

Risk management indian insurance



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Keywords enterprise risk management; insurance industry; solvency-II; three pillar approach; insurance industry-value drivers; financial risk; operational risks; business risks; committee of sponsoring organizations of the treadway commission; enterprise risk management framework; capital requirement; supervisory review process; asset liability management; risk-based marketing; performance management; external rating The paper is divided into the following sections: The first talks about the types of risks that are present in the insurance business. The second talks about the individual impact of each of these risks has on the insurance firm Challenges faced by the insurance firms On liability side reliability and availability of actuarial data is a challenge. Pricing is unregulated while the contract is a long term contract. On asset side volatility in credit and interest rate markets Are there any unique risks faced by Indian insurance firms?? Therefore what are the risk minimization approaches that are adopted by Indian firms..

adopted by foreign firms...? what about the regulations in indian insurance industry.. is it lighter than regulation abroad?? What can you suggest be done in the future to ward off a crisis in the insurance sector? Risk management in Indian Insurance Sector-is it getting the importance it deserves? For an insurance company risk is more integrated in the business model than perhaps any other industry.

An insurance company is a warehouse of risk since its business model rests on the ability of the insurer to pool the risks and be able to price them adequately together various is to be paid for acquiring risk. Hence it is critical that the insurer acquires only as much risk as it can manage and makes sure that it does not get underpaid for managing that risk. While risks

can be classified in many ways, for the purpose of insurance, actuaries follow the system of classification proposed by the Society of Actuaries' Committee on Valuation and Related Problems[Black & Skipper, 1997]. The various categories of risks are dubbed C-1, C-2, C-3, and C-4, deriving these names from the Committee recommendations .

We begin by providing the industry's own definitions: C-1 risk (asset risk) is the risk that the insurer will lose asset value on its investment in such assets as stocks, bonds, mortgages and real estate. This arises from the possibility that borrowers of insurer funds may default on their obligations to the company. C-2 risk(pricing risk) is the risk that the insurer's experience with mortality or expenses will differ significantly from expectations, causing the insurer to lose money on its products. If an insurer's pricing is based on assumptions that prove inadequate, it may not be able to meet its obligations to policy owners.

C-3 risk(interest-rate risk) springs from the impact of fluctuating interest and inflation rates causing the insurer to lose money on its products. If the impact of fluctuating rates is different on assets than on liabilities, the values of assets and liabilities will change by different amounts, and could expose the insurer to insolvency. C-4 risks(general management risks), stem from the insurer's ineffective general business practices. These risks include tax and regulatory changes, poor training of employees and sales agents, and fraud by managers or other employees. Asset Risk For Indian insurers 85% of their total investable assets have to be in government or govt approved securities.

Hence the default risk of an insurer's assets is low in India 1) Credit risk is the risk that a borrower will not perform in accordance with its obligations. Credit risk may arise from either an inability or unwillingness on the part of the borrower to perform in the pre-committed contracted manner. This can affect the investor holding the bond or lender of a loan contract, as well as other investors and lenders to the creditor. Therefore, the financial condition of the borrower, as well as the current value of any underlying collateral is of considerable interest to an insurer who has invested in the bonds or participated in a direct loan. The real risk from credit is the deviation of portfolio performance from its expected value.

Accordingly, credit risk is diversifiable but difficult to eliminate, as general default rates themselves exhibit much fluctuation. This is because a portion of the default risk may, in fact, result from the systematic risk outlined above. In addition, the idiosyncratic nature of some portion of these losses remains a problem for creditors in spite of the beneficial effect of diversification on total uncertainty. This is particularly true for insurers that take on highly illiquid assets.

In such cases, the credit risk is not easily transferred and accurate estimates of loss are difficult to estimate. Risk management is done at 4 levels: 1. At the level of the national regulator who sets the solvency margins and other limits 2. at the firm level a) reporting the results to internal management and to outside statutory agencies b) disclosure to shareholders c) audits conducted by the managements d) conservative or aggressive policies e) limits are set up by the senior management/board of directors f) models are constructed and scenarios tested Is compensation being linked to risk adjusted return on

equity?? No regulation from shareholders side.. since none of the life insurers are listed.

