



Transnet Second Defined Benefit Fund

Actuarial valuation as at 31 March 2021

Prepared by Alexander Forbes Financial Services

August 2021

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EXECUTIVE SUMMARY

Present value of pensioner liabilities

1. The present value of the liabilities in respect of pensioners as at 31 March 2021 was as follows:

	31 March 2020 (R million)	31 March 2021 (R million)
Pensioners	4 679	4 385
Widow(er)s	6 623	6 489
Children	28	29
Total liability	11 330	10 903

Summary of results

2. Comparing the value of the assets with the past service liabilities produced the following results:

	31 March 2020 (R million)	31 March 2021 (R million)
Total net assets	11 499	14 326
Total liabilities	11 330	10 903
Surplus / (Deficit) before solvency reserve	169	3 423
Funding level before solvency reserve	101.5%	132.7%
Solvency reserve	374	349
Surplus / (Deficit) after solvency reserve	(205)	3 074
Funding level after solvency reserve	98.2%	127.3%

Conclusion

3. I confirm that, based on the information available, the fund was in a sound financial condition as at the valuation date, i.e. the assets of the Transnet Second Defined Benefit Fund exceeded the fund's liabilities as at the valuation date and covered the full recommended solvency reserve.
4. Subsequent to the valuation date, the investment strategy has been changed from one focussing on traditional bonds to target fixed pension increases to a greater exposure to assets suitable for targeting inflation-related pension increases, such as inflation-linked bonds and local and foreign equities.

1. INTRODUCTION

I am pleased to present to the trustees of the Transnet Second Defined Benefit Fund (*"the fund"*) this actuarial valuation as at 31 March 2021 (*"the valuation date"*). This report sets out the results of the actuarial valuation of the fund as at 31 March 2021 and includes an analysis of the financial progress of the fund since 31 March 2020 (*"the previous valuation date"*). The period between the previous valuation date and the current valuation date is referred to hereinafter as the valuation period.

Registration and operation

- 1.1 The fund now known as the Transnet Second Defined Benefit Fund was established on 1 November 2000 and all pensioners of the Transnet Pension Fund transferred to the fund on 1 November 2000. The fund was in a financially sound condition at its inception.

Objectives

- 1.2 This actuarial valuation has been carried out as at 31 March 2021 with the following objectives:
- to assess the **financial soundness** of the fund, by comparing the value of liabilities accrued to the valuation date with the value of the assets held as at that date;
 - to investigate and report on **actual experience of the fund** since the previous valuation;
 - to review the **assumptions used** in light of actual experience;
 - to assess the necessity for, and quantum of, any **contingency reserves**;
 - to assess the **suitability of the assets** in relation to the liabilities of the fund; and
 - to meet **statutory requirements**.

Valuation data

- 1.3 In compiling this report, I have relied upon the accuracy and completeness of information made available to me by the administrators, Momentum Retirement Administrators, and external parties. Except where expressly stated in the report, I have not independently verified the accuracy of the facts or the basis of the information supplied to me.
- 1.4 The results of the valuation depend on the accuracy of:
- the membership data;
 - the information on the assets, as supplied by the relevant sources; and
 - the audited financial statements for the valuation period.
- 1.5 Reasonability checks have been performed on the above and I am satisfied with the general accuracy and completeness of the data provided and with its suitability for purposes of this actuarial valuation. Further information regarding the reasonability checks performed is set out in appendix 2.

