THE MINING INDUSTRY PENSION FUND

Actuarial Valuation as at 30 June 2020

Prepared by

Tigere Mutare, FIA

January 2021

Contents

1. EXECUTIVE SUMMARY

To the Trustees,

1.1 In accordance with your instructions, we have carried out an actuarial valuation of the Mining Industry Pension Fund ("the Fund") as at 30 June 2020.

Purpose of the current valuation

1.2 The objectives of the current actuarial valuation of the Fund are to;

- Investigate and report on the financial position of the Fund on an ongoing basis in respect of the liabilities accrued prior to the Valuation Date.
- Determine and allocate currency Revaluation Gains in accordance with the IPEC Revaluation Guideline.
- Make recommendations as to the level of 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 2020.

Previous Statutory Valuation

1.3 The previous statutory Actuarial Valuation was carried out as at 31 December 2019 by Mr. Tigere Mutare. The valuation revealed the following;

- The value of the Sub-account 1 accrued liabilities as at 31 December 2019 was ZWL$1.3 billion compared with an asset value of ZWL$2.3 billion. This is equivalent to a surplus of ZWL$1.0 billion.
- The value of the Sub-account 2 accrued liabilities as at 31 December 2019 was ZWL$156 million compared with an asset value of ZWL$145 million. This is equivalent to a deficit of ZWL$11 million.

The recommendations adopted following the previous valuation are set out in section 2.12 of this report.

Inter-valuation events

1.4 An interim pensioners' actuarial valuation was carried out as at 31 March 2020 to determine the feasibility of awarding pension increases and bonuses to the Fund. The recommendations made at the interim valuation are set out in section 2.14 of this report.

Membership as at 30 June 2020

1.5 The valuation of the Fund is based on the following membership numbers;

Category	31-Dec-19	30-Jun-20	Change
Active Members	22,418	22,526	108
Deferred Pensioners	41,312	41,560	248
Preserved Pensioners	8,004	8,071	67
Current Pensioners	9,112	8,074	-1,038
Suspended Pensioners	2,548	3,652	1,104
Total	**83,394**	**83,883**	**489**

Contributions and expenses

1.6 Total contributions invoiced were ZWL$190.8 million for the period to 30 June 2020. Cumulatively since 2009, total unpaid contributions amount to ZWL$124.1 million excluding interest ($190.6 million including interest).

1.7 These outstanding contributions with interest have been provisioned as bad and doubtful debts in the financial statements. However, 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.

1.8 The Rules of the Fund require that administration expenses should not exceed 15% of contribution income. The Fund incurred administration expenses amounting to ZWL$26.9 million (14% of contribution income).

Assets

1.9 The current macroeconomic environment is volatile and highly uncertain. Inflationary pressures have continued to reduce real disposable income levels and economic productivity. Furthermore, the steps taken in response to the spread of COVID-19 have resulted in disruption to business operations and an increase in economic uncertainty.

1.10 We have noted the following market indicators;

- Inflation as measured by the CPI was 162% over the 6-month period to 30 June 2020 (737% over the year to 30 June 2020).
- The ZSE all share index increased by 677% over the 6-month period to 30 June 2020.
- The Zimbabwe Dollar depreciated against the United States Dollar from USD$ 1: ZWL$16.8 as at 31 December 2019 to USD$ 1: ZWL$57.4 as at 30 June 2020.

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

Asset Class (amounts in ZWL$ millions)	Sub-account 1 31-Dec-19	Sub-account 2 31-Dec-19	Total 31-Dec-19	Sub-account 1 30-Jun-20	Sub-account 2 30-Jun-20	Total 30-Jun-20
Prescribed assets	15.7	18.9	**34.6**	4.0	199.2	**203.2**
Old Mutual Guaranteed Fund	16.3	-	**16.3**	65.2	-	**65.2**
Quoted Shares	367.9	68.2	**436.1**	2,201.0	494.6	**2,695.6**
Unquoted Shares	43.3	-	**43.3**	182.5	-	**182.5**
Fixed Property	949.4	1.0	**950.4**	4,604.5	28.5	**4,633.0**
Fixed Income Investments	28.6	1.0	**29.7**	22.1	6.3	**28.3**
Money Market/Deposits	0.4	2.3	**2.7**	0.3	8.9	**9.2**
Net Current assets	(2.3)	35.5	**33.2**	4.0	60.2	**64.2**
Assets as per Financial Statements	**1,419.4**	**126.9**	**1,546.3**	**7,083.7**	**797.6**	**7,881.3**
Add back provision for contributions bad debts	95.0	16.7	111.7	100.0	51.5	**151.5**
Provision for interest on contribution arrears at Fund rate of return	785.1	-	785.1	4,014.2	44.5	**4,058.7**
Benefits overstated	-	1.2	1.2	-	-	**-**
Sub- account 2 contributions overstated				8.1	(8.1)	**-**
Adjusted Assets	**2,299.5**	**144.8**	**2,444.4**	**11,197.9**	**893.6**	**12,091.4**

1.12 The market value of the Fund's assets as per the financial statements has increased from ZWL$1.5 billion as at 31 December 2019 to ZWL$7.9 billion as at 30 June 2020. The increase in the asset values was mainly driven by listed equity gains and property revaluation gains.

1.13 The Fund earned an aggregate investment return of approximately 359% over the 6-month period to 30 June 2020. We have also estimated the return achieved on the assets of each sub-account;

- For sub-account 1 - 381% for the 6-month period to 30 June 2020
- For sub-account 2 – 219% for the 6-month period to 30 June 2020

Property revaluation Smoothing Reserve

1.14 Properties market values have increased from ZWL$1.0 billion as at 31 December 2019 to ZWL$4.6 billion as at 30 June 2020.

1.15 The increase in the property market values has not been matched by the increase in net rental income. We have therefore established a property revaluation smoothing reserve equivalent to 40% of the property market values as at 30 June 2020. This reserve will be monitored regularly and gradually released to members' accrued pensions in line with observed and projected increases in net rental income.

Past Service Valuation results

1.16 The table below shows the balance sheet as at 30 June 2020. The liability values allow for the bonus and pension increases adopted as at 31 December 2019 and the 30% increase to pensions in payment effective from 1 April 2020.

Membership categories (amounts in ZWL$ millions)	Sub-account 1 31-Dec-19	Sub-account 2 31-Dec-19	Total 31-Dec-19	Sub-account 1 30-Jun-20	Sub-account 2 30-Jun-20	Total 30-Jun-20
Actives' Liability	596.5	133.0	**729.5**	620.8	315.5	**936.3**
Deferred Pension Liability	205.1	5.8	**210.9**	212.3	9.3	**221.6**
Preserved Pension Liability	47.1	0.1	**47.2**	53.3	0.6	**53.9**
Current Pensioners' Liability	235.7	0.6	**236.3**	279.4	1.5	**280.9**
Suspended Pensioners' Liability	31.2	-	**31.2**	70.4	0.1	**70.5**
Suspended Pensioners' arrears	37.9	-	**37.9**	41.7	-	**41.7**
Additional Death Benefit Reserve	12.2	0.1	**12.3**	12.8	-	**12.8**
Provision for liability in respect of contribution arrears	321.7	16.6	**338.3**	268.9	31.7	**300.6**
Data Reserve	15.1	-	**15.1**	15.6	-	**15.6**
Provision for Revaluation Gains for exited members	11.9	-	**11.9**	11.8	-	**11.8**
Provision for fund return on contribution arrears	785.1	-	**785.1**	4,014.2	44.5	**4,058.7**
Contingency Reserve	-	-	-	359.2	42.5	**401.7**
Property Revaluation Smoothing Reserve	-	-	-	1,841.8	11.4	**1,853.2**
Total Liability	**2,299.5**	**156.2**	**2,455.7**	**7,802.2**	**457.1**	**8,259.3**
Adjusted Assets	**2,299.5**	**144.8**	**2,444.3**	**11,197.9**	**893.6**	**12,091.5**
Surplus/ (Deficit)	**0.0**	**(11.4)**	**(11.4)**	**3,395.7**	**436.5**	**3,832.2**
Funding Level	**100.0%**	**92.7%**	**99.5%**	**143.5%**	**195.5%**	**146.4%**

1.17 The value of the Sub-account 1 accrued liabilities as at 30 June 2020 was ZWL$7.8 billion compared with an asset value of ZWL$11.2 billion. This is equivalent to a surplus of ZWL$3.4 billion.

1.18 The value of the Sub-account 2 accrued liabilities as at 30 June 2020 was ZWL$460 million compared with an asset value of ZWL$890 million. This is equivalent to a surplus of ZWL$440 million.

