ACTUARIAL SOCIETY OF SOUTH AFRICA

Quantifying Risk, Enabling Opportunity.

SAM Phase II LACDT

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Contents

SAM Phase II

SAM Phase II

The Prudential Authority launched a review of prudential regulation, referred to as SAM Phase II

Process began late 2019 and is expected to be ongoing for a few years

Life insurance topics that the PA is looking at include:

- Iterative approach to the risk margin
- Stressing Life IBNRs
- LACDT
- Expenses
- Single equivalent scenario for UW risk
- Treatment of linked insurers

So far, the PA has published additional (draft) guidance on the first of these two topics

Role of LAC Subcommittee on SAM Phase II

Engagement with the PA

- Discussions with PA on certain matters
- Formal responses to draft guidance on behalf of profession
- Providing an actuarial view on the matters as opposed to an industry view

Subcommittee prepares additional information on certain SAM related topics

These are typically published as information notes (such as the LACDT note discussed today)

The subcommittee is also looking at SAM related matters not on the PA's list

For example, looking into the calibration of the retrenchment risk stress

LACDT Information Note

Objectives

What is LACDT?

Why do we need an Information Note?

General principles

Allowance for tax rules

Recoverability of post-stress DTA

LACDT without post-stress DTA

Reduce DTL when losses are made
ΔDTL = 28% of -500

Deferred taxes allows SCR to be "net of tax"

FSI 2.1 Section 4.4

FSI 4 Attachment 5

IFRS Balance Sheet			SAM Balance Sheet			Stressed SAM Results	
Investments	9 000		Investments	9 000		Investments	9 000
Current assets	1 000		Current assets	1 000		Current assets	1 000
DTA	0		DTA	0		DTA	0
Total assets	**10 000**		**Total assets**	**10 000**		**Total assets**	**10 000**
Technical provisions	8 000	-1 000	Technical provisions	7 000	+500	Technical provisions	7 500
Current liabilities	1 000		Current liabilities	1 000		Current liabilities	1 000
DTL	0	+280	DTL	280	-140	DTL	140
Total liabilities	**9 000**		**Total liabilities**	**8 820**		**Total liabilities**	**8 640**
IFRS Excess assets	**1 000**	+720	**SAM Own Funds**	**1 720**	-360	**Stressed Own Funds**	**1 360**

LACDT with post-stress DTA

DTA says "future profits will not be taxed"

It implies future post-stress profits of 140 / 28% = 500

IFRS Balance Sheet

Investments	9 000
Current assets	1 000
DTA	0
Total assets	**10 000**
Technical provisions	8 000
Current liabilities	1 000
DTL	0
Total liabilities	**9 000**
IFRS Excess assets	**1 000**

Adjustments to SAM: Technical provisions -1 000; DTL +280; Own Funds +720

SAM Balance Sheet

Investments	9 000
Current assets	1 000
DTA	0
Total assets	**10 000**
Technical provisions	7 000
Current liabilities	1 000
DTL	280
Total liabilities	**8 280**
SAM Own Funds	**1 720**

Stress adjustments: DTA +140; Technical provisions +1 500; DTL -280; Own Funds -1 080

Stressed SAM Results

Investments	9 000
Current assets	1 000
DTA	140
Total assets	**10 140**
Technical provisions	8 500
Current liabilities	1 000
DTL	0
Total liabilities	**9 500**
Stressed Own Funds	**640**

Why an Information Note?

