

Risk Management Components in General Insurance and its Combat Measures

Abstract

Companies dealing in general insurance have been undertaking substantial risks and their management have rolled out activities in order for the interest of investor(s) and also put in measures to safeguard their investments. In the present business scenario, there are two vital facets in the general insurance business: (a) the opportunities to tap upon vis-à-vis the targets of players in a quest to achieve business growth, and (b) the continuous process towards assessing the de-tariffing measures. The players in general insurance business have been provided with plenty of market business opportunities to be tapped at the right time. Amidst this, in the times to come, the changing phenomenon is likely to present ample opportunities, which in hindsight would potentially shift the onus of correct pricing on the market players themselves. By the virtue of these factors, the players in the market lay stress (based on risks) on recognizing risk parameters and the associated pricing of products. The market players who succumb, under the cap of immediate response, to these pressure building in a free market scenario, might end up dropping their rates. Therefore, in general insurance segment, it is the structured and efficient risk assessments by the management that would lead the way forward. Due to the entry of new players, their corresponding policy changes in relation to past and present scenarios have to be aligned with new market scenario.

Keywords: Insurance, Risk, General insurance, Mitigation, Financial, Capital, Regulatory.

1. Introduction

At the initial stage, every industry would face a plethora of risks - both internal and external. In general insurance too, the companies, to keep their strong presence in the market for long, could vouch that a large portion of the risk(s) are recognizable and are due to the internal manipulations of varied players. A developing industry faces a higher range of risks from the regulatory bodies, while at the same time be competitive in harmony with the internal operational and managerial demands. Accomplishing development and growth requires a concentrated focus around sales and scaling up the operations through the development of business channels and expanding

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geographical presence in a competitive environment. A higher measure of attention on deals/sales and the expansion of business extension presents potential risks due to the uncertainties of business. These cumulative risks could have a contradictory and negative influence on the conduct of business and even their continued existence on the market. The general insurance players, because of their business temperament, are at the receiving end with regards to the insured and insurer. Therefore, the achievement of the business in general insurance henceforth would depend on understanding the risks - comprising both the internal and external - and utilizing the mechanisms adopted by the insured to combat and mitigate risks.

2. Risk in General Insurance Business

Market players in the general insurance business are probably going to face an assortment of financial and non-financial risks like capital hazard, asset-liability management risk, venture risk, insurance risk, operating risk and credit risk emerging out of the very nature of the business they are dealing in and with the financial market conditions in which they operate.

2.1 Financial Risk

Insurance business, fundamentally being a money-related business by definition, like a magnet, attracts financial risks such as capital structure risk, capital inadequacy risk, interest rate risk, exchange rate risk, investment risk, underwriting risk, and also reserve, pricing, claims management, policyholders and brokers, claim recovery, debtors and other related risks. Insurance business organizations attempt different methods to deal with the financial risk by adopting interest rate support and keeping reserves decided through financial modeling. But depending on the intrinsic reliability of the risk model, given that such monetary models may neglect to foresee the genuine outcomes with satisfactory results, the insurer should also accept the fact of scope for errors in the model.

2.2 Non-Financial Risk

Greater importance has been given to non-financial risks of late because of: (i) the developing volume of operational losses, (ii) the industry's expanding dependence on refined financial innovations with the related likelihood of failures time and again, (iii) the ever-expanding pace of volatilities in the deregulated industry sector, and (iv) the globalization concept making way for the entry of international players into the insurance arena. Notwithstanding these, the volatility factor which influences the future cash inflows of general insurance business, given that 'the estimation of an insurance company is the present estimation of its future net cash inflows balanced for the dangers it attempts' is the other element of non-financial risk related to the probabilities that the insurance business is faced with.

Studies have demonstrated that a significant wellspring of volatility is not identified with financial risks, but the manner in which the organization operates. Consequently, the operating risk may emerge either from deficient internal procedures, for example, workplace safety, employment practices and inner frauds or those arising out of internal or external events due to catastrophic events and other uncontrollable factors.

The general insurance industry faces varied financial and non-financial risks, as shown below:

Financial Risk	Non-Financial Risk
(a) Capital Risk <ul style="list-style-type: none"> • capital structure risk (b) Liability / Asset Management Risk <ul style="list-style-type: none"> • exchange rate risk • interest rate risk • investment risk (c) Insurance Risk <ul style="list-style-type: none"> • underwriting risk • catastrophic risk • reserve risk • pricing risk (d) Credit Risk <ul style="list-style-type: none"> • reinsurance risk • policy holder’s risk • broker’s risk • claims recovery risk 	(a) Enterprise <ul style="list-style-type: none"> • reputation • competitor (b) Operation <ul style="list-style-type: none"> • regulatory • business • IT obsolescence • process • regulatory • outsourcing

3. Mechanism of Risk Management in General Insurance

The mechanisms adopted for risk management by the insured in general insurance business extensively appears as enterprise risk management, though the insurer plans comprehensively expecting that the reserving and risk-based capital management would suffice.

