Institute of Actuaries of India

Subject SA2 – Life Insurance

October 2014 Examination

INDICATIVE SOLUTION

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.

Solution 1:

i. **Benefits to Customer**

- Bank customer have easy access to wider range of products within their bank
- Bank relationship manager is seen as financial advisor
- Bank relationship manager have access to significant amount of useful information about customers, which can be utilized to provide need based solution.
- Customers have relatively higher trust on their banker which make easier for banker to sell.
- Ease of premium payments linked to bank account

Benefits to Insurer

- Piggy back the Banks' distribution network including branch expansion
- Higher Market Penetration through the existing customer base of bank
- Increased turnover
- Lesser need to establish own network
- Overall Bancassurance channel has proved to be very cost effective

Benefits to Bank

- Helps Bank to provide complete solution under one roof
- Source of additional fee based income in the form of commission
- High degree of alignment in customized product design , sales support etc for bank led insurer
- Provide quick solution to cover the liabilities of the customers in case of death or critical illness or disability.

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ii.

- A unit linked insurance policy is meant to offer a maturity benefit that moves in line with the performance of underlying investment fund/s as selected by the policyholder.
- UlIP have been proven to be cost effective, transparent, tax efficient (subject to compliance) and flexible vehicle for offering savings and insurance protection to the people.
- In ULIPs the policyholder can choose the allocation of funds to various asset classes, track and monitor the progress of the value of investment, and can opt for fund switches during unfavourable market conditions or towards the end of the policy tenure to protect the accumulated investments.
- In ULIPs, Policyholder can make additional investments by way of top-ups to increase the invested component. This acts as another investment avenue to park surplus cash or take care of emerging life needs.
- ULIP products can be designed to provide underlying investment guarantee to protect the downside risk while passing on the upside to the policyholder which is unique to Unit Linked Products.
- In addition to above, ULIPS have a few more advantages over the Equity Linked Savings Scheme (ELSS) which is another tax efficient instrument, such as:
  - All individual ULIP carry a minimum policy term of five years under new legislation. In contrast, ELSS only has a three-year minimum policy term. This will ensure that policies have long term orientations and enjoy greater benefits from longer investment term, irrespective of the entry to the market.
  - Policyholders are able to switch cost efficiently between funds within a ULIP product. In contrast, ELSS cannot be switched or closed before the three year locking period.
  - ULIPs offer varied range of pure equity funds, balanced funds and debt oriented funds, each with different return and risk profile, life stage based investment strategies such as automatic asset allocation etc. In contrast, ELSS has to be 60% equity invested at all times.
  - Other options that could be used to make ULIP proposition attractive:
    - Through efficient use of top ups with competitive top-up charges
    - Life stage based protection offering to cater the need of various life stages
    - Use Of Loyalty/guaranteed addition to make the product design flexible and attractive to the customer
    - Inbuilt rider benefits like waiver of premium, Critical Illness, disability benefits etc.
    - Systematic transfer facility from one fund to another
    - Residual addition to pass on additional return to the policyholder
    - Guarantees in the product, although that will come at cost

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iii.

- This Benefit may be positioned as a marketing tool to differentiate this product from a pure vanilla Unit Linked proposition
- This feature may improve persistency as the benefit is paid or attached either at the time of maturity or after a period, say 10, 15 or 20 years have elapsed
- This also helps in differentiating benefits between in force premium paying and outgoing policyholders and between policyholders exiting at different duration. This will incentivize policyholders to keep their policy inforce.
- This feature could be leveraged efficiently to comply with Reduction in Yield (RIY) of Linked products regulation.
- It may also help in bringing smoothness and uniformity of various charges while complying with RIY requirements ensuring optimal charging structure
- At the same time, introduction of this feature may lead to Asset Liability mismatch
- In order to reduce ALM mismatch the corresponding loyality addition liability should move in line with underlying investment fund as chosen by the policyholder in order to avoid ALM mismatch. This requires that the Liability that is required to set aside in meeting the benefit should be invested in the similar funds as opted by the policyholder. This is to ensure that the future growth of the liability is not in variance with the growth of the underlying fund opted by the policyholder.
- However, such liability is maintained as part of Non unit reserve where investment mandate is different from that from that of segregated funds, leading to different asset classes and possible ALM mismatch, unless notional units are created which may not be permissible under local regulations.
- However, appropriate product design can partially offset the risk to use projected FMC to support such addition.

