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2016
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Perceptions of the Solvency Assessment Management (SAM) framework by the South African short-term insurance industry

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Business Administration

Johannesburg, 2015

ABSTRACT

The SAM (Solvency Assessment and Management) framework to be implemented in South Africa in 2016 is a new risk-based approach to capital adequacy, risk governance and disclosure. The regulations replacing the current Financial Condition Reporting (FCR) initiative pose significant challenges to the insurance industry.

The purpose of this study is to evaluate the perceptions of the Solvency Assessment and Management (SAM) regulatory framework impact on the capital structures and risk management measures in the South African short-term insurance industry. The study further explores the preparedness of insurers to meet the implementation date of 2016 and the consequent costs and challenges of the SAM implementation.

A qualitative methodology was utilised for this study, with in-depth interviews and content analysis used to collect and analyse data.

The study indicated similarities between the experiences of the SAM implementation and its counterpart in Europe, Solvency II, including increased capital requirements for insurers and improvement in risk management structures. The industry has also faced increased costs to meet the requirements of implementation and improving risk management, audit and actuarial functions.

It is therefore imperative for the industry, and more importantly senior executives, to realise the new responsibilities on management of risk, governance and strategic decision-making. This study provides guidance to stakeholders so they can have a clearer perspective on the implications of the regulations and can prepare accordingly.

DECLARATION

I, **Peter Nelson Mbugua**, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

PETER NELSON MBUGUA

Signed at ……

On the …….. day of …… 2015

DEDICATION

This is dedicated to my family; nothing can describe what you bring into my life, giving it meaning and purpose.

ACKNOWLEDGEMENTS

Douglas Taylor

Your important guidance, patience and humility that enabled me get through this seemingly insurmountable task.

Catherine (Wife) and daughters, Neema and Ariana

For your love, patience, support and encouragement, and understanding that the time spent away from you working on this project was a common purpose of a better future for the family; love you all.

Aon Benfield Management and Staff

To the management of Aon Benfield (my CEO, Simon Chikumbu, and Manager, Victor Mushaya) for the financial support and patience, without which this may not have been attainable.

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The purpose of this study is to evaluate the impact of the introduction of the SAM (Solvency Assessment and Management) framework on solvency and risk management on the South African short-term insurance industry. The study assesses the likely impact on capitalisation and other compliance requirements on risk management and disclosure of sample companies taken from a cross section of the industry.

1.2 Context of the study

The SAM framework is a new risk-based approach to the insurance industry being implemented in South Africa focusing on company's adequacy of capital, risk governance/management and disclosure (FSB 2010; Oxford Business Group 2012). The regulations, which are due to be implemented by 2016, pose some of the most significant challenges in South African insurance history. The framework has been adapted from the renowned Solvency II being developed in Europe, which has been causing ripples in the insurance/reinsurance fraternity across the globe (FSB 2011b; National Treasury 2011). The SAM framework replaces the previous Financial Condition Reporting (FCR) initiative, and seeks to align the insurance industry's regulations with international standards (FSB 2011b). The European chapter is however, conveniently a few steps ahead of the South African chapter; effectively South Africa has borrowed immensely from the Solvency II framework. Solvency II is the equivalent of Basel II in the banking sector (Eling, Schmeiser and Schmit 2007).

The SAM framework has also been a focus of the National Treasury, as denoted by the department published a policy document entitled "*A safer financial sector to serve South Africa better*". In response to the recent global financial crisis lessons and the challenges faced by South Africa's domestic financial sector, the report proposed to strengthen the sector regulations (FSB 2011c; National Treasury 2011).

The European Commission described the absence of a healthy risk management culture within financial institutions, which manifests itself in a lack of oversight, inappropriate incentives and excessive risk taking, and these were well highlighted during the financial crisis that began in 2007 (Thews, Farthing, Zou, Dutton and Lundblad 2011; Eling and Pankoke 2012). In the aftermath insurance regulators worldwide found more justification for risk-based regulatory mechanisms, despite the insurance industry escaping unscathed to a large extent compared to the banking sector (Eling et al. 2007), and South Africa is no exception.

The Financial Services Board (FSB) regulates the South African insurance industry and various solvency benchmarks are currently operational. In 2005, the FSB found the

need to review these benchmarks; Deloitte and Insight ABC were appointed to calibrate the then proposed Financial Condition Reporting (FCR) framework; however, the SAM solvency regulation supersedes the previous initiatives under the FCR (The Financial Services Authority 2008).

The following critical failures of the previous solvency regime were highlighted by the Deloitte and Insight ABC (2006) report:

- Inadequate, as did not take into account the real risks faced by companies (i.e. the risk profile of a company – size of the insurer, the classes of business written, combination of classes written, credit risk, market risks etc.); and
- Required a level of capital, which is prudent for some companies but not prudent for others.

The current system of solvency calculation is simple to administer; it is factor-based and as the asic measure of minimum capital is applied across the board at 25% of Net Premium Written (minimum R10m). The International Association of Insurance Supervisors (IAIS) and the European Union's Solvency II risk-based regime is the basis on which SAM is being developed (FSB 2011b, 2011a). Under the framework, insurers are required to determine their Solvency Capital Requirement (SCR) by use of a standard formula, an internally developed model or a combination of the two (European Commission/KPMG 2002; FSB 2011a).

The SAM framework will regulate companies in relation to the intrinsic risks in the business. For this reason, companies will be required to define their own risk profile, exhibit that sufficient capital resources, suitable governance, risk management structures, and processes are in place. This will require organisations to establish risk management systems and controls, including integrated risk based capital models, all of which should be supported by efficient processes to result in a comprehensive and timely enterprise risk management framework (EMB 2011).

As Abraham, Cornall and Madinier (2007 p.13) and KPMG (2011a p.16) noted, "a more formal approach to governance, organisation and decision-making that necessitates insurers to demonstrate that risk awareness has been entrenched into the fabric of their business, will be a prerequisite under Solvency II/SAM". They further noted that, risk management, internal control, audit and actuarial functions will have to be in place, if they are not already. In consequence more complex and extensive analysis, along with a systematic approach to risk management would be required, and this is expected to increase demand for resources in actuarial and risk management.

The Deloitte and Insight ABC (2009) report found that the proposed formulae adopted by the FSB resulted in a reduction in the capital adequacy requirement, which will have varied implications on the industry. The basic challenge for most firms, as was the experience in Europe, will be to understand the requirements and the costs of implementation to ensure compliance. However, the knowledge, financial size, and

complexity of firms in South Africa is quite different, hence a specific evaluation in South African context would be invaluable to stakeholders.

The process of developing and adapting this new solvency framework is still in progress as per The Financial Services Authority (2008) report and while the full requirements of SAM are yet to be implemented, it is important for the industry to understand the consequences and prepare appropriately.

1.3 Problem statement

1.3.1 *Main problem*

Evaluate the insurance market perceptions, in determination of solvency, usage of risk based capital models, risk management measures and the cost implications, on the implementation of SAM, in the South African short-term insurance industry.

1.3.2 *Sub-problem 1*

Evaluate the insurance market perceptions on solvency determination and capital structures, on the implementation of SAM, in the South African short-term insurance industry

1.3.3 *Sub-problem 2*

Evaluate the market capabilities and challenges in developing, implementing and using integrated risk based capital models on the implementation of SAM, in the South African short-term insurance industry.

1.3.4 *Sub-problem 3*

Evaluate the implications of the risk management procedures, reporting and disclosure on the implementation of SAM, in the South African short-term insurance industry.

1.3.5 *Sub-problem 4*

Evaluate preparedness of the South African short-term insurance industry and the cost implications thereof.

1.4 Significance of the study

The study aimed to provide information to the industry and its stakeholders on the implications for the South African insurance industry capital structures and risk

management measures. The study was independent and based on a sample of companies in the industry and not stakeholders such as the FSB, who were not likely to be prejudiced from a regulators' perspective, or the actuarial community (interested in providing actuarial services to the industry).

The SAM regulations "will impose new responsibilities of senior executives on risk management, governance, and strategic decision-making" (EMB 2011 p.4). This study provides guidance to management and the shareholders of insurance companies so they have a clearer perspective as to what the new regulations really imply, and therefore provide for resources and/or prepare other alternatives where the companies are not able to comply.

As Munch and Smallwood (1981) asked, "under what conditions are the interests of owners sufficient to provide policyholders with an adequate level of protection?" From a regulatory and business sustainability framework, shareholders need to adhere to certain minimum requirements with regard to capital reserves that ensure that policyholders are adequately protected on the day-to-day operations of the insurance company, but more importantly in a catastrophic eventuality.

McGuire (2006 p.1) in his study on Global geophysical events noted "Catastrophic events such as the recent Japan and Australia earthquakes have demonstrated that any single geophysical hazard is capable of having consequences far beyond the range of immediate physical effects". These events and accompanying general financial turmoil, affecting both the debt and equity markets, reinforced the need for revised regimes on solvency regulation (Eling et al. 2007).

1.5 Delimitations of the study

The study was primarily limited to short-term insurance companies with headquarters in Johannesburg. This excluded the long-term insurance companies, which are also affected by the SAM regulations.

The study was also limited to an assessment of perceptions to the regulation's implementation and did not delve into the quantitative and/or validity of the formulae in the solvency assessment.

1.6 Definition of terms

See Appendix A.

1.7 Assumptions

The report made the following assumptions regarding this area of study:

1. The respondents interviewed had reasonable knowledge of the regulatory framework and the implementation of the SAM regime as required by the FSB.

2. The sample of companies selected was representative of the whole industry in relation to business volume, capitalisation, geographical representation and risk profile.

3. The respondents, especially private companies, provided sufficient information on capital and risk management to enable an adequate assessment of the impact due to the implementation of SAM.

4. Honest responses with respect to the expected consequences on the likely costs escalation associated with the SAM implementation.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This section contains an overview of the SAM requirements and a literature review on the documented impact of the introduction of Solvency II in the European Union (EU), as well as the current experience with the ongoing implementation of the SAM regime in South Africa. Solvency II is a regional framework with global implications; while South Africa has followed the European Union in introducing a new and modernised solvency framework, there is; however, minimal academic research to be found which establishes the potential implications on the industry. The bulk of the analysis thus far has been on the framework description and the impact on the components of the various pillars; however, the impact and probable responsive strategies on areas affected are yet to be adequately documented by academics.

The challenge is assessing the impact on the industry and the economy as whole was recognised the European Union and an Economic Impact study conducted in 2007; however, the final framework is yet to be finalised for actual impact determined. This report will therefore provide useful insights for the South African insurance industry into the SAM implementation, while paving the way for future research.

2.1.1 *Solvency II Background*

Solvency II is due to be implemented in 2016, and extensive consultations with all stakeholders to fine-tune the framework for final implementation are still ongoing. Comprehensive draft legislation opinion reports are submitted to committee the prior to implementation in a process referred to as the Lamfalussy comitology (or “committee”). These opinion reports are prepared in a comprehensive process conducted in two phases through consultations with all stakeholders (Eling et al. 2007).

Phase 1 – Work groups from the CEIOPS conduct public forums and proposals for future solvency guidelines are collected and reviewed. These are thereafter collated into a directive under the Solvency II framework (Eling et al. 2007).

Phase 2 – The directives are then implemented with further agreed changes or reviews. The end of phase two will provide the final directive to be implemented into the laws of the respective EU countries (Eling et al. 2007).

South Africa has adopted the same process and is currently in the first phase. This exercise aims to assist in the development of the proposed SAM regime, including the calibration of parameters for the standard formula to calculate the solvency capital requirement. Alternative methods are also being tested to inform the decision-making process (FSB 2011b). South Africa has a target January 2016 for implementation, with a partial parallel run conducted in 2014 and a full year parallel run in 2015 (FSB 2013).

2.1.2 *The role of insurance defined*

The European Commission/KPMG (2002 p.7) report noted that “insurance, banking and investment management accounts for a substantial proportion of the financial transactions effected globally. Investment of funds provided by individuals, account for many of these transactions and hence the failure of such companies in any of these sectors can have direct financial impact on the investors”. While most financial services to a large extent have a tangible element in the product being purchased, for insurance, the policyholder pays a premium to an insurance company (which is a contribution to larger pool/fund) against a promise to indemnify the insured in case of a financial loss (Ohlsson and Johansson 2010).

An insurance company acts as a contractual intermediary, issuing liabilities (otherwise known as technical reserves) binding to pay any imminent claims to the insured (Athearn 1962; Colombini and Ceccarelli 2004). The insurance industry therefore provides a critical form of risk management to firms for accidents, natural catastrophes, and human error etc., thereby acting as a platform for economic growth through investor confidence and comfort in the eventuality of certain loss events. Insurance operates by spreading risks through “aggregating uncorrelated and individual risks following the law of large numbers” (Lorent 2008 p.2) enabling policyholders to hedge against the risk of a contingent, uncertain loss event.

The primary economic theory of insurance is uncertainty; individuals are exposed to the likelihood of financial disaster because of uncertain natural and man-made loss events. The probability of financial ruin can be reduced by reassigning the risk of economic loss from the individual to an insurance company, which is equipped to pay for the financial losses as its risks are spread over a large number of individuals or “risk pool”. The larger the “risk pool”, the lesser the probability of ruin and the insurance company's ability to sustain losses (Harrington, Niehaus and Harrington 2003; Doff 2008). An insurance company can therefore maintain solvency the ability to pay claims and operational costs by forecasting the claims, which would normally be offset by the earned premiums and investment returns when losses exceed the premium fund (Athearn 1962; Colombini and Ceccarelli 2004).

2.1.3 *Solvency adequacy*

The premiums payable by policyholders are determined through actuarial analysis to cover for the probable losses and provide for management expenses and profit for the insurance company (Ohlsson and Johansson 2010). This pool of premiums is managed by maintaining an adequate solvency level that is determined by the regulatory authorities to ensure their sustainability and protect policyholders against the company’s collapse. “Insurance is a risk business, thus risk management is a core process. An important part of risk management involves an internal assessment of financial resources and ensuring the undertaking has enough capital to mitigate the risk of financial difficulties and insolvency” (p.5). “The overall financial position is; however, not

just dependent on minimum capital, but is also dependent on the quality of its management, organisational structure, systems and controls and the risk management infrastructure" (p.1).These form the foundation of a prudential supervisory framework (European Commission/KPMG 2002).

2.1.4 *Role of regulators*

The efforts to protect the consumer and the wider economic effects of a company's insolvency, puts South Africa at the forefront of insurance solvency regulation. Following the ABI (Association of British Insurers) objective, the FSB aims "to promote a single group supervisor and a 'principles-based regime that provides a secure framework for policyholder protection while giving insurers the freedom to manage their own business as they see fit'" (Abraham et al. 2007; O'Donovan 2014 p.21).

Solvency regulations aim to ensure that insurance companies operate within minimum capital requirements (MCR) and are able meet their claims obligations, thereby reducing losses to insureds in the event that a firm is incapable of meeting its financial obligations (Doff 2008). This is done through ensuring that a firm has enough resources against the likely liability of claims from policyholders.

Eling et al. (2007 p.74) notes, "economic theory generally suggests that when market distortions exist, regulation of any industry may be appropriate. That is, when excess power and/or information asymmetries prevent markets from clearing appropriately". He further contends that "the public needs government protection as "insurance is vested in the public interest" irrespective of markets being competitive. Further supporting this argument is the notion that consumers depend on insurance to the extent that insurer insolvency is unacceptable (Eling et al. 2007).

Eling et al. (2007) further notes, the (insurance) market is generally imperfect as suggested by public interest theory and the role of regulation is to address these imperfections which generally come from agency problems, cost and lack of information access. Under this theory, the need for solvency regulation is based on the classic agency problem of differing motivations between firm's shareholder and debt holders.

The owners could in certain conditions subject the firm's debt holders (insureds) to extreme risk-taking thusjustifying the need for solvency regulations. While access to information can improve on the agency problem, it is expensive, particularly on product quality, willingness and capability to settle claims. An insurer could change its financial strength after a policyholder has settled premiums but before the insurance period ends (Munch and Smallwood 1981; Eling et al. 2007), this invalidates the "promise" against the risk of financial loss to policy holders and the whole concept of "spreading risk".

Experience shows that market regulation is necessary as agency and information transmission challenges will always exist. However, the question as raised by Klein, Phillips and Shiu (2002) is the extent to which regulation is necessary. While regulations

improve market efficiency, they may also yield distortions that ultimately harm the consumer through shrinking supply of insurance services and/or raising product prices.

Harrington (2004 p.10) recommended the following three aspects to be considered on the need for solvency regulation;

1. The risk sensitivity of demand,
2. The value of intangible assets and bankruptcy costs, and
3. Other indications of insolvency for example rapidly rising premiums and/or inadequate pricing.

In general, the insurance industry is considered to exhibit reasonable market discipline, thus Harrington (2004) concluded that "the benefits of a stringent risk-based capital requirements, which will have limited accuracy under the best of circumstances, will be small" (p.18). He further argued that "capital requirements should be kept relatively simple as evidence from the United States suggests that regulations that are more complex are not necessarily better" (Cummins, Harrington and Klein 1995; Cummins and Nini 2002; Pottier and Sommer 2002; Eling et al. 2007).

Solvency regulations in which insurers hold more capital reserves than is efficient for their risk level, can result to unreasonably high prices (Cummins and Nini 2002; Eling et al. 2007). Thus poorly designed regulations could result in excessive risk if buyers are given a perceived sense of security and hence efficient market discipline is not enforced (Eling et al. 2007).

