



FINANCIAL REGULATOR  
*Rialtóir Airgeadais*

Life  
Finite  
Reinsurance

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## Contents

1	Introduction	3
1.1	Scope	3
1.2	Implementation	3
1.3	Legal Basis	4
2	Finite Reinsurance	6
2.1	Introduction	6
2.2	Definition	6
2.3	Interpretation	7
3	Contract Documentation	12
4	Prudential Rules	13
4.1	Required Solvency Margin	13
4.2	Additional Disclosures	17
4.3	Minimum Guarantee Fund	18
4.4	Internal Capital Models	18
5	Systems and Controls	23
5.1	General	23
5.2	Classification Policy	24
6	Regulatory Returns	27
6.1	2007 Life Finite Submission	27
6.2	Disclosures	27
6.3	Returns	29
6.4	Prescribed Forms	30
	Appendix 1: Asset Risk Factors ( $F_a$ )	31

# 1 Introduction

## 1.1 Scope

On the 15<sup>th</sup> of July 2006, Statutory Instrument 380 of 2006 ("S.I. 380") transposed into Irish law Council Directive 2005/68/EC ("Reinsurance Directive"). The Irish Financial Services Regulatory Authority ("Financial Regulator") is issuing this paper to outline and explain the regulatory requirements that will apply to those reinsurance undertakings carrying on life reinsurance business that classify their business, or a material part<sup>1</sup> thereof, as finite reinsurance (hereinafter referred to as "life finite reinsurance").

## 1.2 Implementation

The requirements in this paper must be implemented in full no later than the 28<sup>th</sup> of September 2007.

In order to monitor the degree of compliance amongst reinsurance undertakings carrying on life finite reinsurance with the regulations of S.I. 380 and with the requirements herein, all life reinsurance undertakings carrying on life finite reinsurance must confirm their compliance through a submission ("2007 Life Finite Submission"), to be lodged with the Financial Regulator by close of business on the 28<sup>th</sup> of September 2007.

The 2007 Life Finite Submission must be approved by resolution of the Board of Directors of the life reinsurance undertaking and must include, at a minimum:

- 1) Detailed calculations under Chapter 4: Prudential Rules, to include:

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<sup>1</sup> "Material" in this context must be determined by the reinsurance undertaking and approved by resolution of the Board of Directors. The Financial Regulator would direct the Board of Directors to Regulation 62 (1) (b) of S.I. 380 when determining material. Any finite reinsurance deemed not to be a material part of the business of the reinsurance undertaking remains subject to Regulation 62 of S.I. 380.

- i) A description of the methodology and assumptions used in any of the calculations.
  - ii) The disclosures required under section 4.2 (and detailed in section 6.2) of this paper.
  - iii) The information required under section 4.4 of this paper, if the life reinsurance undertaking wishes to avail of that option.
- 2) Copies of the latest policies and procedures under Chapter 5: Systems and Controls.
  - 3) Details of any material issues that have arisen in the preparation of the submission and any consequent decisions made by the Board of Directors

The 2007 Life Finite Submission may be submitted by registered post or by email to: [reinsurance@financialregulator.ie](mailto:reinsurance@financialregulator.ie)

### **1.3 Legal Basis**

Chapter 3 refers to contract documentation for life finite reinsurance required under Regulation 62 of S.I. 380.

Chapter 4 contains prudential rules pursuant to Regulation 61(1) of S.I. 380 for the available solvency margin, the required solvency margin and the guarantee fund that an authorised reinsurance undertaking established in the State is required to establish and maintain in respect of its life finite reinsurance activities.

Chapter 5 states the opinion of the Financial Regulator for the purposes of Regulation 20 of S.I. 380 as to its subject matter. Accordingly, Chapter 5 outlines the systems and controls that, in the opinion of the Financial Regulator, can be considered to be sound and adequate for the purposes of Regulation 20 with respect to the matters discussed in Chapter 5.

Chapter 6 requires authorised reinsurance undertakings carrying on life finite reinsurance established in the State to lodge certain returns with the Financial Regulator, pursuant to Regulation 21 of S.I. 380.

Any opinion in this paper may be amended or supplemented by the Financial Regulator from time to time.

Failure by such a reinsurance undertaking to comply with the rules, standards and requirements in this paper may be the subject of an administrative sanction under Part IIIC of the Central Bank Act 1942 and shall, except where there is a reasonable excuse, constitute an offence in accordance with S.I. 380.

Consultation Closed

## 2 Finite Reinsurance

### 2.1 Introduction

The Financial Regulator recognises that finite reinsurance has an important role to play in the reinsurance sector. The Financial Regulator does not wish to impose restrictions that will become a barrier to entry for reinsurance undertakings carrying on this business nor place restrictions on reinsurance undertakings carrying on business commonly known as traditional reinsurance within the broad reinsurance marketplace. As a result, the Financial Regulator needs to ensure that this sector is appropriately regulated and this paper outlines the regulatory regime for reinsurance undertakings carrying on life finite reinsurance. Reinsurance undertakings that experience difficulties in interpreting specific elements of this paper should contact the Financial Regulator directly.