Capacity, brief and professional guidance

- 1.6 This report has been prepared by Alexander Forbes Financial Services (Pty) Ltd (*"Alexander Forbes"*) solely for the benefit of trustees of the Transnet Second Defined Benefit Fund and the Minister of Public Enterprises and the Minister of Finance, and is prepared in accordance with the instructions given by the trustees of the fund. The trustees are charged by the Transnet Pension Fund Act 62 of 1990 (*"the Act"*) to investigate the financial condition of the fund and report thereon to the Minister of Public Enterprises and the Minister of Finance.
- 1.7 In terms of rule 18(2)(b) of the fund, the fund shall be valued by the Actuary at intervals not exceeding three years, to determine whether the fund is in a position to pay the benefits provided for in the rules. The current practice is to perform annual actuarial valuations of the fund. The trustees appointed Alexander Forbes to perform this valuation.
- 1.8 Throughout this report any values that have been determined are, except where otherwise stated, in accordance with our view of the most probable future experience. Our specific assumptions and other reliances and limitations are documented in the following sections and supporting appendices. These sections and appendices are an integral part of this report.
- 1.9 This report complies with the relevant Guidance Notes of the UK Actuarial Profession and the Professional Guidance Notes of the Actuarial Society of South Africa.
- 1.10 Alexander Forbes does not accept any liability to any persons, other than the trustees, in connection with this report or its related enquiries. I accept no liability in respect of any matter outside the scope and limitations of this report and purpose for which it is prepared.
- 1.11 This report may not be disclosed and / or relied upon in whole or in part to / by any person other than the trustees or quoted in any other context without prior written consent. Any person, other than the trustees to whom this report is addressed, who receives a draft or copy of this report (or any part of it) or discusses it (or any part of it) or any related matter with me or any third party, does so on the basis that they acknowledge the source of this report and accept that they may not rely on it for any purpose whatsoever and that I owe a duty of care only to the trustees. Any portion of this report, if reproduced or transmitted, must include a reference to the full report and to this clause.
- 1.12 This report has been prepared as at 31 March 2021 and covers the valuation period given above. Unless specifically stated to the contrary, it does not take into account any events subsequent to the valuation date.

2. HISTORY OF THE FUND

2.1 A summary of the history of the fund's funding level is shown in the following table:

	Assets (R million)	Liabilities (R million)	Funding Level %
1 November 2000*	19 911	17 878	111.4%
31 March 2001*	16 502	20 140	81.9%
31 March 2002*	16 048	18 992	84.5%
31 March 2003*	13 243	18 370	72.1%
31 March 2004*	15 095	18 537	81.4%
31 March 2005	16 369	21 898	74.8%
31 March 2006	19 204	22 197	86.5%
31 March 2007**	21 570	20 414	105.7%
31 March 2008**	19 850	17 873	111.1%
31 March 2009**	19 614	17 919	109.5%
31 March 2010**	19 662	16 827	116.8%
31 March 2011**	18 852	16 119	117.0%
31 March 2012**	18 339	15 993	114.7%
31 March 2013**	18 313	16 146	113.4%
31 March 2014**	17 218	14 235	121.0%
31 March 2015**	16 757	13 612	123.1%
31 March 2016**	15 630	11 823	132.2%
31 March 2017**	15 241	11 307	134.8%
31 March 2018**	14 669	11 122	131.9%
31 March 2019**	13 346	9 857	135.4%
31 March 2020**	11 499	11 704	98.2%
31 March 2021**	14 326	11 252	127.3%

* These figures are drawn from the actuarial valuation reports prepared by NBC Consultants and Actuaries.

** Liabilities include any contingency reserves recommended.

3. DEVELOPMENTS SINCE THE PREVIOUS VALUATION DATE

Pension increases

- 3.1 Pensions in course of payment are increased by 2% per annum in terms of the rules of the fund.
- 3.2 With effect from 3 July 2020 the rules of the fund were amended to allow the trustees to, from time to time, grant additional pension increases (in addition to the 2% mentioned above). Such additional increases are to be determined in line with the Fund's Pension Increase and Bonus Policy and are subject to affordability, as determined by the board and as confirmed in writing by the valuator and with the approval of the Board of Directors of Transnet. The new Policy is to target increases of 70% of inflation, inclusive of the minimum 2% increase, subject to affordability.
- 3.3 Following the settlement agreement reached between the fund, the employer and the class action, and the approval of such agreement by the High Court, effective 3 July 2020, the fund granted an additional special once-off pension increase of 11% in August 2020. The fund will be granting further special once-off pension increases of 7% in August 2021 and 4% in August 2022. These increases have been taken into account in determining the fund's liabilities at the valuation date.

Bonus payments

- 3.4 With effect from 31 March 2007 the rules of the fund were amended to allow the trustees to grant ad hoc bonus payments to pensioners if the value of the fund's assets is in excess of its liabilities. Such bonuses may only be granted with the approval of the Board of Directors of Transnet.
- 3.5 As a result of the settlement agreement mentioned in 3.3, pensioners each received an ad hoc bonus of R10 000 in December 2019 and December 2020. Further payments of R10 000 per pensioner are to be paid in December 2021. These additional lump sums have been taken into account in determining the fund's liabilities at the valuation date.
- 3.6 Future bonuses will depend on affordability after the targeted pension increases have been considered.