Risk Management Mechanism

Insured	Insurer
(a) Enterprise Risk Management <ul style="list-style-type: none"> • Planning • Risk tracking and reporting • Implementation tools • Risk Management • Unexpired 	(a) Risk-based <ul style="list-style-type: none"> • Managements • Capital margins • Risk <ul style="list-style-type: none"> ○ Unearned ○ Outstanding ○ Incurred reserves ○ Catastrophe ○ Claims

Mechanisms Adopted by the Insured for Risk Management

It is of the utmost necessity for any insurance company to limit its exposure to the risk of losses emerging out of unanticipated eventualities like natural calamities - earthquake, flood, fire, burglary, etc. to ensure risk minimization, mechanisms of mitigation are to be set up and a powerful risk management drive should be launched. The system that should be installed and accessible for risk management is known as an Enterprise-Based Risk Management.

3.1 Enterprise Risk Management (ERM)

It is a way for organizing, planning, controlling and leading the activities of the organization to minimize the impact of the hazard on an organization's capital and income. The regulators and associated markets around the globe judge organizations based on their adequacy to manage risk; hence ERM is quickly turning into a standard industry practice for mitigating risks.

3.1.1 Scope of Enterprise Risk Management

Enterprise risk management assesses the eventualities of losses and breaks it down into a number of more manageable categories. Apart from the core financial risks inherent to the business, enterprise risk for an insurance company may be classified into strategic risks and operational risks as described below:

3.1.2 Strategic Risk

It is dependent on the corporate decision to reveal the aftermath effect of the risk taken. However, the development of an appropriate methodology, efficient executive leadership, timely mergers and acquisitions, and methods adopted to control financial resources are all areas of strategic risk management. The implementation of strategic-based planning is an endeavor to manage risk, however, such endeavors can be vastly improved by the ERM approach. A basic case of strategic hazard is the passage by a player into another product offering with deficient operational expertise. The inability to envision the strategic planning of competitors is itself a strategic risk. Strategic risk management may incorporate risk-based pricing, capital planning, hedging, ventures, and risk balanced execution estimation through the creation and utilization of financial reporting frameworks.

3.1.3 Operational Risk

Operations allude to all activities of an organization in their everyday business. Operational risks emerge out of the activities that may be an obstacle to carry on the organization's tasks and bring about a halt due to, for example, catastrophic events, work issues, misrepresentation caused from inside the organization and data issues. In India, there is an expanding awareness of the need to streamline operational risk as it is specifically identified with the other areas of risk.

3.1.4 Components for ERM Strategy

The components associated with ERM strategy comprise: risk tracking and its reporting, planning, implementation and the apt tools of ERM implementation. Further components are described below:

3.1.5 Planning

Regardless of the organization's strategy to employ a risk management team, either outsourcing the task of risk management, or working with the team of current employees is possible. ERM starts with the auditing and identification of a company's potential liabilities with special attention paid to the aspect of risk management. A risk management plan is then drawn up, which is to be inspected periodically and balanced by the management in the light of the changing conditions and potential areas of risk identified.

Another component of planning is to highlight an organization's risk resilience ability and communicate it to the decision makers to all in the organization. In the eventuality of perceived risk is seen to be far-fetched and not severe, it might be best to ignore it completely.

3.2 Risk Tracking and Reporting

Another key component of ERM is to track the risks over time to perceive how well they are being overseen and to manage the trends early. Contrasting them with one another is not as significant as building up a pattern that can be followed across reporting periods. The management needs to be constantly aware and consistently advise or warn the executives that if a risk can't be adequately measured or contrasted with others, it doesn't mean that it ought to be limited or barred from the ERM plan. Regardless of whether the financial impact of a risk is cumbersome to measure or not, its possibility can at present be recorded and followed up. After its relative seriousness is measured and the probability of different risks is surveyed, a mitigation plan could be created. Depending on different cases, a mitigation plan for one risk could increase the probability or seriousness of another risk, and, in such a case, the tradeoff must be analyzed cautiously.

While ERM may build an organization's reserve or liability coverage prerequisites, its goal should be to have an ideal plan to deal with adverse occasions. Time and again, an ERM system will lessen certain expenses by lessening the two-fold tallying of risks by previous risks that were undertaken by the efforts of the management. Regardless of the situation, under ERM a more extensive assortment of risks probably needs to be considered.

