

# **Institute of Actuaries of India**

## **ST1 – Health and Care Insurance**

**November 2012 Examinations**

### **INDICATIVE SOLUTIONS**

#### **Introduction**

The indicative solution has been written by the Examiners with the aim of helping candidates. The solutions given are only indicative. It is realized that there could be other points as valid answers and examiner have given credit for any alternative approach or interpretation which they consider to be reasonable.

## Q1)

(i)

Direct marketing:

The marketing of products directly to the potential customers with no intermediary or sales person involved.

This could be via the mail, by advertising in newspapers or periodicals, by telephone, email or the internet.

In all situations the customer is invited to apply for the product, usually directly to the insurance company.

As intermediaries are not involved, no commissions are payable. Also it may have simple underwriting and the cover amount may be low.

Hence, it helps the company to have lower premiums making them competitive. Target is generally to sell simple products.

Worksite Marketing:

Worksite marketing is a process whereby a broker or insurer representative obtains permission from the employer to address the workforce en masse and sell insurance products.

Usually, an employer agrees to allow access to the work force (through meetings or literature) for the purpose of marketing products to the employees on an individual basis.

Idea is to sell simple products with limited or no underwriting to those who have not made their own insurance provision or wants to enhance the insurance cover provided by their employers.

Prospects of engaging a large number of employees with potentially similar characteristics enabling the insurer to reduce premium.

There are expense savings on administration, especially if the employer permits the premium to be deducted from payroll.

Commission levels for products sold through this channel are likely to be lower than agent's commission thereby benefiting the policyholder in the form of lower premiums and insurer in the form of higher sales volumes with lesser effort.

(ii) Suitability of selling health insurance products through 'Worksite marketing'

Hospital Cash (fixed daily benefits) are simple and so suitable

PMI products can be complex and so not suitable unless they are designed very simple  
LTCI products are quite complex unlikely to be sold through this channel

IP products with benefits that compliments the benefits provided by employer may also be sold through this channel

CI product with core conditions covered and cover linked to employee's salary with simplified underwriting or guarantee issue will be suitable

For all products, the following features are desirable

- Simple benefits
- No or minimal underwriting
- products targeting the working population
- small ticket size

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**Q2)**

**i)**

Need to choose model points that are representative of the portfolio.

The profitability should be separately assessed for pre funded plans and immediate needs plans. The model points chosen should represent both the portfolios adequately.

May be able to use model points from a previous profitability assessment (perhaps provided by the portfolio seller) and

then update this to allow for new business and exits (lapses, maturities). While allowing for new business, one should also allow for possible change in the business mix between pre funded plans as well as immediate need plans.

Need to check appropriateness of model points.

May be able to do this by, for example, calculating supervisory reserves using the model portfolio and comparing this with the actual published portfolio supervisory reserves.

For each model point cash flows would be projected allowing for reserving and solvency margin requirements on the basis of a set of base values for the parameters in the model.

If the products provide "funding for care", then appropriate adjustments should be made for claims inflation as this will impact the claims amount to be paid out in future and hence, the profitability.

While projecting cashflows, one should also allow for medical advances leading to individuals living longer, hence requiring care for prolonged period.

The cashflows should allow for product features such as internal limits, cash benefits, funding for care, nursing care, pre funded vs immediate needs, definition of benefit trigger, premium payment frequency, premium and benefit escalation, unit-linked non linked, guarantees provided etc.

Need to consider possible changes in provision of state benefits

The net projected cash flows will then be discounted at a rate of interest, the risk discount rate that allows for:

the return required by the company, and  
the level of statistical risk attaching to the cash flows under the contract.

Need to consider cost of any options and guarantees.

The level of statistical risk could be assessed:

in some situations analytically, by considering the variances of the individual parameter values used

by using sensitivity analysis with deterministically assessed variations in the parameter values

by using stochastic models for some, or all, of the parameter values

Scaling up the results of each model point and totalling these will give the expected profit.