Administration and actuarial services

- 3.7 The fund was administered by Momentum Retirement Administrators during the valuation period.
- 3.8 Alexander Forbes are the appointed actuaries to the fund.

Transfer from Transport Pension Fund

- 3.9 As part of the settlement agreement, R1 629 million was transferred into the fund from the Transnet sub-fund in the Transport Pension Fund, effective 30 September 2020. The physical assets received at subsequent dates amounted to R 1 723 million.

4. MEMBER DATA

The valuation of the fund at 31 March 2021 was based on the membership detailed below. Further statistics, including a reconciliation of the current membership with that present at the previous valuation, are provided in appendix 2.

Pensioners

- 4.1 Details of the pensioners and annual pension statistics at the valuation date are provided in the table below:

		31 March 2021	
	Number	Total annual pensions (R'000)	Average annual pensions (R)
Pensioners			
- Male	10 405	570 607	54 840
- Female	524	24 483	46 722
Widow(er)s			
- Male	70	2 534	36 192
- Female	29 459	897 879	30 479
Children	115	2 550	22 177
Total	40 573	1 498 053	36 922

- 4.2 At the previous valuation date the number of pensioners was slightly lower than that shown in the financial statements, which showed a higher number of new beneficiaries than were present in the valuation data. The movements over the valuation period are in line with those reflected in the financial statements. However, as a result of the lower opening balance, the membership at the valuation date was again lower than that shown in the financial statements.

- 4.3 The corresponding statistics at the previous valuation date have been provided for comparison:

		31 March 2020	
	Number	Total annual pensions (R'000)	Average annual pensions (R)
Pensioners			
- Male	11 925	567 368	47 577
- Female	572	22 841	39 931
Widow(er)s			
- Male	76	2 387	31 412
- Female	31 176	839 751	26 936
Children	115	2 299	19 989
Total	43 864	1 434 636	32 706

5. ASSETS

- 5.1 This section sets out the value placed upon the fund's assets. It first deals with the matched cash flow portfolio and then with the fund's assets in aggregate.

Matched cash flow portfolio

- 5.2 The liabilities of the fund have changed, following the settlement agreement in 3.3, to a greater mix of inflation-targeting pension increases. As a result, the assets are being transitioned from predominantly nominal to real bonds. The trustees have targeted a strategy that will match the cash flows of approximately 85% of these liabilities. The matched assets have increased from 63.7% of the liabilities at the previous valuation date to 76.8% of the liabilities at the current valuation date.

Unmatched portfolio

- 5.3 The fund, together with its asset consultants, devised an investment policy in respect of the remainder of the fund's assets. This policy follows a more aggressive investment strategy than that of the matched portfolio. In my opinion this is appropriate as the unmatched portion is primarily intended to cover the balance of the unmatched liabilities and the "reserves" which would be used to fund future pension bonuses, as affordable.

Fund assets

- 5.4 The composition of the fund's assets at market value, as reported in the audited annual financial statements, is set out in the following table:

	Market value (R million)	Allocation %
Cash and deposits	1 467	10.3
Commodities	123	0.9
Debt instruments	7 429	52.3
Equities	4 050	28.5
Collective investment schemes	6	0.1
Property	181	1.3
Investing in participating employer	941	6.6
Total investments	14 197	100.0
Plus: Current assets	169	
Less: Current liabilities*	(40)	
Total assets for valuation purposes	14 326	

* Includes unclaimed benefits

Valuation of assets

- 5.5 For purposes of this actuarial valuation, the assets have been taken into account at 100% of fair (or market) value and no investment margin has been set aside. Therefore the assets of the fund have been taken into account at R 14 326 million as at the valuation date. This is consistent with asset valuation methodology applied to the valuation of the fund's liabilities.

Fund returns

- 5.6 The assets of the fund earned approximately 26.30% per annum during the valuation period, based on the audited financial statements and assuming that cash flows for each year occurred in the middle of that year. This investment return is net of investment management fees.
- 5.7 This return should be considered in the context of the 9.36% per annum assumed in the previous actuarial valuation report.

