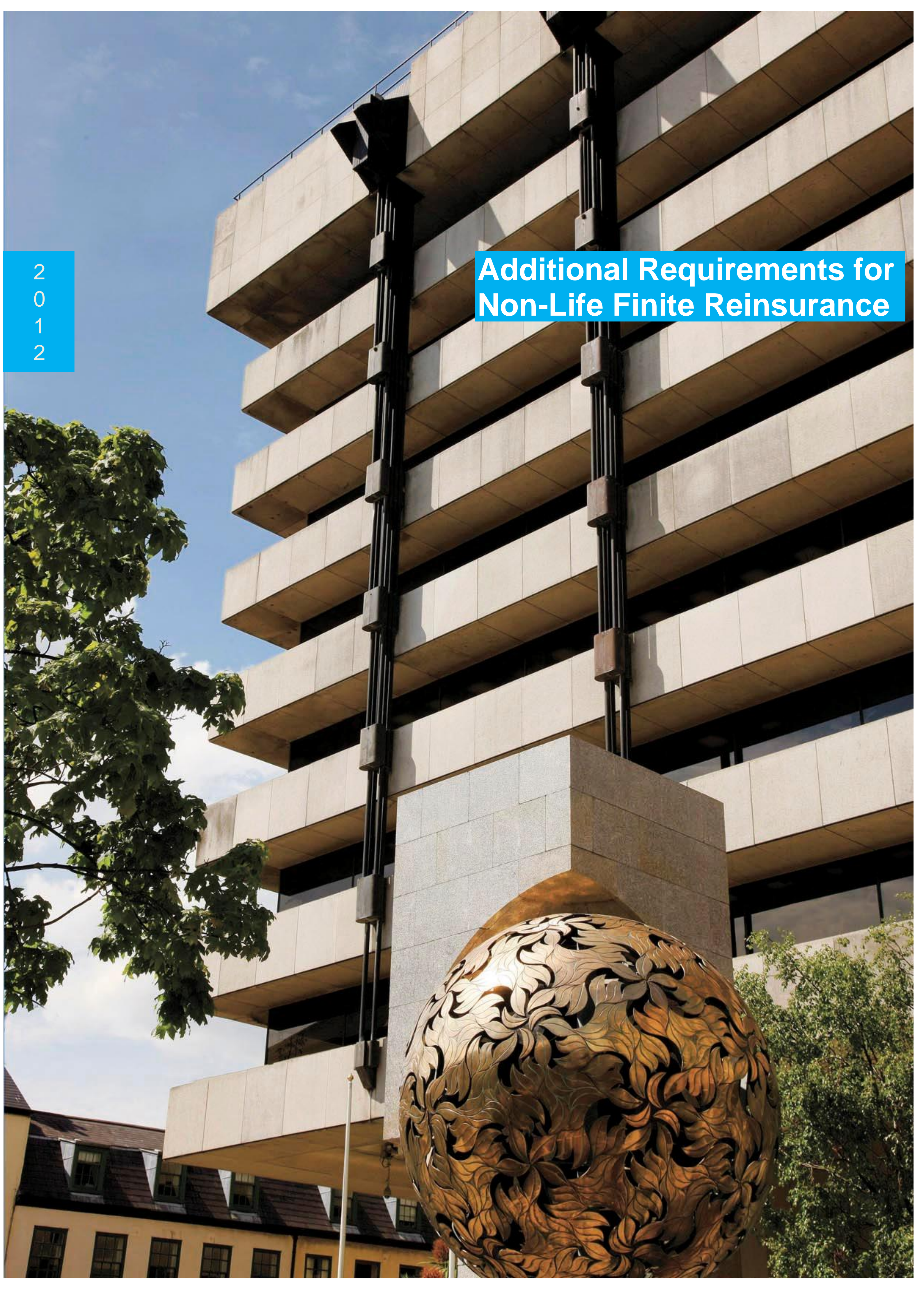
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Additional Requirements for
Non-Life Finite Reinsurance

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1 Introduction

1.1 Scope

On the 15th of July 2006, Statutory Instrument 380 of 2006 ("S.I. 380") transposed into Irish law Council Directive 2005/68/EC ("Reinsurance Directive"). Part 13 of S.I. 380 details specific provisions with respect to finite reinsurance.

In addition to S.I. 380, reinsurance undertakings are also subject to the requirements[1] issued by the Central Bank of Ireland ("Central Bank")

As a supplement to the applicable requirements outlined above, the Central Bank is issuing this paper to outline the regulatory requirements that will apply to those reinsurance undertakings carrying on non-life reinsurance business that classify their business, or a material part[2] thereof, as finite reinsurance (hereinafter referred to as "non-life finite reinsurance"). This paper dated December 2012 updates and replaces the paper dated January 2010 published by the Central Bank.

The Central Bank acknowledges that reinsurance undertakings operate within an evolving global reinsurance marketplace. For reinsurance undertakings that currently do not carry on non-life finite reinsurance, opportunities may arise in the future to do so, depending upon market circumstance. For such reinsurance undertakings, the requirements in this paper must be implemented as soon as is practical, but not later than their next reporting date to the Central Bank or otherwise as agreed by

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[1] Please refer to the papers "Requirements for Non-Life Reinsurance Undertakings" or "Requirements for Composite Reinsurance Undertakings", whichever applicable, available on the Central Bank's website (www.centralbank.ie).

[2] "Material" in this context must be determined by the reinsurance undertaking. The Central Bank's view is that "material" for non-life finite reinsurance should be judged in the context of the application of Regulation 62 (1) of S.I. 380. Therefore, the Central Bank's view is that, for the purposes of this paper, an amount of substance is material whereby either the gross written premium of the non-life finite reinsurance business exceeds 3% of the gross written premium of the total reinsurance business, or the gross technical provisions of the non-life finite reinsurance business exceeds 3% of the gross technical provisions of the total reinsurance business, or the maximum economic risk of the non-life finite reinsurance business exceeds 5% of the reinsurance undertaking's available solvency margin. This view does not however imply that a lesser amount is necessarily immaterial.

the Central Bank, following the entering into a non-life finite reinsurance contract(s) that would make the reinsurance undertaking subject to the requirements of this paper.

