Multinational

Financial Condition Report as at 31 December 2024

Prepared by

Alexander Forbes Consulting Actuaries Nigeria

March 2025

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1. EXECUTIVE SUMMARY

1.1. This Financial Condition Report ("FCR") for Stanbic IBTC Insurance Limited ("Stanbic") was conducted as at 31 December 2024.

1.2. This report is prepared solely for the purpose of providing an overview of the current financial condition of the insurer. The report also discusses the adequacy of the company's capital resources in meeting its contracted obligations, especially if adverse situations arise.

1.3. We understand that this report will form part of the submissions to NAICOM. This report is not to be used for any other purpose other than that described above and should not be distributed to any other parties other than the Stanbic management and NAICOM.

Data

1.4. In carrying out this exercise, we have relied extensively on data supplied by the Company. Reliance was placed on, but not limited to, the accuracy of the following:

- Individual and Group policyholder data as at 31 December 2024 and
- Audited Financial statements as at 31 December 2024

1.5. The data was subjected to various checks for reasonability and completeness.

Business Performance

1.6. We carried out an analysis on the experience of the business as illustrated in the tables below.

Premium History

1.7. The Company's gross written premium for 2024, amounting to N16,8billion, experienced an increase of 15% compared to the figures reported for FY2023. Life annuities, which constitute 62% of the total gross written premium, remain the primary driver of premium income. Despite this, annuity premiums saw a year-over-year slight decrease of 3%, while individual business premiums increased significantly by 301% due to new business.

1.8. This change reflects the Company's strategic efforts to diversify the product portfolio.

Product Category	Amount N'000 2023	2024	%
Individual life traditional	455,725	1,829,334	301%
Annuity	10,809,269	10,472,948	-3%
Group Credit Life	636,234	849,377	34%
Group Life	2,733,021	3,685,511	35%
Total	**14,634,249**	**16,837,170**	**15%**

Table 1.1: Historical experience

Assets

1.1. The table below shows the breakdown of assets backing policyholders' liabilities as at 31 December 2024 with comparative figures from the previous period:

Asset class amount (Amount in N'000)	2023	%	2024	%	%Change
Cash and cash equivalents	1,786,783	6%	413,312	1%	-77%
Treasury Bills	2,494,173	8%	3,557,759	9%	43%
Bonds	27,679,314	85%	36,513,638	88%	32%
Reinsurance assets	468,202	1%	1,051,052	3%	124%
Total	**32,428,472**	**100%**	**41,535,761**	**100%**	**28%**

Table 1.2: Breakdown of Assets

1.2. The assets increased by about 28% in 2024.

1.3. The assets are heavily weighted towards bonds and money market instruments. This provides a good match by nature and currency of the liabilities profile. We note that there is limited investment in growth assets.

1.4. On balance, we are broadly satisfied with the asset spread backing the technical liabilities and recommend continuous assessment to ensure that the assets held match the liabilities carried by the Company.

Financial Condition

1.5. The table below illustrates the Company's capital adequacy over the period 2023 – 2024:

	Amount N'000	
	2023	2024
Reported Technical Reserves	30,900,206	39,942,123
Admissible Assets	32,132,828	41,296,428
Shareholder Funds	8,775,894	9,598,369
Balance Sheet Solvency Level	**128%**	**124%**
Minimum Required Solvency Capital (MSC)	2,000,000	2,354,046
Regulatory Capital Adequacy Ratio	**439%**	**408%**

Table 1.3: Company's capital adequacy over the period 2023 to 2024

1.6. Stanbic IBTC Insurance Limited is subjected to a minimum capital requirement of N2billion by the Insurance Act 2003 (Amended 2009). However, the regulator, NAICOM also mandates insurers to have a solvency margin of at least 15% of the net premium income. The solvency margin is the difference between the admissible assets and liabilities.

1.7. 15% of the net premium income for 2024 was NGN2,35. For the purpose of assessing the Company's capital adequacy, we have considered this amount as the Minimum Required Solvency Capital (MSC).

1.8. The company's available Shareholder Funds exceeded this MSC in the year 2024.

1.9. The balance sheet solvency level decreased slightly from 128% in 2023 to 124% in 2024. This is as a result of liabilities increasing at a rate that was higher than the growth in admissible assets in 2024.

