



ALLIANZ INSURANCE COMPANY OF KENYA

Insurance Liability Valuation as at 31 December 2020

March 2021

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1. Scope and Purpose

- 1.1 The Insurance Liability Valuation of a general insurance company is a requirement prescribed by the Insurance Regulatory Authority (“IRA”) of Kenya in accordance with the Guideline on Valuation of Technical Liabilities for General Insurers. The Insurance Liability Valuation consists of determining best estimates (using prescribed methodologies where required) of the Outstanding Claims Liabilities and the Premium Liabilities of the insurer.
- 1.2 We, Zamara Actuaries, Administrators & Consultants Limited (“Zamara”) have completed our calculations in respect of the Insurance liability valuation of the General Insurance Business of Allianz Insurance Company of Kenya (“Allianz”) as at 31 December 2020; as requested by management.
- 1.3 This report is addressed to the management of Allianz and it is for their use only. It is however prepared on the understanding that it will be of use to the Regulatory Authority. This report should therefore not be regarded as suitable for use by any other persons or for any other purpose. Zamara Actuaries, Administrators & Consultants Limited or any representatives of our firm are not responsible whatsoever for any judgements or conclusions that may be drawn by third parties from this report.
- 1.4 **The Insurance Liability Valuation is limited to the Allianz Insurance Company of Kenya information, not the consolidated Group information (i.e. this valuation only covers business underwritten in Kenya, and excludes business underwritten by foreign offices belonging to the Group).**

2. Reliances and Limitations

- 2.1 The projections are based on a number of assumptions as to future conditions and events. The outcome of these conditions and events may be different from the assumptions made. Therefore, the estimates provided are our best estimates of future claims. We will continue to monitor the trends in claims experience and adjust our assumptions accordingly where necessary. In the final results provided, the methodologies used include an implicit allowance for inflation.
- 2.2 A number of reasonability checks were conducted on the data provided; however, Zamara cannot ensure that the data captured on the systems is correct. For the purposes of this Insurance Liability Valuation, Zamara has assumed the data to be correct. Any material changes in the underlying data may invalidate our projections.
- 2.3 Reserving techniques used in the preparation of this Valuation Report are subject to errors due to random fluctuations including model error and parameter error.

3. Definitions

The terminology used in this report is defined as follows:

- 3.1 Additional Unexpired Risk Reserve ("AURR")
The reserve held more than the Unearned Premium Reserve, to allow for any expectation that the Unearned Premium Reserve will be insufficient to cover the cost of claims and expenses incurred during the period of unexpired risk.
- 3.2 Deferred Acquisition Costs ("DAC")
DAC is the proportion of acquisition costs that relates to the unearned portion of the premiums.
- 3.3 Gross case reserves / Outstanding Claims Reserve ("OCR") / case estimates
These amounts refer to claims that have been reported by the valuation date but have not as yet been settled. These are the case estimates that are provided by Allianz.
- 3.4 Incurred But Not Enough Reported ("IBNER") claims
A reserve reflecting expected changes (increases and decreases) in estimates for reported claims only (that is, excluding any "true" or "pure" IBNR claims).
- 3.5 Pure Incurred But Not Reported (Pure "IBNR") claims
A reserve to provide for claims that have not been reported as at the valuation date for accident years including and prior to the valuation date without including any development of reported claims.
- 3.6 Incurred But Not Reported ("IBNR") claims
A reserve to provide for claims that have not been reported as at the valuation date and further development of reported claims. This relates to accident years including and prior to the valuation date. The estimate of IBNR in this report does not include claims outstanding or case estimates. It comprises "pure" IBNR and IBNER.
- 3.7 Initial Expected Loss Ratio ("IELR")
The expected ultimate loss ratio that is estimated at the start of the contract without knowledge of future claim experience.
- 3.8 Outstanding Claims Liabilities
Refers to the claims incurred prior to the valuation date, which have been reported and not yet settled or which have been incurred but not yet reported (i.e. the sum of IBNR and case reserves as defined above).
- 3.9 Unearned Premium Reserve ("UPR")
This reserve represents the total of premiums written that have not yet been earned as at the valuation date. The figures in this report are balances as at the valuation date.

3.10 Unexpired Risk Reserve ("URR")

The reserve held to cover the cost of claims and expenses incurred during the period of unexpired risk. This is equivalent to UPR+AURR for unprofitable portfolios but is lower than UPR for profitable portfolios.

3.11 Unallocated Loss Adjustment Expenses ("ULAE")

This reserve caters for general claims expenses that are not attributed to the processing of a specific claim.

3.12 Valuation date

The valuation date for this Insurance Liability Valuation is 31 December 2020.