Except for the legal requirement of S.I. 380 whereby all finite reinsurance business is subject to Regulation 62, any non-life finite reinsurance deemed not to be a material part of the business of the reinsurance undertaking will not be subject to the requirements of this paper and may be treated in a manner similar to that of its other non-life reinsurance business.

1.2 Legal Basis

Chapter 3 refers to contract documentation for non-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 non-life finite reinsurance activities.

Chapter 5 states the opinion of the Central Bank for the purposes of Regulation 20 of S.I. 380 for reinsurance undertakings carrying on non-life finite reinsurance. All reinsurance undertakings, with the exception of captive reinsurance undertakings and special purpose reinsurance vehicles (SPRVs), are subject to the opinion of the Central Bank for the purposes of Regulation 20 of S.I. 380 as outlined in the paper "Corporate Governance Code for Credit Institutions and Insurance Undertakings 2010" (hereinafter referred to as the "Corporate Governance Code"). For the purposes of Regulation 20 of S.I. 380 captive reinsurance undertakings are subject to the Corporate Governance Code for Captive Insurance and Captive Reinsurance Undertakings 2011 ("Captive Code") (the Corporate Governance Code and the Captive Code together

hereinafter referred to as the "Corporate Governance Codes")." [3] Accordingly, Chapter 5 outlines the additional systems and controls to those outlined in the Corporate Governance Codes that, in the opinion of the Central Bank, can be considered to be sound and adequate for the purposes of Regulation 20 for reinsurance undertakings carrying on non-life finite reinsurance.

Chapter 6 requires authorised reinsurance undertakings carrying on non-life finite reinsurance established in the State to lodge certain additional information with the Central Bank, pursuant to Regulation 21 of S.I. 380.

This paper may be amended or supplemented by the Central Bank from time to time.

Failure by a reinsurance undertaking carrying on non-life finite reinsurance 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.

[3] References to the Corporate Governance Codes includes any amended or updated papers that may supersede either or both of these papers and which are available on the Central Bank's website (www.centralbank.ie).

2 Finite Reinsurance

2.1 Introduction

The Central Bank acknowledges that finite reinsurance has an important role to play in the reinsurance sector. The purpose of this paper is neither to impose restrictions that will become a barrier to entry for reinsurance undertakings carrying on finite reinsurance business nor to place restrictions on reinsurance undertakings carrying on business commonly known as traditional reinsurance within the broad non-life reinsurance marketplace. The purpose of this paper is to ensure that this sector is appropriately regulated and this paper outlines the regulatory regime for reinsurance undertakings carrying on non-life finite reinsurance.

Reinsurance undertakings that experience difficulties in interpreting specific elements of this paper should contact the Central Bank 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.

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. For the purposes of the definition of finite reinsurance in S.I. 380, underwriting and timing risk can be defined, in the Central Bank's opinion, as follows:

"Underwriting Risk" is the possibility that losses and expenses recoverable by the cession undertaking from the reinsurance undertaking will exceed the consideration received[4] by the reinsurance undertaking, thus resulting in an underwriting loss to the reinsurance undertaking.

"Timing Risk" is the risk arising from uncertainties about the timing of the receipt and payment of losses and expenses recoverable by the cession undertaking and consideration received[4] by the reinsurance undertaking.

2.3.1 Risk Transfer

In the Central Bank's opinion, significant risk transfer, whether from underwriting risk or timing risk, can be taken to mean that the reinsurance undertaking must be able to incur a net present value loss under the reinsurance contract whereby such an amount:

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

All references to "reinsurance contract" in this paper include any related contract or contracts, as defined in Regulation 62 of S.I. 380, meaning a contract or contracts that alters the commercial effect of a finite reinsurance contract and is entered into between the parties to the finite

[4] Such consideration received must be gross of commissions or brokerage paid to parties other than the reinsurance undertaking and the cession undertaking.

reinsurance contract, or between those parties and a person with whom either of those parties has a close link.

A retrocession contract, as defined in S.I. 380, between the reinsurance undertaking and another 3rd party reinsurance undertaking (or an SPRV) would not, in the Central Bank's opinion, fall within Regulation 62 as a related contract. Such a retrocession may become a related contract if the risk(s) covered by such a retrocession contract is further indemnified in whole or in part by another reinsurance undertaking controlled by the original reinsurance undertaking or any other undertaking or persons linked to the original reinsurance undertaking[5].

The net present value loss [or profit] is the value of a loss [or profit] under the contract as calculated by discounting the expected cash flows to and from the reinsurance undertaking at an appropriate interest or discount rate. The expected cash flows in such calculations are those as determined by the reinsurance undertaking in the underwriting process.

Appendix 1 outlines the method by which risk transfer in a reinsurance contract must be presented, where required or requested, to the Central Bank.

2.3.2 Finite Reinsurance

In the Central Bank's opinion, non-life finite reinsurance contracts are reinsurance contracts of significant risk transfer whereby the economics of the business ceded under the reinsurance contract has not been entirely transferred from the cession undertaking to the reinsurance undertaking as a result of a limitation to the maximum loss potential of the reinsurance undertaking through the inclusion of one or a number of risk limiting features or a combination of risk and profit limiting features in the reinsurance contract.

[5] This refers to arrangements such as circular contracts that are designed to look like an ordinary retrocession contract that cedes risk to a 3rd party retrocessionaire but where in fact the risk is retroceded again back to the original reinsurance undertaking or a party with close links to the original reinsurance undertaking.

3 Contract Documentation

Regulation 62 of S.I. 380 prescribes mandatory policy conditions with which non-life finite reinsurance contracts must comply where they are entered into on or after the 15th 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 1st of January 2007.