1.10. The company currently maintains a strong capital position that exceeds existing regulatory requirements. However, recent regulatory communications suggest that substantial changes to capital regulations are likely. These anticipated regulatory changes should be borne in mind when capital management decisions are being made.

1.11. The following section details the capital needed on a Risk Based approach, recognizing the risk nature of the liabilities underwritten, especially annuities and the appropriateness of the assets backing them.

Economic Capital

1.12. We estimate the risk-based capital needed to support the insurer's business profile as at 31 December 2024 to be NGN2,72billion, which amounts to:

- 136% of the statutory minimum of ₦2,35 billion; and
- 28% of the available Shareholder capital of ₦9,60 billion

1.13. For each of the major risks to which the Company is exposed, the amount of capital required as at year end 2024 was calculated at 99.5% level of confidence, which is equivalent to the capital required for the company to survive a 1-in-200 event.

1.14. Put differently, ₦2,72billion is required to sustain the company should extreme events that are expected to occur once every 200 years happen. These would typically lead to large unexpected losses that could significantly affect the fortunes of the company.

1.15. The results are detailed in the table below:

Capital Requirement (NGN)	Sub module	2024	2023
Life Underwriting Risk	Mortality Risk	292,115,067	565,462,469
	Longevity Risk	326,084,628	140,290,304
	Disability/Morbidity Risk	-	-
	Life Expense Risk	2,861,222	6,388,305
	Surrender and lapse withdrawal Risk	183,654,562	393,653,301
	Catastrophe Risk	209,862,771	45,307,033
	Retrenchment	-	-
	SCR Pre-Div	**1,014,578,250**	**1,151,101,412**
	SCR Div Credit	**440,755,679**	**129,696,382**
	SCR	**573,822,571**	**1,021,405,030**
Market Risk	Interest Rate Risk	1,520,149,433	2,236,511,495
	Equity Risk	-	-
	Property Risk	-	-
	Spread Risk	-	-
	Currency Risk	-	-
	Concentration Risk	-	-
	Counterparty risk	319,351,015	351,226,529
	SCR Pre-Div	**1,839,500,448**	**2,587,738,024**
	SCR Div Credit	-	**-**
	SCR	**1,839,500,448**	**2,587,738,024**
BSCR	Undiversified BSCR	2,413,323,019	3,609,143,054

	Diversification Credit	354,000,878	801,486,134
	Diversified Basic SCR	2,059,322,141	2,807,656,920
	Operational risk	**665,477,328**	**64,152,900**
Final SF SCR		**2,724,799,469**	**2,871,809,820**
Shareholders' Funds		**9,598,369,000**	**8,775,894,000**
Percentage of Economic Capital		**352%**	**306%**

Table 1. 4: Risk-based Capital

Other Recommendations and Conclusion

1.16. We recommend that the Company focus on the implementation of strategies that will ensure that businesses are retained i.e improved persistency, increase new business volumes to reduce pressure on unit cost (acquisition and maintenance cost).

1.17. We recommend that the Company continue to focus on the asset liability matching; to reduce the impact of possible interest rate movements on the portfolio and improve the investment strategy to always optimise returns from the investment environment.

For and on behalf of Alexander Forbes Consulting Actuaries Nigeria

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2. INTRODUCTION

Purpose

2.1. This Financial Condition Report (“FCR”) for Stanbic IBTC Insurance Limited (“Stanbic”) was conducted as at 31 December 2024.

2.2. This report sets out an assessment of the criteria stipulated in the Guidance Note, GN2v1.1: Financial Condition Report issued by the Institute and Faculty of Actuaries to the extent relevant to Stanbic IBTC Ltd. for the year ended 31st December 2024. We also considered the draft Guidance Note GGN310.1 for insurance and reinsurance companies in Nigeria.

2.3. This report is prepared solely for the purpose of providing an overview of the current financial condition of the company. We understand that this report will form part of your submission to NAICOM. This report is not to be used for any other purpose other than that described above and should not be distributed to any other parties other than NAICOM.

Limitations

2.4. Because our assessment does not constitute either an audit or a review made in accordance with International Standards on Auditing or International Standards on Review Engagements (or relevant national standards or practices), we do not express any assurance on the financial statements, the financial conditions or the ability of the entity to continue as a going concern for the foreseeable future.