4. Data Provided and Reconciliation

4.1. Data

Allianz provided Zamara with the following data for the Insurance Liability Valuation as at 31 December 2020:

4.1.1. Claims Paid Data

Individual gross claims paid data was provided for the period from January to December 2020.

The following details were provided per claim:

- Claim number
- Date of loss
- Date of notification
- Date of payment
- Class of business
- Gross claim amount
- Net claim amount

If Allianz believes that the allocation of paid claims to the classes of business in the data received by Zamara is materially misstated, then the reserves in this report may be under or over-estimated.

4.1.2. Claims Outstanding Data

Individual gross claims outstanding data was provided as at 31 December 2020.

The following details were provided per claim:

- Claim number
- Date of loss
- Date of notification
- Class of business
- Gross claim amount
- Net claim amount

If Allianz believes that the allocation of outstanding claims to the classes of business in the data received by Zamara is materially misstated, then the reserves in this report may be under or over-estimated.

4.1.3. Premium Data

Individual premium data was provided for the period from January to December 2020. The premium data was provided on an individual policy level and included the following details:

- Policy number
- Start date
- End date
- Class of Business
- Gross written premium
- Net Premium
- Gross Commissions
- Net Commissions

If Allianz believes that the allocation of premiums to the classes of business in the data received by Zamara is materially misstated, then the reserves in this report may be under or over-estimated.

4.1.4. Other Data

Management Accounts were provided for the period from January to December 2020.

The data received for the 31 December 2020 valuation was combined with data received for previous valuations in order to form the complete data set required for the valuation process.

4.2. Data Reconciliation

4.2.1. Gross Written Premium

Class of Business	For the Year until 31 December 2020		
	Gross Written Premium (K Shs '000)		
	Data	Financials	Difference
Aviation	21,336	21,336	0.0%
Engineering	19,260	19,260	0.0%
Fire Domestic	30,418	30,418	0.0%
Fire Industrial	115,674	115,674	0.0%
Marine	52,137	52,137	0.0%
Medical	104,253	104,253	0.0%
Miscellaneous	34,275	34,275	0.0%
Motor Commercial	171,797	171,797	0.0%
Motor Private	165,588	165,588	0.0%
Personal Accident	2,431	2,431	0.0%
Public Liability	97,567	97,567	0.0%
Theft	25,487	25,487	0.0%
Workmen's Compensation	89,124	89,124	0.0%
Total	929,347	929,347	0.0%

The Gross Written Premium data reconciled to the financials provided both at a class wise level and at an aggregate level.

The Gross Written Premium in the period from January to December 2020 was K Shs 929 million compared to K Shs 911 million written in the period from January to December 2019. This represents an increase of 2.0% in business written.

4.2.2. Gross Claims Paid

Class of Business	For the Year until 31 December 2020		
	Gross Claims Paid (K Shs '000)		
	Data	Financials	Difference
Aviation	1,100	11,100	-90.1%
Engineering	24,387	32,265	-24.4%
Fire Domestic	54,689	54,700	0.0%
Fire Industrial	7,409	17,544	-57.8%
Marine	49,631	49,652	0.0%
Medical	33,163	33,208	-0.1%
Miscellaneous	-	5,938	-100.0%
Motor Commercial	62,153	64,140	-3.1%
Motor Private	138,679	136,803	1.4%
Personal Accident	170	170	0.0%
Public Liability	-	-	0.0%
Theft	23,245	23,260	-0.1%
Workmen's Compensation	45,639	45,642	0.0%
Total	440,264	474,421	-7.2%

The Gross Claims Paid data did not reconcile to the financials provided both at a class wise level and at an aggregate level. This was due to differences in the Aviation, Engineering, Fire Industrial, Miscellaneous, Motor Commercial and Motor Private classes. The differences are due to adjustments done manually in accounts (in line with Allianz Group requirements) to cater for claims expenses relating to business overhead costs that are not specific to claims management e.g. HR and Finance Team costs. Hence, we deemed these reconciliation differences to be immaterial to the results of the valuation.

The Gross Claims Paid in the period from January to December 2020 was K Shs 474 million compared to K Shs 183 million paid in the period from January to December 2019. This represents an increase of 159.9% in gross claims paid.

5. Business Segmentation

- 5.1 Allianz underwrites the following statutory classes of business: Aviation, Engineering, Fire Domestic, Fire Industrial, Marine, Medical, Miscellaneous, Motor Commercial, Motor Private, Personal Accident, Public Liability, Theft and Workmen's Compensation.
- 5.2 The segmentation used in this Insurance Liability Valuation is therefore within the statutory classes of business as listed above.
- 5.3 This segmentation was used so that a natural comparison could be made between earned premiums and incurred claims (which further facilitates the use of the Bornhuetter-Ferguson method, explained in section 6 of this report, for estimating IBNR). This also ensures that the experience within each of these classes is relatively homogenous in terms of claims behaviour.

