

SOLVENCY AND SOLVENCY MARGIN

By

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INTRODUCTION

Deregulation, which has affected practically every market, coupled with the globalisation of the insurance industry, has led to structural changes in the insurance sector. Over the past few years, consolidation has been observed, mainly in reinsurance markets - a trend which has been reinforced by losses caused by natural catastrophes and terrorist attacks.

In this difficult context, insurer and reinsurer solvency has become a major preoccupation.

I. SOLVENCY

1. Definition

The solvency of an insurance company relates to its ability to settle liabilities. If the asset value of the company is inadequate (over indebtedness) or can never be accessed at the required moment (lack of liquidity) to settle claims, then the company is insolvent.

Primarily, the solvency of an insurance company depends on the constitution of adequate technical reserves to meet the contractual liabilities and the existence of shareholders' funds that would guarantee security.

2. Factors that determine Solvency

To a certain extent, the balance sheet or final results can throw light on the financial state of a company. To analyse the solvency and adequacy of the shareholders' funds, it is necessary to analyse the risks inherent in the operations of the company.

All the sub-headings of the balance sheet and the final accounts are subject to variations and uncertainties, which should be taken into consideration in assessing solvency.

3. Evaluation of Solvency

The most important aspects when analysing the balance



sheet and final results by traditional methods are:

Solvency Ratio = Shareholders' funds/
Net Premium

Ratio of Technical Reserves = Technical
Reserves/ Net Premium

Retention Ratio = Net Premium/Gross
Premium.

The risks involved in a business are determined by analysing the ratio of the shareholders' funds to premium. The higher the ratio, the higher the capital available to absorb any negative results.

However, where the Technical reserve is not taken into consideration, the margin may not be conclusively determined.

A relatively high solvency margin might turn out to be inadequate if the technical provisions are too low. In contrast, a rather low solvency ratio may prove sufficient if the reserving policy is very prudent. That is why both the shareholders' funds and technical reserves are often linked to the net premium.

Thus, the entire shareholders' funds and available assets can be analysed based on the risks underwritten.

As the solvency margin as well as the ratio of technical reserves are calculated on the basis of the net premium, it would also be appropriate to take the retention ratio into account.

This relates to the dependency on reinsurance and retrocession. The higher the ratio of net premium to the gross premium, the higher the risks assumed and the less the company would depend on the solvency of its reinsurer. However, this indicator has several disadvantages.

For several reasons, the volume of premium is not a sufficient criterion for determining the risks underwritten. Distortions could mar the results if the

premium rate is not commensurate with the risks. Very low pricing results in a low level of premium and thus an increase in the solvency ratio whereas the exposure is unchanged.

It is indispensable to know the portfolio composition. At the same level of premium, the capital needs of a company that writes mainly property business will be generally lower than those of a company in the liability business.

II. SOLVENCY MARGIN

1. Definition

Solvency margin refers to the shareholders' funds defined as the excess of assets over liabilities, i.e. all the resources, made up mainly of the paid-up capital, the free reserves, and the latent capital gains or losses, that are meant to remedy the inadequacy of the technical reserves.

2. The need for Solvency Margin

The main preoccupation of lawmakers in defending the interest of the insureds is to ensure the ability of the insurer to meet its liabilities at all times. To that end, they set out the rules for determining technical reserves and establish the principle whereby these reserves are covered by matching assets. What then would happen if these reserves are inadequate? In such a case the insurer would be compelled to provide additional resources that would enable it to remedy any inadequacy.

3. Components of the Margin

These include the components of the net situation:

- Paid-up Capital (or start off funds)
- Statutory or non statutory reserves
- Carried Forward
- Fictitious assets
- Structural expenses related to the establishment or growth and received but not yet amortised commissions.
- Shareholders's bonus
- Gains resulting from the under valuation of assets or over valuation of liabilities.

4. The minimum limit of the margin

The aim of lawmakers is to define a minimum margin that corresponds with the operations of the company, which are determined either by the premium income or the loss charges net of reinsurance.

5. Parameters for determining the minimum margin

- Production for the expired year
- Average loss charges for the three previous years
- Retention Ratio expressed as a ratio of the net loss incurred to the total loss charges of the previous year.
- Production $\times 20\%$
- Losses $\times 27\%$
- Adjustment of the result to take into account the retention ratio, the incidence of which should not be lower than 50% (0.5)
- The choice of a higher figure resulting either from the production figure or the average loss charges.