### 2.2 Definition

S.I. 380 defines finite reinsurance as reinsurance under which the explicit maximum loss potential, expressed as the maximum economic risk transferred, arising both from a significant underwriting risk and timing risk transfer, exceeds the premium over the lifetime of the contract by a limited but significant amount, together with at least one of the following two features:

- i) explicit and material consideration of the time value of money,
- ii) contractual provisions to moderate the balance of economic experience between the parties over time to achieve the target risk transfer.

For the purposes of this definition:

“Underwriting Risk” is the possibility that losses and expenses recoverable by the cession undertaking from the reinsurance undertaking

will exceed the consideration received by the reinsurance undertaking, thus resulting in an underwriting loss to the reinsurance undertaking.

and

“Timing Risk” is the risk arising from uncertainties about the timing of the receipt and payments of net cash flows from premiums, commissions, claims, and claim settlement expenses paid under a reinsurance contract. The reinsurance undertaking could have a reduction in the expected investment income as a result of accelerated loss payments.

## 2.3 Interpretation

Finite reinsurance is a broad term used to describe an entire spectrum of limited risk transfer reinsurance contracts, from relatively simple transactions to sophisticated individually designed structures.

### 2.3.1 Risk Transfer

In the Financial Regulator’s opinion, risk transfer can be taken to mean that the reinsurance undertaking must be able to incur a net present value loss of a significant amount under the contract<sup>2</sup> whereby such an amount is:

- 1) material relative to the potential maximum net present value profit of the reinsurance contract, and
- 2) such an amount must arise from at least one future uncertain event that is possible and of commercial substance to the business of the cession undertaking.

On this analysis, the net present value loss is the value of a loss under the contract as calculated by discounting the expected cash flows to and from the reinsurance undertaking at an appropriate interest or discount rate. Similarly, the net present value profit is the value of a profit under the

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<sup>2</sup> All references to contract herein include any related contract, as defined in S.I. 380.

contract as calculated by discounting the expected cash flows to and from the reinsurance undertaking at an appropriate interest or discount rate.

### 2.3.2 Finite Reinsurance

The Financial Regulator acknowledges that reinsurance contracts commonly written in the life reinsurance sector, including the different principal forms of life reinsurance detailed in the IAIS paper<sup>3</sup>, can be highly structured and complex transactions with many features designed to meet the needs and characteristics of the business of individual cession undertakings.

Life finite reinsurance contracts are contracts of significant but limited risk transfer whereby the economics of the business ceded under the reinsurance contract have not been entirely transferred from the cession undertaking to the reinsurance undertaking through the inclusion of one or a number of risk or profit limiting features in the reinsurance contract.

There are a number of features commonly used in many life reinsurance contracts in the global reinsurance market, hereinafter called traditional reinsurance contracts. Examples of features that can be adapted to limit risk transfer include (but are not limited to):

- i) **Ceding Allowances:** traditional reinsurance contracts may allow for a ceding commission to reimburse the cession undertaking for its acquisition expense plus a portion of the expected profit on the business covered (with the portion of expected profit being an item subject to commercial negotiation between the parties). Ceding allowances can also be set at a level to achieve a specific financial objective, including limiting the risk transferred under the reinsurance contract.

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<sup>3</sup> International Association of Insurance Supervisors ("IAIS") Guidance Paper No 11 issued October 2006 entitled "Guidance Paper on Risk Transfer, Disclosure and Analysis of Finite Reinsurance" (available at [www.iaisweb.org](http://www.iaisweb.org)).



- ii) **Termination or Recapture Provision:** traditional reinsurance contracts may allow for the termination, cancellation or commutation of the reinsurance contract at the sole option of the cession undertaking. Such provisions may also be associated, upon the exercising by the reinsurance undertaking of an option or other such contractual provision, with penalties that involve the cession undertaking reassuming losses or making payments to the reinsurance undertakings that have the effect of limiting the risk transferred under the reinsurance contract.
- iii) **Commission Slide and Charge-backs:** traditional reinsurance contracts may use features such as a commission slide (a retroactive adjustment to an allowance previously granted) or a clawback (a retroactive adjustment to an allowance previously granted typically when lapse rates exceed a defined level). These features may also be set at levels to achieve a specific financial objective, including limiting the risk transferred under the reinsurance contract.
- iv) **Asset Management:** traditional reinsurance contracts, such as coinsurance or modified coinsurance structures, may use features such as funds withheld whereby the cession undertaking retains the management control over the assets associated with reinsured business. The exact terms of these arrangements often depend upon which party to a reinsurance contract retains the investment risk on the reinsured business. The terms of the funds withheld or similar arrangements may be used to credit the reinsurance undertaking with an interest rate other than that actually achieved on the withheld assets in order to achieve a specific financial objective, including limiting the risk transferred under the reinsurance contract.
- v) **Loss Carry Forwards:** traditional reinsurance contracts may use loss carry forward provisions to keep track of the

cumulative profit position of the reinsurance contract for features such as Experience Refunds or Termination or Recapture Provisions. Loss carry forward provisions may be used to keep track of the cumulative loss position as well as the cumulative profit position in order to achieve a specific financial objective, including limiting the risk transferred under the reinsurance contract.

