

# LIFE INSURANCE

## 3.2.1. INTRODUCTION – Rating Process for Life Insurance Institutions

### OVERVIEW

The common methodology used to analyze general insurers can be similarly applied to life insurers. This criteria paper seeks to address rating factors unique to the life insurance industry. Life companies display inherently superior operating stability compared to general insurers due to the high degree of predictability of claims outcome using mortality and morbidity tables. The life industry has been experiencing softening demand for the more traditional protection policies, with shifting consumer preference towards savings and investment products. Also gaining popularity are products covering critical illness and medical care, due to the concern over the rising cost of health care. Total premium income increased at a rate of 15% p.a. between 2001 and 2005, mainly due to strong demand for investment-linked and endowment insurance products and the successful penetration by domestic insurers with bank assurance as an alternative distribution channel. Competition is expected to intensify, when the market further liberalizes under the WTO negotiations. The financial position of insurers strengthened following the increase in minimum statutory capital requirement to BD Taka 300 million (USD 4.28 million) from BD Taka 150 million within next five years from now. The higher capital requirement also spurred the consolidation of the insurance industry..At the end of 2008, the number of direct insurers (life) stood at 17.

### BUSINESS REVIEW

Important considerations when evaluating an insurer's competitiveness in the life insurance industry include:

- Market share and positioning –business line diversity, breadth of insurance offerings, targeted niches;
- Underwriting capabilities;
- Pricing advantages/disadvantages;
- Distribution capabilities, marketing and sales effectiveness;
- Franchise value and brand name recognition; and
- Technology and administrative capabilities.

The insurer's new business premium mix (whole life, endowment, etc) and growth rate against the industry's is analysed together with its relative position in targeted niches.

A strong competitive position represents credit strength and a significant barrier to entry for new entrants. A sustainable competitive advantage is a pre-requisite for maintaining one's financial strength over the long term. Size can clearly be a competitive advantage in the life insurance sector. Apart from scale economies/critical mass, size usually confers other advantages to the life insurer, notably financial flexibility, ability to influence pricing, as well as improved diversification and market positioning. Notwithstanding the benefits of size, a life insurer may still possess a defensible niche position that is based on high service levels that a larger insurer may find uneconomical to provide. ECRL also considers the ability of the life insurer to build and maintain viable networks and alliances given its role as a potential key growth driver.

The components of insurance risk that are relevant to our analysis are: its mortality and morbidity exposures, pricing flexibility or the lack of it and related rate adequacy, and its underwriting expertise. The relative importance of these risk exposures are determined by the life insurer's product mix.

Slow/declining growth or rapid, uncontrolled growth pose their own set of unique challenges to a life insurer. In the first instance, slow growth or declining sales declines prevents an insurer from building strong renewal profits and is symptomatic of an eroding competitive position. Meanwhile, inadequately controlled rapid growth typically gives rise to increased acquisition costs.

Competition for investment funds in the form of direct equity investments, unit trust funds, investment companies, and banks, which offer products that compete directly with insurers-The distribution expenses for these competitors are markedly lower than the traditional insurance distribution systems. Life companies in Bangladesh have been largely reliant on the agency system to sell their products to the public. Such reliance carries with it high commission payments and training expenditure. Moreover, a high drop-out rate and agency movement between companies added to the loss in potential business generation. Some measures were implemented to address these issues, including standardizing the first year remuneration to agents and smoothing commissions over a period (to induce agents to improve after-sales service and persistency of policies). While the advent of e-commerce would aid in the diversification of distribution platforms, increasing market penetration and also lowering the ongoing distribution cost for insurers, sales via the internet are likely to be low initially and its acceptance as a distribution channel will be a gradual process. After all, insurance is still regarded as a product that is sold rather than bought (at least in developing countries) and given the complexity of the product, the traditional method of personal interaction with clients may still be what it takes to close a contract. Companies writing large portfolios of participating and investment-linked businesses are vulnerable to stock market disruptions, as the crediting rates to policyholders of these products bear a high correlation with the performance in the equity market. The underlying investments of these products are largely equities. A sustained bear market will likely affect growth of these product lines.

