



## CHANGES TO THE SYLLABUS AND CORE READING FOR SUBJECT SA3 FOR THE 2018 EXAMINATIONS

### Changes to the Syllabus and their impact on Core Reading

*There have been no changes to the Syllabus.*

### Changes to Core Reading

#### UNIT 2

##### Section 1

*The final bullet point has been amended to read:*

- the State for terrorism cover (Pool Re), Property Flood cover (Flood Re) and Nuclear Pool

##### Section 1.4

*In the 2<sup>nd</sup> paragraph “about 90%” has been amended to “a high proportion”.*

##### Section 3.1.1

*Under the heading “Controversy” “claim to be unaware” has been amended to “are unaware”.*

##### Section 4.3

*The 2<sup>nd</sup> paragraph has been amended to read:*

The lead underwriters are highly skilled and will manage their books of business more actively. Accordingly it will cost more to lead, but gives the leader control of the claims negotiation and settlement process. For some classes the lead underwriter is paid more, and will have more support staff to carry out analysis. This is especially the case where vertical placement exists (e.g. aviation).

##### Section 5

*In the 2<sup>nd</sup> paragraph “We explain” has been amended to “Section 5.2 explains”*

## **Section 5.1**

*The 5<sup>th</sup> paragraph has been amended to read:*

The members of a syndicate are primarily one or more companies (corporate members), some syndicates may have private individuals (private members who may have limited or unlimited liability, see next paragraph) as well as or instead of corporate members. Corporate members must be separate legal entities from the managing agent, though they are often owned by the insurance group that owns the managing agent. In other cases, there are only private members or only corporate members. In aggregate, in the whole of Lloyd's, corporate members represent the vast majority of all participants measured by premium volume."

*The following text has been added to the penultimate paragraph:*

although it does collect some information directly from the individual syndicates.

*The final paragraph has been amended to read:*

All of Lloyd's liabilities up to the end of 1992 were Part VII transferred into Equitas in 2009 and those liabilities are reinsured and managed by National Indemnity Company and Resolute Management Services Ltd, which are both part of the Berkshire Hathaway group. The material below relates only to the current Lloyd's business that was written in 1993 and later.

## **Section 6.2**

*In the 1<sup>st</sup> paragraph:*

(As at January 2015, the Ogden discount rate in the UK was 2.5%, whereas insurers are using real discount rates nearer to 0% to value their PPO liabilities.)"

*has been amended to:*

Early in 2017, the Lord Chancellor proposed to reduce the Ogden discount rate from 2.5% per annum to -0.75% to reflect the prevailing interest rate environment. This has resulted in a huge increase in liabilities. Prior to this the rate had not changed for a large number of years.

*In the 4<sup>th</sup> paragraph "Even general insurance actuaries" has been amended to "General insurance actuaries".*

*The following text has been inserted between the 5<sup>th</sup> and 6<sup>th</sup> paragraph:*

Fourth there are additional reporting requirements under SII for PPOs which are very onerous.

## **UNIT 3**

*This Unit has been significantly updated and a revised Unit is attached.*

## **UNIT 4**

*This Unit has been significantly updated and a revised Unit is attached.*

## UNIT 5

*This Unit has been significantly updated and a revised Unit is attached.*

## UNIT 7

### Section 2.1

*The following text has been appended to the end of the penultimate paragraph:*

However, it is very heavily dependent on the planned business loss ratio assumed.

## UNIT 11

### Section 5

*The section title has been amended to “Stress and scenario modelling”.*

*The following paragraph has been added at the beginning of this section:*

Candidates are expected to be able to carry out simple applications of deterministic modelling techniques; these could include stress testing or scenario modelling.

### Section 7.6

*The 3<sup>rd</sup> paragraph has been amended to read:*

A more recent development has been implementation by insurance companies to comply with the Solvency II regulations. Many companies and all Lloyd’s Syndicates have built capital models to calculate the one year SCR (and, in the case of Lloyd’s Syndicates, the ultimate SCR also). Models (either multi-underwriting year or a series of overlapping one year models) have been developed to calculate the ORSA capital as well..

### Section 7.7

*The 3<sup>rd</sup> bullet point has been amended to read:*

- Assumptions, often subjective, are required to be made, especially on tail risk and tail correlations. In reality there is substantial use of expert judgment, which requires both experience and additional levels of validation and documentation.

## UNIT 13

*Under the heading “Books (by title)” the final listing has been amended to read:*

It is anticipated that a new textbook, “Claims reserving in general insurance” by David Hindley, will be published by Cambridge University Press in 2017:

<https://www.cambridge.org/core/books/claims-reserving-in-general-insurance/7F1E867BC5FBFF2B5DC2156E9AF6443E>

*The final paragraph of this unit has been amended to read:*

The IFoA website also reports outputs from other research groups and working parties which students can filter to find those in general insurance:

<https://www.actuaries.org.uk/learn-and-develop/research-and-knowledge/research-projects>

*The only other changes that have been made to the Core Reading are to correct typographical errors and improve the style.*

Attachments: Units 3, 4 and 5

## UNIT 3 – LEGISLATION AND SUPERVISION

### *Syllabus objectives*

- (c) Describe the principal regulatory and supervisory requirements that affect general insurers (including Lloyd's) established in the UK, under:
- Solvency II regulation from 1 January 2016

## 1 Solvency II

### 1.1 Background to development of Solvency II

During the development of Solvency II key objectives were maintained: to increase the level of harmonisation of solvency regulation across Europe, to introduce capital requirements that are more sensitive to the levels of risk being undertaken, and to provide appropriate incentives for good risk management.

### 1.2 Introduction to Solvency II

Solvency II has reformed the solvency requirements for life and non-life insurance undertakings, thus improving policyholder security. Solvency II has superseded the previous Insurance Directives and the Reinsurance Directive.

Significant delays arose in the implementation of Solvency II. UK domiciled insurance and reinsurance companies are now governed by Solvency II which came into effect on 1 January 2016, implemented by the PRA. Note that some elements of the Directive are subject to transitional measures, i.e. a gradual introduction.

Solvency II is a risk-based approach to prudential requirements which brings harmonisation at EEA level.

The Solvency II Directive applies to all insurance and reinsurance companies with gross premium income exceeding €5 million or gross technical provisions in excess of €25 million (and other insurers with liability or credit and surety exposures); member states have the option to impose lower limits.

EIOPA (the European Insurance and Occupational Pensions Authority, one of the EU's three financial supervisory bodies) provides technical advice and support to the European Commission for the development of the delegated acts (which provide more detailed implementing guidance than the over-arching Directive) and was responsible for producing some of the technical standards and additional guidance.

### 1.2.1 Comments on this Unit

All information included in this Unit is current as at the time of writing (April 2017), but it should be borne in mind that the Solvency II regulations continue to evolve. Although the examination questions will be based on the details as included in this Unit, students are encouraged to be aware of and monitor the ongoing developments, and answers that reflect such developments will be given equivalent credit.

This section focuses on the Solvency II requirements for non-life insurance and reinsurance undertakings. There are separate (but broadly equivalent) requirements for life and health insurance business.

### 1.3 Pillars 1, 2 and 3

The Solvency II framework can be described as consisting of three “pillars”.

- 1) Pillar 1 comprises quantitative requirements including risk-based capital requirements that firms will be required to meet with assets and liabilities valued on a market consistent basis. In Pillar 1 the new solvency system contains two capital requirements defining the upper and lower end of a ladder of supervisory intervention. The Solvency Capital Requirement (SCR) is the level above which there is no supervisory intervention for financial reasons. The Minimum Capital Requirement (MCR) is the level below which the supervisor’s strongest actions are taken (e.g. removal of the insurer’s authorisation). The SCR may be calculated using a standard formula or, subject to prior supervisory approval, an insurer’s internal model, or combination of the two. The MCR is calculated using a linear formula and must fall between 25% and 45% of the SCR. Capital add-ons may be imposed by the supervisor in exceptional circumstances where it concludes that the risk profile of the insurer deviates significantly from the assumptions underlying the SCR. Supervisor-imposed add-ons increase the SCR.
- 2) Pillar 2 comprises qualitative requirements focusing on governance, risk management and required functions (internal audit and actuarial) and includes the supervisory review process. Insurers are required to carry out an Own Risk and Solvency Assessment (ORSA) and this is required to be reviewed by the supervisor. Pillar 2 includes “prudent persons” investment principles. Supervisors can also impose capital additions for governance failings.
- 3) Pillar 3 comprises reporting and disclosure requirements including a public Solvency and Financial Condition Report (SFCR), and reporting to the supervisory authority of a Regulatory Supervisory Report (RSR) and quantitative templates. The aim of public disclosures is to harness market discipline by requiring firms to publish certain details of their risks, capital and risk management.

This combination of minimum capital standards, qualitative risk management requirements, a well-defined and rigorous review process of companies’ solvency by supervisors and prescribed disclosures to supervisors, policyholders and investors has been designed to deliver a more modern and secure prudential regulatory system.

The three Pillars are considered in more detail below.

Solvency II requirements apply at both individual insurer and group level, and provision is made for supervisory co-operation among jurisdictions through supervisory colleges.

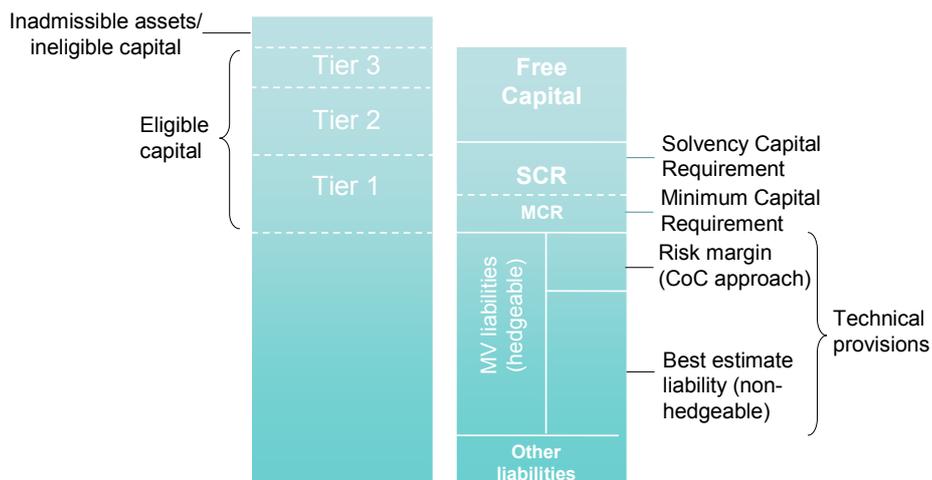
### 1.4 Regulatory framework

The Solvency II Framework Directive (2009/138/EC) was published in the European Journal on 17 December 2009 and was amended by the Omnibus II Directive on 11 March 2014.

Detailed requirements not included in the Framework Directive are set out in the Delegated Acts and implementing technical standards, and these are further supported by level 3 guidance from EIOPA and enforcement by the European Commission.

### 1.5 The Solvency II balance sheet

The Solvency II balance sheet is summarised in the following diagram:



### **1.5.1 Valuation of assets**

Assets are to be valued at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction.

The use of quoted market prices is the default valuation approach.

Where quoted market prices are not available, mark to model valuation approaches should be used.

Recoveries expected from reinsurance are shown as an asset on the balance sheet, rather than as a reduction in gross liabilities. Such recoveries must be adjusted to allow for the best estimate of expected losses due to the default of the reinsurer.

### **1.5.2 Eligible capital**

The phrase "own funds" refers to basic own funds (assets less liabilities) plus ancillary own funds, which are then tiered based on specific criteria.

Basic own funds is broadly capital that already exists within the insurer. Ancillary own funds is capital that may be called upon in certain adverse circumstances, but which does not currently exist within the insurer (e.g. unpaid share capital).

The capital is tiered based on its loss absorbency and permanency. Tier 1 capital is the most loss absorbent and permanent form of capital (e.g. paid up ordinary share capital); Tier 3 the least (e.g. some subordinated debt).