- vi) **Payback Schedule:** traditional reinsurance contracts may use payback schedules to limit items such as the amount of renewal profits a reinsurance undertaking can receive. Payback schedules may be used to limit the amount of risk transferred if the actual profits of the reinsured business fall below the expected amount and therefore involve an additional payment to the reinsurance undertaking.
- vii) **Product Management Provisions:** traditional reinsurance contracts may use features to allow a cession undertaking periodically change or declare economic elements such as interest crediting rates, cost of insurance charges, and policyholder dividends. These features may also be set at levels to achieve a specific financial objective or result in other changes in the reinsurance contract, including limiting the risk transferred under the reinsurance contract.

Examples of features that can be adapted to limit profit include (but are not limited to):

- i. **Experience Refunds and/or Deficit Accounts:** traditional reinsurance contracts may allow for the sharing of excess profits (on all or a portion of the subject business) from the reinsurance undertaking to the cession undertaking through experience refunds or deficit accounts. Such experience refunds or deficit accounts may also be used in combination with a risk limiting feature such as a recapture provision to achieve a specific

financial objective, including limiting the profit of the reinsurance contract. Such features do not in themselves limit risk transfer but may indicate an asymmetric risk position between the cession undertaking and the reinsurance undertaking.

- ii. **Risk Fees or Charges:** traditional reinsurance contracts may use risk charges, such as a “use of capital” charge, to define the profit expected by the reinsurance undertaking. Where the profit of a reinsurance contract is determined solely by reference to an explicit fee, a risk charge or an interest rate, the implication is that the reinsurance undertaking’s risk profile is commensurate with the rate of return expected from the reinsurance contract.

Consultation Closed

### 3 Contract Documentation

Regulation 62 of S.I. 380 prescribes mandatory policy conditions with which life finite reinsurance contracts must comply where they are entered into on or after the 15<sup>th</sup> of July 2006. An exception to this is Regulation 62(1)(d), which is only required to be included in finite reinsurance contracts entered into on or after the 1<sup>st</sup> of January 2007.

These requirements do not apply retroactively, for instance to multi-year or continuous reinsurance contracts entered into before the above dates.

In accordance with Regulation 62, finite reinsurance contracts must reflect the substance of the agreement between the life reinsurance undertaking and the cession undertaking and include the required mandatory policy conditions. Life reinsurance undertakings must ensure that contract documents are clearly drafted, setting out the type of reinsurance contained in the contract, including the nature of any subsections, with terms and conditions of the contract set out in a manner that does not confuse the substance of the transaction.

Retrocession contracts between the life reinsurance undertaking and an independent third party reinsurance undertaking would not, in the Financial Regulator's opinion, fall within Regulation 62 (1) (b), provided the risk(s) covered by such retrocession contracts are not themselves indemnified in whole or in part by another reinsurance undertaking controlled by the cession undertaking or any other undertaking or persons linked to the life reinsurance undertaking and the cession undertaking.

## 4 Prudential Rules

The requirements of this Chapter, other than 4.2, are hereby made pursuant to Regulation 61 of S.I. 380. The solvency requirements for finite reinsurance shall be determined on the basis of a risk based model called the Augmented Solvency Model ("ASM"), as detailed herein.

### 4.1 Required Solvency Margin

The required solvency margin ("Required Solvency Margin") to be held in respect of finite reinsurance business must be determined on the basis of ASM for life finite reinsurance ("ASM<sub>LF</sub>"), as outlined herein. The ASM<sub>LF</sub> is a stress test based capital model involving a series of stress tests to key risk parameters, as outlined herein, combined with a number of disclosures on other key risks. Reinsurance undertakings carrying on life finite reinsurance should separately identify the solvency requirement calculated in respect of each of the stress tests described herein for all of the business classified as life finite reinsurance. Reinsurance undertakings that experience difficulties in applying the stress tests should contact the Financial Regulator directly.

#### 4.1.1 Stress Tests Required

Life reinsurance undertakings carrying on life finite reinsurance business must determine the solvency capital required by the undertaking implied by the occurrence of each of the tests set out herein. The solvency capital for each stress test is the assets minus liabilities before the stress test minus the assets minus liabilities after the stress test<sup>4</sup>. In formulae, the solvency capital in respect of stress test X ("S<sub>x</sub>") is

$$S_x = S_{pre} - S_{post}, \text{ where}$$

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<sup>4</sup> The assets and liabilities referred to here relate solely to the assets and liabilities pertaining to the life finite reinsurance being tested. If such assets and liabilities are not easily identifiable, the reinsurance undertaking must determine such assets and liabilities according to a reasonable and prudent methodology. The Financial Regulator may ask to review the methodology and underlying assumptions used.