## ii)

The future renewals from the existing portfolio as well as the new business that the Company will be able to get from selling this product.

The overall current market for pre funded and immediate needs LTC products

The goodwill value that the selling company carries with its LTCI policy holders. This will enhance the brand name of the new Company and all others things remaining same; it should help the new company in establishing itself quickly.

The transaction value of the other similar portfolio transfers that have happened in the market in the recent past

Reputation/brand of the Established Company in the market

Other Products that the new company is looking to sell – To what extent the LTCI product matches with their product philosophy and whether it complements the other products to be sold by the new company.

Risks with the existing product – guarantees, options

Systems and processes – What are the system requirements for this product? Is a new/separate set up required for this product?

Any claims that are outstanding or incurred but not reported as at the transfer date.

Cross-sale opportunities – Opportunity for the new company to be able to sell other products to the existing LTCI customers of the established company post transfer of portfolio.

Geographical reach out of the existing portfolio vis a vis the likely distribution setup of the new company.

Are there any other buying opportunities available or likely to come up shortly?

Why is the established company selling the portfolio?

Cost/benefits of purchasing a existing portfolio compared to coming up with its own product

How to fund the purchase?

Bargaining power of the company.

Other competitors present in the market willing to purchase the portfolio.

Shareholder/market reaction

### iii)

The experience will differ because of variations in the product design. In particular:

- the definition of disability
- the level of guarantees included in the contract
- the scope of policy exclusions
- deferred periods
- the maximum replacement ratio
- treatment of any additional benefits
- maximum policy duration
- level and forms of benefits (fixed /indemnity based /indemnity based with limits)
- Underwriting standards
- Age gender profile of the portfolio

The new portfolio may have been underwritten using a different philosophy. Differences may include:

- classification by occupation class
- classification by gender
- availability of deferred periods
- use of individual medical exclusions or application of extra premiums
- application of changes in disability definition
- maximum replacement ratio offered and the treatment of multiple policies

The new portfolio may cover a different profile of lives and the mix by age, sex, occupation class, mix between employed and self employed, level of benefit, cease age, increasing/level benefits may be very different.

There may be a difference in the split between personal cover (including mortgage cover) and business cover.

Historic lapses and the treatment of past claims may also have an impact on the existing portfolio mix.

Differences in level of expertise

Premium rates may be higher resulting in greater lapses from healthy lives

Any change in the ownership of a block of business may generate additional lapses which could be anti-selective.

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**Q3)**

i)

**Data required:**

Dates of birth, entry, exit, diagnosis, first stopping work through sickness, notification of sickness, start of sickness claim, end of sickness claim.

Gender, Smoking Status, Occupation Class

Reasons for exit and/or end of sickness payments.

**Deriving Transition rates**

Method is to construct central exposures to risk, grouped by age, gender etc. separately for healthy and for claiming policyholders ( $E_x^H, E_x^C$ )

Count the numbers of transitions arising from the exposure, also grouped by age, gender etc. Note that, for a deferred period of  $d$  weeks, this means we will have to include all new claim inceptions (*ie* dates of starting to pay claims) that occur up to  $d$  weeks *following* the end of the investigation period. Similarly we must exclude all claim inceptions beginning in the first  $d$  weeks of the investigation period.

Calculate transition rate estimates as:

$$\hat{\sigma}_{x+1/2} = \frac{I_x}{E_x^H} \qquad \hat{\rho}_{x+1/2} = \frac{R_x}{E_x^C}$$

$$\hat{u}_{x+1/2} = \frac{D_x}{E_x^H} \qquad \hat{v}_{x+1/2} = \frac{M_x}{E_x^C}$$

where  $I_x$ ,  $R_x$ ,  $D_x$  and  $M_x$  are the numbers of sickness inceptions, recoveries, deaths from healthy and deaths from claiming, and  $\hat{\sigma}$ ,  $\hat{\rho}$ ,  $\hat{u}$  and  $\hat{v}$  are the estimates of the corresponding transition intensities.