. even the IRDA norms do not include any specific risk management guidelines that have to be met. Singapore MAS have a clearly defined guidelines handbook for insurers. IRDA still specifying on how much priority to be given to which sector and how to prepare accounts. A comparative analysis of risk management practices for each risk in india and abroad Asset Risk what measures are employed by insurers to quantify asset risk? What measures are taken to mitigate this risk by insurers ..

. by indian insurers.. Regulations In indian insurance industry vs regulations abroad? The Financial View of Risks An alternative classification as given by Investment management for Insurers by Babbel & Fabozzi The financial risks for the insurance sector can be broken into six generic types:
1) Actuarial risk 2) Systematic risk 3) Credit risk 4) Liquidity risk 5) Operational risk 6) Legal risk 2) Actuarial risk is the risk that arises from raising funds via the issuance of insurance policies and other liabilities.

It is the risk that the firm is paying too much for the funds it receives, or alternatively, the risk that the firm has received too little for the risks it has agreed to absorb. If an insurer invests its funds in efficiently traded securities, it should expect to have, on average, a zero net economic profit. If the insurer pays too much for these funds it cannot expect to earn a satisfactory profit in the long run. Another aspect of actuarial risk is that during any given time period, the underwriting losses will be in excess of those projected.

This could happen for two reasons. First, the expectations themselves may be based on an inadequate knowledge of the loss distribution. Second, the losses may exceed their expectations in the normal course of business simply because losses fluctuate around their mean. The degree to which they deviate from the mean will depend, of course, on the characteristics of the loss distribution, which depend on the nature of the risks insured.)Systematic risk/Market risk is the risk of asset and liability value changes associated with Systematic factors. As such, it can be hedged but cannot be diversified completely away.

All investors assume this type of risk whenever assets owned or claims issued can change in value as a result of broad economic factors. Systematic risk comes in many different forms. For the insurance sector, however, three are of greatest concern, viz. , variations in the general level of interest rates, basis risk, and (especially for property/casualty insurers) inflation. Because of the insurers' dependence on these systematic factors, most try to estimate the impact of these particular systematic risks on performance, attempt to hedge against them, and thus limit the sensitivity of their financial performance to variation in these undiversifiable factors. To do so, most will both track and manage each of the major systematic risks individually.

a)Interest rate risk – Here, they measure and manage the firm's vulnerability to interest rate variation, even though they cannot do so perfectly.)Basis risk – Insurers with large corporate bond, mortgage and common stock holdings closely monitor their basis risk. Here the concern is that yields on instruments of varying credit quality, liquidity, and maturity do not move

together, exposing the insurer to market value variation that is independent of liability values. In this case too, they try to manage, as well as limit, their exposure to it. c) Inflation risk – The extent that the frequency and severity of claims are influenced by inflation risk, expected losses will also be affected.

This is particularly the case where insurance policies are written on a replacement cost basis. The inflation of concern can be general inflation, affecting repair costs, medical costs etc. All three of these systematic risks will be recognized as sources of performance variation. 4) 5) Liquidity risk is the risk of a funding crisis. Such a situation would inevitably be associated with an unexpected event, such as a large claim or a write down of assets, a loss of confidence or a legal crisis. Because insurers operate in markets where they may receive clustered claims due to natural catastrophes, or massive requests for policy withdrawals and surrenders due to changing interest rates, their liabilities can be said to be somewhat liquid.

Their assets, however, are sometimes less liquid, particularly where they invest in private placements and real estate. Given this situation, it is important for an insurer to maintain sufficient liquidity to easily handle any demands for cash. Otherwise, an insurer that would be solvent without a sudden demand for cash may have to sell off illiquid assets at concessionary prices, leading to large losses, further demands for cash, and potential insolvency. 6) Operational risk is associated with the problems of accurately processing claims, and accurately processing, settling, and taking or making delivery on trades in exchange for cash. It also arises in record keeping, processing system failures and compliance with various regulations. As such,

individual operating problems are small probability events for well-run organizations but they expose a firm to outcomes that may be quite costly.

7) Legal risks are endemic in financial contracting and are separate from the legal ramifications of credit and operational risks. New statutes, court opinions and regulations can put formerly well established transactions into contention even when all parties have previously performed adequately and are fully able to perform in the future. Another type of legal risk arises from the activities of an institution's management, employees and agents. Fraud, violations of regulations or laws, and other actions can lead to catastrophic loss.

