Australian Capital Territory Chief Minister, Treasury and Economic Development Directorate

Report on Actuarial Investigation as at 30 June 2020

Statement of Advice

31 May 2021

Towers Watson Australia Pty Ltd
ABN 45 002 415 349 AFSL 229921

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Section 1: Executive Summary

Introduction and Scope

1.1 This report presents the results of the triennial actuarial investigation conducted as at 30 June 2020 of the ACT Government's superannuation liability in respect of current and former employees who are members of the Commonwealth Superannuation Scheme (CSS) or the Public Sector Superannuation Scheme (PSS) to the ACT Chief Minister, Treasury and Economic Development Directorate ("the Directorate").

1.2 From 1 July 1989, the ACT Government became a separate body politic. From that date the ACT Government, including all ACT Government Agencies, has an ongoing financial obligation in respect of its current or former employees who are or have been members of the CSS or the PSS. The total estimated value of these obligations as determined by the actuary at a particular point in time is referred to as the Accrued Superannuation Liability[1].

1.3 A triennial investigation is conducted every three years and includes detailed analysis of the CSS and PSS experience of ACT Government employees, review of the assumptions adopted and projection of the Accrued Superannuation Liability and Emerging Cost Payments. The previous triennial investigation into the Accrued Superannuation Liability of the ACT Government was carried out by Matthew Burgess at 30 June 2017. The results of that investigation were set out in our "Report on Actuarial Investigation as at 30 June 2017" dated 25 May 2018 (the "2017 Triennial Report").

1.4 In addition to triennial investigations, an update of the valuation results ("annual actuarial review") is also conducted in each of the years during which no triennial investigation is performed. The previous annual actuarial review was conducted by Matthew Burgess at 30 June 2019 and the results were set out in our "Report on Actuarial Investigation as at 30 June 2019" dated 19 May 2020 (the "2019 Annual Report").

1.5 This report sets out the following key results:

- An estimate of the annual payments expected to be made by the ACT Government to the Commonwealth Government to discharge its superannuation obligations. These estimated annual payments are known as the "Emerging Cost Payments" (Appendix F);
- An estimate of the Accrued Superannuation Liability (as at 30 June 2020) and the projected liabilities in future years in respect of ACT Government employees and former employees who are or have been members of the CSS or the PSS, including liabilities in respect of their dependants (Appendix D); and
- Determination of the net balance of the amount owed to the Commonwealth Government by the ACT Government as at 30 June 2020 in respect of benefits already paid to that date by the Commonwealth Government. This is known as the "Emerging Cost Surplus/Deficit" (Appendix G).

1.6 This investigation has been carried out by Matthew Burgess, FIAA, of Willis Towers Watson and reviewed by Andrew West, FIAA to ensure Willis Towers Watson excellence standards were applied.

[1] Appendix J contains a Glossary that includes a definition of Accrued Superannuation Liability.

Membership Data

1.7 The results in this report are based on membership data as at 30 June 2020 provided by Commonwealth Superannuation Corporation (CSC). A summary of the membership is shown in the following table:

Table 1.1 – Membership Summary as at 30 June 2020

	CSS	PSS	Total
Group A			
Contributors	248	6,027	6,275
Deferred Beneficiaries	133	8,466	8,599
Current Pensioners	5,617	5,503	11,120
Dependent Pensioners	637	290	927
Group B			
Contributors	123	2,630	2,753
Deferred Beneficiaries	59	2,081[1]	2,140
Current Pensioners	1,137	1,969	3,106
Dependent Pensioners	69	70	139

[1] Includes 221 PSS Family Law non-member spouses.

1.8 Details of the data and the reconciliation process used to verify the data are contained in Section 3, Appendix B, Appendix H and Appendix I of the report. Data limitations, assumptions and/or methodologies to deal with them are also documented in Section 3 and Section 4.

Assumptions

1.9 As requested, results have been prepared on one set of financial assumptions for ACT Government budgeting purposes.

1.10 The following assumptions were made:

For the purpose of the ACT Government's future budgeting, a discount rate of 4.0% per annum was used, as advised, for the purpose of reflecting the estimate of the Commonwealth Government bond yield over the long term. Also as advised, a salary inflation assumption of 2.75% per annum and price increases (CPI) assumption of 2.25% per annum were adopted for use in conjunction with this discount rate. These are known as the Budget assumptions.

1.11 For the Budget assumptions in the most recent annual review conducted as at 30 June 2019, a discount rate of 5.0% per annum, long term salary inflation of 3.0% per annum (with a short term salary inflation assumption of 2.75% p.a. until 30 June 2024) and long term price increases (CPI) assumption of 2.5% per annum were used.

1.12 All assumptions used in preparing this report have been discussed and agreed with the Directorate.

1.13 The assumptions used for this report are further discussed in Section 5 and set out in detail in Appendix C.

Methodology

1.14 All methodologies have remained the same as those applied for the 2017 Triennial Report and the 2019 Annual Report.

1.15 Further information on the methodology used is contained in Section 4 and additional information in respect of the Emerging Cost Payments and Surplus/Deficit calculations is in Appendix G.

1.16 A Memorandum of Understanding (the Memorandum of Understanding) between the ACT Government and the Commonwealth was agreed on 6 October 2017. This documents the agreed approach used for the calculation of the Emerging Cost Payments, including the Surplus/Deficit, and is consistent with the approach already being used and adopted in this and prior reports.

Results and Recommendations

Projected Accrued Superannuation Liability

1.17 On the basis of the selected actuarial assumptions we have determined that the value of the Accrued Superannuation Liability as at 30 June 2020 is $9,548.6 million;

1.18 The Accrued Superannuation Liability at 30 June 2020 of $9,548.6 million on the Budget assumptions is $1,509.8 million higher than the estimated value at 30 June 2020 of $8,038.8 million provided in the 2019 Annual Report. The main reasons for the variation are due to changes in the financial and demographic assumptions and experience being different to what was assumed.

Changes due to financial assumptions:

- Reduction of the discount and crediting rate assumption from 5.0% per annum to 4.0% per annum;
- Reduction of the assumed future long term salary inflation rate from 3.0% per annum to 2.75% per annum; and
- Reduction of the long term CPI assumption from 2.5% per annum to 2.25% per annum.

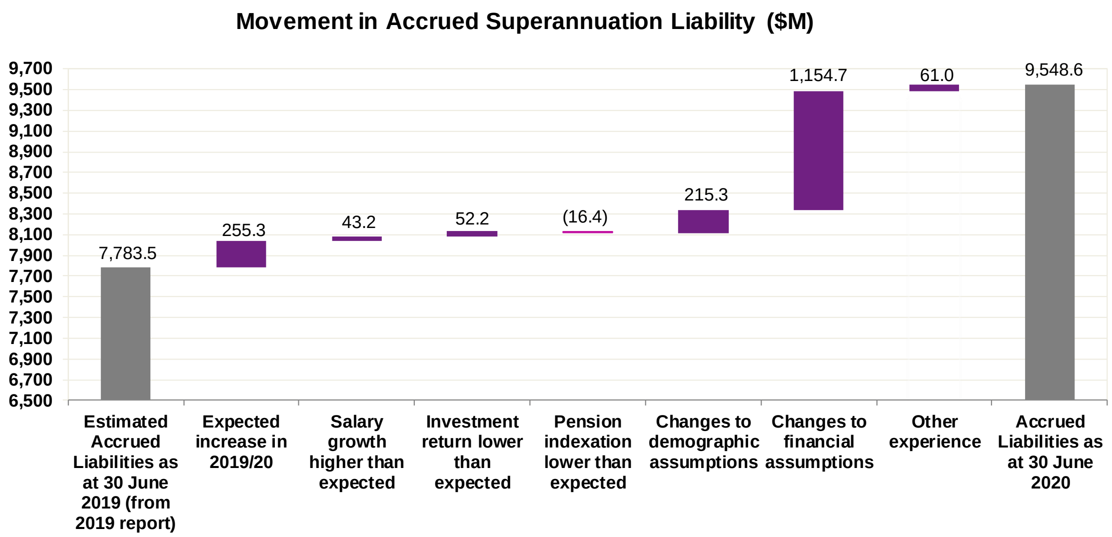
Changes due to demographic assumptions:

- Increase to the CSS resignation and PSS member contribution rate assumptions;
- Changes to retirement, invalidity and widower pension mortality rate assumptions;
- Increase to the PSS pension election assumption;
- Increase to the CSS non-indexed pension election of member components assumptions;
- Decrease to the PSS preservation assumptions; and
- Decrease to the PSS pension employer financed proportion assumption for invalid pensioners for whom a split of benefit components is not provided.

Experience being different from expected:

- Lower than expected investment returns and pension indexation over 2019/20; and
- Higher than expected rates of salary growth in 2019/20.

1.19 The following chart shows the reconciliation of the movement in the Accrued Superannuation Liability from 30 June 2019 to 30 June 2020:



1.21 The following table provides a summary of the Accrued Superannuation Liability at 30 June 2020 and the projected Accrued Superannuation Liability for the next five years based on the Budget assumptions:

Table 1.2 – Accrued Superannuation Liability

As at	Total Accrued Superannuation Liability (Budget Assumptions) ($M)
30 June 2020	9,548.6
30 June 2021	9,837.4
30 June 2022	10,101.6
30 June 2023	10,344.7
30 June 2024	10,566.3
30 June 2025	10,764.1

1.22 Appendix D in this report set out estimates of the Accrued Superannuation Liability at 30 June for each of the next 40 years on the Budget assumptions.