- In case of percentage of annual premium/single premium being added at various intervals, this results in addition of absolute amount known at the at outset, not dependant on the growth of the underlying fund chosen by the policyholder.
- As a result, this lead to certain guarantee commitment unless such additions are subject to some minimum growth of the fund
- This requires management of guarantee and and optimisation of guarantee by appropriately choosing the timing and amount of such additions. The cost of such guarantee should be taken in to consideration for pricing with due considerations of provisions in GN 22 .
- Various interest rate scenarios should be projected to assess the financial impact of the guarantee including stochastic simulation
- The impact on the profitability and vis-à-vis this additional benefit should be considered for various factors such as expected additional volume of business, any impact solvency capital requirement etc..

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iv. Offering an investment guarantee may be attractive in the market in particular in times where investment markets are volatile.

The feature may therefore help the company achieve greater sales, cover its fixed costs and increase both total and unit profitability. The company would need to consider whether competition offered such a guarantee.

Offering the guarantee increases the expected cost to the company as there is a chance that it will bite. The cost of the guarantee will depend on the asset class and its market value volatility.

The derivative market in India is not deep and liquid. Moreover, regulator allows only a limited exposure to derivative market through a few selected instrument. Hence, it may not possible for the insurer to buy an outright hedging instrument from the market to protect its guarantee.

Hence, it’s critical to have clear investment strategy which helps in managing the guarantee.

A few considerations while designing the product;

- To put in place robust investment strategy
  - A earmarked fund backing the liabilities of the product
  - A well-defined Investment mandate Specifying strategic asset allocation
  - Choice of asset classes depending on underlying investment guarantee, volatility of the asset classes, expected return of the asset classes, risk appetite of insurer
  - Monitoring the exposure to ensure periodic and timely rebalance to manage the guarantee
- Open ended vs Close ended option. While it is easier to manage guarantee with close ended option, the risk that a minimum fund size is not achieved by the end of product closure could lead to fund may not be invested in the desired fashion.
- To reduce the reinvestment risk , the product may be offered as a limited premium payment
- Offering only single premium and annual mode
- The policy term could also be shortened to manage the guarantee
- Lowering the investment guarantee could be an option, however, this has to be considered against loss of marketability. If the guarantee is too small, it will cease to be a product USP.
- An absolute cap on volume of business to ensure that the overall exposure to guarantee is limited

The pricing of the product should consider how to allow for the possibility of guarantee biting in various scenarios taking in to consideration applicable provisions as detailed in GN22.

In order to derive the cost of guarantee a stochastic model could be developed to mimic the asset behaviour to quantify the time value of guarantees.

The model should be run to generate several thousand simulations. The number of simulations should be such as to reduce the sample error to a negligible amount

Calculate the average gap between the fund value at death/maturity and the fund value growing at X% rate net of FMC. The average of the discounted value of shortfall would be the expected cost of guarantee.

May also allow for dynamic policyholder behaviour in the model so that when the guarantee becomes close to or in the money, one might expect higher policyholder persistency

The company may choose to add a margin for risk to this figure including cost of holding additional reserve.

This cost of guarantee including margin could be levied as explicit charge for guarantee.

However, regulator limits the maximum guarantee charge to 50 bps of the fund.

The accumulated charges would only be sufficient to cover the expected cost, so the company would have to decide whether or not to keep the risk of the actual cost of guarantees exceeding this amount.

Offering an investment guarantee would also lead to increased reserving requirements and increased solvency requirement.

The overall impact of having this guarantee will depend on what proportion of policyholders is expected to stay at maturity, which is when the maturity guarantee is applicable.

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v.