LACDT can reduce SCR significantly

- **Complexity**
- **Judgement**

IFRS Balance Sheet			SAM Balance Sheet			Stressed SAM Results	
Investments	9 000		Investments	9 000		Investments	9 000
Current assets	1 000		Current assets	1 000		Current assets	1 000
DTA **Complexity**	0		DTA **Complexity**	0	+140	DTA **Judgement**	140
Total assets	**10 000**		**Total assets**	**10 000**		**Total assets**	**10 140**
Technical provisions	8 000	-1 000	Technical provisions	7 000	+1 500	Technical provisions	8 500
Current liabilities	1 000		Current liabilities	1 000		Current liabilities	1 000
DTL **Complexity**	0	+280	DTL **Complexity**	280	-280	DTL **Complexity**	0
Total liabilities	**9 000**		**Total liabilities**	**8 280**		**Total liabilities**	**9 500**
IFRS Excess assets	**1 000**	+720	**SAM Own Funds**	**1 720**	-1 080	**Stressed Own Funds**	**640**

Background

An educational document, not formal guidance

Process followed

- Written by LAC SAM Phase II Subcommittee
- Approved by LAC
- Reviewed by Professional Matters Board
- Also on the PA's SAM Phase II list

Scope

- All members calculating or reviewing LACDT
- Some exclusions, e.g. internal models, foreign jurisdictions and cell captives

General principles

Principle of proportionality

Follow IFRS requirements

Consistency across SAM balance sheet, SCR and projected profits

I-E tax in policyholder funds is captured within risk modules

Allowance for tax rules

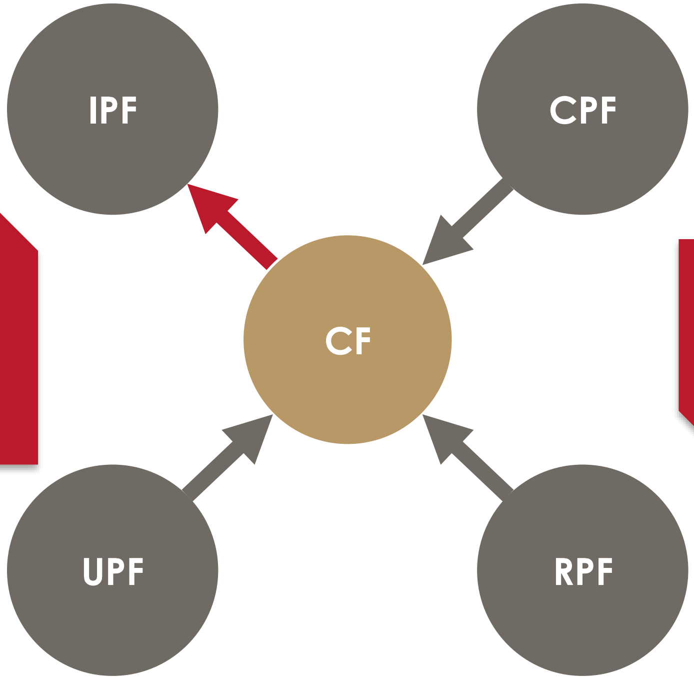
Complexity

Main tax rules

Information Note includes a summary of key tax rules, as well as illustrative examples

Transfers from CF (losses) may only be offset against future profits from the same tax fund

-> SCR reduces DTL and creates DTA



Separation of income and capital gains in CF and policyholder funds

Deferred tax within the SCR (with DTA)

Tax rules affect every instance of DTA and DTL

IFRS Balance Sheet

Investments		9 000
Current assets		1 000
DTA	Easy	0
Total assets		**10 000**
Technical provisions		8 000
Current liabilities		1 000
DTL	Easy	0
Total liabilities		**9 000**
Excess assets		**1 000**

Changes: Technical provisions -1 000; DTL +280; Excess assets -720

SAM (after deferred tax)

Investments		9 000
Current assets		1 000
DTA	Easy	0
Total assets		**10 000**
Technical provisions		7 000
Current liabilities		1 000
DTL	Easy	280
Total liabilities		**8 820**
Excess assets		**1 720**

Changes: DTA +140; Technical provisions +1 500; DTL -280; Excess assets -1 080

SAM (after SCR stress)

Investments		9 000
Current assets		1 000
DTA	Very complex	140
Total assets		**10 140**
Technical provisions		8 500
Current liabilities		1 000
DTL	Complex	0
Total liabilities		**9 500**
Excess assets		**640**