2.5. Our report has been prepared based on certain assumptions and is subject to certain limitations. These have been described in Appendix 1 - Reliance & Limitations.

3. BUSINESS OVERVIEW

Experience Analysis

3.1. We carried out an analysis on the experience of the business as illustrated in the tables below.

Premium History

3.2. The Company's gross written premium for 2024, amounting to N16,8billion, experienced a notable increase of 15% compared to the figures reported for FY2023. Life annuities, which constitute 62% of the total gross written premium, remain the primary driver of premium income. Despite this, annuity premiums saw a slight year-on-year decrease of 3%, while individual business premiums increased significantly by 301% due to new business.

3.3. This change reflects the Company's strategic efforts to diversify the product portfolio.

Product category	Amount N'000 2023	2024	% Change
Individual life traditional	455,725	1,829,334	301%
Annuity	10,809,269	10,472,948	-3%
Group credit life	636,234	849,377	34%
Group life	2,733,021	3,685,511	35%
Total	**14,634,249**	**16,837,170**	**15%**

Table 3.1: Performance Analysis

3.4. In order to improve profitability, we recommend the company to;

- Craft strategies to retain business, increase new business volumes and contain expenses
- New business can be increased by conducting regular and thorough market research. This is essential for understanding consumer behavior, aligning offerings with market demands and building trust among policyholders.
- Review the premium rates to ensure that they are both competitive and profitable in light of recent experience.

Distribution channels for existing and new products

3.5. Stanbic IBTC Insurance products are mainly distributed by the following channels:

- Brokers
- Agents
- Direct
- Facultative placements from other industry players.

3.6. Brokers are mainly engaged for the Group line of business consisting of Group Life Plans and Credit Life.

3.7. Agents re mainly engaged for individual line of business which include Annuity business, Endowment assurances, Term Assurance etc.

4. VALUATION OF ASSETS AND LIABILITIES

Technical Liabilities

4.1. A summary of Stanbic IBTS' policyholder liabilities and exposure as at 31 December 2024 and 31 December 2023 is tabulated below:

	2023 N'000	2024 N'000	% Change
Annuity	27,699,602	34,561,005	25%
Group Life	909,442	1,708,052	88%
Credit Life	840,080	1,282,947	53%
Life	489,582	1,802,392	268%
Other technical liabilities	961,501	587,727	-39%
Total	**30,900,207**	**39,942,123**	**29%**

Table 4.1: Policyholder liability and exposure summary

Assets

4.2. The table below shows the breakdown of assets backing the life business as at 31 December 2024:

Asset class amount (N'000)	2023	%	2024	%	%Change
Cash and cash equivalents	1,786,783	6%	413,312	1%	-77%
Treasury Bills	2,494,173	8%	3,557,759	9%	43%
Bonds	27,679,314	85%	36,513,638	88%	32%
Reinsurance assets	468,202	1%	1,051,052	3%	124%
Total	**32,428,472**	**100%**	**41,535,761**	**100%**	**28%**

Table 4.2: Breakdown of Assets

4.3. The assets have increased by about 28% in 2024.

4.4. The assets are heavily weighted towards bonds and money market instruments. This provides a good match by nature and currency for the liability profile. We note that there is limited investment in growth assets.

4.5. The table below shows the breakdown of assets relative to regulatory limits:

Asset Class Amount (N'000)	2024	%	Regulatory maximum	Compliance
Cash and cash equivalents	413,312	1%	No limit	Yes
Treasury Bills	3,557,759	9%	No limit	Yes
Bonds	36,513,638	88%	Min of 35%	Yes
Reinsurance assets	1,051,052	3%	No limit	Yes
Total	**41,535,761**	**100%**		**0%**

4.6. On balance, we are broadly satisfied with the asset spread backing the technical liabilities and recommend continuous assessment to improve the matching position.

5. FINANCIAL CONDITION AS AT 31 DECEMBER 2024

5.1. The table below illustrates the Company's capital adequacy over the period 2023 – 2024.

	N'000	
	2023	2024
Reported Technical Reserves	30,900,206	39,942,123
Admissible Assets	32,132,828	41,296,428
Shareholder Funds	8,775,894	9,598,369
Balance Solvency Level	**128%**	**124%**
Minimum Required Solvency Capital (MSC)	2,000,000	2,354,046
Regulatory Capital Adequacy Ratio	**439%**	**408%**

Table 5.1: Company's capital adequacy over the period 2023 to 2024

5.2. Stanbic IBTC Insurance Limited is subjected to a minimum capital requirement of N2billion by the Insurance Act 2003 (Amended 2009). However, the regulator, NAICOM also mandates insurers to have a solvency margin of at least 15% of the net premium income. The solvency margin is the difference between the admissible assets and liabilities.

