his property are insufficient in covering the actual loan amount.

2. Fidelity Guarantee Insurance

Covers the insured against financial losses caused by the dishonest actions by its employees (fraud or embezzlement). These will include loss of money or goods owned by the insured or for which the insured is responsible and reasonable fees incurred in establishing the size of the loss (fees paid to auditors and accountants)

15.5 Financial Loss Insurance

3. Business Interruption Cover

It indemnifies the insured against losses made as a result of not being able to conduct business for various reasons specified in the policy for example fire in the insured's office space.

In case of loss due to fire, the insurance provides a cover not only to the extent of repair and replacement costs. It covers any loan payments due every month which would have been made had the incident not occurred, covers profits that would have been made, based on previous month's profits, employee wages etc

4. Cyber Insurance

It is a specialty insurance product intended to protect the businesses from internet based risks, and risks relating to information technology infrastructure and activities such as hacking, phishing, viruses. It covers pecuniary losses, fidelity guarantee and business interruption cover losses for a business. They are different from traditional insurance policies.

Risk management techniques such as anti viruses and firewalls can be used to reduce the likelihood of these risks, but the pace at which technology is advancing, makes it impossible to nullify the risk fully.

15.6 Fixed Benefits

1. Personal Accident Insurance

Benefits are pre-specified amounts that are payable if the insured or his family member suffers the loss of one or more limbs or any other specified injury. This is not an indemnity insurance as it is impossible to quantify the loss of a limb.

2. Health Insurance

Its fundamental benefit is to provide money for medical treatment. It is a form of indemnity insurance, where benefits are fixed irrespective of the actual cost of treatment. Hospital expenses plans also exist, that pay a fixed amount for each day the patient is treated at the hospital as an in-patient.

Health insurance is a broad term that provides covers such as income protection, critical illness, long-term care, private medical insurance.

3. Unemployment Insurance

This provides a lumpsum or an income stream usually up to a year, in the event of the policyholder losing his job. The purpose of the benefit is to provide an additional source of income to maintain his lifestyle or pay any debts till the time he is employed again.