The following table summarises the principal criteria to be used in the tiering of the basic own funds, and illustrates the different characteristics of Tier 1, Tier 2 and Tier 3 capital:

<b>Criteria</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>
Subordination	Must rank after the claims of all policyholders, beneficiaries and non-subordinated creditors.	Must rank after the claims of all policyholders, beneficiaries and non-subordinated creditors.	Must rank after the claims of all policyholders, beneficiaries and non-subordinated creditors.
Loss absorbency	Immediately available to absorb losses.  Absorbs losses at least on SCR breaches.  Should not cause or accelerate insolvency.	Not necessarily immediately available to absorb losses.  Should not cause or accelerate insolvency.	Should not cause or accelerate insolvency.
Sufficient duration	Undated or of the same duration as the undertaking. Contractually locked in or replaced at least equivalently on breach of SCR.	Undated or minimum 10 years maturity at issue. Contractually locked in or replaced at least equivalently on breach of SCR.	Undated or minimum 5 years maturity at issue. Contractually locked in or replaced at least equivalently on breach of SCR.
Free from incentives to redeem	Only redeemable at the option of the insurer or reinsurance undertaking.	Only redeemable at the option of the insurer or reinsurance undertaking; limited incentives to redeem are permissible after 10 years from date of issuance.	Only redeemable at the option of the insurer or reinsurance undertaking; limited incentives to redeem are permissible
No mandatory fixed charges	Suspension of redemption provided and coupons/dividends can be cancelled in case of breach of SCR.	Suspension of redemption provided and coupons/dividends can be cancelled in case of breach of SCR.	Suspension of redemption provided in case of breach of SCR. Deferral of coupons/dividends on breach of MCR.
No encumbrances	Unconnected with other transactions and no restrictions, charges or guarantees.	Unconnected with other transactions and no restrictions, charges or guarantees.	Unconnected with other transactions and no restrictions, charges or guarantees.

Restrictions are placed on the quality of capital that can be used to cover the MCR and SCR. It is proposed that the MCR and SCR must be covered by eligible capital as follows:

- 80% of the MCR must be covered by tier 1 capital.
- Tier 3 capital cannot be used to cover the MCR.

- 50% of the SCR must be covered by tier 1 capital.
- No more than 15% of the SCR may be covered by tier 3 capital.
- Some items of tier 1 capital are restricted to being less than 20% of the total tier 1 capital covering SCR or MCR. An example of such an item is preference shares.

## 1.6 Technical provisions

Technical provisions should represent the amount that the insurance company would have to pay in order to transfer its obligations immediately to another insurance company.

Technical provisions comprise premium provisions and claims provisions and are equal to the sum of a **best estimate** and a **risk margin**.

### 1.6.1 Best estimate

The **best estimate** is the probability-weighted average of future cash-flows, discounted to allow for the time value of money.

All assumptions used should be best estimate assumptions, with no prudential margins. Insurance companies must take into account all relevant available data, both internal and external, when arriving at assumptions that best reflect the characteristics of the underlying insurance portfolio.

For each currency and maturity, the basic risk-free interest rates used to discount future cash-flows are derived from interest rate swap rates, adjusted for credit risk.

The best estimate for non-life obligations is split into the premium provision (relating to future claim events covered by contracts that are required to be included in the technical provisions) and the provision of claims outstanding (relating to claim events that have already occurred whether reported or not). These two provisions are to be calculated separately.

### 1.6.2 Risk margin

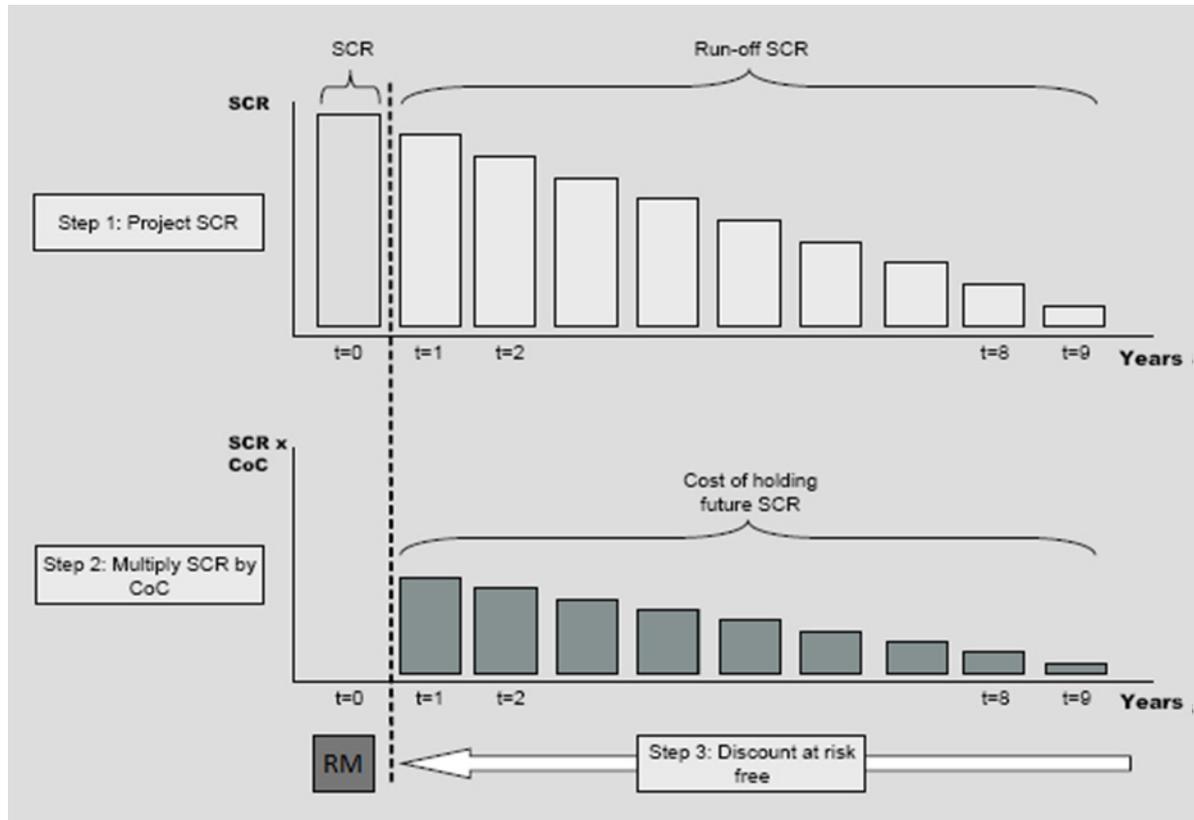
The **risk margin** is intended to ensure that the value of the technical provisions is equivalent to the amount that insurance and reinsurance undertakings would be expected to require in order to take over and meet the insurance and reinsurance obligations. It is calculated by estimating the cost of capital equal to the SCR necessary to support the insurance and reinsurance obligations over their lifetime in respect of those risks which cannot be hedged – these include underwriting risk, reinsurance credit risk, operational risk and “unavoidable market risk”.

The risk margin is calculated by the following steps:

- Estimating the future development of SCRs into the future
- Multiplying the future development of SCRs by a cost of capital, currently specified to be 6% per annum

- Discounting the resulting costs of capital, using relevant risk-free interest rate term structures provided by EIOPA.

The method of calculation of the risk margin is illustrated in the following diagram:



Note that discounting must be performed back to  $t = 0$ . Firms need to include the SCR at  $t = 0$ , multiplied by 6%.

The calculation of the risk margin using this methodology is potentially extremely complicated, possibly involving a complex series of nested stochastic loops. For this reason, a hierarchy of simplifications has been made available for companies to use where appropriate.

Although the risk margin must be disclosed separately for each line of business, it is proposed that it can be reduced to take into account diversification between lines of business up to legal entity level. The allocation of diversification benefit can be approximated by apportioning the total diversified risk margin across lines of business in proportion to the SCR calculated on a standalone basis for each line, or by other approximate methods if appropriate given the materiality of the results.

### 1.6.3 Premium provisions and other aspects

Best estimate **premium provisions** are equal to a best estimate of future cashflows in respect of unexpired exposures rather than the unearned proportion of written premiums. Under Solvency II:

- No credit is taken for deferred acquisition costs.
- No allowance is made for claims equalisation provisions.

### 1.6.4 Contract boundaries

When determining technical provisions, it is necessary to make an assumption regarding the boundary of an insurance contract. Under Solvency II, the boundary for existing insurance contracts is set at the point at which the company:

- Can unilaterally terminate the contract, refuse to accept a premium, or
- Amend the benefits or premiums in such a way that the premiums fully reflect the risks.

This contract boundary sets the point at which premiums can be recognised on existing contracts. Within the boundary period, both contractual recurring premiums and premiums arising from policyholder options to renew or extend their policies should be taken into account on a best estimate basis.

For example, if a non-life insurance undertaking is one year into a three contract at the balance sheet date, allowance needs to be made for expected premiums and claims, on a best estimate basis, during the remaining two years of the contract. This could potentially have the effect of increasing or reducing technical provisions, depending on whether or not the contract is expected to be profitable.

### 1.6.5 Legal obligations basis for unaccepted contracts

The calculation of technical provisions also needs to include allowance for legally-obliged unaccepted contracts. These are contracts which have not yet accepted, but the corresponding liabilities cannot be waived or reduced by the company as of the valuation date.

The legal obligations basis may be material where business is written, for example, by means of:

- Delegated underwriting authorities such as binders
- Brokers, for example in cases where there are backlogs of aggregated pipeline premiums
- Year-end renewals, for example reinsurers entering into 1 January renewals prior to a 31 December valuation date

- Tacit renewal agreements where the business is automatically renewed unless the policyholder decides to move the cover to another provider.

### 1.6.6 Data Quality

The Delegated Acts contain data quality requirements in the context of the calculation of technical provisions.

Data quality is deemed crucial because:

- The more complete and correct the data is, the more consistent and accurate final estimates will be.
- The application of a wider range of methodologies for calculating the best estimate is made possible, improving the chances of application of adequate and robust methods for each case.
- Validation of methods is more reliable and leads to more credible conclusions, once a reasonable level of quality of data is achieved.
- Effective comparisons over time and in relation to market data are possible, which leads, for instance, to a better knowledge of the businesses in which the undertaking operates and its performance.

It is also noted that the issue of data quality is relevant to other areas of the solvency assessment, such as the SCR using either the standard formula or internal models. A consistent approach to data quality issues needs to be taken across Pillar 1, without disregarding the different objectives.

## 1.7 Capital requirements under Solvency II

As explained above, in Pillar 1 the solvency system contains two capital requirements defining the upper and lower end of a ladder of supervisory intervention. The Solvency Capital Requirement (SCR) is the level above which there is no supervisory intervention for financial reasons. The Minimum Capital Requirement (MCR) is the level below which the supervisor's strongest actions are taken (e.g. removal of the insurer's authorisation).

## 1.8 Minimum Capital Requirement (MCR)

The MCR is calculated for each individual line of business by taking the greater of:

- A factor applied to technical provisions (not including the risk margin) for each line of business, net of reinsurance, subject to a minimum of zero
- A factor applied to written premiums in each line of business over the last 12 month period, net of reinsurance, subject to a minimum of zero

The intention is that the MCR is calibrated to the Value-at-Risk of the basic own funds of an insurance or reinsurance undertaking subject to a confidence level of approximately 85% over a one-year time horizon.

The MCR factors, based on the Delegated Acts, are set out in the following table for each line of business.

<b>Line of business</b>	<b>MCR factor – premium risk (%)</b>	<b>MCR factor – reserve risk (%)</b>
Motor vehicle liability	9.4	8.5
Other motor	7.5	7.5
Marine, aviation and transport	14.0	10.3
Fire and other damage	7.5	9.4
General liability	13.1	10.3
Credit and suretyship	11.3	17.7
Legal expenses	6.6	11.3
Assistance	8.5	18.6
Miscellaneous financial loss	12.2	18.6
NPL property	15.9	18.6
NPL casualty	15.9	18.6
NPL marine, aviation and casualty	15.9	18.6

Notes: The above factors apply to direct, facultative reinsurance and proportional reinsurance business, with the exception of the non-proportional reinsurance (NPL) lines of business.

The resulting MCRs are summed across lines of business to obtain the overall MCR. The MCR must lie between 25% and 45% of the SCR.

## 1.9 Solvency Capital Requirement (SCR)

The SCR is calibrated to the Value-at-Risk of the basic own funds of an insurance or reinsurance undertaking subject to a confidence level of approximately 99.5% over a one-year time horizon.