Even a situation where the insurer legally fulfills all of its contract obligations can result in massive litigation if some policy owners had different expectations or understandings about the performance of their policies than what was specified in the contracts. Insurance Risk Management Systems We individually enumerate the methods that must be applied to hedge the specific risks faced. Actuarial Risk The risk of paying too high a price to raise funds is an important risk, particularly in light of the fact that insurers raise few funds in the competitive capital market. Most of their debt is raised in the form of issuing insurance policies. Policies are written today in exchange for lump sum or periodic premiums, but the amounts and timing of the repayment of these funds are often unknown and may occur within a month or more than 20 years later. Because the pricing of the policies reflects not only expected losses but also the yields an insurer can earn on the funds between the inception of a policy and its termination or the payment of

benefits, the interest assumption used in developing insurance prices is of critical importance.

Two things complicate this process. Forward interest rates cannot be synthesized to lock in a spread, for the insurer has no way of knowing if future periodic premium payments will be forthcoming. Also, the loss distributions can undergo substantial evolution over time, as more information is revealed and as the economic life insurance prices were developed using conservative static assumptions regarding loss distributions and interest rates. environment changes.

Insurers are typically quite skilled in managing actuarial risk. Until recently, While this approach was satisfactory for much of the past century, it was ill-equipped to accommodate the interest rate volatility that began during the late 1970s. Life insurance policies are replete with options — settlement options, policy loan options, over-depositing privileges, and surrender or renewal privileges, on the part of the insured, and discretionary dividend and crediting rate options on the part of the insurer. In stable interest rate environments, policy owner utilization of these options is often predicated on individual or family circumstances. Hence, taken together, utilization rates are fairly steady and amenable to forecasting.

However, when interest rates are volatile, the options gain in value and their utilization rates can fluctuate wildly. Traditional actuarial methods, which depended upon stability, were incapable of correctly valuing these options; hence, many policies were woefully underpriced. Today the standard valuation methods that have been adopted by most of the sophisticated life

insurers explicitly value these embedded options. Thus, insurers now can estimate the cost of the various option-like provisions of all kinds of life insurance policies using sophisticated software. These software use modern stochastic valuation techniques, familiar in the pricing of fixed income and mortgage-backed securities, to estimate the values of insurance policies in a manner consistent with that used to value the assets. Needless to say, this represents a big advance in the tools with which insurers can practice risk management.

The availability of valuation software that is consistent with modern valuation principles is an important step forward, and software that is currently under development will certainly overcome the shortcomings in the present versions. The use of reports and standards for underwriting life/health and property/casualty risks is routine. Base rates can be related to a number of factors, such as age, gender, occupation, schooling, health status and history, property characteristics, nature of business, and so forth. These base rates are then adjusted to reflect experience factors (e.

g. , past claims, driving behavior). While the fair premiums will be a function of interest rates, in practice the premiums charged will not adjust to reflect current interest rates very often. This is probably because it is administratively cumbersome to alter insurance premium schedules every time the interest rates change.

Underwriting limits are commonly established. Authority is limited to a certain amount. Insurers are typically better at keeping track of sales commissions than in tracking losses to a particular sales agent or

underwriter. However, many of the leading life/health and property/casualty insurers are carefully tracking the experience of their sales and underwriting personnel.

If the experience falls outside the norm, it is common to place restrictions on further sales or more severe limitations on underwriting; alternatively, the activities of these sales agents and underwriters could be subject to greater oversight. Perhaps the area of greatest concern in the area of actuarial risk is the misalignment of incentives between owners of the insurance firm and its sales and marketing staff. Much can be done to improve it. The typical arrangement is to pay commissions for sales of new policies, with the commissions on a multi period contract heavily front-loaded, particularly for life/health products. This creates a tremendous incentive for agents to sell as much business as possible, whether it is profitable for the company or not. It also creates strong incentives to replace existing policies, whose commission rates have dwindled to the low single digit percentage range, with new policies that pay commissions ranging from 20 to 100% of first year premiums.

Sales managers and marketing personnel are also often rewarded based on volume of sales. Even senior management may sometimes have their compensation tied to sales growth. Experience has shown that rapid growth is one of the factors most commonly associated with insolvency. It is useful to remember here that what is growing most rapidly is the accumulation of liabilities, not assets. One way to foster rapid growth is to under price liabilities.