Key considerations relating to tax rules

Separate tax impacts by tax fund and tax type

FSI 4
Attachment 5
Section 4

More generally, consider all tax rules that would apply practically

Simplifications and assumptions

- Identify all such items, implicit and explicit
- Documentation including limitations
- Appropriate controls and governance oversight
- Regularly assess appropriateness

Potential methodology for SCR disaggregation

01 **Disaggregate SCR into risk components**

02 **Allocate components between tax funds and tax types**

03 **Calculate SCR for each tax fund and tax type**

04 **Scale SCRs from Step 3 to sum to licence level SCR**

05 **Assess deferred tax impact for each tax fund and tax type**

Potential simplifications

- Limit disaggregation to material impacts
- Average tax rates

Assess **all simplifications** (explicit and implicit) against material implications of tax rules

Potential methodology for SCR disaggregation

01 Disaggregate SCR into risk components

02 Allocate components between

03 Calculate

04 licence level SCR

05 Assess deferred tax impact for each tax fund and tax type

Potential simplifications

- Limit disaggregation to material impacts

- Consider all relevant tax rules
- Understand all simplifications and approximations

Recoverability of post-stress DTA

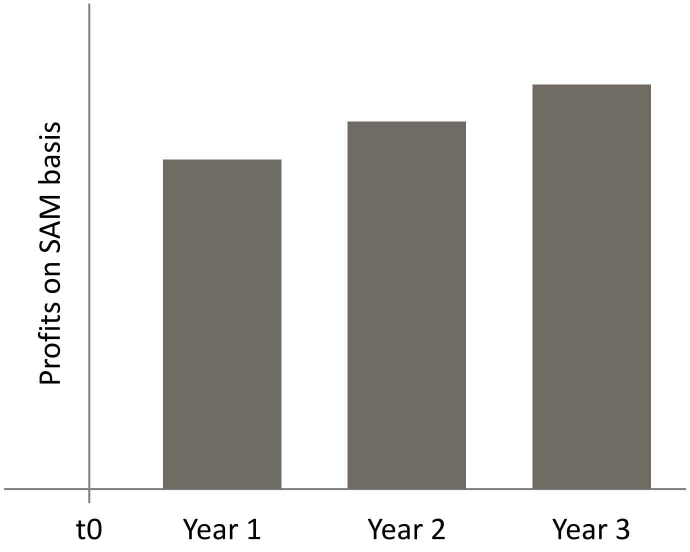
Judgement

Recoverability of post-stress DTA

- Are there sufficient <u>post-stress</u> profits to justify the DTA?
- Limited to <u>three years</u> profits on the <u>SAM basis</u>
- Not optional
- As simple as possible, but no simpler than that

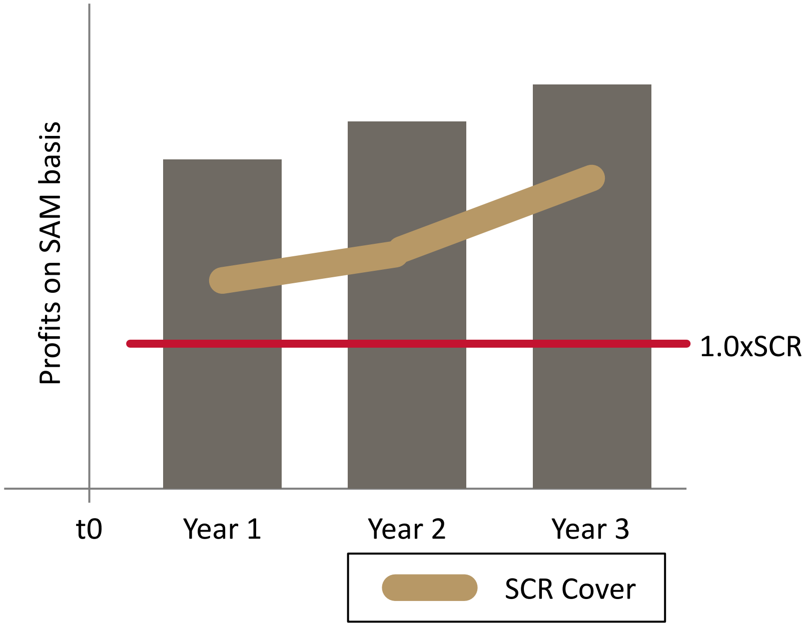
To the extent the calculation of $AdjDT$ results in the raising of a deferred tax asset, the maximum amount which should be raised is that which can be recovered from the insurer's ensuing three years' profit (i.e. profits raised in the three years after the stressed event).