- Before embarking on designing participating products, it is important to consider the identified customer needs that the participating products will address.
- Policyholder will purchase a participating product for savings purpose to manage a future financial goal and to provide simultaneous life cover to protect from uncertainty. Participating products are pooled products. The underlying smoothing of investment return will be an attraction larger sum is expected to build up compared with saving money bank account after allowing cost of cover.
- The main risk is that the policy will not provide the amount originally projected, primarily from worst investment performance by the insurer and possibly as a result of increasing expenses of the later. Overall, there will be risk that the policyholder did not fully understand the nature of the policy effected, its investment and other risk.
- Given the discretionary nature of the benefits and , it is important for the company to appreciate how Policyholder Reasonable Expectation (PRE) would be formed, ensure that at all stages (of decision points), PRE is taken in to consideration.
- The company should provide with clear, fair and transparent advertising, marketing and disclosure material including communications post sale.
- The Benefit Illustration which articulates the projected benefit at 4% and 8% investment return is one key document in shaping policyholder reasonable expectation.

Participating Products would be new kind of products where distribution led the baccasurance may not find it relatively straightforward to understand given the lack of transparency vis-a vis unit Linked products. Hence ease of sale could be a constraint. Significant training effort is required to ensure that the products/s are well comprehended by the distribution. This should be augmented with need based sales story to enhance the marketability of the products. This would help gain mindshare of the distribution before the products are fully accepted. Higher commission compared to Unit Linked products could work as incentive for sales.

Distributors are likely to take time to familiarise themselves with the product and errors in sales and admin procedures are likely to be high if the staff are not fully trained.

The product Design should follow IRDA Non- Linked Regulations on Products and should adhere to various limits as prescribed in the regulation including:

- Death Benefit
- Commission
- Surrender Value

Distribution of surplus and determination Bonus Rates:

Distribution of surplus and determination should adhere to IRDA regulation on distribution surplus and Asset, liability, solvency margin regulation.

The determination of bonus, may take in to consideration

- Type of Bonus -Reversionary Bonus, cash Bonus and Terminal Bonus. Within Reversionary Bonus simple reversionary bonus, compound reversionary bonus or Super compound.
- The pricing strategy including the proportion between guaranteed and non-guaranteed
- The competiveness of the product and Benefit Offering
- The new business strain and impact of the same on P&L
- Shareholders funding (if required) to support current and future declaration of bonus. However, this has to be considered against prevailing IRDA guidelines restricting such transfers depending on the vintage of the company.

Governance, regulatory and Professional requirement

- With Profits committee who will oversee the management of fund including but not limited to following:
  - That the PRE is articulated and how the same is proposed to be met
  - The Asset share calculation and how various items are considered in the asset share
  - The allocation of expense and ensuring the reasonability and fairness of the same
- GN 6- management of participating business with reference to distribution of surplus spells out various areas of participating business, which is classified as “Recommended practice”
- Documented Bonus Philosophy including smoothing and various pay-out mechanisms

Pricing and Profitability

The pricing approach should consider special features inherent to participating product including distribution of surplus, cost of bonus, asset share, built-up of estate, surrender value approach, consideration of paid ups and reserving approach.

Lack of data of similar products could be a concern for setting assumption such as persistency; however, industry data of similar products could be used as starting point then adjust it to reflect the experience of the company for Unit Linked Products.

Expense assumption could be one the critical assumption to set.

- Starting point is results of expense investigations used to justify current product pricing and valuation assumptions
- Need to allow for overhead and development costs and the extent to which amounts will be allocated to par business as the business mix changes
- Need to allow for the expected volume of business and average size of contract, based on the target market.

Structure of expense assumptions should reflect the likely incidence of costs, eg the allocation of initial and maintenance costs, in order to reduce cross-subsidies.

The shareholder income would be determined as 1/9 of the cost of projected regular bonus, where this would be assessed on the statutory valuation basis, plus 1/9 of the projected terminal bonus. Any unallocated surplus at end of the projection period may be considered for distribution visas final bonuses and shareholders' share in participating of the distribution.

This is likely to result in lower profitability compared to Unit Linked Products, but may help in the achievement of scale.

