

Actuarial Society of India

Examinations

May 2006

CA3 – Communications

Indicative Solutions

Sol 1)

Company letterhead and address

Mr S. Kumar
Mr S. Kumar's address

Date

Dear Mr. Kumar

Query on unit-linked and participating products

Thank you for your email dated 15 May 2006. I am writing to confirm that the bonus rate on your participating product is correct and to address the issues causing you concern.

Unit-linked product

Our unit-linked fund invests in a range of assets broadly comprising of stocks and bonds. Out of our total portfolio two-thirds is invested in equities and the balance one-third is invested in bonds.

As you have rightly pointed, the last year has been particularly good for the stock market. Our unit-linked fund managed to outperform the Sensex by investing in a carefully selected list of stocks which is wider than forms the base for the Sensex. The performance of our unit-linked fund in the future may also thus differ from that of the Sensex.

Participating product

Our company's participating fund, which comprises of the policyholders' money invested in the participating product, is managed in a different way to our unit-linked product. We invest a greater proportion of the participating fund in bonds and consequently a smaller proportion in stocks.

Let me take this opportunity to explain how bonuses are determined in our company. Essentially, the company takes a view on the future performance of the participating fund on three factors.

The first factor relates to the investment performance of the fund. As mentioned above we invest a smaller proportion of the fund in stocks compared to our unit-linked product. This is with a view to providing for steadier returns being received, year after year. As a result investment returns on the participating fund may be quite different to the Sensex

performance. A better investment performance still compared to that anticipated and provided for leads to higher bonuses.

The second factor relates to the amount of claims that are expected to be paid out. A smaller amount of claims paid out than expected leads to higher bonuses and vice versa. The last factor relates to the level of expenses that are expected to be incurred. A higher amount of actual expenses compared to those anticipated lead to lower bonuses. The overall level of bonus rates is determined by combining the effects of all the three factors.

Thus, over the year covered, although the investment performance for our participating fund has been positive, the other two factors have led to the overall bonus rates having to be reduced by 10%. Further, a reduction in bonuses this year does not necessarily imply that this trend will continue in the future.

Conclusion

To summarise, growth in our unit-linked fund NAV is solely determined by the performance of the stocks and bonds bought by the fund. In contrast, the bonus rates declared on our participating product are affected by three factors namely interest, claims and expenses. It is therefore inappropriate to compare the bonus rates with the growth in the unit-linked fund NAV, particularly over limited periods such as a year.

I trust that these comments address your concerns regarding the performance of our unit-linked and participating products. Should you have any further clarifications, please do not hesitate to get back to us.

Yours sincerely,

Actuary, Customer Services

[489 words]

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Que 2)

Dear Ram,

Reserving for life insurance products

I explain below the approach to reserving for life insurance contracts in response to your enquiry

Reason for reserving

In a life insurance contract the insurer receives certain cash inflows such as premium income and needs to pay out items such as benefits and also meet expenses. Usually at any given time the future outflows are greater than the inflows. Therefore, to be sure of being able to pay the benefits out the life insurer needs to set aside money today (called “reserves”) so that together with the future inflows the reserves can meet all the necessary outflows. A further inflow in consequence is the income earned from keeping the reserve invested but this is treated differently in the process of reserving.

How reserve is calculated

To make sure the insurer can meet the necessary outgoes we estimate the income and outgoes on a prudential basis. So for example we would use higher mortality than what we think is going to happen and assume higher expenses than we actually expect.

Once we have calculated the inflows and the outgoes for each future period we take the difference to give the net outgoes. So for example if we have an inflow of 80 and an outflow of 200 in year 2 then the net outgo in year 2 is 120.

So for example, if there is a net outflow of 110 in a year’s time and we can earn 10% interest then the value of the 110 is 100 today. We simply then carry out the above calculation for each time period using the same interest rate and add up the results to give the reserve.

Depending on the assumptions used we can get a negative figure from the above calculation. In this case, or if the result is less than the surrender value, we set the reserve to be the surrender value under the policy. This means that if a policy is surrendered we do not have to call on the reserves of another policy to make the surrender payment. Generally, thus, the ability of the company to pay claims on a policy is not adversely affected by other policies surrendering.

I trust the above satisfactorily explains how reserving is carried out for life insurance products.

This could happen if margins or loadings in the premium charged are more than adequate to cover benefit and expense & goes particularly in the early years of a policy.

The investment yield is brought in to help place a value in today's money of the several future cash flows and in effect, of the net flow, out or in.

Regards/Madhu

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