Step 1: Project best estimate profits



- Consistency with budget and ORSA
- Projected on **<u>SAM basis</u>**
- Sources of profit:
  - New business
  - Renewals of existing business (short boundaries)
  - Release of risk margin
  - Investment returns in excess of risk free for assets backing TPs
  - Investment return on “excess assets”

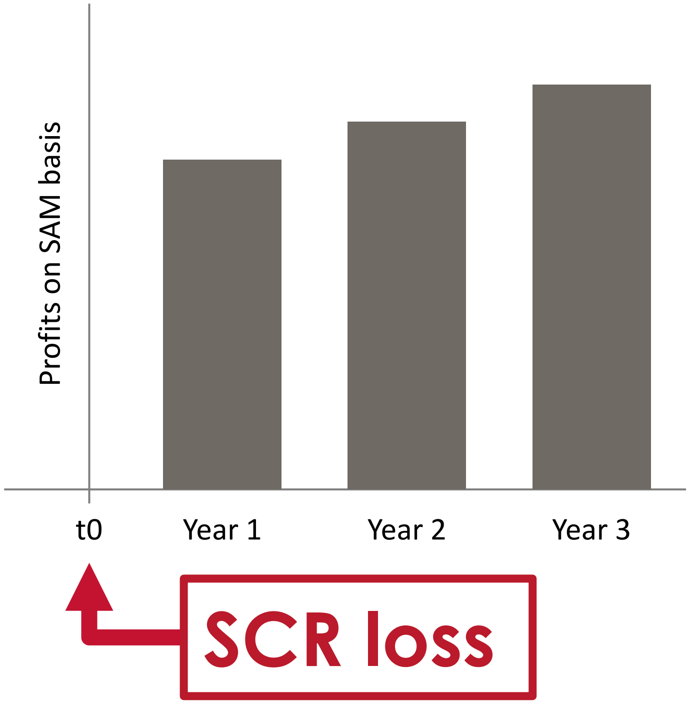
Step 2: Project best estimate balance sheet



Also project the balance sheet **<u>including MCR and SCR</u>** since it affects:

- Ability to write new business
- Regulatory intervention

Step 3: Calculate standard pre-LACDT SCR



FSIs define only the size of the loss, nothing else

Insurers must set the adjustment factor for the loss-absorbing capacity of deferred taxes ($AdjDT$) equal to the change in the value of the insurer's deferred taxes that would result from an instantaneous loss of an amount that is equal to:

