

BUSINESS APPRAISAL OF A NEW LIFE INSURANCE COMPANY: A METHODOLOGY

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The possible opening of insurance sector in India to private players in the near future could result in competition building up amongst the new entrants keen on establishing a strong foothold and capturing a major market share. However before committing any capital into life insurance business a promoter would like to satisfy himself that the return on his investment is comparable to those obtainable in other business ventures. This paper outlines a methodology for carrying out business appraisal of a new insurance company which is quite different from conventional business appraisal.

It appears to be only a matter of time before the IRA Bill is enacted into a legislation by the Indian Parliament thereby throwing open the doors of insurance business to private players. Reports indicate that the proposed bill contains a caveat that a company will have to choose only one class of business from amongst life, general and reinsurance. Out of these three, life assurance as a business class has an edge over the other two for the simple reason that with the bulk of the country's population living without any social security cover, the market potential available is immense. True, the business could take relatively a long time to break even and generate profits. But once it starts generating profits, the dividend flow remains stable over long periods of time. The business is capable of giving rise to long term funds which, if properly channelised, can help in reviving depressed

stock markets and financing country's infrastructure projects. Although the legal and policy regulatory framework is expected to provide a level playing field to all the participants, it is certain that the differences per se will continue to influence each company's business strategy in the light of its overall strength. For example, LIC has the record of operating in Indian environment for over four decades virtually as a state owned monopoly and has an established sales force of agents and development officers covering the entire length and breadth of the country. According to industry's observers LIC's distribution channel comprises over 5.9 lakh active agents and over 18800 development officers, backed up by 2028 service branches. It has provided life cover to 11.26 crore lives under different schemes which works out to 37.28% of the estimated total insurable

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population of 30.20 crores in India. As a public sector enterprise LIC symbolises the highest degree of safety in regard to policy holders' funds. A typical newcomer, on the other hand, has to overcome the initial resistance faced by his products from established products before his products find wide acceptance. He may have to strive hard towards building up his brand value and carving out a niche for himself in the market. Close on his heels, an Indian promoter seeking foreign equity participation can benefit from having direct access to latest technology and modern practices but could take considerable time in understanding the Indian psyche which is crucial for product development and innovation during the market penetration stage. Commercial banks venturing into the insurance field (Bancassurers) will readily acknowledge that their inherent strength lies in the large network of branches and their established clientele. In their case the product pricing and delivery system will be so designed as to capitalise this inherent strength.

MODELLING A LIFE OFFICE

At the time of applying for a licence to enter life business, a company may be called upon by the IRA to submit its detailed business plan for the first 3/5 years. A similar detailed business plan but for longer periods may be demanded by the providers of capital. While preparation of such a detailed business plan or project report as is commonly known in the case of other business enterprise can be comparatively a simple and routine task, in the case of a life office, however, this could turn out to be a formidable exercise even if assumptions are deliberately made simplistic to reduce the volume of calculations. To begin with, based on the findings of a market survey the

proposed structure of the company will be decided in regard to the number of funds to be established and the type of business to be written in each. The choice could be limited to conventional with and without profit business, unit linked business and possibly include permanent health-
assurance business. The consulting actuary entrusted with the preparation of the business plan is expected to make suitable assumptions in regard to the different elements that go into the business projections of a model life office. In fact a series of projections would require to be made changing one assumption at a time to study the impact on the results on account of different emerging scenarios. This is known as 'Dynamic Solvency Testing' and the results of these projections presented in a summarised manner could form an important input for decision making. Some of the elements for which assumptions require to be made are future volumes and business mix, expense, discontinuance and withdrawals, tax and reinsurance. Any guarantee proposed to be given to policyholders either implicitly or explicitly such as surrender value guarantee, guaranteed bonus additions, expenses limit guarantee or any future options to be made available under the contract to policyholders in line with market practice would require to be costed and provided for in the projection exercise.

PROJECTION OF ASSETS

The projection of assets should also take place simultaneously alongwith the projection of liabilities of the life office. There are two basic approaches to carrying out projection of assets. First, under a deterministic approach assumptions are made for a set of variables such as fixed interest yield, dividend yield and equity

prices into the future. A similar assumption is made regarding the proportion of funds to be invested in equities. The effect of varying this proportion on the asset shares of each type of business and on the overall solvency position of the office is studied. The results are then analysed to arrive at the optimum proportion to be invested in equities. Under the second approach, stochastic models are developed in which simulation techniques are used. Apart from Monte Carlo simulation technique, the other faster and more efficient techniques currently available are Bootstrapping and Gibbs sampler. Whichever approach is finally adopted it has to be ensured that both the assets and the liabilities of the life office are projected forward on a mutually consistent basis.