2.2 The SAM framework

In the previous sections, the report explored the literature around solvency adequacy and the role of regulation in the insurance industry, which fundamentally justifies the implementation of the SAM framework by the FSB. It then assessed the components of the framework in order to explore the experiences of the European Community (EC) in their implementation of Solvency II. The challenges the EC has, and continues to face, will give a perspective into what will be expected in the South African context, considering the similarities of the two frameworks.

On 22 April, 2009 the European parliament announced the adoption of the Solvency II framework for its members (European Commission 2011b). Subsequently, in December the same year, the FSB issued a directive advising the industry of its decision to adopt Solvency II to the South African insurance industry, labelled the SAM project. The primary objective was to promote the soundness of insurance companies, through effective application of international regulatory and supervisory standards. While representing international regulatory best practice, the framework will align the South African "prudential framework regulatory framework for the insurance sector to the international standards being developed by IAIS" (FSB 2010).

Further, the SAM project was meant to develop a framework which would meet the requirements of a third country equivalence assessment under Solvency II, with some adjustment to reflect the South African environment (FSB 2011b). By attaining a third country equivalence, South African-based insurers would be able to conduct business in the European Union (EU) and other similar territories, as the quality of their domicile supervision would be acceptable (FSB 2010).

The SAM regime shares the same broad features as Solvency II "it is a principles-based regulation based on an economic balance sheet, and utilises the same three-pillar structure" (FSB 2010 p.4), with the broad features of capital adequacy, risk management and governance, and risk disclosure as the underlying principles. The FSB further highlighted that safeguard of policyholders and other benefactors, is the principal purpose of the regulations, with other objectives being:

- alignment of capital with the underlying risks of an insurer;
- developing a proportionate, risk-based approach to supervision with suitable assessment for small insurers and large, cross border groups;
- to provide incentives to insurers to adopt more sophisticated tools in risk surveillance and management - this comprises development of full or partial internal capital models plus improved use of tools in risk mitigation and transfer; and
- maintaining financial strength and stability in the industry.

This aligns with the Solvency II objectives, which are to protect policyholders, establish capital requirements aligned to the insurer's risks, avoid excessive capitalisation, while maintaining simplicity, and embodies market developments (European Commission 2007; Cummins and Phillips 2009 p.21).

Post-implementation of Solvency II, the European Commission commissioned KPMG to conduct studies on the different aspects pertaining to an insurance company's overall solvency (European Commission/KPMG 2002). The EU Insurance Supervisors Conference was also asked to make recommendations for the review, which came up with a report which has come to be known as the Sharma Report (Sharma 2002). The study results provided a good perspective on the various risks faced by insurance companies at various levels, and how these risks manifest in different areas of an insurance operation.

The report highlighted 3 broad categories of risks that an insurance firm is exposed to at different levels European Commission/KPMG (2002):

1. Entity level risks – risks and exposures within the firm that the firm has influence and control;
2. Industry level risks (systematic risks) - external factors that affect the industry as a whole and these drive systemic risk. The insurance company cannot influence, but may be in a position to control these risks;

3. Economy level risks (systemic risks) - risks related to local/global economic or social factors, which, as with industry level risks the company is incapable to control the events but are able to control the associated risks (European Commission/KPMG 2002). The recent 2008 financial crisis demonstrated the extent to which the global economy is interlinked. Hence, the possible impact of failure through linkages in other industry segments, particularly when it comes to the broad and intense integration of markets, trade and finance (Goldin and Vogel 2010; Kenc and Dibooglu 2010; Eling and Pankoke 2012).

The report also assessed insurance company failures and the causes thereof, and concluded that "weak firms virtually never recover without some capital infusion" (Eling et al. 2007 p.71). The study identified under-pricing and mispricing as the primary cause of insolvency in insurance companies; however, asset risks were considered secondary.

Various other studies on insurance insolvency have been conducted globally and the results are represented in Figure 2-1 (Redman and Scudellari 1992; Kim, Anderson, Amburgey and Hickman 1995; Ryan, Archer-Lock, Czernuszewicz, Gillott, Hinton, Ibeson et al. 2001; European Commission/KPMG 2002).



Figure 2-1 : Causes of insolvency

From these studies, the following four broad categories requiring the control and monitoring of pertinent risk categories were therefore identified for consideration (European Commission 2004; International Actuarial Association 2004; Eling et al. 2007):

1. Underwriting risks – premium calculations, loss ratios, technical provisions and reinsurance;
2. Credit risks – debtor default, reinsurance recoveries, and investments;
3. Market risks – volatility of market prices, such as stocks, bonds and exchange rates; and
4. Operational risks – resulting from deficient or failed internal processes, people, systems, and/or from external events.

The above categories defined the broad framework in line with which a three-pillar structure for insurance solvency regulation was proposed by the KMPG in 2002 report. The three pillar approach mirrors Basel II, the banking regulatory framework, (Basel Committee on Banking Supervision 2006). This was an indication of convergence of the insurance and banking regulatory systems (European Commission 2002a; Eling et al. 2007). The significant difference between the two is highlighted by Eling et al. (2007), while Solvency II focuses on a holistic management of risks, Basel II focuses on independent managing of individual risks. This enhances the great emphasis on the risk management process and explicitly allows for correlations among the risks faced by the firm. Solvency II is also designed to implement both quantitative and qualitative evaluations of insurer solvency (Cummins and Phillips 2009).

2.3 The SAM Structure

The three pillars under the SAM framework are as follows:

Pillar I - focuses on capital (quantitative) requirements, these consist of market-consistent valuation of the balance sheet items, this includes technical liabilities and assets (thus a market-consistent valuation of equity capital). Hence, setting of capital requirements is based on either a regulator prescribed standard model or an approved internally developed model.

Pillar II - focuses on qualitative requirements (supervisory review) and standards, as well as corporate governance, internal risk controls and management, and supervisory processes.

Pillar III - focuses on market discipline through supervisory reporting and public disclosure (Doff 2008; The Financial Services Authority 2008; Cummins and Phillips 2009; Christiansen, Denuit and Lazar 2012).

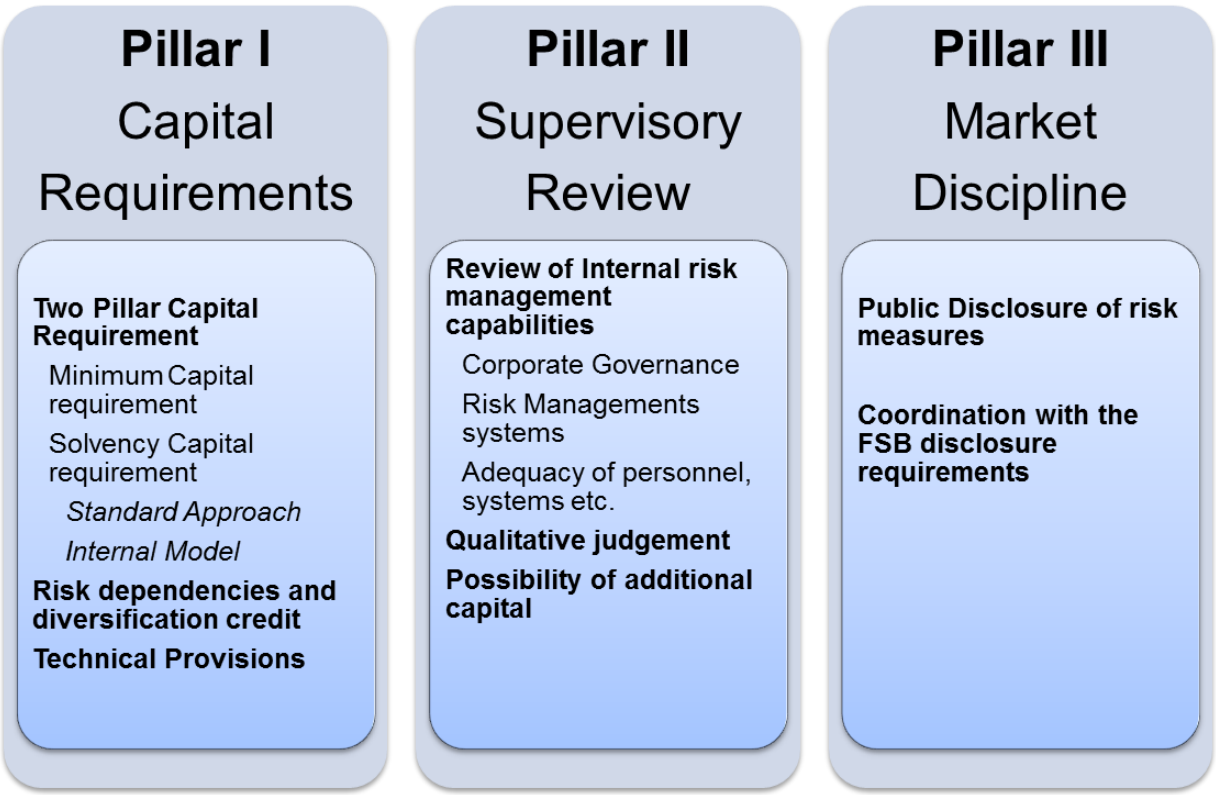

Figure 2-2 : Three Pillar Approach (Cummins and Phillips 2009 p. 50)

In order to ensure compliance, firms will have to reconstitute responsibility on risk management where it will be at the highest level of the firm's governance structure, the board of directors and executive management FSB (2010 p.7). Insurers needed therefore to note the following three key messages to understand the implications of the regime:

1. Firms will need to develop systems to assess capital adequacy and capital planning (Pillar I), implement systems of governance and the management of all risks (Pillar II), and address reporting and disclosure requirements (Pillar III).

2. Implementation is one year away, with a parallel run of the standard approach in 2015 for all insurance firms. Companies should have comprehensive plans and seek guidance from the already established Solvency II and CEIOPS' consultation papers.

3. Participation in the SAM project process is a requirement but not mandatory except fork then 2015 parallel run. Much of the work done or to be done will be a deliverable for implementation of the SAM project structures and substantial representation has been sought on behalf of industry to ensure the delivery of an effective framework for the industry.

To be able to comply with the SAM requirement and also meet the timelines prescribed by the project, companies will need to allocate responsibilities. The Board and other key officers will thus need appropriate knowledge on their responsibilities, these being (FSB 2010):

a) Key responsibility – personnel involved in ratifying strategy, developing directional policy, and accountable for safeguarding statutory and regulatory requirements. This will be mainly the board and senior management involved in strategy formulation of the company.
b) Functional responsibility – personnel assigned with implementation of processes and procedures associated with essential technical functions, and supervision.
c) Active involvement – technical expertise as input to separate functional areas.
d) Contribution is required – personnel whose participation may be required across functional areas.
e) Awareness – personnel with a high-level comprehension of the requirements.

2.3.1 *Pillar I – Solvency*

Pillar I focuses on the quantitative aspects for economic capital requirements, along with technical provisions and investments, sets rules for minimum capital determination and the target capital (usually higher) which, insurers must satisfy that adequate financial resources are available to sustain the business (FSB 2010).

1. *The SAM Capital Structure*

The current regulations use a factor-based approach to determine solvency, in contrast the risk-based regime utilises the four risk categories determined by the various studies commissioned by the European Union. These form the basis on which the solvency is determined: underwriting, credit, market and operational risks (European Commission/KPMG 2002; Eling et al. 2007; Lorent 2008). This in essence forms the economic balance sheet methodology adopted by SAM, which integrates the interrelationships between assets and liabilities, calculated at market consistent values.

A two-tier structure defines the capital requirement, Minimum Capital Requirement (MCR) and the Solvency Capital Requirement (SCR) (Doff 2008; Lorent 2008; FSB 2010) as per Figure 2-3 : The Solvency Balance Sheet (FSB 2010 p.16):

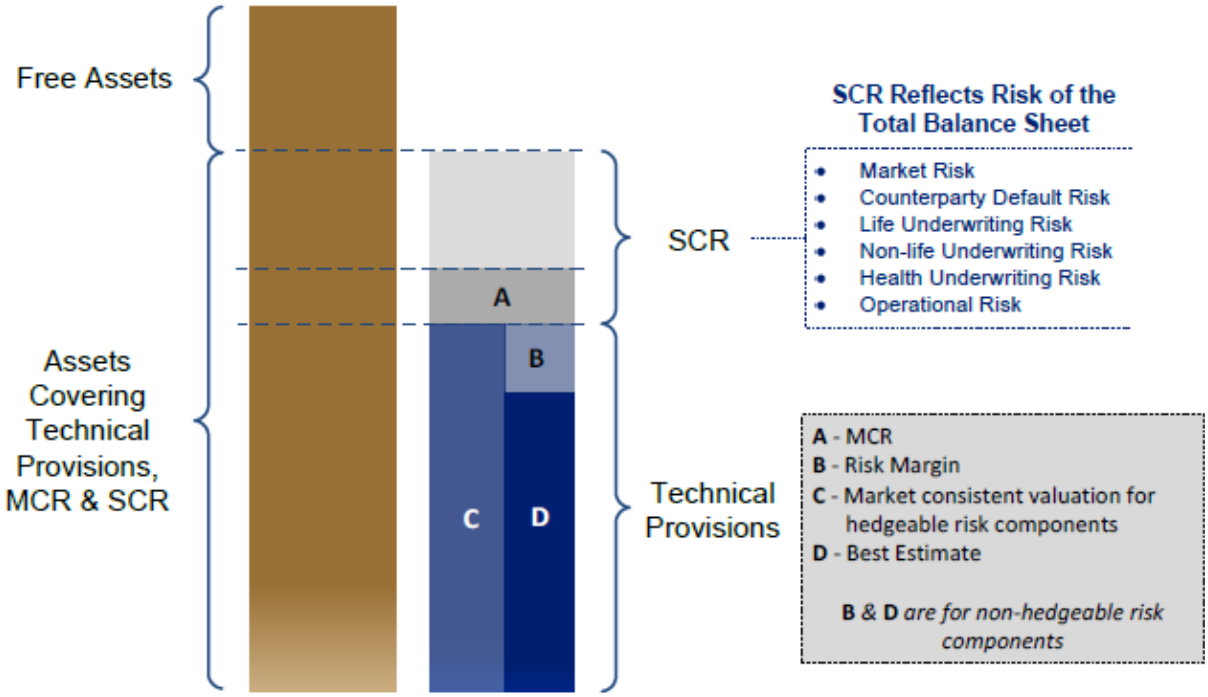

Figure 2-3 : The Solvency Balance Sheet (FSB 2010 p.16)

The new regulations will be essentially a new way of looking at a firm's balance sheet, Figure 2 4 : Balance Sheet Comparison (Wells and Morgan 2007 p.4) depicts the new against the previous solvency balance sheet.

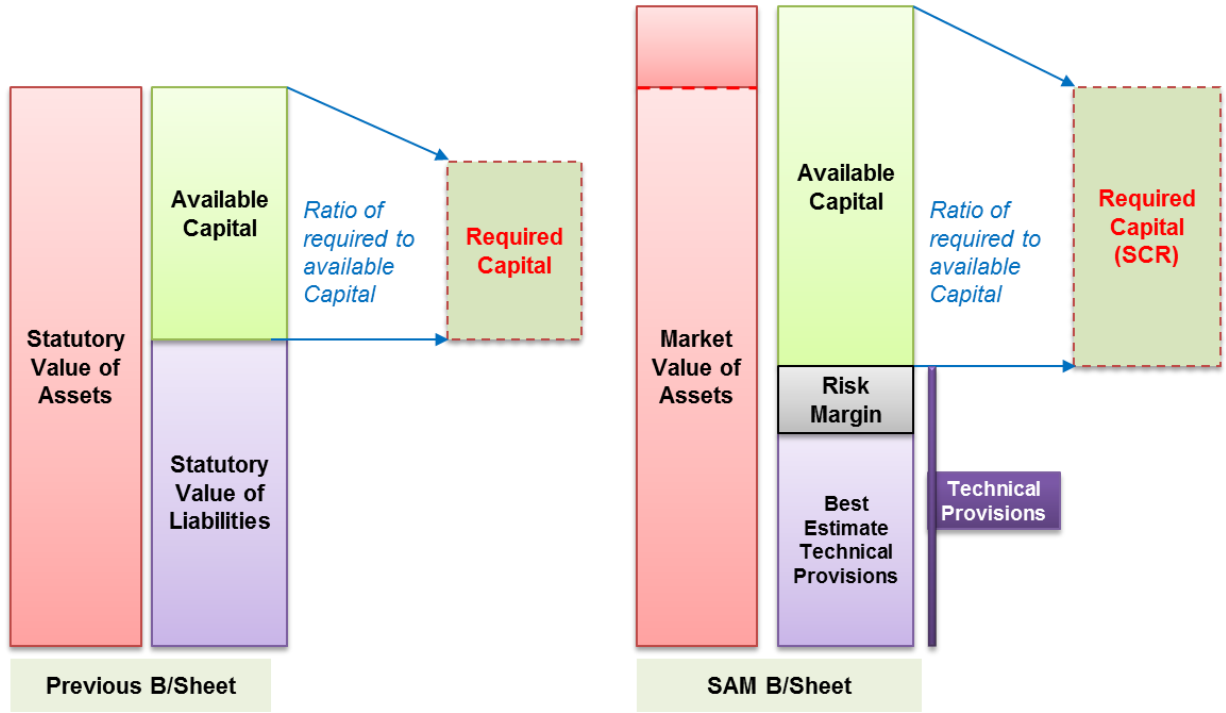

Figure 2-4 : Balance Sheet Comparison (Wells and Morgan 2007 p.4)

The components of the new Solvency Balance Sheet;

a) The “Minimum Capital Requirement (MCR)”

This defines the minimum threshold for a firm’s capital requirement below which initiates regulatory intervention. The FSB (2010) proposes a quarterly calculation of the MCR to meet the objective of being “clear and simple”. While Solvency II considers a variable MCR that moves within a corridor of 25% to 45% of SCR at a lower confidence level of approximately 85%, (one in six years level of protection) (European Commission 2011a), the SAM regime is still evaluating possible equivalent options (FSB 2010), these should be finalised before SAM implementation.

b) The “Solvency Capital Requirement (SCR)”

This is the target capital requirement under normal market conditions, which act as a measure of “modelled” risk profile of the business as a going-concern (Doff 2008; FSB 2010). SAM makes provisions for two approaches:

1. Using a standard formula, or
2. Using an internal model or a partial model that constitutes the standard formula customised to the specific company.