The SCR must cover at least the following risks:

- (a) non-life underwriting risk
- (b) life underwriting risk
- (c) health underwriting risk
- (d) market risk
- (e) credit risk
- (f) operational risk (excluding risks from strategic decisions and reputation risks)

Solvency II provides a range of methods to calculate the SCR which allows undertakings to choose a method that is proportionate to the nature, scale and complexity of the risks of the undertaking.

The SCR may be calculated using:

- A standard formula with simplifications
- A standard formula
- A standard formula with undertaking-specific parameters. If the standard formula is used, non-life underwriting risk factors may, subject to prior supervisory approval, be replaced with undertaking-specific parameters (“USPs”) which are calculated using an undertaking’s own claims experience
- A partial internal model. The combination of the standard formula for some risk factors and an internal model for the remaining risk factors
- A full internal model.

The use of an (full or partial) internal model is subject to prior supervisory approval.

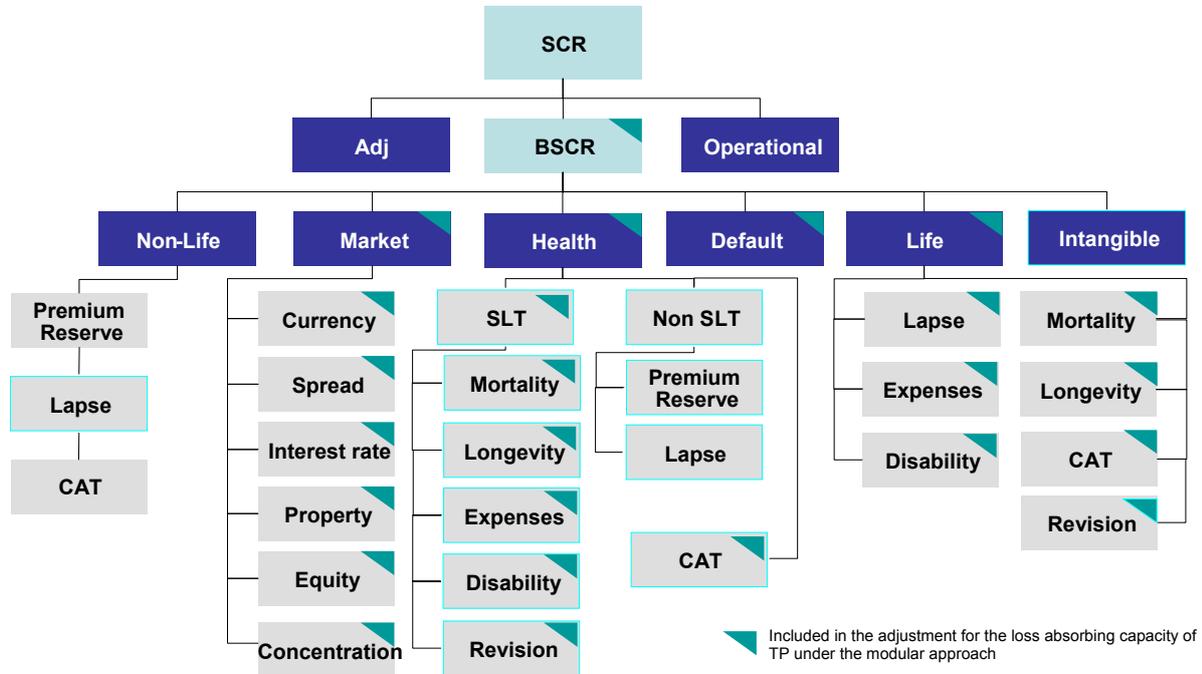
### **1.9.1 SCR by standard formula – structure and risk charges**

The Solvency Capital Requirement is calculated by combining a number of separate risk charges, allowing for diversification credits by means of correlation matrices or other methodologies.

for each individual risk is then determined as the difference between the net asset value (for practical purposes this can be taken as assets less best estimate liabilities) in the unstressed balance sheet and the net asset value in the stressed balance sheet. These individual risk capital amounts are then combined across the risks within the module, using a specified correlation matrix and matrix multiplication.

### 1.9.1.1 Structure and risk charges of the standard formula

The structure of the SCR risk charges in the standard formula is summarised in the following diagram.



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The SCR, based on the standard formula, comprises the following risk charges:

- Operational risk
- An adjustment, which may include, for example, the loss absorbing capacity of deferred taxes. This could comprise a reduction in any base balance sheet deferred tax liability, as this would no longer be fully payable in a stressed scenario.
- Market risk (comprising interest rate risk, equity risk, property risk, spread risk, currency risk and concentration risk)
- Non-life underwriting risk (comprising premium and reserve risk, catastrophe risk and lapse risk)
- Life underwriting risk (comprising mortality risk, longevity risk, disability/morbidity risk, expenses risk, revision risk, catastrophe risk and lapse risk)
- Health risk (comprising SLT health risk, non-SLT health risk and catastrophe risk)\*
- Counterparty default risk
- Intangible asset risk.

The various risk charges are combined together using the following formulae and correlation coefficients:

$$\text{SCR} = \text{BSCR} + \text{Adj} + \text{SCR}_{\text{op}}$$

[\* Note: SLT stands for “similar to life techniques”]

The basic SCR (BSCR) is calculated using the following formula:

$$\text{BSCR} = \sqrt{\sum_{i,j} \text{Corr}_{i,j} \times \text{SCR}_i \times \text{SCR}_j} + \text{SCR}_{\text{Intangible}}$$

where the correlation coefficients  $\text{Corr}_{i,j}$  are taken from the following coefficient matrix:

	<b>Market</b>	<b>Default</b>	<b>Life</b>	<b>Health</b>	<b>Non Life</b>
Market	1				
Default	0.25	1			
Life	0.25	0.25	1		
Health	0.25	0.25	0.25	1	
Non Life	0.25	0.5	0	0	1

### 1.9.1.2 Key values of factors in the SCR standard formula

The following key values of factors in the SCR standard formula are based on the Delegated Acts. Some aspects of the calculation of the SCR using the standard formula are complex, and so the following description is simplified significantly in some respects.

#### **Operational risk**

The operational risk charge is equal to the greater of 3% of gross earned premiums during the previous 12 months and 3% of gross technical provisions, with the result being subjected to a maximum of 30% of the basic SCR. It is assumed that there is no diversification credit between operational risk and other components of risk.

### Non-life underwriting risk

The standard deviations used to calculate the premium and reserve risk factors in the standard formula are set out in the following table. The standard formula calculates 99.5% VaR factors from these standard deviations by multiplying the standard deviations by three.

Line of business	Standard deviation – premium risk (%)	Standard deviation – reserve risk (%)
Motor vehicle liability	10.0	9.0
Other motor	8.0	8.0
Marine, aviation and transport	15.0	11.0
Fire and other damage	8.0	10.0
General liability	14.0	11.0
Credit and suretyship	12.0	19.0
Legal expenses	7.0	12.0
Assistance	9.0	20.0
Miscellaneous	13.0	20.0
NPL property	17.0	20.0
NPL casualty	17.0	20.0
NPL marine, aviation and casualty	17.0	20.0

Notes: The above factors apply to direct and proportional reinsurance business, with the exception of the lines of business labelled NPL which relate to non-proportional reinsurance business.

The 99.5% VaR factors in respect of premium risk are applied to the maximum of:

- The estimate of net earned premium for each line of business during the forthcoming year
- Net earned premiums for each line of business during the previous year.

The premium risk factors have been derived from claims development data which is gross of reinsurance. For this reason, undertakings are permitted to multiply the premium risk factors for each line of business by the following factors, which are intended to represent the excess-of-loss reinsurance which is in place for each line of business

- 80% for motor vehicle liability, fire and other damage, and general liability business
- 100% for all other lines of business.

The 99.5% VaR factors in respect of reserve risk are applied to the best estimate for claims outstanding for each line of business, after deducting the amount recoverable from reinsurance and special purpose vehicles.

There is scope, using a specified formula, for the premium risk and reserve risk factors to be reduced by up to 25% to allow for geographical diversification.

Allowance is also made for:

- A correlation coefficient of 0.5 between premium risk and reserve risk factors
- Diversification by line of business.

### **Non-life catastrophe risk**

The non-life catastrophe risk charge is determined using a complex series of formulae, and comprises:

- A natural catastrophe risk sub-module, sub-divided between windstorm, earthquake, flood, hail and subsidence risk
- A sub-module for catastrophe risk of non-proportional property reinsurance
- A man-made catastrophe risk sub-module, sub-divided between motor vehicle liability, fire, marine, aviation, liability and credit & suretyship
- A sub-module for other non-life catastrophe risk.

### **Market risk**

The equity risk charge is equal to 39% of the market value of equities for Type 1 equities (equities listed in regulated markets in countries which are members of the EEA or the OECD or shares of alternative investment funds authorised as European Long-term Investment Fund) and 49% for Type 2 equities. A symmetrical adjustment (which will vary from time to time within defined parameters) has been introduced to avoid pro-cyclical effects – in other words, in general terms the equity stress will be smaller following a decline in equity markets and will be higher following a period of strong performance of equity markets. For example, in the EIOPA Technical Specification for the Preparatory Phase dated 30 April 2014, this resulted in an adjustment of +7.5%, increasing the Global equity and Other Equity stresses from 39% and 49% to 46.5% and 56.5% respectively.

The equity risk charge reduces to 22% of the market value for equity investments in related undertakings where these investments are of a strategic nature.

The interest rate risk charge is determined by stressing the yield curve by specified percentages, varying by the term to maturity. This will affect both the value of certain classes of assets (for example fixed coupon bonds) and the value of liabilities (which are discounted to allow for the time value of money).

The property risk charge is equal to 25% of the market value of properties.

The currency risk charge is calculated by assuming a 25% change in currency exchange rates in respect of net currency exposures.

The spread risk charge is determined through the use of a formula. For corporate bonds, the loss on the assets is given by a function of the duration of the assets and the credit rating of the underlying bonds, with lower requirements for public sector and mortgage-covered bonds.

The concentration risk charge applies to holdings in excess of a specified threshold, and is based on exposure, rating and total assets held.

### **Counterparty default risk**

The calculation of the counterparty default risk charge differentiates between:

- Type 1 exposures which consist of a small number of counterparties which are usually rated (for example reinsurers or derivative counterparties). The risk charges for type 1 exposures are based on a loss distribution derived from loss given defaults and default probabilities
- Type 2 exposures where there is likely to be a diversified mix of counterparties which are not rated. The risk charges for type 2 exposures are based on an immediate shock, assuming losses of 90% of receivables which have been due for more than three months and 15% on other receivables.

## **1.9.2 SCR by internal model – Internal model approval**

If the SCR is calculated using a (full or partial) internal model, the company must obtain prior supervisory approval.

The use of an internal model might be appropriate if the risk profile of the business differs materially from that underlying the standard formula, and/or if the company already uses such a model for risk management or other decision-making purposes (e.g. pricing, investment strategy). The supervisor can require an insurance company to develop an internal model if it considers that the standard formula is not appropriate to the risk profile of the company.

Under some circumstances, the use of an internal model can potentially lead to less onerous overall capital requirements than if the standard formula was used.

However, the internal model must still generate an SCR based on the stated requirements, including coverage of the risk types as noted above and providing at least the equivalent protection to a 99.5% confidence level over a one year time horizon.

To obtain supervisory approval, the internal model must pass the following tests, which are discussed in more detail below:

- Use test
- Statistical quality standards
- Calibration standards
- Profit and loss attribution

- Validation standards
- Documentation standards

#### **1.9.2.1 Use test**

Insurance and reinsurance undertakings need to demonstrate that their internal model is widely used throughout all relevant areas of the business and that it plays a significant role in the internal governance, risk management and decision-making processes, as well as the economic and solvency capital assessments and capital allocation processes.

#### **1.9.2.2 Statistical quality standards**

The internal model needs to comply with a variety of specified criteria, including the following:

- The methods used to calculate the probability distribution forecast are based on adequate, applicable and relevant actuarial and statistical techniques
- The methods used to calculate the probability distribution forecast are based upon current and credible information and realistic assumptions
- Data used for the internal model is accurate, complete and appropriate
- Insurance and reinsurance undertakings may take account in their internal model of dependencies within and across risk categories, provided that the system used for measuring these diversification effects is adequate.

