



DIRECTIVE N° 2310 /2018 – 08 [613] OF 23 OCTOBER 2018 ON RISK-BASED CAPITAL ADEQUACY REQUIREMENTS

Pursuant to Law N° 48/2017 of 23/09/2017 governing the National Bank of Rwanda especially in its articles 6, 8, 9 and 10;

Pursuant to the Law N° 52/2008 of 10/09/2008 governing the organization of insurance business, especially in its articles 10, 11, 12, 13;

Pursuant to Regulation N°05/2009 of 29/07/2009 on licensing requirements and other requirements for carrying out insurance business

Considering the need to promote the maintenance of an efficient, fair, safe and stable insurance market in the country;

The National Bank of Rwanda herein referred to as «Central Bank », decrees:

CHAPTER ONE: PRELIMINARY

Article 1: Purpose

This Directive aims at implementing risk-based capital adequacy requirements.

Article 2: Scope

Without prejudice to provisions of Regulation on licensing requirements and other requirements for carrying out insurance business, this Directive applies to licensed insurers, public insurers and other authorized insurance entities carrying out insurance business in Rwanda under the Law governing the organization of insurance business.

Article 3: Definitions

In this Directive, the terms below have the following meanings:

- 1° **Basis point:** one basis point equals 1/100 of a percentage point (or 0.01%);
- 2° **Capital Adequacy Ratio (CAR):** measures capital adequacy as the ratio of Total Available Capital to Risk-based Capital Required;
- 3° **Claims volatility:** a measure of the predictability of claims experience relative to the mean (average);
- 4° **Current estimate of a liability:** the expected present value of all future cash flows under the policy, calculated using unbiased assumptions that reflect current conditions and expected experience;
- 5° **Discounted cash flow method:** a valuation methodology that involves determining the present value of future expected cash flows. The present value of a future cash flow takes into account the time value of money by

incorporating an assumption for investment returns earned during the period until the future amount is realised.

- 6° **Government:** The Government of Rwanda;
- 7° **International Financial Reporting Standards (IFRS):** financial reporting standards prescribed by the International Accounting Standards Board, as currently applied in Rwanda;
- 8° **Investment grade** refers to a credit rating for a financial instrument that has a relatively low level of default. Credit rating firms use different letter designations to indicate a bond's credit rating. Typically, bonds rated BBB or higher are considered investment grade;
- 9° **Minimum Capital Requirement (MCR):** the minimum CAR to be maintained by insurers at all times, below which an insurer will not be permitted to continue operations;
- 10° **Prescribed Capital Adequacy Ratio (PCAR):** the prescribed capital adequacy ratio, above which an insurer will generally be considered adequately capitalized;
- 11° **Risk-based Capital Required (RCR):** measures the required capital following the risk-based framework, incorporating the relevant and material risks per the prescribed categories; and
- 12° **Total Available Capital (TAC):** measures the available capital maintained by the insurer, in insurance and shareholders' funds collectively, that is eligible for determining capital adequacy.

CHAPTER II: REQUIRED FINANCIAL RESOURCES

Article 4: Minimum Capital Requirement (MCR)

An insurer shall maintain at all times a Minimum Capital Requirement (MCR), which represents a CAR of 100%.

An insurer shall ensure that its CAR exceeds the MCR at all times (CAR >100%).

A CAR less than 100% indicates that the insurer is considered unable to cover all anticipated obligations without an injection of additional capital.

Article 5: Prescribed Capital Adequacy Ratio (PCAR)

An insurer shall maintain adequate capital such that the CAR exceeds 130%.

The Central Bank may require an insurer to maintain capital at a higher level than the PCAR if the risks of the insurer's business indicate that the PCAR is inadequate.

Article 6: Requirement to hold adequate financial resources

Taking into account the nature, size and complexity of its insurance business and the risks to which it is exposed, including catastrophe risk, an insurer shall maintain a prudent CAR and adequate Total Available Capital (TAC).

To comply with this requirement, an insurer shall have an adequate risk management system with strategies, processes and reporting procedures appropriate to identify, measure, monitor and report, on a continuous basis, the risks to which the insurer is or could be exposed, and their interdependencies.

At least quarterly, an insurer shall calculate its CAR to determine whether it needs additional capital above the prescribed requirement specified in article 5 of this Directive.

Article 7: Valuation date and reporting

An insurer shall value its assets and liabilities, including policy liabilities, under this Directive at least quarterly during the year.

An insurer shall explain to the Central Bank the basis of and justification for material discretionary decisions taken by the insurer under this Directive, including decisions on assumptions, adjustments, internal models, time periods, methods and techniques.

CHAPTER III: DETERMINATION OF TAC AND CAR

Article 8: Determination of TAC (Total available capital)

Total available capital consists of the sum of the Tier 1 capital and Tier 2 capital, as prescribed in articles 9 and 10, minus the deductions prescribed in article 11.

Prior to issuing new capital instruments that are not explicitly listed, an insurer shall seek clarification from the Central Bank regarding the applicable categorization for solvency purposes.

Article 9: Tier 1 capital

Tier 1 capital comprises:

- 1° issued and fully paid-up ordinary shares and share premiums;
- 2° retained profits or losses;
- 3° capital reserves (other than property revaluation reserves);
- 4° available for sale (AFS) reserves that may arise under IFRS; and
- 5° Non-cumulative perpetual preferred shares.

Article 10: Tier II Capital

Tier II capital comprises:

- 1° revaluation reserves for self-occupied property and other property investments;
- 2° cumulative perpetual preferred shares;
- 3° mandatory capital loan stock;

- 4° irredeemable subordinated debt;
- 5° redeemable preferred shares; and
- 6° Subordinated term debt with a minimum 5-year term.

Tier II capital may exceed Tier I capital in the balance sheet. However, in calculating TAC under the Risk-based Capital framework, Tier II capital shall not exceed 50% of Tier I capital. Any excess shall not be included in calculating TAC.

Article 11: Deductions from TAC

In determining TAC, an insurer shall deduct from the total of Tier I capital and Tier II capital:

- 1° own shares held directly by the insurer;
- 2° goodwill and other intangible assets;
- 3° future income tax credits and deferred tax assets;
- 4° loans and exposures to connected persons;
- 5° loans and investments in respect of related parties that are prudentially regulated financial institutions (e.g., banks, insurance companies, microfinance institutions);
- 6° loans and receivables overdue more than 6 months (including loans to insurance intermediaries and other loans and receivables, but excluding reinsurance receivables);
- 7° reinsurance/coinsurance receivables overdue more than 9 months, plus any reinsurance receivables that have been assigned an allowance for bad debts in the financial statements (regardless of amount of time overdue);
- 8° company-related assets, including physical assets, equipment and property, and surplus in corporate pension or health insurance plans;
- 9° deferred expenses and prepayments, including deferred policy acquisition expenses; and
- 10° unsecured unregistered reinsurance exposures;
- 11° insurance premium receivables other than those from government institutions and International Agencies;

Article 12: Determination of Capital Adequacy Ratio (CAR)

An insurer shall determine CAR using the following formula

$$\text{CAR} = (\text{TAC} \div \text{RCR}) \times 100.$$

CHAPTER IV: RISK-BASED CAPITAL REQUIRED (RCR)

Article 13: Determination of Risk-based Capital Required (RCR)

Risk-based Capital Required (RCR) is the aggregate of the minimal capital required to address all relevant and material categories of risk.