The objective of the SCR is to generate a level of capital that enables an insurer to absorb losses and remain solvent with a prescribed high level of confidence over a specific time horizon (Wells and Morgan 2007; Smith 2009). “The calculation of the SCR is based on a Value-at-Risk (VaR) approach. VaR is the maximum loss over a target horizon such that there is a low, pre-specified probability that the actual loss will be larger” (Lorent 2008 p.18). Similar to Solvency II, the SAM framework has set the target horizon on one year and the pre-specified probability on 5% hence SCR is a 95% VaR approach on a one-year horizon. The SCR includes all risks and comprise the four modules of risks faced by an insurance firm: operational, market, default (credit) and underwriting (Lorent 2008; Jorion 2010).

The evaluation of the SCR takes into account “the true risk profile” of a firm and reflects the company’s economic capital (Lorent 2008). The liabilities are split into technical provisions, other liabilities, and the Solvency Capital Requirement (SCR).

Companies will be required to calculate and report SCR annually while continuously monitoring compliance. Interventions will effected in cases on non-compliance with the most serious actions being in the event of a MCR breach, where may be placed under curatorship or judicial management (FSB 2010). If a company goes below the SCR, the FSB will at least, require further reporting and a business recovery plan, with the possibility that the insurer could be placed under run-off (Cummins and Phillips 2009; FSB 2010). The various regulatory actions are outlined by Figure 2-5 : Ladder of Intervention (FSB 2010 p.20).

Threshold \ Action	Additional Reporting	Financial Recovery Plan	Closure to New Business	Curatorship / Judicial Management
Adequate Capital				
Breach Adjusted SCR	Required	Possible		
Breach SCR	Required	Required	Possible	
Breach MCR	Required	Required	Required	Possible

Figure 2-5 : Ladder of Intervention (FSB 2010 p.20)

The determination of the SCR utilising the standard formula, follows the Solvency II modular structure, this will; however, be modified to reflect the local industry landscape. Salient differences in the classes of business, catastrophe scenarios, risk mitigation techniques, and underlying product features will need consultation with all stakeholders for an appropriate adaptation (FSB 2010).

Solvency II/SAM takes into account under Pillar I, the risk pertaining to requirements on capital, such as credit, market and operational risks. “However, the operational risk aspect is only considered based on simple factors applied on total earned premiums and insurance technical provisions (Lorent 2008 p.19). This is applicable to insurers opting to use the standard formula while companies utilising internal risk models, will have to incorporate the risk in their models (Lorent 2008).

Figure 2 6 : CEIOPS - QIS5 SCR Modular Structure (FSB 2010) represents the modules that constitute the standard formula for the calculation of SCR, as defined the CEIPOS Quantitative Impact Studies 5, initially adopted by the FSB (FSB 2010).

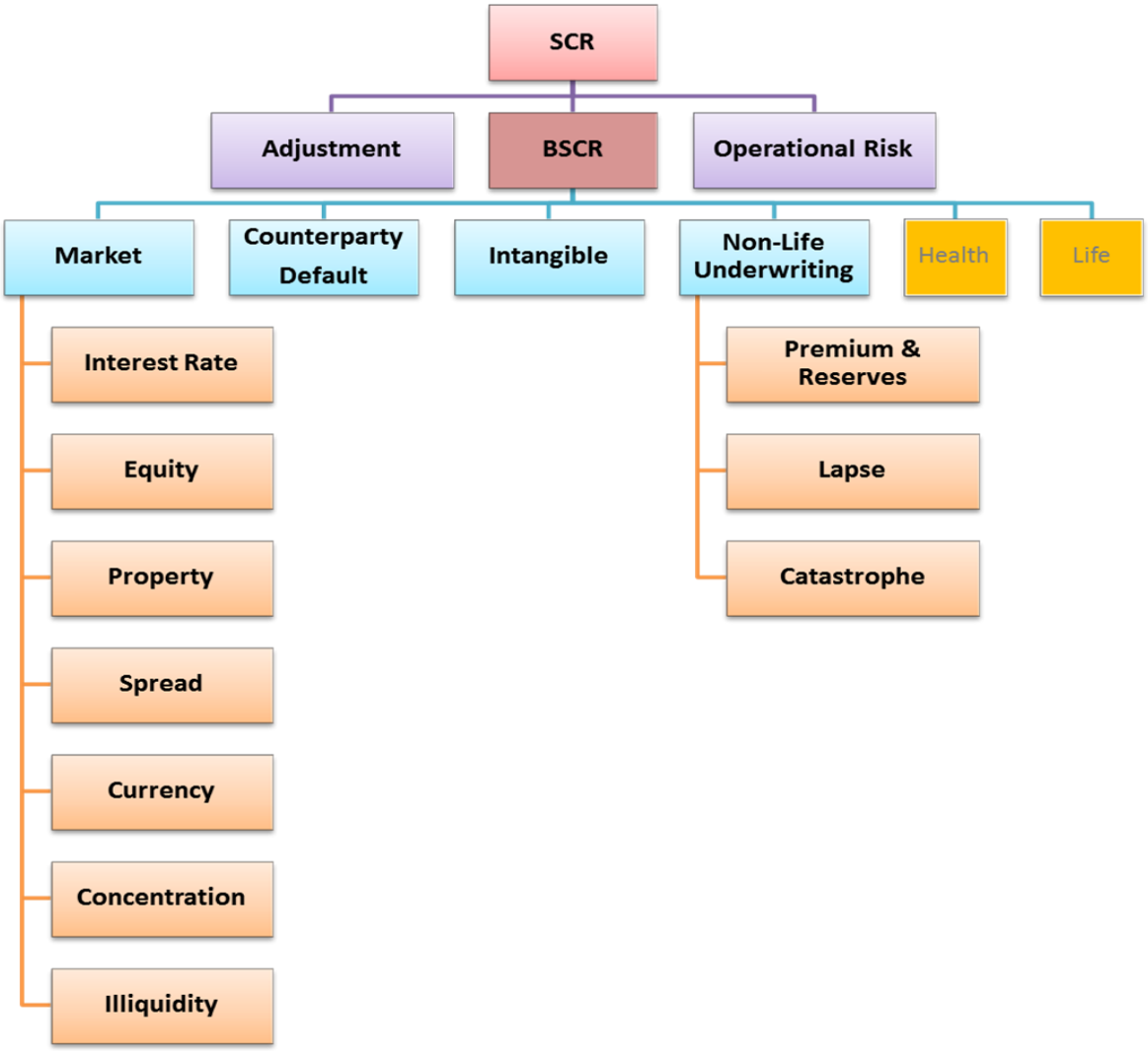

Figure 2-6 : CEIOPS - QIS5 SCR Modular Structure (FSB 2010 p.18)

2. *Assets and Liabilities Valuation*

The SAM regime is considering Solvency II's principle in which the fair valuation of assets and liabilities is based on the amount for which the assets or liabilities could be exchanged between knowledgeable and willing parties at an arm's length transaction (FSB 2010). Liabilities comprise of "technical provisions and other liabilities, where technical provisions are the insurance obligations due to policyholders and beneficiaries. Other liabilities are non-insurance liabilities, such as tax liabilities and other creditors, which can include subordinate debt" (FSB 2010 p. 18). Valuation of all assets and liabilities is also set to be aligned to the International Financial and Reporting Standards (IFRS).

3. *Technical provisions*

SAM is also aligned to the principles under Solvency II, technical provisions will evaluated on the best estimate and risk margin for non-hedgeable liabilities, this is equivalent to the probability-weighted average of future discounted cash flows on the company technical provisions. The applied risk margin reflects the cost of capital to cover the SCR in run-off or the cost of capital that would be incurred by a third party assumption of the company's liabilities (Horgan, McLaren and Olesen 2007; FSB 2010, 2011b).

2.3.2 *Pillar I - The Solvency II experience*

1. *Impact on Group Supervision*

Similar to the European market albeit higher in complexity, the South African market has complex group structures, due to the unconventional company structures (captives and underwriting management agencies), and being able to use capital efficiently across a group is fundamental to competitive advantage. Previous South Africa regulatory regimes have not incorporated groups. A significant number of South African insurers operate within a group structure. While this enhances their diversification of risk, intra-group funding and integrated governance structures, it also presents a variety of direct and indirect risks, conflicts of interest to the others, and insufficient assessment of the risks involved (FSB 2010). In an assessment of industry regulations, the IMF and the World Bank identified a lack of group-wide supervisory framework by the FSB; however, this is expected to be addressed through the SAM regime (IMF 2010).

Under Solvency II, two methods have been provided for group solvency assessment, the accounting consolidation-based method and the aggregation and deduction method (European Commission 2002b). The FSB, in the interim, prefers the aggregation and deduction method, as it is more commonly used by regulators globally and is transparent in calculating group solvency calculations (FSB 2010).

Special Purpose Vehicles (SPV's) such as captives and Underwriting Management Agents (UMA's) have resulted from the growing role of underwriters being intermediaries, rather than being risk carriers. This has resulted to very intricate structures, specifically alternative risk transfer instruments and off balance sheet exposures (Lorent 2008). The impact on such has been noted by the FSB and discussions are still ongoing for consideration of their special features for solvency calculations (FSB 2015).

2. *Impact on small and medium-sized companies*

It has been recognised that the greater sophistication and complexity of Solvency II in Europe and therefore SAM locally, represents significant challenges for smaller companies. In order to accommodate the small to medium-sized companies, the (FSB 2010) proposes to apply the "principle of proportionality". Accordingly, regulatory

requirements should be applied in a manner, which is proportionate to the nature, scale, and complexity of the risks inherent in the business of the insurer (The Financial Services Authority 2008). This allows small companies to use parts of the standard formula, but still show that the resulting solvency results are suitable to the "nature, scale and complexity" of the risks in the business (FSB 2010). Wells and Morgan (2007) concluded that the minimum viable size of an insurer will increase and expects that over a period of several years, there will be a significant reduction in the number of small firms.

The FSB (2010) highlighted this challenge, and more specifically the impact on the current economic efforts to promote the emergence of black-owned investments. An economic assessment is planned to evaluate the possible implications on existing and future small insurance entities.

3. *Impact on Accounting Standards*

Solvency II and SAM promote consistency with the developments of the International Accounting Standards Board (IASB) (Sandstrom 2005), although there are some differences (e.g. allowance for the insurer's own credit worthiness). The expected discrepancies will be mitigated by the definition of solvency in terms of a total balance sheet requirement. This defines the true economic values in the balance sheet by stating available solvency capital as the difference between market consistent value of assets and liabilities taking into account the interaction between assets and liabilities, diversification, and risk mitigation, hence reserving under Solvency II / SAM will become more realistic and transparent (Wells and Morgan 2007; FSB 2010).

4. *Impact on Investment Strategy and Asset profiles*

Lorent (2008 p.20) suggested that "Solvency II seems to penalise equities in comparison with other categories of assets such as real estate or bonds". "The proportion of stock held by insurers in the investment portfolios is therefore expected to decrease" as further evidenced by the European Commission (2007). The volatility of the stock markets would also motivate a move towards penalising stocks vis-à-vis the other relatively less volatile assets, considering valuation of assets on a market value basis. He further identified "liquidity as a major issue in the insurance industry; however, this has been addressed under Solvency II through determination of lapse risk (risk related to a loss or adverse change in the value of insurance liabilities, resulting from changes in the level of volatility of the rates of policy lapses, terminations and surrenders)" (Lorent 2008 p.20).

The real investment impact will result from the introduction of capital requirements for investments as noted by KPMG (2011b), this will further encourage less investment undertakings than during previous regimes. This could lead to a reduction in the proportion of equities and property portfolios, and increase in fixed-income investments to reduce capital charges and to lower solvency requirements. Overall, this may result in reduced profitability because of lower investment returns.

5. *Risk transfer mechanisms*

The findings from the impact assessment conducted by European Commission (2007) indicated that for risk mitigation methods in the form of reinsurance structures, hedging and securitisations to be accepted, insurers will be required to demonstrate their contribution to risk reduction. This will provide insurers incentives to optimise these risk transfer methods and subsequently increase competition among suppliers of such instruments (Wells and Morgan 2007; Lorent 2008; KPMG 2011b).

6. *Impact on Overall Capital*

The results of the Solvency II quantitative impact studies suggest that both required and available capital would increase. The impact assessment conducted by European Commission (2007) also suggested from that capital may be insufficient for certain types of firms, more likely for small to medium-sized companies and especially those with underlying business problems, such as onerous financial guarantees. This will make it difficult for such firms to raise additional capital; however, it will provide opportunities for firms with an expansion strategy through mergers and acquisitions (European Commission 2007; Wells and Morgan 2007). This however, varies in each territory as the market conditions differ; in the United Kingdom preliminary studies suggested that insurers had excess capital in totality. The most affected companies will be the small companies, especially single line business entities that lack the diversification and size which larger entities a competitive advantage.

The scenario is likely to be similar in South Africa, as there significantly large market players that drive the market (the top four insurers account for approximately 59% market share) and a significant number of fragmented small companies (KPMG 2011b). (See Appendix B).

Research Proposition 1

The implementation of the SAM framework will have an impact on the capital structures of all insurance companies, irrespective of size.

2.3.3 *Integrated risk-based capital models*

Prior to the last decade, insurance regulations were largely based on fixed factor multipliers, statutory balance sheets and income statement items. These systems did not attempt to differentiate assets and liability classes by risk or recognise the market values of assets (being significant to insurer insolvency because of market value volatility). Neither recognised operational nor catastrophe risk, nor did they test capital robustness against various economic and insurance market scenarios. The quality of

management was also not evaluated and provided little incentive for firms to practice effective risk management (Cummins and Phillips 2009).

These failures and the advancement in actuarial modelling capabilities motivated the movement towards a risk-based modelling approach in capital requirements determination, which Solvency II/SAM has adopted. The approach is dynamic and model-based, explicitly taking into account the underlying probability distributions of returns on assets, liabilities and other quantities. The models extend to evaluation of management quality and provide incentives for the adoption of improved risk management and modelling systems. This internal model has been defined by Comité Européen des Assurances (CEA) and Groupe Consultatif Actuariel Européen (Groupe Consultatif) (2007 p.35)) as “a risk management system developed by an insurer to analyse the overall risk position, to quantify risks and determine the economic capital required to meet those risks”.

Development of internally developed models or partial ones (a combination of standard and internal models) has been identified as a significant challenge to insurers, more specifically due to the scale of resources required. The models are expected to result in a more accurate indication the insurers’ financial situation than the standard models will (Eling et al. 2007).

Insurers opting for an internal model will have to have it certified by the regulator, a process is rigorous and will requires detailed documentation of the model and its principal assumptions (Eling et al. 2007). Intensive collaboration with the FSB will hence be required, starting with a preapproval process to determine the applicability of the model and to ensure validity of results, as significant differences will have to be explained and justified (FSB 2011a).

The regulator may also require an insurer to apply an internal model if particular assumptions in the standard model differ widely with the firms particular characteristics (FSB 2011a). The models generally assume the existence of satisfactory data with which the models can be fully parameterised: however, predominantly data for determination of operational and strategic risks. Data is either inaccurate or unreliable or not in existence (Casualty Actuarial Society 2003). The existence of complex structures and usage of difference information systems, coupled with data entry challenges exacerbates the problem.

Solvency II encourages insurers to use internal models, and results from Solvency QIS 4 indicate a preference for internal models by insurers. The reason for this is that the implementation of an internal model is seen as an opportunity to improve risk management rather than specifically targeting a lower capital requirement (Eijk and Jenkins 2007). However, the capabilities to develop internal models and the financial implications thereof have been a challenge in the Solvency II implementation.

Research Proposition 2

The industry does not have sufficient expertise and resources to develop, implement and use internal risk-based capital models for the determination of solvency.

2.3.4 *Pillar II & III - Risk Management, Disclosure and Reporting*

The FSB (2010 p.23) highlighted that while capital requirements under Pillar I are essential, they are "not the only a prerequisite for continuously meeting solvency requirements". Pillar II serves as a mechanism to "provide the regulator with an early warning for potential solvency concerns, providing sufficient powers to intervene" (FSB 2010 p.23). It also provides the link between Pillar I and Pillar III of the framework, considering the extent that corporate governance is embedded into the fabric of the business.

