



**Mining Industry Pension Fund**  
*"Cares for your future"*

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## **THE MINING INDUSTRY PENSION FUND**

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**Pension increases as at 30 June 2023**

Prepared by  
Tigere Mutare, FIA  
September 2023

September 13, 2023

Ms. K Ndlovu,  
Principal Officer & Chief Executive  
Mining Industry Pension Fund,  
MIPF House, 5 Central Ave  
P.O. Box CY 1452, Causeway,  
Harare,  
Zimbabwe

Dear Ms. Ndlovu,

**MINING INDUSTRY PENSION FUND  
PENSION INCREASES AS AT 30 June 2023**

**1 Introduction**

- 1.1 In accordance with your instructions, we have carried out an interim actuarial valuation of the Mining Industry Pension Fund (“the Fund”) as at 30 June 2023. The interim valuation is intended to provide an approximate funding level and therefore approximate methods are applied where deemed appropriate.
- 1.2 The purpose of this report is to make recommendations as to the level of interim bonus and pension increases, if any, that can be afforded by the Fund, based on the financial position of the Fund as at 30 June 2023.
- 1.3 No reliance should be placed on this report by any third party, and we accept no responsibility or liability to any third party in respect of this report. This report was reviewed internally by Stalwart Actuaries and Consultants.
- 1.4 The requirements of Technical Actuarial Standards, TAS 100 - Principles for technical actuarial work and TAS 300 - Pensions, have been considered in relation to this report and have been complied with where material and relevant.
- 1.5 The macroeconomic environment experienced increased volatility since the beginning of the year. The further depreciation of the Zimbabwe dollar continues to exert inflationary pressures as prices of goods and services in large sectors of the economy indexed to the United State dollar.
- 1.6 We have noted the following market indicators over the period to 30 June 2023;
  - The Zimbabwe Dollar, as determined by the “Interbank rate”, depreciated against the United States Dollar from USD1: ZWL\$671 as at 31 December 2022 to USD1: ZWL\$5,740 as at 30 June 2023. This is equivalent to an increase of approximately 755% in Zimbabwe dollar prices that are indexed to the US dollar.
  - The ZWL denominated ZSE all share index increased by 779% over the 6-month period to 30 June 2023.
- 1.7 The macroeconomic environment showed some signs of recovery in response to measures taken by the Ministry of Finance to stabilise the economy as evidenced by significant changes in the following market indicators over the period from 30 June 2023 to 16 August 2023;
  - The Zimbabwe Dollar, as determined by the “Interbank rate”, recovered against the United States Dollar from USD1: ZWL\$5,740 as at 30 June 2023 to USD1: ZWL\$4,557 as at 10 August 2023. This is equivalent to a decrease of approximately 21% in Zimbabwe dollar prices that are indexed to the US dollar since 30 June 2023.

- The ZSE all share index decreased by 30% since 30 June 2023.

1.8 There continues to be a need to cushion the pensioners against the high cost of living by way of pension increases. The cost of pension increases, in Zimbabwe dollars, will be mainly funded by the uplift in monetary values of the assets following the depreciation of the Zimbabwe dollar which will have contributed to the stock market and property value gains.

1.9 The Fund has also proposed awarding a combination of pension increases in Zimbabwean dollars and cash lump sum payments in United States dollars to the pensioners.

## 2 Previous Statutory Valuation

2.1 The previous statutory Actuarial Valuation was carried out as at 31 December 2022. The table below summarises the bonus and pension increase awarded to the membership of the Fund following the previous statutory valuation;

Date	SA1			SA2			SA3		
	Bonus	Pension Increase	ADB increase	Bonus	Pension Increase	ADB increase	Bonus	Pension Increase	ADB increase
31 December 2022	44.8%	42.2%	44.8%	46.6%	44.1%	46.6%	3.6%	0.0%	n/a

2.2 The table below illustrates the approximate funding position of the Fund following the implementation of the recommended bonus rates.