Analysis of Surplus

1.19 The principal factors that gave rise to the current financial position are summarised in the table below. Further details are provided from Section 8.8.

Analysis of surplus (amounts in ZWL$ millions)	Sub-account 1	Sub-account 2	Total
Surplus/ (Deficit) as at 31 December 2019	-	(11.4)	**(11.4)**
Interest on deficit	-	(0.3)	**(0.3)**
Value of benefits purchased in excess of contributions paid	-	(26.7)	**(26.7)**
Investment return above valuation assumption (excl prop revaluation)	1,949.9	494.7	**2,444.6**
Property Revaluation Gains	3,654.9	17.8	**3,672.7**
Property Revaluation Smoothing Reserve	(1,841.8)	(11.4)	**(1,853.2)**
Cost of pension increases	(80.7)	0.0	**(80.7)**
Data Reserve	0.0	0.0	**0.0**
Difference between data and financials	0.0	10.5	**10.5**
Administration expenditure	(17.8)	(2.7)	**(20.5)**
Contingency Reserve	(359.2)	(42.5)	**(401.6)**
Miscellaneous gains/ (strains)	90.5	8.5	**99.0**
Surplus/ (Deficit) as at 30 June 2020	**3,395.7**	**436.5**	**3,832.3**

1.20 We have determined the allocation of the surplus as at 30 June 2020 in accordance with the requirements of the IPEC Revaluation Guideline.

1.21 In determining the level of bonuses and pension increases that can be afforded by the Fund, we have also considered the following matters;

- The current macroeconomic environment is volatile and highly uncertain. The Fund remains exposed to the Funding risks highlighted in Section 4 with no real guarantee provided by the Sponsoring Employers in the event of adverse future experience.
- The results and the available surplus from this valuation are heavily dependent on the property valuation. The significant increase in property market values since the previous valuation has not been matched by the increases in net rental income.
- The underlying United States dollar denominated property market values have been volatile. Property market values increased significantly from US$60 million as at 31 December 2019 to US$81 million as at 30 June 2020. At the previous valuation property market values had decreased from US$100 million as at 31 December 2018 to US$60 million as at 31 December 2019.
- The property market values provided as at 30 June 2020 are based on a 'desktop' valuation. A formal valuation is due as at 31 December 2020.
- It is unclear if it would be permissible to reverse gains allocated to members in the event of the Fund experiencing negative Revaluation Gains in future – thus a cautious approach to bonus and pension increases is recommended.
- We have been provided draft financial statements for the 9 months to September 2020 which show no further material Revaluation Gains since 30 June 2020.

1.22 We recommend the following bonus and pension increase rates;

Issue	Membership Category	Sub-Account	Recommendation
Bonus	Active, Deferred & Preserved Members	Sub-account 1	230% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Pension Increase	Current and Suspended Pensioners	Sub-account 1	153.8% with effect from 1 July 2020 (i.e. equivalent to 230% less the 30% increase from 1 April 2020)

Additional Death Benefit increase	Active & Pensioners	Sub-account 1	230% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Interim Bonus	Active, Deferred & Preserved Members	Sub-account 1	0% for exits after 30 June 2020
Bonus	Active, Deferred & Preserved Members	Sub-account 2	197% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Pension Increase	Current and Suspended Pensioners	Sub-account 2	197% with effect from 1 July 2020
Additional Death Benefit increase	Active & Pensioners	Sub-account 2	197% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Interim Bonus	Active, Deferred & Preserved Members	Sub-account 2	0% for exits after 30 June 2020

1.23 For the purposes of the valuation, we have allowed for interest on suspended pension arrears equivalent to the bonus declared for active members. We recommend that the Fund formally adopts this approach to accrue interest on suspended pension arrears and other outstanding benefit payments to preserve value for late claims on benefits.

1.24 As sub-account 1 is ring-fenced from sub-account 2, cash inflows into sub-account 1 are now limited. There is a risk of insufficient cash resources from sub-account 1 to meet benefit payments and expenses if these benefits and expenses increase at a faster rate than the income generated from sub-account 1 assets. We recommend an investigation into the future liquidity requirements for sub-account 1. The liquidity requirements can be met from a transfer of assets from sub-account 1 to sub-account 2 at values that meet the requirements of the IPEC Revaluation Guideline.

2. INTRODUCTION

2.1 We have pleasure in presenting to the Board of Trustees of the Mining Industry Pension Fund ("the Fund") this report on the results of the actuarial valuation as at 30 June 2020 (the "Valuation Date") of the Fund. This valuation is required in terms of Sections 11.3 and 11.4 of the IPEC Revaluation Guideline.

2.2 Details of the Fund benefits are outlined in Section 3 while a summary of the benefits considered for valuation purposes is set out in Appendix I. A summary of the Fund membership data is given in Section 5. The valuation method and valuation basis are discussed and described in Section 7.

The IPEC Revaluation Guideline

2.3 The Government of Zimbabwe initiated currency reforms during October 2018 which continued during 2019. The Government discontinued the use of multicurrency system which had been in force and introduced the Zimbabwe dollar as the sole legal tender.

2.4 The currency reforms triggered a rise in the inflation rate and instability in the exchange rate that produced extraordinary gains in asset values, referred to as “Revaluation Gains,” for most insurance companies and pension funds.

2.5 In response to the currency reforms, the Insurance and Pensions Commission (IPEC) issued a guideline framework in March 2020 on the determination and treatment of the Revaluation Gains. This "*Guideline for the Insurance and Pensions Industry on Adjusting Insurance and Pension Values in Response to Currency Reforms*" was issued in terms of Section 3 (1) (a) of Statutory Instrument 69 of 2020 which empowers the Insurance and Pensions Commission to issue guidelines and standards following currency conversions.

2.6 The IPEC Revaluation Guideline provides the key principles to be adhered to by all insurance companies and pension funds when determining and allocating Revaluation Gains that arose as a result of the currency reforms.

2.7 The IPEC Revaluation Guideline also requires that;

- all assets and liabilities accrued to 31 December 2018 should be ring-fenced from assets and liabilities accrued from 1 January 2019. This is intended to ensure a separation of assets and liabilities that were previously denominated in USD$ from assets and liabilities denominated in ZWL$.
- the assets and liabilities considered for Revaluation Gains should include contribution arrears.

2.8 Sections 11.3 and 11.4 of the IPEC Revaluation Guideline require;

- Revaluation Gains to be calculated and allocated at each Measurement Dates, and
- Measurement dates to remain bi-annually until IPEC issues a Guideline allowing for a return to annual Measurement Dates.

Purpose of the current valuation

2.9 The objectives of the current actuarial valuation of the Fund are to;

- Investigate and report on the financial position of the Fund on an ongoing basis in respect of the liabilities accrued prior to the Valuation Date.
- Determine and allocate currency Revaluation Gains in accordance with the IPEC Revaluation Guideline.
- Make recommendations as to the level of 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 2020.

Previous Statutory Valuation

2.10 The previous statutory Actuarial Valuation was carried out as at 31 December 2019 by Mr. Tigere Mutare. The valuation revealed the following;

- The value of the Sub-account 1 accrued liabilities as at 31 December 2019 was ZWL$1.3 billion compared with an asset value of ZWL$2.3 billion. This is equivalent to a surplus of ZWL$1.0 billion.
- The value of the Sub-account 2 accrued liabilities as at 31 December 2019 was ZWL$156 million compared with an asset value of ZWL$145 million. This is equivalent to a deficit of ZWL$11 million.

2.11 The following recommendations were adopted by the Fund;

Bonus and pension increase

- a bonus of 192.9% for the year to 31 December 2019 to Sub-account 1 accrued pensions for active members, deferred pensions, preserved pensions.
- a pension increase of 189.9% to Sub-account 1 pensions in payment as at 31 December 2019. (adjusted for pension increases of 50% and 90% implemented as at 1 July 2019 and 1 January 2020, respectively).
- No pension increase or bonus to Sub-account 2 accrued pensions and pensions in payment.

Additional Death Benefit

- The Trustees award an increase of 192.9% to the Sub-account 1 Additional Death Benefit. (adjusted for the increases of 50% implemented as at 30 June 2019)
- The Fund maintained the Additional Death Benefit at $1,500 for Sub-Account 2.

Inter-valuation events

2.12 An interim actuarial valuation was carried out as at 31 March 2020 to determine the feasibility of awarding pension increases to the pensioners of the Mining Industry Pension Fund ("the Fund").