These requirements do not apply retroactively, for instance to multi-year or continuous reinsurance contracts first entered into before the above dates. A continuous contract is one whereby the terms and conditions remain in force unless cancelled or terminated by either the cession undertaking or the reinsurance undertaking.

A reinsurance undertaking must determine when a contract was entered into or what constitutes a continuous contract based upon a review of the contractual terms and conditions. Reinsurance undertakings that experience difficulties in making such a determination should consult their legal advisor(s)[6] and, where such difficulties persist, may contact the Central Bank directly with a summary of the issue(s) from their legal advisor(s).

In accordance with Regulation 62, finite reinsurance contracts must reflect the substance of the agreement between the reinsurance undertaking and the cession undertaking and include the required mandatory policy conditions. Reinsurance undertakings must ensure that all reinsurance 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.

[6] Such legal advisor may be an employee of the reinsurance undertaking, an affiliate of the reinsurance undertaking, or an external advisor.

A retrocession contract, as defined in S.I. 380, between the reinsurance undertaking and another 3rd party reinsurance undertaking (or an SPRV) would not, in the Central Bank's opinion, fall within Regulation 62 as a related contract. Such a retrocession may become a related contract if the risk(s) covered by such a retrocession contract is further indemnified in whole or in part by another reinsurance undertaking controlled by the original reinsurance undertaking or any other undertaking or persons linked to the original reinsurance undertaking[4].

4 Prudential Rules

The requirements of this Chapter, other than 4.3, are hereby made pursuant to Regulation 61 of S.I. 380.

4.1 Available Solvency Margin

The available solvency margin must consist of items detailed in S.I. 380 and comply with the requirements of the Central Bank[7], except for the reduction in available solvency margin required in section 4 (2) under Schedule 1 of S.I. 380. This reduction, that refers to the difference between the undiscounted technical provisions or technical provisions before deductions as disclosed in the notes on the accounts and the discounted or technical provisions after deductions, need not be applied in respect of a reinsurance undertaking's non-life finite reinsurance business.

4.2 Required Solvency Margin

The additional required solvency margin ("Required Solvency Margin") to be held in respect of non-life finite reinsurance business must be determined on the basis of a risk based model called the Augmented Solvency Model for non-life finite reinsurance ("ASM_{NLFR}"), except where an application is made as per section 4.5 herein, and shall be equal to the sum of the following three risk charges:

A = an investment charge ("Investment Charge")
B = an underwriting charge ("Underwriting Charge")
C = an operational charge ("Operational Charge")

The Required Solvency Margin may be subject to an adjustment by the Central Bank based upon information derived from disclosures received from a reinsurance undertaking.

[7] Please refer to the papers "Requirements for Non-Life Reinsurance Undertakings" or "Requirements for Composite Reinsurance Undertakings", whichever applicable, available on the Central Bank's website (www.centralbank.ie).

4.2.1 Investment Charge (A)

Regulation 26 of S.I. 380 and the requirements of the Central Bank[1] set out the requirements for assets covering technical provisions.

The Investment Charge (A) is equal to the sum of the Asset Risk Factors detailed in **Appendix 3** multiplied by the value of the relevant assets covering gross technical provisions (hereinafter to include any assets held against business classified as finite reinsurance but not accounted for as reinsurance). The value of the assets must be on a basis consistent with that presented in the audited financial statements of the reinsurance undertaking. Therefore, the Investment Charge (A) for the asset classes (1 through x), as per **Appendix 3**, is:

$$\mathbf{A} = \sum_{1}^{x} \mathbf{A_v * F_a}, \text{ where}$$

A_v = the value of the assets covering gross technical provisions.

F_a = asset risk factors, as per **Appendix 3**.

For the purposes of the Investment Charge above, an adjustment may be made to the value of the assets in one of the following circumstances:

1) Where the return on an asset is guaranteed by the cession undertaking (i.e. investment risk has been eliminated) and a legally enforceable contractual arrangement such as a trust arrangement or a legally enforceable contractual provision(s)[8] exist such that the liability of the reinsurance undertaking will be extinguished through an offset of the asset subject to the guarantee, then such an asset may be excluded from the calculation of the Investment Charge.

[8] For the exclusion in this paragraph to be applicable, the enforceability of such a provision or provisions such as an offset clause must be supported by a written legal opinion by a competent legal advisor. The opinion must be made available to the Central Bank on request.

2) Where an asset meets the de-recognition criteria set down by Generally Accepted Accounting Principles[9], such an asset may be excluded from the calculation of the Investment Charge. Where a reinsurance undertaking is of the view that part of an asset meets the de-recognition criteria, they may make a submission outlining the reasons for their view to the Central Bank in order to receive a letter of no objection to the exclusion of the relevant part of an asset from the calculation of the Investment Charge.

4.2.2 Underwriting Charge (B)

Each non-life finite reinsurance contract must be allocated to the following reinsurance contract type:

a) **Facultative reinsurance business**: reinsurance of part or all of a single policy, with separate negotiations for each cession.
b) **Proportional treaty reinsurance business**: reinsurance that obliges the cession undertaking to cede and the reinsurance undertaking to assume an agreed portion of insurance policy premium and the accompanying insurance liability associated with a group of policies written by the cession undertaking.
c) **Non-proportional treaty reinsurance business**: reinsurance that obliges the cession undertaking to cede and the reinsurance undertaking to assume an agreed risk for a group of policies written by the cession undertaking that is not in proportion to either the policy premium or the insurance liability.

Where a non-life finite reinsurance contract contains an element of two or three of the above types, the finite reinsurance contract may be allocated to one type according to the largest limit of indemnity offered under the contract. The Central Bank will consider other methods of allocation as presented by a reinsurance undertaking provided such other methods are justified and supported by an analysis comparing the calculations under the different methods of allocation.

[9] As per International Accounting Standard 39 or equivalent standards.