Valuation Date (amounts in ZWL\$ millions)	Before surplus apportionment				After surplus apportionment			
	31-Dec-22				31-Dec-22			
	SA1	SA2	SA3	Total	SA1	SA2	SA3	Total
Active Members' Fund Credits	31,057	19,723	3,767	54,547	44,980	27,370	3,888	76,238
Deferred Members' Fund Credits	14,172	1,646	175	15,993	20,527	2,398	181	23,106
Preserved Members' Fund Credits	2,963	214	31	3,208	4,304	325	33	4,662
Unclaimed (over age 65)Members' Fund Credits	442	22	3	467	641	31	3	675
Liability for contribution arrears	424	4,127	2,962	7,513	570	4,500	2,964	8,034
Current Pensioners' Liability	10,372	239	-	10,611	14,757	344	-	15,101
Suspended Pensioners' Liability	2,128	9	-	2,137	3,028	13	-	3,041
Suspended Pensioners' arrears	2,595	-	-	2,595	3,703	-	-	3,703
Additional Death Benefit Reserve	640	11	-	651	928	16	-	944
Data Reserve	1,069	128	-	1,197	1,548	188	-	1,736
Provision for exited members	538	68	20	626	819	129	22	970
Contingency Reserve	5,323	1,859	-	7,182	5,323	1,859	-	7,182
2009 Compensation Reserve	5,323	-	-	5,323	5,323	-	-	5,323
<b>Total Liability</b>	<b>77,046</b>	<b>28,046</b>	<b>6,958</b>	<b>112,050</b>	<b>106,451</b>	<b>37,173</b>	<b>7,091</b>	<b>150,715</b>
<b>Adjusted Assets</b>	<b>106,451</b>	<b>37,173</b>	<b>7,091</b>	<b>150,715</b>	<b>106,451</b>	<b>37,173</b>	<b>7,091</b>	<b>150,715</b>
<b>Surplus/ (Deficit)</b>	<b>29,405</b>	<b>9,127</b>	<b>133</b>	<b>38,665</b>	-	-	-	-
<b>Funding Level</b>	<b>138%</b>	<b>133%</b>	<b>102%</b>	<b>135%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

2.3 An interim actuarial valuation was carried out as at 30 April 2023. The table below summarises the bonus and pension increase awarded to the membership of the Fund following the interim valuation.

Date	SA1			SA2			SA3		
	Bonus	Pension Increase	ADB increase	Bonus	Pension Increase	ADB increase	Bonus	Pension Increase	ADB increase
30 April 2023	n/a	48.6%	50.5%	n/a	0.0%	47.4%	n/a	0.0%	n/a

## 3 Revenue account for the 6-month period to 30 June 2023

3.1 We have been provided with the Fund's management accounts for the period to 30 June 2023.

3.2 The table below shows the revenue account for the 6-month period to 30 June 2023

(amounts in ZWL\$ millions)	6-month period to 30 June 2023			
	SA 1	SA 2	SA 3	Total
<b>Fund @ beginning of period</b>	<b>106,261</b>	<b>34,734</b>	<b>4,914</b>	<b>145,909</b>
Prior year adjustment	9	(683)	707	33
<b>INCOME</b>				-
Member contributions	-	6,957	6,459	13,415
Employer contributions	-	6,979	6,459	13,438
Other contributions and provisions	-	-	-	-
Interest on contribution arrears	14	1,796	691	2,500
Investment income	2,660	2,625	659	5,944
Net rental income	1,108	(93)	(6)	1,009
Property revaluation	518,901	29,371	1,451	549,723
Unrealised gains	226,680	146,158	35,387	408,225
Other income	9,817	542	26,409	36,768
<b>Total Income</b>	<b>759,180</b>	<b>194,334</b>	<b>77,509</b>	<b>1,031,023</b>
<b>EXPENDITURE</b>				
Pension benefits	1,541	23	1	1,565
Other Benefits	604	337	155	1,095
Administration Expenditure	2,856	2,116	500	5,471
Provision for bad debts	3,379	3,582	29,907	36,868
Amounts written down on investments	-	-	-	-
<b>Total Expenditure</b>	<b>8,379</b>	<b>6,057</b>	<b>30,562</b>	<b>44,999</b>
<b>Fund @ end of period</b>	<b>857,071</b>	<b>222,327</b>	<b>52,568</b>	<b>1,131,966</b>

### Contributions and expenses

- 3.3 Total contributions invoiced were ZWL\$26.9 billion for the 6-month period to 30 June 2023. Cumulatively since 2009, total unpaid contributions amount to ZWL\$40.7 billion excluding interest (ZWL\$43.7 billion including interest).
- 3.4 An aggregate of ZWL\$37.4 billion has been provisioned as bad and doubtful debts in respect of outstanding contributions with interest in the financial statements. The unpaid contributions and interest have been considered as part of the Fund's assets for the actuarial valuation as required by the IPEC Revaluation Guideline. We have also provided for a liability in respect of contribution arrears.
- 3.5 An analysis of the administration expenses will be performed at the year-end valuation following the approval of the amended Rules which now provides for the funding of administration expenses from contributions for the relevant active membership categories.