2.13 Following the results of the interim valuation as at 31 March 2020, the Trustees resolved to award a pension increase of 30% to Sub-account 1 pensions in payment as at 31 March 2020 (including suspended pensioners).

2.14 We have not been advised of any changes to the benefit structure during the period since the last valuation.

COVID-19 Pandemic

2.15 The World Health Organisation declared the COVID-19 coronavirus outbreak to be a pandemic in March 2020.

2.16 The Government took steps to control the spread of the virus and announced a lockdown which restricted movement of people and introduced curfews.

2.17 The steps taken in response to the spread of COVID-19 resulted in disruption to business operations and increased in economic uncertainty.

2.18 The long-term impact of COVID-19 on the demographics and financial performance of the Fund is unclear. We have made no allowance for the impact of COVID-19 in this valuation.

Professional Issues

2.19 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.

2.20 The Technical Actuarial Standards are issued by the Financial Reporting Council (FRC) which sets technical standards for actuarial work in the UK. As the Fund does not fall under the geographic scope of the FRC, certain aspects have no relevance in this case.

2.21 The report was peer reviewed by an external independent actuary as required by section 27.3 of the IPEC Revaluation Guideline.

Reporting Currency

2.22 Please note that all monetary amounts in this report are denominated in Zimbabwe dollars unless specified otherwise.

Reliance and Limitations

2.23 This report, its opinions and conclusions are for the use of the Trustees of the Fund. The report should not be regarded as suitable for use by any other persons or for any other purpose not specified. It may be submitted to the relevant stakeholders of the Fund with the approval of the Trustees.

2.24 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.

3. KEY FEATURES OF THE FUND

3.1 The Mining Industry Pension Fund (“the Fund”) commenced on 1 July 1952. The Fund was established through a memorandum of an agreement between the Chamber of Mines of Zimbabwe ("the Employers' organization"), and the Associated Mine Workers Union of Zimbabwe and the Mine Officials and Salaried Staff Association (" the trade unions").

Contributions to the Fund

3.2 Members contribute 7.5% and the Employers contribute a minimum of 7.5% of pensionable emoluments to the Fund so that the total contribution rate is a minimum of 15% of pensionable emoluments.

3.3 The member may contribute at a higher rate up to a maximum contribution rate of 15% if he/she so wishes. The Employer has no limit on his contribution rate.

3.4 These contributions are used to purchase deferred annuities, payable from Normal Retirement Date, in respect of active members.

Benefits purchased by contributions

3.5 The amounts of the deferred annuities purchased are determined by reference to a set of factors which assumes that administration expenses are paid out of the Fund, i.e. there is no allowance for such expenses in the factors.

3.6 The normal retirement age is 60 years. However, we understand that deferred annuities for all members are purchased by reference to factors which assume

- a retirement age of 65,
- a 5-year guarantee period, and that
- the annuity is payable as a single life pension only.

3.7 Members’ pensions are then reduced accordingly based on the actual retirement age, the corresponding reduction factors, and whether the retiring member opts for a 10-year guarantee period and/or a joint & survivorship pension.

3.8 At each valuation of the Fund bonuses are added to the existing accrued pensions of active members, to deferred pensions and to pensions in payment, depending on the level of surplus available.

3.9 Once contributions have been applied to purchase deferred pensions the pensions so purchased (or any bonus pension declared) becomes part of the accrued liabilities of the Fund, and therefore represents a promise made by the Fund to the members concerned.

3.10 The Fund guarantees such pensions while solvent. To the extent that the Fund guarantees all accrued pensions, deferred pensions and pensions in payment, the valuation should set aside sufficient reserves to meet the promise. The valuation also recommends the necessary and sufficient conditions required to maintain solvency.

Benefit structure

3.11 A summary of the present benefit structure, as set out in the Rules of the Fund and considered in the valuation, is set out in Appendix I. We have not been informed of any significant changes to the benefit structure of the Fund over the inter-valuation period.

4. RISKS OF THE FUND

Nature of benefits

4.1 In a pure defined contribution fund, the members are expected to bear the investment and experience risks of the Fund as benefits will depend on the underlying experience of the Fund. In this regard, the benefit structure of the Fund has defined contribution features.

4.2 However, the Fund guarantees pre-determined deferred pension and also pays guaranteed pensions directly from the Fund. Therefore, the benefits offered are in fact defined benefit in nature.

4.3 In a defined benefit scheme, the benefits are normally guaranteed by the sponsoring employers who bear the investment and experience risks of the Fund.

4.4 It is however noted that there is no provision within the Rules of the Fund to demand additional contributions from the sponsoring employers in the event of an actuarial deficit emerging in the Fund. However, Rule 34(2) allows Employer members to make additional contributions to the Fund to make it financially sound.

4.5 In the absence of additional contributions by the sponsors of the Fund, Members of the Fund are therefore exposed to the following risks.

Investment risk and negative bonuses

4.6 The amount of pension which can be purchased will depend critically on the pension purchase factors. If investment returns are lower than implied in the pension purchase factors, then a deficit may emerge in the Fund.

4.7 The Funding level of the Fund will therefore fluctuate with investment market conditions and there is risk that the Fund could suffer significant falls in value under adverse investment market conditions.

4.8 There is therefore a risk that negative bonuses may have to be awarded to members in the event of prolonged poor returns.

Inflation risk

4.9 There is a risk of reduced purchasing power due to investment returns failing to keep up with inflation.

Expense risk

4.10 The Employer does not pay additional contributions to meet the cost of administration expenses and risk benefits. Expenses are effectively assumed to be met from investment returns. There is a risk that the level of expenses becomes too high, leading to further charges on members' accrued pensions.

Risk of reduced pensions

4.11 Pension payments, once set, are guaranteed by default in terms of the Rules of the Fund and met directly from the Fund.

4.12 There is a risk of deficits emerging if actual experience (e.g. mortality and investments) is worse than assumed in pension purchase factors.

4.13 Members face the risk of reduction in accrued pensions if the deficits are not reduced either through additional Employer funding or improved investment returns.

5. MEMBERSHIP DATA

5.1 The data required for the valuation has been obtained from records which are maintained by the Fund. The data was subjected to various checks for reasonability and consistency; we are satisfied with the accuracy and completeness of the data for the purposes of this Valuation. In cases where data was not available but was of no material consequence to the financial position of the Fund, we have made necessary assumptions.

5.2 While data checks are performed for the valuation, the final accountability for the accuracy of the Fund's data, however, resides with the Trustees and their appointed Administrators.

5.3 A summary of the active membership data on which the valuation has been based, together with statistics derived from this data, is set out below. Additional membership data statistics are in Appendix III of the report.

Key membership statistics

5.4 The following summarizes the membership data provided as at the current valuation date and the previous valuation date:

Active members	**31-Dec-19**	**30-Jun-20**	**Change**
Number	22,418	22,526	108
Pension Weighted Average Age	39.7	40.4	0.6
Total Accrued Pension	$124,038,109	$333,901,764	$209,863,655
Deferred Pensioners	**31-Dec-19**	**30-Jun-20**	**Change**
Number	41,312	41,560	248
Pension Weighted Average Age	42.0	42.4	0.4
Total Deferred Pension	$22,582,962	$64,769,719	$42,186,757
Preserved Pensioners	**31-Dec-19**	**30-Jun-20**	**Change**
Number	8,004	8,071	67
Pension Weighted Average Age	40.3	40.6	0.2
Total Deferred Pension	$5,793,614	$19,297,743	$13,504,129
Current Pensioners	**31-Dec-19**	**30-Jun-20**	**Change**
Former Members			
Number	8,023	7,143	(880.0)
Pension Weighted Average Age	66.10	66.21	0.12
Total Annual Pension	$10,948,658	$25,188,995	$14,240,338
Spouses & Beneficiaries			
Number	1,089	931	-158
Pension Weighted Average Age	61.60	61.79	0.20
Total Annual Pension	$1,445,364	$3,220,336	$1,774,971
Suspended Pensioners	**31-Dec-19**	**30-Jun-20**	**Change**
Former Members			
Number	2,197	3,138	941
Pension Weighted Average Age	80.9	77.6	(3.32)
Total Annual Pension	$3,037,791	$10,585,328	$7,547,538
Spouses & Beneficiaries			
Number	351	514	163
Pension Weighted Average Age	79.3	75.1	(4.14)
Total Annual Pension	$534,143	$1,803,718	$1,269,575

6. ASSETS

6.1 The objective of the valuation of a pension scheme's assets for comparison with the Fund's accrued liabilities is to place a value on the assets which represents an assessment of the underlying long-term value of assets that is consistent with the principles used in placing a value on the Fund's liabilities.