The net written premium (including any premium amounts withheld by cession undertakings) and the net outstanding claim reserve (including any amounts withheld by cession undertakings and including any IBNR) must then be allocated according to the limits of indemnity offered under the contract to the following classes of business (details of the EU classes of business that fall into each of the above classes are contained in **Appendix 4**):

1) Accident and health.
2) Property catastrophe.
3) Other property (other than property catastrophe).
4) Professional lines (i.e. professional indemnity and D&O business).
5) Motor (including property damage and liability claims).
6) Other casualty (other than professional lines and motor).
7) Marine, energy, aviation and transport (including property damage and liability claims).
8) Credit and suretyship.
9) Other business lines not represented in the above classifications.

The net written premium and the net outstanding claim reserve used for any calculation in this Chapter must be determined on the basis of the contractual provisions in place between the parties rather than how the contract(s) may be accounted for in the reinsurance undertakings financial statements. Where there is a difference in the contractual provisions and the accounting treatment, the reinsurance undertaking may make such a determination according to a reasonable and prudent methodology. Upon request, the Central Bank may review the methodology used.

The Underwriting Charge (B) is equal to the sum for each non-life finite reinsurance contract of:

a) the sum of the Premium Risk Factors (“F_p”), detailed in **Appendix 5**, multiplied by the Adjusted Premium Base (“P_a”) for each class of business, and
b) the sum of the Reserve Risk Factors (“F_r”), detailed in **Appendix 6**, multiplied by the Adjusted Reserve Base (“R_a”) for each class of business.

The Adjusted Premium Base (“P_a”) is calculated by adjusting the Net Written Premium from each non-life finite reinsurance contract (including any premium amounts withheld by cession undertakings) as follows:

P_a= NWP*(1-R) where:

NWP =	Net Written Premium
R =	maximum possible present value rate on line, as defined in **Appendix 1**.

The Net Written Premium from a finite reinsurance contract is the gross written premium less any returned premium less premium for retrocession that inures to the benefit of the finite reinsurance contract.

The Adjusted Premium Base is then allocated to a class of business, c_1 through c_9, according to the limits of indemnity offered under the contract for each of the classes of business. The sum of the Adjusted Premium Base (“P_a”) multiplied by the Premium Risk Factors (“F_p”), detailed in **Appendix 5**, for each class of business generates the premium charge part of the Underwriting Charge for that finite reinsurance contract.

Similarly, the adjusted reserve base (“R_a”) is calculated by adjusting the net outstanding claim reserve for each finite reinsurance contract (including IBNR) as follows:

R_a= NOCR*(1-R) where:

NOCR = net outstanding claim reserve

R = maximum possible present value rate on line, as defined in **Appendix 1**.

The Adjusted Reserve Base ("R_a") is then allocated to a class of business, c_1 through c_9, according to the limits of indemnity offered under the contract for each of the classes of business. The sum of the Adjusted Reserve Base ("R_a") multiplied by the Reserve Risk Factors ("F_r"), detailed in **Appendix 6**, for each class of business generates the reserve charge part of the Underwriting Charge for that finite reinsurance contract.

The reinsurance undertaking may pool a number of non-life finite reinsurance contracts together for the sake of calculating the Underwriting Charge, provided the finite reinsurance contracts have similar transaction structures, coverages and terms. An estimate for the weighted average maximum possible present value rate on line for the pool may be calculated provided the estimate is tested for reasonableness. If the reinsurance undertaking uses a number of different calculations to arrive at the estimate for the pool, the calculation that results in the highest solvency must be used. Alternatively the lowest maximum possible present value rate on line in the pool may be used in calculating the Underwriting Charge.

Therefore in summary, the Underwriting Charge (B) for the reinsurance contracts 1 through x is:

$$\mathbf{B} = \sum_{1}^{x} \left(\left(\sum_{c1}^{c9} P_a * F_p \right) + \left(\sum_{c1}^{c9} R_a * F_r \right) \right), \text{ where:}$$

P_a = adjusted premium base

R_a = adjusted reserve base

c_1 to c_9 = classes of business, as per **Appendix 4**.

Reinsurance undertakings that experience difficulties in calculating the Underwriting Charge should contact the Central Bank directly.

4.2.3 Operational Charge (C)

There shall be an explicit operational charge for reinsurance undertakings carrying on non-life finite reinsurance. The Operational Charge (C) is equal to the sum for each non-life finite reinsurance contract of:

i) the sum of 20% of the Premium Risk Factors ("F_p"), detailed in **Appendix 5**, multiplied by the sum of the Net Written Premium less the Adjusted Premium Base ("P_a") for each class of business, and

ii) the sum of 20% of the Reserve Risk Factors ("F_r"), detailed in **Appendix 6**, multiplied by the sum of the Net Outstanding Claim Reserve less the Adjusted Reserve Base ("R_a") for each class of business,

with such an amount subject to a maximum of 12.5% of the sum of the Asset Charge and the Underwriting Charge for each finite reinsurance contract.

The reinsurance undertaking may pool a number of non-life finite reinsurance contracts together for the sake of calculating the Operational Charge, as per the calculation for the Underwriting Charge. The Operational Charge should be calculated using methodologies consistent, where applicable, with that used in calculating the Underwriting Charge.

Therefore in summary, the Operational Charge (C) for the reinsurance contracts 1 through x is:

C = min {((A+B)*0.125), X}, where:

$$X = \sum_{1}^{x} \left(\left(\sum_{c1}^{c9} (P_x * F_p * 0.20) + \left(\sum_{c1}^{c9} (R_x * F_r * 0.20) \right) \right)\right.$$, where:

P_x = NWP - P_a , or NWP*R

R_x = NOCR – R_a , or NOCR*R

c_1 to c_9 = classes of business, as per **Appendix 4**.

4.3 Disclosures

Reinsurance undertakings carrying on non-life reinsurance business are subject to the reporting requirements outlined in the requirements of the Central Bank[1].

Reinsurance undertakings carrying on non-life finite reinsurance must make the following supplementary disclosures in respect of their non-life finite reinsurance business:

1) Business Diversification;
2) Aggregation and Catastrophe; and
3) Liquidity and Credit.