Emerging Cost Payments

1.23 The Emerging Cost Payments are the estimates of the annual amounts which the ACT Government is expected to pay to the Commonwealth Government. We have determined the estimated values of the Emerging Cost Payments for each of the next 40 years. The results are set out in Appendix F.

1.24 The Emerging Cost Payments for the period beginning 30 June 2020 based on the Budget assumptions are set out below:

Table 1.3 – Emerging Cost Payments

Year Ending	Emerging Cost Payments* (Budget Assumptions) ($M)
30 June 2021^	308.993
30 June 2022	328.281
30 June 2023	348.977
30 June 2024	370.119
30 June 2025	392.814

* A quarter of each annual payment is assumed to be made at the end of each quarter.

^ Actual annual payment amount agreed with the Commonwealth Government for the 2020/21 financial year, based on the Emerging Cost Payment estimate from the 2019 Annual Report.

Emerging Cost Surplus/Deficit

1.25 The Emerging Cost Payments made by the ACT Government for the year ending 30 June 2020 have been reconciled with the payments incurred for individual members who actually left the CSS or the PSS and the pension payments over that period.

1.26 As at 30 June 2020 there is an estimated accumulated surplus, the Emerging Cost Surplus, of $11.041 million due to the actual benefit payments being less than expected. The Emerging Cost Surplus as at 30 June 2019 was estimated to be $7.749 million.

1.27 Full details of the Emerging Cost Payments and the Emerging Cost Surplus/Deficit are provided in Section 6 and Appendix G of the report.

Standards

1.28 We confirm that this actuarial investigation and report meet the requirements of the relevant Professional Standards of The Institute of Actuaries of Australia, to the extent they apply.

Reliances and Limitations

1.29 This report is based on information available to Willis Towers Watson at the date of this report and takes no account of subsequent developments after that date. In preparing this report we have relied on the information supplied by CSC and the Directorate. In particular we have discussed and agreed the assumptions with the Directorate and relied on the accuracy of the membership data. As agreed with the Directorate, estimates have been used for some calculations. Whilst reasonable care has been taken to gauge the reliability of the data, we provide no guarantee as to its accuracy or completeness and Willis Towers Watson and its affiliates and their respective directors, officers and employees accept no responsibility and will not be liable for any errors or misrepresentations in the data made by any third party.

1.30 This report was prepared for the Directorate to use in the context described above under the terms of our engagement and for the purpose indicated. It may not be suitable for use in any other context or for any other purpose and we accept no responsibility for any such use.

1.31 This report was prepared for the sole and exclusive use of the Directorate. It was not prepared for use by any other party and may not address their needs, concerns or objectives. This report should not be disclosed or distributed to any third party other than as agreed with you in writing. Willis Towers Watson and their respective Directors, officers and employees accept no responsibility, or accept any duty of care or liability to any third party who may obtain a copy of this advice and will not be liable for any consequence howsoever arising from any third part's use of or reliance on this material or the opinions we have expressed.

Matthew Burgess

Matthew Burgess
Fellow of the Institute of Actuaries of Australia
31 May 2021

Professional Excellence Standards Review

I confirm that Willis Towers Watson's Excellence standards have been applied in the preparation of this report.

Andrew West

Andrew West
Fellow of the Institute of Actuaries of Australia
31 May 2021

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Section 2: Introduction

2.1 Superannuation arrangements for ACT Government employees vary due to the type of superannuation scheme available at the time of commencing employment. The relevant arrangements for employees commencing as noted below are:

- prior to 1 July 1990, the Commonwealth Superannuation Scheme (CSS);
- between 1 July 1990 and 30 June 2005, the Public Sector Superannuation Scheme (PSS);
- from 1 July 2005 to 5 October 2006, the Public Sector Superannuation Accumulation Plan (PSSap); and
- from 6 October 2006, the superannuation fund of choice arrangements, with Aware Super (formerly First State Super) as the default arrangement.

CSS and PSS

2.2 From 1 July 1989, the ACT Government became a separate body politic.

2.3 An agreement was reached with the Commonwealth Government that permanent ACT Government employees (those transferring from the Commonwealth Government or new employees) could continue to access the Australian Government CSS arrangement. Casual employees were not eligible to join the CSS. The CSS was closed to new members from 1 July 1990.

2.4 The Public Sector Superannuation Scheme (PSS) was opened on 1 July 1990 and was compulsory for all ACT Government employees employed in a permanent capacity, unless the employee was an existing CSS member. CSS members could choose to transfer from the CSS to the PSS. Casual employees could elect to join PSS. The PSS was closed to new members from 1 July 2005.

2.5 The CSS and the PSS are both defined benefit schemes in which the benefits payable to members are defined in advance according to a set of formulas which are linked to factors such as years of service, final average salary and level of member contribution. Details of the benefits provided by the CSS and the PSS are set out in Appendix A.

2.6 The CSS was introduced on 1 July 1976. Its operations are governed by the Superannuation Act 1976, as amended, and associated regulations. The CSS provides an indexed pension and member and productivity financed lump sum benefits that can be converted into a non-indexed pension.

2.7 The PSS was established on the basis of a Policy Statement made by the then Commonwealth Minister for Finance on 15 October 1989. Its operations are governed by the Superannuation Act 1990 and a Trust Deed and Rules. In the PSS, the primary benefit is expressed as a lump sum based on a multiple of final average salary that is related to the average member contribution rate and total service. On exit, the benefit may be wholly or partially taken as an indexed pension.

2.8 The CSS and PSS are administered by the Commonwealth Superannuation Corporation (CSC). All benefits of the CSS and PSS are paid to members by CSC.

2.9 With effect from 1 July 1989 the ACT Government became responsible to the Commonwealth Government for the employer financed portion of superannuation benefits provided to employees of the ACT Government and their dependants. This requirement now applies to benefits provided from both the CSS and PSS.

2.10 Under the arrangements agreed to by the Commonwealth Government and the ACT Government, the ACT Government is to reimburse the Commonwealth Government for the cost of superannuation benefits paid in respect of ACT Government employees and former employees who are or were members of the CSS or PSS. This requirement applies to benefits in respect of employment with the ACT Government after 1 July 1989 or such later date as may be agreed between the Commonwealth Government and the ACT Government for agencies that become part of the ACT Government Service after 1 July 1989.

2.11 As part of this requirement the ACT Government has a liability in respect of productivity contributions accruing after 1 July 1990. This liability is discharged by contributions made directly to the CSC.

2.12 The remaining liability to the Commonwealth Government in respect of benefit payments is discharged by payments from the ACT Government's Superannuation Provision Account (SPA) to CSC. These payments are represented by:

a The estimated annual "Emerging Cost Payments" of the employer financed component of superannuation benefit payments; and

b The balancing payment/credit which adjusts the accumulated value of the Emerging Cost Payments with the estimated value of the employer financed component of actual benefit payments for the year.

PSSap and Other Superannuation Schemes

2.13 From 1 July 2005, all new ACT Government employees were required to become members of the Public Sector Superannuation Accumulation Plan (PSSap). Existing CSS and PSS members were not able to transfer. The scheme design is a defined contribution arrangement where employer contributions are made regularly to the scheme on behalf of members.

2.14 From 6 October 2006, the ACT Government introduced superannuation fund of choice arrangements for all new employees. Employees can elect to join a superannuation fund of their choice and employees who do not elect a fund will become members of the default superannuation fund, which is currently provided by Aware Super.

2.15 The ACT Government's superannuation liability for employees who have either joined PSSap, the default fund or other approved superannuation schemes, is fully funded by regular payments to the schemes and hence they have been ignored for the purposes of this report.

Superannuation Provision Account

2.16 The Superannuation Provision Account (SPA) was established in 1991 to assist the ACT Government in managing its CSS/PSS defined benefit employer superannuation liabilities. The SPA is not a superannuation scheme for ACT Government employees, nor does it receive contributions from ACT Government employees.

2.17 The SPA is an ACT Government account which receives appropriations and makes payments to the CSC in connection with the ACT Government's defined benefit CSS/PSS employer superannuation liabilities.

2.18 The operations of the SPA are subject to the legislative requirements of the Territory Superannuation Provision Protection Act 2000 and the Financial Management Act 1996.

2.19 The Emerging Cost Payments are made by the ACT Government to CSC, from the SPA, and are the means by which the ACT Government's share of the employer financed superannuation benefits is reimbursed. The Memorandum of Understanding dated 6 October 2017 sets out the approach used for this calculation.

Actuarial Reports and Standards

2.20 A triennial investigation is conducted every three years and includes detailed analysis of the CSS and PSS experience of ACT Government employees, review of the assumptions adopted and projection of the Accrued Superannuation Liability and Emerging Cost Payments. The previous triennial investigation into the Accrued Superannuation Liability of the ACT Government was carried out by myself at 30 June 2017. The results of that investigation were set out in the 2017 Triennial Report dated 25 May 2018.