3.2.1 Implementation

The organization should consider the targets, scope, and tools of management of risk in order to build up an ERM structure and its execution. For an ERM-based strategy to be fruitful, it is critical to prioritize the goal as per the organizations goals and needs.

3.2.2 Tools

Some of the specific tools that are important for implementing ERM are:

i. Risk Audit Guides

These guides can be utilized as opportunities for mapping of individual risks, conducting risk appraisal workshops, and interviews in order to assess the risk. Such interviews are very successful in revealing how the business really functions.

ii. Stochastic Risk Models

Stochastic model is a thorough numerical model used to simulate the elements of a particular framework by creating cause-impact connections between all the factors of the system. This plays an indispensable role in measuring the risk components, its seriousness and further, the necessary efforts required by the risk management to counterbalance the hazard.

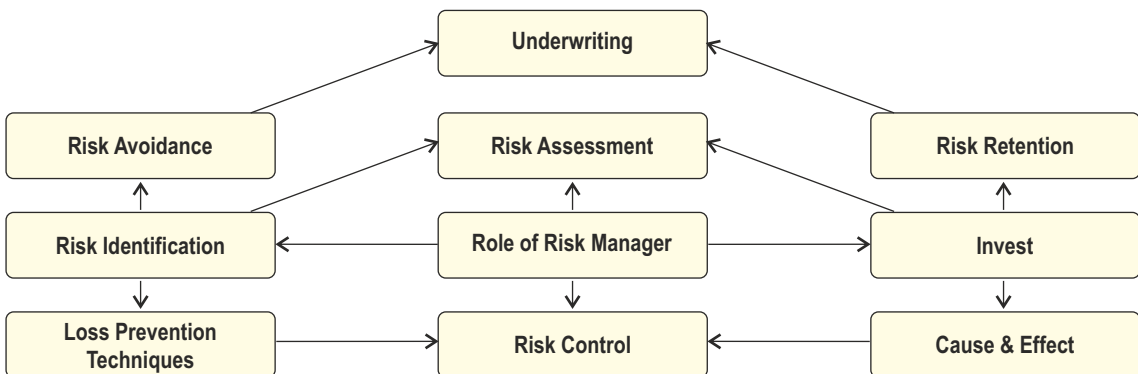
iii. Risk Monitoring Reports

These reports can be incorporated into the regular reports submitted to the directors, board members, and applicable stakeholders, i.e. the investors and regulators. These might be either increasingly formal, when the reports are made available to the official executive committee members and/or board of directors or informal when these submitted for subsequent modifications.

4. Risk Management Process

Having discussed the mechanism of risk management, it is appropriate to consider the procedures of risk management that might be implemented to make it increasingly viable. Flowchart 1 below depicts the sequential elements of risk management that could be a solution to ease the problem of implementation.

Flowchart 1: Risk Management Process



Source: Risk Management Book by Insurance Institute of India

The flowchart gives the elements that an effective risk management process, from the organization’s perspective, ought to essentially be incorporated: risk identification, avoidance of risk, risk-assessment and retention, risk mitigation utilizing adequate procedures, implementing the suggestions and periodic audit of the risk management processes.

4.1 Risk Identification

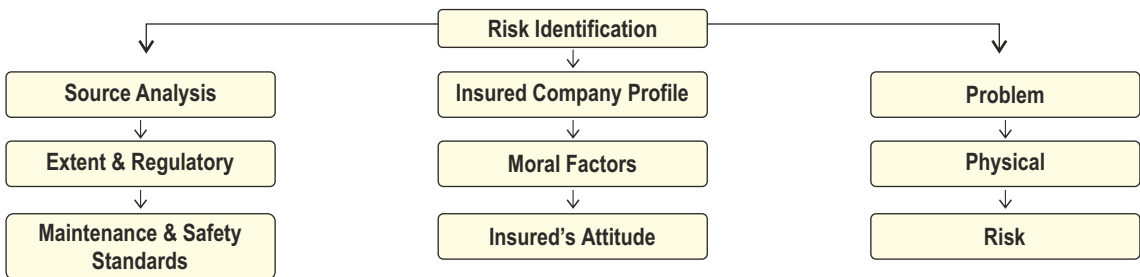
A comprehensive risk identification process includes an inside-out comprehension of the industry, the markets it serves, range of products, operations, economic and legal environment market conditions in which it operates and other physical and natural risks related to the organization's range of activities. Creating a checklist and taking appropriate actions for engaging these risks are essential aspects of the risk management process.