**ii) Ways of reducing the claims payout under Income protection product**

An appropriate maximum benefit formula at point of sale

Such a formula may incorporate:

- a maximum replacement ratio, *eg* 75% of pre-incapacity earnings
- more stringent limitations for higher salaries in excess of specified limits
- an overall maximum benefit limit

A linked-claims period in the policy conditions or a condition that allows a return to part-time work with reduced policy benefits are features that are often included in the policy. These conditions encourage rehabilitation back into the workforce, with a consequent reduction in the cost of claims.

Waive the deferred period if sickness recurs within say 26 or 52 weeks. This encourage a speedy return to work.

Appointing a claims counselor. Once the claim is approved, a claims counselor may normally be allocated to:

- provide advice for the claimant in coping with the disability and
- provide for the insurer a likely duration of the illness (establishing such a date of return to work in the mind of the patient).

Quality training of those conducting the sale, reducing the incentive to over-insure

Regular reviews to ensure that the level of benefit remains appropriate

Clear policy conditions highlighting the likely action at the claims stage in the event of over-insurance.

Longer deferred period

No Benefit escalation during the in claim period

Altering the claims definition. For e.g. from own occupation to any occupation. However, this might face marketing challenges.

Offering no claims discount

### **iii) Setting charges**

The company will need to decide on the methods of charging to use, *eg* bid offer spread, reduced allocation, policy fee and management charge.

It may choose a charging structure that is consistent with other unit-linked policies that it sells, or one that it thinks will give a marketing advantage.

It may decide to fix the values of some of these charges. The other charges can be refined using the modeling process.

It needs to build a model and project the development of the unit fund and non-unit cashflows.

A profit criterion must be decided upon. This is likely to be in the form of a net present value possibly expressed as a percentage of the initial premium or commission.

The positive cashflows include premiums received, charges from the unit fund, interest on non-unit reserves and reductions in reserves.

The negative cashflows include allocations to the unit fund, expenses, claims and increases in reserves.

Assumptions will be needed for all the relevant parameters.

The assumptions used will probably be close to best estimates. The level of uncertainty can be allowed for in the risk discount rate.

Model points must be chosen that reflect the expected mix of new business.

For each model point, the non-unit reserves would be assessed by first projecting the non-unit cashflows using prudent assumptions, then choosing reserves which would eliminate any negative profit flows.

Then the non-unit cashflows would be projected, probably at monthly intervals, allowing for reserving requirements and any required solvency margin.

The net cashflows will be discounted at a risk discount rate that reflects the return required by the company and the level of statistical risk attaching to the cashflows.

A deterministic approach is likely to be used unless there are investment guarantees or options under the contracts. A stochastic approach would then be required in order to value such guarantees and options.

The charges can then be varied and the above procedure repeated to produce the required profit.

Sensitivity testing should be carried out by varying the key parameters in the model

The cashflows from the model points can be scaled up to match expected new business volumes, and incorporated into a model of the whole company to check the adequacy of the available capital, and the impact on the tax position of the company.

#### **iv) Importance of Investment performance for the insurer**

A large part of the investment risk to the insurer is being passed to the policyholder, so to that extent the investment performance is less important for the insurer.

For contracts with significant protection built in, the benefit will be paid for by regular risk charges deducted from the unit funds. Unit funds do not need to be kept at very high levels in order to support these charges, and hence unit funds will be small. In these cases, investment performance will not be important.

Whether the non-unit investment performance is important depends on the size of any non-unit reserves required, which in turn depends on the charging structure of the product. For example, the levels of (positive) non-unit reserves required will be less for policies with relatively high levels of regular (rather than initial) charges, and/or for policies with fewer guarantees. In this case the investment performance is not important.

However, investment performance may still be important since poor returns to policyholder may encourage lapses or discourage new business.

The insurer will still have fixed expenses that need to be covered, and reducing volumes of in-force business may imperil this.

The fund management charges are related to the fund performance and hence lower the market value of the fund, lower the fund management charges company will collect.