## 4 Assets as at 30 June 2023

4.1 A summary of the Fund's assets is shown below.

### Summary of assets since the previous statutory valuation

Valuation Date (amounts in ZWL\$ millions)	31-Dec-22				30-Jun-23			
	SA1	SA2	SA3	Total	SA1	SA2	SA3	Total
Prescribed Assets	1,295	2,990	2,149	6,434	11,935	22,718	10,764	45,417
Old Mutual Guaranteed Fund	864	-	-	864	7,424	-	-	7,424
Quoted Shares	26,336	20,910	479	47,725	204,751	146,947	11,165	362,863
Unquoted Shares	2,890	-	-	2,890	23,578	-	-	23,578
Fixed Property	75,345	7,961	214	83,520	594,057	40,440	1,695	636,192
Fixed Income Investments	286	633	-	919	7,055	1,113	7,921	16,089
Money Market/Deposits	239	4	1,370	1,613	7,865	128	10,633	18,626

Net Current Assets	(994)	2,235	702	1,943	328	11,058	10,390	21,776
<b>Net Assets per Financial Statements</b>	<b>106,261</b>	<b>34,733</b>	<b>4,914</b>	<b>145,908</b>	<b>856,993</b>	<b>222,404</b>	<b>52,568</b>	<b>1,131,965</b>
Actuarial adjustments	190	2,440	2,177	4,807	48	5,948	27,211	33,207
<b>Adjusted Assets</b>	<b>106,451</b>	<b>37,173</b>	<b>7,091</b>	<b>150,715</b>	<b>857,041</b>	<b>228,352</b>	<b>79,779</b>	<b>1,165,172</b>

4.2 The market value of the Fund's assets as per the financial statements has increased from ZWL\$146 billion as at 31 December 2022 to ZWL\$1,132 billion as at 30 June 2023. The increase in the asset values was primarily driven by property revaluation gains and listed equity gains.

4.3 The Fund earned an aggregate investment return of approximately 710% over the 6-month period to 30 June 2023. We have also estimated the return achieved on the assets of each sub-account;

- For sub-account 1 – 730% for the 6-month period to 30 June 2023
- For sub-account 2 – 470% for the 6-month period to 30 June 2023
- For sub-account 3 – 8% for the 6-month period to 30 June 2023

4.4 We also note the Zimbabwe dollar has recovered over the period from 30 June 2023 to 16 August 2023.

- The Zimbabwe Dollar, as determined by the “Interbank rate”, recovered against the United States Dollar from USD1: ZWL\$5,740 as at 30 June 2023 to USD1: ZWL\$4,557 as at 10 August 2023. This is equivalent to a decrease of approximately 21% in Zimbabwe dollar prices that are indexed to the US dollar since 30 June 2023
- The ZSE all share index decreased by 30% since 30 June 2023

4.5 This suggests that the Fund will have incurred negative returns in Zimbabwe dollars since 30 June 2023.

## 5 Pensioners' Data as at 30 June 2023

5.1 The pensioners' valuation is based on the pensioners' data as at 30 June 2023 provided by the Fund's administrators.

5.2 The data was subjected to various checks for reasonability and consistency; we are reasonably satisfied with the accuracy and completeness of the data for the purposes of this approximate valuation.

<b>Current Pensioners</b>	<b>31-Dec-22</b>	<b>30-Jun-23</b>	<b>Change</b>
<b>Former Members</b>			
Number	7,543	7,493	-50
Pension Weighted Average Age	67.7	67.7	(0.0)
SA1 Annual Pension (ZWL\$ 'millions)	964.5	2,089.5	1,125.0
SA2 Annual Pension (ZWL\$ 'millions)	19.0	49.2	30.2
<b>Total Annual Pension (ZWL\$ 'millions)</b>	<b>983.6</b>	<b>2,138.7</b>	<b>1,155.1</b>
<b>Spouses</b>			
Number	1,017	977	-40
Pension Weighted Average Age	63.2	63.1	(0.1)
SA1 Annual Pension (ZWL\$ 'millions)	137.5	291.2	153.6
SA2 Annual Pension (ZWL\$ 'millions)	1.8	3.5	1.7
<b>Total Annual Pension (ZWL\$ 'millions)</b>	<b>139.3</b>	<b>294.7</b>	<b>155.3</b>