The identification of risk is significant in dealing with risks, which analyzes the problem as delineated in the flowchart below. When either the source of the problem or the occasion/s that may trigger it or lead to it is known, it can prompt further investigation. For instance, a major blast in a low-scale steel plant may affect the business of that unit; withdrawal of funding by stakeholders from an on-going project may jeopardize the progress of the project; a fire caused to a chemical factory because of a missing factory helper may bring about significant material damage; Heavy flooding in a low-lying area may cause the pumping station to stop supplying drinking water to a township or hamlet. It could be that the office/officer may have deferred the plans to repair the pump. Investigations may not lead to the exact cause of such mishaps. But such events are risks that the insurer and the insured have to be prepared for.

The risk identification process involves identifying the risk factors and evaluating the potential loss that might take place. The insurance company needs to pay special attention to the following two most important components as contained in the risk identification in Flowchart 2.

As the process of risk identification goes on, which involves recognizing the risk factors and assessing the potential losses that might happen, it is increasingly significant for the insurer to give considerable attention to the essential components of risk as depicted in the flowchart.

Flowchart 2: Risk Identification



Source: Risk Management Book by Insurance Institute of India

4.1.1 Maintenance Procedures

The procedure for risk identification must also consider the nature and degree of maintenance required and methodology, the regularity of maintenance required and the abilities of the experts undertaking the work. It is equally imperative to direct non-destructive testing along with standard maintenance testing. A detailed investigation by proper inquiry into the event and interview with people or even observation might be required to obtain all the aspects and indicators of hazard. Even the moral aspects of an accident should be examined.

4.1.2 Physical Factors

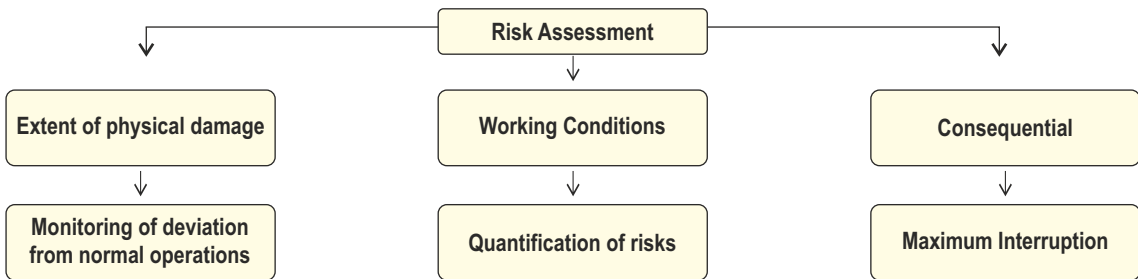
Physical factors are essentially tangible and visual indications of the absence of due care and control of the workplace. It is important to ensure that neither material damage nor injury to individuals takes place. A perfectly kept, clean and uncluttered workplace denotes pride of ownership as well as a culture of avoidance of loss, which is a critical issue at all times. Interference in business and vulnerability of an organization depends on the efficiency of the administration of the organization. Hence there is a need to undertake periodic risk and prevention studies, which will help both in recognizing them and taking proactive steps for any unforeseen incidents by utilizing the creative minds of individuals to invent the methods necessary for preventing possible malfunctioning.

4.2 Risk Assessment

When risks have been recognized, they should be evaluated as to their potential for the quantum of loss. This is called 'risk evaluation'. These evaluations can either be easy to measure on account of the estimation of the loss or difficult to know with certainty the likelihood of an event happening. The crucial problem in risk assessment is in deciding the time and the number of events that may happen. This is called the 'loss recurrence frequency'. Appropriate risk appraisal helps the insurer to apply his/her mind diligently by verifying the material data available and by the actual condition prevailing. The procedure of risk appraisal is described in Flowchart 3 below.

The appraisal elements consist of measurement of the extent of physical damage, its potential loss, and the quantification of risk in order to take into account the probable period of interruption. The risk assessment process as shown in Flowchart 3 consists of also measuring the extent of physical damage, the consequential loss and quantification of risk. After taking into account the maximum probable interruption time. Upon risks being identified and assessed, these techniques help manage the risks which are applied for avoiding and retaining of the risks.

Flowchart 3: Elements of Risk Assessment



Source: Risk Management Book by Insurance Institute of India

4.3 Risk Retention and Risk Avoidance

From the perspective of insurers, the preventive method may appear to be the response to all the potential risks; yet preventing the risks on the contrary implies foregoing the potential gain that the said risk might have brought in, like a profitable policy. Not entering into a business in order to avoid the risk of losses potentially also forfeits the possibility of earning profits.