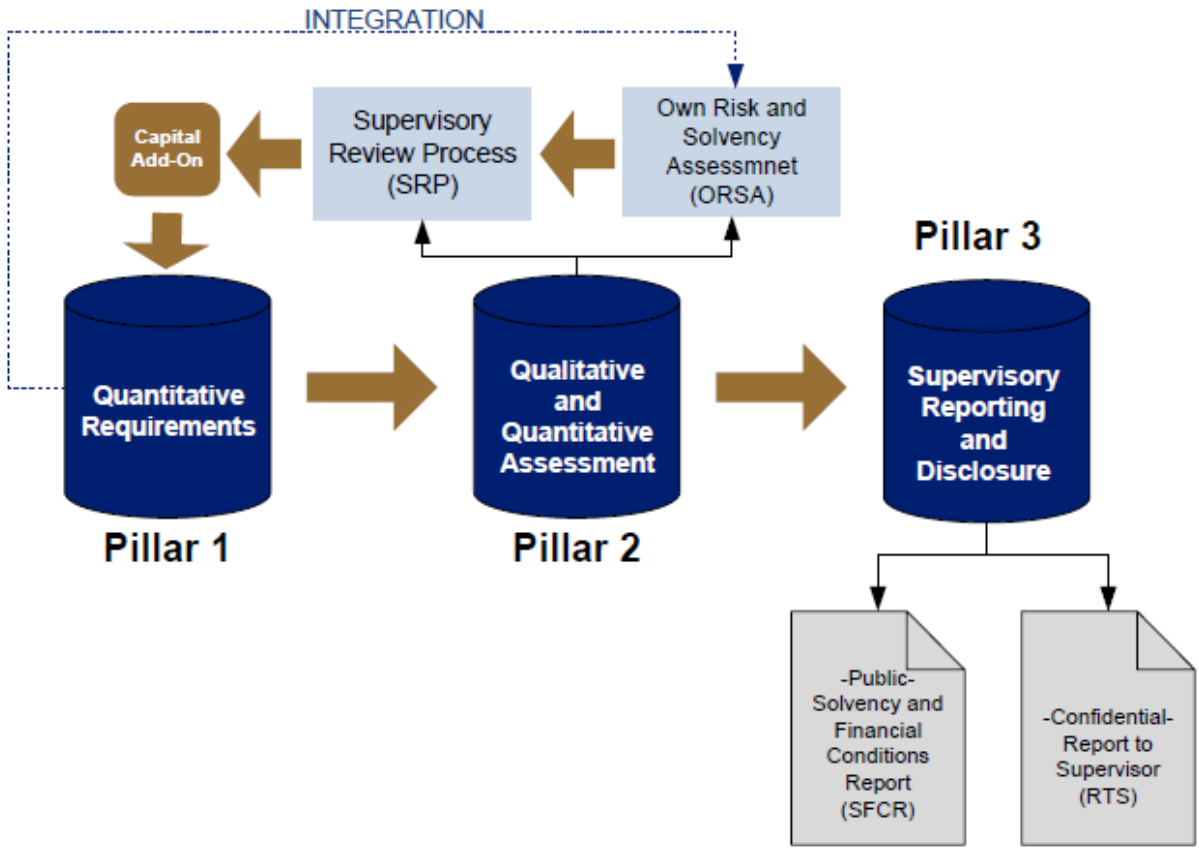

Figure 2-7 : Solvency II Pillar Linkages (FSB 2010 p.24)

1. *Pillar II – Risk Management*

The global financial crisis accentuated the importance of risk management; the risks recognised by the quantitative models of the first pillar must be handled with appropriate

processes and discussions in the context of a system of risk management that is effective. The Sharma recommendations on EU solvency II implementation provided the Pillar II fundamentals, focusing on the qualitative aspects (Linder and Ronkainen 2004).

Pillar II covers the “qualitative elements of the new regulatory regime such as governance, risk management, internal control and supervisory. Internal risk management and internal risk control principles, along with related supervisory interventions, are main the components of the second pillar” (Eling et al. 2007 p.6; European Commission 2007 p.19). It further embraces risks not taken into account under Pillar I with further evaluation of the risk transfer mechanisms in place, such as reinsurance. The European Commission (2007) recommended that within the risk management system, companies should as a fundamental part of their business strategy, have a systematic framework of assessing their own overall solvency requirements in perspective to their specific risk profile.

Solvency II proposed the functions of governance, fit and proper requirements, risk management systems, internal control and audit, actuarial function, and outsourcing as critical (Sharma 2002; Linder and Ronkainen 2004; Van Hulle 2011). The same principle considerations have been adapted by the SAM framework under Pillar II (FSB 2010).

Risk management is defined by Gkoumas (2010 p.4), as “the culture, processes and structures that are directed towards the effective management of potential opportunities and adverse effects” (Cooper, Grey, Raymond and Walker 2005; Rejda 2005). As the former Chairman of the committee of the EIOPS Thomas Steffen commented on the launch of Solvency II, “Solvency II is not just about capital, it’s about change in behaviour” (Abraham et al. 2007 p.12). This echoes quite suitably with the implications of SAM being the third world equivalent of Solvency II (Thews et al. 2011). Effectively, Abraham et al. (2007 p.13) notes that “company boards will need to understand and endorse what could be new and unfamiliar quantitative and qualitative information as part of their responsibilities as ‘fit and proper’ managers of the business and policyholders’ interests”.

The two main features of Pillar II under Solvency II are, Own Risk and Solvency Assessment (ORSA); and Supervisory Review Process (SRP), and SAM has adopted the same rationale (FSB 2010);

a) Own Risk and Solvency Assessment

Under ORSA, “an evaluation will be conducted on the risk management systems, demonstration of the use test (of internal models), forward looking capital planning and management, stress and scenario testing, and emerging risk management. This is to identify, assess, monitor, manage, and report all material and complex risks that an insurer faces. This process will be conducted at least annually and when material changes in the company risk profile occur, with a self-assessment of these risks and the level of solvency required to cushion those risks” (FSB 2010).

b) Supervisory Review Process (SRP)

The Supervisory Review Process (SRP) will be used to assess an insurer's capability to recognise, evaluate, monitor, and manage the risks. The process will consider the following:

- The governance and risk assessment systems,
- Technical provisions, capital requirements and investment processes ,
- Quality and quantity of company own funds,
- Utilisation of a full or partial internal model (FSB 2010 p.26).

Based on the SRP, "the FSB may compel insurers to remedy any deficiencies identified in their systems of governance. The goal of such remedies is to establish greater confidence in the overall solvency position. In exceptional circumstances this may necessitate the imposition of a capital add-on, which will require the insurer to hold capital in addition to the SCR, until such a time as the identified weaknesses have been remedied" (FSB 2010).

Organisational culture will need to be more effectively managed, to ensure compliance. Kaļiņina and Voronova (2013 p.31) define a risk culture as "the norms of behaviour that determine a company's ability to identify, understand, and act upon current and future risks". Employees will hence need to take active responsibility for the risks they take and recognise the contribution of an effective risk management to their own performance scorecard (Thews et al. 2011). Further, an understanding of the businesses risk appetite, with risk teams being encouraged to contribute to and challenge decisions.

To be able to achieve a risk culture with the above attributes, it will be important to review the working practices that drive the business and how these can be changed in a sustainable way through close coordination of actuarial, finance and risk management functions.

Declarations for non-compliance could pose reputation and market credibility, KPMG (2011a) recommends that investor relations functions will have to maintain compatibility on financial and regulatory disclosures, for firms to keep their market credibility.

2. *Pillar III – Disclosure and Reporting*

Pillar III considers increasing transparency and disclosure requirements, aimed at promoting market discipline (European Commission/KPMG 2002; Linder and Ronkainen 2004). This will provide information to policyholders, investors, employees, and supervisory authorities. As further noted by Eling et al. (2007); Lorent (2008), to resolve the information asymmetry, policyholders have to receive significant information on their insurers. A transparent system will force market displace thus less oversight by the supervisory authority. Disclosure documents will be required, namely, Confidential

report to Supervisor (RTS), and The Public Solvency and Financial Condition Report (SFCR) (FSB 2010).

The FSB may require companies to “disclose capital management details annually in the SFCR, this includes material breaches of the MCR and SCR, even if such is subsequently resolved, and imposition of any capital add-ons. Other information that may be required to be disclosed includes:

- Basis of and valuation methods for assets, technical provisions, and any significant differences with the financial statements
- A risk exposure, concentration, and mitigation for each risk category description
- Financial performance
- Governance structures
- Certification of investment requirements compliance

Disclosure of sensitive information may be reported confidentially to the FSB, where such information may result in significant unjustified competitive disadvantage, or may be subject to policyholder or other counterparty confidentiality obligations” (FSB 2010 p.27).

The concept of corporate governance is becoming increasingly important in South Africa, as acknowledged with the adoption of King Code III by the Johannesburg Stock Exchange’s Listing Requirements in 2009. While the King Code has no legal backing, , it is widely accepted as best practice. The Code states that a board of directors must ensure that a company acts as a responsible corporate citizen and cultivates an ethical corporate culture, and that it does not merely implement strategies to ensure the survival of the company.

The South African Insurance Association (SAIA) approved in 2014, a new code of conduct, which is applicable to short-term insurers and will act as a mechanism through which to implement effective self-regulation. The code sets guidelines to ensure transparent and ethical practice - not only by the signatory insurers but also by their contracted associates.

Research Proposition 3

Risk management frameworks, reporting and disclosures will improve with the implementation of the SAM framework.

2.3.5 *What are the costs and timelines?*

1. *Cost implications*

In a study conducted by Accenture (2010), 29% of the insurers surveyed expected compliance to cost €25 million or more, while 53% were confident that they would meet the 2012 compliance deadline (subsequently extended to 2013). The costs mainly

emanated from an escalation in costs as demand for expertise (actuaries and Solvency II experts) increased and expansion of risk management structures.

2. *The SAM schedule*

The FSB has been consistently updating companies on the progress of the implementation, encouraging insurers and all other stakeholders to comment on issues they feel need to be prioritised. In November 2010, the FSB (2010) issued a SAM roadmap as a guide to insurers on the processes and timeline of the project. The onus, however, is on the insurers to maintain direct access to the project structures managing the process. They need to evaluate the impact of the regime on their business, understand the required preparations, and use the provided feedback forums to voice any concerns or proposals.

It is mandatory for all insurers to conduct a parallel run on the SAM basis in 2015. This will require insurers to submit data based on both the old solvency calculation and the final SAM requirement for comparison purposes. Early planning is therefore required in order not to be caught up with the deadline rush. Awareness and preparedness primarily in areas of risk management, capital assessment and modelling (internal, partial and standard), is a prerequisite.

Research Proposition 4

While insurance companies are still unprepared, the implementation of the SAM will impose higher cost structures for effective reporting and compliance.

In summary, a study conducted by Metcalfe (2010) showed that a significant majority of participants in South Africa believed that the SAM regime would be of great benefit to the industry with a few of the positive ratifications outlined below:

- a stable industry will inspire confidence;
- qualified methodology to risks management;
- better informed judgements on capital allocation and efficiency;
- an accurate reflection of a company's business; and
- allow firms to understand risk landscape (Metcalfe 2010).

However, some sectors were sceptical and felt that while the current system has worked well, the new regime imposes a one-size fits all solution. Others indicated that its success depends on the implementation, and benefits will only arise if the regime adds to the customer perception on industry soundness (Metcalfe 2010). Some of the players preferred to use their own model for determination of solvency.

This report therefore explores the market's perception and experiences in 2014.

2.4 Conclusion of Literature Review

The SAM is still in a development stage and while its benefits have been discussed widely, the eventual impact is yet to be adequately felt as the final stages of developing the framework approach. The implementation and changes towards a risk-based regulatory framework require a significant amount of resources to be put into finances, human resources and time by the insurance industry. As determined through the literature review of the framework requirements and the effects already experienced in the EU, there will be an impact on the insurance industry upon the implementation of SAM. These range from changes in capital structures (which are largely dependent on company size, risk profile and diversification, investment strategies etc.), to risk management and disclosure requirements.

The following are the major commercial implications highlighted by the literature review, mainly by credible professionals in the insurance and financial fields:

- Pricing and product design;
- Investment strategy;
- Risk management frameworks to enhance risk pricing adequacy;
- Greater transparency and market discipline (market communications); and
- Contagion effects - the industry is a critical corporate investor utilising various financial tools to externalise risks to other sectors. Therefore, linkages via financial instruments and portfolios with bank, and other investment vehicles are substantial.

The literature review indicates that in order, the regime to function it will therefore require more diverse and comprehensive analysis, along with an effective methodology to risk management. Remuneration with increased demand for actuarial and risk management personnel, has been shown to escalate. Increased dissemination of information for public scrutiny means that company boards will need to comprehend and sanction what new and unaccustomed quantitative and qualitative information as part of their duties as ‘fit and proper’ managers of the business and consumer interests.

The literature review further exposes dissenting views, with some arguing that the regulations are too complex and that compliance will be expensive, especially for small- to medium-sized insurers and reinsurers. Further observations made is that managing the implementation of SAM is in itself a risk that has to be envisioned, as significant work will be required to define and implement an integrated risk management and IT architecture. The consequential impact on industry competition and structure through mergers and acquisitions and changes in-group structures were also emphasised.

Strategic issues derived by the literature review:

- Insurers may chose less capital-efficient portfolios/lines, which will come with pressure to relinquish the products altogether, especially and management will be unable to justify run off cost;

- Commutations as an exit option;
- Capital-intensive areas of the business may be outsourced to efficient providers who are able to manage resources more effectively; and
- Consideration of true economic cost of some products may lead to reduced cover, e.g. financial guarantees.

Whilst there are significant challenges, there are also competitive advantages of getting it right; being able to demonstrate that risks are appropriately evaluated and managed across organisations is likely to result in less intrusive supervision and greater comfort for the company board and the market at large. This will enable the industry to get the full return of investments in new risk and capital-modelling capabilities, as people will have a better understanding of the outputs and how they can be used more effectively.

2.4.1 *Research Proposition 1*

The implementation of the SAM framework will have an impact on the capital structures of all insurance companies, irrespective of size.

2.4.2 *Research Proposition 2*

The industry does not have sufficient expertise and resources to develop, implement and use internal risk-based capital models for the determination of solvency.

2.4.3 *Research Proposition 3*

Risk management frameworks, reporting and disclosures will improve with the implementation of the SAM framework.

2.4.4 *Research Proposition 4*

While insurance companies are still unprepared, the implementation of SAM will impose higher cost structures for effective reporting and compliance.

CHAPTER 3. RESEARCH METHODOLOGY

This section contains the methodology that was utilised to conduct the research on the propositions detailed above. Based on the nature of this study a qualitative evaluation was decided upon, using subjective methods such as interviews to collect essential and relevant data. The first section reviews the literature around qualitative research, followed by a discussion of the research design and research instrument utilised. Data collection and analysis matters in relation to this study are highlighted hereunder, followed by a discussion on the validity and reliability of this study.

3.1 Research methodology

A qualitative evaluation was utilised for this research project, using subjective methods such as interviews to collect essential and relevant data. Qualitative research seek out to find out the 'why', not the 'how', of a topic through the gathering and analysis of unstructured information (Kvale 1996; Flick 2009, 2014). In-depth interviews, content analysis, ethnographic evaluation and semiotics are among the many formal approaches that are used in a qualitative methodology.

A qualitative methodology enables insight into people's feelings, attitudes, behaviours, value systems, concerns, motivations, aspirations, cultures and/or lifestyles. These are important as it made it possible to obtain implicit and explicit data and analyse the behaviours and concerns that influence a subject's behaviour and actions, more specifically on the impact of the regulation in question (Willig 2008). As the researcher and an industry player (although on a different platform, i.e. one not affected by the SAM regulation), it was easy to build rapport with the participants on this subject. As generated data is rich and explanatory in nature, this enhances the quality of the research, while maintaining focus on the research objectives (Mack, Woodsong, MacQueen, Guest and Namey 2005).

Zhang and Wildemuth (2009b) highlighted the usefulness in finding patterns, generating models, and informing information system design and implementation. Stenius, Mäkelä, Miovsky and Gabrhelik (2008) also noted the application of qualitative research to study programme implementation and evaluate various policy measures. For this research, the impact of the SAM implementation was suitably assessed by establishing patterns among the critically affected industry players.

The methodology assumed that the respondents gave their honest opinions to the research questions. The SAM implementation is currently ongoing therefore some respondents may not have been willing to share their experiences (or may have reservations about confidentiality) regarding the incomplete results of the solvency assessment using the test formulae, as well as other implementation procedures required of SAM.

3.2 Research Design

The research design for this study took the form of semi-structured interviews. The research problem affects the participants in quite varied ways; therefore the researcher believed that the respondents' true feelings and expressions would be more readily obtained by actual contact and conversation through an interview. "Interviews are a widely used tool to access people's experiences and their inner perceptions, attitudes, and feelings of reality" (Zhang and Wildemuth 2009b p.1). The in-depth interviews took 60 to 90 minutes with each participant.

As the industry has gone through the QIS1 & QIS2 exercises in which the FSB assessed the potential implications of the standard solvency calculation formulae (FSB 2011b), the use of in-depth interviews in a semi-structured nature to guide the discussions was considered the most productive. A semi-structured interview enabled the participants to speak freely, openly maximising on their understanding of the subject while generating novel insights into the different areas affecting them in order to explore responses to the research questions (Willig 2008).

A semi-structured interview also allows for further probing, clarification and follow-up if responses are not aligned to the research question. In addition the interviews were recorded in order to enhance further analysis of the responses, ensure continuity and flow during the interviews, and keep focus and interest on the respondents (Kalof, Dan and Dietz 2008).

A limitation of interviewing is the risk of linguistic vulnerability; however, appropriate effort was applied to ensure that emphasis was made on meaning rather than lexical/verbal comparability, as recommended by Willig (2008). The interviews were scheduled around the period of November and early December, which was close to the festive season thus availability of respondents was a challenge.