6.2 The current macroeconomic environment is volatile and highly uncertain. Inflationary pressures have continued to reduce real disposable income levels and economic productivity. Furthermore, the steps taken in response to the spread of COVID-19 have resulted in disruption to business operations and an increase in economic uncertainty.

6.3 We have noted the following market indicators;

- Inflation as measured by the CPI was 162% over the 6-month period to 30 June 2020 (737% over the year to 30 June 2020).
- The ZSE all share index increased by 677% over the 6-month period to 30 June 2020.
- The Zimbabwe Dollar depreciated against the United States Dollar from USD$ 1: ZWL$16.8 as at 31 December 2019 to USD$ 1: ZWL$57.4 as at 30 June 2020.

6.4 We have taken the assets at their stated market values for purposes of this exercise. The assets of the Fund, based on financial statements, were as follows:

Asset Class (amounts in ZWL$ millions)	Sub-account 1 31-Dec-19	Sub-account 2 31-Dec-19	Total 31-Dec-19	Sub-account 1 30-Jun-20	Sub-account 2 30-Jun-20	Total 30-Jun-20
Prescribed assets	15.7	18.9	**34.6**	4.0	199.2	**203.2**
Old Mutual Guaranteed Fund	16.3	-	**16.3**	65.2	-	**65.2**
Quoted Shares	367.9	68.2	**436.1**	2,201.0	494.6	**2,695.6**
Unquoted Shares	43.3	-	**43.3**	182.5	-	**182.5**
Fixed Property	949.4	1.0	**950.4**	4,604.5	28.5	**4,633.0**
Fixed Income Investments	28.6	1.0	**29.7**	22.1	6.3	**28.3**
Money Market/Deposits	0.4	2.3	**2.7**	0.3	8.9	**9.2**
Net Current assets	(2.3)	35.5	**33.2**	4.0	60.2	**64.2**
Assets as per Financial Statements	**1,419.4**	**126.9**	**1,546.3**	**7,083.7**	**797.6**	**7,881.3**
Add back provision for contributions bad debts	95.0	16.7	111.7	100.0	51.5	**151.5**
Provision for interest on contribution arrears at Fund rate of return	785.1	-	785.1	4,014.2	44.5	**4,058.7**
Benefits overstated	-	1.2	1.2	-	-	**-**
Sub- account 2 contributions overstated				8.1	(8.1)	**-**
Adjusted Assets	**2,299.5**	**144.8**	**2,444.4**	**11,197.9**	**893.6**	**12,091.4**

6.5 Appendix II of this report shows a summary of revenue statement of the Fund over the inter-valuation period.

6.6 The market value of the Fund's assets as per the financial statements has increased from ZWL$1.5 billion as at 31 December 2019 to ZWL$7.9 billion as at 30 June 2020. The increase in the asset values was mainly driven by listed equity gains, and property revaluation gains.

6.7 The Fund earned an aggregate investment return of approximately 359% over the 6-month period to 30 June 2020. We have also estimated the return achieved on the assets of each sub-account;

- For sub-account 1 - 381% for the 6-month period to 30 June 2020

- For sub-account 2 – 219% for the 6-month period to 30 June 2020

Property Market values

6.8 The IPEC Revaluation Guideline requires that the assets on the balance sheet are held at fair value. The property market values used in this valuation are the fair values as determined by professional property valuators for the purposes of financial reporting.

6.9 Properties market values have increased from ZWL$1.0 billion as at 31 December 2019 to ZWL$4.6 billion as at 30 June 2020 driven by the following factors.

- Property market values are initially determined in United States dollars by the property valuators and then converted to Zimbabwe dollars at the prevailing exchange rate.
- This has resulted in significant property revaluation gains from the depreciation of the Zimbabwe dollar against the United State dollar.
- The underlying United States dollar denominated property market values have also increased significantly from US$60 million as at 31 December 2019 to US$81 million as at 30 June 2020 leading to further property revaluation gains.
- At the previous valuation it was noted United States dollar denominated property market values had decreased from US$100 million as at 31 December 2018 to US$60 million as at 31 December 2019.
- We understand that the increase in property values in United States dollars is a result of revised tenancy agreements from which the underlying rental income payable is now linked to the value of the United States dollar.

6.10 It should be noted that the real value of property to a long-term institutional investor is the value derived from net rental income which would be used to meet benefit obligations. In a stable environment, the value of long-term rental income should converge to the market value of property.

6.11 We have been provided with the Fund's property income and expenses projected to December 2020 by the Administrators of the Fund. We have determined that net rental income is projected to increase from ZWL$8 million for the year to 31 December 2019 to approximately ZWL$110 million over the year to 31 December 2020.

6.12 We estimate that based on the property income and expenses provided, the present value of the projected net rental income determined in line with the actuarial valuation assumptions ranges from approximately ZWL$2.0 billion (43% of market value) to ZWL$3.5 billion (76% of market value. The mid-point value of this range is equivalent to 60% of the property market values provided. Please note that this estimate in not intended to override the professional property valuation but provides an alternative measure of the capitalised income expected from the properties.

6.13 Section 12.8 of the IPEC Revaluation Guideline recognises the difficulty in determining objective fair values under the current economic environment and permits the allocation of Revaluation Gains to smoothing funds.

6.14 The increase in the property market values has not been matched by the increase in net rental income and the property market values have been volatile. We have therefore established a property revaluation smoothing reserve equivalent to 40% of the property market values as at 30 June 2020. The reserve of 40% is derived from the estimated capitalised income value of 60% of the property market values. This reserve will be monitored regularly and gradually released to members' accrued pensions in line with observed and projected increases in net rental income.

Outstanding contributions

6.15 Total contributions invoiced were ZWL$190.8 million for the period to 30 June 2020. Cumulatively since 2009, total unpaid contributions amount to ZWL$124.1 million excluding interest ($190.6 million including interest).

6.16 Section 26 of the IPEC Revaluation Guideline requires contribution arrears to be included as part of the assets of the Fund. We have therefore reversed the amounts in respect of contribution arrears and interest provisioned as doubtful debts in the Fund's financial statements.

6.17 The IPEC Revaluation Guideline also requires that the interest rate to be applied on outstanding contributions should be the greatest of:

I. the actual rate of return on funds' assets from the due date to the date of payment;
II. the rate of return on risk free assets; and
III. the unsecured overdraft lending rate applied by the affected pension fund's bank.

6.18 We understand that the interest rate applied to outstanding contributions by the Fund is based on the lending rate of the Fund's bank. The actual rate of return earned on the Funds' assets is significantly higher than the bank lending rate.

6.19 We have therefore also estimated the interest due on outstanding contributions based on the actual rate of return earned by the Fund – and increased the Fund's assets accordingly.

6.20 However, we believe that the there is a low likelihood of recovering outstanding contributions together with high interest. We have increased the actuarial liability by the amount of the allowance for interest on contributions arrears at the Fund rate of return. This ensures that the asset is not allocated before the amounts due have been recovered.

6.21 The table below shows the amount allowed for in respect of contribution arrears.

Allowance for contribution arrears and interest (inclusive of Hwange Debenture)	Sub-account 1	Sub-account 2	Total
Contribution Debtors	60.0	64.1	**124.1**
Interest on contributions	64.7	1.8	**66.5**
Contribution Arrears with interest at bank rates	**124.7**	**65.9**	**190.6**
Total Contribution Arrears (accumulated with Fund rate of return)	4,138.9	110.4	**4,249.3**
Additional allowance for interest at Fund rate of return	**4,014.2**	**44.5**	**4,058.7**

Administration expenses

6.22 The Rules of the Fund require that administration expenses should not exceed 15% of contribution income. The Fund incurred administration expenses amounting to ZWL$26.9 million (14% of contribution income).

Comment on investment strategy

6.23 In analysing the Fund's investment strategy, it is important to consider the current economic environment.

6.24 The vested liabilities should normally be matched by long-term bonds, while deferred liabilities can be matched by real assets (i.e. assets with returns that can be expected to be positively correlated with inflation in the long term) to provide some protection against the effects of inflation, provided that a sufficient reserve is maintained to ensure the Fund remains able to provide the guaranteed level of accrued pensions.

6.25 The Fund is now mainly invested in real assets with 60% of the market value of the assets invested in property and 30% in equities. These assets may exhibit short term volatility but can be expected to be positively correlated to inflation in the medium to long term.

6.26 We are satisfied that the current investments of the Fund are appropriate having regard to the form and incidence of the liabilities of the Fund and the current economic environment.