Appropriateness of assets

- 5.8 Subsequent to the valuation date, the investment strategy has been changed from one focussing on traditional bonds to target fixed pension increases to a greater exposure to assets suitable for targeting inflation-related pension increases, such as inflation-linked bonds and local and foreign equities.

6. VALUATION METHOD AND BASIS

The valuation has been conducted on the basis of the benefits and other provisions of the rules as at 31 March 2021. Assets are reflected at market value.

Valuation approach

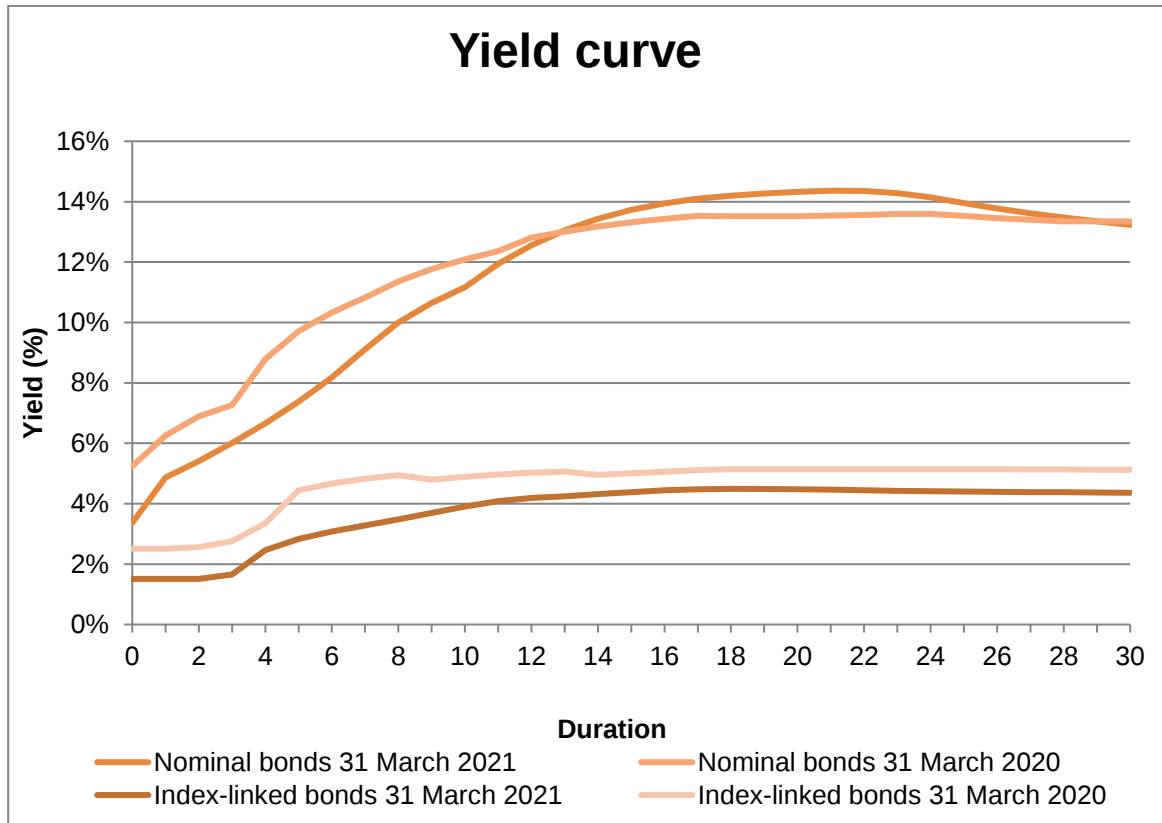
- 6.1 The liabilities are calculated as the present value of projected future pension payments at the date of valuation. The future pension payments and pension increases are discounted to the valuation date using the valuation discount rate.
- 6.2 The in-force future pension payments were calculated by applying a best-estimate probability basis to future pension payments, allowing for future pension increases in terms of the rules of the fund. This method is appropriate for a fund with a membership of only pensioners.