3.3 Population and sample

3.3.1 *Population*

The population was personnel/owners from industry players, the personnel from the actuarial firms familiar with the short term industry and more so the SAM framework and its implementation and personnel from the FSB.

3.3.2 *Sample and sampling method*

The sampling was largely done through quota sampling methodology; however, due to limitations of accessibility for personnel from some companies; purposeful sampling was applied within the categories based on office location. Three categories of short terms insurance companies based on size (by premium income), market share and

willingness to participate in the research (See Appendix B - Market Share by Insurer and Market Statistics) and a fourth category from the actuarial community and the Financial Services Board.

The participant companies are as listed on Table 3-1;

Table 3-1 : Companies selected for the study

Top Companies
Santam
Zurich
Hollard
Centriq

Middle Level Companies
Standard Insurance (SIL)
SASRIA
NedGroup
New National Insurance

Small Size Companies
Infiniti
Renasa
OneCom

Others
Aon Hewitt South Africa
Financial Services Board

Within each category a sample of the key personnel involved in the implementation of SAM from the above companies were selected for interviews. These were either the CEO and/or the risk manager who was spearheading the exercise. The implementation of SAM is of the utmost importance due to its significance and the resources that are required. The CEO and the general manager or risk manager are the key personnel with the mandate to implement SAM and would have the required knowledge and experience relevant for this study. Emails and telephone calls were utilised to make requests for interviews.

All the above companies are key clients of my employer's, which simplified the exercise when obtaining consent for interviews and accessing information. Where the selected individuals were unavailable during the interview period, an appropriately knowledgeable substitute was interviewed.

3.4 The research instrument

A semi-structured research instrument was utilised for the interview, as this gave the respondents the necessary freedom to share their experiences and views on the research questions. This allowed the researcher "access people's experiences, their inner perceptions, attitudes and feelings of reality" (Zhang and Wildemuth 2009b p.1). (See the research instrument Appendix C)

3.5 Procedure for data collection

The interviews with the selected personnel were pre-arranged through email and/or telephone communication. The sessions were conducted at the participants' offices, and where the head offices were not based in Johannesburg, alternative knowledgeable personnel were requested from the Johannesburg office.

The interviews were recorded, notes were taken on critical points raised by the respondents and highlights for further clarification were made. Unless critical points or issues needed to be noted for further clarification and research, note taking was kept at a minimum as that could have been a distraction (Kalof et al. 2008). This was, however, useful for keeping a record of relevant body language and gestures that were essential to determine the honesty of the respondents.

3.6 Data analysis and interpretation

The data was analysed through qualitative content analysis of the interview transcripts to yield detailed and systematic recordings of the themes and issues addressed. This was done in order to attempt to link the themes and interviews together under a reasonably exhaustive category system. The analysis enabled the researcher to accurately compare one individual's words with those of others (Burnard 1991).

Transcripts from the recordings were read through and summaries were made throughout the reading on the general themes within the transcripts. The aim here, as described by Burnard (1991), was "to become more fully aware of the 'life world' of the respondents and to understand their frames of reference". As Zhang and Wildemuth (2009a) noted, content analysis "allow the researcher to understand the social reality of the interviewees in a subjective, but scientific, manner" (p.1).

The analysis started during the early stages of the data collection to enable moving back and forth between concept development and data collection, and help direct subsequent data collection toward sources that were more useful for addressing the research questions (Miles and Huberman 1994). The analysis followed the steps below:

Step 1: Preparation of the data - the recording transformed written text into summaries and collated these with the written notes from the interviews.

Step 2: Define the unit of analysis - unit of analysis was defined as the common terms and themes derived from the interviews.

Step 3: Categories and a coding scheme was developed - a code book and colour coding were utilised to identify the common themes and ideas presented across the interviews.

Step 4: The coding scheme was tested on a sample of text - the coding scheme was tested on a sample of data and revisions were performed where necessary.

Step 5: All the text was coded - all data were coded while assessing for new themes.

Step 6: Coding consistency was assessed - once all the data was coded a consistency check was performed.

Step 7: Conclusions were drawn from the coded data – this was done thorough "exploring the properties and dimensions of the defined categories, identifying relationships between categories, uncovering patterns, and testing categories against the full range of data" (Zhang and Wildemuth 2009a p. 5).

Step 8: The methods and findings are presented in the research report. Further research from the results of the findings of the SAM QIS 1 and re-interviewing a selection of the respondents was done to provide insight into the validity and reliability of the key findings (Zhang and Wildemuth 2009a; Madi, Dahalin and Baharom 2011).

3.7 Limitations of this study

The study relies on a small sample of individuals, and while agreement to participate was achieved, interviews cancelation was a distinct possibility, leading to insufficient data for reliability. Consistent follow up was done to ensure respondents honoured the interview meetings. Honesty of the respondents was also paramount as could lead to incorrect conclusions; this was more applicable to companies that would have capital shortfalls as such information would be sensitive to be in the public domain. Assurance for confidentiality was emphasised to facilitate respondent share confidential company information.

3.8 Validity and reliability

In general, validity relates to the degree which an account can be regarded as accurate or truthful and the degree the research findings can be judged to have been correctly interpreted (Neuendorf 2002; Cho and Trent 2006). As per Golafshani (2003 p. 559), "validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are".

3.8.1 *External validity*

External validity is concerned with the extent to which the findings of one study can be applied to other situations and whether the results can be generalised to other industries (Merriam 1995); however, these research findings can only be applied to the current experience of the insurance industry. While it will provide useful insight into the challenges of SAM implementation with respect to the research questions, the framework and the applicable regulations are unique to the industry and may not be applicable elsewhere.

3.8.2 *Internal validity*

Internal validity focuses on how correctly the research portrays the concept being researched, or whether the research has studied what it set out to study. This study ensured internal validity by replicating the interview process, as well as ensuring that respondents understood the context of the research and responded appropriately. Triangulation through multiple sources was conducted (Golafshani 2003), primarily focussing on the personnel at the FSB who were implementing the SAM framework and Aon Hewitt (actuarial firm). These provided valuable insight into the status of the industry with respect to the areas of study (Merriam 1995; Golafshani 2003).

3.8.3 *Reliability*

Joppe as cited by (Golafshani 2003), defined reliability as "the extent to which results are consistent over time, an accurate representation of the total population under study is provided and if the results of a study can be reproduced under a similar methodology". This essentially embodies the idea of replicability or repeatability of results or observations (Golafshani 2003).

The research endeavoured to ensure a standardised structure of questions for respondents. Further, this research used the results of the recently concluded QIS1 & 2 studies by the FSB; these are the responses to the first impact studies conducted by the FSB. The QIS1 & 2 studies gave insight into research questions one and two, and provided the elements of trustworthiness, replicability, and repeatability of results as a requirement for reliability under qualitative research (Golafshani 2003). For proposition three and four, the researcher used professionals (Aon Hewitt) who had reasonably intensive interaction with the industry in preparation for the SAM implementation and review of the FSB documentation of the process. Aon's actuarial department that is Aon Hewitt had useful information that could highlight any inconsistencies in the results of the study.

3.9 Demographic profile of respondents

The research respondents were selected or recommended based on their knowledge and/or first-hand experience of the SAM implementation. Despite the limitations on availability due the timing of the interviews, the respondents were willing to participate and were open to the questions presented in the interviews. There was no reasonable diversification to demarcate responses due to the sample size and the subject matter of the research. While it was accepted that their specific demography could have influenced their perceptions in the area of research, the researcher concluded that this would have had not an impact in the general results.

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

The objective of this report was to evaluate the potential impact of key pillars from the SAM regulatory framework on South Africa's insurance industry, and solicit perceptions of critical implications from the ongoing implementation.

The research was conducted targeting companies of varying sizes, primarily based on premium income. Eleven interviews were conducted from a cross section of the industry, four large, four medium and three small companies. The results are presented by proposition below in the form of tables depicting the differences of opinions and perceptions to the research propositions.

For reliability check, an interview from actuaries at Aon Hewitt and the FSB, were conducted, and a review of the first Quantitative Impact Study (QIS1 & 3) results.

4.2 Results pertaining to Proposition 1

The implementation of the SAM framework will have an impact on the capital structures of all insurance companies, irrespective of size.

Table 4-1 : Results pertaining to Proposition 1

			Proposition 1							
			Impact on Solvency & Capital Structures							
Co. No.	Size	Respondent No.	Capital Structure		Other B/Sheet Items			Product lines	Member of Group	Size Matters?
			MCR	SCR	Liabilities	Assets	Investments		Yes/No	
3	Large	C3	*N/A*	*Increased*	*Decrease*	*No Significant change*	*Decrease*	*No Change*	*Yes but issues on methodology*	*Yes, small companies..*
7	Large	C7	*N/A*	*Increased*	*Decrease*	*No Change*	*Decrease*	*Yes, more evaluation on new products*	*Yes but issues on Captive*	*Yes, more impact on small co.s*
9	Medium	C9	*N/A*	*Increased*	*Decrease*	*No Significant change*	*No Change*	*Medium*	*Yes, member Bank Group*	*Yes*
12	Medium	C12	*N/A*	*Increased*	*Decrease*	*No Significant change*	*No Change*	*No*	*Yes, member Bank & Life Group*	*Yes*
14	Medium	C14	*N/A*	*Increased*	*Min Change*	*No Significant change*	*No Change*	*No*	*No, Govt*	*Yes*
15	Medium	C15	*N/A*	*Expected to Increase*	*Expected to decrease*	*Expected to Increase*	*Expect Min Change*	*Yes*	*No***	*Medium*
18	Small	C18	*N/A*	*Increased*	*Decrease*	*No Significant change*	*Min Change*	*Medium*	*No***	*Yes but assets composition critical*
23	Validity	VC3	*Increase*	*Increased*	*Decrease*	*No Significant change*	*expect Reduction*	*No*	*Yes*	*Yes*
17	Small	C17	*N/A*	*Increased*	*Decrease*	*No Significant change*	*Minimal Change*	*No*	*Yes*	*Yes*
1	Large	C1	*N/A*	*Increased*	*Decrease*	*No Significant change*	*No Change*	*No*	*Yes*	*Yes*
2	Large	C2	*N/A*	*Increased*	*Decrease*	*No Significant change*	*No Change*	*No*	*Yes*	*Yes*
21	Small	C21	*N/A*	*Increased*	*Decrease*	*No Significant change*	*No Change*	*No*	*Yes*	*Yes*

Table 4 1 indicates the results from the companies interviewed with respect to impact on capital structures and the responses are categorised into five main categories, with the focus on capital and solvency impact.

a) Capital and Solvency

Column under Capital Structures explored into responses on changes in the Minimum Capital Requirements (MCR) and Solvency Capital Requirements (SCR) for each interviewee's organisation.

Other balance sheet items column explored expected changes in liabilities (technical provisions that is unearned premiums and claim reserves) and assets (investments in various forms). Changes in the investment strategy were also explored, based on new requirements on market value basis and risk charges based on various risk exposures for each investment.

The responses received on expected changes were largely actual results from the concluded voluntary submissions under QIS 2.

b) Other areas affecting solvency – product lines, group structures and size

The lines of business column evaluated any impact on products offered by the company due to solvency requirements based on exposure per line of business. The responses were oriented to seek whether the respondents intend to change their product offerings due to certain product lines requiring high levels of capital but insufficient returns relative to the rest of business.

The responses relating to group impact delved into whether the respondent companies were members of groups and the impact on required capital and the calculation methodology, which appeared to be a contentious issue.

The research also explored the respondents' perspectives in relation to the company size and their general perspective of the market on the impact of the new regimes' solvency evaluation on companies in relation to their size.

The results above indicate that proposition I holds true with respect to the capital structure change in the industry; the implementation of the SAM will have an impact on the capital structures across the industry. While the results indicate that smaller entities will be more affected, the issue of size is questioned as some respondents indicated other significant considerations come into play, not just size.

4.3 Results pertaining to Proposition 2

The industry does not have sufficient expertise and resources to develop, implement and use internal risk-based capital models for the determination of solvency.

Table 4-2 : Results pertaining to Proposition 2

			Proposition 2		
			Development, Implementation & Usage of Models		
Co. No.	Size	Respondent No.	Use Internal	Preference	Challenges
3	Large	C3	*No*	*Std Model*	*Resources & value add*
7	Large	C7	*No*	*Std Model, Use own for ORSA & Cap Optimisation*	*Resources and value add*
9	Medium	C9	*No*	*Std Model, Use own for ORSA & Cap Optimisation*	*Resources and value add*
12	Medium	C12	*No*	*Std Model, Use own for ORSA & Cap Optimisation*	*Resources and value add*
14	Medium	C14	*No*	*Std Model*	*Resources and value add*
15	Medium	C15	*No*	*Std Model*	*Cost*
18	Small	C18	*No*	*Std Model*	*Cost*
23	Validity	VC3	*Recommend Internal*	*Std Model*	*Resources and value add*
17	Small	C17	*No*	*Std Model*	*Cost*
1	Large	C1	*No*	*Std Model, Use own for ORSA & Cap Optimisation*	*Resources and value add*
2	Large	C2	*No*	*Std Model, Use own for ORSA & Cap Optimisation*	*Resources and value add*
21	Small	C21	*No*	*Std Model, Use own for ORSA & Cap Optimisation*	*Resources and value add*

The results in Table 4 2 are depicted based on three main areas under proposition two on the usage, preference and challenge of the integrated risk-based capital models proposed by the SAM framework.

Column one profiles responses on whether the respondent was planning to use internal models, responses being a yes or no and from the interviewees used as a validity checker the responses were aimed at deriving the recommendations made to their clients. Column two profiles the preference of using internal models over standard formula and he last column includes summarises results in respect of critical challenges or the reasoning behind the preference of the standard formula against the internal model.

The results above indicate that proposition II holds true with respect to the consequence of the SAM implementation regarding availability of skills and resources to develop risk-based models across the industry.

4.4 Results pertaining to Proposition 3

Risk management frameworks, reporting and disclosures will improve with the implementation of the SAM framework.

Table 4-3 : Results pertaining to Proposition 3

			Proposition 3				
			Risk Management Frameworks				
Co. No.	Size	Respondent No.	Existing Risk Mgt Framework	Risk Culture	Governance & Processes	Outsourcing	Disclosure & Reporting
3	Large	C3	*Yes but not previously core*	*Reasonable level but more work to be done under SAM*	*Implemented but more required*	*Yes, more control required*	*More required*
7	Large	C7	*Present & Outsourcing*	*Reasonable level exists*	*Implemented but more required*	*All business outsourced*	*More required*
9	Medium	C9	*Yes as a group to Bank Group - used Bank framework*	*Yes*	*Implemented just a few adjustments to comply to SAM*	*Yes, more control required*	*More required*
12	Medium	C12	*Yes as a group to Bank Group - used Bank framework*	*Yes*	*Implemented but more required*	*Yes, more control required*	*More required*
14	Medium	C14	*Yes not in control as use of third-parties*	*Minimal*	*Minimal before and SAM require more to be done*	*All business outsourced, NO Control*	*More required*
15	Medium	C15	*Minimal only at executive level*	*Minimal*	*Minimal*	*Yes, more control required*	*More required*
18	Small	C18	*Minimal only at executive level*	*Minimal*	*Minimal*	*Yes, more control required*	*More required*
23	Validity	VC3		*Minimal*	*More required*		*More required*
17	Small	C17	*Minimal*	*Reasonable level but more work being done under SAM*	*Minimal before and SAM require more to be done*	*Yes, more control required*	*More required*
1	Large	C1	*Yes, more improvement*	*Reasonable level but more work being done under SAM*	*Minimal before and SAM require more to be done*	*Yes, more control required*	*More required*
2	Large	C2	*Yes, more improvement*	*Reasonable level but more work being done under SAM*	*Implemented but more required*	*Yes, more control required*	*More required*
21	Small	C21	*Yes, more improvement*	*Reasonable level but more work being done under SAM*	*Implemented but more required*	*Yes, more control required*	*More required*

Proposition three attempted to determine the respondents' status with respect to risk management, governance structures and whether their organisations had embraced the enterprise risk management as part of the company culture. The results demonstrate the respondents' responses as to whether they had adequate ERM frameworks in place prior to the SAM and had instituted processes for compliance. The last column delved on the company's preparedness on the level of detail of information for reporting to the FSB.

The results in Table 4 3 indicate that proposition three holds true; the implementation of the SAM will impose significant changes on risk management frameworks across the industry. Disclosure and reporting is obviously more onerous under the new regime for all entities, as more information and frequency of reporting is required.

4.5 Results pertaining to Proposition 4

While insurance companies are still unprepared, the implementation of SAM will impose higher cost structures for effective reporting and compliance.