An insurer shall make the calculations for each risk charge, applied to the total of insurance funds and shareholders' funds, then add the resulting amounts to arrive at the total RCR, using the following formula:

RCR = credit risk capital charge + concentration risk capital charge + market risk capital charge + liability risk capital charge + operational risk capital charge.

Article 14: Application of capital risk charges

Except for the operational risk charges determined as specified in article 30, capital risk charges do not apply to assets required to be deducted from TAC under article 11 and 12.

Article 15: Credit risk capital charge

An insurer shall determine a credit risk capital charge by adding together the asset default risk capital charges and reinsurance counterparty risk capital charges as specified in articles 17 and 18, using the following formula:

Credit risk capital charge = asset default risk capital charge + reinsurance counterparty risk capital charge.

Article 16: Asset default risk

The asset default risk capital charge shall be determined as the sum of each asset default risk exposure multiplied by the asset default risk factor that applies to that exposure.

The asset default risk exposure is determined as the current value of the asset using the prescribed valuation basis provided in Chapter VI of this Directive.

The risk capital charges to be used in the determination of the asset default risk capital charge are found in **Appendix 1**.

An insurer shall apply the applicable asset default risk capital charge to the current value of the related assets using the categories of asset classes listed in column 1 of **Appendix 1**.

An insurer shall use the most recent credit rating for each counterparty or financial instrument, assigned by international recognised credit rating agency or credit rating agency licensed by the Rwanda Capital Markets Authority (CMA), or as approved by the Central Bank, subject to the condition provided in article 19 of this Directive.

Any asset that does not have a credit rating according to article 19 shall be treated as unrated in the determination of the asset default risk capital charge.

Article 17: Credit rating

For assets with a credit rating based on an international credit rating scale, the capital risk charges in column 4 of **Appendix 1** shall be used.

For assets without an international credit rating, but with a credit rating based on a national credit rating scale for any of the sovereign states identified in Appendix 1, the capital risk charges in column 6 of **Appendix 1** are to be used.

For assets that have credit ratings using a national scale not included in **Appendix 1**, the Central Bank may provide additional guidance to insurers as to the applicable risk factors.

Any credit rating used to determine a factor shall be publicly available.

In cases where a rating is not provided for a specific security or institution, but a relevant rating is available for a similar security or a parent company, the lowest rating available may be applied to the unrated security, subject to the approval of the Central Bank.

Article 18: Reinsurance counterparty risk

An insurer shall calculate a reinsurance risk capital charge for each reinsurance counterparty using the following formula:

Reinsurance risk capital charge = reinsurance risk exposure x counterparty credit risk factor, where the reinsurance risk exposure is determined as specified in article 20 of this Directive.

The counterparty credit risk factors are specified in **Appendix 2**.

An insurer shall aggregate the risk capital charges calculated for each reinsurance counterparty to form the total reinsurance risk capital charge.

Article 19: Reinsurance counterparty credit risk factors

Counterparty credit risk factors are classified based on the claims-paying credit rating of the reinsurer according to the categories specified in **Appendix 2**.

In determining the appropriate risk charge, an insurer shall use the most recent external credit rating (claims-paying) for the reinsurer according to a recognised credit rating agency or as approved by the Central Bank.

Article 20: Reinsurance risk exposure

Pursuant to the provisions of article 19 of this Directive, the reinsurance risk exposure for each reinsurer is the sum of:

- 1° amounts due (including claims recoverable and ceding commissions);
- 2° ceded claims liabilities; and
- 3° ceded policy liabilities.

Ceded policy liabilities for life insurance are determined as the difference between the value of the gross liabilities and the net liabilities of the insurer due to reinsurance ceded to that reinsurer.

Ceded policy liabilities for general insurance are determined as the difference between the gross premiums liability and the net premiums liability due to reinsurance ceded.

Article 21: Concentration risk capital charge

An insurer shall determine a concentration risk capital charge by applying a concentration risk capital factor of 100% to the value of assets that exceed the investment concentration limit for that asset class. The concentration risk charge factor of 100% is applied only to the excess market value of the over-invested asset. Investment concentration limits are prescribed in **Appendix 3**.

The total concentration risk capital charge is the sum of the concentration risk charges for all assets that are in excess of the specified concentration limits.

Article 22: Concentration limits

A general insurer shall use the concentration limits in column 2 of **Appendix 3** for each asset category.

A life insurer shall use the concentration limits in column 3 of **Appendix 3** for each asset category.

A public health insurer shall use the concentration limits in column 4 of **Appendix 3** for each asset category.

The concentration risk limits in columns 5 and 6 of **Appendix 3** applies to all insurers.

The limits in column 5 are applied to investments with a single issuer or counterparty, and the limits in column 6 are applied to individual securities/investments.

The concentration limits in Appendix 3 are calculated as percentages relative to the total market value of the insurer's assets.

Article 23: Market risk capital charge

The total market risk capital charge is calculated as the sum of the separate risk charges for each of the following risks and shall be calculated as prescribed in articles 24 to 27 of this Directive:

- 1° investments in equities;
- 2° investments in properties;
- 3° interest rate risk; and
- 4° foreign exchange rate risk.

Article 24: Equity risk charge

An insurer shall calculate an equity risk charge by applying the applicable equity risk factors to the current market value of the equity investments, as specified in **Appendix 4**, and aggregating the results.

Article 25: Property risk charge

An insurer shall calculate a property risk charge applicable to assets whose value is sensitive to the volatility of market prices for property.

The following assets shall be treated as property:

- 1° land;
- 2° buildings;
- 3° other immovable property rights; and
- 4° direct or indirect participations in real estate companies that generate income from property holdings.

Applicable property risk capital charges are specified in **Appendix 5**.

Where the market value of property investments exceeds the applicable concentration limit specified in **Appendix 4**, the excess value is not included in the property risk charge calculation.

Article 26: Interest rate risk charge

An insurer shall calculate an interest rate risk charge as follows:

- 1° calculate the present value of interest rate sensitive assets and liabilities under the base scenario, referred to as A0 and L0 respectively, where the present values are calculated using the interest rates determined as specified in article 39 of this Directive;
- 2° recalculate the present value of the interest rate sensitive assets and liabilities under the up shock scenario, referred to as A1 and L1 respectively, where the up shock scenario uses interest rates that are 150 basis points higher than the interest rates used in (1°);
- 3° recalculate the present value of the interest rate sensitive assets and liabilities under the down shock scenario, referred to as A2 and L2 respectively, where the down shock scenario uses interest rates that are 150 basis points less than the interest rates used in (1°);
- 4° calculate the value of the surplus under each scenario as the difference between the present value of the assets and liabilities; and
- 5° determine the reduction in surplus in the up shock and down shock scenarios, relative to the surplus in the base scenario.