Risk maintenance includes taking cognizance of the losses incurred. All risks that are not overcome or not possessed on are retained by default. These include the risks that are so severe or disastrous that these either cannot be insured against or the insurance premiums would be unfeasible. War situation is an accurate non-insurable example. Since properties and other concerned materials are not insured against the risk of war, the losses incurred due to war are to be borne by the sufferer.

Risk maintenance is a reasonable strategy for minute risks that can be retained and where the expense of insuring against the risk would be more noticeable over time than all the cumulative losses sustained. Genuine self-insurance is a mechanism of risk retention for the insured. For instance, a large and financially sound firm may make a self-insurance reserve for which periodical installments are created and allotted. Risk maintenance pools are in fact holding the risk for the group as a whole. In any case, spreading it over the entire organization includes a decision among individual firms from the whole establishment. This is not the same as conventional insurance mechanism, in that no premium is traded between individual firms from the group in advance; rather the losses are assessed to the units of that group.

Transfer of risk implies making another party acknowledge and accept the risk by way of contract or by hedging. Insurance is one kind of risk transfer that utilizes contracts. Transfer of risk happens when such action makes the risk gets transferred to another entity - an insurance company. At times it might include a contract arrangement that transfers the risk to another group without the payment of an installment as insurance premium. Obligation among different contractual workers is all the time transferred along these

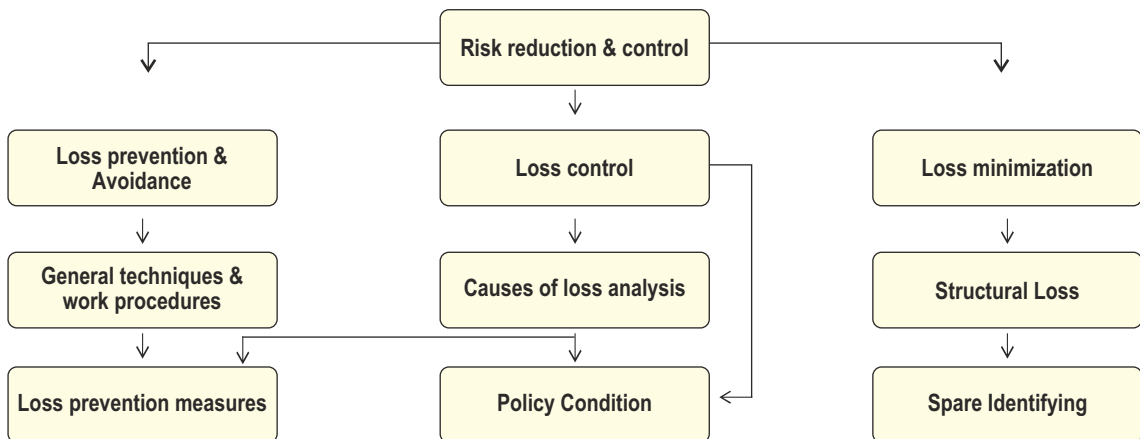
lines. An example of a different type of risk transfer could be subcontracting an unsafe activity outside the facility of the manufacturing firm/unit.

4.4 Risk Reduction and Control

Risk prevention and mitigation are important tasks of the risk management team that is involved in finding systems and mechanisms to reduce the severity and quantum of the loss. For example, the sprinkler is a system designed to put out a fire to reduce the risk of loss by fire. For risk reduction, a mitigation plan has to be prepared. The purpose of the mitigation plan is to prepare in detail how a particular risk will be handled: by what, when, by whom and also how it will be executed to avoid it or minimize consequences if it turns out to be an actual liability. Loss prevention in risk management further aims to eliminate or to reduce these losses. The process of risk reduction and control has been described in Flowchart 4.

Risk improvement and alleviation are significant tasks of the risk management team and include strategies that could lessen the actual loss. For instance, the sprinkler intended to put out a fire can effectively reduce the quantum of loss due to a fire hazard. For the reduction of risk, an effective plan is to be readied. The reason for the relief plan is to have an alternate solution to a specific risk that will be taken care of: when, by whom and by what method will it be executed and how to maintain a strategic distance from it or limit the damage in the event if it turns out to be a real liability. Loss avoidance in management of risk further intends to dispose of or to decrease these losses. The mechanism of reduction of risk and its control is shown in Flowchart 4.