#### **1.9.2.3 Calibration standards**

Insurance and reinsurance undertakings need to demonstrate that the output from the internal model calculates the SCR in a manner which provides policyholders with a level of protection equivalent to a Value-at-Risk of the basic own funds subject to a confidence level of 99.5% over a one year time horizon

#### **1.9.2.4 Profit and loss attribution**

Insurance and reinsurance undertakings are required to review, at least annually, the causes and sources of profits and losses for each major business unit. This includes a requirement to demonstrate how the categorisation of risk chosen in the internal model will be used to explain the causes and source of actual profits and losses.

#### **1.9.2.5 Validation standards**

Insurance and reinsurance undertakings are required to have a regular cycle of model validation which includes monitoring the performance of the internal model, reviewing the ongoing appropriateness of its specification, and testing its results against experience.

### 1.9.2.6 Documentation standards

Insurance and reinsurance undertakings are required to document the design and operational details of their internal model to demonstrate compliance with the above requirements.

### 1.9.2.7 Practical considerations of SCR by internal model

The “use test” is seen as one of the most challenging aspects of gaining internal model approval. As well as embedding the model throughout the company and developing an effective risk culture, companies will need to be able to evidence that this is the case.

The quality of data and assumptions can also be an issue. A key challenge is that historical data available to calibrate extreme events is limited. In practice, it is likely that some industry consensus will emerge over some of the “core” stresses, e.g. 99.5<sup>th</sup> percentile equity fall based on a benchmark index. It will be important for companies to adapt such standards to allow for their own specific features, e.g. the extent to which their actual equity holdings are more or less volatile than those underlying that benchmark. Similarly, setting correlation factors that apply under extreme conditions is challenging.

An internal model can be structured in any way that the company chooses, provided the above tests are met. It does not necessarily have to follow the structure of the standard formula, and can for example be based on stochastic simulations rather than stress tests plus correlation matrices. Calibration of such stochastic models will also require care and expertise.

A tight deadline has been imposed of just six months from the supervisory authority receiving an application for internal model approval to communication of the decision. This is likely to prove challenging for the resources of regulatory bodies. Many regulators (e.g. the PRA) have therefore chosen to set up a more informal approach (called “pre-application”), encouraging companies to engage with them early on in their model development and refinement processes.

## 1.10 Corporate governance

Pillar 2 sets out requirements for the roles and responsibilities of key functions within the business, with the Board having overall responsibility for ongoing compliance with Solvency II.

The organisational structure must have clear segregation of responsibilities, the minimum levels of which are defined within the Pillar 2 framework.

Companies need to have in place an effective system of governance which provides for sound and prudent management of the business. They should have written policies in respect of each of the following functions and ensure that these policies are implemented:

- Risk management
- Internal control
- Internal audit

- Actuarial

Companies also need to have written policies on outsourcing where such a process is applied.

### **1.10.1 Risk management function**

Article 44 of the Framework Solvency II Directive (Directive 2009/138/EC) states that insurance and reinsurance undertakings shall have in place an effective risk-management system comprising strategies, processes and reporting procedures necessary to identify, measure, monitor, manage and report, on a continuous basis the risks to which they are or could be exposed and their interdependencies.

The risk-management system needs to cover at least the following areas:

- Underwriting and reserving
- Asset liability management
- Investments
- Liquidity and concentration risk
- Operational risk
- Reinsurance and other risk mitigation techniques.

### **1.10.2 Internal control**

The scope of the internal control system includes:

- Administrative and accounting procedures
- An internal control framework
- Appropriate reporting arrangements at all levels of the undertaking
- A compliance function.

### **1.10.3 Internal audit**

The internal audit function is responsible for evaluating the adequacy and effectiveness of the internal control system and other elements of the system of governance.

The internal audit function must be objective and independent from the operational functions.

### **1.10.4 Actuarial function**

Article 48 of the Framework Solvency II Directive (Directive 2009/138/EC) states that insurance and reinsurance undertakings shall provide for an effective actuarial function to:

- Coordinate the calculation of technical provisions.
- Ensure the appropriateness of the methodologies and underlying models used as well as the assumptions made in the calculation of technical provisions.

- Assess the sufficiency and quality of the data used in the calculation of technical provisions.
- Compare best estimates against experience.
- Inform the administrative, management or supervisory body of the reliability and adequacy of the calculation of technical provisions.
- Oversee the calculation of technical provisions in the cases set out in Article 82.
- Express an opinion on the overall underwriting policy.
- Express an opinion on the adequacy of reinsurance arrangements.
- Contribute to the effective implementation of the risk-management system referred to in Article 44, in particular with respect to the risk modelling underlying the calculation of the capital requirements set out in Chapter VI, Sections 4 and 5, and to the Own Risk and Solvency Assessment (ORSA) assessment referred to in Article 45.

It is also stated that “the actuarial function shall be carried out by persons who have knowledge of actuarial and financial mathematics, commensurate with the nature, scale and complexity of the risks inherent in the business of the insurance or reinsurance undertaking, and who are able to demonstrate their relevant experience with applicable professional and other standards”.

The PRA requires undertakings to appoint a Chief Actuary as the person responsible for ensuring that the undertaking performs the actuarial function. There is no requirement for the Chief Actuary to be an “actuary” unless the Chief Actuary is external to the undertaking. (An “actuary” is a fellow of the IFoA or a fellow of the CAS who is a member of the IFoA.) The Chief Actuary has to be pre-approved by the PRA.

### **1.10.5 Own Risk and Solvency Assessment (ORSA)**

In addition to calculating the MCR and SCR under Pillar 1, each insurance company will be required to carry out an Own Risk and Solvency Assessment (ORSA). The ORSA is defined by EIOPA as: “The entirety of the processes and procedures employed to identify, assess, monitor, manage and report the short and long term risks an insurance undertaking faces or may face and to determine the own funds necessary to ensure that the undertaking’s overall solvency needs are met at all times.”

It requires each insurance company to identify *all* the risks to which it is subject and the related risk management processes and controls. This will include some of the more qualitative risks that have not necessarily been assessed under Pillar 1, such as reputational risk.

The company must also quantify its ability to continue to meet the MCR and SCR over the business planning horizon (usually three to five years), allowing for new business. This does not have to be at a prescribed confidence level, but at a level that the company feels is

appropriate, for example relating to its own stated risk appetite and/or to achieving a target credit rating.

Insurance companies will have to produce evidence to the supervisor showing that the ORSA is used by senior management and that the impact on the ORSA is considered in strategic decisions.

The ORSA should include at least the following components:

- The assessment of overall solvency needs (considering specific risk profile, approved risk tolerance limits and business strategy).
- Compliance, on a continuous basis, with capital requirements and requirements regarding technical provisions.
- Consideration of the extent to which risk profile deviates from assumptions underlying SCR calculated using the standard formula or partial/full internal model.

Companies should have an ORSA policy in place.

The ORSA should be an integral part of business strategy and considered in ongoing strategic decisions.

The ORSA should be performed regularly (at least annually) and without delay following any significant change in risk profile

There is a requirement to inform the supervisor of the results of each ORSA.

The ORSA process and outcome should be documented and independently assessed.

Companies should be able to explain and justify the following aspects of the ORSA:

- Methodology and assumptions
- Results and sensitivity of results to assumptions
- Appropriateness of methodology used
- Sources of data and systems and controls around the data
- Approach for dealing with parameter uncertainty and fluctuations

The documentation of the ORSA should at a minimum include:

- Description of areas included
- Description of process of conducting the ORSA and the responsibilities of key personnel involved
- Stress tests used and their results

- The amount of overall solvency needs and financial condition of the undertaking, including sign off by the administrative or management body
- Strategies for raising additional own funds where necessary
- A description of the independent assessment and results of the last assessment
- The frequency and contents of internal reporting.

## 1.11 Reporting and public disclosure under Solvency II

The reporting requirements are intended to increase transparency and are more extensive than the former Solvency I reporting regime. The aim of public disclosures is to harness market discipline by requiring firms to publish certain details of their risks, capital and risk management.

The requirements for reporting to the supervisory authority comprise of: quantitative templates (some quarterly and some annual), a Regular Supervisory Report (RSR) which includes solvency calculation details and risk management processes (at least once every three years with a summary version for other years), and an own risk and solvency assessment (ORSA) reported at least annually.

The public disclosure requirements comprise of a public Solvency and Financial Condition Report (SFCR), produced annually. The SFCR includes quantitative templates, solvency calculation details and risk management processes. Undertakings may apply for certain items which can be demonstrated to be of a confidential nature to not be disclosed.

Each of these documents should include at least sufficient information to assess:

- The system of governance applied by the undertakings
- The business they are pursuing
- The valuation principles applied for solvency purposes
- The risks faced
- The risk management systems
- Capital structure, needs and management

The SFCR and RSR contain at least the following principal sections:

- Summary
- Business and Performance
- System of governance
- Risk profile
- Valuation for solvency purposes
- Capital management
- Additional voluntary information

EIOPA has also published detailed quantitative reporting templates (QRTs) for reporting on an annual and quarterly basis of quantitative financial information under Solvency II.

## 1.12 Application of Solvency II to insurance groups

The intention is that Solvency II will enable insurance groups to be supervised more efficiently through a “group supervisor” in the home country, co-operating with other relevant national supervisors. This ensures that group-wide risks are not overlooked and should enable groups to operate more effectively, whilst continuing to provide policyholder protection.

Each insurance group must cover its overall group SCR (which will allow for diversification benefits across the group, and is subject to a minimum of the sum of the MCRs of each subsidiary) and each insurance subsidiary needs to cover its own SCR.

Group supervision would normally be carried out at the top level company within the European Economic Area (EEA). Additional rules apply to subsidiaries and parents located in a “third country”, i.e. non-EEA. These broadly impose Solvency II requirements or, in the case of a non-EEA parent, the establishment of an EU holding company.

If the third country regulatory regime is considered to be broadly compliant with Solvency II, then it is said to have third country equivalence and the group can be regulated as if located in the EEA, replacing Solvency II rules with those of the third country regulatory regime where appropriate.

Transitional arrangements are available to those non-EEA countries interested in pursuing the third country equivalence route – Switzerland, Australia, Bermuda, Brazil, Canada, Mexico and the USA have already been accepted on this basis.

## 1.13 Impact on business culture and strategy

It is important to obtain buy-in to Solvency II across the business, from Board level down. This is the case for all insurance companies and not just those opting to use an internal model – although as noted above, being able to demonstrate full integration of Solvency II into the business is a key part of the internal model approval process.

Solvency II is not just a reporting framework, but a risk management framework with implications for capital allocation, risk mitigation activities and performance management.

The Solvency II regime may also have an impact on the optimal product mix for the company, and on product design.

It is also likely to impact the optimal asset mix for the company, since some asset classes may become relatively more or less attractive as a result of their lower or higher capital requirements.

The availability, or otherwise, of risk diversification benefits may also affect corporate structures and generate merger and acquisition activity.

Management information is also likely to change to align the Solvency II metrics with the business and strategic decision-making process.

External disclosures will change, and in general are likely to increase, so the impact on the market also needs to be considered.

## **1.14 Solvency II and approved roles**

The following is the position as regards the Chief Actuary role and his/her approval as at 30 April 2016:

- All UK insurers must appoint a Chief Actuary, responsible for the actuarial function role under Solvency II.
- This position can be filled by an internal employee or by a consultant.
- The IFoA has decreed that any member undertaking this task, must first obtain a practising certificate (with appropriate qualification criteria).
- The PRA will follow the strict EIOPA guidelines such that person taking responsibility needs relevant experience and competence but does not necessarily need to be a fellow of a recognised actuarial association.

## **2 Lloyd's – capital and solvency**

### **2.1 Introduction**

We have seen that managing agents carry out the technical insurance operations acting as agents on behalf of members. For each year (separately) members undertake to accept risks and take the profits or losses arising. A one-year group of members is called a syndicate.

Lloyd's maintains central assets for solvency, mutual capital that can at the discretion of the Council of Lloyd's, be used to pay policyholder claims if the members are unable to (if their FAL is exhausted). Central Assets for Solvency are mainly composed of the New Central Fund, other central assets and also includes subordinated debt.

Since members are taking risks, they need to hold capital. In this section, we explain how this capital is held and how Lloyd's centrally assesses how much capital each member must have.