It may also find that expense charges, which could be dependent on fund value, are reduced in total.

Also, if the company has significant assets not linked to unit liabilities (eg free Assets), then the presence of these could increase the importance of investment performance.

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**Q4)**

i)

Advantages include:

- Addition of permanent mental health condition is unique to the market.
- A worthwhile addition valued by customers, giving competitive edge.
- Easily identified by the public.
- Readily communicable to sales people.
- This might increase the sales of the Critical Illness products thereby bringing down the per policy expenses and hence lower the premium.
- Premium might increase slightly as incidence and severity of permanent health condition may not be significant.

Disadvantages include:

- Difficult to draft wording for a permanent mental illness addition. Hence, open to abuse.
- For an event to be covered under Critical Illness, it needs to be life threatening or at least lifestyle threatening. This may not be the case for all mental illnesses like acute conditions. So the insured may get the benefit with little treatment required.
- Some genetic bias exists in mental health conditions. Reinsurer may insist on genetic underwriting. However, regulator may impose restrictions on genetic underwriting.
- If this benefit is currently not provided in the market, then data might not be available to price the benefit.
- Claims management will become very difficult and there will be many potential claims declined.
- Mental health problems rise with age. Providing this benefit may skew the age mix towards older ages.
- Specialist doctors may not be willing to give it in writing that insured is indeed permanently mentally ill.

- Difficulty in underwriting/exclusion. It may be very difficult to decide what underwriting the policyholder should undergo. Also, there will need to be additional exclusions which the regulator may not agree to.
- It will lead to anti selection especially when other insurers are not offering this benefit.
- Adding this benefit will lead to increased premiums in competitive market making sales difficult.
- Expenses of change to claims processing, underwriting etc.
- There may be lots of litigations on claims on permanent mental health as it may be easy for the society to have the impression that the insured is mentally ill based on his behavior.

## ii) **Morbidity/Mortality**

Since this is a new condition company's own data does not exist.

However, if the insurer is offering medical insurance or hospital cash products, there is likely to be data available on treatment/hospitalization for mental illnesses that could be used as a starting point  
Adjustment will need to be made for

- multiple instances of hospitalization/treatment
- level of underwriting
- target market/distribution method
- temporary vs. permanent mental illnesses

Most of these adjustments will require judgment by medical experts

Other Data sources that may be considered include:

- Data published by government/regulator
- Industry data
- Data from reinsurer
- Data from overseas
- Population data e.g. hospital episode data

Any published data will need adjustment for the particular circumstances underlying the data

It is important to analyze trends and take account of any medical advancements/new diseases that will have influence on the incidence of mental illnesses.

Data would need to be put in homogeneous groups (eg. age bands) so that the individual cells are credible.

The incidence rate for a cell will be number of instances divided by the corresponding exposed to risk.

There will also need to be trend assumption if long term guarantee is involved.

There may be some correlation with level of cover purchased – higher level of cover indicating greater risk of anti-selection and so heavier expected experience or better socio-eco profile with greater underwriting and so lighter expected experience. This would need to be considered depending upon the range of size of cover proposed to be offered and the associated underwriting.

### **iii) Reinsurance**

The risk is new for the insurer and also new for the market and so will have limited expertise in pricing these risks.

Limited local and relevant experience would mean greater uncertainty surrounding the key pricing assumptions.

The parameter risk and technical support required would likely mean a quota share reinsurance arrangement.

If the cover level offered is wide, then “x% quota share with a maximum retention of \$Y” type arrangement would help mitigate the parameter risk as well as smooth claim experience.

If the insurer is more comfortable with other conditions, reinsurance may be sought only for the mental condition.

But the reinsurers may be unwilling to cover only the mental health condition or their terms may be quite expensive.

### **iv) Income vs. lump sum**

#### **Design**

The benefit can be designed to repay installments (EMI) on mortgage or other loan when the policyholder’s health is in question following diagnosis of a critical illness.

It can help customer to replace some part of the income if the customer is not able to go for work/take a light work post CI event.