2.21 In addition to triennial investigations, an annual actuarial review is also conducted in each of the years in which no triennial investigation is performed. The previous annual actuarial review was carried out by myself as at 30 June 2019. The results of the review were set out in the "Report on Actuarial Investigation as at 30 June 2019" dated 19 May 2020 (the "2019 Annual Report").

2.22 This report complies with relevant Professional Standards of the Institute of Actuaries of Australia. This report is however not required by the Superannuation Industry (Supervision) Act nor APRA's Prudential Standard SPS 160, nor is it an actuarial investigation of a public sector superannuation scheme (although it considers funding obligations under such a scheme), and therefore is not required to comply with Professional Standard 400 of the Institute of Actuaries of Australia.

Section 3: Data

3.1 The results in this report were based on data as at 30 June 2020 provided by CSC and the subsequent responses from CSC to our data queries.

3.2 We were provided with the data extract for actuarial purposes, consistent with data provided in previous years. Limitations with the data provided, and the assumptions or methodologies adopted to overcome the limitations, are discussed below.

3.3 CSC supplied the following data, for the period from 1 July 2019 to 30 June 2020:

Data in respect of “Group A” members:

- Data of CSS and PSS contributors who were employees of the ACT Government at 30 June 2020, including data in respect of prior memberships; and
- Data of CSS and PSS pensioners and deferred beneficiaries who were employees of the ACT Government on the termination of their employment (or dependants of such employees).

Data in respect of “Group B” members:

- Data of CSS and PSS contributors who were not employees of the ACT Government at 30 June 2020, but were so previously; and
- Data of CSS and PSS pensioners and deferred beneficiaries who were not employees of ACT Government on the termination of their employment, but were so previously (or dependants of such employees).

3.4 CSC has also provided details of the ACT Employment Ratio for current and previous ACT Government employees, being the ratio of the member’s ACT service period(s) after 1 July 1989 to their entire service. As a result, the Accrued Superannuation Liability calculations recognise estimated service with ACT Government of both current and former employees.

3.5 A listing of the ACT Government Agencies as at 30 June 2020 is set out in Appendix B. The listing contains the number of Group A members and their salaries as at 30 June 2020 for each agency. Similar data was provided as at 30 June 2018 and 30 June 2019 for the 2018 and 2019 reports, respectively, and has also been used in this report.

3.6 A summary of the membership of the contributors, deferred beneficiaries and pensioners as at 30 June 2020 is set out below (only members with non-zero ACT employer ratios are shown):

Table 3.1 – Membership by category as at 30 June 2020

	CSS	PSS	Total
Group A			
Contributors	248	6,027	6,275
Deferred Beneficiaries	133	8,466	8,599
Current Pensioners	5,617	5,503	11,120
Dependent Pensioners	637	290	927
Group B			
Contributors	123	2,630	2,753
Deferred Beneficiaries	59	2,081[1]	2,140
Current Pensioners	1,137	1,969	3,106
Dependent Pensioners	69	70	139

[1] Includes 221 PSS Family Law members.

3.7 Detailed statistics for the membership data are set out in Appendices H and I.

3.8 Tables 3.2 and 3.3 summarise the key statistics for the membership as at 30 June 2019 and 30 June 2020.

Table 3.2 – Group A: Membership Summary as at 30 June 2019 and 30 June 2020

		CSS 30 June 2020	CSS 30 June 2019	PSS 30 June 2020	PSS 30 June 2019
Contributors					
Number of Members		248	308	6,027	6,282
Salaries	**Total**	$30,330,130	$35,719,983	$703,538,100	$702,006,928
	Average	$122,299	$115,974	$116,731	$111,749
Average Age		57.1	56.6	51.5	51.0
Average Service		28.7	28.3	17.1	16.6
Average ACT Employment Ratio		0.839	0.852	0.895	0.898
Deferred Beneficiaries					
Number of Members		133	148	8,466	8,764
Average Age		57.4	56.5	50.8	50.2
Average Service		15.6	14.9	4.6	4.5
Average ACT Employment Ratio		0.751	0.755	0.899	0.899
Pensioners					
Number of Pensioners		5,617	5,640	5,503	5,175
Average Age		73.1	72.4	68.0	67.5
Total Indexed Pension*		$127,272,754	$122,302,743	$151,541,234	$134,483,986
Average ACT Employment Ratio		0.604	0.597	0.886	0.884
Dependent Pensioners					
Number of Pensioners		637	604	290	263
Average Age		75.8	74.9	67.7	66.4
Total Indexed Pension*		$6,168,424	$5,692,773	$4,147,941	$3,621,512
Average ACT Employment Ratio		0.476	0.479	0.840	0.835

* This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Table 3.3 – Group B: Membership Summary as at 30 June 2019 and 30 June 2020

		CSS 30 June 2020	CSS 30 June 2019	PSS 30 June 2020	PSS 30 June 2019
Contributors					
Number of Members		123	158	2,630	2,690
Salaries	**Total**	$17,556,204	$22,085,754	$311,670,618	$311,985,938
	Average	$142,733	$139,783	$118,506	$115,980
Average Age		55.4	54.9	49.9	49.3
Average Service		30.4	29.0	15.9	15.5
Average ACT Employment Ratio		0.212	0.231	0.225	0.232
Deferred Beneficiaries					
Number of Members		59	61	2,081	2,191
Average Age		56.3	55.5	50.0	49.4
Average Service		14.9	14.0	5.7	5.8
Average ACT Employment Ratio		0.243	0.234	0.404	0.404
Pensioners					
Number of Pensioners		1,137	1,109	1,969	1,835
Average Age		67.7	67.2	63.6	63.0
Total Indexed Pension*		$11,341,201	$10,482,699	$17,760,623	$15,811,004
Average ACT Employment Ratio		0.217	0.214	0.259	0.259
Dependent Pensioners					
Number of Pensioners		69	65	70	64
Average Age		65.9	65.3	64.9	61.9
Total Indexed Pension*		$254,616	$242,770	$361,425	$324,677
Average ACT Employment Ratio		0.174	0.173	0.234	0.229

* This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

3.9 Detailed checks have been carried out to test the integrity of the data. In addition we carried out a detailed reconciliation of the current data with the data used for the previous valuation as at 30 June 2019. The reconciliations are contained in Appendix B and, combined with the reconciliations in the 2018 and 2019 Annual Reports, reconcile the data with that used for the 2017 Triennial Report.

3.10 Our data checking and reconciliation process resulted in a number of queries in relation to the data supplied by CSC and these queries were raised with CSC.

3.11 We believe all queries raised have been resolved such that we are satisfied that the data is sufficiently reliable for the purposes of this report. Please refer to Section 4 for details of assumptions made in respect of data, noting that they are the same as at 30 June 2019. The assumptions have been agreed with the Directorate.

3.12 The results of our reconciliation of the membership data are set out in Appendix B.

Section 4: Methodology

Accrued Superannuation Liability

4.1 The ACT Government has financial obligations in respect of its current and former employees (and their dependants) who are, or have been members of the CSS or the PSS. The obligation is to meet the employer financed component of the benefits paid from CSS or PSS to members and their dependants that is attributable to service with the ACT Government on or after 1 July 1989 (or such later date as may apply for specific agencies).

4.2 To meet these obligations the ACT Government provides an annual payment to CSC of the estimated amount of the employer financed benefits attributable to the ACT Government for that year. This payment is known as the Emerging Cost Payment. A further balancing payment/credit is subsequently determined to adjust the payments to CSC once the employer financed cost in respect of actual benefit payments has been determined for the year. This payment is known as the Emerging Cost Deficit/Surplus.

4.3 The total estimated value of these obligations as determined by the actuary at a particular point in time, taking into account relevant service with the ACT Government up to the valuation date, is referred to as the Accrued Superannuation Liability at that time.

4.4 The Accrued Superannuation Liability is therefore an estimate of the amount expected to be paid by the ACT Government to the Commonwealth Government (or CSC) in accordance with the Emerging Cost Payments, but only taking into account relevant service with the ACT Government to the date of valuation.

4.5 For the purpose of this determination and consistent with the methodology used to calculate the Emerging Cost Payments, the employer financed component is the total benefit payable (i.e. lump sum benefit and the value of the pension) excluding the following components:

- The amount of the benefit derived from the member financed component, being the accumulated member contributions with interest; and
- The amount of the benefit derived from the productivity component, being the accumulated productivity contributions with interest.

4.6 The portion of the employer financed component recognised in the Accrued Superannuation Liability is based on the service with the ACT Government from the later of:

a 1 July 1989;

b the date at which the ACT agency started; and

c the date the member's employment commenced.

Actuarial Method

4.7 The method used by the actuary to determine the value of Accrued Superannuation Liability is known as the 'actual accruals' basis, and is consistent with current practice of the Australian Accounting Standard AASB119 and its requirement to use a projected unit credit valuation approach.

4.8 The approach is consistent with that used for both the 2017 Triennial Actuarial Investigation and the 2019 Annual Report and also with those set out in the Memorandum of Understanding.

Determination of Service with ACT Government

4.9 CSC provides the "ACT Employment Ratio" for each member in the CSS and PSS. The ACT Employment Ratio in respect of a member is the ratio of the member's ACT service period(s) after 1 July 1989 (or relevant later date) to their entire service.