$S_{pre}$  = assets minus liabilities before the stress test, and

$S_{post}$  = assets minus liabilities after the stress test.

Each stress test should be considered independently and therefore separately, before amalgamating the results as described herein. The stress tests should be applied to both assets and liabilities (including shareholder assets and liabilities). The stress tests should be assumed to be instantaneous with no allowance for management actions.

#### 4.1.1.1 Asset Risks

The four asset stress tests (A to D) include:

- A: an immediate 40% fall in the value of equities held.
- B: an immediate 30% fall in the value of property held.
- C: an immediate change in gilt yields of +/- 150 basis points (whichever is the more onerous).
- D: an immediate rise in credit spreads such that the spreads on a 10 year bond rise to (provided the spreads are below) the following levels for each Grades (as per Appendix 1);

Grade 1	Grade 2	Grade 3	Grade 4
0.60%	1.60%	1.60%	2.10%

#### 4.1.1.2 Mortality Risks

The four mortality stress tests (E to H) include:

- E: a 30% increase in mortality rates at all ages assumed in respect of the year following the calculation.
- F: a 2.5% long-term annual improvement in mortality rates in perpetuity.
- G: a recalculation of technical reserves using an increase to the long-term mortality assumptions of 15% at all ages.
- H: mortality rates are increasing to an absolute level of 2 per mille per annum for all ages in respect of the year following year the calculation.

### 4.1.1.3 Morbidity Risks

The morbidity stress test (I) is:

- I: a 60% increase in male critical illness rates and a 30% increase in female critical illness/disability rates in respect of the year following year the calculation.

### 4.1.1.4 Lapse Risks

The two lapse stress tests (J to K) include:

- J: an 80% increase in lapse rates or 50% decrease in lapses rates (whichever is more onerous) in respect of the year following year the calculation.
- K: a recalculation of the technical reserves using a long term adjustment to the lapse assumptions of 50% of the once off change to lapses defined in J above.

## 4.1.2 Correlations

In determining the required solvency, the Financial Regulator permits reinsurance undertakings to take account of the following correlations without further justification:

	Gilt	AAA	AA	A	BBB	Equity	Property
Gilt	100%						
AAA	30%	100%					
AA	20%	60%	100%				
A	-10%	40%	60%	100%			
BBB	-30%	10%	40%	70%	100%		
Equity	-10%	-10%	-10%	-30%	-50%	100%	
Property	30%	10%	10%	0%	-20%	10%	100%

A reinsurance undertaking may employ different asset correlations to those set out above. Furthermore, a reinsurance undertaking may argue that it is appropriate to make allowance for further correlations in addition to the correlations above. In particular, reinsurance undertakings may argue that they have sufficient evidence of the existence of correlations

between demographic and economic movements (e.g. lapse rates may be affected by changing economic conditions). A full statistical analysis justifying any such alternative or additional correlations must be submitted by a reinsurance undertaking to the Financial Regulator to ensure no objection prior to use in the solvency calculations herein.

### 4.1.3 Capital Calculation

Once a reinsurance undertaking has completed each of the stress tests described above, the capital requirement must be aggregated using a square root of sum of the squares approach as follows:

Total additional capital (S), =

$$S = \sqrt{S_A^2 + S_B^2 + S_C^2 + \dots + S_K^2 + \rho_{AB} S_A S_B + \rho_{AC} S_A S_C + \rho_{AD} S_A S_D + \dots}$$

where:

$S_x$  = additional capital arising from stress test x where x equals the stress tests A through K as detailed in section 4.1.1 herein.

$\rho_{xy}$  = correlation coefficient between stress test x and y (where x is not equal to y)

The Financial Regulator will require reporting of capital calculations under each stress test above separately, as well as the aggregated results and the correlations used.

Furthermore, all reinsurance undertakings carrying on life finite reinsurance business will be subject to a minimum solvency requirement ( $S_M$ ), calculated as follows:

$$S_M = A + B, \text{ where}$$



- A = an asset risk factor ( $F_a$ ), as detailed in Appendix 1, multiplied by the market value of the relevant assets covering technical provisions (to include any assets held against business classified as finite reinsurance but not accounted for as reinsurance).
- B = an expense charge equal to 25% of the previous year's net administrative expenses.

The Required Solvency Margin ( $S_R$ ) shall then be equal to the maximum of the total additional capital ( $S$ ) and the minimum solvency requirement ( $S_M$ ) as follows:

$$S_R = \max (S, S_M)$$

The Required Solvency Margin may be subject to further adjustment by the Financial Regulator based upon information derived from additional disclosures required by a reinsurance undertaking.