The income benefit differentiates the company’s product from the competition. So, it might appeal to some section of the customers who sees this is a sort of income replacement.

On the other hand, lump sum may be preferable to an income stream and so the product may not sell well. Perhaps some part paid in the form of an immediate lump sum and the balance in the form of an income stream may be more appealing.

The success would therefore depends on how the product is marketed

Buy-in from the distributors and market research are important. For example, a reducing or increasing income stream may be seen better suited to the need than a level income stream

The premium could be lower than a comparable lump sum product, other things being equal. This could be an edge over the competition.

Since there is no comparable product there is the 'first-mover' advantage and so potential extra profit margins.

The innovation may enhance the reputation of the company overall and hence increased sale even on the other products.

There will be additional administration involved in managing the income pay-outs and so increased price.

**Risks:**

The key risk is the estimation of claim termination rates. The survival post a CI is dependent on many factors.

Greater uncertainty on the termination rates would mean more conservative pricing and reserving and hence increased premium.

So, the price level may not be attractive resulting in poor sales.

Reinsurance could be used to manage this risk to some extent.

An income stream may not be seen a good match to pattern of expenditure one would incur following a CI. So, the design may not appeal as much.

Income payment might not be sufficient to meet immediate expense that may be incurred following a CI. This would lead to customer dissatisfaction and claim disputes

There is an added risk around administration. There is need to verify the survivorship of the claimants to make the income payments. There is therefore the risk of over payment to some individuals due to administrative gaps.

If the product idea picks up well, there is the risk of lapse and re-entry by healthy policyholders from the existing CI products, if any.

This may be seen a good alternative to income protection product (or at least sold that way) and hence lead to lapse and re-entry risk from the company's income protection products. The intermediaries may trigger these depending upon the commission structure.

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**Q5)**

**i) Factors to be considered before deciding on bidding:**

Factors relating to external Environment:

- Competition – Who all are likely to bid and their experience in writing such business.
- Investments of premium income are likely to be for short term. What returns can be expected from such investments?

Tender related factors:

- Whether all districts will be allocated to 1 insurer or couple of insurers selected to cover various districts.
- How is the premium affected if a family is of less than 5 members?
- Possibility of a rate review in future?

#### Pricing Factors:

- There may be lack of data and experience for pricing such scheme leading to prudent margins in the pricing. However, if the premiums are high compared to competitor, company may not win the bid.
- Claim frequency – Does it covers epidemic
- Claim amount – What will be the utilization rate? How to allow for inflation, new diseases, medical advances etc.
- Expenses – What are the likely variable expenses and if this portfolio should contribute to the fixed expenses.
- TPA Expenses- If TPA is involved then TPA expenses should also be loaded in the pricing basis.
- Profit margins – Can it meet the required rate of return?
- Availability of reinsurance
- What exclusions can be applied? Possibly quote different rates for different exclusions list.
- Solvency requirements for such business and whether capital is readily available to back solvency?
- Not be able to revise the premium irrespective of the claim and expense experience during the contract period.

#### Operational factors:

- Network of Hospital.
- Access to care – Number of hospitals available in the district and connectivity to these hospitals from remote villages and hospital infrastructure.
- Whether resources exist or needs to be scaled up especially for claims management and processing.
- IT systems required to handle this portfolio and claims including huge data maintenance and data transfer from hospitals to the company .

#### Claims related factors:

- Some hospitals may possibly incentivize beneficiaries to seek treatments which are actually not required leading to higher claims.
- Fraudulent claims from the beneficiaries.
- Medical cost over the time period (trend) and utilization (due to more awareness of the benefits) may increase leading to higher claims.
- Claim experience may worsen due to increasing awareness and newer hospitals may provide better access to the claimant.

Other factors:

- Insurance company's earlier experience in writing similar types of business.
- Management and enquiries of small claims such as transportation allowance.
- Since there is no age limit, no waiting period and coverage of pre existing disease may lead to more claims. However, due to limit on a claim size, the impact may not be huge.
- Loss ratios of similar types of schemes should be studied if relevant data is available.
- Expected number of enrolments of the families.