The interest rate risk charge is the greater of the reduction in surplus under the up shock and down shock scenarios.

If there is an increase in surplus under both shock scenarios, then the interest rate risk charge is zero.

Appendix 6 summarises the calculations required.

Interest rate risk sensitive assets shall include any assets whose values change when market interest rates change.

Interest rate risk sensitive liabilities shall include any policy liabilities or technical provisions where the values are determined on a present value basis using interest rates that are dependent on current market rates.

The interest rates used in the determination of present values for the purpose of calculating the interest rate risk charge shall be the same as those used in the current valuation of the asset or liability, according to the valuation methodology specified in Chapter VI.

Article 27: Foreign exchange rate risk capital charge

An insurer shall determine the foreign exchange rate risk capital charge by calculating the following:

- 1° determine the foreign exchange risk exposure for each currency by calculating the net open position in that currency, equal to the sum of all asset values less all liability values denominated in that currency, including any accrued interest or expenses that may be subject to currency rate fluctuations;

- 2° convert the net open position in each currency to Rwandan francs using the same foreign exchange rate used to prepare the insurer's financial statement for the same period;
- 3° apply the application foreign exchange rate risk factor for that currency to the net open position as converted to Rwandan francs, using the risk factors specified in **Appendix 7**; and
- 4° aggregate the risk capital charges for all currencies.

Risk capital charges for foreign currency risk may be reduced if the insurer has in place appropriate hedging strategies and instruments to mitigate foreign currency risk.

Such strategies shall be reviewed by the Central Bank in order to determine and apply any reduction in risk capital requirements.

Article 28: Liability risk capital charge for general insurance products

A general insurer shall calculate a liability risk capital charge by aggregating the risk charges for claims liabilities and premium liabilities as follows:

- 1° general insurance liabilities shall be classified by business category according to the product classes specified in **Appendix 8**;
- 2° an insurer shall determine premium liability risk charges for each sub-class of general insurance, separately, by multiplying the net premium liability by the corresponding premium liability risk factor specified in column 3 of **Appendix 8**;
- 3° the net premium liability for each sub-class of general insurance is determined as the greater of the net unexpired risk reserve and the unearned premium reserve;
- 4° an insurer shall determine claims liability risk charges for each sub-class of general insurance business, separately, by multiplying the net claims liabilities by the corresponding claims liability risk factor specified in column 4 of **Appendix 8**;
- 5° net premium liabilities and net claims liabilities are the liabilities determined net of reinsurance, using the valuation methodology prescribed in Chapter VI of this Directive.

Article 29: Liability risk capital charge for life insurance products

A life insurer shall calculate a liability risk capital charge by aggregating the liability risk charges calculated for each sub-class of life insurance business using the method and risk factors prescribed for that sub-class of insurance business as specified in **Appendix 9**.

Liabilities shall be determined on a policy-by-policy (seriatim) basis and classified using the sub-classes specified in **Appendix 9**.

For life insurance products that are included in a sub-class with a factor-based risk charge, the liability capital risk charge is determined as the product of the liability value and the applicable risk charge factor.

For life insurance products included in a sub-class that requires an assumption-based risk charge, the liability capital risk charge is determined as the difference between the liability value calculated under a base scenario and the liability value calculated under a stress scenario.

The liability calculated under the base scenario is the liability determined using the methodology and assumptions as prescribed in Chapter VI of this Directive and **Appendix 13**.

The stress scenario is determined by adjusting the base set of assumptions by the relevant stress factor for each assumption, as specified in **Appendix 9**.

The direction of each stress factor (+ or -) is selected such that it results in a higher liability value than the base scenario assumption. An insurer shall use the same stress factors, in the same direction, for all policies of that policy type.

For policies where the liabilities are segregated into investment liabilities and insurance contract liabilities under IFRS 4, the two components may be reported separately under the appropriate classifications in the risk-based balance sheet for the purpose of determining the liability risk charge.

Claims liabilities that are determined separately from the actuarial liabilities shall be included in the total liability values prior to applying the appropriate risk capital charges.

Article 30: Operational Risk

An insurer shall calculate an operational risk capital charge of 2.75% of its annual Gross premium written.

CHAPTER VI: RISK BASED TOTAL BALANCE SHEET FOR CAPITAL ADEQUACY PURPOSES

Section one: Valuation of assets for CAR calculation

Article 31: Valuation of assets

For the purpose of calculating the CAR, an insurer shall value assets in each asset class using the valuation principles prescribed in **Appendix 11**.

An insurer shall value assets that do not fall under any of the categories listed in **Appendix 11** using a valuation method that is consistent with IFRS.

Assets or investments whose current values depend on subjective appraisals shall submit evidence of a recent appraisal by a qualified independent appraiser, approved by the Central Bank, in support of the asset valuation.

The Central Bank may specify requirements for professional certification for property appraisers or require evidence of independence prior to granting approval.

Section 2: General Principles for Valuation of Liabilities

Article 32: Gross premium valuation method

For the purpose of determining the CAR, an insurer shall value insurance liabilities using a gross premium valuation method.

An insurer shall value non-insurance liabilities in accordance with IFRS.

Insurance liabilities calculated for the purposes of determining the CAR shall include the calculation of the current estimate of the liability as well as the determination of a risk margin for adverse deviation.

Article 33: Valuation formulas

General insurance liabilities shall be valued using the following formula:

- 1° general insurance liability = claims liability + premium liability, where
- 2° claims liability = current estimate claims liability + risk margin; and
- 3° premium liability = the greater of the unearned premium reserve (UPR) and (current estimate unexpired risk reserve + risk margin).

Risk margins for general insurance liabilities are determined using the risk margin factors specified in **Appendix 12**.

A life insurer shall value the liabilities for each sub-class of life insurance business using the valuation basis for the current estimate and risk margins according to the specifications in **Appendix 13**.

Article 34: Insurance liabilities determined policy-by-policy

An insurer shall value all insurance liabilities on a policy-by-policy (seriatim) basis, but, to the extent that this is not reasonably possible, an insurer may use reasonable approximations or groupings of data.

Article 35: Insurance liabilities determined gross and net of reinsurance

An insurer shall calculate all insurance liabilities both gross and net of reinsurance.

To determine liabilities both gross and net of reinsurance, relevant future cash flows shall also be determined on a gross and net basis.

An insurer may use reasonable approximations of the impact of non-proportional reinsurance arrangements on the current estimate liabilities and risk margins.

Article 36: Determination of the current estimate

An insurer shall use among others the following techniques to calculate the current estimate to determine the mean of possible outcomes, taking into account all relevant information about the insurer's business:

- 1° analytical techniques;
- 2° deterministic techniques;
- 3° simulation methods

The current estimate shall incorporate all future cash flows under an insurance policy that are integral to meeting the obligations under that contract.

Relevant future cash flows include:

- 1° future premiums, charges and fees;
- 2° claim payments;
- 3° for life insurance policies, benefit payments which includes:
- 4° death,
- 5° survival,
- 6° disability benefits,
- 7° benefits payable on lapse,
- 8° surrender or other contingencies;
- 9° and administrative expenses, investment management expenses and claims management expenses.