III. REGULATORY APPROACH TO SOLVENCY CONTROL

1. Solvency Control

The main objective of solvency control by the Authorities is to protect those who take up insurance from the consequences of payment default.

Solvency control is first and foremost an issue of financial control. Solvency rules should enable the supervisory Authorities to intervene at a time that the assets available can still cover the liabilities.

These rules therefore constitute a warning system.

2. Technical Provisions

Apart from the solvency rules, the solvency of insurance companies can be guaranteed mainly by regulations on the constitution of technical reserves and investments.

Solvency prescriptions are complemented by detailed rules on the compilation and placement of technical reserves.

The company is bound to evaluate the technical reserves as per the method of average cost observed over the years or on a case-by-case basis or by the chain ladder

method.

3. Investments

The State controls the level of technical provisions and decides on the forms of investment authorised. Assets should be invested based on the principle of congruence: service provided in a certain currency must correspond with the investment made in the same currency. In addition, companies should ensure some diversification in order to ensure the security, profitability and liquidity of investments. Too much dependence on certain categories of instruments is not tolerated and the rate of diversity would ensure this does not happen. In Morocco, for example, the domestication rules require that assets covering risks be invested within the same country.

IV. IMPACT OF THE VARIATION OF TECHNICAL RESERVES

1. Impact of the variation of reserves on shareholders' funds

The following example highlights the possible impact of the underestimation of Technical reserves on the shareholders' funds:

Shareholders' Funds = 1

Net Premium = 5

Technical Provisions = 10

In terms of ratio:

- The ratio of reserves/net premium is 200%

-The ratio of shareholders' funds/net premiums is 20%

If the reserves vary by 5%, the variation in the shareholders' funds would be 50%

In other words, a 5% underestimation of the reserve would lead to a 50% increase in shareholders' funds.

2. Impact of the Variation of Technical Reserves on the Result

The result of companies with identical portfolios will vary with the level of reserves. The way each company evaluates its reserves is therefore important as can be seen in the following example:

Company A evaluates its reserves correctly

Company B overestimates by 30%

Company C underestimates by 30%

Company D overestimates by 10% at 31/12/ but correctly in the beginning of the year.

	A	B	C	D
Premium	100	100	100	100
General Expenses	20	20	20	20
Claims Paid	70	70	70	70
Increase in Outstanding Losses	10	13	7	17
Result	-	-3	3	-7
Result as % of premium	-	-3%	+3%	-7%
Outstanding Losses 01/01	60	78	42	60
Outstanding Losses 31/12	70	91	49	77
Increase in Outstanding Losses	10	13	07	17

3. Impact of the increase in Production on the Shareholders' funds

The mechanisms of the margin is such that growth in production should be qualitative enough to ensure that the profit would cover the additional allocation in shareholders' funds in such a way as to maintain the ratio $F=20\%$ of net production. If «t» is the increase from year n to year n+1, the formula for the increase in $t=5$ for year 2 over year 1 would be:

$F1$ (FP year 1) = 20% of net Production

$F2$ (FP year 2) = 20% of net Production + 5 x 20% of net production

Increase: $F2-F1=5 \times 20\%$ of net production = $5 \times 20\% = 1$

The provision for shareholders' funds as a ratio of production for year n+2 is equal to 1/105 i.e. 0.95%

The following table applies the method in respect of Years 2,3,4 and 5.

Value of t	Increase in Shareholders Funds 20t	Relationship between the increase and the premium income	b/w
5	0.1	1/105	0.95%
10	2	2/110	1.81%
15	3	3/115	2.60%
20	4	4/120	3.33%
25	5	5/125	4%

It can therefore be observed that the rate of increase of the premium income is conditioned by the profit making capacity of the premium income if the company does not want to undermine its margin.

V. SANCTIONS – THE CASE OF MOROCCO

In the case where the solvency margin fails to meet the required minimum, the Authority would compel the company to submit a financing plan for a maximum of 3 years, specifying measures that would enable the company reconstitute its solvency margin. That plan should envisage the increase of the authorised capital or establishment funds. However, should the solvency margin fall short of 1/3 of the required minimum, the financing plan period would stand at 3 months.