UNIT LINKED BUSINESS

In the case of unit linked business, as part of projection exercise, two reserves will be required to be set up. These reserves are unit reserve (appropriate unit price multiplied by the number of units held, 'belong' to policy holders) and non-unit reserve ('belonging' to the company). Margins in unit linked business are likely to be very fine and a sudden jump in expenses, especially, could cause immediate problem to the office. In such cases, the right to increase the management charge, usually printed in small letters on the policy document, could turn out to be a poor solace for the management because competitive pressure may force it from taking recourse to this extremely unpopular step. Care must, therefore, be taken while assuming relationship between anticipated fund growth rate (before tax and fund management charge), renewal expense inflation and the discount rate for calculating non-unit reserve. A shortfall in the anticipated fund growth

may render the management charge inadequate to meet the future renewal expenses.

PERMANENT HEALTH INSURANCE

Permanent health insurance is one area where a new office will have to tread with extreme care and caution. There are two approaches to carrying out projections. The claim inception and disability annuity approach makes use of sickness rates in combination with expected durations of sickness. A multi-state modelling approach, on the other hand, takes note of the fact that a policy holder at a time can remain only in any of the three states, viz., healthy, sick or dead. Transitional probabilities of movements between these states are calculated using estimates of transitional intensities between each state. Both these approaches require extensive and credible statistical data which are not available in India. The only alternative is to make use of data available abroad based on the experience of life offices modified to suit Indian conditions. This type of business would call for stringent underwriting, control and monitoring standards.

MATCHING AND RESILIENCE

A cash flow matching test would, most probably, form a part of projection exercise. The intention is to ensure that the asset proceeds match the liability outflows both in terms of amounts and timings. If this position is not revealed by the test, a further reserve must be held in order to cover the possible risk of disinvestment or reinvestment on unfavourable terms.

A 'Resilience Test' is somewhat asking to 'Stress Test'. In the projection exercise, it is undertaken to see whether the assets and liabilities of the office are reasonably resilient

to changing investment conditions. If not, a mismatching reserve would require to be set up which has the effect of absorbing capital and could constrict the scope for business expansion.

CAPITAL REQUIREMENTS AND SHAREHOLDERS' TRANSFER

Capital is hard to find, more so when immediate return is not seen in the business where it is proposed to be deployed. In the case of life office, new business absorbs capital. This absorbed capital is released over the remaining term of the policies and is available for recycling. For a nascent company, the impact of writing varying mix and volumes of new business must be properly assessed. The capital available should not only be sufficient to support the financing strains of the projected volumes of new business but also be capable of building up free assets to impart financial strength to the new life office over a period of time. Business strategy aimed at accelerated release of surplus would enhance the investment appeal to the purveyors of capital.

The regulatory authorities may frame rules and regulations for transfer of profits from the long term business fund to shareholder's fund and such transfers are usually limited to the surplus disclosed in a Statutory Valuation. This apart, the split of the profits between policyholders and shareholders would have been spelt out in the Memorandum and Articles of Association of the company. Since the split is normally calculated on the Statutory Valuation basis rather than using a more realistic interest basis for discounting purposes, the share accruing to the shareholders is likely to be more than what appears to be the case. The structuring of the company should be so

done as to give rise to stable pattern of future dividends flow.

BONUS STRATEGY

The consulting actuary may have also to do a good deal of tight rope walking while trying to balance the mutually conflicting requirements. This is best seen when he is engaged in making assumptions about future bonus rates. First, in order to remain in business, the company must offer bonus rates comparable to those offered by its competitors. This would imply that the bonus loadings in the with-profit policy premiums are adequate to support these bonus rates without rendering the relative policies uncompetitively priced. Second, the shareholders' share of divisible surplus, which is generally linked with policyholders' share and pooled from different types of business should permit adequate dividend payouts to make the investment in the company attractive. Third, the disposable surplus disclosed in a valuation done on a best estimate basis such as Bonus Reserve Valuation must also be capable of being released through the Statutory Valuation. Lastly, having arrived at the disposable surplus, decision may have to be taken as to what proportion should be distributed in the form of uniform reversionary bonus so that the balance is available for distribution in the form of terminal bonus, sometimes referred to as 'loyalty additions'. A large proportion distributed in the form of terminal bonus may make final payouts on with-profit policies volatile. But the discretionary nature of this type of bonus would permit the company greater flexibility in investment policy since in the event of adverse experience it could be reduced or even altogether eliminated. Another factor to be taken into consideration is that in the absence of advance reserving requirements

for terminal bonus which is paid at the time of maturity of a policy, the effect of terminal bonus on the shareholders' transfer is one of deferment.