## 4.2 Additional Disclosures

Life reinsurance undertakings carrying on life finite reinsurance must make the following disclosures:

- Credit Risk;
- Liquidity Risk;
- Treaty Risk;
- Concentration Risk;
- Operational Risk.

These disclosures are required under Regulation 21 of S.I. 380 and are detailed in the Regulatory Returns section of this paper (Chapter 6).

Where any of the disclosures cover issues that are deemed to be material<sup>5</sup> to the business of the life reinsurance undertaking under the prudent person principle, the strategies developed by the life reinsurance undertaking to counter any risks and, where available, the calculations

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<sup>5</sup> Material here is material for the portfolio of life finite reinsurance business.

used to quantify such risks must also be disclosed to the Financial Regulator.

### **4.3 Minimum Guarantee Fund**

The Required Solvency Margin shall be subject to a minimum guarantee fund ("MGF") of €50 million for those life reinsurance undertakings carrying on life finite reinsurance<sup>6</sup>. For the avoidance of doubt, where a life reinsurance undertaking classifies a material part of their business as life finite reinsurance, then the minimum guarantee fund applies across all of business of the life reinsurance undertaking.

### **4.4 Internal Capital Models**

At the sole option of the reinsurance undertaking, as an adjustment to the solvency requirements 4.1, 4.2 and 4.3 herein, the Financial Regulator shall assess the capital required by an internal risk management model of a reinsurance undertaking classifying their business, or a material part thereof, as life finite reinsurance.

#### **4.4.1 Model Requirements**

In order to provide a basic framework of supervisory standards considered applicable in the process of assessing internal models, the following principles will be applied by the Financial Regulator:

##### **4.4.1.1 Governance**

Senior management of the reinsurance undertaking must be actively involved in the internal risk management strategy of a reinsurance undertaking and the Board of Directors must approve the formal internal risk management strategy of the reinsurance undertaking. The rationale for use of an internal model reflecting the risk management strategy must also be documented as part of the formal internal risk management strategy. In particular, the structure and parameterisation of the model and the probability of failure used within the model must be appropriate

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<sup>6</sup> Life finite reinsurance as per the definition in 1.1 herein.

for the risk appetite of the reinsurance undertaking. The internal capital model must be robust enough to encompass all of the material risks of the business of the reinsurance undertaking. The policies and procedures governing the use of the internal capital model must be reviewed regularly (not less than once a year) by the reinsurance undertaking's own internal auditing process.

#### **4.4.1.2 Use-Test**

The reinsurance undertaking's internal capital model must be closely integrated into the risk management process of the reinsurance undertaking. Its output shall accordingly be an integral part of the process of planning, monitoring and controlling the reinsurance undertaking's risk profile (e.g. economic capital, setting risk appetite, profitability, etc.).

#### **4.4.1.3 Data**

To ensure effective underwriting, the culture of the reinsurance undertaking must support accountability for valid information used in the model. Areas of interest underlining the importance of data integrity must include (but not be limited to): the reinsurance undertaking's I.T. infrastructure, collection of historic data, use of external data as well as the experience, judgment and sound degree of prudence in assessing the completeness and accuracy of data. The broader concept of data integrity would apply to the development and maintenance of well-controlled processes including those that measure risk and performance.

#### **4.4.1.4 Ongoing Validation**

Any internal capital model must be benchmarked against the solvency requirements of the  $ASM_{LFR}$  herein. The essential elements in the ongoing validation of an internal capital model by a reinsurance undertaking must include a meaningful differentiation of risk and assessment of transaction characteristics, an assignment of exposures, and the risk quantification or parameter estimation. There must be independence in model validation, which must be demonstrated, and the risk quantification of parameters must be the result of a disciplined process by the reinsurance undertaking. Model validation must be carried out by resources

independent of the business units to which it applies and independent of the model development unit. This independent review must include the following components:

- i) demonstrate that the model takes into account all material sources of risk;
- ii) confirm that the model's mathematical methods are analytically robust; and
- iii) illustrate that the data and parameters used to estimate the expected and the unexpected loss (at some specified confidence level) have a solid empirical basis.

If the Financial Regulator is not satisfied with the robustness or independence of the review, it may require external validation before any internal capital model will be considered.

Key considerations applied by the Financial Regulator to an internal capital model will include, but will not be limited to the following:

- a) Transparency:** all reinsurance undertakings must have a transparent process regarding all aspects of their risk management process.
- b) Policies & Procedures:** all reinsurance undertakings must have policies and procedures covering the design, role and scope of expert judgment, and the usage of the estimated risk parameters in monitoring and controlling risk.
- c) Adaptability:** estimates must reflect the implications of technical advances and new data and other information, as it becomes available. Reinsurance undertakings must review their estimates when new information comes to light and, in any event, at least on an annual basis.
- d) Prudence:** prudence must be applied in the estimation of risk parameters. Where methods or data are less than satisfactory and the expected range of errors is larger, the margin of conservatism must be larger. Reinsurance undertakings must document their

bases (including reasons for its choices) for estimating margins of prudence, including but not limited to their best estimates.