Capital

- Solvency capital required for participating products is usually higher than that of unit linked products.
- Surplus in par fund can be used as a source of capital for further new business.
- Surplus can also be used to support the Required Solvency Margin

Business Projection

Given the interplay between profitability, capital and new business strain it is important to estimate the volume expected from the participating business so that the absolute margin for the overall portfolio is maintained. In case of additional requirement of complying with certain internal target profit margin, consideration should be given to how to achieve the margin and possible alteration in the planned business mix.

The projected P&L and Capital requirement should be drawn up to assess the impact of the product on both the earning and capital. This is all the more important given that the company had just broken even, sustainability of the profitability deemed to be crucial from stakeholders' perspective.

All these should be evaluated against the existing business plan so as to enable appropriate management action to steer strategic objective of the company.

The business plan should project ongoing solvency including development of estate; solvency projections will

• Allow the impact of key business strategy decisions to be assessed, for example bonus strategy or investment strategy
• Show the amount of new business and new business strain that can be supported by the available capital.
• Estimate the pattern of capital releases to shareholders.
• Help to assess the cost of capital in calculating the embedded value of the company.
• Enable risk measurement and management within the company.

The business plan projection should include development of Embedded Value and new business margin to assess future value creation of the business.

Consideration should be given for determination of Embedded Value for the purpose of IPO, how the same can be compared vis-a-vis a standalone Unit Linked products dominated projection

Using model office projection and running various scenarios, the impact of introducing a new product type could be evaluated and will guide management in arriving at appropriate strategic decisions.

Risk

Reputational – resulting from potential mis-selling given the opaque nature of the product, return to the policyholder not in line with expectation.

Other risks include market risk including ALM risk, operational risk including implementation risk

Options and guarantee

Guarantee- If the underlying investment guarantee is potentially onerous to manage, may lead to guarantee biting. It should be noted that the impact of guarantees is only relevant to the extent that it reduces shareholder transfers

Option -Surrender Values:

- The surrender value compared to Unit Linked Products may not appear attractive in relations to premium paid. It is important to ensure policyholders reasonable expectation is built considering this aspect.

Investment strategy

The AA should consider the likely investment management approach for the participating funds operated by the company and implications of the same on the PRE.

The investment strategy would be to achieve real returns after inflation, which requires some exposure to equity (and other growth assets). However, this has be considered carefully against the possible impact on the demonstration of solvency to the company.

The investment mandate which will outline the Strategic Asset allocation of the fund should consider the following

- The underlying guarantee
- The build-up of guarantee as bonuses are declared and added to the benefits
- The proportion of benefits between reversionary bonus and terminal bonus
- The projected benefits as per benefit illustration at two prescribed rate of investment return
- The extent of asset / liability matching

Persistency

Consideration should be given to any possible future impacts on persistency, including the possibility of churning.

Reinsurance

The reinsurance program should be suitable designed to consider

- The capital strength of the insurer in addition to its risk appetite
- The risk appetite of the policyholder
- The projected build-up of estate to absorb fluctuation of claims thereby protecting the balance sheet

IT and operational Aspect

- Capability of the admin system to develop and support
- Change in process to accommodate
- Customer service department to refine their approach to handle customer queries/ complaints specific the nature of these products, specially the non-guaranteed part.

[20]

[50 Marks]

Solution 2:

i)

- It appears that the company's business is yet to stabilize and has not reached the steady state, in order that the new business strain is met by the surplus generated from existing policies.
- The statutory solvency position will be affected by changes in net new business strain.
- In short term, the reduction in sales force with average productivity of the sales force remaining the same, the new business is expected to come down significantly.
- The new business expenses or the acquisition expenses would also reduce but not to that extent even though the company has taken action quick enough. Though some acquisition costs may reduce because there are fewer sales people to pay, some expenses like costs of maintaining sales offices, overheads etc. may not reduce quickly.
- The new business strain from the recent business, therefore is likely to reduce, the extent of which depends upon the mix and volume of business post reduction in sales force. As the surplus from the existing business would largely remain unchanged in short term the net effect of these would result in a positive cash flow. The statutory solvency position of the company, in short term, thus would improve.
- The improvement in statutory solvency position would continue in short term depending on the profit profile of the business written, and the speed at which the new business strain is repaid.
- In the long run however as there would be fewer policies on which the costs could be spread the diseconomies of scale would set in, thus increasing the per policy acquisition cost as well as the per policy maintenance cost.
- Actual expenses would thus be greater than the premium loadings for them leading to expense overrun which has the effect of reduction in profit from each new policy or might even result into a loss. Further, lower volumes will reduce total absolute future profits.
- The mathematical reserves would have allowed for the expense margins in the valuation basis. The increase in per policy maintenance cost once incorporated in the statutory valuation basis would result in increase in statutory policy liabilities in medium to long term, thus adversely affecting the surplus position of the company. This would result in the deterioration of the statutory solvency position in the medium to long term.
- Thus after initial years of improvement, the solvency position is likely to deteriorate rapidly in the long run unless the company starts selling volumes of business to reach a steady state, with strain arising from the most recent year's new business is met from the surplus arising from existing business.