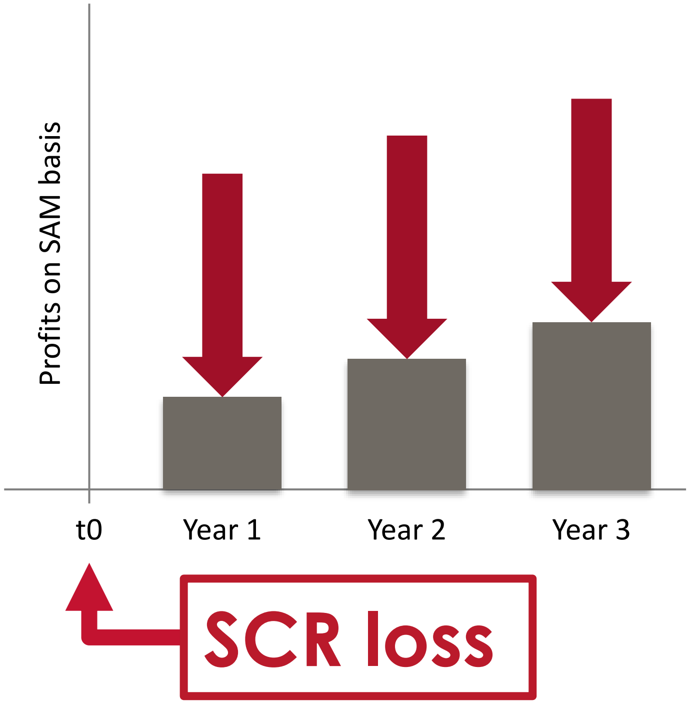
$$SCR_{shock} = BSCR + SCR_{Op} + SCR_{Part}$$

There's work to do: translate the loss into future profit impacts, i.e. **describe the loss**

Various **assumptions** required:

- Disaggregate into risk components
- Persistence of stresses
- Do asset values recover?
- Industry vs company vs economic

Step 5: Stress future profits



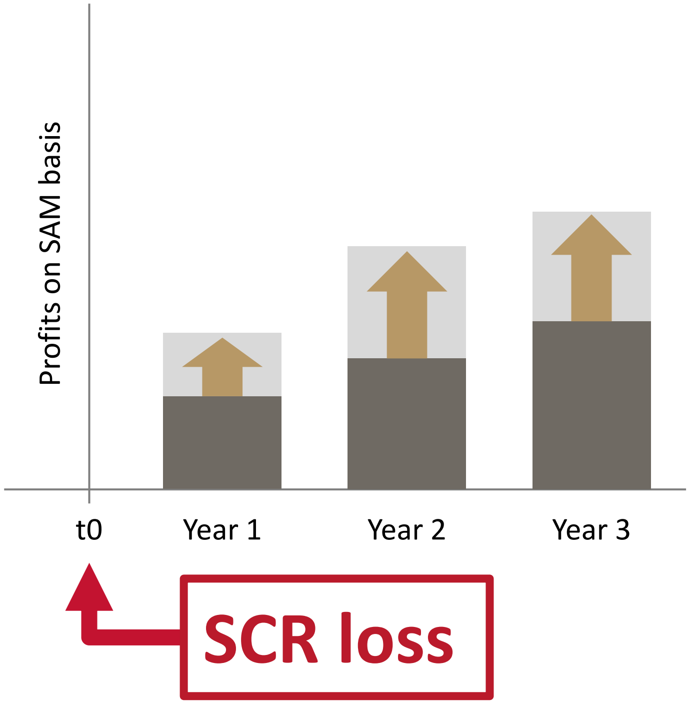
Sources of profit

- New business pricing, volumes and mix
- Renewal of existing business
- Release of risk margin
- Investment return in excess of risk-free
- Investment return on shareholder assets

Also consider:

- Consistency with ORSA stresses
- Could have less post-stress management action to reduce SCR
- **Going concern**
  - **Regulatory intervention**
  - **Capital injections**
- Actions by reinsurers
- **Tax rules**
- Other changes in operating environment