4.10 The ACT Government's Accrued Superannuation Liability for each member in the CSS and PSS is valued based on the ratios provided.

4.11 Accordingly the determination of the Accrued Superannuation Liability includes:

- Group A - CSS and PSS members who were employed by the ACT Government at the valuation date (or for whom the ACT Government was their last employer) and their dependants; and
- Group B - CSS and PSS members who are not currently employed by the ACT Government but had previously been employed (or the ACT Government was not their last employer before they became entitled to a deferred benefit or a pension but was a previous employer) and their dependants.

Assumptions under the Current Methodology

4.12 As a consequence of data limitations, in undertaking the valuation it was necessary to make a number of assumptions regarding the membership. The assumptions set out below and in the remainder of Section 4 affect the Accrued Superannuation Liability, Emerging Cost payments and Emerging Cost Surplus/Deficit:

a **Uniform accrual of benefits**: In both the CSS and PSS the accrual of benefits can vary for different periods of service. For example in the CSS, a higher accrual rate applies for the first 20 years of membership. But the methodology (which applies the ACT Employment Ratio to the total accrued benefit) apportions the benefit by assuming that the accrual of benefits while employed by the ACT Government is the same as while employed by the Commonwealth Government. A similar issue applies to PSS where the employer funded accrual varies depending upon the member contribution rate but the methodology apportions the benefit assuming a uniform accrual of benefits;

b **Uniform salary increases**: The methodology is based on apportioning the member's final benefit (which is based on their Final Average Salary), in proportion to their length of employment with the ACT Government and Commonwealth Government. For those employees who have had a change of employer, this approach does not reflect the historical salaries earned during their employment with the ACT Government. In other words, the impact of salary increases are shared uniformly among the employers; and

c **Uniform part-time history**: For those employees who have both changed employers and who have a period of part-time employment, the methodology assumes that part-time employment has applied uniformly for the whole period of employment with different employers.

4.13 We consider that any approach to deal more accurately with the above assumptions would be complex, requiring further detailed data capture and transfer while noting the difficulties already associated with obtaining satisfactory data. These assumptions are the same as those adopted previously.

10 Year Rule

4.14 In the PSS the employer's share of the benefit multiple cannot be greater than that which would have accrued if the member contributions had been made at 5% for 10 years (or total membership if less) and 10% for any membership period in excess of 10 years.

4.15 This cap is recognized in the 30 June 2020 benefit multiple provided by CSC and therefore will be reasonably reflected in the 30 June 2020 Accrued Superannuation Liability. However, we currently aren't able to allow for the 10 year rule's cap impact on future accruals as there is insufficient information to identify the affected members and determine the cap.

4.16 Therefore, the estimated Accrued Superannuation Liability for some PSS members in some future years has been overstated. In our opinion this is not a material difference and we have continued with this practice in this investigation particularly given the PSS has been closed to new members for over 10 years.

CSS Non-Indexed Pensions

4.17 CSS members can elect to take a lump sum or a non-indexed pension with their member and productivity financed benefits. A majority of the CSS members convert their member and productivity financed benefits into a lump sum.

4.18 For those who elect a non-indexed pension, the amount of pensions being paid is provided by CSC. However, CSC has not provided an apportionment of the non-indexed pensions being paid between the employer-financed component and the member-financed component. An employer financed component exists because the present value of the pension payments is greater than the amount of the member-financed benefit used to purchase the pension.

4.19 We have retained our assumption that the employer financed component of the non-indexed pensions is 25% of the overall value. This assumption is as specified in the Memorandum of Understanding.

4.20 Basic contributions for CSS members are either 0% or 5% of salary. Members can contribute more than 5% of salary and the excess balance does not directly impact the employer financed benefit. However members can convert these supplementary contributions into a non-indexed pension which, as outlined above, are assumed to be 25% employer financed. Combined with the assumed proportion of members who elect a non-indexed pension, the impact of the contributions above 5% on the employer-financed component has not been included in the estimate of the Accrued Superannuation Liability and the estimated Emerging Cost Schedule. The impact of this approximation is estimated to be immaterial relative to the amounts involved.

PSS Indexed Pensions

4.21 CSC has supplied the lump sum employer financed component, productivity component and member financed component that were converted to a pension at the date the pension commenced. This allows us to estimate the employer financed component of their PSS pensions. This data is available for approximately 95% of the existing pensioners and is now also provided for all emerging pensioners.

4.22 When a PSS member converts his/her member or productivity component into a pension, the value of the pension (based on the assumptions used to develop the approach in the Memorandum of Understanding) is expected to be higher than the lump sum value of the benefit due to the generous pension conversion factor. We have continued to assume that 40% of the member/productivity funded pension will be employer financed. This assumption is as specified in the Memorandum of Understanding.

4.23 This approach is applied consistently for contributors, deferred beneficiaries and pensioners. It is applied for the current and projected Accrued Superannuation Liability, Emerging Cost Payments and Emerging Cost Surplus/Deficit.

4.24 For the remaining approximately 5% of current pensioners for whom the pension component information is not provided, 75% of retirement pension and 85% of invalidity pension is assumed to be employer financed. Consistent with the Memorandum of Understanding, this is based on the average employer financed proportion derived for those with the relevant information provided. The Memorandum of Understanding also specifies these percentages be updated annually and rounded to the nearest 5%. Based on the 30 June 2020 data, the invalidity pensioner assumption has reduced from 90% by 5% and the retirement pension assumption is unchanged from last year.

ACT Employment Ratio

4.25 As noted previously in this report the portion of a member's benefit attributable to service with the ACT Government is determined as the product of the member's benefit and their ACT Employment Ratio. The ACT Employment Ratio is calculated as:

$$\frac{\text{ACT service post 1 July 1989 (or later as applicable)}}{\text{Total Service}}$$

4.26 In the absence of an accurate employment history of members, this method is considered to be a suitable means of apportioning a member's benefit. However, because many members do not accrue benefits uniformly over their working life, its use gives rise to a number of matters requiring further attention.

4.27 For contributing members no longer employed by the ACT Government i.e. Group B members, the ACT Employment Ratio will gradually reduce over time. For members employed by the ACT Government, i.e. Group A, the ACT Employment Ratio will either gradually increase over time or be fixed at 100%.

4.28 For the purpose of determining both Emerging Cost Payments and the Emerging Cost Surplus/Deficit, benefits are apportioned using the member's ACT Employment Ratio at the date of payment. However for the purpose of determining the value of Accrued Superannuation Liability, benefits are apportioned using the members' ACT Employment Ratio at the date of valuation.

4.29 In the CSS, the accrual of retirement benefits is highest in the first 20 years of service. This also means that as service increases the average retirement accrual of CSS members with greater than 20 years of service will reduce. As identified under paragraph 4.12, use of the ACT Employment Ratio (in lieu of more detailed information being available) means that liabilities are apportioned uniformly between employers with the result that:

- For Group B members the accrued retirement benefit apportioned to the ACT at 30 June 2020 in respect of service to 30 June 2020 for the purpose of determining the value of the Accrued Superannuation Liability may be greater than the corresponding benefit apportioned to the ACT Government in future years. As a consequence, the Accrued Superannuation Liability determined at 30 June 2020 in respect of these members may be higher than the value which may apply in future years.

- For Group A members the reverse is true for members with an ACT Employment Ratio of less than 100%. The accrued retirement benefit apportioned to the ACT at 30 June 2020 in respect of service to 30 June 2020 may be less than the corresponding benefit apportioned to the ACT in future years.

4.30 Accounting Standards allow the approach we have adopted for valuing the Accrued Superannuation Liability and we consider it an appropriate method to value benefits accrued in respect of service to the valuation date. In the past we have tested the sensitivity of the Accrued Superannuation Liability to this approach by allowing for the changes in the ACT Employment Ratio in calculating the accrued retirement benefit and it was found that the impact is not significant.

4.31 The assumption of uniform accrual is not expected to be as material for the PSS due to the more even accrual of benefits over the service period. However, the accrual of the employer financed benefit can be uneven because of factors such as:

- Members changing their contribution rates; and
- Variable crediting rates affecting the amount of the member financed benefit being deducted from the total benefit to calculate the employer financed benefit.

Preservation Rules

4.32 In both the CSS and PSS, legislated preservation requirements impact when members can receive their benefits. In particular, the benefits for PSS members joining on or after 1 July 1999 must be preserved and it continues to be assumed that all resignation benefits must be retained within the Scheme. For members who joined prior to 1 July 1999 the preservation requirements have not explicitly been allowed for but are implicitly allowed for because the assumptions around benefit options taken by members reflect experience (refer to Appendix C).

PSS Pre 1996 Transfer Amount

4.33 Transfer amounts received prior to 1 January 1996 from another superannuation fund into the PSS can be taken as either a pension or a lump sum with amounts equal to:

- For pensions: calculation based on the “transfer multiple amount” being the transfer multiple multiplied by Final Average Salary. The transfer multiple is calculated at the transfer date by dividing the transfer amount into the PSS by the Final Average Salary at that date.
- For lump sums: the greater of the “transfer multiple amount” and the accumulated transfer amount (i.e. the original transfer amount increased with earnings).