If the Financial Regulator is not satisfied with the robustness or independence of the review, it will require external validation before any internal capital model will be considered.

#### **4.4.1.5 Stress Testing**

The stress testing applied to key assumptions will be an important part of building up a detailed understanding and level of comfort with an internal capital model. The internal capital model must be able to undergo significant stress testing, particularly in reference to material assumptions used, the underwriting cycle in which it is operating, correlations assumptions, any possible catastrophic or aggregation events or changes in market conditions and/or economic assumptions that could adversely impact the firm. In particular, reinsurance undertakings must stress test their portfolio to assess the impact of a number of possible extreme "fat-tail" events occurring in one financial year.

#### **4.4.2 Directors' Report**

Applications for using an internal capital model that meets the basic framework of supervisory standards outlined herein will be considered by the Financial Regulator. Applications must be signed by at least two directors of the reinsurance undertaking and be made up of a Directors' Report to include, but not be limited to:

- A brief overview of the internal risk management strategy of a reinsurance undertaking and the procedures used to monitor compliance with such a strategy.
- A statement of responsibility, to include attestation that the reinsurance undertaking's systems for its risk management are sound, implemented with integrity and are in compliance with principles applied by the Financial Regulator.

- Confirmation that all relevant professional staff have an appropriate understanding of the reinsurance undertaking's internal model and associated management reports.
- A summary of the structure of the internal capital model with an explanation for the selected parameterisation, the probability of failure and any capital allocation calculations used within the model.
- A summary of the material input assumptions used in the model with background analysis on historical and industry data performed to substantiate the assumptions.
- Details of any material weaknesses or exceptions found during the course of any review of the model, the effect of the weakness or exception and work undertaken to address the weakness or exception.
- Any proposed material changes to the model currently anticipated or under way and the nature of those changes.
- Any material developments, findings or plans which may affect the review, assessment, or functioning of the internal model.
- A brief summary of the output of the internal capital model, any stress testing performed, and the capital requirements selected as the recommended capital required by the reinsurance undertaking.

Where supplementary documentation is required to support any of the above details, these should be included in an appendix to the Directors' Report on the reinsurance undertaking's internal capital model.

# 5 Systems and Controls

The Financial Regulator developed its views in this chapter having considered the provisions of the Reinsurance Directive, S.I. 380, and international standards in this area (including Guidance Paper No. 11 of October 2006 of the IAIS). This Chapter is a supplement to the requirements for corporate governance issued by the Financial Regulator<sup>7</sup>.

## 5.1 General

A robust internal controls system is critical to effective risk management and a foundation for the safe and sound operation of a reinsurance undertaking. It provides a systematic and disciplined approach to evaluating and improving the effectiveness of the operation and assuring compliance with laws and regulations. It is the responsibility of the Board of Directors to develop a strong internal control culture within its organisation, a central feature of which is the establishment of systems for adequate communication of information between levels of management.

Internal controls should be designed to ensure and demonstrate that the firm is being operated within the parameters set by the Board of Directors. These controls should be adequate for the nature and scale of the business and proportional to the size and complexity of the business. The oversight and reporting systems must be sufficient to allow the board and management to monitor and control the operations. The onus will be on the Board of Directors to ensure that such systems are applicable to the reinsurance undertaking and that such systems meet their ongoing corporate governance duties and responsibilities.

Any reinsurance undertaking that is or intends to be involved in life finite reinsurance market (including reinsurance undertakings who are, or

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<sup>7</sup> See Corporate Governance for Reinsurance Undertakings, June 2007 available in the reinsurance section of the Financial Regulator's website [www.financialregulator.ie](http://www.financialregulator.ie)

intend to be, involved in carrying on reinsurance where the risk transfer is not significant) must have policies and procedures specifically relating to the classification of finite reinsurance contracts (to include risk transfer) and contract documentation. The Board of Directors is responsible for endorsing such policies and procedures and ensuring that these policies and procedures are implemented and monitored by the relevant professional staff throughout the organisation. Supervisory risk assessments will be carried out by the Financial Regulator to verify that policies and procedures are properly defined and monitored.

## 5.2 Classification Policy

The principles-based approach of the Financial Regulator places an emphasis on the responsibility of senior management and the Board of Directors to formulate policies and procedures that are applicable and proportionate to its business. The classification of reinsurance contracts as life finite reinsurance is a matter for the reinsurance undertaking to determine based upon the substance of the reinsurance contracts written or to be written by the reinsurance undertakings, and reinsurance undertakings must have a written policy for the classification of finite reinsurance business which has been approved by the Board of Directors.

The classification policy must have regard, inter alia, to this paper, S.I. 380, relevant IAIS papers, actuarial and accounting standards, the advice of professional advisors, or upon other criteria determined by the Board of Directors. The classification policy must be consistent with the classification of finite reinsurance contracts across the group of which the reinsurance undertaking is a part. The classification policy must also be subject to regular review, particularly pertaining to areas where new practises or standards emerge.