<b>Suspended Pensioners</b>	<b>31-Dec-22</b>	<b>30-Jun-23</b>	<b>Change</b>
<b>Former Members</b>			

Number	3,085	3,246	161
Pension Weighted Average Age	80.3	80.3	(0.1)
SA1 Annual Pension (ZWL\$ 'millions)	385.9	859.4	473.5
SA2 Annual Pension (ZWL\$ 'millions)	0.8	2.3	1.5
<b>Total Annual Pension (ZWL\$ 'millions)</b>	<b>386.7</b>	<b>861.7</b>	<b>475.1</b>
<b>Spouses</b>			
Number	469	522	53
Pension Weighted Average Age	78.8	78.0	(0.8)
SA1 Annual Pension (ZWL\$ 'millions)	62.1	147.0	85.0
SA2 Annual Pension (ZWL\$ 'millions)	0.0	0.1	0.1
<b>Total Annual Pension (ZWL\$ 'millions)</b>	<b>62.1</b>	<b>147.1</b>	<b>85.0</b>

## 6 Approximate Surplus position of the Fund as at 30 June 2023

6.1 The table below shows the estimated balance sheet as at 30 June 2023.

Valuation Date (amounts in ZWL\$ millions)	31-Dec-22				30-Jun-23			
	SA1	SA2	SA3	Total	SA1	SA2	SA3	Total
Member Fund Credits	70,453	30,126	4,105	<b>104,684</b>	68,981	39,711	50,796	<b>159,488</b>
Liability for contribution arrears	570	4,500	2,964	<b>8,033</b>	546	9,840	30,715	<b>41,101</b>
Pensioners' Liability	17,785	357	-	<b>18,142</b>	27,312	632	-	<b>27,944</b>
Suspended Pensioners' arrears	3,703	-	-	<b>3,703</b>	4,206	1	-	<b>4,207</b>
Additional Death Benefit Reserve	928	16	-	<b>944</b>	928	16	-	<b>944</b>
Data Reserve	1,548	188	-	<b>1,736</b>	1,548	188	-	<b>1,736</b>
Provision for exited members	819	129	22	<b>969</b>	819	129	186	<b>1,134</b>
Contingency Reserve	5,323	1,859	0	<b>7,181</b>	214,260	57,088	-	<b>271,348</b>
2009 Compensation Reserve	5,323	-	-	<b>5,323</b>	5,323	-	-	<b>5,323</b>
<b>Total Liability</b>	<b>106,451</b>	<b>37,173</b>	<b>7,091</b>	<b>150,715</b>	<b>323,923</b>	<b>107,605</b>	<b>81,697</b>	<b>513,225</b>
<b>Adjusted Assets</b>	<b>106,451</b>	<b>37,173</b>	<b>7,091</b>	<b>150,715</b>	<b>857,041</b>	<b>228,352</b>	<b>79,779</b>	<b>1,165,172</b>
<b>Surplus/ (Deficit)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>533,118</b>	<b>120,747</b>	<b>(1,918)</b>	<b>651,947</b>
<b>Funding Level</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>265%</b>	<b>212%</b>	<b>98%</b>	<b>227%</b>

6.2 The principal factors that gave rise to the current financial position are summarised in the table below.

Analysis of surplus (amounts in ZWL\$ millions)	SA1	SA2	SA3	Total
<b>Surplus/ (Deficit) as at 31 December 2022</b>	-	-	-	-
Investment return (exc prop revaluation)	240,155	149,306	62,449	<b>451,910</b>
Property Revaluation Gains	518,936	29,371	1,451	<b>549,758</b>
Increase in contingency reserve	(208,938)	(55,229)	-	<b>(264,167)</b>
Increase in provisions for rent & operational costs debtors	(3,401)	-	-	<b>(3,401)</b>
Pensioners' cost of guarantee	(546)	(13)	-	<b>(559)</b>
Cost of April 2023 pension increases	(15,671)	-	-	<b>(15,671)</b>
Administration expenditure	(2,856)	(2,116)	(500)	<b>(5,471)</b>
Miscellaneous gains/ (strains)	5,439	(572)	(65,318)	<b>(60,452)</b>
<b>Surplus/ (Deficit) as at 30 June 2023</b>	<b>533,118</b>	<b>120,747</b>	<b>(1,918)</b>	<b>651,947</b>

### Investment return above valuation assumption (excl. property revaluation)

- The Fund earned investment returns (excluding property revaluation) primarily driven by gains on listed equities. This led to gains of ZWL\$450 billion.