5.3. 15% of the net premium income for 2024 was NGN2,35. For the purpose of assessing the Company's capital adequacy, we have considered this amount as the Minimum Required Solvency Capital (MSC).

5.4. The company's available Shareholder Funds exceeded this MSC in the year 2024.

5.5. Balance sheet solvency level decreased from 128% in 2023 to 124% in 2024. This is as a result of liabilities increasing at a rate that was higher than the growth in admissible assets in 2024.

5.6. The company currently maintains a strong capital position that exceeds existing regulatory requirements. However, recent regulatory communications suggest that substantial changes to capital regulations are likely. These anticipated regulatory changes should be borne in mind when capital management decisions are being made.

Solvency Capital Requirement

5.7. We have considered the technical liabilities in the current balance sheet and in the base projections above as best estimates as they have been computed on the basis of an even chance of occurrence. In unexpected adverse circumstances, the assets backing the liabilities may turn out to be insufficient to meet the emerging liabilities.

5.8. It is prudent and best practice for management to estimate the extent to which additional capital will be required to support the business should extreme events occur. This amount in essence quantifies the additional risks that the insurer faces in such cases, and is called the Economic Capital.

5.9. The key risks the Company is exposed to are underwriting risk, market risk, counterparty risk and operational risk. These are described in the Appendix 3 of this report.

5.10. For each of the major risks to which the Company is exposed, the amount of capital required as at year end 2024 was calculated at 99.5% level of confidence, which is equivalent to the capital required for the company to survive a 1-in-200 event.

5.11. Put differently, this is the capital required to sustain the company should extreme events that are expected to occur once every 200 years happen. These would typically lead to large unexpected losses that could significantly affect the fortunes of the company.

5.12. The results are detailed in the table below:

Capital Requirement (NGN)	Sub module	2024	2023
Life Underwriting Risk	Mortality Risk	292,115,067	565,462,469
	Longevity Risk	326,084,628	140,290,304
	Disability/Morbidity Risk	-	-
	Life Expense Risk	2,861,222	6,388,305
	Surrender and lapse withdrawal Risk	183,654,562	393,653,301
	Catastrophe Risk	209,862,771	45,307,033
	Retrenchment	-	-
	SCR Pre-Div	**1,014,578,250**	**1,151,101,412**
	SCR Div Credit	**440,755,679**	**129,696,382**
	SCR	**573,822,571**	**1,021,405,030**
Market Risk	Interest Rate Risk	1,520,149,433	2,236,511,495
	Equity Risk	-	-
	Property Risk	-	-
	Spread Risk	-	-
	Currency Risk	-	-
	Concentration Risk	-	-
	Counterparty risk	319,351,015	351,226,529
	SCR Pre-Div	**1,839,500,448**	**2,587,738,024**
	SCR Div Credit	-	**-**
	SCR	**1,839,500,448**	**2,587,738,024**
BSCR	Undiversified BSCR	2,413,323,019	3,609,143,054
	Diversification Credit	354,000,878	801,486,134
	Diversified Basic SCR	2,059,322,141	2,807,656,920
	Operational risk	**665,477,328**	**64,152,900**
Final SF SCR		**2,724,799,469**	**2,871,809,820**
Shareholders' Funds		**9,598,369,000**	**8,775,894,000**
Percentage of Economic Capital		**352%**	**306%**

Table 5. 2: Risk-based Capital

5.13. We estimate the risk-based capital needed to support the insurer's business profile as at 31 December 2024 to be NGN2,72billion, which amounts to:

- 136% of the statutory minimum of ₦2,35 billion; and
- 28% of the available Shareholder capital of ₦9,60 billion

5.14. We therefore conclude that the Company has sufficient capital to support its risk exposure.

6. RISK MANAGEMENT

6.1. We have reviewed the ERM Framework provided by management and believe that it effectively demonstrates a transparent governance structure, with clear allocation and segregation of responsibilities.