6. Methodology

6.1. IRA prescribed Methods

The IRA has included prescribed methodologies for the determination of best estimates of insurance reserves.

6.1.1 IRA prescribed Methods for Claims Liabilities

These comprise of a reserve for claims that have been reported as at the valuation date but have not yet been settled (known as the Outstanding Claims Reserve ("OCR")) and a reserve for claims that have been incurred prior to the valuation date but not yet reported to the insurer (known as the Incurred But Not Reported ("IBNR") reserve).

The IRA prescribed methodologies in the determination of the OCR are as follows;

- Case Estimate Method – using the sum of case estimates as at the valuation date;
- Average Cost per Claim Method – using the average cost of claims incurred;
- Other methods recognised by the IRA.

The IRA prescribed methodologies for IBNR are as follows:

Chain-Ladder Method

- Using an estimate of the settlement pattern of claims incurred/claims paid.

Average Cost per Claim Method

- Using a combination of the average cost of claims incurred and the projected future number of claims

Bornhuetter-Ferguson Method

- Using a combination of the Chain-Ladder Method and an Initial Expected Loss Ratio to account for the expectations of the business

Standard Development Model

- Using factors prescribed by the IRA to take account of the different risk profiles of different lines of business (only allowed for companies with less than 3 years of experience).

The Guidelines require that at least two of the prescribed methodologies for the determination of IBNR be considered before a best estimate is selected.

The IRA has indicated that the appointed actuary may use a method that is not listed above if it is considered more appropriate.

6.1.2 IRA prescribed Methods for Premium Liabilities

Premium Liabilities are composed of a reserve for policies that have not yet expired at the valuation date (known as the Unearned Premium Reserve ("UPR")) and a reserve to allow for the expectation that the UPR may not be sufficient to cover the expected cost of claims and expenses arising from the period of unexpired risk (known as the Additional Unexpired Risk Reserve ("AURR")).

For an insurance company, the IRA prescribes that either of the following methods can be used for the determination of the UPR:

- 24ths method corresponding to a risk profile that is spread evenly over each month of cover (corresponding to monthly reserving); and
- 365ths method corresponding to a risk profile that is spread evenly over each day of cover (corresponding to daily reserving).

The IRA does not prescribe a methodology for the determination of the AURR and this is up to the discretion of the Appointed Actuary. Details of the methodology used to determine the need for an AURR have been included in section 6.2.2.3.

6.2. Our Methodology Explained

6.2.1 For Claims Liabilities

In previous valuations, the IBNR was determined using the Standard Development method for all classes of business due to insufficient historical data resulting from Allianz's few years in operation. However, for the valuation as at 30 December 2020, historical data sufficed for conducting actuarial projections for all classes of business except Medical.

We selected the most appropriate methodology depending on the volume of data in each class of business but in line with the IRA prescribed methodologies as outlined in section 6.1 above.

The three methods we used for the projection of claims for this valuation were; the Loss Ratio method, the Basic Chain-Ladder Method ("BCL") and the Bornhuetter-Ferguson Method ("BF"), dependent on the class of business being projected.

Claims data was grouped into triangles by accident period (the origin period) and payment period (Development Period). The choice of period among quarterly, half-yearly and yearly was entirely based on the volume and credibility of the data per class of business.

The method mentioned above was applied to gross claims paid and gross claims incurred data. During the analysis, where it was observed that there were one off large claims included in either/or in both the paid and outstanding claims data, these claims were excluded from the triangulations and projections to ensure that the development patterns were not distorted as a result. They were however considered in determining the resulting ultimate projected loss ratio for each accident year.

It is worth highlighting that each accident year was projected independently and thus, it was possible for a different method to be selected for each accident year. Further, for each accident year, the most appropriate choice was made among the Paid Chain Ladder ("PCL") method, the Incurred Chain Ladder ("ICL") method, the Paid Bornhuetter-Ferguson ("PBF") method and the Incurred Bornhuetter-Ferguson ("IBF") method. Our choice on whether to use BCL or BF methods was informed by how much each accident cohort was developed. The BCL Method was preferred where the claims development was greater than 75%. (Based on the selected development factors).

In order to compute the net IBNR, reinsurance recovery rates were determined per class of business as detailed in the appendix. The last 4 complete years (2017 to 2020) were considered to be the most appropriate in terms of determining these rates as they captured the most recent changes in the reinsurance arrangements. We also allowed for the smoothing of the reinsurance recoveries over the last 4 financial years.