Principal actuarial assumptions

- 6.3 In setting the assumptions to be used for estimating the liabilities of the fund current actuarial principles and the Alexander Forbes best practice “house view” have been followed.
- 6.4 Current practice is for these assumptions to be “best-estimate” assumptions. Therefore, no deliberate margins of conservatism would be included in the assumptions and the assumptions would generally be motivated by reference to the experience of the fund, statistical evidence and yields on government or corporate bonds.
- 6.5 In addition, the assumptions should be reasonable both independently and combined. The assumptions used to value the liabilities must be consistent with those used to value the assets.
- 6.6 The actuarial assumptions used in the valuation of the liabilities are detailed below:

Yield curve

- 6.7 The gross discount rates are determined with regard to the all bond yield curve on 31 March 2021. I believe an appropriate matched investment strategy for the fund would reflect an asset profile of primarily bond investments. I have therefore used the yield curve as the discount rate, as implied by the efficient market hypothesis. The graph below compares the yields as at 31 March 2021 and 31 March 2020:



- 6.8 As in the previous valuation, the expected future cash flows at each duration have been discounted using the yield implied by the yield curve at each specific duration.
- 6.9 The average discount rate which produces equivalent results is 7.51% p.a. compared to 9.36% in the previous valuation.
- 6.10 The fund's liabilities have duration of approximately 5.2 years, compared to approximately 4.6 years in the previous valuation.
- 6.11 No provision for asset management fees has been made, since the out-performance over the benchmark produced by active asset management should exceed the asset management fee.

Inflation

- 6.12 A future inflation assumption can be derived at each duration on the yield curve by subtracting the yield on inflation-linked government bonds from a similar duration fixed-coupon bond yield. The fund's liabilities have duration of approximately 5.2 years, corresponding to an inflation estimate of 4.51%, compared to 5.12% at the last valuation.
- 6.13 In order to value the targeted future pension increases of 70% of inflation, we have therefore used a net discount rate which averages 4.22% ($1.0751 / 1.0316 - 1$). We have assumed the targeted increases will be implemented in August each year.

Mortality assumptions

- 6.14 The mortality assumptions have, at this stage, remained unchanged from the previous valuation.
- 6.15 The fund-specific Transnet Pensioner Mortality Tables have been retained to represent the expected mortality of all pensioners.

Category	Average pension weighted age	
	31 March 2020	31 March 2021
Male pensioners	79.9 years	80.5 years
Female pensioners	79.0 years	79.8 years
Male spouses (Widowers)	66.6 years	67.5 years
Female spouses (Widows)	77.2 years	77.6 years

- 6.16 The fund-specific Transnet Pensioner Mortality Table can be summarised as follows:

Age	Average annual death rate in the stated age band	
	Female (%)	Male (%)
20 to 24	0.26	0.79
25 to 29	0.34	1.03
30 to 34	0.42	1.27
35 to 39	0.52	1.51
40 to 44	0.63	1.75
45 to 49	0.74	1.99
50 to 54	0.87	2.24
55 to 59	1.06	2.48
60 to 64	1.40	2.72
65 to 69	2.02	3.35
70 to 74	3.14	4.95
75 to 79	5.17	7.80
80 to 84	8.88	11.89
85 to 89	14.66	17.36
90 to 94	22.40	24.80
95 and older	30.88	33.14

Remarriage liability

- 6.17 The rules of the fund were previously amended so that only a spouse who was married to a pensioner on or before 31 March 2007 would be eligible to claim a benefit on the death of the pensioner. This was allowed for in the valuation by assuming that 80% of pensioners are currently married and that all male pensioners are 5 years older than their spouses.

- 6.18 The actual marital statuses of pensioners and their spouses' details are not reliable in the data received. The administrators continue to update this information where possible.

Solvency reserve basis

- 6.19 I have determined the level of the solvency reserve using the discontinuance matched approach. The solvency reserve is made up of three components, namely: solvency reserve on matched liabilities, solvency reserve on unmatched liabilities and a mortality improvement reserve.
- 6.20 The assumptions that differ from the best-estimate valuation assumptions are:
- Discount rates: This is the yield curve, as discussed in section 6.7, but adjusted for the reasonable cost of maintaining an investment strategy of matching such assets to the liabilities of the fund (0.5% for unmatched), but taking into account the current matching and associated reduced risks (0.25% for matched).
 - Post-retirement mortality: The Transnet Mortality tables were again rated down by a ½ year to allow for possible future mortality improvements.