6.2. The Board holds ultimate responsibility for risk management within Stanbic IBTC and delegates oversight and management duties in alignment with the three lines of defense governance model.

6.3. The Three Lines Defense Model Stanbic IBTC recognize that clear accountability is fundamental in the management of enterprise risk. The “three lines of defense” governance model therefore distinguishes between:

- Functions owning and managing risks as part of their day-to-day activities (first line of defense)
- Functions overseeing risks and providing robust challenge to the management teams (second line of defense)
- Functions providing independent assurance (third line of defense).

The first line of defence

6.4. The first line of defence is the responsibility of Management to identify and manage risks whilst pursuing business opportunities within the Company’s risk appetite. This involves day to day effective risk management, in accordance with agreed risk policies, appetite and controls, at an operational level. Effective first line management includes the proactive self-identification of issues and risks (including emerging risks), the design implementation and ownership of appropriate controls, the associated operational control remediation, and a strong control culture of effective and transparent risk partnership.

The second line of defence

6.5. The second line of defence function concerns those responsible for independent oversight and assurance responsibilities. Their key function is to provide the first line of defence with the tools and infrastructure including frameworks and policies, to effectively manage their risks. In executing this, they will ensure appropriate understanding of business strategy and drivers to ensure that there is healthy deliberation in probe and challenge with a view of improving risk management capabilities and providing assurance over the adequacy of the first line of defence management controls. Specialist second line of defence oversight functions would also be subjected to independent oversight.

The third line of defence

6.6. The third line of defence provides independent oversight and assurance to the board and senior management on the effectiveness of the first and second lines of defence. This independent assurance is the responsibility of internal audit function and external auditors

7. OTHER RECOMMENDATIONS AND CONCLUSION

7.1. We estimated the risk-based capital needed to support the insurer's business profile as at 31 December 2024 to be NGN2,72billion, which amounts to:

- 136% of the statutory minimum of ₦2,35 billion; and
- 28% of the available Shareholder capital of ₦9,60 billion

7.2. We therefore conclude that the Company has sufficient capital to support its risk exposure.

7.3. We recommend that the Company focus on strategies to retain business, increase new business volumes and optimise expenses.

7.4. We recommend that the Company continue to focus on the asset liability matching and improve the investment strategy for each of the funds, to reduce the impact of possible interest rate movements on the portfolio.

7.5. We recommend that the Company take into consideration anticipated regulatory changes for effective capital management.

7.6. We are very grateful for the opportunity to conduct a Financial Condition assessment on the business and we would be happy to discuss all issues raised in this report.

For and on behalf of Alexander Forbes Consulting Actuaries Nigeria

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8. APPENDIX 1: RELIANCE & LIMITATION

Reliance

8.1. In carrying out this work we have relied upon the financial statements, business plans and other information provided by Stanbic IBTC Limited. The liability information used was the same as that used in the IFRS 17 actuarial valuations. Where stated in this report we have reviewed this data for reasonableness, but we have not verified the accuracy of the information provided to us.

8.2. This report considers data made available as at 31 December 2024.

8.3. Approximations were made in certain instances about the composition given knowledge of certain details during the normal end of year valuation process.

Limitations

8.4. Our understanding is that this is a Board report that could be used to demonstrate regulatory compliance with NAICOM, when requested.

8.5. This report must be contained in its entirety, as individual sections, if considered in isolation, may be misleading.

8.6. Except with the consent of Alexander Forbes the report and any written or oral information or advice provided by Alexander Forbes must not be reproduced, distributed or communicated in whole or in part to any other person or relied upon by any other person. The report may be distributed to a third party where there is a legal requirement to do so.

8.7. The report may be distributed to the Senior Management of Stanbic IBTC Limited for the purpose of discussing its contents and can also be shared by the Regulator.

8.8. Actuarial estimates are subject to uncertainty from various sources, including changes in claim reporting patterns, claim settlement patterns, judicial decisions, legislation, and economic conditions. It should therefore be expected that the actual emergence of profits will vary, perhaps materially, from any estimates.