6.2.1.1 BCL

Development factors were calculated using the last four years of data by accident period. Ultimate development factors were calculated for each of the development periods. Development factors were excluded if they were deemed to be outliers.

Ultimate development factors were applied to the paid and incurred data per accident period and an ultimate claim amount for each accident period was calculated. The future incurred but not reported claims were allocated to future payment periods in line with the development patterns calculated above. The outstanding claims reported to date were then subtracted from the total future claims to give the resulting IBNR figure per accident period.

For cases where there were extreme large losses that had been reported but not paid, and therefore would not have influenced the development patterns, the total case reserve was excluded from the calculation of IBNR.

i.e. IBNR = Ultimate claim amount

Less: paid claims to date (excluding extreme large losses paid)

Less: claims outstanding (excluding extreme large losses outstanding)

Assumptions underlying the BCL method

The BCL method assumes that past experience is indicative of future experience, i.e. that claims recorded to date will continue to develop in a similar manner in the future as they have developed in the past.

An implicit assumption is that, for an immature accident period, the claims observed thus far provide information about the claims yet to be observed.

Further assumptions made in the application of the BCL are as follows:

- Claims processing has been consistent;
- There has been a stable mix of types of claims; and
- Inflation has been stable.

6.2.1.2 BF

The BF method is an extension of the BCL method as the incremental and ultimate development factors calculated (in accordance with the BCL method) form a critical component of a reserve estimate determined using the BF method.

The BF method is used on more recent accident years (depending on the volume of data available) since the estimates produced using the BCL for these accident years cannot necessarily be relied upon with a sufficient degree of confidence. The BF method is a weighted average approach that uses an assumed loss ratio, termed the Initial Expected Loss Ratio ("IELR") in combination with the original BCL projection.

Assumptions underlying the BF method

Since the BF method is a weighted average between an Initial Expected Loss Ratio and the projected claims incurred using the BCL method, the assumptions underlying the BF method are very similar to those underlying the BCL method.

The only major additional assumption underlying the BF method is based on the choice of the Initial Expected Loss Ratio.

The Initial Expected Loss Ratio chosen was assessed by comparing the historic incurred to date, paid to date and ultimate loss ratios. These loss ratios were all calculated on an accident year basis, not a financial period basis.

6.2.1.3 Loss Ratio Method

The Loss Ratio method results in the estimation of ultimate claims by allowing for the incorporation of expected experience to date and the average assumed Ultimate Loss Ratio.

The estimate of ultimate claims is then calculated as:

Average ultimate loss ratio assumed
Multiplied by: earned premium for the accident years

The IBNR is arrived at by subtracting the claims paid to date and the outstanding claims as well.

Assumptions underlying the Loss Ratio method

An estimate of the average ultimate loss ratio needs to be assumed. Zamara used the incurred to date, paid to date and ultimate loss ratios observed in previous accident years.

Although Zamara conducted reasonability checks on the loss ratios, if the assumed loss ratios are not indicative of future experience, the calculated outstanding claims may be under-/over-estimated.

It is worth noting that claim amounts have not been adjusted for inflation explicitly. However, owing to the methodology used, inflation is implicitly included in the analysis.

Further, no allowance has been made for discounting as the claims run-off is generally assumed to be relatively short-tailed. This is a prudent assumption which may be revised in the future with the introduction of IFRS 17, formerly IFRS 4 Phase II, which will lead to some fundamental differences in current accounting practices in both liability measurement and recognition of profits.

6.2.1.4 Unallocated Loss Adjustment Expenses ("ULAE")

Based on the definition of ULAE, the methodology used to determine this reserve was based on the estimation of the proportion of historical claims paid that relates to unallocated claim expenses.

The gross and net ULAE are equal given that there is no reinsurance share of unallocated claims expenses.

6.2.2 Premium Liabilities

6.2.2.1 Unearned Premium Reserve

The method we employ in computation is solely based on the credibility of the data provided in the premium registers, mainly how well the premium data reconciles to the financials per class of business.

The Gross UPR was calculated using a time-apportionment basis, in particular, the 365ths method. This implicitly assumes that the risk profile of the business is spread evenly over the year.

The Net UPR was calculated using the same methodology as that used to calculate the Gross UPR.

6.2.2.2 Deferred Acquisition Costs ("DAC")

The Gross DAC and Net DAC were calculated using the same methodology as that used to calculate the Gross UPR.