Table 4-4 : Results pertaining to Proposition 4

			Proposition 4			
			Preparedness & Cost			
Co. No.	Size	Respondent No.	Pillar I & III	Pillar II	2016 Deadline	ToTal Cost
3	Large	C3	*Not fully but will be by 2016*	*Not fully but will be by 2016*	*Will meet*	*ZAR 3-5m pa implement and 2-3m pa after*
7	Large	C7	*Partially*	*Requirements Not fully understoond*	*Will meet*	*ZAR 2-3m pa implement and 3m pa after*
9	Medium	C9	*Prepared*	*Not fully but will be by 2016*	*Will meet*	*15% increase on current costs*
12	Medium	C12	*Partially*	*Not fully but will be by 2016*	*Will meet*	*ZAR 2.5m - 5m pa*
14	Medium	C14	*Prepared*	*Not fully but will be by 2016*	*Will meet*	*ZAR 2-3m*
15	Medium	C15	*Not fully but will be by 2016*	*Not fully but will be by 2016*	*Will meet*	*ZAR 1.5 -3m pa*
18	Small	C18	*Not fully but will be by 2016*	*Requirements Not fully understoond*	*Will meet*	*ZAR 1.5 -2.5m pa*
23	Validity	VC3	*Market not fully prepared*	*Not fully but will be by 2016*	*Will meet*	*10-20% of current RM & Actuarial cost*
17	Small	C17	*Partially*	*Not fully but will be by 2016*	*Will meet*	*ZAR 1.5 -3m pa*
1	Large	C1	*Not fully but will be by 2016*	*Not fully but will be by 2016*	*Will meet*	*ZAR 4m - 6m pa*
2	Large	C2	*Partially*	*Not fully but will be by 2016*	*Will meet*	*ZAR 2-3m*
21	Small	C21	*Not fully but will be by 2016*	*Not fully but will be by 2016*	*Will meet*	*5% increase on current costs*

The results in Table 4 4 indicate the preparedness of the industry in respect of SAM, Pillar I and II have put together as the requirement for solvency will go hand in hand with market transparency and reporting. Once all information and evaluations under Pillar I are met, the subsequent reporting and disclosure will be met.

Most of the respondents were not willing to give actual costs incurred on implementation but the researcher endeavoured to obtain values through further exploration with the interviewees for estimates. Where figures were not available, the researcher derived reasonable estimates in relation to company market share relative to similar respondents who had provided values. For further credibility, see table Table 4-5 : Implementation costs QIS 2 (FSB 2015) submitted to the FSB under QIS 2, while these figures are for some companies participating on QIS 2, they are largely representative as includes all the large industry players.

Table 4-5 : Implementation costs QIS 2 (FSB 2015)

Pilar 1		Pilar 2		Pilar 3	
Incremental implementation costs	Incremental Annual Outgoing Costs	Incremental implementation costs	Incremental Annual Outgoing Costs	Incremental implementation costs	Incremental Annual Outgoing Costs
211.7m	77.7m	131.5m	40.9m	104.1m	37.1m

The FSB conducted some reviews of the market in the QIS 2 report. The above table provided indications from participants of the expected costs under SAM. Incremental implementation costs are costs from the start of SAM implementation up to 2014, while annual outgoing costs are expected costs going forward.

4.6 Summary of the results

The results above supported the propositions of the research; however, there are areas where questions have been raised providing opportunity for further research.

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

The intention of this study was to establish the impact of the solvency assessment and management framework will have on particularly on the capitalisation, risk management in the South African insurance industry. Evaluate preparedness and effective costs resulting from the vast framework with the intensive demands as evidenced the similar Solvency II process.

Previous regimes did not adequately take into account the real risk profiles faced by insurance entities. While the industry had been aware of the phenomenon developing in the first world, the complexity of the evaluations and their application across diverse companies with a myriad of subjective parameters made it impossible and unattractive to regulators.

The results are discussed in this chapter by proposition and highlight the pertinent issues related to the SAM's three pillars. From the literature review it can be seen that the Solvency II experience indicates that various aspects will have a significant impact on the industry, as the same have been adopted under the SAM. The results from the various sources highlighted in the literature indicate an increase in capital requirements and cost structures, an improvement in risk management frameworks and challenges in the development of risk models, due to the more comprehensive risk-based framework of industry regulation.

These issues and the results from the research are discussed in this chapter.

5.2 Discussion pertaining to Proposition 1

a) Capital structure

The results show that the SAM framework will have an impact on the capital structures of insurance companies in South Africa. The current factor-based capital requirement is to be replaced with a more complex method of applying a model (standard or internal formula) to determine the economic capital for solvency, based on the market consistent valuation of the balance sheet and the incorporation of all risks inherent in business.

In the new regime, the minimum capital requirement will be 25% to 45% of SCR at a confidence level of 85% (one in six year protection) with a minimum quantum, which is still being discussed between ZAR 10m and 15m, with R15m more likely to be adopted.

Results from all of the respondents indicate that compared to the current method, the new capital requirement based on 25-45% of SCR is higher, primarily due to the increase in the SCR which encompasses all risks faced by the firm. Further analysis of the results of the QIS3 studies on small to medium entities show them to be largely

affected, as the 25-45% factor on SCR was below the quantum minimum of R10m under QIS 2 and R15m under QIS 3 (FSB 2015).

Table 5-1 : QIS 3 Results on capital structure (FSB 2015)

	Current Position (SA QIS 2)	(SA QIS 2)	Higher under SA QIS 2	Current Position (SA QIS 3)	(SA QIS 3)	Higher under SA QIS 2
Available Capital	R 42.8	R 49.5	63%	R 50.6	R 57.2	**54%**
Capital Requirement	R 17.9	R 33.2	98%	R 21.8	R 38.9	**83%**
Free Surplus	R 24.9	R 16.3	24%	R 28.8	R 18.3	**41%**
Coverage Ratio	**2.4**	**1.5**	**13%**	**2.3**	**1.5**	**37%**

The results of the QIS3 study support the research proposition indicating that overall capital requirements will increase; however, the available capital (free surplus) will also increase. QIS 3 was the first compulsory study conducted by the FSB and the results show an impact on more than half of the industry by number. The overall results indicate an increase from R21.8bn under the current regime (as at the date of QIS 3 reporting) to R38.9bn under QIS 3.

The QIS results indicated two non-life companies which did not meet the either the SCR or the MCR, while one company met the SCR but not the MCR. These were small companies whose available capital was not enough to meet the absolute minimum of R15m (FSB 2015).

b) Assets, Liabilities and Technical provisions

The shift of assets and liabilities based on consistent market valuations will primarily have an impact on small- to medium-sized companies, indicating a potentially negative and volatile movement of capital base. The research also shows that companies will now be more conscious of their investment portfolio composition. The assignment of risk charge depending on the risk factors of an investment will compel entities to re-align their investment portfolios to meet regulatory requirements. The respondents indicated that they would have to hold less investment in stocks, and move more towards the money and bond markets.

One of the respondents from a bank-owned insurance company discussed the challenges faced by bank-owned entities whose investment portfolios are largely invested in the parent or group company. The SAM's requirement for investment diversification and penal consideration of such investments will impose reluctant changes on bank-owned entities' investment strategies. This is due to penal charges

imposed on solvency determination on the lack of diversification and default risk within the same group companies.

Most of the companies, however, indicated relative compliance, as their current investment strategies are primarily in liquid assets such as bonds and the money markets, hence minimal impact is expected as market values are not volatile. This effectively indicates minimal reductions in the levels of available capital contributions from investments.

Technical provisions will also be the most affected, as the requirement for best estimate and risk margin for non-hedgeable liabilities resulted to lower industry values than on current basis. The respondents indicated their technical reserves were significantly lower than current position, with 20% of the industry by number indicating technical provisions higher than their current basis.

c) Reinsurance and other forms of risk transfer

Reinsurance will provide more relief compared to the previous regime; the revised guidelines under QIS 3 provided for more in utilisation of non-proportional reinsurance, especially in mitigation of catastrophe exposure. The previous factor-based methods had minimal consideration of non-proportional reinsurance as a form of risk transfer. While non-proportional is also a factor of reinsurance purchase and has significant risk transfer contribution, utilising the company's net written premium limited the scope to which the risk transfer could be accounted to provide capital relief.

Insurance companies have exposure to catastrophic events, which account for significant capital requirement and reinsurance, thus other risk transfer instruments are utilised to provide solvency relief. However, the previous regime provided minimal solvency more where non-proportional structures were utilised. Under the SAM, consideration has been given to incorporate calculations for the relief provided by these forms of risk transfer.

d) Product lines and diversification

Most of the respondents indicated that while current product lines may not be affected as available capital is also higher (excess funds), the introduction of new product lines will be challenged and a more cautious and informed approach would be required to venture into new lines of business. Some respondents also indicated potential withdrawal from those lines of business with higher capital requirements but lower returns.

e) Group Impact

Results on group capital also indicated that while capital requirements for groups will increase under the SAM, available capital resources will also be higher, hence offsetting the higher capital requirement threshold.

Group companies will be faced with complexities depending on their composition and structure, therefore several methods are being explored and there has been no prescription on the methodology to be applied. The three large entities interviewed indicated their reservations towards the SAM preferred deduction and aggregation approach. One respondent indicated this to be one of the challenge areas, resulting in the delayed implementation due to several issues:

- Significant information is required;
- Differences in regulatory regimes for groups in other territories and considerations of materiality; and
- A debate on whether local non-South African regulations or the SAM would apply.

South Africa has unique market structures of special purpose vehicles such as cell captives. One of the companies interviewed is a captive firm owned by one of the largest non-life underwriters, which in turn is owned by a life company. Several issues have been raised regarding the methodology of determination of capital for these firms; in the previous regime, all cells were evaluated as one entity and hence capital determination would effectively assume such as being part of the captive entity. However, under the SAM, each cell is evaluated as a separate entity and the capital requirement is aggregated to the parent entity for determination of the cell owner's capital requirement. Various methods are used, but the preferred method is the aggregation and deduction method. The cell captives are however, not agreeable to this methodology, as they feel that as each cell operates independently (one line of business as primarily each cell is specialised), there is still a diversification benefit that the new regulations are yet to incorporate into the capital determination.

The FSB has tested variations of a simplification of the standard formula for determination of first-party insurance structures. The proposal results indicate lower SCR as compared to the standard formula, but these are still higher than the current capital requirement. The revised SCR is three times higher for captives and 26% higher for cell insurers as determined under QIS 3.

f) Company Size

The literature review indicated that the impact on small to medium entities is catered for within the framework through the principle of proportionality. The principle requires the determination of capital to be based on the nature, scale and complexity of the risks inherent in the business, and should thus allow small companies to use proxy calculations for parts of the standard formula that should have appropriate results based on the "nature, scale and complexity" of the risks faced by the entity.

The research shows that the capital structures for small companies indicated a shift due to:

- Product diversification - results from the QIS studies indicated significant benefit from diversification across lines of business which smaller entities, especially mono-line firm, do not enjoy; and
- Changes in investment strategy – movement away from portfolios with higher risk factors and hence higher capital charges.

Yet some of the respondents felt that size is not the primary determinant of capital. As one of the respondents stated, “The risks faced by entities are based on the nature, skill and complexity of the business, a company might be small but be exposed to very complex risks”. While the respondent described the firm as a “small firm”, which is realistically not the case as in terms of income volumes the company is relatively large comparative to a similar entity by premium volume, the nature of their business and effectively the complexity is high being a cell captive. “The nature of our business is not traditional insurance, so to you make a call as the process continues (SAM) as not everything is addressed in the standard formula and technical specifications”, he continued.

The respondent noted that small firms would face challenges due to limited skills levels due to the high level of expertise required by the process, which they may not be able to afford internally or externally. While outsourcing could be an option, the respondents view was that this might compromise the business, as the consultants may not understand the business well, hence the firm’s involvement would still be intensive, eroding the purpose of the consultant. Further, for small companies the process results in increased costs, and based on their smaller capital base would result in a possible transfer of extra costs to policyholders, rendering the firm uncompetitive hence losing business and deepening their problem.

One of the respondents however, had a dissenting view, as he felt that smaller firms are less complex than large firms. He argued that larger companies could be unable to effectively determine and control their risks as compared to smaller companies. His view still recognised the fact that larger firms are better equipped with risk management frameworks, but the respondent believed that the possibility of failure of these processes and procedures is higher for large organisations, and that the capital determination for large firms would have a greater impact and lead to a lower confidence level.

The research further shows that from the panel of companies assessed, one small entity declared that they were facing pressure on their solvency requirements under the new regime. While the company met the minimum capital requirements, the required solvency was marginally higher than the available capital, and they were considering remedial measures before the full implementation of the SAM in 2016. Although one of the issues highlighted by this company was counterparty default risk, which had significant capital charge, the resultant charge was not significant enough to have an impact on the SCR.

In conclusion, it is evident from the research findings and further validation from the QIS results by the FSB, that there will be changes in capital structures for insurance companies upon the implementation of the SAM, irrespective of company size.

Results from the research support Wells and Morgan (2007) assertion that the minimum viable size of an insurer will increase, and that over a period of several years there will be a significant reduction in the number of small firms. This further raises concerns regarding the government's efforts to promote black-owned investments through the black economic empowerment framework.

5.3 Discussion pertaining to Proposition 2

The results from the research indicate that before the introduction of the SAM framework, economic capital models were in use. Sections of the industry have thus, to a reasonable level, implemented a risk management framework which integrates risk-based models. These were primarily for the determination of risk transfer mechanisms such as traditional reinsurance structures, as well as other forms of alternative risk transfer instruments and investments. All the entities interviewed either had an in-house model or had utilised third parties such as reinsurance brokers for capital optimisation of their reinsurance structures.

The research indicated that the industry does not have sufficient resources to effectively develop, implement and utilise risk-based capital models for the determination of solvency. The FSB's preference for the standard formula further evidenced their reservations on the market's capability, but more so, on the regulators' capability. The FSB is still vetting the internal models submitted and is sceptical that all the internal models submitted derived lower capital requirements than the standard formula.

It is mostly the medium to large companies that have invested in internal models; however, none of these have been approved yet; the companies are utilising the models for strategic decision making to develop new products and determine optimal reinsurance structures. Some indicated the use parallel run would enhance their development of the same and act as a validity check of the standard formulae, possibly aiding an enhancement of the same for future consideration.

The process of model approval is expected to be rigorous, as stated by one of the respondents. Most of the entities would prefer to use internal models due to the associated advantages, i.e.:

- aids the company's own solvency assessment and hence provides valuable input under the SAM's ORSA requirement under Pillar II; and
- for strategic planning;
    - use in capital optimisation and reinsurance purchasing
    - development of new products, primarily assessment of capital charge in respect of the particular line of business.

Respondents felt that boards might not be motivated to make such an investment as the consistency checks required by the regulator vis-à-vis the additional costs and resources would not yield sufficient shareholder value.

The other challenge is lack of resources and data quality; significant financial and human resources have been deployed in structures, systems changes and development, process changes and development, hiring of new personnel and realignment of products. Data quality and understanding of the risk models is critical, as noted by one of the respondents who stated - “garbage in garbage out”. In his opinion the market has some level of expertise, but for the current market demand, pressure on skilled resources will build due to the speed at which the SAM is being implemented. The industry will thus not have adequately accumulated sufficient knowledge by the implementation date. One of the respondents is already looking for a head for the new actuarial department; she indicated that this was due to increased demand for actuarial services. She further indicated that she would expect more challenges for smaller firms that could not afford the costs of these skills.

In conclusion, the research results support the proposition with respect to the insufficiency of resources; companies do not find it viable to invest in models that do not effectively yield value relative to their development cost and maintenance. The research, however, found that the majority of the large to medium companies have internal models, which are utilised internally, which supports the theory of availability of expertise to develop such models for the future use.

5.4 Discussion pertaining to Proposition 3

The research indicated that while the majority of the firms understood the concept of a risk management framework, the level of understanding of the requirements was low, a fact also highlighted by the FSB. As noted by one of the respondents about the requirements under Pillar II, apart from the large organisations or subsidiaries under large group companies that have reasonable levels of risk management infrastructures, the smaller entities do not yet have the appropriate risk management frameworks to meet the SAM requirements. A respondent who was a member of the SAM subcommittee indicated that the industry finds the requirements open to interpretation and companies do not have adequate guidance for a consistent approach across the industry.

There were further indications that while many firms are already practising and some risk culture exists in one form or another, they have no structured processes in place and more importantly no documentation in place. The requirements for the self-assessment of individual firm risks and demonstration to the regulator of processes in place to manage these risks was felt to be too broad and increased complexity in reporting; however, the industry acknowledges the value of all firms understanding the risks and having strategies in place on how to manage these risks.

From the literature review it was noted that for an effective risk culture, employees need to take active responsibility for the risks they take and recognise the contribution of effective risk management to their own performance scorecard (Thews et al. 2011). The research findings however, indicated a significant gap, as the respondents acknowledged that while governance and risk structures may be in place at the higher levels of an organisation, they do not adequately filter down to the lower levels. Thews et al. (2011) further highlighted the need to engrave an understanding of risk for the critical practices that drive the business, which seems to be flaw from the results of the study.

The research indicates that the SAM provides broader responsibility for board members than the King Code III; “gone are the times when a board member could just sit back in a board meeting and enjoy the ride”. Making strategic decisions will require a broad understanding of the risks facing the business, not just at the macro level, if the board is to facilitate management actions regarding the risks facing the business.

It is clear from the research that risk management frameworks, reporting and disclosure will improve with the implementation of the SAM, which supports the research proposition. However, as noted by one of the respondents, the current evaluation of risk management frameworks is a box-ticking exercise and firms may not be truthful in their responses. Such practices cannot be sustained; however, as the FSB will hold regular market audits. It is also apparent that proper risk management frameworks have significant benefit to the operations of a business for its long-term sustainability.

5.5 Discussion pertaining to Proposition 4

a) Preparedness

The SAM implementation is just a year away and this research, which largely obtained responses towards the end of 2014, indicated that the industry feels they are ready for implementation in 2016. The respondents appeared most confident in their preparations for the Pillar I requirements, which was the first and most rigorous exercise thus more time and resources were spent on these. Preparedness in respect of the risk management frameworks and reporting to the FSB is still low, as three of the entities interviewed indicated reservations about their understanding of the requirements.