6.27 However, we note that;

- the Fund's assets allocation does meet the requirements of Circular 1 of 2013 issued by IPEC. This is mainly a result of the extraordinary gains on property values relative to gains from other asset classes.
- The Fund's prescribed asset ratio is lower than the minimum of 20% required.

7. VALUATION METHOD AND ASSUMPTIONS

Valuation Method

7.1 The accrued liabilities in respect of active, deferred, and preserved members of the Fund were calculated by projecting the guaranteed accrued deferred pension to normal retirement age and thereafter having regard to the assumptions set out below.

7.2 The projected future payments from the Fund were discounted back to the present using the assumed future rate of return on the assets of the Fund. The accrued liability is subject to a minimum value of the accumulated contributions with interest.

7.3 Pensions currently in payment were similarly projected over the expected future lifetimes of the pensioners and contingent beneficiaries, and the projected payments discounted back to the present.

Provision for liability in respect of contribution arrears

7.4 The membership data provides members' accrued deferred pensions 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.

7.5 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. Further details are provided in Appendix IV.

Valuation assumptions

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

7.7 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

7.8 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.

7.9 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

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

7.11 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.

7.12 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.

7.13 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

7.14 We have assumed that all members who withdraw will receive withdrawal benefits equivalent to the 100% of the actuarial reserve.

7.15 It was further assumed that on death before retirement benefits equal in value to 100% of the reserve would be paid, apart from the Additional Death Benefit.

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

7.17 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;

7.18 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.

7.19 **We estimate that under this valuation basis, the contributions paid are only adequate to purchase 86% of the actuarial value of the pension purchased by the existing factors.**

Suspended pensioners' valuation

7.20 The liability for suspended pensioners quoted above, has been scaled by a factor of 84% on aggregate to allow for the probability that suspended pensioners may have died since the date of suspension.

7.21 According to the data provided, the Fund had 3,652 suspended pensioners as at the valuation date. This included 1,429 pensioners who have had their pension payments suspended for over 5 years.

7.22 If all these suspended pensioners were still alive as at the valuation date their current liability would be ZWL$83.5 million at the valuation date. However, we believe that this value would overstate the liability as it includes a large number of unreported deaths.

7.23 The liability in respect of future pension payments to suspended pensioners is therefore calculated as the projected future pension payments multiplied by the probability that each suspended pensioner has survived between the suspension date and the valuation date.

7.24 This gives a liability in respect of suspended pensioners of ZWL$70.5 million (84% of the unadjusted liability).

7.25 The liability for suspended pension arrears has been taken at 100% of pension arrears to include an implicit allowance for time value of money. For the purposes of the valuation we have also allowed for bonuses on suspended pension arrears equivalent to the bonus declared for active members.

Reserve for Additional Death Benefits

7.26 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.

7.27 The cost of the Additional Death Benefit has ranged from 0.3% to 0.7% of total regular contributions each year since 2009. This cost of the benefit was funded from members contributions, investment returns and actuarial gains with no material adverse impact on members' deferred pensions.

7.28 We have determined a past service reserve for the Additional Death Benefit using the following method and assumptions;

- The death benefit is projected to the future date of death and discounted back to the present using the assumed future rate of return on the assets of the Fund.
- The death benefit is assumed to accrue uniformly over the period until the projected future date of death.
- The accrued liability at the valuation date is therefore a proportion of the total death benefit payable at death based on;
    - service to the valuation date for Active members as a proportion of service to the future date of death, and
    - duration since the pension start date to the valuation date as a proportion of duration to the future date of death for Pensioners.
    - Mortality for active members is assumed to be in line with the SA 85-90 mortality table
    - Mortality for pensioners is assumed to be in line with 85% of the a(55) mortality table

7.29 We have also assumed that the Additional Death Benefit reserve for Sub-Account 1 will be in respect of Active members and pensioners who joined the Fund before 31 December 2019.

7.30 Members joining the Fund from 1 January 2019 will be due an Additional Death Benefit from Sub-account 2.

8. VALUATION RESULTS PAST SERVICE

Ongoing Valuation

8.1 The valuation balance sheet as at the previous and the current valuation is set out below. The funding level is determined by expressing the assets as a percentage of the past service liabilities

Past Service Valuation results

8.2 The table below shows the balance sheet as at 30 June 2020. The values are based on accrued pensions before the allocation of 2020 revaluation gains, except that we have allowed for the 30% increase to pensions in payment effective from 1 April 2020.

Membership categories (amounts in ZWL$ millions)	Sub-account 1 31-Dec-19	Sub-account 2 31-Dec-19	Total 31-Dec-19	Sub-account 1 30-Jun-20	Sub-account 2 30-Jun-20	Total 30-Jun-20
Actives' Liability	596.5	133.0	**729.5**	620.8	315.5	**936.3**
Deferred Pension Liability	205.1	5.8	**210.9**	212.3	9.3	**221.6**
Preserved Pension Liability	47.1	0.1	**47.2**	53.3	0.6	**53.9**
Current Pensioners' Liability	235.7	0.6	**236.3**	279.4	1.5	**280.9**
Suspended Pensioners' Liability	31.2	-	**31.2**	70.4	0.1	**70.5**
Suspended Pensioners' arrears	37.9	-	**37.9**	41.7	-	**41.7**
Additional Death Benefit Reserve	12.2	0.1	**12.3**	12.8	-	**12.8**
Provision for liability in respect of contribution arrears	321.7	16.6	**338.3**	268.9	31.7	**300.6**
Data Reserve	15.1	-	**15.1**	15.6	-	**15.6**
Provision for Revaluation Gains for exited members	11.9	-	**11.9**	11.8	-	**11.8**
Provision for fund return on contribution arrears	785.1	-	**785.1**	4,014.2	44.5	**4,058.7**
Contingency Reserve	-	-	-	359.2	42.5	**401.7**
Property Revaluation Smoothing Reserve	-	-	-	1,841.8	11.4	**1,853.2**
Total Liability	**2,299.5**	**156.2**	**2,455.7**	**7,802.2**	**457.1**	**8,259.3**
Adjusted Assets	**2,299.5**	**144.8**	**2,444.3**	**11,197.9**	**893.6**	**12,091.5**
Surplus/ (Deficit)	**0.0**	**(11.4)**	**(11.4)**	**3,395.7**	**436.5**	**3,832.2**
Funding Level	**100.0%**	**92.7%**	**99.5%**	**143.5%**	**195.5%**	**146.4%**

8.3 The value of the Sub-account 1 accrued liabilities as at 30 June 2020 was ZWL$7.8 billion compared with an asset value of ZWL$11.2 billion. This is equivalent to a surplus of ZWL$3.4 billion.

8.4 The value of the Sub-account 2 accrued liabilities as at 30 June 2020 was ZWL$460 million compared with an asset value of ZWL$890 million. This is equivalent to a surplus of ZWL$440 million.

Data reserve

8.5 We have retained a data reserve of 1% of liabilities in Sub-account 1 to allow for the following data issues which have not been resolved.

- Full details of merged records were not available. We have not been able to verify whether the pensions and contribution records were aggregated when the records were merged.
- Some 2,978 deferred members do not have contribution and pension values in the new system. The administrator has advised that these members include duplicate records, those who have been paid or no contributions were actually remitted. However, an exercise to determine the correct status of these records is still ongoing.
- We observed corrections to membership data and bonus values from the data provided at the previous valuation.

Reserve fund

8.6 The Rules of the Fund grant the Board of Trustees the discretion to create from surpluses a reserve fund, not exceeding 5% of the total value of the assets, to safeguard the solvency of the Fund against poor investment returns.

8.7 We have therefore setup a contingency reserve equivalent to 5% of the total value of the assets.

Analysis of Surplus

8.8 The principal factors that gave rise to the current financial position are as follows:

Analysis of surplus (amounts in ZWL$ millions)	Sub-account 1	Sub-account 2	Total
Surplus/ (Deficit) as at 31 December 2019	-	(11.4)	**(11.4)**
Interest on deficit	-	(0.3)	**(0.3)**
Value of benefits purchased in excess of contributions paid	-	(26.7)	**(26.7)**
Investment return above valuation assumption (excl prop revaluation)	1,949.9	494.7	**2,444.6**
Property Revaluation Gains	3,654.9	17.8	**3,672.7**
Property Revaluation Smoothing Reserve	(1,841.8)	(11.4)	**(1,853.2)**
Cost of pension increases	(80.7)	0.0	**(80.7)**
Data Reserve	0.0	0.0	**0.0**
Difference between data and financials	0.0	10.5	**10.5**
Administration expenditure	(17.8)	(2.7)	**(20.5)**
Contingency Reserve	(359.2)	(42.5)	**(401.6)**
Miscellaneous gains/ (strains)	90.5	8.5	**99.0**
Surplus/ (Deficit) as at 30 June 2020	**3,395.7**	**436.5**	**3,832.3**

Cost of benefits purchased in excess of contributions paid

8.9 The actuarial value of the benefits purchased in terms of the current Rules of the Fund and pension purchase factors has increased as result of changes in the actuarial basis adopted at the previous valuation. Therefore, the actuarial value of pensions purchased was higher than the contributions paid by ZWL$27 million.