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ii)

- The impact of increase in expenses and that of increase in yield on fixed interest assets would be in opposite direction to increase in unrealized gains due to revaluation of company's property portfolio.
- In India any unrealized gains not routed through the policyholders' fund may not be utilized for the purpose of bonus declaration. The unrealized gains due to revaluation of company's property portfolio can however be used for demonstrating solvency. This may unlock some of the shareholder money kept for demonstrating statutory solvency.
- As the cost of purchase of computer is one off recognizing whole of it would be and charging to current policyholders would be unfair especially when the new computer system is also likely to benefit new business.
- One way to achieve this could be by charging future asset shares for the expected benefits of the use of computer through an annual depreciation charge.
- It is unlikely that the company has free reserves to offset part of this computer cost. In any case this would reduce the ability of the company to use them for other purposes.
- The valuation interest rate is usually set by reference to long term yield from fixed interest investments. It needs to be established whether the increase in yield is one off event or is expected to be long term.
- If the increase is long term expected the valuation interest rate may increase which would release surplus. Reversionary bonus rate thus may improve.
- Unrealized gains which engrain volatility may not be suitable for the reversionary bonuses and usually are paid out by way of terminal bonuses.
- The quantum of increase in reversionary or terminal bonus rates may depend upon the bonus smoothing policy of the company.

[4]

iii)

- The company needs to carry out a detailed investigation on mortality experience to understand whether it is a one off event or is likely to recur in future. Whether there is any permanent change in the geography of the area making it more prone to flood? Whether the new disease is correlated with flood as it is an epidemic and hence is one off or may have relatively frequent occurrence in future?
- The company also needs to ascertain the impact on claims amount arising from this source and its significance for the company.
- Though in valuations ,the contribution of surplus or deficit from mortality is comparatively small with relatively small fluctuations the extent of adverse impact on this experience item needs to be investigated as the mortality loss appears to be unexpected and significant and usually not provided for in pricing or in previous valuations.

- If the investigation suggests considerable uncertainty about the future development on this experience item the company may take such appropriate actions which do not constrain its future ability to take corrective measures.

- For example the company in its actions may wish to consider managing policyholders' reasonable expectations in a fair and equitable manner for the current and future generation of policyholders.

- Depending upon the analysis, the risk profile of the company and the available free reserves the company may decide to absorb the loss and not to reduce the bonus. It however appears unlikely as the company may not have free reserves to absorb the loss as the company currently is declaring bonuses with the support of shareholder funding. Further, no reduction in bonus rates would mean excessive guarantee as compared to the asset shares.

- Whether the shareholders are willing to inject additional capital to absorb the loss?

- Alternately the company may decide to absorb part of the loss and pass part of the experience to the policyholders by reducing the bonus partially. The company's ability to do so including the extent, however, depends upon any action taken in past under comparable circumstances as this might have generated policyholders' reasonable expectations.

- Absorbing the loss either fully or partly may have adverse impact on the available future capital which may limit the ability of the company to write new business or the ability to invest freely.

- Whether to spread the impact over future years or to consider it in a single year may depend upon the bonus smoothing policy of the company and the ability of the company to manage the equity and fairness among generation of policyholders. The smoothing implies that the mortality loss should be spread over future years.