In determining the current estimate of the present value of future cash flows, an insurer shall exclude:

- 1° income tax payments and receipts;
- 2° cash flows arising from future policies; and
- 3° investment returns from current or future investments, except returns related to long-term life insurance policies where future investment returns may affect the benefits payable to policyholders.

For life insurance policies, future cash flows may include non-guaranteed or discretionary benefits, and the uncertainty around such future cash flows shall be

incorporated in the probability weightings that are applied to arrive at the current estimate.

Article 37: Unbiased current assumptions

Assumptions used in determining the current estimate shall be based on relevant and credible experience as well as professional judgment about the future direction of such experience.

Valuation assumptions shall be reviewed at each valuation period, with appropriate adjustments to reflect new data or current conditions.

The observable data which are expected to change for each valuation date shall be updated according to their corresponding assumptions.

Non-economic assumptions related to insurance risks shall be supported by the insurer's own historical experience and relevant industry experience if applicable and available. If the insurer's own experience is minimal the assumptions shall be based on industry experience.

In the event that industry experience is unavailable as a basis for a particular variable or assumption, the Central Bank may prescribe assumptions to be used for the valuation of liabilities for determining the CAR.

An insurer shall report to the Central Bank at least annually during the parallel running period on the assumptions used in valuing its liabilities for capital adequacy purposes, and include details of the relevant experience and analysis used to set each assumption.

A life insurer shall submit an actuarial report on an annual basis during the parallel running period to support the liability valuation and corresponding calculations and assumptions.

Article 38: Embedded options and guarantees

The calculation of the current estimate and risk margin shall explicitly include any embedded policyholder options or guarantees. This might include, inter alia:

- 1° guaranteed minimum benefits,
- 2° guaranteed interest rates,
- 3° or the option to renew the policy at a guaranteed premium rate.

The insurer may use any appropriate method to value such options, subject to approval by the Central Bank.

Article 39: Valuation of interest rates

An insurer shall determine appropriate valuation interest rates for the purpose of calculation of the present value of cash flows.

The valuation interest rate (or set of rates) may vary by class of business, if the assets supporting each class of business are administered in separate accounts or funds and are clearly identified as such.

For each separate fund, the valuation interest rate or rates shall be determined taking into consideration the following:

- 1° the projected gross rate of return on the assets held in the fund at the valuation date;
- 2° a reasonable transition from the current gross yield to a future expected fund yield over a period not to exceed 10 years, incorporating assumptions for reinvestment and disinvestment that are consistent with the insurer's current investment policy and the projected future cash flows at the valuation date;
- 3° an expected "new money" rate of return on assets acquired after the valuation date, for future expected net cash flows that are positive. The expected new money rate for the first year shall be consistent with current available market yields and grade downwards, or upwards, shall the situation ever apply, over a period not to exceed 10 years, to an ultimate level of 5%;
- 4° an expected capital gain or loss on assets sold after the valuation date, for future expected net cash flows that are negative; and
- 5° adjustments to the projected gross yields for asset defaults, investment expenses (if not included in the liability cash flows), and income tax.

Additional restrictions for determining expected yields and reinvestment rates may be specified periodically by the Central Bank and may include:

- 1° a maximum expected rate of return for property and real estate investments;
- 2° a maximum expected rate of return for equity investments (including dividends, capital growth and maturity proceeds); and
- 3° revisions to the ultimate new money rate for reinvestments (currently set at 5% above).

Section 3: Valuation of General Insurance Liabilities

Article 40: Premium liability for general insurance business

An insurer shall determine the premium liability for each sub-class of general insurance business as the greater of the unexpired risk reserve (URR), calculated using the valuation requirements specified in this Chapter and including an

appropriate risk margin, and the unearned premium reserve (UPR) carried in the balance sheet.

The UPR may be calculated using any appropriate pro rata method approved by the Central Bank, and shall be adjusted for reinsurance ceded consistent with the insurer's balance sheet report.

Article 41: Unexpired risk reserve (URR) for general insurance business

An insurer shall determine the current estimate for the unexpired risk reserve using an actuarial method that quantifies the total future unexpired risks for all policies currently in force.

The current estimate is calculated as the present value of the expected future cash flows arising from future insured risks, for policies that are in force on the valuation date.

Cash flows used in the determination of the URR include:

- 1° expected claim payments on future claims;
- 2° assumptions for claims settlement expenses;
- 3° and adjustments for premiums refunds during the unexpired risk period.

For some products where premiums or contributions are made monthly, the calculated UPR may be minimal.

The calculation of the URR for such products shall consider the present value of future cash flows for the expected remaining term of the contract.

These cash flows shall include future cash inflows (premiums or contributions), as well as future claim payments and expenses. The remaining term of the contract is considered the period for which the current premium or contribution rates are guaranteed.

Article 42: Claims liabilities for general insurance business

An insurer shall calculate the claims liability for each sub-class of general insurance business by determining a current estimate of the liability and an appropriate risk margin. The current estimate is calculated as the present value of future cash flows relating to claims that have been incurred prior to the valuation date.

In calculating the current estimate, an insurer shall take into account all future payments related to claims incurred as of the valuation date, which are but not limited to:

- 1° claims reported but not yet paid;

- 2° claims incurred but not reported;
- 3° claims-related expenses.

When determining the current estimate of the claims liability, an insurer shall make appropriate assumptions for claims escalation caused by wage or price increases, court-awarded interest, and other economic causes.

Current estimates for claims under litigation shall reflect the probability and amounts for all possible outcomes.

The Central Bank may prescribe minimum levels for claims liabilities, if needed, to ensure that technical provisions are set at an adequate level for all classes of business across the industry.

Article 43: Risk margins for general insurance liabilities

Risk margins for general insurance liabilities shall be included in the determination of the premium liabilities and claims liabilities to cover uncertainty relating to insurance risks.

Risk margin factors are applied as a percentage of the current estimate, and the resulting risk margin is added to the current estimate to arrive at the total liability amount.

Minimum risk margin factors are prescribed for each category to ensure that liabilities are determined on a consistent basis in the industry. An insurer may apply higher risk margin factors if indicated based on an appropriate actuarial analysis.

The required minimum risk margin factors for general insurance liabilities are specified in **Appendix 12**.

Article 44: Valuation of interest rates for general insurance liabilities

The current estimate liabilities for general insurance business shall be determined on a present value basis, using the valuation interest rate(s) as determined following the prescribed principles and methodology from article 55 of this Directive. For general insurance business, an insurer may choose to use undiscounted liabilities for the purpose of determining the CAR, as this would be more conservative.

Section 4: Valuation of life insurance liabilities

Article 45: Calculation of the current estimate for life insurance liabilities

A life insurer shall calculate the current estimate for each sub-class and product type of life insurance liabilities using the valuation basis specified in **Appendix 13**.