7. VALUATION RESULTS

- 7.1 In order to determine the level of solvency of the fund, it is necessary to compare the total assets of the fund with the total liabilities. The fund is solvent when the value of the assets exceeds the value of the liabilities, i.e. a funding level of 100% or greater. The funding level is the ratio of the value of the assets to the value of the liabilities of the fund at the valuation date.

Value of liabilities

- 7.2 The present value of the liabilities in respect of pensioners, as at 31 March 2021, is given in the table below. The values as at 31 March 2020 are given for comparative purposes:

	31 March 2020 (R million)	31 March 2021 (R million)
Pensioners	4 679	4 385
Widow(er)s	6 623	6 489
Children	28	29
Total liabilities	11 330	10 903

Value of assets

- 7.3 For valuation purposes, the value of the assets is R 14 326 million.

Value of solvency reserve

- 7.4 The trustees accepted and implemented a solvency reserve to afford protection against investment and mortality risk. This reserve is calculated on the difference between the fund's liabilities on the valuation basis and the liabilities on the solvency basis.
- 7.5 As per the previous section, this reserve has three components:
- The Transnet Pensioner Mortality tables were rated down by a ½ year to allow for possible future mortality improvements. An amount of R 193 million will need to be set aside to allow for this.
 - A reserve of R 54 million is required in respect of the unmatched portion of the liabilities. This was calculated by reducing the best-estimate bond yield by 0.5% to allow for the reasonable cost of maintaining the investment strategy of the fund.
 - On the basis that a margin arose on the implementation of the cash flow matching strategy, there is expected to be an additional level of assets that provide a margin of protection and which would release over time. On this basis the solvency reserve in respect of the matched liabilities portion was calculated by reducing the best-estimate bond yield by only 0.25%. The reserve required for the matched portion of the liabilities amounts to R 101 million.
- 7.6 The total recommended solvency reserve as at 31 March 2021 amounts to R 349 million compared to R 374 million as at 31 March 2020.

Funding level

- 7.7 Comparing the value of the assets with that of the past service liabilities produces the following results:

	31 March 2020 (R million)	31 March 2021 (R million)
Total net assets	11 499	14 326
Total liabilities	11 330	10 903
Surplus / (Deficit) before solvency reserve	169	3 423
Funding level before solvency reserve	101.5%	132.7%
Solvency reserve	374	349
Surplus / (Deficit) after solvency reserve	(205)	3 074
Funding level after solvency reserve	98.2%	127.3%

The assets of the fund exceeded its liabilities as at the valuation date and covered the full recommended solvency reserve.

Comment in terms of APN 205

- 7.8 Whilst the value of the liabilities is based on best estimate assumptions, where relevant, and the solvency and other contingency reserves established by the trustees on my advice allow for some fluctuations in asset values and / or unexpected changes in liabilities, there is no guarantee that these reserves will prove sufficient in practice. Conversely, it is possible that the reserves may prove to be more than sufficient.
- 7.9 If the reserves prove to be insufficient, management action will be required to rectify the position. The uncertainty of the adequacy or otherwise of the reserves held is unavoidable and the actual outcome can only be determined when the fund ceases to have any further liabilities.

8. SUMMARY AND RECOMMENDATIONS

- 8.1 The fund does not receive regular contribution income and all the benefits are payable from a combination of investment income and the sale of assets. This will result in the fund's assets reaching a point where they start to reduce over time. The market value of the fund's assets is very important and has a direct impact on the financial position of the fund.
- 8.2 The actuarial valuation of the Transnet Second Defined Benefit Fund revealed a surplus of R 3 423 million before allowing for the recommended solvency reserve. The recommended solvency reserve was R 349 million.
- 8.3 Although the improvements in pensioner longevity are not yet significant, I have also shown in appendix 4 the impact of allowing for mortality improvements of 0.5% per year going forward.
- 8.4 I confirm that, based on the information available, the fund was in a sound financial condition as at the valuation date, i.e. the assets of the Transnet Second Defined Benefit Fund exceeded the fund's liabilities as at the valuation date. The assets covered the full recommended solvency reserve.



A R Pienaar

Fellow of the Actuarial Society of South Africa
in my capacity as the valuator of the fund
and as an employee of
Alexander Forbes Financial Services (Pty) Ltd

For the purposes of professional regulation the primary professional regulator of the signatories to this report is the Actuarial Society of South Africa.