Investment return above valuation assumption (excl. property revaluation)

8.10 The Fund earned investment returns (excluding property revaluation) above the valuation interest rate assumption primarily driven by gains on listed equities. This led to gains of ZWL$2.4 billion.

Property Revaluation Gains

8.11 Property values are determined by the property valuators in United States Dollars then converted to Zimbabwe Dollars at the prevailing exchange rate. Property revaluation led to significant gains as a result of the depreciation of the Zimbabwe Dollar.

Administration expenditure

8.12 Administration expenses are not funded in advance and are paid from the Funds' assets. The Fund incurred administration expenditure of ZWL$21 million.

Miscellaneous gains / (strains)

8.13 Miscellaneous gains/ (strains) include;

- Allowances for rounding and approximations in the analysis.
- Members' pension and contribution amounts that are understated in respect of merged records.
- Changes in members demographic data from data corrections.

Sensitivity of results to valuation assumptions

8.14 It is important to understand that the 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.

8.15 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 surplus $'millions	Change in funding level %
Discount rate	Increase by 1%	300.0	5.5%
	Decrease by 1%	(390.0)	(6.6%)
Life expectancy	Increase by 1 year	(72.9)	(1.3%)
	Decrease by 1 year	77.0	1.4%

Sensitivity of results to market conditions

8.16 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.

8.17 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.

8.18 The table below shows how the funding level and deficit would vary if investment conditions at 30 June 2020 had been different.

Asset class	Change	Change in surplus $'millions	Change in funding level %
Listed equities	Lower by 25%	(673.9)	(8.2%)
Fixed Property	Lower by 10%	(463.3)	(5.6%)

Sensitivity to Smoothing Reserve

8.19 The results of this valuation are directly impacted by the property market values and the property revaluation smoothing reserve.

8.20 To illustrate the sensitivity of the results, we have shown below the results and maximum bonuses payable assuming different levels of the property revaluation smoothing reserve.

	Sub-account 1	Sub-account 2	Total
Market Value of Property	**4,605**	**28**	**4,633**
Current Values – 40% Smoothing Reserve			
Property Revaluation Smoothing Reserve as percentage of Market Value	40%	40%	40%
Property Revaluation Smoothing Reserve	1,842	11	1,853
Fund Surplus	3,396	437	3,832
Maximum Bonus/ pension increase	230%	197%	n/a
Scenario 1 – 24% Smoothing Reserve			
Property Revaluation Smoothing Reserve as percentage of Market Value	24%	24%	24%
Property Revaluation Smoothing Reserve	1,105	7	1,112
Fund Surplus	4,132	441	4,573
Maximum Bonus/ pension increase	279%	199%	n/a
Scenario 2 – 0% Smoothing Reserve			
Property Revaluation Smoothing Reserve as percentage of Market Value	0%	0%	0%
Property Revaluation Smoothing Reserve	-	-	-
Fund Surplus	5,238	448	5,686
Maximum Bonus/ pension increase	352%	202%	n/a

9. RECOMMENDATIONS AND CONCLUSIONS

9.1 We have carried out an investigation of the financial condition of the Fund on an ongoing basis as at 30 June 2020. The ongoing valuation revealed the following;

- The value of the Sub-account 1 accrued liabilities as at 30 June 2020 was ZWL$7.8 billion compared with an asset value of ZWL$11.2 billion. This is equivalent to a surplus of ZWL$3.4 billion.
- The value of the Sub-account 2 accrued liabilities as at 30 June 2020 was ZWL$460 million compared with an asset value of ZWL$890 million. This is equivalent to a surplus of ZWL$440 million.

9.2 We have determined the allocation of the surplus as at 30 June 2020 in accordance with the requirements of the IPEC Revaluation Guideline.

9.3 In determining the level of bonuses and pension increases that can be afforded by the Fund, we have also considered the following matters;

- The current macroeconomic environment is volatile and highly uncertain. The Fund remains exposed to the Funding risks highlighted in Section 4 with no real guarantee provided by the Sponsoring Employers in the event of adverse future experience.
- The results and the available surplus from this valuation are heavily dependent on the property valuation. The significant increase in property market values since the previous valuation has not been matched by the increases in net rental income.
- The underlying United States dollar denominated property market values have been volatile. Property market values increased significantly from US$60 million as at 31 December 2019 to US$81 million as at 30 June 2020. At the previous valuation property market values had decreased from US$100 million as at 31 December 2018 to US$60 million as at 31 December 2019.
- The property market values provided as at 30 June 2020 are based on a 'desktop' valuation. A formal valuation is due as at 31 December 2020.
- It is unclear if it would be permissible to reverse gains allocated to members in the event of the Fund experiencing negative Revaluation Gains in future – thus a cautious approach to bonus and pension increases is recommended.
- We have been provided draft financial statements for the 9 months to September 2020 which show no further material Revaluation Gains since 30 June 2020.

9.4 We recommend the following bonus and pension increase rates;

Issue	Membership Category	Sub-Account	Recommendation
Bonus	Active, Deferred & Preserved Members	Sub-account 1	230% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Pension Increase	Current and Suspended Pensioners	Sub-account 1	153.8% with effect from 1 July 2020 (i.e. equivalent to 230% less the 30% increase from 1 April 2020)
Additional Death Benefit increase	Active & Pensioners	Sub-account 1	230% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Interim Bonus	Active, Deferred & Preserved Members	Sub-account 1	0% for exits after 30 June 2020

Bonus	Active, Deferred & Preserved Members	Sub-account 2	197% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Pension Increase	Current and Suspended Pensioners	Sub-account 2	197% with effect from 1 July 2020
Additional Death Benefit increase	Active & Pensioners	Sub-account 2	197% for the 6-months to 30 June 2020 (pro-rated for exits before 1 July 2020)
Interim Bonus	Active, Deferred & Preserved Members	Sub-account 2	0% for exits after 30 June 2020

9.5 The table below illustrates the approximate funding position of the Fund if the recommended bonus rates in table 9.4 above are adopted.

Membership categories (amounts in ZWL$ millions)	Before bonus allocation Sub-account 1 30-Jun-20	Sub-account 2 30-Jun-20	Total 30-Jun-20	After bonus allocation Sub-account 1 30-Jun-20	Sub-account 2 30-Jun-20	Total 30-Jun-20
Actives' Liability	620.8	315.5	**936.3**	2,049.1	681.4	**2,730.5**
Deferred Pension Liability	212.3	9.3	**221.6**	700.7	26.2	**726.9**
Preserved Pension Liability	53.3	0.6	**53.9**	175.8	1.9	**177.7**
Current Pensioners' Liability	279.4	1.5	**280.9**	709.5	4.6	**714.1**
Suspended Pensioners' Liability	70.4	0.1	**70.5**	178.8	0.2	**179.0**
Suspended Pensioners' arrears	41.7	-	**41.7**	137.5	0.0	**137.5**
Additional Death Benefit Reserve	12.8	-	**12.8**	42.3	0.1	**42.4**
Provision for liability in respect of contribution arrears	268.9	31.7	**300.6**	887.6	80.8	**968.4**
Data Reserve	15.6	-	**15.6**	51.5	0.0	**51.5**
Provision for Revaluation Gains for exited members	11.8	-	**11.8**	49.9	0.0	**49.9**
Provision for fund return on contribution arrears	4,014.2	44.5	**4,058.7**	4,014.2	44.5	**4,058.7**
Contingency Reserve	359.2	42.5	**401.7**	359.2	42.5	**401.7**
Property Revaluation Smoothing Reserve	1,841.8	11.4	**1,853.2**	1,841.8	11.4	**1,853.2**
Total Liability	**7,802.2**	**457.1**	**8,259.3**	**11,197.9**	**893.6**	**12,091.5**
Adjusted Assets	**11,197.9**	**893.6**	**12,091.5**	**11,197.9**	**893.6**	**12,091.5**
Surplus/ (Deficit)	**3,395.7**	**436.5**	**3,832.2**	**0.0**	**0.0**	**0.0**
Funding Level	**143.5%**	**195.5%**	**146.4%**	**100.00%**	**100.00%**	**100.00%**

9.6 For the purposes of the valuation we have allowed for interest on suspended pension arrears equivalent to the bonus declared for active members. We recommend that the Fund formally adopts this approach to accrue interest on suspended pension arrears and other outstanding benefit payments to preserve value for late claims on benefits.