(ii)

## **Risks**

Data related risk:

- Data used for actuarial assumptions may be inadequate, inaccurate and incomplete.
- Data may not be available for such types of plan for pricing and subsequent monitoring; which will lead to higher margins in the pricing and hence higher premium.
- There may be difficulty in recording the data by hospitals and TPA's in the rural areas due to limited access to technology.
- There may be less control on the quality of data and completeness of data.
- There may be delay in transferring data from hospitals/TPA to the company.
- Company's system may not be able to cope-up with data as records could be in millions.

Pricing risk:

- Model, parameter and random fluctuation risks

Expense risk:

- Medical expense may increase for certain illnesses which will lead to higher claim cost.
- Cost of TPA of each member may increase which will again have a burden on the insurer.
- Less than expected enrolments of the families may lead to lower profitability as fixed expenses may not be able to recoup from writing small business.

Anti Selection risk:

- There may be anti-selection risk as there is no underwriting, no waiting period and cover is provided to pre existing conditions. This may increase the cost of the claim.

Claims related risk:

- There may be lots of small claims (e.g. transportation allowance) leading to higher cost to the company.
- Utilization may increase among members which will lead to higher claims.

Third Party risk:

- Risk that a reinsurer fails to make good on the reinsurance recoveries due.
- Reinsurer may not be able to support this plan as there is no underwriting involved, all pre existing conditions are covered and no restriction on age of the member.
- Loss of claim cost controls to TPAs

Reputational risk:

- Unclear terms and conditions in the policy document may lead to member dissatisfaction at the time of claim due to claim rejection.
- Stringent claim level underwriting may lead to reputational risk (both insurance company and government) and also lead to more litigation.

Fraud risk:

- risk of fraudulent claims

Aggregation and concentration of risk:

- For example, outbreaks of local illness.

Catastrophes risk:

- Such as epidemics and wars.

General risk:

- Members may not understand the features of the cover or may think that the cover is limited (upto 30,000 per family) and hence may not show interest to enroll for this cover.

**Risk Mitigation**

- Have unambiguous and clear terms and conditions in the policy document.
- Campaign through road shows for this plan to the prospective members.
- Have service level agreements with Third Party Administrator (TPA) covering the TPA charges which can be fixed charges irrespective of enrolments or claim settlements.
- Make arrangements with TPAs for keeping complete and accurate data of members.
- Outsource the data administration to TPAs.
- Take reinsurer's support in terms of research and data from other countries for similar schemes.
- Allow reinsurer to participate in the risk through quota share arrangement.
- Provide support to hospitals in terms of gathering relevant data and transferring the same to the insurance company. This can be done by directly by the company or by TPAs.
- Try to enroll maximum number of members in the country which will have a lower volatility on the overall average claim cost (law of large numbers) and improve the profitability.
- Have claims level underwriting more stringent.
- Monitoring mechanism: District-wise experience analysis and loss ratio analysis should be conducted frequently to understand which districts loss making and which one is profit are making. Further actions can be initiated for the loss making districts (like stringent claims

underwriting, stringent audits to avoid fraudulent claim activities etc. for the loss making districts)

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## Q6

### **Stochastic modeling to determine the option cost and limitations**

The cost of an option is the value of the excess of the premium that should, in the light of full underwriting information, have been charged for the additional insurance over the normal premium rate that is charged. For some lives the option will have no cost.

If a life who is in good health and who would be expected to satisfy normal underwriting requirements exercises the option, the option will generate little additional cost. The exercise of the option by lives in poor health will generate considerable additional costs.

The value the cost of the option can be determined by modeling the claim experience stochastically, using stochastically generated proportions of lives in the various risk groups, and their (deterministic or stochastically generated) expected morbidity experience.