Employees and agents whose compensation is tied to sales growth are therefore strong proponents of more “competitively-priced” insurance policies. Senior management often comes from a sales background, and is sympathetic with the notion that what is good for the insurance agents is good for the company. Pricing actuaries, who are supposed to be the watchmen and gate keepers in this area, are often placed under tremendous pressure to alter their assumptions so that the company’s products can be priced more competitively. Of course, over time it will become apparent if the insurance policies are mispriced, but that is weighed against the immediate benefits of higher commission earnings and growth. The sales side has one powerful club in this battle for determining policy prices.

Sales agents often work for a number of insurers and can shift new business toward them. Worse, they can take existing business away from the firm, before it breaks even from heavy initial policy costs, and direct it elsewhere if they can demonstrate satisfactorily that policy illustrations or prices appear to be more favorable elsewhere. Many firms in the insurance industry are well aware of this misalignment of interests, yet feel thwarted by regulations about commission schedules. In the long run, of course, insurers offering non-economic policies will go bankrupt.

But the long run can take a long time to arrive; hence, the insurer who is trying to rationally price its policies faces a quandary. Does it succumb to the uneconomic pricing temporarily and hope to survive beyond the irrational players, and then restore sensible pricing, or does it choose to write every little current business and lose its distribution force? Neither choice is an attractive alternative. Systematic Risk Access to a commercially available

software package that can compute measures of effective duration and convexity for liabilities is essential for effective asset management. All liabilities are interest sensitive to some degree.

Using simple duration may produce large errors. This is because many of the duration estimates do not fully incorporate the interest rate sensitivity of cash flows for either assets or liabilities. Asset values are perceived to be affected not only by general interest rate levels, but also by basis risk, default risk, liquidity risk, call risk, prepayment risk, extension risk, sinking fund options, convertibility, real estate and equity risk. Yet, several of these risks are simply different manifestations of interest rate risk, making accurate measurement of paramount importance. The measurement of interest rate risk on the asset side of the balance sheet is generally well done, although some insurers have a long way to go.

It was common for property/casualty insurers to use interest rate futures, swaps, and options to moderate this risk to acceptable levels. Options and futures were also used to hedge equity market risks, where the insurer maintained a large position in common stocks. The hedges were put in place, and then removed, as market conditions changed and the insurers' appetites for equity risk waxed and waned. Asset/Liability Management The standard practice is to produce estimates of liability durations and convexities for each line of business, as well as for each asset class. These estimates are then weighted by the fair value of liabilities, or market value of assets, to arrive at overall asset and liability duration and convexity estimates. After factoring in leverage, the insurers are able to obtain measures of surplus duration and convexity.

The frequency for providing analysis of interest rate risk is critical. A firm may summarize their asset durations and convexities weekly, and their liabilities on a monthly or quarterly basis. In the case of interest rate futures and options, reports need to be much more frequent, owing to their tremendous impact on overall interest rate risk. It is critical to use the same measure of risk assessment for both the asset side and liability side of the balance sheet. For example, if effective duration and convexity estimates are being used for the liability side of the balance sheet, then Modified Macaulay duration measures should not be used for the asset side; instead effective measures should be used.

Limits can be set on individual asset holdings, on industry concentration, and on asset type including mortgage-backed securities and collateralized mortgage obligations, all in a risk-based capital context. Limits can be employed in two different ways. One approach is to impose a limit on the amount of duration mismatch allowed, either for particular product lines or for aggregating across all assets and liabilities. For instance, one company applies these restrictions on a product segmentation basis, allowing up to a year duration mismatch on participating whole life products, but only 1/10 of a year on GICs. Another company does not place restrictions on duration mismatches on a product by product basis, but on an aggregate portfolio basis.

Credit Risk Management Insurance firms are generally very focused on credit risk, as are rating agencies and regulatory authorities. They produce weekly and monthly reports that monitor the credit risk of their assets. They rely on outside rating agencies. The company then has a target rating to achieve in

its overall credit risk plan. One problem with this approach, which they recognize, is that default rates and volatility of default rates do not grow linearly as rating is decreased step by step. Coupled with an incentive structure that rewards portfolio managers for the investment yields they book, this system leads to a credit barbell approach, because the portfolio manager can achieve superior yields by doing so.