9.7 As sub-account 1 is ring-fenced from sub-account 2, cash inflows into sub-account 1 are now limited. There is a risk of insufficient cash resources from sub-account 1 to meet benefit payments and expenses if these benefits and expenses increase at a faster rate than the income generated from sub-account 1 assets. We recommend an investigation into the future liquidity requirements for sub-account 1. The liquidity requirements can be met from a transfer of assets from sub-account 1 to sub-account 2 at values that meet the requirements of the IPEC Revaluation Guideline.

Tigere Mutare, FIA, AMASSA.
(in my capacity as consulting actuary to)
The Mining Industry Pension Fund
January 2021

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

APPENDIX I: SUMMARY OF PRESENT BENEFIT STRUCTURE

The following is a brief summary of the main benefits of the Fund under the existing rules as at 30 June 2020. For full details of the benefit structure, the Rules of the Fund should be referred to.

1. **Normal Retirement Age**
   All members: 60 years, except for females who were members of the Fund on 1 August 1982, who can retire at age 55.

2. **Pensionable earnings**
   Basic Salary: The basic salary or wage per annum of a member, excluding any bonus commissions or allowances.

3. **Pensionable Service**
   Continuous service in Zimbabwe calculated in years and completed months.

4. **Pension benefit on normal retirement**
   Accrued declared pensions, as purchased by the members' and employers' contributions.

5. **Pension benefit on voluntary early retirement**
   The pension accrued up to the early retirement date reduced by an early retirement factor. This is permissible within 5 years of Normal Retirement Date, alternatively within 10 years of Normal Retirement Date if service is longer than 15 years.

6. **Pension benefit on ill-health early retirement**
   The higher of the actuarial reserve and the refund of contributions plus interest

7. **Pension benefit on late retirement**
   Contributions continue to purchase pension, up to actual retirement. The latest retirement date is 5 years following Normal Retirement Date.

8. **Death after retirement**
   If the 5 or 10 years guarantee period, according to the member's election, provided for in the rules has not expired, the beneficiaries will receive a monthly pension up to the end of the guarantee period.
   If pensioner had opted for a joint and survivorship pension, the pension will be paid for lifetime of chosen beneficiary.
   Plus
   An Additional Death Benefit at the discretion of the Trustees, subject to actuarial advice, will be payable from 1 July 2010 onwards for pensioners whose date of death is on or after 1 July 2010.

9. **Death in service before Normal Retirement Age**
   A benefit of the aggregate of contributions made plus Fund interest is payable to the member's spouse/ beneficiaries.
   Plus
   An Additional Death Benefit at the discretion of the Trustees, subject to actuarial advice, will be payable.

10. **Death in service after Normal Retirement Age**
    If an employee dies in service leaving a widow, the widow will be entitled to a pension as if the member had elected a joint and survivorship pension unless the member had made other elections.

If an employee dies in service leaving no widow, then the commuted value of a pension guaranteed for 5 years and thereafter for life will be paid.
Plus
An Additional Death Benefit at the discretion of the Trustees, subject to actuarial advice, will be payable.

11. Death of a former employee member

The death benefit due is the same as the benefits for member who dies in service.
However, no Additional Death Benefit is payable if death occurs after 6 months of termination of employment.

12. Withdrawal benefit

A. The member is deemed to have elected a deferred pension, unless he elects one of the following two options:

B. A return of the member's own contributions plus Fund Interest,

PLUS

C. 100% of the employer's contributions plus Fund Interest, subject to a maximum benefit set by the Commissioner of Insurance Pension and Provident Funds:

OR

D. Pension
The benefit in B and C as a paid-up deferred pension

13 Contributions

Employees:	7.5% of Basic Salary with effect from January 2010
Employers:	7.5% of Basic Salary with effect from January 2010

APPENDIX II: REVENUE STATEMENT

(amounts in ZWL$ 'millions)	Sub-account 1 31-Dec-19	Sub-account 2 31-Dec-19	Total 31-Dec-19	Sub-account 1 30-Jun-20	Sub-account 2 30-Jun-20	Total 30-Jun-20
Fund @ beginning of period	**322.5**	**0.0**	**322.5**	**1,419.4**	**126.9**	**1,546.3**
INCOME						
Member contributions	(1.9)	67.4	**65.5**	(0.1)	94.5	**94.5**
Employer contributions	(1.9)	66.7	**64.7**	0.0	0.0	**0.0**
Other contributions and provisions	62.7	1.4	**9.8**	(0.1)	96.1	**96.1**
Transfer from other Funds	(0.2)	(0.1)	**(0.3)**	0.0	0.0	**0.0**
Investment income	29.5	1.0	**30.5**	15.3	3.0	**18.3**
Net rental income	8.0	0.0	**8.0**	12.9	0.0	**12.9**
Property revaluation	849.6	0.5	**850.1**	3,654.9	17.8	**3,672.7**
Unrealised gains	203.8	9.7	**213.5**	2,007.7	498.2	**2,505.9**
Other income	0.9	0.1	**1.0**	25.5	1.4	**26.9**
Total Income	**1,150.4**	**146.6**	**1,242.8**	**5,716.1**	**711.0**	**6,427.2**
EXPENDITURE						
Pension benefits	14.6	1.8	**16.4**	11.8	3.0	**14.7**
Other expenditure	0.7	0.0	**0.7**	0.0	0.0	**0.0**
Administration Expenditure	17.1	1.3	**18.3**	24.2	2.7	**26.9**
Provision for bad debts	21.2	16.7	**37.9**	15.9	34.7	**50.6**
Amounts written down on investments	0.0	0.0	**0.0**	0.0	0.0	**0.0**
Total Expenditure	**53.6**	**19.7**	**73.3**	**51.9**	**40.4**	**92.2**
Fund @ end of period	**1,419.4**	**126.9**	**1,492.0**	**7,083.7**	**797.6**	**7,881.2**

APPENDIX III: MEMBERSHIP DATA CHECKS AS AT 30 JUNE 2020

The membership data checks that were performed as at the valuation date and material issues identified are reflected below.

Checks carried out on Membership data
For each Member in the data received we checked for missing dates of birth, consistency of dates of birth, reference numbers and accrued pensions against the December 2018 data. We also performed the following reasonability checks:

- Check for the uniqueness of members' reference numbers.
- Dates are valid and within reasonable ranges;
- Ages fall within reasonable ranges.
- Accrued pensions and contributions fall within reasonable ranges
- Consistency of accrued pensions with previous valuation data and declared bonuses
- Reconciliation of membership numbers as at 30 June 2020 to the numbers as at 31 December 2019.

The following membership statistics were calculated and checked for reasonability:

- Pension-weighted average ages;
- Total, maximum, minimum and average pensions

Where dates were invalid or missing the average date for the membership category was used.

For Active members we also checked the aggregate pension purchased during the period from 1 January 2019 to December 2019 for consistency with the Fund's pension purchase factors.

Pension Purchased Checks (amounts in ZWL$ millions)	
Actual Pension Purchased in membership data	74,029,043
Expected Pension Purchased (as per new system configuration)	74,034,454
Difference	**(5,411)**
	-0.01%

The following data issues were noted;

- Full details of merged records were not available. We have not been able to verify whether the pensions and contribution records were aggregated when the records were merged.
- Pensions purchased were, on aggregate, within 0.1% of the expected values
- At the previous valuation we noted that the Gender provided for a significant number of pensioners appeared inconsistent with the name. We believe that many females pensioners have been incorrectly labelled as being male. The data for the current valuation now includes 766 changes to the gender provided at the previous valuation for current pensioners.
- Some 2,978 deferred members do not have contribution and pension values in the new system. The administrator has advised that these members include duplicate records, those who have been paid or no contributions were actually remitted. However, an exercise to determine the correct status of these records is still ongoing.

Membership data summaries and statistics extracted from data provided are shown below. The membership data did not provide the actual split of accrued pensions between sub-account 1 and Sub-account 2 were for preserved members and pensioners. We have estimated the splits and determined the sub-account 2 accrued pensions from the monthly contributions data provided.