9. APPENDIX 2: POLICY AND VALUATION SUMMARY OF THE POLICIES AS AT 31ST DECEMBER 2024

	Active policies as at Dec 31 2024							
Description of transaction	**Number of policies**	**Amount of Sum Insured**		**Amount of bonuses declared to date**	**Amount of office yearly premium**	**Amount of single premium**	**Best Estimate Liabilities**	**Total Best Estimate Liabilities**
INDIVIDUAL BUSINESS		**₦**		**₦**	**₦**	**₦**	**₦**	**₦**
Without participation in profits								
Protection Assurance	2,900	10,614,359,931			201,359,336	1,222,169,781	898,093,522	1,802,391,505
Annuity Business								
PRA regulated annuities	3,923	4,366,120,179	Pa	-		41,271,274,099	30,520,976,571	34,561,005,089
Total individual business	**6,823**	**14,980,480,110**	Pa		**201,359,336**	**42,493,443,880**	**31,419,070,093**	**36,363,396,594**
GROUP BUSINESS								
Group deposit administration								
Group credit life	906	292,867,809,467			1,721,231,379	-	919,597,661	1,282,947,333
Group life	534	356,304,393,330			1,723,530,213	-	778,487,445	1,708,051,838
Total Group Business	1,440	649,172,202,796	-	-	3,444,761,592	-	1,698,085,106	2,990,999,171
Additional reserve								
Grand Total	**8,263**	**664,152,682,906**	**-**	**-**	**3,646,120,928**	**42,493,443,880**	**33,117,155,199**	**39,354,395,765**

10. APPENDIX 3 – METHODOLOGY & STRESS LEVEL DERIVATION

10.1. We present below a detailed explanation on how each of the risk were modelled, including stress levels derivation.

10.2. The methodology used by the Company's previous Actuary for 2023 has been maintained for 2024. This is highlighted in section 10.9.

10.3. Only interest rate risk was considered under the market risk module. The stresses were applied as follows:

Component	Stress level @ 95%	Stress level @ 99.5%
Interest rate	32.20%	45.0%

Table 8.1: Stresses applied for the market risk module

10.4. Interest rate risk is caused by the sensitivity of the value of any assets, liabilities and financial investments to fluctuations in the term structure of interest rates or interest rate volatility, whether valued by mark-to-model or mark-to-market techniques.

10.5. Stresses were determined by constructing the term structure of interest rates by referencing the 12 month, 3 years, 5-year, 7 year, 10 year and 20 year yields from the Federal Government Bonds.

10.6. The historical returns were fitted to distributions to determine the best fit distribution. The Uniform and Normal distributions were both good fit. The normal distribution was used instead in order to apply some consistency with the other market risk stresses.

10.7. As the local term structure of interest rates show a flat yield curve; a flat stress level was applied to bonds of varying durations.

10.8. The stresses we have adopted, however, are much higher than the result obtained as in the past 5 years, we have witnessed a variance in interest rate of about 4% between successive financial years.

10.9. The stressed yields were applied using the formula:

$$\boldsymbol{current\ yield} * (\mathbf{1} + \boldsymbol{upward\ stress}) \text{ or } \boldsymbol{current\ yield} * (\mathbf{1} + \boldsymbol{downward\ stress})$$

10.10. The capital requirement was then determined by adopting the stress level (between the upward and the downward stress) that resulted in a higher capital requirement i.e. Interest Rate capital requirement = Max {0; Upward stress capital; Downward stress capital}

Operational Risk

10.11. This is the risk of loss arising from inadequate or failed internal processes, or from personnel and systems, or from external events.

10.12. Operational risk is generally a material risk and one of the major causes of organizational failure.

10.13. There are several approaches used to assess Operational risk namely;

10.14. Basic indicators or some Standard Formula – this is a simpler approach and largely defined by regulatory bodies. It is transparent and a well-known approach.

10.15. Scenario approach – qualitative scenario assessments of the operational risks as defined by management through the risk heat map are transformed into quantitative assessments to determine the overall operational risk capital.

10.16. Statistical or Loss Distribution Approach – this uses a lot of statistics. The amount of possible losses and frequency of losses are modelled separately and then combined to determine the overall capital

requirement. This approach relies on the availability of credible historical and forward-looking data.

10.17. The Structural or Causal approach – this is the most complex and recently researched approach. It also relies on understanding the interdependencies across risks in addition to the data availability.

10.18. We adopted the standard formula approach due to limited quantity of data available. The approach took into account the earned premium, technical provisions and Base capital calculated before operational risk.