One of the respondents indicated that he had reservations about the FSB’s capability, highlighting the frequent extensions for implementation, more so to the fact that SAM is ahead of their European counterpart, albeit the South Africa chapter started later. However, other respondents commented that the regulator has made tremendous strides and commended the FSB for the quality of work done and the intensity of discussions, where the whole industry was given an opportunity to review, critique and make recommendations on all proposals.

The respondents also acknowledged that the industry would definitely not be “fully” prepared, as there will be areas of deficiency for which corrective measures will be implemented in conjunction with the regulator. Three areas were highlighted as challenges:

- Data quality and system challenges;
- The lack of clear guidelines with respect to the risk management framework and reporting requirements; and
- Peculiar industry structures, groups and special purpose vehicles that require a review of the standard formula to enhance the principle of proportionality.

b) Estimated costs

The research results show higher costs comparative to the current regime, which relate to staff expenses, which are mainly actuarial, with others being accounting, risk management and audit. The respondents also indicated significant expenditure on system developments, especially for Pillar III implementation.

The FSB has acknowledged this concern about costs in their QIS2 study, which explored the cost impact of the SAM from the companies reported. The literature explored experiences under Solvency II, in which the costs of implementation have had a significant impact on the industry. The FSB explored ways in which the industry can fund the costs, with the participants in the QIS 2 study highlighting the following sources:

- Most insurers stated that shareholder funds would fund implementation costs, whilst higher premiums/fees on policyholders would fund ongoing costs, thus increased expense costs.
- Others indicated funding would come from retained profits and other assets.
- Captive and cells indicated that parent companies would meet the costs (FSB 2015).

The study also found that the large entities were already making significant efforts to improve governance and risk management, thus they did not find these costs significant to the overall goal as one respondent indicated, and they would have incurred some costs – albeit probably less - with or without the SAM. The implementation of the SAM was therefore viewed as an opportunity among large firms to enhance these structures and the only change required was to align to the SAM requirements.

The study however, observed that considerable financial and human resources have been “wasted” by several large firms in their efforts to develop internal models, only to abandon the exercise after incurring significant costs. Of note were unsubstantiated reports of a global insurance firm that spent an estimated R1bn in preparation for the SAM and Solvency II across all its worldwide subsidiaries. One respondent from a banking group indicated reservations about such a group wide exercise, highlighting her preference for an internal framework and resources which understand the business to a

one-size-fits-all strategy. She claimed that such a strategy is similar to outsourcing, as “outsiders” do not understand the business.

The findings therefore support the research proposition; the new framework will result in higher cost structures, either for the shareholders or for consumers.

5.6 Conclusion

It is evident from the results of the study that the research propositions have demonstrated similarities in the impact of SAM framework on the South African insurance industry. The capital requirements for all entities, irrespective of size, are higher than for the previous regime, and while available capital has also increased, this is not at the same ratio. Significant pressure will thus be on smaller firms to raise more capital to remain viable.

While the industry has reasonable skills and expertise when it comes to actuarial, audit and risk management, the SAM will impose greater pressure on the demand for these skills while supply will remain low. The industry is already experiencing pressure due to a scarcity of resources, and costs will escalate as demand increases. For the unprepared, the 2016 implementation and the 2015 parallel will impose more, as while previous studies have been optional, the next ones are not.

While it is apparent that risk is the core business of insurance companies and the industry, the research findings and the SAM implementation indicates that some industries have minimal risk management frameworks in place. This highlights a clear flaw in the regulatory framework, hence the potential for company failure and subsequent to policyholders, as risks are not being effectively managed. The SAM is a breakthrough in insurance regulations in South Africa; organisations will be adopting and embracing an effective risk culture through an enhanced understanding of the individual business entities by means of effective risk management frameworks.

The increase in costs will have negative consequences. Most companies indicated they would fund the extra costs through:

- either extra shareholders and increased retained – this will result in lower returns for shareholders at the same capital levels. For large companies with significant surplus capital this will not be significant, but for smaller companies holding capital at minimum levels, a R2 to R3 million extra cost for risk management and actual and accounting functions for compliance will have a significant impact on profitability.

- or increased premiums and fees – this is probably the most challenging solution as it may have a significant impact on the sustainability of firms, as increased premiums and fees will lower their competitive advantage.

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The SAM will impose new responsibilities on senior executives in the areas of risk management, governance and strategic decision-making. This study highlights the pertinent areas the industry needs to be aware of as the framework is being implemented, in order to prepare adequately.

6.2 Conclusions

The increasing complexity of entities, BASEL II for banks and the 2008 financial crisis demonstrated to the world at large that the complexities of the financial industry necessitated a more robust mechanism of regulation. Institutions needed to understand their risk profiles and implement management measures to control such risks. The regimes would require firms to demonstrate that they had sufficient capital, appropriate governance and risk management structures in place to manage these risks.

This report demonstrates the critical challenges that will faced by the implementation of a risk-based based regulatory regime on South Africa. The study shows that significant resources, culture changes and effort in areas of risk management, actuarial and auditing functions will be necessary.

The study agrees with the findings of the literature review that there will be commercial implications as a result of the SAM, such as:

a) Industry competitiveness

The industry is still bracing itself for implementation, thus any signs of a consequential impact on small and medium companies are yet to be felt. The study participants did not yield conclusive evidence to this effect; however, from a prudent investor angle, increased cost structures, higher expense margins and an uncompetitive market from the larger organisation, all point to a less attractive industry. It is therefore expected that there will be some activity in the mergers and acquisition markets for smaller entities.

There will be changes in investment strategies due to a market consistent valuation methodology, while a section of the industry indicate acceptable surplus funds for solvency evaluation. Investment portfolios, and in particular equity investments for firms on the margin of solvency, will have to be critically evaluated, as they pose unattractive risks for capital evaluations, resulting in a reduction in excess solvency funds. Only companies with significant excess solvency will be able to play in the equity markets, and the returns on such investments will have to be higher than the respective charges imposed for solvency. For smaller entities or companies with limited capital resources, the imposed capital charges would have to be offset by the returns on such investments.

b) Pricing and product design

The industry, and particularly the smaller mono-line firms, will have to hold more capital due to a lack of diversification, unless a portfolio generates adequate profitability. The study did not yield any evidence of a specific action planned; however, there were indications of firms moving away from more capital-intensive products.

c) Systems and processes

One of the critical highlights of this study was the challenge of data collation, as the current information systems and distribution structures are not prepared for the level of granular data required to meet the SAM requirements. The distribution structure in South Africa is complex for some organisations, and systems development costs will further increase costs for firms. This may lead to some restructuring as companies want to gain more control of critical data and control risks emanating from such outsourcing.

d) Staffing and resource requirements

All participants interviewed for this study stated that it is apparent that the requirement for resources in actuarial, risk and audit functions will increase. There is already an indication of a scarcity of skilled resources, with some firms being unable to fill required positions for a period of year. A consequence of this will be escalated remuneration for these positions. On a positive note, while the scarcity of resources increases demand for resources and hence costs to the industry, this provides opportunities in the actuarial, auditing and risk management sectors, which enhances job creation and effectively economic growth.

e) Risk management frameworks

A more systematic approach to risk management is a prerequisite for a comprehensive regulatory regime. While dissenting views emerged in the literature review with respect to the complexity, the long-term benefits to an industry, which is more aware of the risk landscape, were acknowledged.

f) Greater market transparency and reporting

Market discipline has also been highlighted as a contribution of failure in insurance firms; the SAM framework intends to reduce the asymmetry of information to stakeholders, including policyholders, investors, employees and supervisory authorities. Convergence between the insurance sector and the capital markets necessitates a better flow of information to all stakeholders for transparency and enhances early

detection of financial stress. As the literature review highlights, a transparent process will result in less intrusive supervision, as the market itself forces prudent insurer behaviour top the greater comfort for the company board and the market at large.

The research further indicated that the enhanced economic capital, risk disclosure and reporting will benefit investors, who will have a better knowledge of the viability of firms in the insurance sector, thus allowing for better investment decisions.

The industry agrees that the SAM framework is moving in the right direction and will promote the financial soundness of insurers in South Africa. The FSB is planning an economic impact study to evaluate the implications of the framework on the industry and the general economy. Further, while the long-term implications of a comprehensive framework such as Solvency II and the SAM are yet to be established, the general consensus is that regulations are critical and the objective to achieve financial soundness of the industry is a benefit, as the costs of failure - as demonstrated by the consequences of the financial crisis, are vast.

6.3 Recommendations

The SAM is still in the implementation stage and while the research findings are based on the preliminary experiences of the respondents, particularly with respect to Pillars II and III, significant insight has been gained into actual results from the quantitative results of Pillar I. Several areas have been re-evaluated and revised through the implementation process, of note being the recommendation or preference by the FSB for the utilisation of the standard formula for solvency assessment. Justification of an internal model is hampered by inadequate resources and rigorous requirements thus limiting any benefits that would be derived.

The enhanced responsibility of executives increases their involvement in the business operations, thus the need for a deeper understanding of the business framework to promote better decision making.

This may however, have consequential impacts on:

a) Shareholder investment options: through incremental costs and possible requirements for additional capital to ensure compliance, investors will have to weigh their options on alternative investments.

b) Reassessment of shareholders' investment strategies: despite possible increased viability of firms through regular monitoring, profitability and hence return on investments is likely to reduce due to decreased investment in riskier instruments.
c) Market competitiveness: the rigorous requirements will reduce the ease of entry into the market, hence increased dominance of the large firms, which are able

to utilise capital more efficiently through diversification. This is expected to improve consumer value through efficient pricing; however, the decrease in market competition could see reserve competitive pricing.

d) Safeguard policyholders: their primary interests are adequately protected and the possible demise of firms and financial losses to policyholders are expected to be significantly minimised. The consistent and regular checks will ensure correctional mechanisms that ensure the sustainability of firms in the industry and economy at large.

e) Various experts have also highlighted critical in the reporting of risk management frameworks and processes, where some firms have taken it as a box ticking exercise. This will not promote the achievement of the framework's objectives of efficient governance and risk management systems within the industry.

The industry should continue to embrace and support the framework; particularly as the resources applied to date indicate that the implementation is at a point of no return. South Africa is a leading economy and being at the periphery of the developing world – particularly in Africa – means that the SAM's success is pivotal to the direction the African continent will take in relation to financial sector regulations. The subsequent increase in industry confidence will be a motivation for African regulators to adopt a similar comprehensive framework that will improve efficiency in the industry and promote economic growth.

6.4 Suggestions for further research

The introduction of a risk-based regime introduces new dynamics into the areas of risk management and governance, thereby providing opportunities for further assessment of the long-term implications of the intended improvements. This study highlights areas that remain vague as to the consequences of a stringent, integrated, regulatory framework, and whether a complex framework such as the SAM will really yield benefits, despite the limited accuracy under the best circumstances due to the vast data and information required which the respondents highlighted as a challenge.

South Africa is composed of firms with complex structures such as groups and special purpose vehicles, which have posed challenges to the principle of proportionality in solvency calculations. This area creates an opportunity for further study, to evaluate whether the framework will achieve the objective of incorporating these structures deriving reasonable parameters in their solvency calculations.

During the study information emerged regarding an intended restructuring of the regulatory structure of the financial sector, whereby the prudential regulation of the insurance industry will be transferred to a new prudential authority within the Reserve Bank. The twin peaks to provide a comprehensive regulatory framework will see the

FSB functions dissolved and a new market conduct authority for financial services firms formed. This framework intends to improve the way financial services firms conduct their business, ensure integrity and efficiency of financial markets, and oversee effective consumer education regarding financial products. In addition, other regulatory developments that may have an impact on the South African insurance industry include the Treating Customer Fairly (TCF) regulations and the Retail Distribution Review.

Respondents to this study indicated their concerns about the impact this will have on the industry, highlighting other countries such as England and Australia where this structure is seen to have failed. This provides an opportunity for further research on the consequences of this proposed change on the financial sector, with regard to firms' competitive behaviour and consumers.

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CHAPTER 8. APPENDICES

8.1 Appendix A – Definition of terms

Table 8-1 : Definition of terms

Terms		Definition
Basel II	–	Equivalent regulatory system for banks that uses the three pillar approach on a risk-based assessment of capital adequacy in banks.
Basic Solvency Capital Requirement (BSCR)	–	Key quantitative capital requirement defined in the Solvency Assessment and Management (SAM) Directive. The SCR is the higher of the two capital levels required in Solvency Assessment and Management (SAM) and provides an approximant 1 in 200 year level of protection.
CEIOPS	–	Committee of European Insurance and Occupational Pensions Supervisors
ERM	–	Enterprise Risk Management
Financial Service Board (FSB) -	–	Independent institution established by statute to oversee the South African non-banking financial services industry in the public interest. The FSB is responsible for ensuring that regulated entities comply with the relevant legislation as well as capital adequacy requirements to promote the financial soundness of these entities thereby protecting the investing community.
IAIS	–	International Association of Insurance Supervisors
ICP		Insurance Core Principle
IMAP	–	Internal Model Approval Process, pre-application phase for the review and assess firms' internal models under the SAM regime.
Insurance Company or Company	–	Non-life insurance company (for the purposes of this study).
Minimum Capital Requirement (MCR)	–	Key quantitative capital requirement defined in the Solvency Assessment and Management (SAM) Directive. The MCR is the lower of the two capital levels required in Solvency Assessment and Management (SAM) and provides an approximate 1 in 6 year level of protection.
ORSA	–	Own Risk and Solvency Assessment
QIS	–	Quantitative impact studies - insight into the possible quantitative impacts of the new solvency system, SAM.
QRT	–	Quantitative Reporting Template

Terms		Definition
RTS	–	Confidential Report to Supervisor
SFCR	–	The Public Solvency and Financial Condition Report
Solvency (Solvency Margin)	–	This is the amount of regulatory capital an insurance undertaking is obliged to hold against unforeseen events.
Solvency and Financial Condition Report (SFCR)	–	This is the public disclosure report which is required to be published annually by all undertakings and will contain detailed quantitative and qualitative elements.
Solvency Assessment and Management (SAM) regime	–	The name given to the South African chapter for adoption and implementation of Solvency II (FSB 2011b).
Solvency Capital Requirement (SCR)	–	Key quantitative capital requirement defined in the Solvency Assessment and Management (SAM) Directive. The SCR is the higher of the two capital levels required in Solvency Assessment and Management (SAM) and provides an approximant 1 in 200 year level of protection.
Solvency II	–	This the updated set of regulatory requirements for insurance firms that operate in the European Union and based on economic principles for the measurement of assets and liabilities. It is also risk-based system as risk will be measured on consistent principles and capital requirements (solvency) will directly depend on these principles (European Commission 2011a).
SRP	–	Supervisory Review Process
Standard Formula	–	A non-entity specific risk-based mathematical formula used by insurers to calculate their Solvency Capital Requirement under the Solvency Assessment and Management (SAM) regime.
VaR	–	Value at Risk

8.2 Appendix B – Figures and Tables

8.2.1 SAM Governance Structure

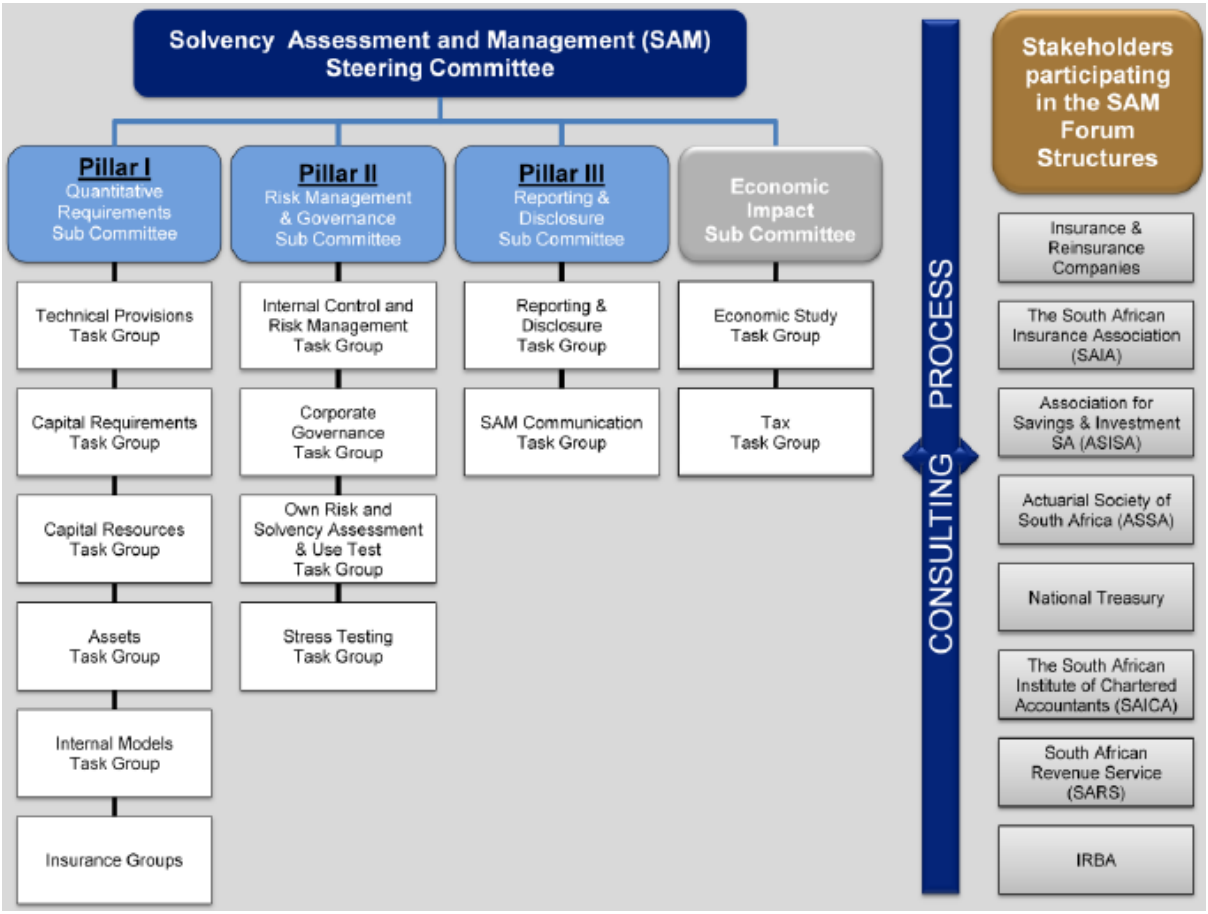

Figure 8-1 : SAM Governance Structure, (FSB 2010 p.6)