Management is assessed for its role in developing and implementing long-term strategies that will determine whether the insurer has a sustainable competitive advantage. In respect of the strategic planning function,

- What are its corporate objectives (e.g. maximize shareholders' value, target market share and market positioning?)
- Can the company identify its core competencies?
- What competitive advantages is it leveraging on to grow market share?
- Assess whether management's strategy is consistent with the capabilities and weaknesses of the business and its management
- Are the assumptions backing the plan reasonable?

Assess management flexibility in responding to changing market conditions. Is management known to have exit products that are loss-making? Has it been able to meet new products from competitors, or even better, introduce its own innovative products into the market? What actions has it taken to improve productivity as measured by production per agent (e.g. cost-cutting programme)? Track the agents' productivity trend over the past five years.

Evaluate management's propensity to terminate unproductive agents. What is the company's dividend policy (at or above market rate, faster than inflation, vis-à-vis retention in the non-par fund)? Is management under pressure to meet shareholders' dividend expectations and thus has to strategize its product mix in favour of non-par policies, in order to accrue all surpluses to shareholders? Does management set a minimum acceptable level of free assets<sup>1</sup> to be maintained by the fund? Is there a certain minimum return on policyholders' capital that is used to price its products?

## OPERATING PERFORMANCE

A life fund's profitability can be measured by the year-on-year change in the embedded value of the fund as determined by the actuary (but stripping out changes in the actuarial assumptions or discount rate). The source of growth in the embedded value can emanate from new business growth, improved profits arising from the in-force book, or higher investment returns. The embedded value is the present value of future profits on an insurer's existing portfolio of policies. Because of the long-tail nature of the life business, the future profits will materialize as the existing portfolio runs off (assuming the actuary's projections are accurate), and this may take many years.

Changes in the economic environment which may affect the assumptions used in the calculations can result in a dramatic change in the embedded value. An insurer's income stream comprises both premium income and non-premium income.

- Premium income mix – whole life, endowment, temporary, health, investment linked and annuities; new premiums vs. renewal business premiums; single premium vs. annual premiums (single premium business tends to be more erratic); par vs. non-par. Growth in new business premiums - new business levels are a function of the economic environment, consumer confidence and government initiatives that encourage the take up of insurance coverage by individuals (e.g. through tax incentives). Highly rated insurers normally show persistent growth in new annual premiums.

- Non-premium income is made up of recurring income from investments i.e. interest and dividends, and capital gain/loss. As both premium and investment income display rather stable characteristics, income fluctuations largely stem from stock price volatility. In 1996 many companies experienced sharp falls in their non-premium income as a result of the large provisions for diminution in the value of their share portfolio.

The life office's recurring outgoings constitute benefit payments (e.g. death, maturity, surrenders and bonuses), commission and agency-related expenses, and management expenses. A young insurance company benefits from relatively small policy payments in its earlier years due to the long-tail nature of life policies. As the business grows, it may even benefit from economies of scale as expenses are spread over a greater volume of business. Over the longer term, however, as the average age of the insured policyholders catches up, policy payouts will rise. The Bangladesh experience is that terminations as a result of death and maturity remained low, each constituting less than 1% of total sums insured terminated, reflecting its relatively young population. The expense ratio is compared against peers, i.e. the ratio of the sum of commission and management expenses (related to ordinary life business only) to total premium income other than single premiums. Evaluate the source of improvement/deterioration of the expense ratio (cost cutting initiatives, implementation of more efficient workflow, IT-driven re-engineering). However, such cost efficiency measures, which bear longer term benefits, normally involve heavy one-off capital expenditure (e.g. IT infrastructure, termination payments, rationalization/ restructuring

costs). If these measures were implemented in prior periods, assess their effectiveness in the current period. It is also important to ascertain whether there are any cost over-runs or under-runs compared with the actuary's original pricing forecast. While business growth plays an important role in an insurer's operating performance, loss of business can be significant in eroding its profitability too. Thus, a measure of the persistency of its ongoing business is necessary. ECRL looks at the weighted forfeiture rate defined as the ratio of annual premiums forfeited to new annual premiums in respect of policies written in the last three years, weighted at 20%, 56% and 24% for the latest year, first preceding year and second preceding year respectively. Another measure, the surrender rate, is the ratio of the total sums insured discontinued in the year by surrender, i.e. with the payment of a surrender value, to the sums insured in force at the beginning of the year. A third ratio, the conservation ratio, calculates the current year's renewal premiums to the previous year's first year and renewal premiums. Policy cancellations and lapses normally escalate in an economic downturn as rising unemployment trim household budgets, resulting in reductions in, or outright cancellation of their life cover.