The senior management of the life reinsurance undertaking or the Board of Directors may be required to explain and justify the rationale behind their classification policy to the Financial Regulator.



## 5.2.1 Contract Analysis

Any reinsurance undertaking in the life finite reinsurance market as set out in this paper (including reinsurance undertakings who are, or intend to be, involved in carrying on reinsurance where the risk transfer is less than “significant”) must undertake an analysis of all reinsurance contracts where risk transfer, as per the requirements of 2.3.1 herein, is not reasonably self-evident. In determining whether risk transfer is reasonably self-evident, the reinsurance undertaking may use the judgment of its senior management and/or Board of Directors in determining criteria consistent with industry best practice. It appears to the Financial Regulator that the Risk Transfer Testing Practice Note published by the American Academy of Actuaries in November 2005 and updated in January 2007 forms a good basis for the development of an applicable analysis. The contract analysis must be performed on a consistent basis for all finite reinsurance contracts across the reinsurance undertaking and any analysis must be consistent with the substance of the business.

The following risks commonly found in reinsurance contracts may be considered in assessing risk transfer for underwriting and/or timing risk:

### 1) Mortality Risk

This is the risk that policyholders will die and collect benefits sooner than expected (e.g. life insurance) or that policyholders will continue to live and collect benefits longer than expected (e.g. annuity insurance). For life insurance, most reinsurance contracts reimburse fully all death benefits, even if they exceed expected amounts. For annuity insurance, if the policyholder dies earlier than expected the death benefit can be higher than the cash value, or if the policyholder lives longer than expected, annuitization benefits can be higher than expected. Each, a portion, or a combination of these losses can be transferred through reinsurance.

## 2) Morbidity Risk

This is the risk that policyholders will need medical care or be disabled more frequently and/or at a higher cost than expected. Each, a portion (e.g. in excess of a stated amount or a stated period), or a combination of these losses can be transferred through reinsurance.

## 3) Lapse Risk

This is the risk that an insurance policy will voluntarily terminate prior to the recovery of the investment incurred to sell or issue the policy resulting in a loss on expenses incurred or upon a loss of future expected earnings. Each, a portion, or a combination of these losses can be transferred through reinsurance.

## 4) Investment Risk

Investment risk may or may not be passed onto a reinsurance undertaking through reinsurance depending upon the expected investment performance of the cession undertaking or the reinsurance undertaking. The types of investment risk includes the risk that invested assets ceded or credited to the reinsurance undertaking will decrease in value due to a decline in credit quality, the risk that invested assets of insurance policies will decrease in value due to a decline in credit quality, the risk that investment returns will decrease and assets reinvested will earn less than expected, and the risk that investment returns rise and therefore insurance policy loans and surrenders increase or maturing policies do not renew at anticipated rates of renewal.

# 6 Regulatory Returns

## 6.1 2007 Life Finite Submission

The submission specified in 6.3 under section 1.2 of this paper must be lodged with the Financial Regulator in the manner and timeframe specified.

## 6.2 Disclosures

These disclosures are required under Regulation 21 of S.I. 380 for a life reinsurance undertaking carrying on life finite reinsurance. Where any of the following disclosures cover issues that are deemed to be material<sup>8</sup> to the business of the reinsurance undertaking under the prudent person principle, the strategies developed by the life reinsurance undertaking to counter any risks and, where available, the calculations used to quantify such risks must also be disclosed to the Financial Regulator.

The Financial Regulator may adjust the Required Solvency Margin in section 4.1 herein based upon the following disclosures:

### 6.2.1 Credit Risk Disclosure

The Financial Regulator requires life reinsurance undertakings carrying on life finite reinsurance to disclose any significant credit risks that the reinsurance undertaking faces in its business. Credit risk in this context means the risk of loss if another party fails to perform its obligations or fails to perform them in a timely fashion. In particular, the Financial Regulator requires life reinsurance undertakings carrying on life finite reinsurance to disclose the following in relation to their life finite reinsurance business:

- The amount of funds withheld split by underlying asset classes, where available, and further split by the exposure to the credit

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<sup>8</sup> Material here is material for the portfolio of life finite reinsurance business.

risk of the cession undertaking (e.g. secured by trust, letter of credit, or otherwise).

- The number of counterparties, the credit ratings of the different counterparties, and the maximum loss in the event of default of each of the counterparties.

### **6.2.2 Liquidity Risk Disclosure**

The Financial Regulator requires life reinsurance undertakings carrying on life finite reinsurance to disclose any significant liquidity risks that the reinsurance undertaking faces over the next 24-month period on their life finite reinsurance business and how these will be mitigated, controlled and monitored. Liquidity risk in this context means the ease with which an asset can be converted into cash to pay its liabilities without negative impact.