### **2.2 Funds at Lloyd's**

Each member must provide an amount of capital specified by Lloyd's. The capital is held by Lloyd's in trust, and Lloyd's has absolute authority to use it to pay claims or other liabilities arising from the member's activities at Lloyd's. The capital fund of a member is called Funds at Lloyd's (FAL).

FAL may be lodged in two main ways: either through physical assets or through a Letter of Credit (LoC). The assets must meet Lloyd's admissibility criteria, which since 2007 have been equivalent to the asset admissibility criteria applied by the PRA to UK insurance companies prior to the introduction of Solvency II.

LoCs are guarantees by banks to provide funds when called upon to do so by Lloyd's. Where FAL is provided by means of a LoC, Lloyd's centrally has the unconstrained power to call upon the guarantee (drawdown the LoC) whenever it wishes to, although in practice it would only do so to meet liabilities or to maintain capital. LoCs for FAL must meet certain criteria:

- Appropriate level of rating of the bank.
- Be available throughout a specified period, usually four years, known as "evergreen".
- Under Solvency II have to be approved as ancillary own funds.

If an LoC is not replaced annually, Lloyd's would expect the member to lodge other assets in FAL. If this did not happen, Lloyd's would be able to call upon the LoC to obtain cash to use as FAL.

Members are often able to obtain LoCs at low cost by collateralising them with other assets. By using LoCs to provide FAL, members can exploit the "double use of assets", whereby they may be able to obtain normal investment returns on assets while using them as collateral to reduce the cost of an LoC. In principle, the banks should charge a rate for the LoC that allows for any investment risk to which the collateral assets are subject. However, the arrangement provides members with great flexibility, and Lloyd's centrally is fully protected by the terms of the LoC.

FAL are only needed for open years of account, and are held at member, not year of account, level. That is, a member holds a single "pot" of FAL to cover the risks of all of his/her open years.

## **2.3 Solvency**

Members must be "in line" from Lloyd's perspective (satisfy a Lloyd's solvency test).

## **2.4 PRA solvency**

The PRA solvency requirements have been those of Solvency II since 1 January 2016. Lloyd's is required to calculate a Lloyd's SCR (that covers risks to which members are exposed and risks to which the Society is exposed) and a central requirement (that covers the risks to which the Society is exposed).

Managing agents are required to calculate a notional SCR for each syndicate and Lloyd's is required to calculate a notional SCR for each member.

## 2.5 In line

Lloyd's has chosen to employ a derivative of the Solvency II SCR for member capital calculations. This is the "ultimate SCR" (uSCR), which is a Solvency II SCR but based on an ultimate time horizon (instead of a one year time horizon plus risk margin used in the Solvency II SCR). Syndicates must calculate both the normal SCR and the uSCR each year.

A member is in line if his or her FAL is at least equal to Lloyd's capital requirement. The requirement is discussed in Section 2.12 below, but is based on an individual capital assessment (ultimate SCR) with an uplift to the "economic capital" level. The uplift is currently a multiplicative 35%. Ordinarily there is a minimum capital requirement of 40% of the member's capacity. In this context, "capacity" is the maximum premium, gross of reinsurance, but net of commission, that the member is permitted to underwrite in the current years. Generally the capital required to be in line is more than that required to meet the PRA's solvency requirement of a firm (also described in Section 2.12.4).

## 2.6 solvency deficits

If the liabilities, including claims reserves and incurred but not reported (IBNR) claims, in an open syndicate exceed the Premium Trust Funds (PTFs) of the syndicate, members suffer "solvency deficits". There may well be no immediate need for extra cash and hence no cash call, but the solvency deficits are counted against the members' FAL. This may mean that a member ceases to be in line or, if the losses are large enough, ceases to meet the PRA's solvency test. Such a member would be required to deposit further assets into the member's FAL.

In the event that a member's FAL is insufficient to meet the PRA test, central assets may be earmarked to demonstrate that member's solvency.

## 2.7 Coming into line

A member whose FAL less solvency deficits are less than the Lloyd's FAL requirement is no longer in line. Lloyd's has the power to require members to lodge further assets and come back into line at any time, but has agreed to carry out this process twice a year in normal conditions.

Each November, members who wish to underwrite in the following year must come into line (CIL) in the main exercise, and each June all active members (members who are underwriting in the current year) must lodge assets if they have ceased to be in line. The solvency position of members in the main CIL in November is that assessed as at the projected year in a review carried out in the preceding September. However if it is known that liabilities have increased since the last solvency calculation, Lloyd's would expect members to show that they had sufficient assets available to come into line as soon as the liabilities were recognised.

In between CIL dates, Lloyd's expects members to maintain FAL at least at the uSCR level (see Section 2.12.2).

Lloyd's ultimate sanction of members who are not in line is to limit, or totally stop, their underwriting. Thus, when members cease underwriting of their own accord, Lloyd's cannot compel them to lodge further FAL.

## **2.8 Overall solvency**

To calculate Lloyd's overall solvency, the PRA's solvency test is applied to the aggregate of all members' exposures. The assets available to meet the test are FAL and central assets.

Lloyd's must be able to demonstrate that central assets are sufficient to cover the total of all members' solvency deficits and that own funds comply with the tiering requirements.

## **2.9 Continuous solvency**

A firm is required to be solvent at all times, not just at year ends. Lloyd's formally reassess its solvency position half-yearly, but a reassessment of the solvency position could be applied at any time upon request by the PRA. This may be required following a major loss scenario.

## **2.10 Statement of Actuarial Opinion (SAO) and Audit requirements**

At the year end, each open syndicate year of account (YOA) requires an SAO and an audit opinion. The SAO is required to separately cover each open year. Thus, at the end of 2015, a "normal" syndicate would require an SAO covering three years: the 2015 open year, the 2014 open year and the 2013 open year which also contains business written in 1993–2012 by means of past RITC.

SAOs are produced under Lloyd's valuation of liabilities rules, which are in turn covered by actuarial guidance in the form of the TASs and the APSs. The SAO reports will also be covered by the same guidance. The actuarial profession has also issued advisory notes covering ULAE, bad debt and large loss wordings.

Actuaries signing SAOs must hold a practising certificate issued by the actuarial profession.

The PRA requires Lloyd's and each managing agent to appoint a Chief Actuary. If there is no SAO for any open year, Lloyd's requires its Chief Actuary to provide an equivalent opinion.

SAOs include results on both a gross and net of reinsurance basis. The net opinions must also allow for unallocated loss adjustment expenses (ULAE) and bad (or doubtful) debt on expected reinsurance recoveries. The opinion the actuary is giving is a "one way" test and certifies that the technical provisions being opined on are at least as large as the actuary's best estimate. In this context, best estimate is defined as the mean (as opposed to median) expected outcome. Opinions can also contain additional comments on uncertainty, where the signing actuary will comment on large events or circumstances that increase the uncertainty of estimates.

Each SAO must be supported by a formal actuarial report addressed to the managing agents with a copy submitted to Lloyd's.

Syndicates writing life business require an actuary's certificate rather than an SAO. These are outside the scope of this Core Reading.

Syndicates writing business in the USA will be additionally required to hold assets in specific USA trust funds. The liabilities for each of the credit for reinsurance trust fund (CRTF) and surplus lines trust fund (SLTF) are also subject to actuarial opinion as required by the USA regulators. Preparation of the USA trust fund opinions is covered by actuarial guidance contained in APS G2.

Syndicates also require an audit opinion on the financial statements of the syndicate. The auditor providing these opinions will place heavy reliance on the SAO.

The opinions form part of the annual reporting process syndicates undertake. The reporting contains accounting, financial and other information items which are aggregated into Lloyd's statements and returns.

## **2.11 Capital setting – introduction**

In the section on solvency, we have seen that:

- members, not syndicates, have to be solvent under the PRA rules and have to be in line if they wish to continue underwriting
- if members fail the PRA solvency test, then Lloyd's centrally must demonstrate that it can cover their shortfalls
- member capital is made up of FAL, supplemented or offset by surplus or deficiencies in the syndicates to which they subscribe
- central capital is made up of the New Central Fund (NCF) plus other central assets (called altogether central assets for solvency)

In this section, we explain how the requirement for member FAL is assessed, and briefly also how Lloyd's assesses its overall capital needs.

## **2.12 Member FAL**

### **2.12.1 History: Risk-based capital (RBC)**

From 1996 until 2006, member FAL was based on the Lloyd's RBC system. This was an actuarial model, parameterised and maintained centrally, that derived capital requirements for members based upon their membership of syndicates in the past, current and proposed years off account, together with information on what volumes and classes of business the syndicates had written and proposed to write.

Thus for the 2005 year of account, RBC was calculated in November 2004 and covered actual volumes for 1993–2003, estimated volumes for 2004 and proposed (plan) volumes for 2005. An inherent feature of RBC was that it treated all syndicates as being alike. £1 of premium written in a particular class of business in a particular year was presumed to generate the same exposure whichever syndicate had written it. This “market average” approach made RBC relatively simple and robust. But many felt that, as well as class of business and year of account, the underwriting syndicate also influenced the riskiness of member’s portfolio.

RBC allowed for diversification between classes of business, between managing agents and over time. It had (syndicate specific, not market average) components reflecting property catastrophe risks which were called realistic disaster scenarios (RDS). In an actuarial capital assessment, two main ingredients are a probability distribution of outcomes and a risk measure that determines a capital amount given that probability distribution. In RBC, the probability distributions at member level were assumed to be drawn from the gamma distribution, with property catastrophe distributions (RDS) added. The risk measure was expected loss cost (ELC). The expected loss in excess of FAL was set at a particular figure and RBC calculated FAL per unit of exposure such that ELC was the same for each member, per unit of exposure. Total FAL was obtained by multiplying FAL per unit of exposure by the exposure.

For example, we may assess a particular member as having £10 million of exposure, based upon past current and proposed volumes and on market average loss ratios and payment patterns. We assess the volatility of the member’s exposure allowing for line of business volatilities and correlations, all at market average, and derive an appropriate gamma distribution. The mean of the gamma would be 100% because we assume that reserves are held at best estimate. We would adjust the gamma for RDS if the member had catastrophe exposures. Based on the adjusted gamma distribution for that member, FAL of, say, 0.12 per unit of exposure would give the ELC for that year. That is, the expected value of losses if 12p of capital were held would be equal to the fixed ELC. The member’s required FAL would then be £1.2 million.

## 2.12.2 History: ICAs

Prior to Solvency II and since 2006, Lloyd’s was subject to the PRA’s ICAS regime (prior to the PRA the ICAS regime was ran by the FSA) and each syndicate was required to produce an ICA. The ICA risk measure was 99.5% value at risk; that is, the ICA capital, at syndicate level, was that required so that the probability of losses beyond that level was 0.5%. Syndicates were required to carry out ICAs by the PRA’s rules, but it was Lloyd’s decision to use the ICA as a tool to set member capital. In principle, provided syndicates carried out an ICA and provided members held at least ICA levels, or else Lloyd’s held capital to cover shortfalls, the society met the requirements, although it was unlikely that the PRA would accept an approach not closely based on the ICAS (or now Solvency II) system..

In view of this, Lloyd’s decided to take syndicate ICAs as the starting point in calculating member FAL requirements. The first step was to review each ICA to ensure that it met Lloyd’s standards (see below).

Once an ICA had been approved, the next step was to apply the “economic capital uplift” and derive the “ECA” (ECA means “economic capital level ICA”). The idea of economic capital was that the ICA standard of security was the minimum acceptable to the regulator, but Lloyd’s security was well above the minimum. The level of ECA relative to ICA was set so that (a) overall member capital remained about the same during the transition from RBC to ICAs and (b) member capital requirements at Lloyd’s remained lower than it was judged a standalone company with the same rating would be, but sufficient so that together with central capital the overall Lloyd’s rating could be maintained.

The mechanism for setting syndicate ECA based on syndicate ICA was a simple one: ECA was 135% of ICA. The uplift was therefore 35% of the ICA. It was therefore somewhat risk-based because a riskier syndicate, with a higher ICA, got a higher uplift. But it was transparent and not mathematically complex.

Both the method of uplifting (multiplicative) and the level (135%) were subject to annual review and signoff by the franchise board.

### **2.12.3 Syndicate capital requirement under Solvency II**

On 1 January 2016, the ICA regime was superseded by the Solvency II regime. The member capital system changed to the Solvency II equivalent, in which the uSCR replaced the ICA as the base for member capital setting.