SOLVENCY MARGIN AND REINSURANCE

The solvency margin require to be maintained by a life office is usually expressed as a sum of two figures. The first figure is a prescribed percentage of mathematical reserves. The second is also a prescribed percentage but of the capital at risk which is the amount payable on death less the mathematical reserves. These two figures are prescribed to provide for adverse fluctuations in the investment experience and mortality experience respectively. The solvency margin requirement usually permits reduction upto certain ceilings in respect of the liabilities reinsured.

The two principal forms of reinsurance are (1) Facultative and (2) Automatic Treaty. Although there is yet another form viz, Reinsurance Pool, this form is rarely used in life assurance. Facultative reinsurance is a case by case method in which a ceding company receives application for insurance cover that exceeds its retention limit. The company then retains a portion of the sum assured upto its retention limit and cedes the excess to a reinsurer possibly offering the most attractive terms. The optional nature of this form of arrangement means that the ceding company is under no obligation to cede and the reinsurer is under no obligation to accept the insurance. A minor variant of the Facultative form is one in which the option is available only to the ceding company. Under the Automatic Treaty the ceding company must cede insurance to the reinsurer and the latter must accept as per the reinsurance treaty.

The two main methods of reinsurance are (1) Proportional reinsurance or Coinsurance and (2) Non-proportional reinsurance. Proportional reinsurance can be further categorized either as Quota-share of Surplus-share basis although combinations of these exist in practice. Under the Quota-share basis, the ceding company and the reinsurer agree to share losses and premiums in some predetermined proportion. In the case of Surplus-share basis, the reinsurer shares reinsurance in excess of the ceding company's retention limit upto some maximum amount. As a further step, reinsurance can be done on original terms basis or risk premium basis. In the case of original terms basis, the sharing of the original office premium is done by the ceding company and the reinsurer and the respective shares remain the same throughout the term of the relative policy. As opposed to this, in the case of risk premium basis, the risk premium varies from year to year depending upon the build-up of the policy reserves and the variation in the mortality rate due to the progression in the age of the life assured.

Non-proportional methods of reinsurance comprise (1) Catastrophe, (2) Excess of Loss and (3) Stop Loss. Catastrophe reinsurance provides cover against the risk of excessive loss due to the occurrence of a catastrophic event involving simultaneously a large number of lives, e.g., air crash. The Excess of Loss cover is designed for losses in excess of some predetermined amount on a particular risk or event. Stop Loss cover, on the other hand, provides for payment by the reinsurer when the claim experience for a particular portfolio of policies worsens resulting in the aggregate claims exceeding a threshold limit by a preset minimum margin.

For the purpose of determining an appropriate pattern of retention limits, the same volumes and types of new business that have gone into the projection exercise are to be assumed. Also suitable assumption for the statistical distribution of mortality costs should be made. A low probability of ruin having regard to the extent of free reserves available and contingent margin loadings in the premium scales should be chosen and the maximum likely deviation of the mortality costs corresponding to this level of probability worked out to determine the retention limits. In general, while too low a retention limit (implying a high cession) can erode the profitability of a ceding company, too high a limit can render the company vulnerable to intervention by the regulatory authority and even to insolvency.

Reinsurance has a crucial role to play in the modelling of a life office. It enables a new life office to reduce the new business strain and expand at a faster pace than is possible with the available capital. This expansion is facilitated partly by the requirement to hold lesser solvency margin by the office on liabilities reinsured but mainly on account of availability of working capital in the form of "Reinsurance Commission" from the reinsurer on a returnable basis from future premium income.

CONCLUSION

Business appraisal of a new insurance company is essentially a practical task.

Although it is the consulting actuary who is professionally competent to carry out the business appraisal of a new insurance company, nothing prevents him from outsourcing necessary inputs from certain other professionals such as software specialist, tax consultant, merchant banker, legal advisor, stock broker etc. to this extent exposure outside his traditional domain and having worked in a multi-disciplinary environment can prove advantageous to him.

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