Examine the trend of policy persistency and the proportion of policies remaining in force for at least five years. Is the actual termination experience within the range that was factored into the cost of the product i.e. is persistency better or worse than the pricing assumptions? Low persistency leads to higher expenses because there is not enough time to recover the high acquisition costs. Accounting profit is not an accurate measure of profitability for a life insurance company because the amount of life fund surplus transferred to the profit and loss account depends on the type of policies (par and non-par mix) underwritten and the degree of conservatism of management. Only 10 – 20% of the aggregate amount allocated from the par fund surplus is transferred to shareholders while the remaining 80 – 90% is allocated to par policyholders in the form of reversionary bonuses, which are reinvested and only paid out upon policy maturity. Surpluses arising from the non-par fund, however, accrue solely to the shareholders. The amount of bonus declared out of the par fund surplus is normally at a minimum acceptable rate (but within policyholders' reasonable expectations), since the shareholders' take of the total allocation is limited. The bonus level is decided by the company's actuary, and tends to be relatively steady to smoothen up the volatile investment return. Once declared, the bonus becomes a permanent liability of the fund.

It is in the non-par fund allocation where management conservatism is judged. At the one extreme, an ultraconservative management may decide to set aside the surplus arising from the non-par fund as reserves, to smoothen up the effects of bad investment years (that could result in deficit in the fund) or to support shortfalls in the par fund. At the other extreme, management that is beholden to shareholders may be prepared to transfer the whole amount of its surplus to P & L, boosting the company's accounting profit for that year.

## INVESTMENTS

Life products generally have longer liabilities, and proper asset-liability management would have matching assets held for a similarly long duration. However, it is generally the case in Malaysia that assets are managed on an aggregate basis without taking into account the specific liabilities which they supported.

ECRL's investment analysis includes examining:

- Investment guidelines and management controls
- Credit, market and liquidity risk - Market risk arises due to potential change in asset valuation as a result of volatility in market conditions including stock market, property market and interest rates
- Diversification of portfolio by major asset class, industry sector and individual investments
- Historical performance – look at how well the investment strategies have been executed
- Investment yield, total return, default experience, maturity structure
- Management's exit strategies with respect to each class of investment asset.

The usual investment classes are:

- Government securities – Lowest risk instruments in the domestic economy.
- Corporate securities - Fixed income corporate bonds are a popular form of investments, their cash flow properties being determined principally by periodic payments of interest at the coupon rate and the lump-sum payment of principal at maturity. Deviations from expected cash flow can be caused by credit deterioration and default by the issuer and prepayment of principal under call provisions. Corporate bond investments may be acquired through private placements. Private placements are however, less liquid and marketable as compared to public offerings. The main considerations here are the credit quality of the debt and the concentration of investment in the securities of a particular issuer. The cash flow characteristics associated with corporate equities are far more variable, and therefore riskier than those associated with fixed income obligations. The cash flow properties of common stock are determined by periodic payment of dividends and by the market value of the shares.
- Cash and deposits
- Loans on policies and other loans - These loans are not the result of a deliberate investment decision by the insurer, but rather are a result of options exercised by policyholders. Because they should never exceed policy cash values, and unpaid principal amounts plus any accumulated interest may be deducted from cash surrender proceeds or policy proceeds at the death of the insured. A premium loan is a policy loan made for the purpose of paying premiums.
- Mortgage loans - Generally fixed income obligations, mortgage loans should be analysed in terms of loan to value ratios, percentage exposure to a single property, aggregate mortgage loans to total assets.
- Investment properties - The cash flow characteristics of investment real estate are determined by occupancy rates, rentals and operating expenses. Deviations from expected cash flow can result from tenant defaults and from variable occupancy rates.