4.34 For current pensioners we continue to assume that:

- 40% of the pension converted from the transfer amount is assumed to be funded by the employer (i.e. the same treatment as member or productivity components);
- Any shortfall (where the transfer multiple amount is greater than the accumulated transfer amount) is funded by employer; and
- Any excess amount (where the accumulated transfer amount is greater than the transfer multiple amount) is used to offset the employer liability.

4.35 For current contributors, due to data limitations, in calculating the Accrued Superannuation Liability we have assumed that the transfer amounts will fully fund the additional transfer benefits irrespective of whether they are taken as a pension or a lump sum. This may understate the employer financed component when the transfer amount is converted to a pension or if the accumulated transfer amount is less than the transfer multiple amount. Based on our estimation, the potential impact as at 30 June 2020 on the Accrued Superannuation Liability would not be material relative to the amount of liabilities.

4.36 For deferred members, CSC has advised that:

- The accumulated transfer amount is included in the member and productivity components provided; and
- The excess of the transfer multiple amount over the accumulated transfer amount (if any) is reflected in the employer financed component provided.

Therefore, the Accrued Superannuation Liability allows for the impact of the pre 1996 transfers for deferred members.

New CSS and PSS Contributors

4.37 Because CSS and PSS are closed to new entrants, no allowance has been made for new entrants for the purpose of this valuation.

4.38 However, new entrants for ACT liability recognition could emerge when:

a The ACT Government re-employs a former ACT Government employee who retains a PSS/CSS deferred/preserved benefit. Such members are able to commence a new contributory PSS/CSS membership. Eventually the deferred/preserved benefit membership record will be consolidated with the new contributory record.

b The ACT Government employs a former Commonwealth Government employee who retains a PSS/CSS membership. Such members are also able to commence a new contributory membership and eventually all past memberships will be consolidated.

c Former ACT Government employees who retain a deferred/preserved benefit are employed by the Commonwealth Government. Such members are able to recommence their contributory PSS/CSS membership and eventually all past memberships will be consolidated.

d ACT Government employees with multiple linked memberships are consolidated into a new membership record during the year.

e A number of other minor causes including members being reinstated or having a new record created as a result of a change in their surname.

4.39 In each of these cases, the increase in superannuation liability will relate only to the future employment with the ACT Government, as the liability in relation to their previous deferred/preserved benefit or PSS/CSS membership is already appropriately reflected in the Accrued Superannuation Liability.

4.40 Because we have not allowed for the future service liability of new entrants, the Accrued Superannuation Liability projections at future dates may be understated. The liability of the new entrants will, of course, be recognised in the Accrued Superannuation Liability calculation following their joining and their impact (if significant) identified in the reconciliation with the projected liability calculated in the previous year.

4.41 The membership reconciliations in Appendix B show that there were 283 new CSS and PSS contributory members in Group A over the year to 30 June 2020.

4.42 The number of new entrants has gradually reduced over time. This is expected for schemes which have been closed for a long time, resulting in a reducing pool of existing CSS/PSS members or deferred members from which new entrants may arise. For this reason we expect that the number of new entrants to the ACT Government's superannuation liability will continue at similar or reduced levels but are not expected to materially increase. Further, the age of the group of possible new entrants is increasing, so that the possible future service with the ACT Government is consequently also reducing.

4.43 The impact of new entrants will in any case be recognised gradually as they occur.

Family Law

4.44 We have 140 contributors and 64 deferred beneficiaries (i.e. 1.0% of contributors and deferred beneficiaries membership) with a family law split and data associated with their former spouses.

4.45 For CSS we calculate the Accrued Superannuation Liability by valuing members' entire benefit prior to the family law split. This approach is reasonable for CSS because the split occurs when the benefit is paid.

4.46 For PSS members we have been provided with sufficient information to value the benefit of the original member (post-split) and the family law beneficiary separately.

4.47 For the purpose of valuing the Accrued Superannuation Liability and Emerging Cost Payments, the benefit entitlements of the PSS non-member spouses are valued in the same way as other deferred beneficiaries. In particular, for the employer component of the PSS non-member spouse entitlement, we assume the family law entitlement increases in line with CPI instead of the 10-year Commonwealth Government bond rate. Based on our assessment, we do not expect this approach to have a material impact relative to the total liability and payment amounts.

4.48 When the benefits are paid, the relevant data is available for the Emerging Cost Surplus/Deficit to be more accurately estimated

Other Data Assumptions

4.49 We noted a number of data issues and limitations which required the use of estimates in calculations:

a No information was available in relation to the service ratios for Casual employees and additional salary information was used to estimate the service ratios for these employees (i.e. we used the actual salary paid and the amount of the full time equivalent salary for the year to 30 June 2020 to estimate the service ratio). As there is a relatively small number of casual members, this is not expected to have a material impact relative to the total amounts.

b Prior to 2005 some members may have accrued a surcharge debt. For any such members a surcharge debt account is maintained and credited with interest at the ten year Commonwealth Government bond yield. The balance of the surcharge debt account is paid to the Australian Tax Office when the relevant member's benefit becomes payable and the amount of their benefit is reduced by the amount of the surcharge debt. We do not have sufficient data to ensure we are calculating the amount of employer financed benefits correctly for members who have had a surcharge liability. While we expect that the amounts would be immaterial, we do not have the data to confirm this.

Emerging Cost Payments

4.50 The Emerging Cost Payments schedule sets out the estimated future cash flows resulting from the employer financed component of superannuation benefits payable after 30 June 2020.

4.51 The Emerging Cost Surplus/Deficit arises from the difference between the Emerging Cost Payments made by the ACT Government to the Commonwealth Government (based on the estimates) and the ACT financed benefit payments derived from actual benefit payments data. The Emerging Cost Surplus/Deficit at 30 June 2020 consists of:

a That part of the Emerging Cost Surplus/Deficit as at 30 June 2019, as calculated in the 2019 Annual Report, which had not been paid at 30 June 2020, with interest; and

b The Emerging Cost Surplus/Deficit arising during the period 1 July 2019 to 30 June 2020, with interest.

4.52 The Emerging Cost Surplus/Deficit arising during the period 1 July 2019 to 30 June 2020 is estimated based on the ACT financed benefit payments (determined using exit information and pensioners data at 30 June) and ACT Employment Ratios provided by CSC. The ACT financed benefit payments are multiplied by the relevant ACT Employment Ratio, and the total compared to the Emerging Cost Payments for the year.

4.53 Because of limitations in the data provided, assumptions are required to determine the employer financed portion of PSS pension payments that were converted from the member financed component and the productivity component. Similarly, assumptions are required to determine the employer financed portion of the unindexed CSS pension payments that were converted from the member financed component and the productivity component. These assumptions are specified in the Memorandum of Understanding.

4.54 In Section 3 and earlier in Section 4 of this report various limitations in the data were identified and the method used to overcome these limitations discussed, those methods often involving estimates. Where relevant these estimates also apply to the calculation of the Emerging Cost Surplus/Deficit.

4.55 In the determination of the Emerging Cost Surplus/Deficit as at 30 June 2020, interest is applied to take into account the different timing of the starting Emerging Cost Surplus/Deficit as at 30 June 2019, the Emerging Cost Deficit Payment (or Surplus Credit), the Emerging Cost Payments made by ACT during the year, and the ACT financed benefit payments during the year. The effective interest rate applied in the calculation is the geometric average yield on one year Australian Commonwealth Government bonds at the end of each month over the year to 30 June 2020.

4.56 Please refer to Appendix G for more information on the method and assumptions used to calculate the Emerging Cost Surplus/Deficit.

Section 5: Financial and Demographic Assumptions

5.1 The calculation of the Accrued Superannuation Liability and Emerging Cost Payments require assumptions about the future experience of the membership of the CSS and PSS and the future financial experience, due to the long term nature of the liabilities.

5.2 These financial and demographic assumptions are detailed in Appendix C. The assumptions in respect of the data and methodology used are summarised in Sections 3 and 4.

5.3 All assumptions used in preparing this report have been discussed and agreed with the Directorate.

Financial Assumptions

5.4 Results have been prepared on only one set of financial assumptions this year:

For the purpose of the ACT Government's future budgeting, a discount rate of 4.0% per annum was used, as advised, for the purpose of reflecting the estimate of the Commonwealth Government bond yields over the long term. Also as advised, a salary inflation assumption of 2.75% per annum and price increases (CPI) assumption of 2.25% per annum were adopted.

5.5 For the Budget assumptions in the most recent annual review conducted as at 30 June 2019, a discount rate of 5.0% per annum, long term salary inflation of 3.0% per annum (with a short term salary inflation assumption of 2.75% per annum. until 30 June 2024) and long term price increases (CPI) assumption of 2.5% per annum were used. Considered in isolation, the lower discount rate has increased the Accrued Superannuation Liability, and the lower long term salary inflation of 2.75% per annum and CPI assumption of 2.25% per annum in this investigation has marginally decreased the Accrued Superannuation Liability for the Budget results. In aggregate the changes in financial assumptions will increase the Accrued Superannuation Liability.

Demographic Assumptions

5.6 We have carried out a detailed analysis of the CSS and PSS membership experience of ACT Government employees over the three years from 1 July 2017 to 30 June 2020. A summary of the results is provided in the Report on the Experience Analysis for the Actuarial Investigation as at 30 June 2020, dated 26 April 2021.