6.2.2.3 Additional Unexpired Risk Reserve ("AURR")

Prior to the calculation of an AURR, Zamara first considers the profitability of the business underwritten by assessing the revenue accounts. This, in combination with an assessment of the projected ultimate claims loss ratios may necessitate further investigation into whether an AURR would be necessary, which culminates in the calculation methodology described below

Based on the definition of the AURR, the methodology used to determine the necessity of an AURR should be performed on an accident year basis, rather than a financial year basis (since it is designed to assess the adequacy of the UPR which is determined on an accident year basis). As a result, a loss ratio for the accident year ending 31 December 2020 was approximated per class of business, considering the projected ultimate claim amounts for this accident year (This includes the best estimates of the IBNR).

Using reserve balances calculated by Zamara the gross earned premium and gross incurred claims (excluding large losses) were recalculated. Using the recalculated Gross incurred claims, in combination with the management expenses, a combined ultimate loss ratio was calculated for each class of business.

This combined ratio was then applied to the Gross UPR per class of business to determine the expected future underwriting experience for the unexpired risk period, and to ascertain whether the UPR held as at 31 December 2020 is deemed sufficient or not. This results in the calculation of the URR. The Gross AURR is then determined as the excess of the URR over the UPR. Where the calculated Gross AURR is negative, this is due to a profitable class of business.

i.e. $URR = (\text{combined ratio}) \times UPR$; and
 $AURR = URR - UPR$

In our investigation, we assess the need for an AURR by looking at the profitability of each class of business separately thus analysing the loss and expense ratios of each class separately.

The Net AURR was determined by applying the ratio of Net UPR to Gross UPR to the Gross AURR.

7. Valuation Results

7.1. Claims Liabilities

7.1.1 IBNR Results

The Gross IBNR per class of business was estimated using one or a combination of the methods explained in section 6 of this report.

Based on the data provided and the methodology outlined in section 6 of this report, we estimated Allianz's IBNR as at 31 December 2020.

Below, we summarise the IBNR results inclusive of ULAE, Gross and Net, as at 31 December 2020 per class of business.

Class of Business	Claims Reserve (K Shs '000)	
	Gross IBNR + ULAE	Net IBNR + ULAE
Aviation	14	14
Engineering	946	506
Fire Domestic	476	476
Fire Industrial	84	84
Marine	1,224	845
Medical	3,190	375
Miscellaneous	-	-
Motor Commercial	7,023	5,832
Motor Private	17,425	16,568
Personal Accident	29	29
Public Liability	5	5
Theft	445	87
Workmen's Compensation	21,946	15,510
Total	52,806	40,330

The estimated Gross IBNR inclusive of ULAE as at 31 December 2020 was K Shs 53 million with a net equivalent of K Shs 40 million.

7.1.2 OCR Results

Class of Business	As at 31 December 2020		
	Gross Claims Outstanding (K Shs '000)		
	Data	Financials	Difference
Aviation	1,400	1,400	0.0%
Engineering	11,779	11,779	0.0%
Fire Domestic	47,569	47,569	0.0%
Fire Industrial	8,396	8,396	0.0%
Marine	28,304	28,304	0.0%
Medical	-	-	0.0%
Miscellaneous	-	-	0.0%
Motor Commercial	18,571	18,571	0.0%
Motor Private	41,026	41,026	0.0%
Personal Accident	350	350	0.0%
Public Liability	450	450	0.0%
Theft	4,621	4,621	0.0%
Workmen's Compensation	25,340	25,340	0.0%
Total	187,806	187,806	0.0%

The Gross Claims Outstanding data reconciled to the financials provided both at a class wise level and at an aggregate level.

The Gross Claims Outstanding at 31 December 2020 was K Shs 188 million compared to K Shs 165 million as at 31 December 2019. This represents an increase of 13.5% in Gross Claims Outstanding.

7.2. Premium Liabilities

7.2.1 UPR and DAC

The premium liabilities estimated are shown in the table below

Class of Business	UPR and DAC (K Shs '000)			
	Gross UPR	Net UPR	Gross DAC	Net DAC
Aviation	17,386	24	292	(1,491)
Engineering	7,753	1,527	1,067	(63)
Fire Domestic	13,617	2,489	3,196	3,191
Fire Industrial	26,383	7,098	6,631	3,748
Marine	3,545	2,469	410	360
Medical	40,663	4,066	2,614	(4,426)
Miscellaneous	13,724	307	1,339	(1,912)
Motor Commercial	50,087	47,035	5,492	5,433
Motor Private	84,934	80,196	8,921	8,841
Personal Accident	463	439	104	104
Public Liability	39,578	3,777	761	(876)
Theft	6,565	646	1,271	(494)
Workmen's Compensation	31,215	29,601	6,740	6,738
Total	335,912	179,673	38,836	19,154

The Gross UPR decreased by 2.1% from K Shs 343 million as at 31 December 2019. The Gross DAC also decreased, by 19.0% from K Shs 48 million as at 31 December 2019. The Net UPR increased by 5.5% while the Net DAC decreased by 25.5% from the amounts estimated as at 31 December 2019.