Flowchart 4: Mechanism for Reduction of Risk and Control



Source: Risk Management Book by Insurance Institute of India

4.5 Risk Coordination System

Risk, being a probability, and looking from the insurer’s perspective, it is vital to map out the risk and its consequences and its probability in the coordinated risk system. Given below is the table to highlight the coordinated risk system.

Consequence	High consequences and low probability	High consequences and high probability
	Low consequences and high probability	High consequences and low probability
	Probability	

Considering the likelihood of occurrence of the risk and its consequences, the risk factor can be categorized into four basic decision making criteria: specifically, (i) high consequences and low probability zone, (ii) low consequences and high probability zone, (iii) high outcomes and high likelihood zone, and (iv) low consequences and low probability zone. Dealing with the risk in high likelihood and the high outcome is the most noticeably a dangerous and conceivable case. The total risk valuation for this situation is the highest, because there is an expanded potential of occasions with enormous consequences. Low result and high likelihood is the most widely recognized quadrant of risk management, since this is the lowest loss threshold which is normal by nature. These might be emerging out of minor repairs, substitution and cause minimum inconvenience to business. Low outcome and low probability is the goal of risk-based constant improvement.

5. Risk Management by the Insurer

The risk management mechanism as adopted by the insurer in general insurance business it falls into two categories: (a) Risk-based capital management, and (b) Reserve allotment. It might not be out of context to mention that including risk-based capital management techniques is the role of the management. Keeping solvency margins and capital, and risk-based capital in the reserve category of risk management technique includes the unearned reserve of premiums, outstanding claim reserves, unexpired risk reserves, incurred and not reported reserves, peril reserve and the claims for equalization reserve.

5.1 Risk-Based Technique of Capital Management

Though the insurance regulatory authority, i.e. the IRDAI, does not undertake the responsibility of risk management of the individual players, it gives greater emphasis to monitoring the conduct of the players in dealing with the risks to protect the interest of the customers. In the context of risk-based capital management techniques, the role of the board of directors and the top management is worth mentioning.

5.2 Role of Board of Directors

The board of directors of any general insurance company is eventually liable for the risk management policies and practices of the company. In delegating its obligation of responsibility, the board of directors tends to empower the top management team to develop and implement the risk management systems and ensure that the implemented programs are adequate, prudent and comprehensive. The board of directors ought to ensure that material risks are managed appropriately. In this endeavor, the board should:

- Study and support the reasoning of the management's philosophy, and also the risk management policies which get prescribed by the management to be implemented by the executives.
- Conduct periodic review and study the reports to ensure that compliance along with risk management policies are adequate and duly executed.
- Review carefully the substance of the reports submitted by the company's management to the board and/or its committee.
- Review with the management of the competence of the executives delegated to control the risk factors by implementing the suggested approaches.
- Review on a regular basis and evaluate whether the risk mitigation policy of the company and its management's approaches and strategies are duly adhered to.

5.3 Role of Management

The administrators of general insurance companies are responsible for creating and executing the insurance company's total business policy, controlling the significant risk management strategy and overview the overall portfolio in accordance with management philosophy. In spite of the fact that the responsibilities of the administrative obligations may vary from one insurance company to another, some of the common responsibilities of the management can be listed as follows:

- Drawing up and recommending the risk policies and strategies for endorsement by the board of directors;
- Setting up an adequate risk management strategy and ensuring its operation, implementation and monitoring;
- Ensuring that the risk management program is supervised and controlled within the parameters of the risk management policy of the management;
- Ensuring the review and execution of the reporting-system framework, and having judicious management control of the existing and potential exposure to risk;
- Ensuring that the review of the risk management program is undertaken periodically;

- Creating a communication network to guarantee that all executives associated with the risk management process are provided with the necessary data and administrative support to act upon them when the opportunity arises.

5.4 The Capital and Solvency Margin

The stand-alone capital required by the general insurance business means also the capital that is incorporated as a margin valuation with the insurer. The rationale behind holding such capital is to empower the insurance company settle the cases of claims, earn profits, and put the surplus as an investment into potential opportunities of capital growth and also to provide for different risks, if there be a need. The settlement of the claims relies upon the company's solvency margins.

The present solvency margin, as endorsed by the IRDAI, called the Required Solvency Margin (RSM), is 20 percent of the net premiums, or 30 percent of net incurred claims, whichever is higher, subject to a decrease by 0.5 to 0.9 percent for reinsurance, depending on the segment of fire insurance, marine insurance and others. This formula is similar to the arrangements as applicable under the European Union Legislation during the mid-1990s. The European Union Legislation utilized a 3-year average of net incurred claims as the count for solvency margin, but the IRDAI does not accommodate such averaging.