These supplementary disclosures are required under Regulation 21 of S.I. 380 and are detailed in the Regulatory Returns section of this paper in Chapter 6. The Required Solvency Margin may be subject to an adjustment by the Central Bank based upon information derived from disclosures received from a reinsurance undertaking.

4.4 Minimum Guarantee Fund

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

4.5 Internal Capital Model

The International Association of Insurance Supervisors ("IAIS") defines an internal capital model as "a risk management system developed by a (re)insurer to analyse the overall risk position, to quantify risks and to determine the economic capital required to meet those risks"[10].

At the sole option of the reinsurance undertaking, as an alternative to the solvency requirements in sections 4.2, 4.3 and 4.4 herein, a reinsurance undertaking may make an application to the Central Bank for a letter of no objection to use the economic capital as determined by an internal capital model as the required solvency to be held in respect of non-life finite reinsurance business[11]. In the event that a letter of no objection is not forthcoming from the Central Bank, as notified in writing by the Central Bank, the reinsurance undertaking shall be required to hold the Required Solvency Margin and MGF as per sections 4.2, 4.3 and 4.4 herein.

4.5.1 Model Requirements

The Central Bank shall apply a basic framework of supervisory standards for an assessment of an internal capital model consistent with IAIS standards and the Solvency II Directive[12]. The Central Bank acknowledges that the current Solvency II Directive may be subject to change and refinement as Solvency II develops, and that flexibility will be required by the Central Bank in the assessment of an internal capital model as the Solvency II framework develops and the use of internal capital models by reinsurance undertakings progresses.

Within this context, the Central Bank will apply the following tests in the process of assessing internal capital models:

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[10] IAIS paper "Guidance paper on the use of internal capital models for risk and capital management purposes by insurers", dated October 2007.

[11] Such an internal capital model may apply solely to non-life finite reinsurance business or to the whole of the reinsurance business of the reinsurance undertaking. Where the internal capital model applies to the whole of the reinsurance business, the solvency for the non-life finite reinsurance business will be the economic capital for the whole business less that required for the traditional reinsurance business, subject to the statutory minimum solvency requirements for the traditional reinsurance business as applicable across the EU by the Reinsurance Directive and transposed into Irish law in S.I. 380.

[12] The Solvency II Directive 2009/138/EC

4.5.1.1 The Use and Validation Test

The reinsurance undertaking's internal capital model must be closely integrated, or be in the process of being closely integrated, into the risk management process of the reinsurance undertaking.

A reinsurance undertaking must have, or be in the process of implementing, a regular cycle of model validation which includes monitoring the performance of the internal capital model, reviewing the on-going appropriateness of its specification, and testing its results against experience.

4.5.1.2 The Calibration Test

The internal capital model must be calibrated so as to ensure that all quantifiable risks to which a reinsurance undertaking is exposed are taken into account and must be calibrated at a level that is appropriate, in the opinion of the Board of Directors, for the risk profile of the reinsurance undertaking.

The outputs from any internal capital model must be compared to the solvency requirements of the ASM_{NLFR} herein or a similarly calibrated model that reflects a VaR risk measure calibrated to a confidence level of 99.5%, or an approximate equivalent measure, over a time horizon of one year[13].

In order to verify the calibration of the internal capital model, the Central Bank may require specific stress testing of an internal capital model by the reinsurance undertaking.

4.5.1.3 The Statistical Test

Data used for the internal capital model shall be accurate, complete and appropriate. A reinsurance undertaking must be able to justify the

[13] For the purposes of section 4.5.1.2, the Central Bank will accept an internal capital model calibration that approximates the Technical Specifications in the on-going consultations on Solvency II (e.g. as per the most recently published Technical Specifications for Solvency II)

material assumptions underlying their internal capital model to the Central Bank. The methods used to determine material assumptions must be:

- based on adequate actuarial and statistical techniques,
- consistent with the methods used to calculate technical provisions, and
- based upon current and credible information.

4.5.2 Application

An application for use of an internal capital model, that meet the tests in section 4.5.1 herein, must be signed by at least two directors of the reinsurance undertaking and be made up of a report to include, but not be limited to:

- A brief overview of the internal risk management strategy of the reinsurance undertaking and the procedures used to monitor compliance with the strategy.
- 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 an internal capital 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 and expected effect of those changes.
- 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.
- Confirmation that all relevant professional staff have, or will have, an appropriate understanding of the internal capital model.

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

In the event that such an application is not successful, the Central Bank shall give a written response to the reinsurance undertaking, as soon as is practical, outlining the changes required such that the application will be reconsidered in the future.

5 Systems and Controls

The Central Bank 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). The requirements in this Chapter are in addition to the requirements of the Corporate Governance Codes[3].

5.1 General

An important part of the requirements of S.I. 380 is Regulation 20 covering administrative and accounting procedures, internal control mechanisms and risk management requirements. For the purposes of complying with Regulation 20 reinsurance undertakings must comply with the provisions of the Corporate Governance Codes. Furthermore, pursuant to Regulation 12 of S.I. 380, compliance with the provisions of the Corporate Governance Codes is a condition of authorisation of reinsurance undertakings.

In addition to those outlined in the Corporate Governance Codes, a reinsurance undertaking carrying on non-life finite reinsurance must have policies and procedures specifically relating to the classification of finite reinsurance contracts (to include risk transfer) as per section 5.2 herein and contract documentation as per Chapter 3 herein. The Board of Directors are 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.

The Central Bank intends to undertake supervisory inspections in the future focusing on systems and controls in reinsurance undertakings and such inspections will include the requirements in this paper for those reinsurance undertakings carrying on non-life finite reinsurance.

5.2 Classification Policy

The principles-based approach of the Central Bank 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 non-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 undertaking, and reinsurance undertakings must have a written policy for the classification of finite reinsurance business which has been approved by the Board of Directors (hereinafter referred to as a "Classification Policy").