### **6.2.3 Treaty Risk Disclosure**

The Financial Regulator requires life reinsurance undertakings carrying on life finite reinsurance to disclose any specific risks that are faced in particular life finite treaties, whereby such risks have not been reflected in stress tests in 4.1 above (for example, large exposures from excess of loss treaties that have not been reflected by any stress tests). For each of these specific risks, reinsurance undertakings must disclose the level of loss required to attach the treaty, the nature of the loss required, the maximum loss to the reinsurance undertaking that is possible, the premium paid under the treaty, and the reserves (specific and general) currently held under the treaty.

### **6.2.4 Concentration Risk Disclosure**

The Financial Regulator requires life reinsurance undertakings carrying on life finite reinsurance to disclose any significant concentration risks that are faced by their finite life reinsurance business and how these are mitigated, controlled and monitored. Concentration risk in this context means concentration in asset class, business class, geographical spread, and retrocession recovery.

## 6.2.5 Operational Risk Disclosure

The Financial Regulator requires life reinsurance undertakings carrying on life finite reinsurance to explicitly identify their top five operational risks and/or exposures from their life finite reinsurance business. Operational risk in this context means the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. In each case, the potential level of financial loss and the estimated likelihood of occurrence under the most severe scenario must be disclosed.

## 6.3 Returns

Pursuant to Regulation 21 of S.I. 380, the returns, documents and information specified in this Chapter 6 are hereby required to be lodged with the Financial Regulator by an authorised reinsurance undertaking established in the State carrying on life finite reinsurance.

Within 4 months after the end of the life reinsurance undertaking's financial year (beginning with the first financial year ending on or after the 31<sup>st</sup> of December 2007), the following information must be submitted to the Financial Regulator:

- 1) Detailed calculations under Chapter 4: Prudential Rules, to include:
  - a) A description of the methodology and assumptions used in any of the calculations.
  - b) The disclosures required under section 4.2 (and detailed in section 6.2) of this paper.
  - c) The information required under section 4.4 of this paper, if the life reinsurance undertaking wishes to avail of that option.
- 2) Copies of the latest policies and procedures under Chapter 5: Systems and Controls.
- 3) Any other material information (for example, actuarial and other relevant reports, and the results of significant stress tests

performed on the reinsurance undertaking's portfolio of life finite reinsurance business).

In an individual case or circumstance, the Financial Regulator may specify to a life reinsurance undertaking carrying on life finite reinsurance more frequent reporting intervals.

## **6.4 Prescribed Forms**

The Financial Regulator will publish separately detailed forms required for the reporting of life reinsurance undertakings that will set out the detail of information to be reported and the accounting basis to be applied.

Consultation Closed

## Appendix 1: Asset Risk Factors (F<sub>a</sub>)

Cash	0.50%
Government Bonds	
- Grade 1	0.50%
- Grade 2 to 4, less than 1 year term	2.50%
- Grade 2 to 4, greater than 1 year term	5.00%
- Grade 5, less than 1 year term	6.00%
- Grade 5, greater than 1 year term	10.00%
Corporate Bonds	
- Grade 1	0.50%
- Grade 2 to 4, less than 1 year term	2.50%
- Grade 2 to 4, greater than 1 year term	5.00%
- Grade 5, less than 1 year term	6.00%
- Grade 5, greater than 1 year term	10.00%
Preference Shares	7.50%
Equities	10.00%
Property and Real Estate	10.00%
Mortgages	5.00%
Reinsurance Recoverable	
- Grade 1 to 3	2.50%
- Grade 4	5.00%
- Grade 5	20.00%
Discount on Claims Provision	12.50%
DAC	12.50%
Any Other Asset <sup>9</sup>	100.00%

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<sup>9</sup> Where the Financial Regulator requirements on asset admissibility for inter-company transactions or Funds Withheld assets are applied to ensure the value of the underlying assets is protected in the event of the insolvency of the cession undertaking, the reinsurance undertaking may look through to the underlying assets and apply the applicable factors (e.g. corporate bonds per grade, equities, etc). Otherwise, the applicable factors for corporate bonds per grade must be applied to the total asset to reflect the credit risk of the cession undertaking.

The Grades above are equal the following ratings<sup>10</sup>:

<b>Key</b>	<b>S&amp;P</b>	<b>Moody's</b>	<b>AM Best</b>	<b>Fitch</b>
<b>Grade 1</b>	AAA	Aaa	A++	AAA
<b>Grade 2</b>	AA+	Aa1	A+	AA+
<b>Grade 3</b>	A+	A1	A	A+
<b>Grade 4</b>	BBB+	Baa1	B++	BBB+
<b>Grade 5</b>	BB+ or below	Ba1 or below	B+ or below	BB+ or below

Consultation Closed

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<sup>10</sup>A reinsurance undertaking may nominate one or more of the rating agencies above to be used in determining all of the asset risk factors. If there is more than one credit assessment available from the nominated rating agencies, then the credit assessment that results in the higher asset risk factor must be selected.





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