### **2.12.4 Member capital requirement**

The ICA system and the economic capital uplift produced risk-based capital levels that met Lloyd’s requirements, but it was still necessary to convert syndicate ECAs into actual member FAL requirement and to demonstrate that FAL together with central assets produce the right level of overall security. Lloyd’s carried out this process centrally. As noted in 2.12.3 above, the system now applying under Solvency II uses the uSCR to replace the ICA in the member calculation.

### **2.12.5 Minimum FAL**

Once each member’s capital requirement has been calculated, a minimum is applied. The minimum is set at 40% of the member’s overall premium income limit (OPIL), also called member capacity. Premium is defined as gross of reinsurance, net of brokerage, and OPIL is calculated by summing the respective syndicate capacity times members share. Syndicate capacity is approved as part of the business plan approval process, and is the maximum premium that the syndicate is permitted to underwrite in the year.

The 40% minimum is reduced to 25% for some personal-lines business, where it would pose uncompetitive capital burdens and produce higher capital than was required on a risk based assessment. A member obtains the waiver only if at least 85% of risks fall into the personal-lines category.

### 2.12.6 uSCR review

Before syndicate uSCRs can be used, they must have been received and approved by Lloyd's. The PRA supervises the process by which Lloyd's reviews Syndicate uSCRs. However, the PRA has the option to carry out a review of a syndicate uSCR.

Lloyd's review starts with the issuing each year of Lloyd's uSCR guidance, which sets out the requirements and minimum standards Lloyd's expects. The guidance also offers detailed advice on how to carry out various aspects of the uSCR.

Managing agents produce uSCRs in September or October each year. Lloyd's review teams go through each uSCR in detail and provide feedback. Where the uSCR number appears too low, Lloyd's will ask the managing agent to review it, and ultimately will load the uSCR if necessary.

The reviews are carried out by teams drawn from finance, actuarial, FPD (franchise and performance directorate), risk management and other departments. The review team's feedback and, if necessary, loading is approved by a steering committee. If the managing agent is dissatisfied, it may appeal to a director and then to an external committee, the market supervision and review committee (MSARC).

In parallel with the uSCR review, syndicates' plans for the proposed year are reviewed. By the end of October, each syndicate needs to have reached the stage that both its plans and its uSCR, based on the same plan, have been approved by Lloyd's. Members indicate the syndicates to which they wish to subscribe, and may buy and sell these rights to subscribe in auctions held in November. Coming into line takes place in November. Each member's FAL requirement is calculated and assets must be lodged with Lloyd's by this date. For a syndicate to be allowed to underwrite from 1 January of the following year, all of its members must be in line.

### 2.12.7 Central capital

Once all members are in line, Lloyd's can assess its overall capital position. The security, and hence solvency and rating, depend on both FAL and central assets. FAL is based on Syndicate uSCR times 135% with a diversification effect adjustment for members who participate on several syndicates.

In practice, calculating the probability that some member exhausts the FAL and "fails", hence calculating how much central capital is needed, is very complex. A detailed simulation model is used to simulate member experience. Correlation between members is included in the model. From the simulation output, an overall distribution of losses beyond FAL is derived and from this a Lloyd's Society SCR is calculated as central assets such that the probability of their being inadequate is 0.5%. The Lloyd's SCR is calculated on the normal one-year SCR basis, and is calculated in two ways: the Market Wide SCR (MWSCR) represents all of the capital consumed at 1 in 200, from whatever source, and the Central SCR (CSCR) the central capital needed at 1 in 200. [Thus the MWSCR includes the CSCR, although the nature of VaR calculations is such that the 1 in 200 event for the whole market is different from the 1 in 200 for central assets.] The MWSCR can be compared directly with the SCRs of other insurers.

An “economic capital” central capital (only) assessment is made for the ORSA. This is a materially higher level of capital than the CSCR, and the details are beyond the scope of this reading.

### 2.12.8 Assets

The new central fund (NCF) is composed of cash and investments plus the proceeds of subordinated debt instruments.

## 2.13 Overview of Lloyd’s prudential requirements

*The Society of Lloyd’s:*

To maintain appropriate controls over the funds that it holds and manages centrally including managing risk within appropriate limits.

To assess the capital needs for each member, taking into account the capital needs of syndicates assessed by managing agents.

*Managing agents:*

To maintain appropriate controls over syndicates including managing risks such as credit risk and market risk within limits that are substantially the same as those defined for companies.

To assess the capital needed to support each syndicate that they manage, to help to ensure that financial resources are adequate at all times.

### Lloyd’s of London – Solvency II

<http://www.lloyds.com/The-Market/Operating-at-Lloyds/Solvency-II>

### 2.13.1 Lloyd’s and the PRA

This section sets out the Prudential Regulation Authority’s (PRA’s) expectations in relation to the application of certain parts of Solvency II to Lloyd’s, and expands upon the Lloyd’s Part of the PRA Rulebook.

In particular, this section sets out the PRA’s expectations regarding the following topics:

- solvency capital requirement (SCR) and
- capital add-ons

### 2.13.2 Solvency capital requirement

The requirement to hold eligible own funds covering the central requirement is intended to ensure that risks to the Society, including risks to central assets (and in particular, the risk that own funds attributable to a member may not be sufficient to enable the member to meet obligations arising from the member's insurance business at Lloyd's) are suitably covered by the Society.

Solvency Capital Requirement – General Provisions 6.6 recognises in its application to Lloyd's that own funds attributable to a member are not available to absorb the losses of other members, or any losses of the Society. Consequently, in respect of own funds attributable to a member, where there is no diminution in those own funds consequent upon the application of scenarios taken into account in the internal model, those own funds attributable to that member must not be taken into account for the purposes of satisfying Solvency Capital Requirement – General Provisions 6.2. Similarly, in respect of own funds attributable to a member, any surplus of own funds in excess of the diminution to those own funds consequent upon the application of the scenarios taken account of in the internal model, must not be taken into account for the purposes of satisfying Solvency Capital Requirement – General Provisions 6.2.

The notional syndicate SCR is intended to facilitate the Society's compliance with Solvency Capital Requirement – General Provisions 8.2. While the PRA expects the calculation of the notional SCR to meet the relevant standards required under Solvency II, managing agents do not need to seek separate approval from the PRA for any internal model that is used to calculate the notional SCR of a syndicate. The notional SCR will also assist the Society in determining the notional SCR of each member of the syndicate pursuant to Solvency Capital Requirement – General Provisions 8.4. However, the notional member SCR will, to the extent applicable, also take account of diversification effects in respect of members participating on more than one syndicate which have not been reflected in the notional syndicate SCR.

In deriving the SCR, the Society should have regard to the notional SCR for each syndicate, that is calculated by managing agents either by reference to the standard formula or an internal model. However, the Society should make its own assessment of the risk profile and governance arrangements in respect of each syndicate, in conjunction with the methodology applied by each managing agent to calculate the notional SCR. It may need to increase a notional syndicate SCR, and hence the overall SCR for Lloyd's, if it concludes that there are additional risks to which the Society is exposed in relation to the business written by a syndicate, that would not otherwise be covered, when performing the calculations envisaged by Solvency Capital Requirement – General Provisions 7.

The approach set out in Solvency Capital Requirement – Internal Models 17.2 is, when combined with the internal model requirements set out in Solvency Capital Requirement – Internal Models 10 to 16 and Solvency Capital Requirement – General Provisions 8.2, intended to produce, for each risk taken into account in the internal model, the negative impact on basic own funds at Lloyd's. In this way, the effect of the application of the risks taken into account in the internal model may be determined in respect of Lloyd's as a whole.

### 2.13.3 Capital add-on

Solvency Capital Requirement – General Provisions 7.3 requires the Society to calculate a central requirement for Lloyd's. As the central requirement forms part of the Lloyd's SCR, the provisions of Article 37 of the Solvency II Directive will apply in respect of any risk profile deviation on the part of the Society from the assumptions underlying the calculation of the central requirement. The PRA will use its powers under section 55M of the Financial Services and Markets Act 2000 (FSMA) in order to apply any capital add-on to the Society. The Solvency II Regulations also apply in relation to the imposition of a capital add-on.

## 3 Further reading

Students may find the following links to be useful sources of further information:

**Solvency II Directive**

<http://register.consilium.europa.eu/pdf/en/09/st03/st03643-re01.en09.pdf>

**Actuarial Association of Europe – Solvency II**

<http://actuary.eu/current-topics-solvency-ii/solvency-ii/>

**Prudential Regulation Authority – Solvency II**

<http://www.bankofengland.co.uk/pru/Pages/solvency2/updates.aspx>

**Lloyd's of London – Solvency II**

<http://www.lloyds.com/The-Market/Operating-at-Lloyds/Solvency-II>

<b>END</b>
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## UNIT 4 – TAXATION

### *Syllabus objectives*

- (d) Describe the principal taxation requirements that affect general insurers (including Lloyd's) established in the UK.
  - (i) State the principles on which the taxation of a proprietary insurer is based.
  - (ii) Describe the technical reserves that can be taken into account in calculating the taxable profits of a proprietary insurer.
  - (iii) Describe the principal differences in taxation treatment between a mutual and a proprietary insurer.
  - (iv) Outline the principles of taxation within the Lloyd's market.

## 1 Introduction

The regulation, supervision and taxation of UK insurers are rapidly evolving areas. This unit was updated in April 2017, and is a fair reflection of the position at that time. The student is advised, however, to keep abreast of developments by reading the financial and insurance press.

There is insufficient space in this course to cover the taxation, legislation, regulation and supervision of insurance entities in the UK in detail. This unit aims to provide an overview of the most important areas affecting general insurers.

The following sections on tax consider corporation tax, insurance premium tax and VAT. They do not cover all UK taxes to which an insurer may be subject (for example, they do not cover stamp duty, or employment related taxes and duties). Nor do they consider anti-avoidance measures, such as UK Diverted Profits Tax which was introduced with effect from 1 April 2015 and the anti-hybrid legislation which took effect from 1 January 2017.

## 2 Taxation of a UK proprietary general insurer

### 2.1 Introduction

All UK incorporated companies are deemed to be UK tax resident as are companies incorporated overseas but managed and controlled in the UK. A UK tax resident company is subject to UK corporation tax on its worldwide profits, unless it has made an election not to be taxed on the profits of foreign “permanent establishments” (i.e. branches).

A foreign company carrying on insurance business in the UK through a permanent establishment is subject to UK corporation tax on the profits of the UK permanent establishment. A non-resident company has a permanent establishment in the UK if:

- it has a fixed place of business here through which the business of the company is wholly or partly carried on, or
- an agent acting on behalf of the company has and habitually exercises here authority to do business on behalf of the company (as long as that agent is not of independent status acting in the ordinary course of his business).

The UK domestic law definition goes on to give some non-exhaustive examples of places of business that are “fixed places of business” such as:

- a place of management
- a branch
- an office.

The profits of insurance companies calculated for tax purposes are likely to differ from those disclosed in its financial statements. In relation to the profits of a general insurance company these differences may relate to:

- the investment return, notably on equities
- the underwriting result
- other items, such as depreciation and disallowable entertaining
- foreign profits.

## **2.2 Investment return**

### **2.2.1 General**

The investment return of a general insurer will be made up of income and gains from gilts, bonds, deposits, equities, collective investment schemes, real estate and miscellaneous sources such as investment underwriting and stock lending fees. As insurance is a financial trade, no distinction is normally made for tax purposes between investment income and investment gains of a general insurer – both are taxed as income. Because the capital gains rules do not apply, no indexation allowance relief is available in calculating gains.

Dividend income is, however, usually exempt from tax while gains or losses on the value of equities are taxed on a mark to market basis (see 2.2.3 below).

In exceptional circumstances a general insurer may also hold certain assets as structural investments which are viewed as giving rise to capital gains rather than income on disposal for tax purposes. This is, however, heavily fact dependent and seldom met in practice so is not considered further.