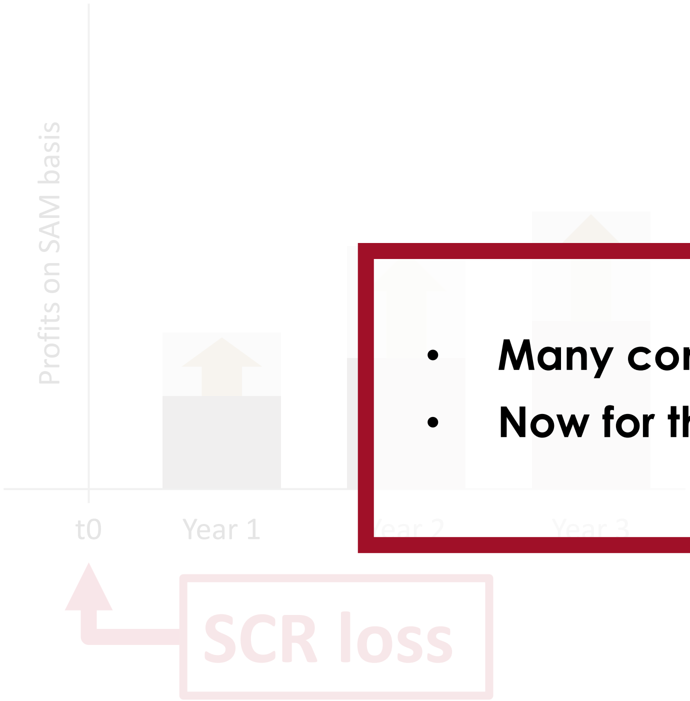
Step 6: Incorporate management actions



Impact of management actions

- Inherited from SCR and **<u>additional management actions</u>**, e.g. those relating to new business and renewals
- Could be a **<u>reliance on third parties</u>**, e.g. reinsurers and providers of capital
- All management actions subject to FSI requirements:
  - Governance approval
  - Realistic, objective and verifiable
  - Time and cost to implement

Step 6: Incorporate management actions



Impact of management actions

- Inherited from SCR and **additional management actions**, e.g. those relating to new business and renewals
    - Realistic, objective and verifiable
    - Time and cost to implement

- **Many considerations…**
- **Now for the modelling…**

Three potential modelling options

1. Correlation matrices

Best estimate profits

Mortality impact

Expense impact

Lapse up impact

Equity impact

	Mortality	Longevity	Disabilit	Lapse	Expenses
Mortality	1	-0.25	0.25	0	0.25
Longevity	-0.25	1	0	0.25	0.25
Disabilit	0.25	0	1	0	0.5
Lapse	0	0.25	0	1	0

Calculate diversified impact through correlation matrices

Post-stress profits = best estimate profits LESS diversified impact

Less subjective

More complex

2. Single equivalent scenario

Diversified SCR

Mort SCR

Expense SCR

Lapse SCR

Equity SCR

	Mortality	Longevity	Disabilit	Lapse	Expenses
Mortality	1	-0.25	0.25	0	0.25
Longevity	-0.25	1	0	0.25	0.25
Disabilit	0.25	0	1	0	0.5
Lapse	0	0.25	0	1	0

Single Equivalent Scenario (SES) being a SINGLE stress COMBINING all SCR risks, e.g.
8% Mortality increase & 15% Lapse increase &
3% Expense increase & 15% Equity drop

Apply SES to three years' profits

More subjective

Simpler

3. Judgemental overlay on budget: simplest, but most subjectivity required

The challenge of judgement

Stress persistence

New business volumes

Market recovery

Economic growth

Simplifications

New business mix

New business pricing

Recapitalisation

Renewals

Regulator intervention

Policyholder reactions

Modelling approach

Company vs Industry

Disaggregate SCR

Reinsurer reactions

Management actions

The solution to judgement – no silver bullet

Principle of proportionality

- **Identify** all factors <- refer to Information Note
- **Robust consideration** of all factors through research, workshops, extrapolation of past internal and external events
- **Detailed documentation**, especially of qualitative and judgement decisions
- **Robust controls** around changes
- **Approval by appropriate governance forums** (where deemed necessary)

In Summary

Consider general principles

Allowance for tax rules

- Consider all applicable tax rules
- Understand all simplifications

Recoverability of post-stress DTA

- Identify, consider and document all factors
- Appropriate governance and controls

Questions