Liquidity Risk Liquidity is not as big a concern with many insurance firms as it is in other financial institutions for one good reason: most of their policies are less liquid than their assets. Life insurance companies issue policies that commonly feature high surrender charges. These charges are either explicitly stated, or implicit in the schedule of cash build-up. For example, a single premium deferred annuity, with annual crediting rate reset and a seven year maturity, may feature surrender charges beginning at 7-10% during the first year, and declining in steps toward zero at maturity.

Similarly, universal life and whole life products often have very low surrender values during the first year or two of a policy, and begin building up rapidly after that point. **Other Risks Considered But Not Modeled** Beyond the basic four financial risks, viz.

, actuarial, systematic, credit and liquidity, insurers have a host of other concerns. Risks like operating risk, are a natural outgrowth of their business and insurers employ standard risk avoidance techniques to mitigate them. Standard business judgment is used in this area to measure the costs and benefits of both risk reduction expenditures and system designs, as well as operational redundancy. While generally referred to as risk management,

this activity is substantially different than the management of financial risk addressed here.

Yet there are still other risks, somewhat more amorphous, but no less important. In this latter category are legal, regulatory, reputational and environmental risk. In each of these risk areas substantial time and resources are devoted to protecting the firm's franchise value from erosion. As these risks are less amenable to a priori financial measurement, they are generally not addressed in any formal, structured way.

However, they should not be ignored at the senior management level of the insurance firm. Building controls into the centralized computer system, should an agent exceed the allotted number of address changes, disbursements, lapses, or sales, the computer will not process the policy until the auditing department has had a chance to investigate further. These stop measures are not announced to either the customer or the sales agent. A compliance division can be introduced to complement the role of the internal audit group. This division will be responsible for insuring the field force and also providing training to sales agents so they will better be able to represent the company's products.

It is hoped that these measures will mitigate any class action suits in the future. Enterprise Risk ManagementThe term “ enterprise risk management” (ERM) represents a holistic approach to managing risks that an enterprise faces in the rapidly changing business environment. Although risk management techniques have been practiced by sensible business firms for years, the field of ERM has only recently gained widespread attention from

the business and academic community – and it is now emerging as a new discipline. Rating agencies now often include an ERM evaluation as part of their rating review of an insurance company. Traditionally, risk management is viewed as the management and control of downside risk.

An enterprise always sits within the big universe that consists of 1) infinitely many potential projects with associated risks and opportunities, 2) external players including customers and competitors, and 3) external financial and economic forces in the broader social and political environment. The firm's risk portfolio may significantly differ from that of the big Universe, depending on the activities the firm engages in, how the firm conducts such activities, and how it interacts with the big Universe. ERM for insurance companies must be considered with regard to a fundamental difference from other industries. The insurance product is a promise to pay (assuming someone else's risk for a fee), whereas other industries primarily manage risks that are relevant to a particular business process. Development of ERM Framework The key to successful implementation of ERM is a structured approach. The methodology given below can be used to develop a framework for adoption of ERM.

This framework once developed can further be customised at later stages to suit the needs of the organisation. The steps: 1• Set strategy and objectives; 2• Identify risks; 3• Assess risks; 4• Treat risks; 5• Control risks; and • Communicate and monitor. Risk Dynamics & Theory of ERM:- The five principles of risk dynamics that collectively form a theoretical basis of enterprise risk management. Principle #1: Risk dynamics exist as objective states of nature, of which we can gain more knowledge through experience,

insights, and modeling of internal forces within the system. A major challenge of ERM is to understand the various forces within risk dynamics, to measure and predict the strength and the direction of the forces, and to form a disciplined approach to react to them (avoid, divert, or manage the forces). Principle #2: An enterprise has multiple risk dynamics at multiple levels with multiple forces.

Firstly, there are local risk dynamics that are inherent to the business operations. Such forces include competitive forces in the local market and local culture. Secondly, at the macro-level (segment level and company level), there are bigger forces that are impacting the whole sector or whole enterprise, e. g. interest rate environment, market competition, etc.

Principle #3: Market valuations and internal valuations are among the major forces impacting the dynamics of the enterprise. The outcomes of market valuations directly impact the values of assets and liabilities of an enterprise. To better cope with the volatility of market valuations, firms need to enhance their asset liability management practices. Principle #4: Properly constructed risk metrics and valuation models can shed light on the behavior of risk dynamics, and are powerful forces and essential tools. Every effort should be made to develop risk metrics and build models at different levels to utilize different information.