August 2021

APPENDIX 1: SUMMARY OF BENEFITS AND CONTRIBUTIONS

A summary of the main benefits is given below. Full details are contained in the registered rules of the fund. Where there are special cases or benefits for particular members, these have been taken into account in the valuation.

Spouse's pension on death

In terms of the rules of the fund a pension equal to 70% of the member's pension immediately prior to his death. If the pensioner dies before the normal retirement age, the pension is increased by the ratio of pensionable service plus service from date of death to normal retirement age over pensionable service.

If the spouse is the result of a marriage after retirement, and is more than five years younger than the deceased pensioner, the benefit is reduced.

Only spouses who were married to principal pensioners at 31 March 2007 are entitled to this benefit.

Dependent children's pensions on death

In terms of the rules of the fund on the death of a pensioner a dependent child receives a pension at the discretion of the fund and on a basis determined by the fund, but not more than 80% of the spouse's pension.

If dependants are children, the pension is normally payable to age 18. This may be extended up to age 26 by the trustees in cases where children remain dependent after age 18.

Pension increases

The rules provide for a pension increase of 2% per annum on the anniversary of the retirement date. With effect from 3 July 2020 the rules of the fund were amended to allow the trustees to, from time to time, grant additional pension increases.

APPENDIX 2: SUMMARY OF DATA

Membership reconciliation

	Pensioners	Spouses	Children & other dependants	Total
Membership 31 March 2020	12 497	31 252	115	43 864
New pensioners	-	744	4	748
Exits (deaths and terminations)	(1 568)	(2 467)	(4)	(4 039)
Membership 31 March 2021	10 929	29 529	115	40 573

At the previous valuation date the number of pensioners was slightly lower than that shown in the financial statements, which showed a higher number of new beneficiaries than were present in the valuation data. The movements over the valuation period are in line with those reflected in the financial statements. However, as a result of the lower opening balance, the membership at the valuation date was again lower than that shown in the financial statements.

Member statistics

Pensioners		Male		Female		
Age	Number	annual pension (R'000)	Average pension (R)	Number	annual pension (R'000)	Average pension (R)
45 - 49	1	19	18 672	-	-	-
50 - 54	19	332	17 492	1	19	19 464
55 - 59	129	3 590	27 830	23	544	23 653
60 - 64	457	13 442	29 414	43	1 020	23 728
65 - 69	774	26 987	34 866	94	3 285	34 950
70 - 74	1 303	64 615	49 589	70	2 939	41 982
75 - 79	2 177	148 469	68 199	82	4 605	56 155
80 - 84	2 895	165 871	57 296	84	3 746	44 595
85 - 89	1 708	102 702	60 130	86	5 414	62 951
90 - 94	717	36 022	50 240	27	1 573	58 244
95 - 99	183	7 594	41 497	13	1 303	100 200
100 - 104	35	893	25 507	1	35	34 932
105 - 109	5	53	10 697	-	-	-
110 - 114	1	9	8 988	-	-	-
115 - 119	1	9	8 940	-	-	-
Total	10 405	570 607	54 840	524	24 483	46 722

Widow(er)s		Male		Female		
Age	Number	annual pension (R'000)	Average pension (R)	Number	annual pension (R'000)	Average pension (R)
	-	-	-	1	8	8 460
35 - 39	-	-	-	2	31	15 444
40 - 44	-	-	-	27	593	21 980
45 - 49	3	81	26 920	115	3 019	26 250
50 - 54	6	200	33 356	493	12 584	25 526
55 - 59	9	399	44 371	1 384	35 291	25 499
60 - 64	9	360	39 976	2 478	63 382	25 578
65 - 69	11	482	43 858	3 485	88 494	25 393
70 - 74	15	460	30 671	4 845	126 287	26 065
75 - 79	7	225	32 205	5 456	164 371	30 127
80 - 84	6	179	29 752	5 325	175 567	32 970
85 - 89	2	57	28 278	3 480	136 014	39 084
90 - 94	1	42	42 324	1 847	72 776	39 402
95 - 99	1	48	48 108	420	16 436	39 133
100 - 104	-	-	-	92	2 972	32 309
105 - 109	-	-	-	7	46	6 513
110 -114	-	-	-	2	8	3 804
Total	70	2 533	36 192	29 459	897 879	30 479