Other than the statutory arrangement, IRDAI requires upkeep of solvency margin at 150 percent of the level characterized in the regulation as a market trend while granting the license. The IRDAI solvency standards suggest a uniform risk profile across all organizations and do not consider the risks to which the individual companies are liable.

Solvency margins are determined by deducting the liabilities from accessible and available resources. Valuation of resources and liabilities for the finalization of solvency margin anyway is dependent upon identifying with the future market situations. The solvency margin is required to be consistently positive and ought to be at or over the endorsed level so as to ensure that liabilities are met consistently. In order to accomplish a higher dissolvability edge, measures, like charging of proper premiums, holding satisfactory reserves, contributing adequately and overseeing hazard aggregations might be attempted by the players.

5.5 Risk-Based Capital (RBC)

The concept of RBC was introduced in the worldwide market of insurance in the mid-1960s, particularly in the US. At present, the work done as a part of the RBC model, an approved and authorized capital level (ACL) is prescribed by the regulatory bodies, as observed by insurer(s). The regulator has additionally endorsed the restorative and remedial activities if there should arise an occurrence of any failure with respect to the back-up plan by the insurer in order to adhere to the stipulation based upon the level of the

ratio between ACL and insurer's actual free capital to watch the stipulation relying upon the level of the proportion between the backup plan's genuine free capital and the ACL. For instance, when the ratio of actual free capital to the ACL of the insurer dips below 70%, then the insurer is assumed to be totally controlled by the regulators; however if the ratio declines beyond 100 and 150%, then the regulators are assumed to have reviewed the performance of the insurer and issue necessary corrective orders.

The system adopted by the US regarding RBC has been challenged on the ground that the actions set down in the guidelines against various action levels are unbending; the policyholders may need to pay an extra premium to service the extra capital; some different risks have not been fused into the system; losses occurring due to the derivatives are excluded; computation of risk factors remains arbitrary; no steady conceptual system for estimation of risk charges as variables derived from past industry experience may not be appropriate for the estimation of future distribution; risk management, which is a significant part of operational risk, has been excluded from the domain of risk assessment; and the levels of solvency required to be kept up debilitates moderate reserving among the insurers. It may also be mentioned that in India an arrangement of RBC is yet to be set up albeit a discussion for the said purpose is underway. When such a model is produced for use by the Indian general insurance business, care should be taken to guarantee the ideal hazard inclusion by bearing in mind the above said impediments related to the US-RBC model. At the same time, the RBC-designed model must be tested by its components, for example, organization size, development rate, item run, land area, dependence on reinsurance and resource portfolio for the business-wide worthiness.

However, when such a model is developed for use by the Indian general insurance business, care needs to be taken to ensure optimal risk coverage by overcoming the above-cited limitations associated with the US-RBC model. While doing so, the RBC-developed model should be tested by factors such as company size, growth rate, product range, geographical region, reliance on reinsurance and asset portfolio for its industry-wide acceptability.

5.5.1 Reserving

The accurate financial state of an insurance company cannot be sufficiently gauged without adequate reserves being made for loss estimating adequacy in order to meet outstanding liabilities, if any, at any time. This estimation process requires complex specialized technical data as well as extensive experience as well. It is significant for the insurance companies to comprehend the data before undertaking the task of assessing the loss (reserve) which significantly affects the financial stability and strength of the organization. The general insurance companies keep, apart from the general reserves, various technical reserves which can be classified into the following six categories as:

- Unexpired Risk Reserve (URR)
- Unearned Premium Reserve (UPR)
- Outstanding Cases Reserve (OCR)
- Incurred But Not Reported Reserves (IBNRR)
- Catastrophe Reserve (CR) and
- Claims Adjustment Reserve (CAR)

Unexpired Risk Reserve (URR)

The unexpired risk reserve is made by insurers to deal with risks emerging out of the non-receipt of future premiums. The ratio can be obtained by multiplying the premiums with earned or unearned premiums in a year with the premiums earned around in the same year. For the unearned premiums, likewise, consider inflation and market changes involved with the different risk groups and their relative correlation with the total premium. Moreover, a judicious fluctuation margin might be added to the above to limit the effect of error(s) related to the estimation procedure.

Unearned Premium Reserve (UPR)

The unearned premium reserve is the extent of the proportion of premiums received that is related to the future time frame. It is expected that the risk would be uniform over the duration of the policy and the liability emerging out of the risk could be met by virtue of reserving on a pro-rata balance of premium subsequent to deducting initial expenses. During periods of high inflation, changes in costs and generally fluctuating claim's proportion ratio and the liability of the normal cases under the unexpired risks can vary significantly from the UPR arrangement. On the off chance that the UPR is viewed as deficient or inadequate, then an extra reserve becomes necessary. The insurer accordingly needs to make additional reserve to balance the deficits in the UPR by making an Additional Unexpired Risk Reserve (AURR).