5.7 Based on the results of our analysis, several demographic assumptions have been adjusted from those adopted for the 2017 Triennial Report to better reflect the experience to 30 June 2020.

Changes to Demographic Assumptions

5.8 The key changes to the demographic assumptions were as follows:

a Increased resignation rates by 10% at age 54 for CSS contributors;

b Increased member contribution rates for ages below 55 for PSS contributors;

c Applied new short term improvement factors from Australian Life Tables (ALT) 15-17 to 30 June 2023 on retirement, invalidity and widow/widower pension mortality rates; and d Applied new long term improvement factors from ALT15-17 from 30 June 2023 onwards on retirement, invalidity and widow/widower pension mortality rates.

Changes to Benefit Options

5.9 In addition to the demographic assumptions, it is also necessary to make assumptions regarding the benefit options selected by members. Based on our analysis of the experience of the membership and actual benefit payments over the last three years and consideration of the potential future trends, we have made a number of changes to the assumptions regarding benefit options.

a Increased the pension election rate upon retirement for PSS contributors from 80% to 90%;

b Increased the non-indexed pension take-up rate from 20% to 40% for the member component of CSS contributors and preservers at retirement;

c Increased the non-indexed pension take-up rate from 25% to 40% for the productivity component of CSS preservers at retirement;

d Decreased the retention rate upon retrenchment for PSS contributors under age 55, from 40% to 30% for those who joined before 1 July 1999; and from 50% to 30% for those who joined after 1 July 1999; and

e Decreased the employer financed proportion from 90% to 85% for PSS invalidity pensioners.

5.10 Full details of the experience analysis are set out in a separate Report on the Experience Analysis for the Actuarial Investigation as at 30 June 2020 dated 26 April 2021 and the assumptions adopted for this valuation are set out in Appendix C.

Section 6: Results

Projected Accrued Superannuation Liability

6.1 On the basis of the assumptions set out in Appendix C, we have determined that the value at 30 June 2020 of the Accrued Superannuation Liability attributable to the ACT Government in respect of current and former members of CSS and PSS is $9,548.6 million.

6.2 The Accrued Superannuation Liability at 30 June 2020 on the Budget Assumptions of $9,548.6 million is $1,509.8 million (or 19%) higher than the estimated value at 30 June 2020 of $8,038.8 million provided in the 2019 Annual Report. The main factors contributing to the variation in the liability are summarised below:

a. **Experience in 2019/20 being different from expected**

i. **Salary growth was higher than assumed:** The salary increase rate over the 2019/20 financial year was 4.27% for CSS contributors and 4.32% for PSS members which includes both inflationary and promotional increases. These increases in salary were 1.52% and 1.23% higher than the assumptions for CSS and PSS, respectively, after taking into account the expected short term salary inflationary increases of 2.75% and promotional salary increases.

ii. **Crediting Rates on Member and Productivity Accounts were lower than assumed:** Investment of the Member and Productivity Accounts in CSS and PSS is managed by the CSC. The default fund earning rate over the financial year 2019/20 credited to member and productivity accounts was -0.76% and -0.99% for CSS and PSS respectively. It was lower than the assumed rate of 5.0% per annum. This leads to:

- Lower accumulated member contributions for CSS members, which decreases the employer financed liabilities which are linked to the members' account (for example the age 54/11 benefit); and

- An increase in the employer financed PSS liability which is determined by deducting the member and productivity components from the total benefit. Lower than expected earning rates decreases the value of the member and productivity components which in turn increases the overall employer financed liability.

iii. **Pension indexation was lower than expected:** The pension indexation rate over the 2019/20 financial year was 2.1% which was lower than the assumed rate of 2.5%. This has the effect of decreasing the pension liabilities for current pensioners and the employer financed component for PSS deferred beneficiaries.

iv. **New members:** The impact of new entrants/re-joiners. This has the impact of increasing the liability.

v. **Other experience different from expected:** For example the higher pension take up on retirement for PSS contributors or the number of exits being different to assumed.

Overall, the effect of experience in 2019/20 being different to that assumed is an increase in the liability of approximately $140 million.

b. **Assumptions changes**

i. **Increases in resignation rates for CSS contributors:** To reflect the experience, we have increased the resignation rates for CSS contributors by 10% at age 54. The effect of this change is an increase in liability of approximately $2.7 million.

ii. **Increases in member contribution rates for PSS contributors:** To reflect the experience, we have increased member contribution rates for ages below 55 and retained current rates for ages 55 and above. The effect of this change is an increase in liability of approximately $0.7 million.

iii. **Changes in short and long term improvement factors for retirement pensioners, invalidity pensioners and widows/widowers:** As noted in paragraph 5.8, we have applied new lower short term improvement factors to 30 June 2023 and new higher long term improvement factors from 30 June 2023 onwards for retirement pensioners, invalidity pensioners and widows/widowers. The effect of these changes is an increase in liabilities by approximately $47.9 million.

iv. **Increase in pension election for PSS contributors:** To reflect the experience, we have increased the pension election rate on retirement for PSS contributors from 80% to 90%. The effect of this change is an increase in liability of approximately $154.6 million.

v. **Changes in benefit options:** As set out in paragraph 5.9, a number of changes were made to the assumed rates of PSS benefit retention upon retrenchment, CSS non-indexed pension election rates and the employer financed proportion for PSS invalid pensioners. The combined impact of these changes is an increase in liability by approximately $9.2 million.

vi. Changes in financial assumptions: The assumption of long term salary inflation of 3.0% per annum was decreased to 2.75% per annum, the discount and crediting rate assumption reduced from 5.0% per annum to 4.0% per annum, and the long term CPI assumptions reduced from 2.5% per annum to 2.25% per annum. The effect of these changes is an increase in liability of approximately $1,154.7 million.

Overall, the combined effect of these experience and assumption items was to increase the liabilities by $1,509.8 million over the year to 30 June 2020.

6.3 The estimated impact of the changes in the Accrued Superannuation Liability due to the reasons stated above are presented in the table below:

Table 6.1 – Explanation of change in Accrued Superannuation Liability as at 30 June 2020

	($ Million)
Projected Accrued Superannuation Liability at 30 June 2020 (based on 30 June 2019 membership data)	8,038.8
Changes due to experience and membership movements being different from expected:	
Salary growth higher than expected	43.2
Crediting rates lower than expected	52.2
Pension indexation lower than expected	(16.4)
New and appearing contributors	21.0
Other variations	40.0
Changes due to demographic assumptions:	
Changes to resignation rates for CSS contributors and new member contribution rates for PSS contributors	3.4
Changes to short and long term mortality improvement factors for retirement and invalidity pensioners, and widows/widowers	47.9
Increase to PSS pension election	154.6
Changes to PSS benefit retention, CSS pension election rates and EFP for PSS invalid pensioners	9.2
Changes due to financial assumptions:	
Long term salary inflation reduced from 3.0% p.a. to 2.75% p.a. , Discount and Crediting rate assumption reduced from 5.0% p.a. to 4.0% p.a., and long term CPI reduced from 2.5% to 2.25%.	1,154.7
Accrued Superannuation Liability at 30 June 2020 (based on 30 June 2020 membership data)	9,548.6

Future Values of Accrued Superannuation Liability

6.4 The tables in Appendix D of the report show the estimated values of the Accrued Superannuation Liability at 30 June for each of the next 40 years beginning 30 June 2020, for the Budget assumptions. The results in the tables have been split between the CSS and the PSS, and further sub-divided between active and inactive members.

6.5 The following table provides a summary of the Accrued Superannuation Liability at 30 June 2020 and the projected Accrued Superannuation Liability for the next five years based on the Budget assumptions:

Table 6.2 – Accrued Superannuation Liability

	Total Accrued Superannuation Liability (Budget) ($M)
30 June 2020	9,548.6
30 June 2021	9,837.4
30 June 2022	10,101.6
30 June 2023	10,344.7
30 June 2024	10,566.3
30 June 2025	10,764.1

6.6 The expected duration of the liabilities (based on the Budget assumptions) as summarised in the table below gives the weighted average term until benefit payments are expected to occur. It provides a measure of how sensitive the movement of liability is to the movement of interest rates. For example, the value placed on a liability with a longer duration tends to move up or down more (in relative movement) as interest rates change than one with a shorter duration. The duration of the CSS liability is lower than for the PSS liability because it has been closed to new members for a longer period.

Table 6.3 – Expected Duration of Liabilities

	Current Contributors	Current Deferred Beneficiaries	Current Pensioners	Total
CSS	18.6	17.5	11.7	12.6
PSS	24.3	22.7	12.8	20.8

Projections of Emerging Cost Payments

6.7 On the basis of the assumptions set out in Appendix C, we have estimated the annual Emerging Cost Payments in respect of the CSS and PSS members for each of the next 40 years beginning 30 June 2020. The tables in Appendix F show the results of these determinations. Appendix G sets out the methodology used.

6.8 The results for the first five years are summarised below in Table 6.4 which also shows the Emerging Cost Payments arising from the three membership categories within CSS and PSS of contributors, pensioners (including dependent pensioners) and deferred beneficiaries.