ACTIVES						
		Males	Females	Missing	Total	
	Gender	21,154	1,372	-	22,526	
		max	Min	Average	Sum	Missing/ Zero
	D.O.B	06-Aug-2002	31-Dec-1945	01-Aug-1978		-
	D.O.J	10-Jun-2020	06-Jan-1900	03-Jun-2008		18
SUB-ACCOUNT 1	Accrued Pension	250,407	5	10,400	206,985,931	2,623
	Er Contributions	193,206	4	3,259	64,834,751	2,631
	Ee Contributions	180,323	4	3,253	64,712,165	2,633
SUB-ACCOUNT 2	Accrued Pension	182,152	11	7,019	126,915,833	4,443
	Er Contributions	247,845	20	7,438	134,275,183	4,474
	Ee Contributions	224,240	20	7,395	133,742,304	4,441

DEFERRED						
		Males	Females	Missing	Total	
	Gender	39,173	2,387	-	41,560	
		max	Min	Average	Sum	Missing/ Zero
	D.O.B	15-May-2001	01-Jul-1908	11-Apr-1968		1,087
	D.O.E	30-Jun-2020	01-Dec-1987	28-Jun-2006		983
SUB-ACCOUNT 1	Accrued Pension	273,186	3	1,468	61,009,360	2,978
	Er Contributions	85,928	1	580	22,383,118	2,997
	Ee Contributions	79,372	1	574	22,121,474	2,997
SUB-ACCOUNT 2	Accrued Pension	69,686	4	-	3,760,359	39,656
	Er Contributions	82,660	3	2,047	3,895,287	39,657
	Ee Contributions	82,660	3	2,010	3,833,677	39,653

PRESERVED						
		Males	Females	Missing	Total	
	Gender	7,683	388	-	8,071	
		max	Min	Average	Sum	Missing/ Zero
	D.O.B	15-Aug-1995	17-Jan-1942	19-Apr-1973		11
	D.O.E	01-Jan-2020	01-Jan-1993	18-Mar-2011		-
SUB-ACCOUNT 1	Accrued Pension	215,185	0	2,357	19,005,696	7
	Er Contributions	123,204	0	3,694	29,780,320	9
SUB-ACCOUNT 2	Accrued Pension	22,553	5	1,468	292,048	7,872
	Er Contributions	42,805	9	2,718	540,839	7,872

Membership reconciliation

Active Members		
Opening Balance		**22,418**
Reinstatements		
Deferred	182	
Preserved	7	189
New Entrants		696
Duplicate Record		(1)
Exits		
Deferred	(707)	
Transfer out	(1)	
Death	(4)	
Ill-Health	(4)	
Resignation (Withdrawal)	(35)	
Retrenchment	(10)	
Retirement	(15)	(776)
Closing Balance		**22,526**

Preserved Members		
Opening Balance		**8,004**
New Entrants		
Active	16	
Deferred	76	92
Duplicate Record Merged		(1)
Exits		
Active	(7)	
Death	(4)	
Resignation (Withdrawal)	(1)	
Retrenchment	(1)	
Transfer Out	(2)	
Retirement	(9)	(24)
Closing Balance		**8,071**

Deferred Members		
Opening Balance		**41,312**
Reinstatements		
Pensioner	1	
New Entrants		
Inactive	204	
Active	707	911
Duplicate Record Merged		(7)
Exits		
Active	(182)	
Death	(43)	
Ill-Health	(15)	
Resignation (Withdrawal)	(194)	
Retrenchment	(119)	
Transfer Out	(1)	
Retirement	(103)	(657)
Closing Balance		**41,560**

Pensioners		
Opening Balance		**11,660**
New Entrants		
Active	14	
Deferred	101	
Preserved	8	
Exited Pensioner	7	130
Duplicate records merged	(1)	(1)
Exits		
Death	(47)	
End of guaranteed period	(15)	
Moved to Deferred	(1)	(63)
Closing Balance		**11,726**

APPENDIX IV: CONTRIBUTION ARREARS

Provision for liability in respect of contribution arrears

The membership data provides members' accrued deferred pensions based on contributions paid and received by the Fund. 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.

The tables below shows the liability for each sub account in respect of contribution arrears, accumulated with the bonuses declared and the valuation interest rate.

Sub-account 1 liability in respect of contribution arrears (amounts in ZWL$ millions)					
Year Due	**Contribution Debtors at valuation date**	**Amounts paid after valuation date, but liability included in valuation membership data**	**Net contribution arrears not included in membership data**	**Bonus Declared**	**Cumulative Liability with Bonus**
2009	1.0	-	1.0	5.0%	**1.2**
2010	3.6	-	3.6	5.0%	**5.9**
2011	6.0	-	6.0	5.0%	**14.2**
2012	6.1	-	6.1	10.0%	**24.5**
2013	9.8	-	9.8	5.0%	**39.6**
2014	10.9	-	10.9	0.5%	**55.4**
2015	10.9	-	10.9	0.0%	**71.7**
2016	7.7	-	7.7	0.0%	**85.3**
2017	1.8	-	1.8	0.0%	**92.5**
2018	2.2	-	2.2	0.0%	**100.7**
2019	-	-	-	192.9%	**312.7**
Total	**60.0**	**-**	**60.0**		

Sub-account 2 liability in respect of contribution arrears (amounts in ZWL$ millions)					
Year Due	**Contribution Debtors at valuation date**	**Amounts paid after valuation date, but liability included in valuation membership data**	**Net contribution arrears not included in membership data**	**Bonus Declared**	**Cumulative Liability with Bonus**
2019	3.1	-	3.1	0%	**3.7**
2020	61.0	37.8	23.2	0%	**31.7**
Total	**64.1**	**37.8**	**26.3**		

APPENDIX V: IPEC REVALUATION CERTIFICATIONS

DATA CERTIFICATION BY THE REVALUATION ACTUARY

I, the undersigned, hereby certify that the data used for the purposes of determining and distributing Revaluation Gains which arose due to the 2019 currency reforms for the Mining Industry Pension Fund is sufficient, based upon information and belief formed after reasonable inquiry.

I also confirm that I have done the following before distribution of the Revaluation Gains;

a. Checked and certified the adequacy/sufficiency of data as at 31 December 2019 and 30 June 2020.
b. Reconciled the membership as at 31 December 2019 with that as at 30 June 2020.

Tigere Mutare, FIA, AMASSA
Revaluation Actuary
Date: 25 January 2021
For the purposes of professional regulation, my professional principal regulator is the Institute and Faculty of Actuaries (UK)

CERTIFICATION OF THE ASSET AND LIABILITY CALCULATION METHODS AND ASSUMPTIONS BY THE REVALUATION ACTUARY

I, the undersigned, hereby certify that all the calculations for the purposes of determining and distributing Revaluation Gains for the Mining Industry Pension Fund as at 30 June 2020 were done in accordance with the "Guideline for the Insurance and Pensions Industry on Adjusting Insurance and Pension Values in Response to Currency Reforms".

I also confirm that I have done the following before distribution of the Revaluation Gains;

a. Checked the assets and accuracy of liabilities as at 31 December 2019 and 30 June 2020.
b. Reconciled the assets and liabilities by product line and between sub-account 1 and sub-account 2 between 31 December 2019 with that as at 30 June 2020.
c. Ensured equity in the distribution of revaluation gains between insurance and pension liabilities and between old and newer policyholders/scheme members.

Tigere Mutare, FIA, AMASSA
Revaluation Actuary
Date: 25 January 2021
For the purposes of professional regulation, my professional principal regulator is the Institute and Faculty of Actuaries (UK)

CERTIFICATION OF THE SOLVENCY POSITION BY THE REVALUATION ACTUARY: PENSION AND PROVIDENT FUNDS

I, the undersigned, hereby certify that the Mining Industry Pension Fund is solvent on an ongoing basis as at 30 June 2020 as shown in the table below. This is after adjusting fund member values based on calculations in terms of the “Guideline for the Insurance and Pensions Industry on Adjusting Insurance and Pension Values in Response to Currency Reforms”.

Measurement Date:	30 June 2020
Total Assets (ZWL$ 'millions)	12,092
Actuarial Liabilities (ZWL$ 'millions)	5,778
Other Liabilities (ZWL$ 'millions)	6,314
Surplus/ (Deficit) (ZWL$ 'millions)	0
Funding Level	100%

Tigere Mutare, FIA, AMASSA
Revaluation Actuary
Date: 25 January 2021
For the purposes of professional regulation, my professional principal regulator is the Institute and Faculty of Actuaries (UK)