### Property Revaluation Gains

- Property values determined by the property valuers in Zimbabwe Dollars are correlated to the USD and the prevailing exchange rate. Property revaluation gains, primarily due to the depreciation of the Zimbabwe Dollar led to gains of ZWL\$550 billion.

**Increase in contingency reserve**

- The Zimbabwe Dollar, as determined by the “Interbank rate”, recovered against the United States Dollar from USD1: ZWL\$5,740 as at 30 June 2023 to USD1: ZWL\$4,557 as at 10 August 2023. This is equivalent to a decrease of approximately 21% in Zimbabwe dollar prices that are indexed to the US dollar since 30 June 2023
- The ZSE all share index decreased by 30% since 30 June 2023
- This suggests that the Fund will have incurred negative returns in Zimbabwe dollars since 30 June 2023 hence we have increased the contingency reserved from 5% to 25% of the value of assets.

6.3 The table below shows the affordable pension increases based on the financial position as at 30 June 2023.

Rate	Membership Category	Sub-Account	Maximum increase	Approximate Cost (ZWL\$ millions)
<b>Affordable Pension Increase</b>	<b>Current and Suspended Pensioners</b>	Sub-account 1	365%	99,700
		Sub-account 2	270%	2,310
		Sub-account 3	0.0%	-

6.4 We understand that the Fund intends to pay a proportion of the cost of pension increases as a lump sum in lieu of pension increases such that pensioner would receive

- A lump sum in lieu of a part of the pension increases due, plus
- The residual pension increases which will be determined from the aggregate cost of pension increases less the lump sum paid in (i)

6.5 The table below illustrates a few scenarios showing the cost of the lump sum payable (in ZWL and USD) and different options of lump sum payments and residual pension increases.

- For example, under sub account 1, the maximum pension increase is 365%. If the Fund paid the equivalent of 50% pension increases as a lump sum in lieu of pension increases, this would cost ZWL 13,700 million (or USD 2.4 million) leaving a residual pension increase of 315% due to pensioners.
- Similarly, under sub account under sub account 2, the maximum pension increase is 270%. If the Fund paid the equivalent of 50% pension increases as a lump sum as a lump sum in lieu of pension increases, this would cost ZWL 320 million (or USD 56,000) leaving a residual pension increase of 220% due to pensioners.

Sub-account 1				
Maximum Pension increases	(i)Lumpsum in lieu of pension increase	ii)Residual Pension Increase	Cost of lump sum (ZWL millions)	Cost of lump sum (USD '000s)
365%	10%	355%	2,730	480
365%	25%	340%	6,830	1,190
365%	50%	315%	13,660	2,380
365%	75%	290%	20,480	3,570
365%	100%	265%	27,310	4,760

**Sub-account 2**

Maximum Pension increases	(i)Lumpsum in lieu of pension increase	Residual Pension Increase	Cost of lump sum (ZWL millions)	Cost of lump sum (USD '000s)
270%	10%	260%	60	10
270%	25%	245%	160	30
270%	50%	220%	320	60
270%	75%	195%	470	80
270%	100%	170%	630	110

## 7 Recommendations

7.1 We have determined the high-level allocation of the surplus as at 30 June 2023 in accordance with the requirements of the IPEC Revaluation Guideline.

7.2 We recommend the following pension increase rates and interim bonus rates;

Issue	Membership Categories	SA 1	SA 2	SA 3	Comments
<b>Pension Increase</b>	Current and Suspended Pensioners	365%	270%	0%	with effect from 1 July 2023 (pro-rated for pensions commencing after 1 May 2023)
<b>Additional Death Benefit</b>	Active & Pensioners	520%	355%	n/a	For the 6-months to 30 June 2023 (pro-rated for exits before 30 June 2023)
<b>Interim Bonus</b>	Outstanding benefits,	35.7% per month	29.0% per month	0%	for exit benefits after 31 December 2022 (For the 6-months to 30 June 2023)

7.3 The cost of the pension increases can be provided as a combination of cash in lieu of pension increases, and standard pension increases in accordance with the tables under paragraph 6.5 above, subject to the liquidity resources of the Fund and regulatory approval.