In determining the correct calculations for each valuation basis, the following principles shall be applied:

- 1° the current fund value for a policy is defined as the policy's fund value as of the valuation date, including all guaranteed deposits and interest credited or accrued as of the valuation date;
- 2° the unearned premium reserve (UPR) may be determined using an appropriate pro rata method approved by the Central Bank, consistent with the insurer's financial reporting practices;
- 3° the outstanding claims reserve shall take into account all future payments related to claims incurred as of the valuation date, including claims reported but not yet paid, and claims incurred but not reported;
- 4° the present value of all guaranteed benefits shall be determined as the probability-weighted present value of all guaranteed cash flows for the duration of the insurance contract, using the valuation interest rate as specified in article 49;
- 5° the present value of future projected bonuses shall be determined using unbiased current assumptions as to future cash flows for all guaranteed and non-guaranteed benefits. Projected future bonuses shall reflect the policyholder's reasonable expectations for future bonuses and dividends to be credited to the policy as well as any contractual guarantees.

Relevant assumptions required for determining the guaranteed benefits and future cash flows for life insurance liabilities include:

- 1° mortality rates;
- 2° morbidity (disability) and recovery rates;
- 3° policy lapse rates;
- 4° surrender rates and surrender charges;
- 5° expenses and expense inflation;
- 6° exercise of policyholder options, such as voluntary contributions;
- 7° projected future bonus rates on participating policies; and
- 8° future premium rates, where future premiums are not explicitly determined at the inception of the contract.

Article 46: Policy guarantees

Valuation of the liability for life insurance products that include guaranteed interest rates, minimum guaranteed investment returns or guaranteed minimum dividends, shall include a determination of the corresponding liability related to such guarantees.

Appropriate valuation of guarantees may require the use of stochastic or simulation techniques, although deterministic methods may be acceptable at the discretion of the Central Bank.

Article 47: Participating business

Liabilities for participating life insurance business shall include a determination of the liability for future discretionary benefits, including non-guaranteed policyholder dividends and bonuses. Discretionary benefits shall be valued separately from guaranteed benefits.

Article 48: Risk margins for life insurance liabilities

A life insurer shall determine a risk margin for each sub-class and product type of life insurance business using the method and risk margin factors as specified in **Appendix 13**.

For life insurance products that are included in a sub-class with a factor-based risk margin, the risk margin is determined as the product of the current estimate and the applicable risk margin factor.

For life insurance products included in a sub-class that requires an assumption-based risk margin calculation, the risk margin is determined as the difference between the liability calculated using the current estimate assumptions and the liability value calculated by adjusting the current estimate assumptions using the risk margin factors specified in column 7 of **Appendix 13**.

Minimum risk margin and risk margin stress factors are prescribed in **Appendix 13** to ensure that liabilities are determined on a consistent basis in the industry.

An insurer may apply higher risk margin factors if indicated based on an appropriate actuarial analysis. The appointed actuary for each life insurer shall conduct a periodic analysis to determine the adequacy of the risk margins given the nature, scale and complexity of the life insurer's business.

Article 49: Valuation of interest rates for life insurance

A life insurer shall determine present values for life insurance liabilities by discounting cash flows using the valuation interest rate(s) as determined following the prescribed principles and methodology from article 40.

A life insurer shall determine a valuation interest rate curve, that is, a full term structure of interest rates, rather than a single discount rate.

An insurer shall value the liabilities for participating policies using a valuation interest rate curve determined from assets in a separate fund that is clearly designated as supporting the participating insurance business, as this has an impact on the valuation of future policyholder bonuses and dividends.

The Central Bank may prescribe additional guidelines for determining the valuation interest rate assumption for life insurance business.

CHAPTER VII: LIQUIDITY RISK

Article 50: Liquidity risk stress test

An insurer shall assess its liquidity risk on a periodic basis, but at minimum every three (3) months, using the stress test calculations specified in article 52.

An insurer shall report the results of the liquidity risk stress test to the Central Bank on a quarterly basis.

The liquidity test may take the form illustrated in **Appendix 10**.

The Central Bank has the power to impose requirements that are more stringent as a supervisory intervention for insurers that demonstrate higher levels of liquidity risk.

Article 51: Liquidity risk stress test calculations

An insurer shall determine liquidity requirements for each financial period specified in article 46 by calculating projected cash flows for the following:

- 1° future income, based on expected premium receipts and investment income;
- 2° future expenses, including claims and benefits payments (which for life business, shall also include expected values for maturity payouts and policy surrenders), legal costs, administration and management expenses, commissions and any other known expenses;
- 3° a 10% margin on future expenses; and
- 4° net cash flow, determined as future income less (future expenses plus the margin calculated in (c)).

An insurer shall test its liquidity requirements for each future period by calculating the difference between the net cash flow as determined above and the value of available liquid assets, calculated as specified in article 52 of this Directive.

Available liquid assets are reduced by the calculated net cash flow requirement; excess available liquid assets are carried forward to the next period.

Article 52: Available liquid assets

Available liquid assets to be included in the stress test calculations include:

- 1° cash and cash equivalents;
- 2° short-term investments, such as bank deposits and treasury bills;
- 3° government and corporate bonds;
- 4° listed equity investments; and
- 5° any other assets that can reasonably be expected to be sold at full value within the given time horizon.

Commercial mortgages, private placements, property and real estate, investments in subsidiaries, unlisted and/or unrated debt and equity investments, and intangible assets shall not be considered available liquid assets in the stress test calculation.

The asset values to be used in the stress test calculations shall reflect the value of each asset, net of selling expenses, that can be realised within the given projection timeframe, which may be less than the current market value or book value.

Article 53: Minimum projection period

An insurer shall perform the liquidity risk stress test calculations specified in article 52 for the following future projection periods:

- a. monthly, for at least the first 3 months following the calculation date;
- b. quarterly, for at least 3 quarters following the end of the monthly projections; and
- c. annually thereafter, for a minimum of 1 year.

If the Central Bank or the insurer's board of directors identify any liquidity concerns, the Central Bank may require an insurer to perform the liquidity risk stress test calculations using shorter intervals than those prescribed above.

The Central Bank may also require an insurer to perform the liquidity risk stress test calculations for a longer total projection period than the prescribed minimum.

Article 54: Compliance requirements

An insurer is required to:

- 1° report to the Central Bank and immediately address any projected liquidity shortfall within the first 3 months; and
- 2° resolve any projected liquidity shortfall in the remainder of the year prior to the next quarterly reporting period.

CHAPTER VIII: ENTERPRISE RISK MANAGEMENT (ERM) FOR SOLVENCY PURPOSES

Article 55: Enterprise risk management framework and risk-based capital adequacy requirements

Without prejudice to other legal and regulatory requirements on risk management as may be specified in relevant Laws and Regulations, an insurer shall establish a specific enterprise risk management policy as part of its overall corporate governance framework.

If an insurer has established an ERM policy, the insurer shall also comply with articles in this section as they relate to the insurer's capital adequacy and capital management strategy.

The insurer's enterprise risk management framework shall include a risk management policy, which outlines the relationship between:

- 1° the insurer's risk tolerance;
- 2° the regulatory capital adequacy requirement;
- 3° the insurer's economic (internal) risk capital target; and
- 4° the insurer's methods for monitoring risks.