To narrow the asset-liability mismatch of their portfolios, life insurers provide mortgage loans, which typically have long-term and fixed rate characteristics. As with commercial loans, ECRL's analysis of mortgage loans encompass an evaluation of its credit underwriting criteria, loan-to-value limits, proportion of problem loans and provisioning policy.

Asset allocation is more discretionary for a par fund because of its limited guarantee feature. Insurers normally back these policies with asset classes which have the highest historical long term returns i.e. equities and properties. Non-par policies pay a fixed benefit on the death of the insured or maturity of the policy. Given that these policies have guaranteed liabilities attached to them, the non-par fund should appropriately be matched with investments in fixed income securities. In the early stages of a long term policy's life, the premiums may be invested in equities/properties for their superior capital returns, but as the policy nears maturity, lower-yielding and less volatile short-term fixed interest securities

would be more appropriate investments. Investment-linked policy benefits are directly linked to the performance of the underlying assets in which the premiums are invested.

There is no guaranteed sum insured payable at maturity. Thus, investment risk is transferred to the insured, while the insurer retains mortality risk. Bonus rates are a source of competitive advantage for some insurers.

Due to the unfavorable investment conditions, some insurers had to revise the bonus rates for participating life insurance plans. It is important to ascertain whether companies are under pressure to pay out bonuses that are higher than justified by actual operating performance. If the problem is short term in nature and the shortfall manageable, transfers from the shareholders' funds can be the solution. However, if the bleak investment climate is prolonged, the company can risk being insolvent. It is expected that some life companies will reduce their average assumed interest rates for new policies written. With the halving in the minimum amount required to be invested in low-risk assets to 10% of the "Amount" i.e. the aggregate of the liabilities of an insurance fund and the margin of solvency, insurers are likely to shift out of low-yielding investments in an effort to boost asset yields to help overcome the problem of negative spreads.

Over the long term, experience supports the belief that returns from equities investment do outperform fixed interest investments. Hence, insurers which have some leeway before the 30% limit is reached may likely migrate their excess liquid funds into shares. Volatility in stock prices, which may result in valuation losses when prices plunge, can place an insurer's solvency margin under pressure. Companies with the best-managed investments are those with well-balanced investment portfolios and integrated asset selection processes relative to the liabilities written.

There has to be some coherence between the actuary and investment manager in investment decision-making. The actuary is responsible for pricing insurance products based on realistic yield and capital gain assumptions, and the investment manager needs to place the funds in a manner befitting those assumptions.

## LIQUIDITY

A life fund's assets cannot just be adequate; they have to be sufficiently liquid to satisfy policyholders' claims. Liquidity is influenced largely by an insurer's investment profile, product surrenderability characteristics and persistency experience. From a liquidity standpoint, the product should ideally be designed to discourage surrender activity, and the purpose of asset management should be to maintain an investment portfolio that is sufficiently liquid to pay current obligations under a variety of economic conditions. In today's competitive business environment, however, this remains a challenging ideal due to the need to maintain high crediting rates and consumer pressures for surrenderability features. Liquidity needs are subject to scheduled and unscheduled withdrawals. The latter in turn, is dependent on the withdrawal option features of the insurer's products. The higher the surrender charges, the less likely are policyholders to surrender their contracts. However, if policyholders can shift their insurance contracts from one insurer to another without having to incur high surrender penalties, liquidity becomes an issue.

Scheduled withdrawals refer to certain contractual payouts including lump-sum payments upon policy/contract maturity, and also include maturing debt obligations. An insurer should hold ready liquidity for at least the next year's maturing obligations, and as a benchmark,

between 140 – 180% of potential and maturing liabilities. Outgoings have to be covered by premium income. With an increasingly mature portfolio, insurance payouts are expected to rise. Excellent persistency and a portfolio weighted towards annual premiums provide a stable source of cash flow. Single premium business is less stable in nature, being dependent on each year's sales. Maintaining a high level of liquidity necessitates sacrificing on investment returns, as liquidity is typically achieved through investments in shorter term, lower-yielding assets. The analysis on liquidity encompasses a review of:

- the fund's liabilities, including provisions and restrictions on surrenderability
- the investment portfolio, to determine cash convertibility. ECRL's definition of liquid assets comprise cash and deposits and government securities and Bonds.
- operational cash flow.