7.2.2 AURR

In assessing the AURR, we considered the combined ratio. The table below shows the combined ratios per class of business and the resulting Gross and Net AURR for the respective classes of business.

Class of Business	AURR (K Shs '000)		
	Combined Ratio	Gross	Net
Aviation	45.2%	-	-
Engineering	61.8%	-	-
Fire Domestic	88.5%	-	-
Fire Industrial	63.0%	-	-
Marine	78.8%	-	-
Medical	74.7%	-	-
Miscellaneous	40.4%	-	-
Motor Commercial	59.6%	-	-
Motor Private	97.0%	-	-
Personal Accident	98.4%	-	-
Public Liability	75.6%	-	-
Theft	72.2%	-	-
Workmen's Compensation	85.1%	-	-
Total		-	-

Zamara observed that no class of business had a combined ratio in excess of 100%, and hence an AURR was not required.

Zamara recommends that Allianz continuously monitor the claims experience for each class to ensure that they self-sustaining in the long run.

Zamara also recommends that Allianz carry out an expense analysis to understand how expenses were allocated per class of business. This would provide more insight into the necessity of AURR.

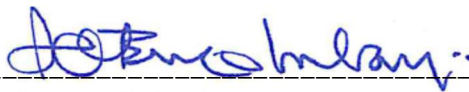
8. Conclusions and Recommendations

- 8.1 Zamara was comfortable that the reserves suggested as at 31 December 2020 were at a sufficient best estimate level, provided that the assumptions and loss ratios assumed were in line with Allianz's overall estimated loss ratios. Zamara conducted checks to ensure that projected ultimate loss ratios were in line with past accident periods' loss ratios; however, if the business or processes changed significantly from previous periods then the estimated IBNR could prove to be inaccurate.
- 8.2 The table below summarises the claims and the premium liabilities for Allianz as at 31 December 2020:

Reserves	Reserves as at 31 December 2020 (KShs '000)		
	Gross	Reinsurance	Net
Claims Liabilities			
IBNR + ULAE	52,806	12,476	40,330
OCR	187,806	49,996	137,810
Premium Liabilities			
UPR	335,912	156,239	179,673
DAC	38,836	19,682	19,154
AURR	-	-	-

- 8.3 Zamara recommended Allianz to carry out an expense analysis to understand how expenses were allocated and apportioned to each class of business. This would provide more insight into the necessity of the AURR.

For and on behalf of
Zamara Actuaries, Administrators and Consultants Limited



James I. O. Olubayi
Fellow of the Institute and Faculty of Actuaries
Appointed Actuary: Allianz Insurance Company of Kenya
Nairobi
16 March 2021

Appendix 1

a) IBNR Results

The table below summarises the IBNR results, Gross and Net, as at 31 December 2020 per class of business.

Class of Business	Claims Reserve (K Shs '000)		Recovery Rates
	Gross IBNR	Net IBNR	
Aviation	-	-	0.0%
Engineering	812	372	54.2%
Fire Domestic	-	-	0.0%
Fire Industrial	-	-	0.0%
Marine	922	543	41.1%
Medical	3,128	313	90.0%
Miscellaneous	-	-	0.0%
Motor Commercial	6,704	5,512	17.8%
Motor Private	16,681	15,825	5.1%
Personal Accident	25	25	0.0%
Public Liability	-	-	0.0%
Theft	391	33	91.7%
Workmen's Compensation	21,267	14,832	30.3%
Total	49,930	37,454	

The estimated Gross IBNR as at 31 December 2020 was K Shs 50 million with a net equivalent of K Shs 37 million. The Gross IBNR increased by 14.6% from K Shs 44 million as at 31 December 2019. Consequently, the Net IBNR increased by 44.9% from K Shs 26 million in the same period.

b) ULAE Results

Class of business (Amounts in K Shs '000)	ULAE
Aviation	14
Engineering	134
Fire Domestic	476
Fire Industrial	84
Marine	301
Medical	63
Miscellaneous	-
Motor Commercial	320
Motor Private	744
Personal Accident	4
Public Liability	5
Theft	54
Workmen's Compensation	679
Total	2,877

The estimated Unallocated Loss Adjustment Expenses reserve was K Shs 3 million as at 31 December 2020.

Appendix 2

Below are the gross claims incurred triangles as well as assumptions and methods per class of business.

The following are the meanings of abbreviations used:

ICL - Chain Ladder using triangles of claims incurred amounts

ELR – Expected Loss Ratio

IEULR – Initial Expected Ultimate Loss Ratio. The loss ratio used in the Bornhuetter-Ferguson and Loss Ratio methods

SD – Standard Development

All monetary amounts below are in K Shs '000s.