The purposes of risk valuation models are i) to assess the firm's risk profile, capital needs, and i) to help direct efficient allocation of resources. Principle #5: Actions taken by key participants within risk dynamics can exert great influence on the behaviors of these risk dynamics. A deeper understanding of

the risk dynamics requires us to examine closely the psychological and behavioral characteristics of various players, as well as their interactions with each other and with the various forces of the risk dynamics. ERM as the Brain and Nerve System for an Enterprise:- Management Information: It is essential to a firm's survival that management pick out vital signals so as to be responsive to the external environment. In addition to data on risk exposures and positions, general information is extremely valuable.

Among infinitely many risks and opportunities, ERM should facilitate the identification and prioritization of dominant risks that pose a threat to the firm. Feedback Loop: The ERM system should enable a prompt feedback loop from business managers, and should put into place a mechanism for responding with corrective actions. Although there are totally unexpected events, many risks come into play after early warning signals. Corporations often ignore these signals because they lack mechanisms for heeding them. Coordination & Harmony: Risk integration is not just mechanically lumping together various body parts (business units), but is about coordinated functions of all major body parts (business units) working toward the overriding goals of the firm. ERM Organization:- Regardless of the size and complexity of the enterprise, the management element of ERM ultimately boils down to actions by individual players in various roles.

It is a necessary first step to establish clear roles and responsibilities for the key players – namely the board, senior management, risk owners and internal auditors. The firm should identify a risk champion, an individual designated to lead the ERM effort and to drive it through the organization. Such risk champion often carries the title of Chief Risk Officer. The risk

champion needs to play a role as advocate and internal consultant.

Development of Risk Valuation Models:- Risk Assessment: This is the enterprise's sensitivity to the risk factor.

This requires knowledge of the enterprise's total risk exposure accumulation and how it is affected by identified risk factors. We can also build risk valuation models for various risk types: market risk, credit risk, interest rate risk, competition risk, loss development risk, etc. Below are some principles for developing and applying risk valuation models in a company's enterprise risk management: 1. Integrated Valuation. 2.

Forward-Looking. 3. Model Robustness & Benchmarking 4. Understanding 5. Commitment 6.

Monitoring of Behaviors System of Risk Dynamics for Insurers:- Players: External Players: 1. Rating agencies and regulators 2. Stock analysts 3. Competitive market pressure Internal Players: 1.

Board of Directors and senior management 2. Actuaries 3. Claims Department 4. Investment Department Forces: The above players in conjunction with external shocks (natural, such as earthquakes, wind storms, global warming; societal, such as claim inflation and legal environment) form different forces that impact the system. External Forces: 1. Actions by competitors cause downward pricing pressure and coverage expansion.

2. Uncertainty of future costs 3. Rating agencies and regulatory rules and requirements, accounting rules impact how insurers run their business. 4.

Fluctuations in asset value due to market risk and credit risk events 5.

Interest rates, Exchange rates. Internal Forces: 1. Shareholders expectations, marketing and underwriting staffs.

2. Strong incentives on top-line revenue (premium) growth can create a bias toward under pricing. 3. Inherent uncertainty due to delayed claim reporting. 4. Inherent uncertainty associated with the risk selection process, pricing model, claims handling practice, reserving practice, and investment practices.

Diversification: A benefit or a penalty? Potential benefits of diversification include: 1. Scale of economy 2. Cross selling 3. Large internal capital market 4. Reduction of volatility Potential costs of diversification include: 1.

Exacerbate agency costs.

2. Leads to inefficient cross-subsidization of poorly performing business. 3. Diversification may hinder the acquiring of “ extensive business expertise”.

Companies need to put in place integrated internal business process.

Companies need to incorporate the tracking of pricing data in the loss reserving process, and to use the reserving process as a feedback

mechanism. Companies also need to link the loss reserve process with the claim department (changes in the case reserving method, speed of the

settlement, and paying defense attorneys). Developments in Regulations for

Insurance Industry in other markets: The Three Pillar Approach – Solvency II

Solvency II is the proposed new EU legislation which will govern the capital requirements of insurance companies. These requirements should help supervisors protect policyholder’s interests more effectively by making

prudential failure less likely – reducing the probability of consumer loss or market disruption. It is built on a risk-based approach which aims to align capital requirements more closely with actual risks.