## CAPITALIZATION

Our assessment of capital adequacy begins with a review of the insurer's risk based capital. Risk-based capital provides a means of measuring the amount of capital appropriate for an insurer to support its operations in consideration of its size and risk profile. Accordingly, the degree of risk taken by the insurer becomes the primary determinant of its capital requirement. The adequacy of an insurer's actual capital is measured by a comparison to its risk-based capital as determined by regulatory requirements with adjustments made at the discretion of the analytical team. Risk-based capital standards discourage insurers from accepting risks on non-economic terms which is fundamental to an insurer's preservation of its capital. Capital charges are applied to the main categories of risks insurers face, i.e. asset risk, insurance risk and operating risk.

Asset risk charges address the quality of the insurer's investment portfolio, in particular credit and market risk exposures, with an aim to establish reasonable estimates of expected losses under stress scenarios. Credit exposures stem from invested assets (from fixed-income bonds and loans to deposits with financial institutions), reinsurance recoverables and deposits, and outstanding premiums, agent balances and other receivables due from other insurers or agents. Rating-sensitive charges apply to credit risks exposures. At the discretion of the analytical team, additional charges could be applied to these credit exposures to reflect higher default assumptions relative to that incorporated in the risk-based capital framework. The market risk capital charges are made against the market value of an insurer's assets for exposures to equity, interest rate, real estate and currency risks. Finally, asset concentration risk capital charges address individual counterparty concentrations or concentration of exposure to particular asset classes. Insurance risk is the risk of underestimating liabilities from business already written and arising from adverse mortality and morbidity experience while operating risk refers to the risk of losses arising from inadequate or failed internal processes, people and systems. The aggregate of capital charges for asset risk, insurance risk and operating risk establish the minimum capital requirements that insurers should meet.

To derive a more complete picture of an insurer's capital adequacy, ECRL also looks at the composition of a company's capital structure. How much is equity? How much is debt? How much is preferred stock or other sorts of hybrid securities? Obviously the preference of rating agencies is for the more permanent types of capital, equity capital. The other types of capital are certainly acceptable in a company's capital structure, but with some limits. A

capital structure with higher equity is almost always favoured more than one with less. We also look at the ability of a company to fund their capital needs internally. We consider not only the level of the insurer's capital adequacy today, but also the trends going forward. Is the insurer able to generate capital internally to continue to self-fund growth going forward? Is the insurer reliant on reinsurance to support their capital structure?

ECRL's evaluation of capitalization also focuses on the development of the actuarial surplus in the life fund, the sources of surplus and the distribution of surplus. A surplus arises when the total life fund assets exceed the amount of liability to policyholders as valued by the actuary. A surplus is derived when on a net basis, the actual interest, expense, mortality and capital gain/loss experience is more favourable than the assumptions used in arriving at that reserves valuation. A change in the valuation basis can also result in a surplus/deficit.

The surplus generated from existing business is used to support the insurer's new business plans. The comparison of actual results versus assumptions is set out in the Financial Condition Report. In addition, a

Bonus Reserve Valuation report prepared by the actuary comments on the sustainability of the bonus scale and whether or not bonus rates have to be cut during prolonged weak investment conditions. Bangladesh Insurance Act 2008 requires insurers to maintain a minimum solvency margin position to remain viable as an ongoing entity. Insurers must maintain a minimum paid up capital of BD Taka 300 million (USD 4.28 million), fully supported by admitted assets. The margin of solvency ratio is used to measure compliance and is calculated by dividing admitted assets by the margin of solvency. A ratio > 100% shows surplus over the margin. Sustained solvency levels are normally a result of good management of new business mix, bonus declarations and surrender levels ECRL's also uses the free asset ratio, which is the ratio of life fund assets in excess of the liabilities to policyholders (including bonus allocated to policyholders) and the required margin of solvency to total assets, to benchmark the insurer's capitalization level against its peers. Modest growth in new business, good persistency and favourable mortality experience of its in-force business are instrumental in maintaining an insurer's capital strength. When an insurer's life fund does not build up as fast as its insurance liabilities (which could be as a result of rapid growth and the corresponding heavy up-front commission and marketing expenses), capital injection by shareholders is required.