Article 56: Use of internal models for ERM

An insurer may use an internal model to evaluate the adequacy of the insurer's risk management process and any threats of expected impacts on its future solvency position. Such an internal model shall be integrated with ERM practices in the organisation.

The insurer's internal model may be used to supplement the required risk-based capital adequacy calculations that are required under this Directive. Internal models may be used to assess compliance with regulatory capital requirements provided that they are calibrated to the same level of confidence as the regulatory capital adequacy framework, subject to review and approval by the Central Bank.

An insurer may also choose to set an internal risk capital target that is greater than the prescribed capital adequacy requirement, corresponding to its risk tolerance and current business strategy.

The Central Bank may develop additional guidance for the use of internal models.

CHAPTER IX: DYNAMIC SOLVENCY TESTING FOR PUBLIC INSURANCE SCHEMES

Article 57: Dynamic solvency testing for public insurance schemes

A public insurer shall perform additional stress testing or scenario testing to evaluate capital adequacy over a longer time horizon. This stress testing may be incorporated into the public insurer's ERM framework, if applicable.

Evaluation of capital adequacy for public insurance schemes shall include an assessment of long-term viability and solvency, including future projections of the following:

- 1° enrolment levels;
- 2° contributions;
- 3° claims;

- 4° investment income; and
- 5° expenses.

This assessment shall include stress testing the projections under adverse scenarios. The principle objective of this assessment is to identify possible threats to the financial condition of the public insurer as well as corrective actions to mitigate those threats.

This assessment shall be performed by a qualified technical expert, such as an actuary, a minimum of once every three years.

The results of the testing shall be reported to the board of directors of the public insurer and to the Central Bank.

Where a public insurer is allowed to underwrite private health insurance schemes on a group basis, funds for public insurance schemes and private insurance clients shall be maintained separately. The dynamic solvency assessment is only required to be performed on the business that pertains to the public insurance schemes, and is not required for private insurance business.

Article 58: Steps of dynamic solvency assessments

The dynamic solvency assessment shall include the following steps:

- 1° develop a forecast model using a base scenario, which projects the financial condition of the insurance scheme, including all relevant components, for a minimum of ten (10) years;
- 2° identify potential risk categories that could adversely impact the surplus position of the insurance scheme, and generate a minimum of three (3) stress scenarios that reflect these risks;
- 3° project the financial condition of the insurance scheme based on the stress scenarios and analyse the overall impact on surplus and profitability, including the need for corrective management actions; and
- 4° identify appropriate corrective actions, in terms of required action and level of intervention required, and test the results using the stress scenarios to ensure the corrective actions effectively mitigate the stress on surplus.

Additional standards and guidelines may be prescribed by the Central Bank as needed.

CHAPTER IX: MISCELENIIOUS AND FINAL PROVISIONS

Article 59: Application on legal entity basis

The capital adequacy calculations required under this Directive shall be determined solely on a legal entity basis, and apply solely to the insurance business that is domiciled in Rwanda.

For insurers that are part of larger insurance groups or cross-border financial groups, investments in related parties that are insurance companies or other regulated financial institutions, whether domiciled in Rwanda or elsewhere, are considered inadmissible assets for the purpose of determining the TAC.

Article 60: Parallel requirements

An insurer shall comply with requirement of this Directive in parallel with the solvency margin requirement under Regulation N°05/2009 of 29/07/2009 on licensing requirements and other requirements for carrying out insurance business.

Article 61: Reporting requirements

Reporting templates for the purpose of reporting data and information required under this Directive shall be accessed to the Central Bank website portal or submitted to the insurer by the Central Bank.

Required reports shall be submitted on quarterly basis within 15 days of the following month. First reports shall be submitted using data of January 2019.

The non-compliance with the reporting requirements and within the set deadlines is punishable with the administrative and pecuniary sanctions provided for in relevant regulations and Directives.

Article 62: Non-compliance with capital adequacy requirements

During the parallel requirements phase, an insurer that does not maintain the Prescribed Capital Adequacy Ratio (PCAR) in accordance with the provisions of this Directive shall within 60 days submit a plan for achieving compliance with the relevant RBC requirements, for the approval of the Central Bank.

If an insurer is unable to provide an acceptable plan, the Central Bank may direct the insurer to take such actions, as it considers necessary to achieve compliance with the relevant RBC requirements by not later than the full compliance date.

The Central Bank may require an insurer to report on its progress in achieving compliance with the relevant RBC requirements. If in the opinion of Bank the insurer is not making sufficient progress, then the Central Bank may take additional enforcement actions as provided for by the Law.

On and from the full compliance date, the Central Bank shall fully apply the interventions and penalties available for non-compliance with the relevant RBC requirements.

Article 63: Deficiencies in reporting

During the parallel reporting phase, the Central Bank shall notify an insurer if it considers that submitted reports are incomplete, erroneous, or otherwise deficient.

An insurer so notified shall within 15 days of notification submit completed reports.


Article 64: Abrogation of previous provisions

All previous provisions contrary to this Directive are hereby abrogated.

Article 65: Entry into force

This Directive comes into force on the day of its signature .

Kigali, on ~~26~~10/2018


RWANGOMBWA John
Governor



Appendix 1: Asset default risk charge factors

Asset Class	Asset Type	International Credit Rating	Capital Risk Charge Factor	National Credit Rating*	Capital Risk Charge Factor*
Debt securities issued or fully guaranteed by a government or the central bank or guaranteed by a recognised multilateral agency [consider differentiating between those in local or foreign currency]	Debt securities issued or fully guaranteed by the government of Rwanda		0%		
	Debt securities issued or fully guaranteed by a government or central bank	Sovereign risk rating of B or higher	0%		
	Debt securities guaranteed by a recognised multi-lateral development bank or agency	A or higher	0%		
Investments in corporate debt securities that are listed on a Rwanda Stock Exchange (bonds, debentures and other long-term debt obligations)					1.40%
Investments in corporate debt securities that are listed on any other recognised stock exchange		AA or higher	1.60%	AA or higher	4.00%
		A	4.00%	A	8.00%

(bonds, debentures and other long-term debt obligations)	BBB	8.00%	BBB	15.00%	
	BB	15.00%	BB or lower	20.00%	
	B or lower	20.00%			
	Unrated	25.00%	Unrated	25.00%	
Investments in unlisted corporate debt securities	20.00%				
Short-term debt obligations such as commercial paper and preferred shares	A1, P1 (or equivalent)	1.60%	A1, P1 (or equivalent)	4.00%	
	A2, P2 (or equivalent)	4.00%	A2, P2 (or equivalent)	8.00%	
	A3, P3 (or equivalent)	8.00%	A3, P3 (or equivalent)	15.00%	
	Unrated	15.00%	Unrated	15.00%	
Deposits with a licensed commercial bank or a licensed and regulated financial institution	Term deposits with a term greater than 3 months	AA or higher	0%	AA or higher	0%
		A	0%	A	0%
		BBB	0%	BBB	0%
		BB	0%	BB or lower	0%
		B or lower	0%		
		Unrated	0%	Unrated	0%
	Demand deposits, certificates of deposit and similar obligations with a term less than 3 months		0%		

Debt investments in related parties (affiliates and subsidiaries) that are not prudentially regulated financial institutions	15.00%		
Cash and cash equivalents	0.0%		
Loans and receivables, other than reinsurance receivables and policy loans, overdue for 6 months or less	15%		
Outstanding premium from Government institutions and NGOs (less than 60 days)	15%		
Policy loans (long-term life insurance policies only)	15%		
Investment income due and accrued (if not included in asset value)	2%		
Mortgages secured by residential property	5.0%		
Mortgages secured by commercial property	15%		

* National credit ratings may be used for assets or counterparties rated by licensed credit rating agencies in Rwanda, Kenya, Ghana, Nigeria and Uganda. Risk capital charges applicable to national credit ratings for other countries may be set by the Central Bank from time to time.