10.19. The formula used to compute the capital requirement was as follows:

C_{op} =Min$\{0.3 * CR_{OP}, BOp\}$ + 0.25 × Exp_{nl}

Exp_{nl} - is the amount of annual expenses incurred during the previous 12 months in respect of non-linked business.

$CRop$ - is the preliminary capital required before allowing operational risk and, for the risk requirements it is defined as:

CR_Op= $\sum(C_{ins} + CMkt + CCredit)$

BOp is the basic operational risk requirement for all business and is determined as follows:

BOp= $Max\{Oppremiums; Opprovisions\}$

Where,

$Oppremiums$ = 0.04 × $Earn_{nl}$ + Max {0, 0.04 × [$Earn_{nl}$ − 1.2 × $pEarn_{nl}$]}

&

$Opprovisions$ = 0.0045 × Max {0, Tp_{nl}}

$Earnnl$ - are the gross premiums earned during the previous 12 months.

$pEarnnl$- are the gross premiums earned during the 12 months prior to the previous 12 months.

$TPnl$- are the technical provisions

Credit Risk

10.20. Credit risk arises as a result of the unexpected default, or deterioration in credit standing, of an insurer's counterparties or debtors.

10.21. The scope of the calculation under this risk module covered possible defaults by banks; where cash and cash equivalents are held by the Company, defaults by reinsurers compromising reinsurance recoveries and the inability by debtors to pay their dues.

10.22. The following exposures to counterparties were used:

- Cash and cash equivalent holdings
- Estimated reinsurance recoveries over the next 12 months

- Debtors amounts owed.

10.23. Credit risk is measured as a function of probability of default (PD), exposure at default (EAD) and the loss given default (LGD) post a default.

10.24. Capital charge for counterpart = EAD*PD*LGD

The parameters are defined as follows:

- Probability of default (PD) - This is the probability that a counterparty will default on an existing commitment usually over a 12 months period.
- Loss given default (LGD) - This is the portion of a loan or receivable determined to be irrecoverable, our methods considers prior period, experience, other qualitative factors and future economic prospect.
- Exposure at default (EAD) - This represents the amount that is due or outstanding at the time of default.

10.25. The expected losses given default were calculated using the latest credit ratings and associated probabilities of default for the different counterparties. A combination of local ratings agencies' and the S&P default rates were used for the bank holdings as per the following table

S&P default rates	Probability
AAA	0.01%
AA+	0.01%
AA	0.02%
AA-	0.03%
A+	0.06%
A	0.09%
A-	0.11%
BBB+	0.16%
BBB	0.22%
BBB-	0.39%
BB+	0.54%
BB	0.81%
BB-	1.39%
B+	2.54%
B	5.37%
B-	8.18%
CCC	26.53%
Unrated	26.53%

Life Insurance Risks

10.26. The life insurance risks modelled were:

- Mortality risk
- Longevity risk
- Lapse
- Expenses
- Catastrophe

10.27. The stresses applied for the insurance risk module were as follows:

Risk type	Stress level@95%	Stress level@99.5%
Mortality	10%	15%
Longevity	6.0% immediate stress with 0.25% pa improvement	10.0% immediate stress with 0.50% pa improvement
Lapse	33.9%	42.14%
Maintenance Expense	7%	10%

Table 8.3

Mortality risk

10.28. This is the risk of loss, or of adverse in the value of the insurance liabilities resulting from the change in the level, or trend, or volatility of mortality rates

10.29. The impact of worsening mortality on the Risk business (mainly protection business) was checked in order to determine the capital requirement.

10.30. Historical mortality investigations were performed for the last 3 years using the Life insurance actual claims data in order to determine an appropriate stress level for each confidence interval.

10.31. The Solvency II mortality stress of a permanent increase of 15% in mortality rates was used for the 99.5% confidence level. Equivalent stress levels for other confidence levels were calculated and used in determining capital at different confidence levels.

10.32. The manner in which the stress was applied to the mortality tables was to multiply the relevant age mortality rates by (1 + stress level %) to obtain new mortality rates that would be used in the projections.

10.33. Projections were performed using the stressed mortality rates and the difference between the stressed liabilities against the un-stressed liabilities gave the additional capital requirement for mortality.

Longevity risk

10.34. This is the risk of loss, or of adverse in the value of the insurance liabilities resulting from the change in the level, or trend, or volatility of mortality rates where a decrease in mortality rates leads to an increase in the value of the insurance liabilities.