8.2.2 Insurer Risk Map

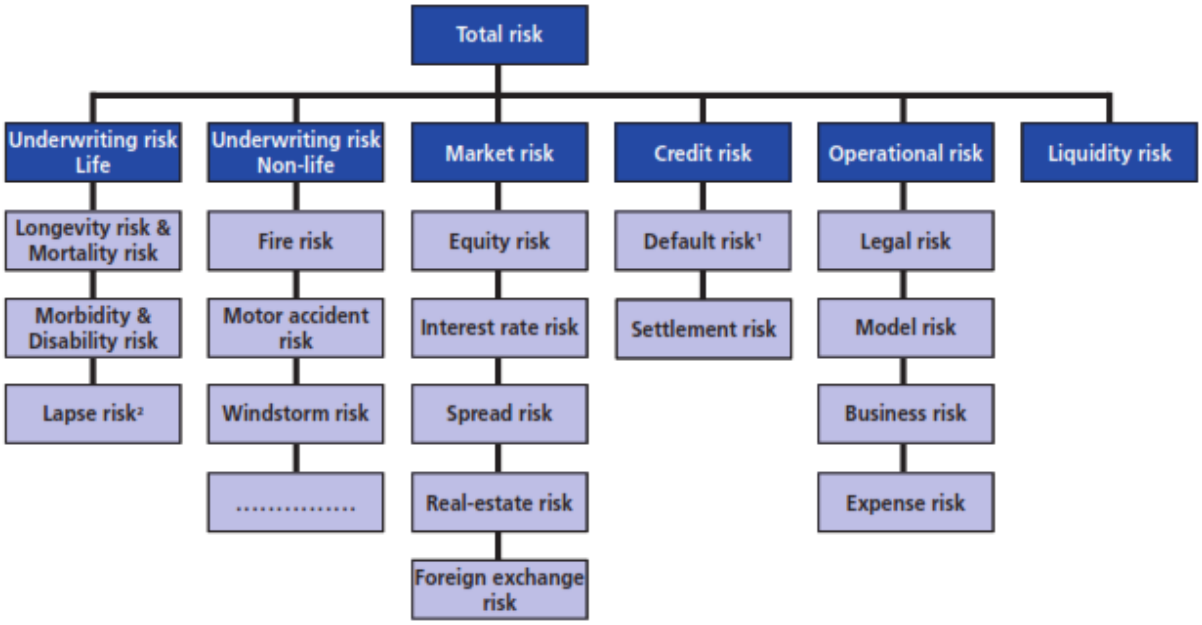

Figure 8-2 : Insurer Risk Map (CEA and Groupe Consultati 2007 p.64)

8.2.3 Revised Structure of the SCR under SA QIS3

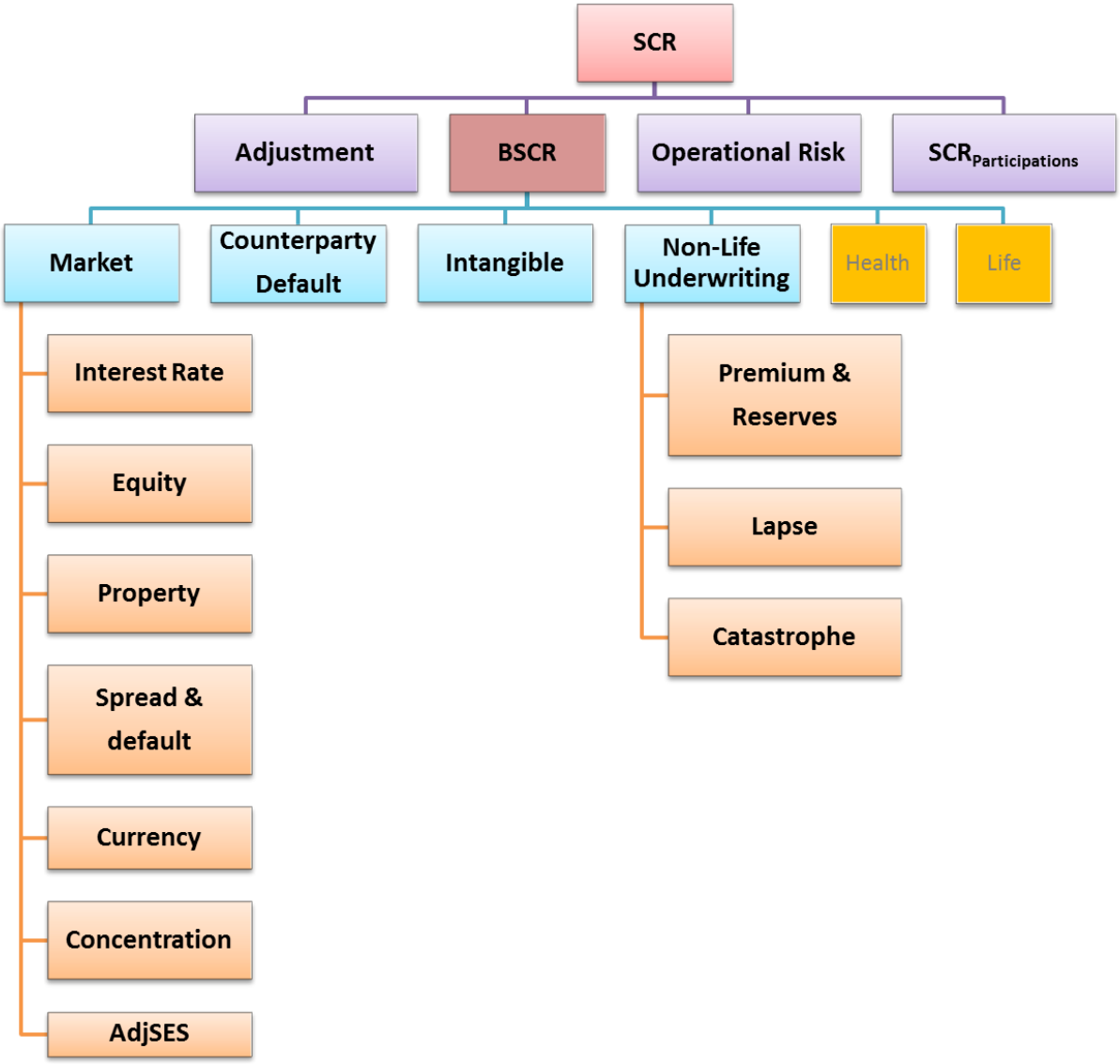

Figure 8-3 : Structure of the SCR under the SA QIS3 (FSB 2015 p.20)

8.2.4 Internal/Standard Model Decision making process

The key considerations are;

- Does the model fit the company risk profile?
- Does it optimise my statutory capital requirement?
- Have I appropriately allowed for the cost, benefit and effort entailed ('proportionality')?

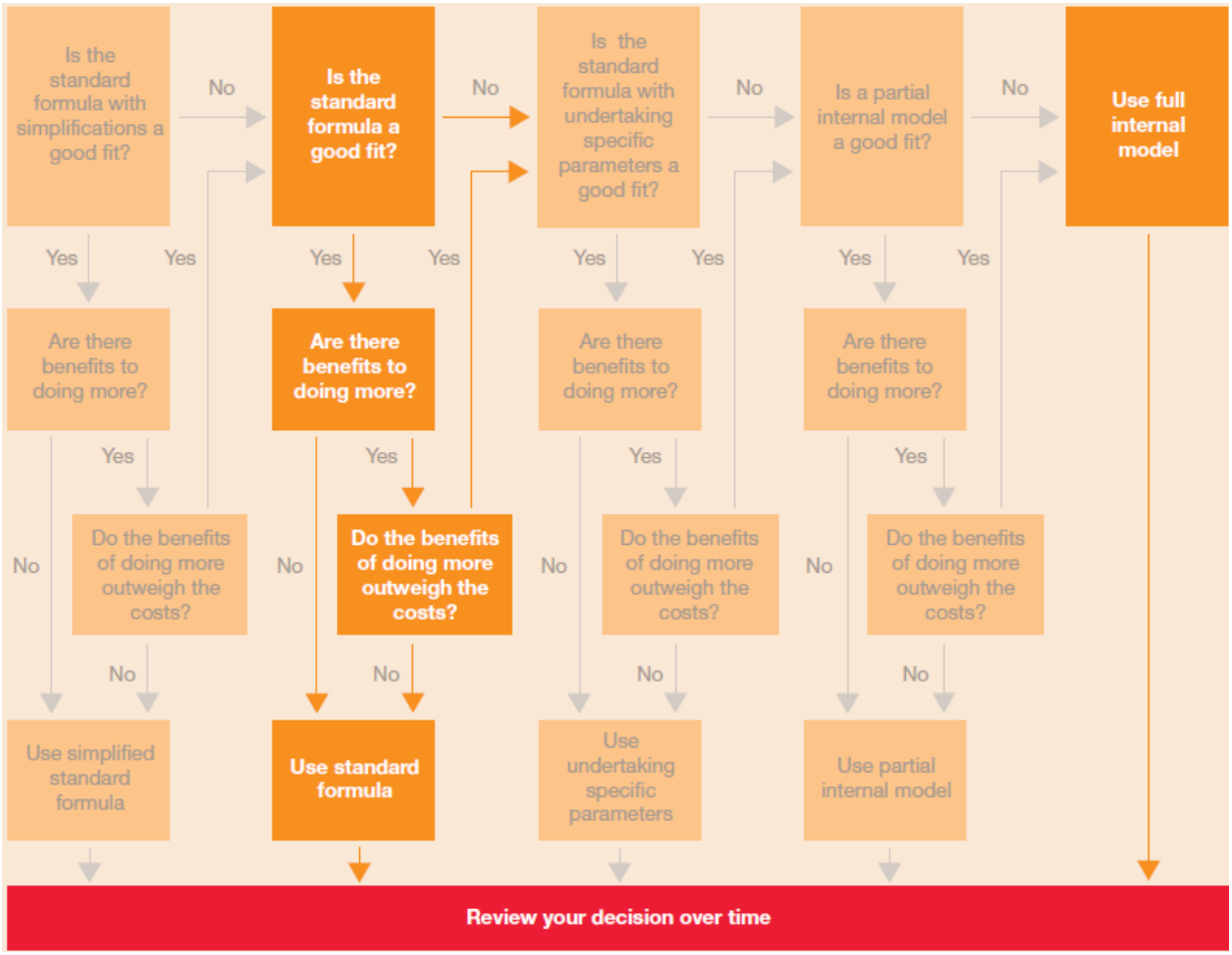

Figure 8-4 : Internal/Standard Model Decision making process (Joseph, Hagen and Pas 2011)

The decision made can critically affect the long-term outlook of the firm, the cost and resource implications and most importantly the reputation and perception of the organisation.

8.2.5 Market Solvency Report 2009

Short-term insurers' results at 31 December 2009 showed a median surplus asset ratio of 49% (67% in 2008), which still greatly exceeded the required minimum of 15%. Table 8-2 gives an indication of the financial strength of the Non-Life insurance market as at 30th June 2010:

Table 8-2 : Market Solvency Report 2009

Statutory solvency (%)	Number of insurers
Below 15%	0
15 to 20%	1
20 to 25%	3
25 to 30%	6
30 to 40%	15
40 to 50%	5
50 to 100%	18
Over 100%	29

Note: *Retrieved from SAIA - Special Report on the Results of the Short-term Insurance Industry 2009 p.51*

8.2.6 Market Share by Gross Written Premium

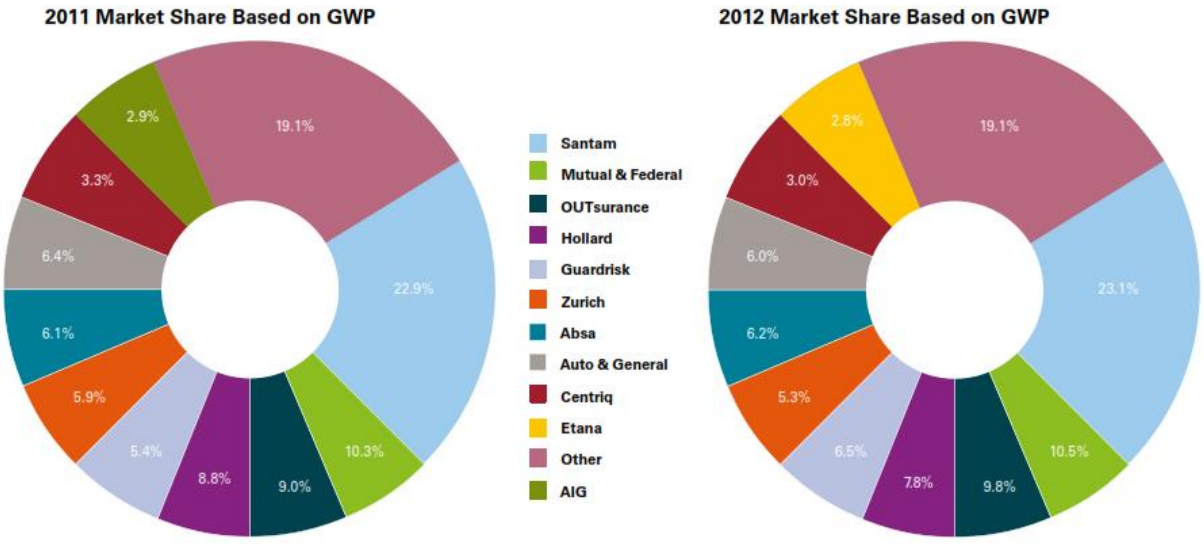

Figure 8-5 : Market Share by Insurer 2011/2012 (KPMG 2013 p.77)

Santam and Mutual & Federal had a combined market share of approximately 36% of the Non-Life market in 2009. Hollard and Zurich account for a further 16%.

Table 8-3 : Market Statistics 2012 (KPMG 2013 p.83)

Large		Medium		Small	
Name	**GWP**	**Name**	**GWP**	**Name**	**GWP**
Santam	16.5bn	Regent	1.8bn	Infiniti	619m
M & F	7.5bn	Standard	1.6bn	Renasa	585m
Hollard	5.6bn	Lombard	1.2bn	ACE	410m
Guardrisk	5.5bn	Compass	1.1bn	RMB Structured	354m
Outsurance	5.3bn	SASRIA	1.1bn	Saxum	102m
ABSA	3.4bn	Alex Forbes	926m		
Zurich	3.4bn	Constantia	909m		
Centriq	2.2bn	New National	893m		
		Nedgroup	860m		
		Lion of Africa	823m		
		Credit G	776m		

8.3 **Appendix C** – The Research Instrument

Section 1 – Impact on Solvency

Q1. What impact will SAM have on your current capital structure?
Q2. What other areas in your solvency determinations will be affected by the SAM regulations and how?
Q3. Member of a group – what impact will SAM have?
Q4. Impact on the company size?

Section 2 – Capabilities and challenges in developing, implementation and usage of risk based capital models

Q1. Are you applying to utilise an internal model?
Q2. Preference of internal model over the standard formula?
Q3. What challenges do you foresee in the application of models, internal and the standard formula?

Section 3 – Implications of SAM on Risk management frameworks, reporting, and disclosure

Q1. What impact will SAM have on your risk management frameworks, reporting, and disclosure;

Section 4 – How prepared are insurers and the cost implications?

Q1. With specific regard to Pillar 1, how prepared is your organization?
Q2. With specific regard to Pillar II, how prepared is your organization
Q3. With specific regard to Pillar III, how prepared is your organization?
Q4. Will you achieve the target deadline of 2016?
Q5. How prepared is your organization in the following areas?
- Documentation of existing tools, data, responsibilities and procedures
- Risk governance and processes
- Integrated risk architecture
- Risk strategy/appetite
- Risk awareness/culture

Q6. What do you estimate will be the total cost, including internal resources, of SAM up to and including implementation in 2016?

8.4 Appendix D – Interview Request Letter

Letter / Email to respondents

Dear Respondent,

I am a final year MBA student at the Wits Business School. In fulfilment of my course, I am conducting research entitled, “Impact of the Solvency Assessment Management (SAM) on the South African Short-term Insurance Industry.” I would be grateful if I could have, interviews with you for approximately one hour to enable me evaluate the implications of the SAM requirements on the industry. Your contribution to the research will be highly appreciated.

The content of our discussion and results of the final thesis report relating to yourself or the company will not be published. Please note that confidentiality will be strictly observed, and the final report will be for academic purposes only. Kindly advise your availability and your preferred location for the discussion.

Thank you and kind regards,

Peter Nelson Mbugua

Cell : 076 833 6432

email : pnmbugua@gmail.com