Table 6.4 – Projection of emerging cost payments

Year Ending	Current Contributors		Current Pensioners	Current Deferred Beneficiaries	Total
	CSS ($M)	PSS ($M)	($M)	($M)	($M)
30 June 2021^	4.595	34.383	261.666	8.349	308.993
30 June 2022	4.124	32.664	281.775	9.719	328.281
30 June 2023	5.949	44.690	285.840	12.498	348.977
30 June 2024	7.812	57.866	289.716	14.725	370.119
30 June 2025	9.520	72.255	293.326	17.713	392.814

^ Actual annual payment amount agreed with the Commonwealth Government for the 2020/21 financial year, based on the Emerging Cost Payment estimate (Budget) from the 2019 Report.

Emerging Cost Surplus/Deficit as at 30 June 2020

6.9 The Emerging Cost Payments made by the ACT Government in any year are based on estimates in prior years' reports. The actual benefits payable to the CSS and PSS may be different to the estimated amount. Hence, the Emerging Cost (Surplus)/Deficit calculation is performed on a yearly basis to account for the difference between the amount paid by the ACT and the actual benefit payments incurred during the year.

6.10 The reconciliation of the Emerging Cost (Surplus)/Deficit amount at 30 June 2020 is provided in the table below:

Table 6.5 – Emerging cost (Surplus)/Deficit at 30 June 2020

	($M)
(Surplus)/Deficit as at 30 June 2019	(7.749)
Surplus Credit/(Deficit) Payment	7.749
Emerging Cost Payments in 2019/20^	(289.811)
Employer Financed Benefit Payments in 2019/20	278.626
Interest Component	0.144
(Surplus)/Deficit as at 30 June 2020	(11.041)

^ The Emerging Cost Payments of $289.811 million for year 2019/20 were based on the projections from the 2018 Report. Accordingly, ACT Government has made the first three quarterly payments of $72.453 million each in 2019/20. However, the last quarterly payment in 2019/20 was adjusted to be $64.704 million to reflect the Surplus Credit of $7.749 million.

Further details including the breakdown of the actual member benefit payments are summarised in Appendix G.

6.11 As at 30 June 2020 the accumulated surplus was $11.041 million. As at 30 June 2019, there was a surplus of $7.749 million.

6.12 The surplus of $11.041 million as at 30 June 2020 was a result of the employer financed component of the actual benefit payments (including interest) during the year to 30 June 2020 being less than the Emerging Cost Payments. The primary reasons for this variation are set out in the table below:

Table 6.6 – Emerging Cost (Surplus)/Deficit Analysis

				($M)
1.	**Variation – CSS Payments**			**0.331**
	a.	A difference arising from changes in membership due to the initial Emerging Cost Payments being an estimate from the 2018 valuation (as opposed to the 2019 valuation).	0.238	
	b.	Other experience in 2019/20 compared to that expected.	0.093	
2.	**Variation – PSS Payments**			**(11.516)**
	a.	A difference arising from changes in membership due to the initial Emerging Cost Payments being an estimate from the 2018 valuation (as opposed to the 2019 valuation).	2.210	
	b.	Proportion of benefit taken as pension was higher than expected	(9.069)	
	c.	Other experience in 2019/20 compared to that expected.	(4.657)	
3.	**Interest Component**			**0.144**
Total				**(11.041)**

Appendix A: Summary of Benefits and Conditions

THE SUPERANNUATION ACT 1990 (PSS)

Membership

The PSS was closed to new members from 1 July 2005.

Superannuation Salary

From July 2003, this is the amount agreed between the member and employer through a certified agreement or Australian Workplace Agreement. If no such agreement is in place, Superannuation salary is basic salary plus any recognised allowances.

Final Average Salary

Final Average Salary is the average superannuation salary on the three birthdays before leaving the PSS.

Member Contributions

Members can choose to contribute at any rate between 2% and 10% of superannuation salary, or not contribute at all. Contributions are paid fortnightly. The rate of contribution can be varied at any time.

Benefit Multiple

A member's Benefit Multiple is the sum of the accrual rate for each year of membership. The accrual rate varies with member contribution rate and is set out in the table below:

Member Contribution Rate	Annual Accrual Rate
0%	0.11
2%	0.15
3%	0.17
4%	0.19
5%	0.21
6%	0.23
7%	0.25
8%	0.27
9%	0.29
10%	0.31

Example: A member who contributes at 5% for 10 years will have a Benefit Multiple of 2.1.

Preservation

For members who joined from 1 July 1999 all benefits must be preserved until a legislated condition of release such as permanent retirement occurs. For members who joined prior to 1 July 1999 preservation may partially restrict the lump sum benefit options available to some members as described below.

Benefits

The benefits from the PSS consist of three parts:

- employer financed component is determined as the Total Benefit net of the productivity and member component. This component is an untaxed benefit.
- productivity component is made up of accumulated productivity contributions with investment earnings. This is a "taxed benefit".
- member component made up of accumulated member contributions with investment earnings. The investment earnings are a "taxed benefit".

Total Benefit

A member's Total Benefit is calculated by multiplying the member's Benefit Multiple by his or her FAS. A member's Benefit Multiple increases with each contribution made as follows:

= 2 x Member Contribution Rate + 0.11 (per year of service)

The employer financed component is calculated by deducting the member component and the productivity component from the total benefit.

10 year Rule - Restriction on Employer's Share of Benefit Multiple

Employer's share of Benefit Multiple cannot be greater than that which would have accrued if member contributions had been made at 5% for 10 years (or total membership if less) and 10% for any membership in excess of 10 years.

On death or disablement the 5% maximum average applies to prospective service until the 10-year period is notionally completed.

Maximum Benefit

The maximum benefit allowable under the PSS is known as the Maximum Benefit Limit (MBL). On reaching the MBL, a member will cease contributing to the scheme. The MBL for the 2020/21 financial year is set out as below:

Average Salary	Maximum Benefit
Less than $78,000	$780,000
$78,000 and over	10 times average salary

Retirement Benefits

Retirement benefits are payable upon retirement after minimum retiring age (usually age 55).

The options on retirement are as follows:

- **Lump sum benefit** – The three benefit components can be taken as a lump sum;
- **Pension benefit** – The three benefit components can be taken as an indexed pension;
- **Lump sum plus pension benefit** – The benefits can be taken as a pension (subject to a minimum of 50% of the total benefit) and a lump sum; or
- **Preserve total benefit** – The total benefit can be preserved in the PSS and later taken as a lump sum, indexed pension or a combination of both.

While a benefit is being preserved in the PSS, member and productivity components are increased at the Fund allocation rate and the employer financed component is adjusted annually in accordance with the Price Increases (CPI).

Lump sums are converted into indexed pensions by dividing by the factors in the following table.

Age	Factor
70	9.0
65	10.0
60	11.0
55	12.0

Invalidity Retirement

The following benefit choices are available on retirement on medical grounds before reaching age 60:

- **Invalidity pension with no lump sum** – This option provides for the payment of the three benefit components as an indexed pension. Under this option, the total benefit is calculated based on potential service to age 60 (assuming that the member will continue to contribute at their current rate or 5% if more, but subject to a maximum average contribution of 5% for the first 10 years of service, actual or potential). The total benefit is converted to an indexed pension using the same factors used to convert the age retirement pension but assuming that the member is aged 60 at the time of invalidity retirement;
- **Invalidity pension with a lump sum** – Under this option, the member component can be taken as a lump sum. The remainder must be taken as an indexed pension. The total benefit is calculated based on service to age 60 and the amount in excess of the member component is converted to an indexed pension.

After age 60 the retirement benefit is paid on invalidity.

Death of a Contributor

- **Full pension with no lump sum** – A pension payable at the rate of 67% of the invalidity pension that would have been payable to the deceased plus 11% of the invalidity pension for each eligible child (until age 16 or if a full-time student, until age 25) with total pension limited to 100% of the invalidity pension;
- **Part pension and part lump sum** – The spouse can convert up to half of the pension to a lump sum. The lump sum value of any children's pensions for children living with the spouse is deducted from the lump sum. The benefits for the children are paid as a pension;
- **Maximum lump sum and no pension** – This allows the spouse to take the benefit wholly as a lump sum except for the lump sum value of any pension payable to children who are not living with the spouse. The maximum lump sum also applies where a member has no dependants.

Death of a Pensioner

A pension payable based on the percentages (table below) that apply to the pension payable to the deceased at the time of death.

Other than members who retired on invalidity, at commencement members can elect to reduce their pension to 93% of the normal pension in exchange for a higher dependant pension rate payable to spouse and/or eligible children.

The table below sets out the percentages used to calculate the spouse pension under the two options:

Number of dependants	Normal Dependant Pension Option (Amount as % of standard pension rate)	Higher Dependant Pension Option (Amount as % of reduced pension rate)
Spouse only	67%	85%
Spouse and one child	78%	97%
Spouse and two children	89%	108%
Spouse and three or more children	100%	108%

Resignation

Benefit options are as follows:

- Preserve all benefits in the PSS;
- Immediate refund of member financed benefit and preserve all employer financed benefits in the PSS; or
- Transfer all benefits to another eligible superannuation scheme.

Any employer financed benefit preserved in the PSS is indexed to Price Increases (CPI). The member financed component and productivity component are adjusted with the crediting rates calculated from the investment earnings. Pension options apply to preserved benefits once the member reaches age 55 but only if all components of the benefit are preserved.