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, and other criteria determined by the Board of Directors. The Classification Policy must also be subject to regular review, particularly pertaining to areas where new practices or standards emerge. Any material amendments or alterations to the classification policy must be notified to the Central Bank as soon as practicable.

There are a number of features used in many non-life reinsurance contracts in the global reinsurance market that can be adapted to limit risk transfer or profit potential thereby impacting the risk profile of a reinsurance contract. The existence of one or more of these features does not in itself indicate "significant but limited" risk transfer. The risk profile of the reinsurance contract determines the risk transfer present in the contract and whether such a contract falls within the classification policy of the reinsurance undertaking determines whether it must be treated as a finite reinsurance contract for the purposes of this paper.

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

i) A notional or actual experience balance that reflects the experience of the contract and where such a balance, when positive, is due to the cession undertaking in the form of losses recoverable or as a form of profit commission or experience refund upon cancellation, termination and/or commutation.

ii) A notional or actual experience balance that reflects the experience of the contract and where such a balance, when negative, is due in full, or in part, to the reinsurance undertaking in the form of additional premium or payments and/or other economic changes to the terms and conditions of the contract.

iii) Cancellation, termination and/or commutation penalties that result in a significant reduction in coverage and/or result in a payback requirement by the cession undertaking.

iv) Contractual delays in the losses paid to cession undertaking beyond normal settlement periods or the inclusion of fixed loss payment schedules.

v) An aggregate contract limit that is less than the sum of the annual limits or the sum of the sub-section limits within the contract.

vi) Coverage for later periods that are explicitly or implicitly adjusted by the experience of earlier periods.

vii) Sliding scale commissions and/or loss corridors.

The senior management of the reinsurance undertaking and/or the Board of Directors may be required to explain and justify the rationale behind their Classification Policy to the Central Bank.

5.2.1 Contract Analysis

Any reinsurance undertaking carrying on non-life finite reinsurance must undertake an analysis of all reinsurance contracts where risk transfer, as per the requirements of section 2.3.1 (including the assessment referred to in **Appendix 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[14].

Any contract analysis must be performed using a consistent methodology for all non-life finite reinsurance contracts across the reinsurance undertaking.

The Central Bank highlights the following items for consideration in relation to any detailed contract analysis presented to or requested by the Central Bank of a reinsurance undertaking:

1) **Model Type**: The model type selected must reflect the complexity of the reinsurance contract under analysis. The Central Bank believes that no one method for evaluating risk transfer may be appropriate for use in all cases, so that a number of different tests must be applied in cases where risk transfer is marginal or in question. Sound and adequate methods, in the opinion of the Central Bank, include relative risk approaches, Value at Risk (VaR) methods, and Tail Value at Risk (TVaR) methods, including an Expected Reinsurer Deficit method.

2) **Risks Considered**: Any analysis of risk transfer must be limited to the consideration of underwriting and timing risks only. Any other risks such as credit, market, operational, liquidity and investment risks cannot be considered in a risk transfer analysis. For detailed and complex analysis, consideration of parameter risk (i.e. the uncertainty associated with picking the wrong parameters in any model) may also be considered.

3) **Payout Patterns**: Payout patterns are derived from historical payout patterns of the cession undertaking, if available, or from industry patterns. The variation in a payout pattern tested must be a function of the number of underlying risks (i.e. the greater the number of risks the

[14] The view of the Central Bank is that the Risk Transfer Testing Practice Note published by the American Academy of Actuaries in November 2005 and updated in January 2007 forms a reasonable basis for the development of an applicable analysis.

less variation may be applied). Where there are unique payment characteristics of the underlying risk(s), these must be taken into account.

4) Summary: Each analysis must contain a brief summary to include the methodology and the assumptions used and the conclusions drawn. In particular, each of the primary assumption inputs must be referenced, where available, to historical loss or current exposure data. The output must include the net present value profit and loss outputs and the conclusions drawn from this analysis. Reference must also be made to the adequacy of the analysis performed in determining risk transfer.

6 Regulatory Returns

6.1 Annual Returns

Pursuant to Regulation 21 of S.I. 380, the information specified in this Chapter 6 is hereby required to be lodged with the Central Bank by an authorised reinsurance undertaking established in the State carrying on non-life finite reinsurance under item 7) of the Annual Return, as per the standard reporting requirements of the Central Bank[1].

The information required in respect of the non-life finite reinsurance business of the reinsurance undertaking is as follows (and must be clearly marked as information pertaining to non-life finite reinsurance business):

1) In respect of Chapter 4: Prudential Rules, the following:
   a) The calculations required under section 4.2 of this paper (such calculations to be supplied in electronic form) and the disclosures required under section 4.3 (and detailed in section 6.2) of this paper, or
   b) The information required under section 4.5 of this paper, if the reinsurance undertaking wishes to avail of that option.

2) A copy of the Classification Policy under section 5.2, if such has not already been submitted to the Central Bank, or details of any amendments or Board review of the Classification Policy.

3) Details of any material issues that have arisen in the preparation of the Annual Return or otherwise in respect of the life finite business of the reinsurance undertaking.

In an individual case or circumstance, the Central Bank may specify to a reinsurance undertaking carrying on non-life finite reinsurance more frequent reporting intervals.

6.2 Disclosures

The disclosures by a reinsurance undertaking carrying on non-life finite reinsurance are herein required under Regulation 21 of S.I. 380 and are in addition to the standard requirements of the Central Bank[1]. Where any of the following disclosures indicate an economic loss potential that is material[15] to the business of the reinsurance undertaking under the prudent person principle, the strategies developed by such a reinsurance undertaking to counter any such risks must be disclosed to the Central Bank.

The Central Bank may apply an adjustment to the Required Solvency Margin under the ASM_{NLFR} based upon the disclosures herein.

6.2.1 Business Diversification Disclosure

The reinsurance undertaking must provide the Central Bank with details of the gross and net written premiums for non-life finite reinsurance business split by the business classes in **Appendix 4** and further split by geographical territory, if available. The Central Bank will also require details, if available, on the sum at risk, a limit profile or a similar statistic for each of the business classes in **Appendix 4** and any related operations.