## **2.2.2 Gilts, Bonds, Deposits and certain collective investment schemes**

For tax purposes, a broad distinction can be made between the investment return arising from “loan relationships” and equities. “Loan relationships” is a technical tax term used to describe money debts arising from the lending or advancing of money, e.g. all forms of corporate and government debt and deposits, and collective investment schemes that invest predominantly in loan relationships. The return from loan relationships is calculated using an authorised accounting method. This will normally be on a fair value basis. Thus the whole of the investment return, whether comprising income or gains and whether realised or unrealised, is taxed or allowed in the course of each accounting period. The Companies Act also allows fixed-interest securities, with a redemption date and forming part of a portfolio intended to be held on an ongoing basis, to be included in the balance sheet on an amortised cost basis. Where financial statements are prepared on this basis they should be used for tax purposes. Where loan relationships are between connected parties (as defined in tax law), loan relationships are taxed on an amortised cost basis regardless of the accounting treatment.

## **2.2.3 Equities, equity-based collective investment schemes and real estate**

The general rule is that income dividends are not taxed, whether from UK or from foreign equities, subject to certain anti-avoidance measures. There is an option for a company to elect that a dividend shall not be exempt if it so wishes.

Gains on equities, whether UK or overseas, are taxed as income on a fair value basis, that is unrealised gains and losses are brought into account for tax purposes as they accrue in the company’s financial statements. Before 2002, gains on equities, equity-based collective investment schemes and real estate were taxed only on realisation. The difference between the two bases as at 31 December 2001 was either spread over 6 years (which period has now expired), or was held over on an asset-by-asset basis until the disposal of the relevant asset. Where this transition was on an asset-by-asset basis there will still be an annual adjustment in the tax computation.

Miscellaneous sources of income such as investment underwriting and stock-lending fees are generally taxed as they are earned and recognised in the company’s financial statements.

## **2.3 The underwriting result and provisions**

### **2.3.1 The underwriting result**

A general insurer will calculate its underwriting result by reference to UK generally accepted accounting principles (UK GAAP as amplified for specific insurance accounting issues by the Statement of Recommended Practice on accounting for insurance business issued by the Association of British Insurers (last updated in December 2005), a body recognised for this purpose by the Accounting Standards Board (now the Accounting Council of the Financial Reporting Council)).

Compliance with International Accounting Standards (IAS) is required for all listed companies within the EU from year-end 2005. Unlisted companies (including subsidiaries

of listed companies) may stay on UK GAAP. For accounting periods beginning on or after 1 January 2015 UK GAAP comprises the following Financial Reporting Standards, FRS 100, 101, 102 and 103 ('new UK GAAP').

UK accounting standards require the annual basis of accounting to be used unless delays in the receipt of information on premiums and claims renders it inappropriate, in which case the funded basis of accounting should be used. This is likely to be the case only in exceptional circumstances.

Under UK GAAP the underwriting result is calculated net of outward reinsurance transactions.

### **2.3.2 Technical provisions**

A general insurer's insurance technical provisions are in principle deductible for tax purposes provided they have been calculated under UK or International GAAP.

UK tax legislation potentially limits the tax deduction to the "appropriate amount". Insurers make their corporation tax returns on the basis of the figures in their financial statements, but HM Revenue and Customs may enquire into these. If HM Revenue and Customs does enquire into the appropriateness of the technical provisions, the "appropriate amount" depends on whether or not the company has a written opinion supporting the figure in the financial statements. If the figure is properly supported by an actuarial opinion and the insurance company confirms this with its tax return the figure in the financial statements will stand for tax purposes. If not, the "appropriate amount" will be the undiscounted best estimate, if that is less, and the excess will be disallowed for tax purposes. Any disallowance will reverse in the next year, subject to any further disallowance at the end of that year.

The written actuarial opinion must be in accordance with actuarial standards and confirm that, on the basis of the information at the time the financial statements are adopted, the amount is "not excessive". The opinion need not be given by an actuary, though it must conform to actuarial standards.

The legislation brings HMRC additional powers, including the power to commission an independent report into the provisions. In practice HMRC use this power sparingly, and they seek to resolve enquiries on the basis of information provided without invoking the formal power.

Equalisation provisions are not strictly speaking, technical provisions. Transfers to and from equalisation provisions are dealt with under different rules discussed further at 2.3.9 below.

### **2.3.3 Reported claims provisions**

These should be supported by case estimates or statistical projections.

### **2.3.4 Provision for unearned premiums (UPR)**

These provisions must be calculated in the most accurate manner available to the insurer. It also follows that acquisition costs relating to unearned premiums should be deferred through the establishment of a deferred-cost asset.

### **2.3.5 Additional provision for Unexpired Risks (URR or AURR)**

This is acceptable, provided that it can be established on a statistical basis that the provision for unearned premiums net of related acquisition costs is inadequate to meet the losses on unearned premiums.

### **2.3.6 Incurred But Not Reported claims provision (IBNR)**

Provisions for IBNR are acceptable subject to justification of the existence and extent of such claims. This will be most difficult in classes subject to great claim variation and in particular those where latent claims may exist.

### **2.3.7 Claims handling expense provision**

A provision for internal and external claims-handling expenses is allowable to the extent that the expenses relate directly to claims for which claims provisions have been accepted by HMRC. HMRC have been known to examine claims handling expense provisions to test whether the provision is calculated with sufficient accuracy as to enable the provision to be considered “specific” and therefore tax deductible.

### **2.3.8 Reinsurers' share of technical provisions**

The insurance technical provisions claimed for tax purposes are net of amounts recoverable from reinsurers. For tax purposes it is necessary to assume that all amounts due will be recovered. A deduction is allowed for specific provisions for amounts estimated to be irrecoverable from reinsurers but a general provision is not allowed.

### **2.3.9 Equalisation provisions**

In the UK, prior to the coming into force of Solvency II on 1 January 2016, insurers were required to establish an Equalisation Reserve/provision over and above their claims provisions in respect of certain classes of business (regarded as being potentially volatile). Statutory rules governed the calculation of transfers to the Reserve (which were tax deductible, unless the company elected otherwise) and transfers from the Reserve (on which tax was payable, unless the company elected not to claim a tax deduction when it was set up).

Where a UK branch did not prepare a PRA return, the amount that would have been shown in its PRA return had it prepared one was likewise tax deductible, unless the company elected otherwise.

Under Solvency II the regulatory requirement to set up equalisation provisions no longer exists. All transfers into equalisation provisions that had previously given rise to tax deductions are brought back into tax in accounting periods ending on or after 1 January 2016. The charge to tax on the release of provisions held at 1 January 2016 is spread over a six-year period, with the insurer having an option to tax the full amount remaining at any stage in the six-year period.

### **2.3.10 Provisions not allowable against tax**

Provisions for future catastrophe losses are not allowable from 1 January 2016. They were previously deductible under the equalisation reserve rules (see 2.3.9 above).

## **2.4 Other items**

Tax law may require other adjustments to the profits or losses shown in the financial statements. For example, business entertaining expenses cannot be deducted. Depreciation and some amortisation charges are not allowed. Instead of allowing depreciation, there are special rules for calculating “capital allowances”, a technical term used to describe allowable tax depreciation, and there are also rules that allow a tax deduction for the amortisation of certain intangible fixed assets.

## **2.5 Foreign profits**

If a UK general insurer carries on business through a permanent establishment, or deemed permanent establishment, outside the UK it may be liable for foreign taxes. Similarly, if it holds foreign investments a foreign withholding tax may be suffered on dividends and interest from those sources. Subject to complex rules, such foreign taxes may be credited against UK corporation tax (up to the rate of UK corporate tax on that income), or, less advantageously, be allowed as a deduction in computing UK taxable profits.

As noted at 2.1 above, UK resident companies can make an irrevocable election not to be taxed in the UK on profits or losses that are attributable to foreign permanent establishments. Once made, an election is irrevocable and applies to all future periods. The effect is to take out of account for tax purposes all profits and losses from all current and future foreign permanent establishments of the insurance company. If a company elects for the branch exemption, foreign taxes that relate to exempt foreign branches cannot be credited or deducted against UK tax.

## **2.6 Corporation tax due**

A UK proprietary general insurance company must pay corporation tax on its taxable profits. Credit relief may be due for foreign tax. The corporation tax due will normally be paid in four quarterly instalments starting from six months and 14 days from the commencement of the accounting period. (The Government intends to bring forward the instalment payment dates by four months for those companies or groups with annual taxable profit over £20 million with effect from 1 April 2019, but this has not yet been legislated.)

Interest is due on late payment and penalties may arise from underestimations.

## 2.7 Tax losses

If a UK proprietary general insurance company sustains a tax loss instead of earning taxable profits no UK corporation tax will be due. There are three main ways in which companies may relieve trading losses. Losses can either be:

- carried back and set against the previous year's profits,
- carried forward and set against future trading profits, or
- surrendered to other companies in the same UK tax group, and offset by those companies against their taxable profits

Broadly, all UK resident companies that are, in substance, 75% subsidiaries of a common parent and all UK branches of overseas companies that are 75% subsidiaries, are part of a group relief group. There is no requirement for a UK-resident holding company. There may be restrictions on the ability of a UK branch within a group to surrender losses.

The rules governing the use of carried forward corporate losses will change from 1 April 2017. The legislation is in Finance (No. 2) Bill 2017, which at the time of writing has not yet been enacted.

The changes include restricting the use of carried forward losses so that they cannot reduce profits arising on or after 1 April 2017 by more than 50%. This restriction will apply to a company or group's profits above £5 million. The legislation will give all companies more flexibility by allowing losses arising on or after 1 April 2017 to be carried forward against different types of income in the same company or other group companies.

Further new rules limiting corporation tax deductions available for interest expense came into effect on 1 April 2017. These limit the amount of net interest expense that a worldwide group can deduct against its taxable profits to 30% of its taxable earnings before interest, taxes, depreciation and amortisation (EBITDA).

## 2.8 Differences in the taxation treatment of mutual and proprietary insurers

The principal distinguishing features of the taxation of mutual insurers are:

- Underwriting losses and profits arise from mutual trading and hence are exempt from tax. No relief is given for expenses which are part of the mutual trade.
- The investment return is taxed independently. The return from loan relationships will be taxed as income on a mark-to-market basis, unless accounts used amortised cost. However, with respect to equities realised investment gains are subject to capital gains rules and hence indexation relief applies.

The UK tax base for mutual general insurers is potentially harsh in the event that the underwriting result is loss-making as the loss will not be set against the gross investment return.

## 2.9 Principles of taxation within the Lloyd's market

Tax at Lloyd's is levied on the individual and corporate members of Lloyd's. Each member is taxed in the UK on its worldwide Lloyd's profits (subject to any branch exemption election made by a corporate member). A member's taxable profits consist of the aggregate of:

- its share of profits or losses from syndicate activity; and
- its profits or losses from activity outside the syndicate ("member-level" items)

The rules for determining each part are as follows:

### Syndicate Result

The tax result for the syndicate is calculated on the basis of the syndicate's Year of Account results. There is a deferral in taxing the results. For example, the 2015 Year of Account result is taxed in 2018 ("Year 4", if 2015 is considered "Year 1"). If a syndicate does not close after 36 months, the result at 36 months is taxed in Year 4 and then the annual movement is taxed in each subsequent year until it closes.

It is the responsibility of the syndicate managing agent to declare the tax result and agree it with HM Revenue & Customs. The syndicate result is then attributed to the participants on the syndicate.

Any challenge made by HMRC to the level of technical provisions (see 2.3.2 above) will be made at the level of the syndicate result, although any adjustment to the appropriate amount would in practice also need to take account of any reinsurance ceded at the member level.

### Member Level Result

Some special timing rules relating to member-level reinsurances and to amounts payable to a syndicate managing agent. Aside from these items, the member-level result is generally calculated on a current calendar year basis. For example, income and expenses that are accounted for as accruing in calendar year 2018 will form part of the member's total taxable result for calendar year 2018.

Premiums ceded by corporate members under member-level reinsurances, and recoveries made by members under member-level reinsurances are taxed in the same period as the relevant syndicate Year of Account. Where a member-level reinsurance is entered into for a calendar year, this means that the relevant sums must be apportioned to the constituent Years of Account for tax purposes. Amounts payable by a member to a managing agent are also taxed on a syndicate Year of Account basis.

It is the member's responsibility to declare in its tax return both its share of the relevant syndicate result and any other (i.e. non-syndicate) income and expenses.

It will be noted from the above that, compared to proprietary general insurers outside the Lloyd's market, Lloyd's members have a deferral of taxation on the underwriting and related investment return within the syndicate premiums trust fund until the fourth development year. However, the tax benefit on losses is also deferred.