Appendix 2: Reinsurance capital risk charge factors

	International Credit Rating of Reinsurer (claims-paying basis)	Capital Risk Charge Factor
Reinsurance exposure	AA or higher	1.60%
	Locally regulated reinsurer or mandatory reinsurer	1%
	A	4.00%
	BBB	8.00%
	BB	10.00%
	B or lower (with approval of the Central Bank)	25.00%
	Unrated (with prior approval of the Central Bank)	50.00%
	Unrated	100.00%

Appendix 3: Investment concentration limits

Asset Class or Risk	Total Portfolio Limit			Single Issuer/ Counterparty Limit	Single Security Limit
	General insurers	Life Insurers	Public Health Insurers		
Cash and bank deposits	70%	50%	70%	15%	n/a
Government securities	100%	100%	100%	n/a	n/a
Corporate debt securities (excluding related party debt)	50%	60%	60%	10%	5%
Total equity investments	20%	40%	30%	10%	5%
Unlisted equity investments	10%	10%	10%	5%	5%
Total property investments	10%	30%	30%	20%	20%
Property held for own use	10%	20%	20%	20%	20%
Investments in related parties	10%	10%	10%	7.5%	5%
Investments held outside Rwanda	20%	20%	10%	10%	5%
Derivative securities	Subject to approval by the Central Bank				

Appendix 4: Equity risk charge factors

Asset Class	Asset Type	Risk Capital Charge Factor
Equities	Listed equities	25%
	Unlisted equities	35%
	Equity investments in related parties (affiliates and subsidiaries) that are not prudentially regulated financial institutions	35%
Unit trusts	Any combination of equities and debt securities ¹	20%

Appendix 5: Property risk charge factors [property means real estate]

Asset Class	Asset Type	Risk capital charge factor
Property	Property held for own use	20%
Investments	For Commercial purpose or in related party	30%

¹ Unit trusts that are 100% invested in equities shall be treated as equities; unit trusts that are 100% invested in debt securities shall be treated as debt securities with the relevant asset default factors applied.

Appendix 6: Interest rate risk charge calculation

Scenario	Value of Assets	Value of Liabilities	Surplus
Base scenario – assets and liabilities valued as for risk-based balance sheet	A_0	L_0	S_0
Up shock – assets and liabilities valued assuming market interest rates increase by 150 basis points	A_1	L_1	S_1
Down shock – assets and liabilities valued assuming market interest rates decrease by 150 basis points	A_2	L_2	S_2
Interest rate risk capital charge			Maximum of $\{S_0 - S_1, S_0 - S_2, 0\}$

Appendix 7: Foreign currency risk charge factors

Foreign Exchange Exposure (converted into RWF)	Risk Capital Charge Factor (assets greater than liabilities)	Risk Capital Charge Factor (assets less than liabilities)
Net open position – USD	0.25%	2.50%
Net open position – EUR	2.50%	5.75%
Net open position – KES	2.50%	3.50%
All other currencies	4.00%	6.00%

Appendix 8: General insurance liability risk charge factors

Business Category	Products Included	Premium	Claims
		Liability Risk Capital Charge Factor	Liability Risk Capital Charge Factor
High Volatility	Property/Fire IARDT (combined risks) Engineering Guarantee	40%	35%
Medium Volatility	Liability (all except motor, including medical liability) Transportation/Marine Workmen's Compensation Miscellaneous	35%	30%
Low Volatility	Motor (all products, including comprehensive and motor liability) Accident and Health Medical (including medical benefits and services, not liability coverage)	30%	25%

APPENDIX 9: Risk capital charges for life insurance

Individual/ Group	Par/ Non- par	Policy Type	Product Types	Risk Capital Charge Method	Risk Capital Charge Factor	Stress Scenario Factors
Individual	Non- par	Savings, with death benefits	Individual/Personal Pension Plans with death benefits; Individual Education Plans (savings/ endowment phase)	Assumption-based	n/a	Mortality rates +20%; Lapse rates +/-40%; renewal expenses +20%
		Savings, with no guarantees or death benefits	Individual/Personal Pension Plans with no death benefits	Factor-based	7.50%	n/a
		Individual credit life	Loan protection, mortgage protection	Factor-based	15.00 %	n/a
		Individual term life	Funeral coverage (short-term renewable, with policy term 1 yr. or	Factor-based	15.00 %	n/a

			less)			
			All other non-par term life products	Assumption-based	n/a	Mortality rates +20%; Lapse rates +/-50%; renewal expenses +20%
		Annuity/ pay-out benefits	Pension annuity benefits (paid as annuity not as lump sum)	Assumption-based	n/a	Mortality rates -30%
			Education annuity benefits (pay-out phase of education policy)	Assumption-based	n/a	Mortality rates -30%; Lapse rates +/- 40%
Individual	Par	Savings, with no guarantees or death benefits	Individual/Personal Pension Plans with no death benefits	Factor-based	7.50%	n/a
		Savings, with death benefits	Individual/Personal Pension Plans with death benefits; Individual Education Endowment	Assumption-based	n/a	Mortality rates +20%; Lapse rates +/- 40%; renewal expenses +20%

			Plans (savings phase)			
		Individual term life	Term life policies with bonuses or dividends	Assumpti on-based	n/a	Mortality rates +20%; Lapse rates +/- 40%; renewal expenses +20%
		Individual whole life	Traditional whole life; endowments (with bonus dividends); all other individual par products	Assumpti on-based	n/a	Mortality rates +20%; Lapse rates +/- 40%; renewal expenses +20%
Group	Non-par	Savings, with no guarantees or death benefits	Group pension plans, with no death benefits	Factor-based	7.50%	n/a
		Savings, with death benefits	Group pension plans, with death benefits	Assumpti on-based	n/a	Mortality rates +20%; Lapse rates +/- 40%; renewal expenses +20%
		Group credit life	Loan protection,	Factor-based	15.00 %	n/a

			mortgage protection, bancassurance			
		Group term insurance	Short-term renewable group life insurance; any other group term insurance	Factor-based	15.00 %	n/a
Group	Par	Savings, with no guarantees or death benefits	Group pension plans, with no death benefits	Factor-based	7.50%	n/a
		Savings, with death benefits	Group pension plans, with death benefits	Assumption-based	n/a	Mortality rates +20%; Lapse rates +/- 40%; renewal expenses +20%