- At this stage the company will also have to decide whether to reduce the reversionary bonus rates or the terminal bonus rates or both.

- The company may also consider whether to reduce the bonus across the board or only for the line of business which has experienced adverse mortality experience. Usually the favourable or adverse mortality experience is spread over the entire with profit business written in the same fund.

- If the investigation shows that the mortality loss is likely to continue in future as well it would be prudent to effect reduction in reversionary bonus .If however, the mortality loss is not likely to recur it would be more appropriate to reduce the terminal bonus rates.

- As the Pension participatory business is also written in the same fund the sharing of experience across the board may mean that the only difference for the Pension business would be the tax treatment. The company needs to decide on the experience of mortality losses on pension business as because of the single fund the experience may not be separately available.

- The approach of other affected companies which might have written business in the flood and sickness affected areas should be considered.

- The company should also consider whether the written bonus policy of the company or any marketing literature contains options before company in such situations.

- The company has already witnessed significant decrease in the sales force with average productivity of the sales force remaining the same thus adversely affecting the future new business volume. The company should also consider the further adverse effect on the future volumes.

[12]

iv)

- Expense is one of the major contributors to the surplus or deficit in analysis of surplus. Expense overrun is critical for the company as this may completely wipe out the surplus from other sources thus resulting into overall deficit instead of surplus.

- The regulator has prescribed a specified period (currently up to 12 years from the year in which the business operations of the insurer started) up to which bonus to policyholders can be declared where the fund is in deficit.

- The company has been transacting life insurance business in India for last ten years yet it has been declaring bonuses each year since inception with the support of shareholder funding. The business projection shows expense overrun for at least next three years.

- Expense overruns are funded by the shareholder capital which can be recovered by future shareholder transfers. The level of bonus would thus depend upon the ability of the shareholder to inject capital.

- The amount of expense overrun that can be borne by the participating fund shall depend upon the PRE in respect of of reversionary bonus that has been set at the of benefit Illustration.

- While the expense overrun in respect of the per policy issuance cost and Maintenance cost may be justified to be included in the asset share calculations, it may not be appropriate to allow the actual higher sales related variable expense over run resulting from the inefficiency of the distributors.

- Therefore, the company would not be able to recover the sales related acquisition expense overruns from the existing policyholders. The business volume should grow at such a rate so that the company reaches critical mass.

- The actuary may need to exclude the sales related acquisition expense overruns in setting bonus rates for current policyholders.

- The actuary will however allow for expense overruns in his model office projections to ensure that at a macro level the expense overruns can be considered in the long term projections.

[5]

v)

- The statutory solvency basis used to determine the value of policyholder distributions is prudent which allows for margins for adverse deviations in line with ALSM Regulations and APS issued by IAI.

- If the valuation basis is strengthened based on the experience analysis taking a long term view, it is expected that the prudence assumed in the valuation basis will get released in future leading to

higher future surplus and higher bonus leading to higher transfer to shareholders in future.In effect the strengthening of reserve leads to deferment of surplus/bonus and transfers to shareholders.

- The additional capital required to support the strengthened reserves may have to come from shareholders, and so a higher return to shareholders may be appropriate.

[2]

vi)

- The three year projection indeed shows that the surplus from in force business is expected to increase each year.
- The company still has not reached its critical mass and should significantly increase volumes of business to reach a steady state, with new business strain arising from the most recent year's new business is more than offset by the surplus arising from existing business.
- Capital requirements cannot be assessed adequately by just considering current value of liabilities and assets available to meet them and is driven by the tails of loss distributions from all of the risks being borne by the company and the requirement to fund the on-going business strategy.
- It requires projections of the on-going solvency of the company allowing appropriately for both the size and probability of downside risks.
- It can be seen from the business projection that the surplus projected for next three years, from in force business is not sufficient to meet the new business strain over the projected time horizon.
- The company does not appear to have free reserves to finance future new business strain.
- Achieving high growth of business is limited by the significant reduction in the sales force with the average productivity of the salespersons remaining the same. The company should quickly add to its sales force and also increase its average productivity.
- The high growth in new business volume may lead to higher new business strain thus introducing injection of further capital by the shareholder in addition to funding expense overrun and to support the bonus rates. Non availability or inadequate availability of capital may limit the ability of the company to write volumes of new business.
- The company's solvency position as at 31st March,2014 is healthy but the business projections show that the solvency position is likely to decline during the projected period and if this trend is not arrested the statutory requirement of maintaining a minimum of 150% solvency ratio may be breached.
- A longer projection period may be considered to understand better if any sustained management intervention reverses the downward trend in the solvency ratio.
- If the company is able to write volumes, in short run, any surplus from the non participating business would be used to support new business and further the non unit surplus may not be available which due to single 90:10 fund is supporting allocation to participating policies.