[15] "Material" in this context must be determined by the reinsurance undertaking. The Central Bank's view is that material in this context is an economic loss potential that exceeds 5% of the reinsurance undertaking's available solvency margin. This view does not however imply that a lesser amount is necessarily immaterial.

6.2.2 Aggregation and Catastrophe Disclosure

The Central Bank believes that it is sound practice to employ stress tests as a complement to capital modeling. A reinsurance undertaking carrying on non-life finite reinsurance must provide the Central Bank with details of the quantitative results of the stress tests and/or scenario analysis the reinsurance undertaking has carried out on its portfolio[16] according to its own risk management policies.

6.2.3 Liquidity and Credit Disclosure

The Central Bank requires reinsurance undertakings carrying on non-life finite reinsurance to disclose any significant liquidity risks that the reinsurance undertaking faces over the next 24-month period on their 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.

The Central Bank also requires reinsurance undertakings carrying on non-life finite reinsurance to disclose any significant credit risks that the reinsurance undertaking faces in its finite reinsurance 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.

[16] This analysis may be carried out against the portfolio of non-life finite reinsurance business or against the portfolio of all non-life reinsurance business.

Appendix 1: Assessing Risk Transfer

There are a number of different ways of assessing the risk profile of a reinsurance contract in order to determine risk transfer. Two commonly used methods are a limit to premium ratio and a rate on line. A limit to premium ratio is the ratio of the maximum limit provided by a reinsurance contract divided by the gross premiums due over the life of the contract. Similarly, a rate on line is the gross premiums due over the life of the contract as a percentage of the maximum limit provided by a reinsurance contract.

In order to ensure consistency across the reinsurance sector in Ireland and to ensure comparability by the Central Bank, the Central Bank hereby requires all reinsurance undertakings carrying on non-life finite reinsurance business to submit an analysis of its contracts, where required or requested by the Central Bank, on the basis of the maximum possible present value rate on line ("R").

The maximum possible present value rate on line is hereby defined as a percentage between 0% and 100% such that

R = P/L, where

P= the present value of the maximum possible expected gross premium or other payments payable to the reinsurance undertaking under the contract, and

L= the present value of the maximum aggregate limit available under the reinsurance contract.

Where there is no explicit maximum aggregate limit in the reinsurance contract, the reinsurance undertaking must estimate the maximum possible aggregate loss recoverable for the purpose of this calculation. The present value of the maximum aggregate limit will be the maximum limit available under the non-life finite reinsurance contract multiplied by a

discount factor that represents the expected time value of money for the exposure(s) covered under the reinsurance contract considering the most conservative payout profile for the reinsurance undertaking's economic position. Please note that this rate may be different from the discount factor, as required in the Insurance Accounts Regulations, applied to discount reserves as per the requirements of the Central Bank[1].

The payout profile must be based upon historical payout patterns of the cession undertaking, if available, or otherwise from industry profiles.

The Central Bank may request a more detailed contract analysis, as per section 5.2.1 herein, where risk transfer is not necessarily self-evident.

Appendix 2: Credit Grades

The Grades used in this paper are equal to the following ratings[17]:

Key	S&P	Moody's	AM Best	Fitch
Grade 1	AAA	Aaa	A++	AAA
Grade 2	AA+	Aa1	A+	AA+
	AA	Aa2		AA
	AA-	Aa3		AA-
Grade 3	A+	A1	A	A+
	A	A2	A-	A
	A-	A3		A-
Grade 4	BBB+	Baa1	B++	BBB+
	BBB	Baa2	B+	BBB
	BBB-	Baa3		BBB-
Grade 5	BB+	Ba1	B	BB+
	BB	Ba2		BB
	BB-	Ba3		BB-
Grade 6	B+ or below	B1 or below	B- or below	B+ or below

[17]A reinsurance undertaking may nominate one or more of the rating agencies above to be used in determining all of the calculations herein such as selecting 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 highest capital charge must be selected.

Appendix 3: Asset Risk Factors (F_a)

Table 1	Factor	Comment
Cash	0%	NA
Equity Shares	15.0%	NA
Preference Shares	10.0%	NA
Land and Buildings	15.0%	NA
Other Financial Instruments	--	Note 1/Table 2
Investments in Group Undertakings	--	Note 2
Loans to Group Undertakings	--	Note 3
Reinsurance Recoverable	--	Note 4
Funds Withheld	--	Note 5
Debtors	2.5%	Note 6
DAC	15.0%	Note 7
Other	100.0%	Note 8

Notes:

a) A factor for a financial instrument must be allocated, as per the Table 2 below, according to the credit ratings as per **Appendix 2**.

Table 2	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Short-term Investments[a]	0.0%	0.1%	0.5%	2.5%	5.0%	15.0%
Government Bonds	0.0%	0.1%	0.5%	2.5%	5.0%	15.0%
Municipal Bonds	0.0%	0.1%	0.5%	2.5%	5.0%	15.0%
Corporate Bonds	0.5%	1.0%	2.5%	5.0%	12.0%	20.0%
Residential MBS	0.5%	1.0%	2.5%	5.0%	12.0%	20.0%
Commercial MBS	0.5%	1.0%	2.5%	5.0%	12.0%	20.0%
Other ABS[b]	0.5%	1.0%	2.5%	5.0%	12.0%	20.0%

For the purposes of Table 2 above, the following must be considered:

a. Short-term investments include securities bought and held for sale to generate income on short-term price differences and are generally securities with maturities of less than one year. A weighted average grade may be used in determining the appropriate factor.

b. ABS, in the context of this paper, refers to asset backed securities, other than residential or commercial mortage backed securities, that are primarily serviced by the cash flows of a discrete pool of receivables or other financial assets, either fixed or revolving, that by their terms convert into cash within a finite time period, plus any rights or other assets designed to assure the servicing or timely distribution of proceeds to the security holders. ABS includes CDOs and securities backed by consumer loans, credit card receivables, leasing receivables, etc.