Should the Authorities reject the financing plan, it could:

- either prevent the company from writing new contracts
- or compel it, by expedited mail to submit a turn around plan which should contain measures to be taken to revitalise the company.

As soon as the company receives the letter, every

decision taken by its General Assembly or supervisory and Management organs, other than the day to day management of the company must be submitted to the Authorities for approval before they are implemented.

If the Authorities accept the turn around plan, they will specify the duration and implementation modalities. They could also prescribe to the company the increase of its capital, prohibit the disposal of movable and fixed assets and the constitution of personal guarantee by the Executive Directors up to an amount not less than 1 000 000 Dirhams.

If the plan is not implemented within the specified period, the Authorities could:

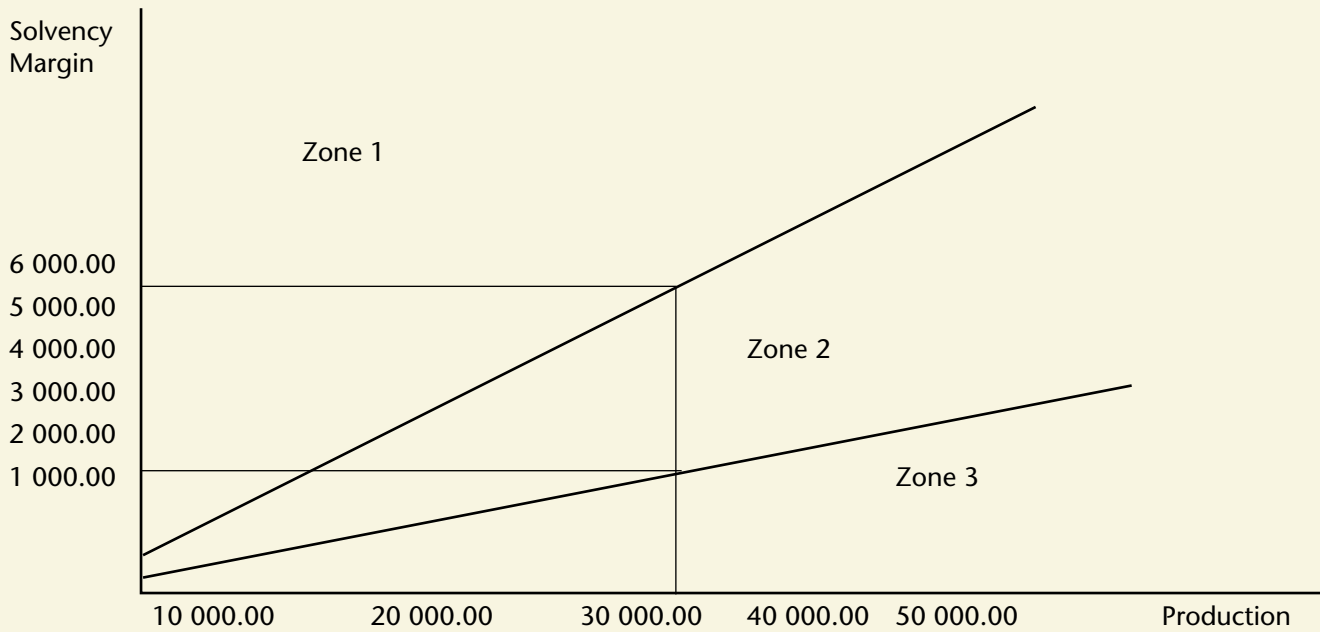
- appoint a provisional administrator
- decide on the immediate transfer of the portfolio of unexpired contracts and losses
- effect a partial or full withdrawal of license

CONCLUSION

The evaluation of the solvency of an insurer is becoming more and more prominent. Methods of evaluation are very diverse. This article was based on simple balance sheet indicators, while highlighting the correlation between insolvency risks, the under estimation of technical reserves and the increase in the premium income based on under tarification.

Meanwhile, since state control had all along curbed undue competition, the lifting of this control and the opening of the markets would certainly amount to an increase in cases of insolvency.

The following graph illustrates the various situations that a company may find itself with regard to solvency margin.



- Zone 1 Adequate Margin
- Zone 2 3-Year financing Plan
- Zone 3 3-Month financing Plan