- Any increase in bonus to policyholders would build up an excessive level of guaranteed benefits in relation to asset shares thus reducing the resilience of the fund to adverse experience, such as improving annuitant longevity, increasing or exceptional expenses, to enable future new business to be written etc.

- There may be adverse impact on the persistency of business with reduction in agency force which also needs to be investigated especially the impact of lower persistency on the solvency of the company.

- Lower persistency may lead to higher per policy cost and hence higher statutory policy liabilities thus reducing the surplus limiting the ability of the company further on bonus rates.

Ways to improve the ability of the company to increase bonus:

- The company must generate more profits to improve its ability to pay bonuses longer term by improving its experience on its existing business, for example by reducing its controllable expenses.

- The company may identify its unprofitable and unviable offices and close down their operations.

- The company may identify unprofitable products and stop selling those products and by increasing the sale of volume of its profitable products.

- The company could consider weakening the valuation basis for the immediate annuity business but the change in basis should not be arbitrary and should be based upon experience investigation taking into account the long term view and the requirement of professional guidelines (APS 7) for margins of prudence and regulations in this regard.

- The design of the products can be changed to make them capital efficient. The charges under the unit linked business may be revised upwards subject to the regulatory constraints in this regard but this may also have marketing issues and may impact the future new business.

- Financial reinsurance can be used with the prior approval of the regulator to improve capital and solvency position. This may however involve genuine transfer of risk. Given Reinsurance Regulations, it is likely that regulator may not allow financial reinsurance.

- The company may invest more aggressively to increase stakeholders' returns but this would increase volatility and should have regard to the risk appetite of the company.

- The company may dispose off its inadmissible assets and reinvest proceeds in admissible assets to increase solvency.

- New business volume may be reduced to reduce the new business strain but this may adversely impact the efforts of the company to reach the critical mass where surplus from the existing business start funding for the future new business.

- As the company's sales force has come down significantly it may consider selling some of its offices especially the unviable ones to improve its capital position.

- The company may seek approval of the regulator to utilize a portion of the unrealized capital gains, in particular unrealized gain in real estate investments, to support bonus.

- The company may consider raising capital from the market if it fulfils the regulatory and professional guidelines in this regard.

[14]

vii) The appointed actuary's obligations are detailed in APS 1 (especially paragraphs 2 and 4) paragraph 6 of APS 2 and the IRDA (Appointed Actuary) Regulations, 2000 (especially paragraph 8(i)) which require that the Appointed Actuary:

- Shall, in terms of sub-regulation 8 (a) to 8 (e) of the AA Regulations, suitably advise the Directors to ensure that the company is at all times able to meet the solvency requirements as prescribed in section 64VA of the Act.
- Shall ensure that the company's available assets can provide explicit cover for the amount of required solvency margin.
- Shall ensure, so far as is within his/her authority, that the life insurance business of the company is conducted on sound financial lines and that he/she has regard to Policyholders' Reasonable Expectations (PRE).
- Shall advise the company as soon as he/she feels that the company has initiated action – or a situation has arisen outside the control of the company – that materially threatens its solvency.
- Shall appraise board and management of situation and make sure that they understand the implications and consequences
- Shall require the board to agree to a satisfactory plan which will safeguard solvency.
- If the company does not remedy the situation, or if there is no feasible course of action to protect solvency and policyholder interests, the Appointed Actuary is required to advise the IRDA – but not before informing the company first.
- Ensure that new policyholders are not mislead with regard to their expectations

[5]

[50 Marks]

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