The framework also provides incentives for insurance companies to disclose their entire risk profile to both supervisors and the market. This will encourage insurance companies to develop their risk management function proactively. The Need To protect the policyholders To improve the institutions risk management To establish a solvency capital requirement that is better matched to the risks of an insurance company To be consistent with the emerging international developments The Framework The Solvency II framework mirrors the concept of its Basel II forerunner. Pillar I deals with the quantitative determination of capital requirements, and Pillar II with the supervisory review process. Pillar III tackles disclosure, sets requirements with respect to market transparency and completes the framework. Pillar I contains four items of note: First, it stipulates how technical provisions should be calculated.

The CEIOPS advice—and thus potentially the framework—advocates a policy-by-policy valuation (rather than a portfolio approach) and a calculation of the risk margin per business line. Second, the pillar stipulates Minimum Capital Requirements (MCR), which CEIOPS explains as follows: “ The MCR reflects a level of capital below which an insurance undertaking’s operations present an unacceptable risk to policyholders. If an undertaking’s available capital falls below the MCR, ultimate supervisory action should be triggered”. Third, Pillar I contains Solvency Capital Requirements (SCR), and states that the SCR level of capital should be enough to allow an insurer to absorb

unforeseen losses and should assure the desired level of policyholder protection. Insurers have the option of calculating the SCR, which must take into account all material and quantifiable risks, using a standard formula or using (partly or wholly) an internal model. Fourth, Pillar I deals with investment management rules.

The call for advice focuses on asset eligibility and high level requirements for Asset and Liability Management (ALM), investment and concentration limits, and the balance between these items and financial resources calculated under the technical provisions, SCR and MCR. Pillar II pertains to corporate governance, ALM and investment management rules and the supervisory review process (SRP). Corporate governance in the Solvency II framework focuses on risk management processes and the internal control function. The involvement of the board of directors and that of senior management are frequently stated requirements.

Other requirements relate to ‘fit and proper’ personnel, risk strategies, risk reporting, and responsibilities, independence of functions, and risk management policies and procedures. An important feature of Pillar II is the power of the supervisor to require additional capital, resulting in a so-called adjusted SCR, and to take measures to reduce risks. Pillar III completes the framework with a set of disclosure requirements. Solvency II establishes rules for supervisory and public disclosure.

The Impact The Solvency II model will require insurance groups to allocate capital based on insurance, financial and operational risks. It is therefore likely that levels of solvency capital will vary between insurance companies

with different risk profiles. This disparity will create strategic opportunities. We strongly believe insurance companies will be presented with four avenues through which they can gain a competitive edge as a result of Solvency II.

Competitive Advantage in Capital Requirements: Specific types of insurance companies will benefit from lower capital requirements than their competitors, due to differing company profiles. Large insurers are expected to benefit from risk diversification, both geographically and across portfolios. Niche” players will have relatively simple and low-risk portfolios that will have relatively lower capital requirements. **Risk-Based Marketing:** Until now, insurance companies have defined the price of new products based almost solely on technical insurance indicators. When Solvency II takes effect, the product price must also take account of financial and operational risk indicators.

Insurance companies should also be able to garner superior portfolio insights from the historical data and risk modelling required for Solvency II. By leveraging risk insights in commercial activities, insurers can develop a risk based marketing approach, characterised by risk-based pricing, targeted portfolios, more relevant product development, improved cross-selling, and the buying and selling of portfolios based on the underlying risk profile.

Performance Management: New profitability indicators required to manage risk will also offer a competitive advantage to some insurance companies. The valuation of profitability will no longer be based on absolute returns on equity ratios. Rather, profitability will be based on returns on equity adjusted for risk capital consumption.

The RORAC (return on risk-adjusted capital) ratio, which will replace EVA (economic value added), is considered to be a better indicator of the risk capital allocation. Pioneers of Solvency II's risk-based principles will gain a competitive advantage by proactively and promptly identifying and pursuing profitable lines of business and abandoning less profitable ones. External Rating: Pillar III includes requirements not only on supervisory disclosure, but on market disclosure. Insurance companies will be required to report on risks and the management of risk in their annual reports.

For investors and rating agencies, such information is useful in determining creditworthiness. In the future, then, the share prices and credit ratings of insurance companies will be more dependent on risk profile than ever before—and it will be in the best interest of insurance companies to demonstrate sound risk management. REFERENCES 1. Black K. Jr. and H.

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