One approach to value the cost of the option to allow the policyholders to increase the SA at the end of 5 years without seeking further evidence of health will be as follows:

Need to estimate

- Proportion of lives who would exercise the option
- Claim propensity of those who exercise the option

Simulate a random distribution of the proportion of lives who would exercise the option.

So, for each simulation, split the lives into

- Standard lives (whose claim experience will be select)
- Sub-standard lives (whose claim experience will be considerably heavier than ultimate)

Standard lives will have no cost for the option.

Assume the level of sub-standard consistent with the proportion of lives who exercise the option – lower the proportion higher the claim propensity

Extra cost associated with claim management and administration of the option exercise will need to be allowed for.

We will now have a distribution of extra cost outgo from a large number of simulations of the proportion of lives who exercise the option and their associated claim propensities.

The expected extra outgo could therefore be determined with a particular degree of statistical accuracy, for example, the actual outgo is within 10% of the expected outgo at 90% confidence level.

The approach has the following limitations:

- Difficult to choose a probability distribution that will reflect reality – the proportion of lives who will exercise the option may not be random and can be influenced by increased screening, medical advancements or otherwise.
- the sensitivity of the results to the (deterministically chosen!) assumed values of the parameter(s) involved. For example, the level of sub-standard of the lives who exercise the option may be influenced by factors other than just the proportion who exercise.
- Time and computing constraints
- Could get complex leading to difficulty in interpretation and spurious accuracy

[7]

## Q7.

‘Financial reinsurance’ can be applied to short-term insurance business and ‘Reinsurance financing’ can be applied to long-term business. It works differently for each type of business and may be aiming to achieve different things.

Financial reinsurance (short term contracts)

- Many financial reinsurance contracts are devised primarily as a means of improving the apparent accounting and solvency position of the cedant; if allowed by local supervisory authority.
- The initial payment could be from the insurer to the reinsurer, with subsequent payments being from the reinsurer to the insurer. That means insurer effectively purchases the annuity from reinsurer.
- It involves very little transfer of insurance risk from the cedant to the reinsurer.
- Many forms of financial reinsurance are viewed as being more similar to investment than to reinsurance. Usually the effective “return” that the contracts provide is low in comparison to conventional investments.

Financing reinsurance (long term contracts)

- The main use of reinsurance financing is to relieve the insurer part of its new business financing requirement (and hence improve its accounting and solvency position).
- Straightforward loan from the reinsurance company would not achieve this, as the ceding company would usually have to add the amount of the loan to its liabilities.
- However ‘financing reinsurance’ involves the reinsurer making a “loan” (“reinsurance commission”) to the insurer.

The “reinsurance commission” is repaid in such a way that it may not have to be included as a liability.

- Two ways of achieving this and they are known as:
  - o Risk premium reinsurance
  - o Surplus relief reinsurance

### Risk premium reinsurance

- The risk premium reinsurance method is one type of arrangement which can be associated with a financing arrangement
- In this arrangement the “loan” is usually presented as a ‘reinsurance commission’ related to the volume of business reinsured.
- The “repayments” spread over a number of years are added to the reinsurance premiums. That means reinsure increases its risk premium rates in future years and company agrees to pay more for its reinsurance protection than it would normally have done.
- In return for charging the company higher premiums in the future, the reinsurer is able to offer the insurer a substantial initial commission.
- The reinsurer takes into account the expected lapse experience of the portfolio of reinsurances in determining the loan repayments.

### Surplus relief reinsurance

- This arrangement is making use of the future profits contained in a block of new or existing business.
- The reinsurer provides a loan to the direct-writing company, but, as the repayment of the loan is contingent upon the stream of future profits being generated by the business, the direct writing company does not need to reserve for the repayment within its supervisory returns.
- This approach may also be used where a direct writing company needs to improve its solvency position, for example after a large drop in asset values, or where it wishes to fund a new project, for example the setting up of a new subsidiary overseas.

### Limitations:

- Many regulators across the globe may not allow having such types of reinsurance arrangements as for short term contracts very little transfer of insurance risk from the cedant to the reinsurer

[7]

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