Outstanding Claims Reserve (OCR)

The OCR is kept intact and maintained by the insurance companies to meet the extraordinary liability claims which have just been accounted for, but not settled. The regularly utilized method to gauge OCR is to acquire estimates in regard of every single outstanding claim on the accounting date, taking into consideration the accompanying factors:

- a) The reasonable time sought to complete the settlements
- b) The certainty of a claim
- c) The inflation rate on claims between date of accounting and date of settlements
- d) The trends in judicial pronouncements in the claim settlement cases.

Catastrophe Reserve (CR)

These reserves are meant to meet any exceptional or potentially uncontrollable hazardous factors affecting the insurer(s). These reserves are made out of the taxed income subsequent to considering the working capital requirement and impact of provision upon the presentation of its outcomes. In the long run, these reserves constitute the gathered catastrophe loadings in premiums without affecting the insurer's financial liability.

Incurred but Not Reported Reserves (IBNRR)

The "Incurred but not reported reserves" are the assessed liabilities for the obscure claims emerging out of occurrences that happened before the year end, but have as yet not been informed to the insurer during the accounting period. In short, this reserve for future settlement on the known claims is called 'incurred but not enough reserved (IBNER)' is included in the IBNR. In case of IBNR claims, the average cost varies from that of a currently reported claim. The insurance agencies thus build up the ratio of the average cost of IBNR claim to the average cost of reported claims, for various classes of businesses based on recorded information so as to quantify the viability of the IBNR reserves.

Claim Adjustment Reserve (CAR)

The claims which equalize are made to smoothen out the impact of year-to-year fluctuations in the event of bigger claims. An example would be the sudden and "extraordinary flooding" due to a cloudburst over Mumbai in 2005. This type of provision is made dependent on past experience of such claims and the 'likelihood density function' of the concerned risk. The claims utilized for equalizing the reserve are not made to meet an unavoidable liability.

6. Findings and Conclusion

The IRDAI underlines the consistency required in the strategy of reserve estimations wherever adequate data is available. In addition, standard formats of reporting have been formulated to examine the current year's transaction and also to develop the consolidated data for the number of claims settled and the amounts incurred. The IRDAI further stresses on gathering all relevant data for each class of business from all the insurers so that the consolidated insurance industry data could be utilized for the purpose of reserve where accessibility of information is inadequate.

Similarly, reserves are to be made for underwriting risk, reserve risk, claims' management risk, catastrophe risk, claims' recovery risk, policyholders' and brokers' risk and other debtor's risk, regulatory and compliance risk, operational risk, outsourcing risk. In the insurance industry, the risk management mechanism is of paramount importance for the insurer in all the areas of: risk tracking, reporting, planning, tools of risk management and implementation. In hindsight, for the insurers, risk management consists of the necessity of reserving, risk-based management of capital and provisioning for solvency margin.

In the general insurance industry, the risk management mechanism is deemed to be necessary. For the insured, which arise in the form of enterprise risk management covering: risk tracking, planning, implementation and risk management. However, for the insurer the risk management mechanism consists of the “reserves” and risk-based capital management, wherein the latter consists of capital, solvency margin, management role, and, the former consists of unexpired risk reserves, unearned premium reserves, outstanding claim reserves, catastrophe reserve, incurred but not reported reserves and claims equalization reserve.

This paper has attempted to track the risks that the insured and the insurer are subjected to. In India, the risk complexions and its mechanism are varied but effectively managed. Besides, both the insured and the insurer face varied types and quantum of risks that range from financial to non-financial. The financial risk covers the capital risk, asset cum liability management risk, credit risk and insurance risk, whereas the non-financial risk comprises operational risk and enterprise risk. The analogy is crucial in understanding the subset of financial and non-financial risks. Capital risk comprises capital inadequacy risk and capital structure risk, whereas, the asset cum liability management risk consists of interest rate risk, exchange risk and investment risk. In the same pattern, it is can be concluded that the insurance risk includes catastrophe risk, reserve risk, underwriting and claims management risk, whereas credit risk comprises policyholders, reinsurance risks, claims recovery risk, broker’s and other debtor’s risks.

In a narrower structure, enterprise risk includes parent risk, reputation risk, competitor’s risk, and, the operational risk includes business continuity risk, regulatory risk, IT obsolescence risk, regulatory compliance risk, outsourcing risk and process risk.

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