Aviation (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	8,404	8,404	8,404	-	-	-	-
2019	-	-	-	-	-	-	-
2020	2,500	-	-	-	-	-	-
Selection	-	-	-	-	-	-	-

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
Other		-	
Other		-	
Other		-	0.0%
Other		-	0.0%
Other		8,404	27.7%
Other		-	0.0%
Other		2,500	10.2%

Engineering (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	550	36	36	36	-	-	-
2018	11,833	10,691	10,620	-	-	-	-
2019	2,584	5,082	-	-	-	-	-
2020	8,123	-	-	-	-	-	-
Selection	1.1000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		-	0.0%
ICL		36	0.5%
ICL		10,620	67.4%
ICL		5,082	13.6%
ICL		31,972	30.0%

Fire Domestic (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	386	576	576	576	576	-	-
2017	31,929	32,237	32,222	32,222	-	-	-
2018	8,342	8,262	7,362	-	-	-	-
2019	18,788	15,583	-	-	-	-	-
2020	11,522	-	-	-	-	-	-
Selection	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		576	6.7%
ICL		32,222	210.7%
ICL		7,362	30.9%
ICL		15,583	58.1%
ICL		92,022	38.0%

Fire Industrial (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	540	582	613	613	613	-	-
2017	5,943	3,628	3,528	3,528	-	-	-
2018	10,014	8,798	8,128	-	-	-	-
2019	13,379	13,164	-	-	-	-	-
2020	11,156	-	-	-	-	-	-
Selection	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		613	2.7%
ICL		3,528	7.4%
ICL		8,128	7.9%
ICL		13,164	11.4%
ICL		11,156	8.7%

Marine (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	7,650	12,109	12,115	12,132	-	-	-
2018	26,365	10,514	10,744	-	-	-	-
2019	26,077	30,769	-	-	-	-	-
2020	25,808	-	-	-	-	-	-
Selection	1.0100	1.0100	1.0014	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		-	0.0%
ICL		12,132	33.0%
ICL		10,759	13.1%
ICL		43,964	48.9%
ICL		47,168	50.1%

Medical (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	5,821	-	-	-	-	-
2020	27,342	-	-	-	-	-	-
Selection	-	-	-	-	-	-	-

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
Other		-	
Other		-	
Other		-	
Other		-	
Other		-	
Other		-	
SD			

Miscellaneous (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	2,252	2,252	2,252	2,252	2,252	-	-
2017	-	-	-	-	-	-	-
2018	7,090	7,090	7,090	-	-	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
Selection	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
Other		-	
Other		-	
Other		2,252	105.5%
Other		-	0.0%
Other		7,090	15.6%
Other		-	0.0%
Other		-	0.0%

Motor Commercial (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	533	533	33	33	-	-
2017	11,687	13,935	12,722	11,811	-	-	-
2018	40,362	44,606	44,065	-	-	-	-
2019	49,860	60,765	-	-	-	-	-
2020	33,518	-	-	-	-	-	-
Selection	1.2000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		33	1.8%
ICL		11,811	66.0%
ICL		44,065	66.4%
ICL		60,765	47.8%
ICL		40,222	21.7%

Motor Private (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	720	1,261	1,261	1,261	1,261	-	-
2017	17,828	24,844	23,142	22,743	-	-	-
2018	60,259	64,607	63,127	-	-	-	-
2019	110,883	128,830	-	-	-	-	-
2020	107,548	-	-	-	-	-	-
Selection	1.1551	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		1,261	24.7%
ICL		22,743	62.5%
ICL		63,127	75.6%
ICL		128,830	82.7%
ICL		124,229	75.5%

Personal Accident (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	67	86	86	-	-	-	-
2019	553	573	-	-	-	-	-
2020	390	-	-	-	-	-	-
Selection	1.0633	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		-	0.0%
ICL		-	0.0%
ICL		86	3.3%
ICL		573	14.5%
ICL		415	14.2%

Public Liability (Gross Claims Incurred Triangle)

Loss Year	Development Year							Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
	0	1	2	3	4	5	6				
2014	-	-	-	-	-	-	-	ICL		-	
2015	-	-	-	-	-	-	-	ICL		-	
2016	2,609	1,174	1,174	1,174	1,174	-	-	ICL		1,174	48.5%
2017	-	-	-	-	-	-	-	ICL		-	0.0%
2018	284	134	120	-	-	-	-	ICL		120	0.2%
2019	200	-	-	-	-	-	-	ICL		-	0.0%
2020	400	-	-	-	-	-	-	ICL		400	0.4%
Selection	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				