From 1 July 2009 onwards, Lloyd's corporate members benefit from the same dividend exemption rules as other UK general insurers (see 2.2.3 above). However, individual members and individual partners in members that are partnerships continue to be taxed on dividends.

Lloyd's corporate members were able to set up Claims Equalisation Reserves for tax purposes. Such reserves existed for tax purposes only and were not a regulatory requirement. However, the tax rules governing the eligible classes of business and the calculation of tax-deductible transfers into the reserve and taxable transfers from the reserve follow the rules for other general insurers (see 2.3.9). The Lloyd's Claims Equalisation Reserves tax rules were repealed at the same time as those for proprietary companies for accounting periods ending on or after 1 January 2016, with the same six-year period for taxing the release of accrued provisions.

A significant part of Lloyd's profits are subject to tax overseas as arising in foreign permanent establishments. The effective rate of tax on those profits will largely depend on the extent to which UK corporate members obtain credit relief against UK tax for those foreign taxes. The generally applicable UK double taxation relief rules are modified in order to cater for the Lloyd's Year of Account basis of UK taxation.

## **2.10 Insurance Premium Tax**

Insurance premiums are exempt from VAT in the UK. However, most general insurance premiums for risks located in the UK are subject to insurance premium tax (IPT). The standard rate of IPT was increased from 6% to 9.5% on 1 November 2015 and to 10% on 1 October 2016. The standard rate will increase to 12% from 1 June 2017 under legislation in Finance (No. 2) Bill 2017, which at the time of writing has not yet been enacted.

Insurance for commercial ships and aircraft, commercial goods in international transit and reinsurance are exempt from IPT. Risks located outside the UK are outside the scope of UK IPT but may be subject to premium tax in another country.

A special higher rate of 20% (which is the current full rate of VAT) applies for travel insurance and insurance that is sold along with a basic product that is subject to VAT, such as extended warranty insurance with a refrigerator or washing machine.

## **2.11 Value Added Tax**

VAT is a tax on consumption and collected at each stage of the supply cycle by requiring a supplier to charge and account for VAT on supplies of goods and services but with a

deduction for VAT input tax on purchases of goods and services for use in the business. Thus in most cases a business does not bear VAT but is responsible for collecting VAT on the value it adds in the supply chain.

For certain businesses, such as insurance, this concept is modified by making the business, in effect, a consumer so that VAT becomes a cost. This is done by regarding the supply of insurance within the EU as an exempt supply so that the business does not have to charge VAT on its supplies but with the consequence that it is not entitled to recover any related VAT input tax on costs that it incurs. The supply of insurance outside the EU is outside the scope of VAT, with the result that, although the business does not have to charge VAT, it is entitled to recover VAT input tax.

Insurers are commonly partially exempt from VAT, that is, they make a mixture of VAT exempt or outside the scope and VAT-able supplies, with the amount of VAT that they are able to recover on their costs depending on the mix of supplies that they make.

## 2.12 Policyholder taxation

Premiums paid by a corporate policyholder will usually be allowed as a business expense. Premiums paid by personal policyholders will usually be paid out of post-tax income, but sole traders and partnerships may deduct insurance premiums as a trading expense of carrying on a business.

Claim payments indemnify policyholders, but they do not in themselves create profit. Whether or not the receipt of a claims payment is taxable in the hands of the policyholder will depend, among other things, on the nature of the risk insured against and whether the premium was tax deductible. Claims payments will be taxable for business policyholders where they replace lost profits that would be subject to tax or diminish expenses that would be tax deductible.

For capital gains tax purposes, the receipt of compensation and insurance moneys may not be treated as a disposal where the sums are used to restore or replace the asset. There can though be an interaction between the capital gains rules and the capital allowances rules.

For both corporate and personal policyholders IPT is a tax on consumption collected by the insurer.

**END**

## UNIT 5 – PROFESSIONAL GUIDANCE RELEVANT TO GENERAL INSURANCE ACTUARIES

### *Syllabus objective*

- (e) Describe the requirements of the professional guidance relevant to actuaries practising in or advising United Kingdom general insurance companies and Lloyd's syndicates.

### **1 Introduction**

When carrying out work for a UK general insurance company all members must comply with all relevant requirements under the Financial Services and Markets Act (“FSMA”) together with any professional standards or guidance relevant to the work being done and the professional body to which they belong.

Standards required of members of the Institute and Faculty of Actuaries (IFoA) are detailed in the Actuaries’ Code, the Technical Actuarial Standards and the Actuarial Profession Standards (APSs).

Professional standards that are deemed to be “technical” in nature are produced and maintained by an independent body, the Financial Reporting Council (FRC). These principles-based Technical Actuarial Standards (TASs) are mandatory for all members of the IFoA when undertaking work that is within the scope of that TAS (broadly speaking UK business). The IFoA retains the responsibility for the ethical regulation of members and in particular requires members, to whom the Standards apply, to observe them. APSs apply regardless of where the member or the member’s work is geographically located

The “revised TASs” were issued in December 2016 and replaced the “original TASs” with effect from 1 July 2017. The “revised TASs” consist of one generic TAS, TAS 100: Principles for Technical Actuarial Work which applies to all technical actuarial work and Specific TASs which to apply specified areas of technical actuarial work where there is a high degree of risk to the public interest. A separate document, the Framework for FRC technical actuarial standards describes the general scope and authority of the TASs, with each Specific TAS defining its particular scope.

The current TASs of relevance to SA3 are:

[TAS 100: Principles for Technical Actuarial Work](#)

[TAS 200: Insurance](#)

These are described in Section 2 below.

The Professional Standards Directory on the IFoA’s website enables members to access the current FRC Standards and the current version of the Standards issued by the IFoA: i.e. the Actuaries’ Code (see Section 3 below) and APSs.

The principles outlined in this Core Reading reflect the up-to-date versions as at 30 April 2017. You are not required to have knowledge of changes made after this date for the purpose of Subject SA3. However, if your answer to an exam question reflects knowledge of such changes, your answer will, in principle, be acceptable.

## 2 Technical Actuarial Standards

SA3 students are expected to be familiar with the underlying principles of the relevant TASs, but will not be examined on the detail.

### 2.1 Generic TAS: TAS 100

TAS 100 or the Principles for Technical Actuarial Work promotes high quality technical actuarial work and supports the reliability objective that users for whom actuarial information is created should be able to place a high degree of reliance on that information's relevance, transparency of assumptions, completeness and comprehensibility, including the communication of any uncertainty inherent in the information.

TAS 100 is applicable to all technical actuarial work done in relation to the UK operations of entities, as well as to any overseas operations which report into the UK, within the context of UK law or regulation.

Technical actuarial work is work performed for a user:

- 1) where the use of principles and/or techniques of actuarial science is central to the work and which involves the exercise of judgement; or
- 2) which the user may reasonably regard as technical actuarial work by virtue of the manner of its presentation.

Technical actuarial work is not limited to work undertaken by an actuary.

Departures from the provisions concerning communications to users are permitted if they are unlikely to have a material effect on the decisions of users.

Nothing in TAS 100 should be interpreted as requiring work to be performed that is not proportionate to the nature, scale and complexity of the decision or assignment to which the work relates and the benefit that users would be expected to obtain from the work.

Communications for reserved work, work in the scope of a Specific TAS and technical actuarial work which is central to a significant decision by the user shall include a statement confirming compliance with TAS 100.

There is further more detailed guidance around the "Principles" of Judgement, Data, Assumptions, Models, Communications and Documentation.

## 2.2 Specific TASs

As well as TAS 100, the FRC has published a set of Specific TASs, applying to work in particular areas. Of most relevance to this Subject is TAS 200: Insurance. TAS 200 promotes high quality technical actuarial work in insurance on matters where there is a high degree of risk to the public interest and supports the same reliability objective as under TAS 100 above.

TAS 200 is applicable to the following technical actuarial work:

- to support the preparation of an insurer's balance sheet for prudential regulatory purposes
- to support the preparation of financial statements that are intended to give a true and fair view of an insurer's financial position and profit or loss (or income and expenditure) and the reporting of that financial position and profit and loss in a parent company's financial statements
- to support an opinion on provisions as required by Lloyd's
- to support the confirmation required under the General Insurers' Technical Provisions (Appropriate Amount) Regulations 2009 Technical actuarial work to support the calculation of an insurer's prudential regulatory capital requirements and technical actuarial work undertaken as part of its Own Risk and Solvency Assessment
- to support insurance transformations i.e. concerning:
  - schemes of arrangement;
  - Part VII transfers;
  - the role of policyholder advocate in an inherited estate reattribution;
  - changes to the principles in the Principles and Practices of Financial Management;
  - reporting on policyholder benefit reductions under section 376 of the Financial Services and Markets Act 2000
- to support the provision of an audit opinion on an insurer's financial statements and the reporting of a parent company's interest in the insurer in its financial statements
- to support the provision of an auditor's assurance opinion on an insurer's prudential regulatory reporting
- to support pricing frameworks

The same materiality, proportionality and statement of compliance requirements apply here as with TAS 100.

In addition to the “Principles” of TAS 100, TAS 200 calls for:

- judgments that reflect the nature of the business, the materiality of the risks faced and the sensitivity of the results to these judgments.
- documentation of the sources, checks and quality of data and of data proxies and groupings.
- derivation of all material assumptions.
- clarification of best/central estimates and that all model results be reproducible.
- statements of applicable regulations and any departure therefrom.
- explication of any material difference from the previous performance of the exercise.
- explication of any material divergence of values from best estimates, including adjustments for risk.
- description of assumptions and methodology for stress testing and results therefrom.
- description of projections used with any limitations.
- impact of transformations on all relevant parties.
- all audit and assurance work to be performed with professional scepticism, noting any material deficiencies or limitations.

### **3 The Actuaries’ Code**

The Actuaries’ Code sets out five core principles which all members are expected to observe in their professional lives, in both the spirit and the letter. The content of the Actuaries’ Code is outside the scope of Subject SA3, but should be known by all members (students and actuaries) of the IFoA.

## **4 Other professional standards and guidance**

This section lists the other current professional standards and guidance that are of most relevance to this Subject. SA3 students will not be examined on the detail of these resources beyond what has been covered elsewhere in the Core Reading.

### **4.1 Actuarial Profession Standards**

APS G1 sets out the requirements for actuaries carrying out the statutory role of Chief Actuary for UK authorised general insurance companies and Lloyd’s syndicates and the relationship between them and the Members who support those role holders.

APS G2 applies to the preparation, by an actuary appointed by a Lloyd's managing agent, of opinions required by the IID of the NAIC or by the NYID for Lloyd's syndicates writing relevant USA insurance or reinsurance business.

Also of relevance to general insurance actuaries are:

- APS X1 (“Applying standards to actuarial work”) – sets out principles to be applied by members to determine which standards they must or should be applying to a piece of work. It clarifies that all members, regardless of where they are located or whether the work is being carried out in the UK or elsewhere, must apply the Actuaries’ Code and relevant APSs. It also sets out principles for members to follow in identifying and applying appropriate standards to their work. This is likely to be of particular relevance for those members working in geographically complex situations or where there are competing standards that might apply to their work.
- APS X2 (“Review of Actuarial Work”) – applies to all members and relates to the need to consider the extent to which review (including independent peer review) is required for any “actuarial work”, i.e. work undertaken by a member in their capacity as a person with actuarial skills on which the intended recipient of that work is entitled to rely.
- APS X3 (“The Actuary as an Expert in Legal Proceedings”) – applies to actuaries who are appointed to act as an expert witness in legal proceedings held before courts, tribunals or similar.

## 4.2 Non-mandatory resource material

As noted earlier, the IFoA also produces other non-mandatory resource material which is intended to provide helpful guidance for its members.

These include:

“Whistleblowing – a guide for actuaries” and “Whistleblowing – a guide for employers of actuaries”. These leaflets are intended to help all actuaries (and their employers) understand their whistleblowing obligations, both professionally and legally, and to alleviate concerns that they may have about such responsibilities.

“Conflicts of interest – a guide for actuaries” and “Conflicts of interest – a guide for employers of actuaries”. These leaflets build on the provisions of the Actuaries’ Code in relation to conflicts of interest and set out views on good practice regarding such conflicts and how they might be managed.

Guidance material for actuaries and firms dealing with personal data (data controller responsibilities).

**END**