7.4 The balance of the surplus after allowing for the cost of pension increases will be apportioned to Active, Deferred & Preserved membership categories at the 31 December 2023 valuation in accordance with the requirements of the IPEC Revaluation Guideline.

## 8 Sub-account 1 liquidity requirements

8.1 As required by the IPEC Revaluation Guideline, sub-account 1 is ring-fenced from sub-account 2. However, all contribution income is credited to sub-account 2, whilst most of the pension and benefit payments from the Fund are in respect of sub-account 1 benefits. This results in a negative cashflow position in sub-account 1.

8.2 Therefore cash resources from Sub-account 2 have been used to meet Sub-account 1 liquidity requirements. As at 30 June 2023, sub-account 1 has a liability of ZWL\$2.4 billion due to sub-account 2. This amount, or assets of equivalent value, will need to be transferred to sub-account 2 together with an appropriate allowance for interest to ensure no prejudice to sub-account 2 benefits.

8.3 We recommend that the Fund management should perform an analysis to develop a financing strategy to ensure that sub-account 1 liquidity requirements are appropriately financed with no prejudice to sub-account 2.

## 9 Sub-account 3 funding level



9.1 We note that the Sub-account 3 financial statements at 30 Junel 2023 allow for an '*adjustment for Prior period Reallocations*' of USD (978,000) which has the impact of reducing the surplus by the same amount.

- We have not performed a full assessment of the Sub-account 3 members Fund credits to verify if any of this amount is offset by a corresponding decrease in members fund credits.
- Therefore as a result of this adjustment, we note that the funding level for Sub-account 3 is now estimated to be 98% at 30 Junel 2023 which is below the 100% expected for defined contribution funds. We will assess this position at the year-end valuation as at 31 December 2023 when full data has been provided.



**Tigere Mutare, FIA, AMASSA.**

*(in my capacity as consulting actuary to The Mining Industry Pension Fund and on behalf of Stalwart Actuaries and Consultants)*

**13 September 2023**

*For the purposes of professional regulation, my professional principal regulator is the Institute and Faculty of Actuaries (UK)*

# APPENDIX I: VALUATION METHOD AND ASSUMPTIONS

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## Valuation Method

### Liability prior to retirement

The accrued liabilities in respect of active, deferred, and preserved members of the Fund were calculated as the aggregate of;

- The opening liability in the DC fund as at 1 January 2021 (set equal to the actuarial value of the benefits accrued under the previous benefits structure up to 31 December 2020, including all bonuses declared to 31 December 2020) plus;
- Member contributions paid from 1 January 2021 to the valuation date plus;
- Employer contributions paid from 1 January 2021 to the valuation date less;
- Benefits paid from 1 January 2021 to the valuation date plus;
- any Fund interest declared from 1 January 2021 up to the valuation date

### Provision for liability in respect of contribution arrears

The membership data provides members' accrued benefits based on contributions received by the Fund only. i.e. the membership data provided does not include members' accrued deferred pensions based on contributions invoiced but not received by the Fund.

The IPEC Revaluation Guideline requires contribution arrears to be included as part of the assets of the Fund. To ensure consistency between assets and liabilities we have therefore estimated the actuarial liability in respect of contribution arrears from the contribution debtors' age analysis provided by the administrators of the Fund.

### Pensioners' liability

The liability for pensions in payment is determined, using actuarial assumptions, by projecting pensions in payments over the expected future life-times of the pensioners and contingent beneficiaries, and discounting the projected payments back to the present.

### Pensioners' post-retirement valuation assumptions

The most significant elements of the pensioners' valuation basis are the rate of return earned on the assets, the assumed rate of growth in accrued pensions and the mortality assumption.

The relative level of these assumptions with regard to each other is more important than the absolute levels. The absolute levels are chosen with regard to the long-term nature of the Fund. The valuation results are particularly sensitive to the difference between the valuation rate of interest and the assumed rate of pension and deferred pension inflation.