Theft (Gross Claims Incurred Triangle)

Loss Year	Development Year							Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
	0	1	2	3	4	5	6				
2014	-	-	-	-	-	-	-	ICL		-	
2015	-	-	-	-	-	-	-	ICL		-	
2016	-	25	25	25	25	-	-	ICL		25	2.0%
2017	3,295	4,962	4,628	4,628	-	-	-	ICL		4,628	94.7%
2018	59,499	59,862	59,742	-	-	-	-	ICL		59,742	367.2%
2019	19,075	12,635	-	-	-	-	-	ICL		12,635	51.1%
2020	12,098	-	-	-	-	-	-	ICL		25,240	48.2%
Selection	1.0323	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				

Workmen's Compensation (Gross Claims Incurred Triangle)

Loss Year	Development Year						
	0	1	2	3	4	5	6
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	6,136	8,620	8,371	8,800	-	-	-
2018	15,879	19,706	23,477	-	-	-	-
2019	7,924	14,519	-	-	-	-	-
2020	24,306	-	-	-	-	-	-
Selection	1.4310	1.1243	1.0512	1.0000	1.0000	1.0000	1.0000

Method	IEULR	Selected Ultimates	Ultimate Loss Ratio
ICL		-	
ICL		-	
ICL		-	0.0%
ICL		8,800	33.1%
ICL		24,680	50.2%
ICL		37,272	24.5%
IBF	45.5%	41,729	44.6%

Appendix 3

a) Form No. INS. 57-1(b)

Class of business	Gross Technical Reserves K Shs '000			Net Technical Reserves K Shs '000			Margin of adverse deviation	K Shs '000
	Gross OCR + IBNR + ULAE	Gross UPR	Gross URR	Net OCR + IBNR + ULAE	Net UPR	Net URR		
Aviation	1,414	17,386	17,386	154	24	24	-	178
Engineering	12,725	7,753	7,753	7,288	1,527	1,527	-	8,815
Fire Domestic	48,045	13,617	13,617	13,364	2,489	2,489	-	15,853
Fire Industrial	8,480	26,383	26,383	8,480	7,098	7,098	-	15,578
Marine	29,527	3,545	3,545	29,148	2,469	2,469	-	31,617
Medical	3,190	40,663	40,663	375	4,066	4,066	-	4,442
Miscellaneous	-	13,724	13,724	-	307	307	-	307
Motor Commercial	25,594	50,087	50,087	23,253	47,035	47,035	-	70,288
Motor Private	58,452	84,934	84,934	57,595	80,196	80,196	-	137,791
Personal Accident	379	463	463	379	439	439	-	818
Public Liability	455	39,578	39,578	455	3,777	3,777	-	4,231
Theft	5,066	6,565	6,565	549	646	646	-	1,195
Workmen's Compensation	47,286	31,215	31,215	37,100	29,601	29,601	-	66,701
Total	240,612	335,912	335,912	178,140	179,673	179,673	-	357,814

- b)
- i. This valuation process estimated Allianz's insurance contract liabilities as at 31 December 2020.
 - ii. Refer to section 6 of this report on the general principles and methodology applied for this valuation.
 - iii. Refer to section 4 of the Valuation report for details on the reliance and limitations of the data used in the valuation
 - iv. Refer to the Appendix 2 above for the details on development factors and loss ratios assumptions (where applicable). Recovery rates employed are provided in section 7.1 of this report.
 - v. There was change in the methodology in calculating the IBNR reserve as at 31 December 2020 from the previous year's valuation as at 31 December 2019. In previous valuations, the IBNR was determined using the Standard Development method for all classes of business due to insufficient historical data resulting from Allianz's few years in operation. However, for the valuation as at 30 December 2020, historical data sufficed for conducting actuarial projections for all classes of business except Medical where we used Standard Development Method in line with the previous valuation.
 - vi. The details on the sufficiency of the OCR are given in the Financial Condition Report for Allianz as at 31 December 2020.
 - vii. It is assumed that Inflation has been implicitly allowed for in the estimation of the insurance liabilities as at 31 December 2020 as part of the claims data especially that this line of insurance business is mainly short term.
 - viii. The number of years taken for claims to run off completely can be seen in Appendix 2 above.
 - ix. Methods used to compute Unearned Premiums Reserves are highlighted in section 6.2 of this report.
 - x. Refer to the Financial Condition Report for details on comparison between the insurer's Actual vs Expected experience.
 - xi. Refer to the Financial Condition Report for details on the actuary's opinion on the adequacy of reserves.
 - xii. Refer to the Financial Condition Report for details on the actuary's opinion on the capital adequacy of the insurer.