Appendix 10: Liquidity risk stress test

Period	Month 1	Month 2	Month 3	Quarter 2	Quarter 3	Quarter 4	Year 2
Income	I1	I2	I3	I4	I5	I6	I7
Expenses (incl. claims)	E1	E2	E3	E4	E5	E6	E7
Margin	10%	10%	10%	10%	10%	10%	10%
Net cash flow	$N1 = I1 - E1 \times 110\%$	N2	N3	N4	N5	N6	N7
Liquid assets	A1	A2	A3	A4	A5	A7	A7
Shortfall	$N1 - A1$	$N2 - A2$	$N3 - A3$	$N4 - A4$	$N5 - A5$	$N6 - A6$	$N7 - A7$

Appendix 11: Asset valuation basis

Asset Class	Valuation Basis
Government securities and government guaranteed securities	If the insurer treats as “hold to maturity” under IFRS, then use amortised book value; otherwise use market value, where market value is determined as the most recent quoted buying price
Corporate debt securities that are listed on a recognised stock exchange	If the insurer treats as “hold to maturity” under IFRS, then use amortised book value; otherwise use market value, where market value is determined as the most recent quoted buying price
Unlisted corporate debt securities	Amortised book value
Short-term debt obligations such as commercial paper and preferred shares	Market value, where market value is determined as the most recent quoted buying price
Interest bearing deposits	Principal value of the deposit, plus accrued interest
Ordinary shares of a company listed on a stock exchange	Market value
Unlisted shares	Estimated realisable value, consistent with that used for IFRS financial statements
Unit trusts	Market value if available, otherwise use estimated realisable value, consistent with that used for IFRS financial statements
Property (both own use and investment property)	Estimated realisable value, based on a recent estimate by a qualified property appraiser approved by the Central Bank, and consistent with the value used for IFRS financial statements
Cash and cash equivalents	Actual amount

Loans and receivables, other than reinsurance receivables, overdue for 6 months or less	Net amount receivable
Outstanding premium	Net amount receivable
Policy loans (life insurers only)	Net amount receivable
Investment income due and accrued (if not included in asset value)	Net amount due
Net amounts receivable from reinsurers	Net amount receivable after deducting provisions for bad and doubtful debts
Mortgages loans on immovable property	Estimated realisable value, consistent with that used for IFRS financial statements

APPENDIX 12: Risk margins for general insurance

Business Category	Products Included	Premium Liability	Claims Liability Risk Margin
High Volatility	Property/Fire IARDT (combined risks) Engineering Guarantee	25%	20%
Medium Volatility	Liability (all except motor, including medical liability) Transportation/Marine Workmen's Compensation Miscellaneous	20%	15%
Low Volatility	Motor (all products, including comprehensive and motor liability) Accident and Health Medical (including medical benefits and services, not liability coverage)	15%	12%

APPENDIX 13: Valuation basis and risk margins for life insurance

Individual/ Group	Par/ Non- par	Policy Type	Product Types	Valuation Basis for Current Estimate	Risk Margin Basis	Risk Margin Factors
Individual	Non- par	Savings, with death benefits	Individual/ Personal Pension Plans with death benefits; Individual Education Plans (savings/ endowment phase)	Maximum of current fund value and present value of all guaranteed benefits	Risk margin determin ed by applying stress factors to assumpti ons	Mortality rates +10%; Lapse rates +/- 20%; renewal expenses +10%
		Savings, with no guarante es or death benefits	Individual/ Personal Pension Plans with no death benefits	Current fund value, including accrued interest	Risk margin factor x current estimate	3%
		Individual credit life	Loan protection, mortgage protection	UPR + outstanding claims reserve	Risk margin factor x current estimate	7%
		Individual term life	Funeral coverage (short-term renewable,	UPR + outstanding claims reserve	Risk margin factor x current	7%

			with policy term 1 yr. or less)		estimate	
			All other non-par term life products	Present value of all guaranteed benefits	Risk margin determin ed by applying stress factors to assumpti ons	Mortality rates +10%; Lapse rates +/- 20%; renewal expenses +10%
		Annuity/ pay-out benefits	Pension annuity benefits (paid as annuity not as lump sum)	Present value of all guaranteed benefits	Risk margin determin ed by applying stress factors to assumpti ons	Mortality rates -20%
			Education annuity benefits (pay-out phase of education policy)	Present value of all guaranteed benefits	Risk margin determin ed by applying stress factors to assumpti ons	Mortality rates -20%; Lapse rates +/- 20%
Individu al	Par	Savings, with no guarante	Individual/ Personal Pension	Current fund value, including	Risk margin factor x	3%

		es or death benefits	Plans with no death benefits	accrued interest, plus present value of projected future bonuses	current fund value	
		Savings, with death benefits	Individual/ Personal Pension Plans with death benefits; Individual Education Endowment Plans (savings phase)	Maximum of current fund value and present value of all guaranteed benefits plus projected value of future bonuses	Risk margin determined by applying stress factors to assumptions	Mortality rates +10%; Lapse rates +/- 20%; renewal expenses +10%
		Individual term life	Term life policies with bonuses or dividends	Present value of all guaranteed benefits plus projected value of future bonuses	Risk margin determined by applying stress factors to assumptions	Mortality rates +10%; Lapse rates +/- 20%; renewal expenses +10%
		Individual whole life	Traditional whole life; endowment plans (with bonus	Present value of all guaranteed benefits plus	Risk margin determined by applying	Mortality rates +10%; Lapse rates +/- 20%; renewal

			dividends); all other individual par products	projected value of future bonuses	stress factors to assumpti ons	expenses +10%
Group	Non- par	Savings, with no guarante es or death benefits	Group pension plans, with no death benefits	Current fund value, including accrued interest	Risk margin factor x current fund value	3%
		Savings, with death benefits	Group pension plans, with death benefits	Maximum of current fund value and present value of all guaranteed benefits	Risk margin determin ed by applying stress factors to assumpti ons	Mortality rates +10%; Lapse rates +/- 20%; renewal expenses +10%
		Group credit life	Loan protection, mortgage protection, bancassura nce	UPR + outstanding claims reserve	Risk margin factor x current estimate	7%
		Group term insuranc e	Short-term renewable group life insurance; any other group term insurance	UPR + outstanding claims reserve	Risk margin factor x current estimate	7%

Group	Par	Savings, with no guarantees or death benefits	Group pension plans, with no death benefits	Current fund value, including accrued interest, plus present value of projected future bonuses	Risk margin factor x current fund value	3%
		Savings, with death benefits	Group pension plans, with death benefits	Maximum of current fund value and present value of all guaranteed benefits plus projected value of future bonuses	Risk margin determined by applying stress factors to assumptions	Mortality rates +10%; Lapse rates +/- 20%; renewal expenses +10%