Children & other dependants		Male		Female		
Age	Number	annual pension (R'000)	Average pension (R)	Number	annual pension (R'000)	Average pension (R)
10 – 14	1	3	2 616	2	8	4 056
15 – 19	-	-	-	3	17	5 596
20 – 24	-	-	-	2	20	9 990
25 – 29	1	7	7 440	-	-	-
30 – 34	5	67	13 306	2	32	15 852
35 – 39	-	-	-	4	48	11 910
40 – 44	5	120	24 079	7	106	15 068
45 – 49	8	167	20 889	11	281	25 565
50 – 54	8	173	21 621	2	164	82 170
55 – 59	11	207	18 849	7	200	28 541
60 – 64	11	295	26 979	5	166	33 166
65 - 69	2	57	28 428	9	223	24 828
70 - 74	-	-	-	7	145	20 671
75 - 79	-	-	-	2	45	22 632
Total	52	1 096	21 077	63	1 454	23 084

Reasonability checks performed

A large number of tests on the reasonability and consistency of the data were carried out, including the following:

- reconciling the number of pensioners at the valuation date and the previous valuation date, with the movements in membership reported
- reasonability tests on the pension amounts, and the various dates (dates of birth, dates of pension commencement and dates of exit)
- identifying any missing or invalid data fields
- identifying changes in membership details
- reviewing the fund's annual financial statements
- calculation of the fund's investment returns

I am satisfied with the general accuracy and completeness of the data provided and with its suitability for purposes of this valuation.

APPENDIX 3: ANALYSIS OF CHANGE IN FINANCIAL POSITION

The valuation at 31 March 2021 disclosed excess assets of some R 3 074 million after taking into account the recommended solvency reserve. The previous valuation at 31 March 2020 showed a shortfall of some R 205 million on the market value of assets. The factors that led to a change of approximately R 3 279 million have been analysed according to source and the results of this analysis are given in the following table.

Item	R million
Valuation surplus / (deficit) as at 31 March 2020	(205)
Interest on valuation deficit	(19)
Investment return	1 850
Change of best estimate assumptions	(485)
Change in solvency reserve	60
Mortality profit / (loss)	70
Class action litigation proceeds	1 800
Miscellaneous	3
Valuation surplus as at 31 March 2021	3 074

Interest on valuation surplus

Interest at the assumed valuation rate on the previous deficit produced a loss of R 19 million over the valuation period.

Investment return

The investment return achieved on the assets (approximately 26.30%) was higher than that anticipated on the previous valuation basis of 9.36%. This resulted in an investment profit of R 1 850 million over the valuation period.

Change of best estimate assumptions

Since the previous valuation, reductions in bond yields have resulted in an increase of R 485 million in the assessed value of the liabilities, from R 10 417 million to R 10 903 million.

Change in solvency reserve

A change in the solvency reserve has resulted in a release of R 60 million.

Mortality profit/(loss)

The actual mortality experience was slightly greater than expected, which produced a release of R 70 million.

Class action litigation proceeds

An amount of R1 723 million, was received by the fund to cover the cost of the class action litigation. With returns, this resulted in a gain of around R 1 800 million.

Miscellaneous

There was a miscellaneous gain of R 3 million arising from various individually insignificant sources.

APPENDIX 4: FUNDING LEVEL COMPARISON

This section is for the trustees' information purposes only, to assist in understanding the relative strength of the fund. I have also illustrated the impact of possible future mortality improvements.

Annual improvements in future mortality

The following table illustrates the funding position should the fund experience mortality improvements of 0.5% p.a. into the future. This has no bearing on the actual reported financial position of the fund and should be used for management information purposes only.

	Current mortality	0.5% p.a. mortality improvements
	(R million)	(R million)
Total net assets	14 326	14 326
Total liabilities	10 903	11 004
Surplus / (Deficit) before solvency reserve	3 423	3 322
Funding level before solvency reserve	132.7%	130.2%
Solvency reserve	349	354
Surplus / (Deficit) after solvency reserve	3 074	2 968
Funding level after solvency reserve	127.3%	126.1%

Please note that the above results are based on the assumption that an appropriate inflation-linked cash flow matching strategy is implemented for future pension payments. If this is not done, the level of solvency reserve desired will be higher than that shown above. No allowance has been made for the potential cost of the restructuring of the fund's existing assets to such a possible arrangement.