b) A factor for an investment in a group undertaking must be used on one of the following basis (at the sole option of the reinsurance undertaking):
- equal to the equity factor in Table 1 above, or
- where the group undertaking has a financial strength rating, the factor for the applicable grade of corporate bonds in Table 2 above, or
- where the group undertaking has an unsecured debt rating, the factor for one grade below that of the unsecured debt rating for corporate bonds in Table 2 above.

c) For loans to group undertakings whereby the credit risk of the group undertaking has been eliminated or mitigated by way of ring-fencing, as per the requirements of the Central Bank[1], the reinsurance undertaking may look through to the assets held by the group undertaking when determining the factors to be used. Loans to group undertakings that have not been ring-fenced may not be admitted to cover technical provisions.

d) A factor for reinsurance recoverable (to include any reinsurers' share of technical provisions) must be allocated, as per the Table 3 below, according to the financial strength rating of the reinsurer/retrocessionaires as per **Appendix 2**. Where no financial strength rating is available the factor for Grade 6 must be used.

Table 3	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Reinsurance Recoverable	0.5%	1.5%	2.5%	5.0%	15.0%	25.0%

e) For a funds withheld asset whereby the credit risk of the cession undertaking has been eliminated or mitigated by way of a trust arrangement or a legally enforceable contract provision, as per the requirements of the Central Bank[1], the reinsurance undertaking may look through to the assets held by group undertakings when determining the factors and assets to be used.

Where the credit risk of the cession undertaking has not been eliminated or mitigated, as per the requirements of the Central Bank[1], the factor to be applied to all of a funds withheld asset (net of any required write-down & irrespective of the underlying assets) must be determined on one of the following basis (at the sole option of the reinsurance undertaking):

- equal to the equity factor in Table 1 above, or
- where the cession undertaking has a financial strength rating, the factor for the applicable grade of corporate bonds in Table 2 above, or
- where the cession undertaking has an unsecured debt rating, the factor for one grade below that of the unsecured debt rating for corporate bonds in Table 2 above.

f) Debtors, as per the requirements of the Central Bank[1], may only be admitted if they are due and payable for less than 90 days.

g) For DAC, as per the requirements of the Central Bank[1], which can be set against a related unearned premium reserve, a zero factor may be applied. Otherwise a factor of 15% must be used.

h) A reinsurance undertaking may contact the Central Bank directly to discuss a suitable factor for an asset they consider admissible but not captured above.

Appendix 4: Classes of Business (c_i)

AUGMENTED SOLVENCY MODEL CLASSES, PER SECTION 6.2.2.	EU CLASSES **PER POINT A OF THE ANNEX TO DIRECTIVE 73/239/EEC.**
1. Accident and health (c_1)	Class 1; ACCIDENT (including industrial injury and occupational diseases) Class 2; SICKNESS
2. Property catastrophe (c_2)	Class 8; FIRE AND NATURAL FORCES Class 9; OTHER DAMAGE TO PROPERTY
3. Other property (other than property catastrophe) (c_3)	Class 8; FIRE AND NATURAL FORCES Class 9; OTHER DAMAGE TO PROPERTY
4. Professional lines (i.e. professional indemnity and D&O business) (c_4)	Class 16; MISCELLANEOUS FINANCIAL LOSS Sometimes includes the following class; Class 13; GENERAL LIABILITY
5. Motor (including property	Class 3; LAND VEHICLES (other

damage and liability claims) (c_5)	than Railway Rolling Stock) Class 10; MOTOR VEHICLE LIABILITY The following two classes are sometimes included in / added onto Motor; Class 17; LEGAL EXPENSES Class 18; ASSISTANCE
6. Other casualty (other than professional lines and motor) (c_6)	Class 13; GENERAL LIABILITY
7. Marine, energy, aviation and transport (including property damage and liability claims) (c_7)	Class 4; RAILWAY ROLLING STOCK Class 5; AIRCRAFT Class 6; SHIPS (sea, lake and river and canal vessels) Class 7; GOODS IN TRANSIT (including merchandise, baggage and all other goods) Class 11; AIRCRAFT LIABILITY Class 12; LIABILITY FOR SHIPS (sea, lake and river and canal vessels)
8. Credit and suretyship (c_8)	Class 14; CREDIT INSURANCE Class 15; SURETYSHIP
9. Other business lines not represented in the above classifications (c_9)	Class 16; MISCELLANEOUS FINANCIAL LOSS Class 17; LEGAL EXPENSES Class 18; ASSISTANCE

Appendix 5: Premium Risk Factors (F_p)

Class of Business	Facultative	Proportional Treaty	Non-Proportional Treaty
Accident and health	10.0%	15.0%	20.0%
International prop cat	NA	NA	50.0%
Other property	12.5%	15.0%	25.0%
Professional Lines	20.0%	25.0%	30.0%
Motor	10.0%	15.0%	20.0%
Other Casualty	15.0%	20.0%	25.0%
Marine/energy/aviation/trans	20.0%	25.0%	40.0%
Credit and suretyship	20.0%	30.0%	50.0%
Other business lines	15.0%	20.0%	25.0%

Appendix 6: Reserve Risk Factors (F_r)

Class of Business	Facultative	Proportional Treaty	Non-Proportional Treaty
Accident and health	7.5%	12.5%	15.0%
International prop cat	NA	NA	17.5%
Other property	10.0%	11.0%	12.0%
Professional Lines	15.0%	17.5%	20.0%
Motor	10.0%	12.5%	15.0%
Other Casualty	10.0%	12.5%	15.0%
Marine/energy/aviation/trans	12.5%	14.0%	15.0%
Credit and suretyship	12.5%	15.0%	17.5%
Other business lines	10.0%	12.5%	15.0%

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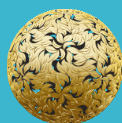

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