10.35. This risk is inherent in the annuity business where it has a significant impact due to the Company having to pay longer than expected annuity payments as a result of pensioners living longer.

10.36. Similar to mortality risk, there was not enough historical data to determine an appropriate stress level. A similar approach to mortality risk was applied in determining the stress.

10.37. We used the Solvency II parameters as a benchmark and determined the various stresses for each of the confidence levels.

10.38. To illustrate the differences in stresses, the standard table used in IFRS valuations for annuitant mortality assumes a 65 year-old will, on average, live for 14 years. However, the revised mortality tables at the different confidence levels assume the following additional years to a 65 year-old:

Confidence level	Additional years lived by a 65 year-old annuitant
95.00%	15 years
99.50%	16 years

Table 8.4: Expected additional years lived by a 65-year-old annuitant

10.39. The above stress levels need to be monitored as more experience develops on the annuity book.

10.40. The capital requirement was the difference in reserves between improved mortality rates and the standard A67-70 mortality table.

Lapse Risk

10.41. This is the risk of loss or change in liabilities due to a change in the expected exercise of policyholder options. The lapse risk covers all policyholder options e.g. lapses, surrenders.

10.42. Investigations into historical data for lapses and surrenders from 2010 to 2014 were performed to try and fit a distribution. The data was not sufficient to fit a distribution.

10.43. Based on the assumption that actual lapses fall in the range of the historical data, we simulated the available data to get extra lines of experience using random number generation and fitted a normal distribution.

10.44. Stresses were determined from the resulting normal distribution using the fitted parameters.

10.45. Capital calculations for both lapse up and lapse down scenarios were performed. The scenario giving the higher capital requirement was used.

10.46. It is also recommended to test the Mass Lapse events – where a large number of lapses are assumed to occur and the resulting capital determined. The mass lapse event was not tested and will be considered in the next Economic Capital calculation. However, the stresses used were still considered to give an adequate adverse view of capital requirements for the relevant confidence intervals under consideration.

Expense Risk

10.47. This risk arises from the variation in the expenses incurred in servicing insurance contracts. This includes the risk arising from the variation in the growth of expenses over and above that of inflation.

10.48. The expense stresses were derived as follows:

(1 + stress level %) was applied to the best estimate

10.49. In addition, an increase of the greater of an absolute addition of 2% to the best estimate level of expense inflation (8% per annum) and a 20% increase in the best estimate level of expense inflation was applied to determine the overall stress level to use for future expenses.

10.50. We understand management are committed to maintaining a low level of expenses through efficiency and innovation. This outcome of prudent expense management will be checked at the next economic capital exercise.

Catastrophe

10.51. This was assumed to apply to Group Life business only. A loss ratio approach was adopted.

10.52. A loss ratio of 150% was taken to represent an adverse scenario.

10.53. A probability of 5% being 1-in-20 was then applied in order to determine the catastrophe risk capital for this business.

10.54. This method has been maintained from last year.

11. APPENDIX 4 – CORRELATION MATRICES

11.1. Correlation matrices for the aggregation of risks have been derived with reference to those being used in other jurisdictions for new solvency regimes.

11.2. Local market relevance was taken into account before applying these correlations.

11.3. As a rule of thumb, the following thought process was applied:

Correlation coefficient	Interpretation
0%	Independent
25%	Weakly correlated
50%	Moderately correlated
75%	Strongly correlated
100%	Dependent

Table 9.1: Correlation Coefficient

11.4. The correlation matrices used for diversification are shown below.

Life Insurance underwriting

	Mortality	Longevity	Disability	Lapse	Expenses	CAT	Retrenchment
Mortality	100%	-25%	25%	0%	25%	25%	0%
Longevity	-25%	100%	0%	25%	25%	0%	0%
Disability	25%	0%	100%	0%	50%	25%	0%
Lapse	0%	25%	0%	100%	0%	25%	25%
Expenses	25%	25%	50%	0%	100%	25%	25%
CAT	25%	0%	25%	25%	25%	100%	0%
Retrenchment	0%	0%	0%	25%	25%	0%	100%

Overall BSCR

	Market	Life	Non-Life
Market	1	0.25	0.25
Life	0.25	1	0
Non-Life	0.25	0	1