### Interest rate

The net rate of return assumptions reflects the time value of money and the estimated timing of benefit payments - normally determined by reference to the expected long-term investment return from the Fund's assets. However, the current adverse and volatile investment climate and lack of long-term bonds makes it difficult to determine an objective long-term expected return.

For current valuation, we have retained the following financial assumptions adopted at the previous valuation;

- The assets of the Fund will earn a return of 5.69% per annum;

- No explicit allowance has been made for pension increases;

### **Mortality**

The post-retirement mortality rates will provide an estimate of the expected future lifetimes of the pensioners and contingent beneficiaries.

It should also be noted that significant mortality improvements have been observed internationally – increasing the cost of funding defined benefits. These improvements are largely a result of the advances of science and medicine. Whilst there is little evidence to predict when these changes will apply to Zimbabwe, it may soon be appropriate to include an explicit allowance for mortality improvement in future valuations.

We have assumed that the post-retirement mortality experience of the Fund will be in line with the 85% of the a(55) Ultimate mortality tables.

This is informed by a pensioner mortality experience of the Fund, over the 5-year period from 2013 to 2017. This analysis showed that the actual number of pensioners deaths reported for the pensioner lives under investigation was approximately 90% of the expected deaths in accordance with 100% of the a(55) Ultimate mortality tables.

Future life expectancy in accordance with 85% of the a(55) mortality table is as follows;

- A male pensioner aged 60 years will live to age 78.6
- A female pensioner aged 60 years will live to age 82.5

### **Other Demographic assumptions**

We have further assumed that all members reaching Normal Retirement Age will retire at that age and that members over Normal Retirement Age retire immediately;

For the purpose of valuing Spouse's benefits after retirement, we have assumed that all males are married with wives 5 years younger than themselves at retirement and all females are married with husbands 5 years older than themselves at retirement. This assumption is unchanged from the previous valuation.

### **Expenses assumptions**

It was assumed that administrative expenses would be paid from the Fund. This assumption is unchanged from the previous valuation.

### **Suspended pensioners' valuation**

The liability for suspended pensioners allows for the probability that suspended pensioners may have died since the date of suspension.

The liability for suspended pension arrears has been taken at 100% of pension arrears. We have also allowed for interest on suspended pension arrears equivalent to the bonus declared for active members.

### **Reserve for Additional Death Benefits**

The Rules of the Fund provide for the payment, on death of an Active member or a Pensioner, of an Additional Death Benefit to cover funeral costs. The amount of the benefit shall be determined by the Board of Trustees.

Prior to conversion of benefits from Defined Benefit to Defined Contribution, separate actuarial reserves were established for Sub-account 1 and Sub-account 2 to meet the cost of the additional death benefits. These reserves have been retained under the new defined contribution structure.

## APPENDIX II: SENSITIVITY ANALYSIS

### Sensitivity of results to market conditions

As the assets of the Fund are taken at their market value, volatility in investment performance can have an immediate effect on the funding level and surplus.

This is particularly relevant because the Fund is invested predominantly in riskier assets such as equities and property. A rise or fall in the level of equity and property markets has a direct impact on the financial position of the Fund.

The table below shows how the funding level and deficit would vary if investment conditions at 30 April 2023 had been different.

Asset class	Change	Change in surplus \$'millions	Change in funding level %
<b>Listed equities</b>	Lower by 25%	(90,716)	(18)%
<b>Fixed Property</b>	Lower by 25%	(159,048)	(31)%
<b>Listed equities</b>	Higher by 25%	90,716	18%
<b>Fixed Property</b>	Higher by 25%	159,048	31%

### Sensitivity of results to pensioners' valuation assumptions

It is important to understand that the pensioner' valuation results indicate the expected cost of providing the benefits using the chosen method and assumptions. The actual cost of providing the benefits will depend on the actual experience.

In order to illustrate this, a number of calculations have been carried out to highlight the sensitivity of the funding position to the assumptions adopted, focusing on the assumptions to which the funding position is most sensitive, as shown below:

Assumption	Change	Change in liability \$'millions	Change in liability %
<b>Discount rate</b>	Increase by 1%	(1,908)	(6.8)%
	Decrease by 1%	2,159	7.7%
<b>Life expectancy</b>	Increase by 1 year	1,724	6.2%
	Decrease by 1 year	(1,822)	(6.5)%