Members who joined the PSS after 1 July 1999 are required to preserve the whole benefit.

Retrenchment

On retrenchment, a PSS member's benefit options are:

- Preserve all benefits in the PSS;
- Take the entire benefit in the form of an indexed pension;
- Take the member component as a lump sum and take the rest of the benefit as an indexed pension;
- Take the member component as a lump sum and preserve the rest of the benefit in the PSS;
- Take the member component as a lump sum and rollover the rest of the benefit to another fund; or
- Transfer the entire benefit to another eligible superannuation scheme.

Any employer financed benefit preserved in the PSS is indexed to Price Increases (CPI). The member financed component and productivity component are adjusted with the crediting rates based on the investment earnings. Pension options apply to preserved benefits once the member reaches age 55 but only if all components of the benefit are preserved.

The Superannuation Act 1976 (CSS)

Membership

The CSS has been closed to new entrants since 1 July 1990.

Salary

The salary used for contribution purposes is the annual rate of salary, generally the basic salary plus any recognised allowance at member's last birthday.

Final Salary

The salary used for calculating benefits is, in most cases, the annual rate of salary on a member's date of exit.

Member Contributions

Basic contributions are either 0% or 5% of salary. Additional supplementary contributions may be made. Contributions are accumulated with interest based on the earning rates of the CSS Fund.

Employer financed indexed pension

The employer financed indexed pension is calculated as a percentage of final salary based on the period of contributory service and discounted for early retirement before age 65.

The discount factors for retirement prior to age 65 are age-dependent. They reduce at the rate of 0.02 per year from 1 at age 65 to 0.90 at age 60 and then at the rate of 0.03 per year to 0.75 at age 55.

The accrual rates are based on years of contributory service and on whether the member joined the:

- CSS before 1 July 1976,
- Former Provident Account before 1 July 1976, or
- CSS after 30 June 1976.

For membership commencing after 30 June 1976, generally, the accrual rates are 2% per annum for the first 20 years of membership, 1% per annum for the next 10 years, and 0.25% per annum for each of the next 10 years. The maximum percentage is 52.5% of salary.

Retirement Benefits

Retirement benefits are payable upon retirement at maximum retirement age (usually age 65) or early retirement at ages 55 or above.

The amount of retirement benefit is the sum of:

- employer financed indexed pension being a percentage of final salary based on the period of contributory service and discounted for early retirement before age 65;
- productivity component made up of productivity contributions plus earnings which can be taken as lump sum or converted into a non-indexed pension; and
- member component made up of accumulated basic and supplementary contributions plus earnings which can be taken as lump sum or a non-indexed pension.

The factors to convert the productivity component and member component to a non-indexed pension are the same as the factors used to calculate the employer financed indexed pension summarised under resignation below.

Note that non-indexed pensions are limited to 20% of the final super salary if members retire at age 60 or more. If members retire under 60, that percentage is reduced. These limitations do not apply when members preserve their benefit.

Invalidity Retirement

The following benefits are payable on invalidity retirement:

- an employer financed indexed pension being a percentage of final salary depending on the period of prospective service to maximum retirement age (usually 65), or the actual contributory service where this is over 30 years;
- a lump sum of accumulated basic contributions or, at the member's election, an additional non-indexed pension being a percentage of final salary based on the period of prospective service to maximum retirement age (usually age 65);
- a lump sum of accumulated supplementary and productivity contributions.

Death of a Contributor

A spouse pension payable at the rate of a 67% of the invalidity pension that would have been payable to the deceased, plus 11% of invalidity pension for each eligible child (until age 16 or if a full-time student, until age 25) with total pension limited to 100% of the invalidity pension.

The accumulated productivity contributions and any supplementary contributions are also payable.

If the member had no dependants a benefit to satisfy the Superannuation Guarantee legislation is payable.

Death of a Pensioner

A pension payable based on the percentages (table below) that apply to the pension payable to the deceased at the time of death.

Other than members who retired on invalidity, members could elect to reduce their pension to 93% of the normal pension in exchange for a higher dependant pension rate payable to spouse and/or eligible children.

The table below sets out the percentages used to calculate the spouse pension under the two options:

Number of dependants	Normal Dependant Pension Option (Amount as % of standard pension rate)	Higher Dependant Pension Option (Amount as % of reduced pension rate)
Spouse only	67%	85%
Spouse and one child	78%	97%
Spouse and two children	89%	108%
Spouse and three or more children	100%	108%

Resignation

The following benefits are payable on resignation:

- A lump sum benefit of accumulated member and productivity contributions; and
- A top-up amount which is the difference between the minimum Superannuation Guarantee amount and the productivity component.

Alternatively, the member may elect to receive a deferred benefit by preserving the benefit in the CSS. Under this option, after reaching preservation age, the member will receive the following:

- an indexed pension based on 2.5 times the basic contributions plus earnings at the date of payment converted to an indexed pension (refer to conversion factors below);
- productivity component as a lump sum or converted into a non-indexed pension; and
- member component as lump sum or converted into a non-indexed pension.

Alternatively, the member can choose to take a transfer value of 3.5 times the accumulated basic contributions plus supplementary and productivity contributions, to another eligible superannuation arrangement.

The conversion factors used to calculate the employer financed indexed pension and the non-indexed pension are summarized below:

Age at which benefit claimed	Factor
65	0.11
60	0.10
55	0.0925

Retrenchment

Upon retrenchment, CSS members have the following options:

- lump sum benefit (equal to 3.5 times the total of the member's basic contributions plus supplementary and productivity contributions);
- an employer financed indexed pension, and the productivity and member component as lump sum (member component can be converted into a non-indexed pension if member is aged 31 or more, member and productivity component can be converted into non-indexed pension if member is aged 55 or more);
- receive a deferred benefit by preserving the benefit in the CSS.

Where a member elects to preserve their benefit in the CSS, after preservation age the member can elect to receive:

- an indexed pension based on 2.5 times the basic contributions plus earnings at the date of payment converted to an indexed pension;
- productivity component as a lump sum or converted into a non-indexed pension; and
- member component as lump sum or converted into a non-indexed pension.

Indexation

Pensions are indexed half yearly in January and July, in line with changes in the Consumer Price Index (CPI). Pensions purchased with accumulated member contributions and productivity contributions are fixed in dollar terms and are not subject to indexation.

Appendix B: Membership Summary

Listing of ACT Government Agencies

Agency	CSS Contributors	CSS Salary[1] as at 30 June 2020 ($ Million)	PSS Contributors	PSS Salary[1] as at 30 June 2020 ($ Million)	Total Contributors	Total Salary[1] as at 30 June 2020 ($ Million)
ACT Electricity & Water Corporation Ltd	6	0.579	115	15.492	121	16.071
ACT Cultural Facilities Corporation	1	*	21	1.650	22	*
ACT Calvary Hospital Public	6	0.866	255	33.039	261	33.905
ACT Legal Aid	1	*	12	1.727	13	*
ACT Legislative Assembly	-	-	3	0.339	3	0.339
ACT Legislative Assembly Secretariat	2	*	20	2.293	22	*
ACT Government	232	28.407	5,601	648.998	5,833	677.405
Total	**248**	**30.330**	**6,027**	**703.538**	**6,275**	**733.868**

[1] based on full time adjusted salaries

* Salaries not disclosed for privacy.

Group A: Reconciliation of Contributors Data

	CSS	PSS	Total
Contributors as at 30 June 2019	**308**	**6,282**	**6,590**
Transfers from Group B	-	12	12
New Entrants[1]	5	238	243
Appearing Entrants[2]	5	35	40
Exits[3]	(70)	(517)	(587)
Transfers to Group B	-	(23)	(23)
Contributors as at 30 June 2020	**248**	**6,027**	**6,275**

Note:

1. 'New Entrants' refer to new membership records in respect of members who transferred to a new ACT Agency during the year. These members may have multiple membership records which will be consolidated in the future. Please refer to Section 4 for more information.
2. 'Appearing Entrants' refer to new membership records in respect of members who transferred to a new ACT Agency prior to 1 January 2019 (allows for 6 months processing lag), but had not been advised to us by CSC.
3. 'Exits' refer to contributors who ceased employment with the current agency during the year and either:
   - received a lump sum or pension payment;
   - become entitled to a deferred benefit payable in the future; or
   - result of consolidation of memberships.

Group A: Reconciliation of Deferred Beneficiaries data

	CSS	PSS	Total
Members as at 30 June 2019	**148**	**8,764**	**8,912**
New Entrants[1]	8	210	218
Appearing Entrants[2]	-	4	4
Exits[3]	(23)	(511)	(534)
Transfers to Group B	-	(1)	(1)
Members as at 30 June 2020	**133**	**8,466**	**8,599**

Note:

1. 'New Entrants' refer to members who ceased active employment and became a deferred beneficiary during the year.
2. 'Appearing Entrants' refer to members who became a deferred beneficiary prior to 1 January 2019 (allows for 6 months processing lag), but had not been advised to us by CSC.
3. 'Exits' refer to deferred beneficiaries who received their benefits during the year or had their membership consolidated with other records during the year.

Group A: Reconciliation of Current and Dependent Pensioners Data

	Current Pensioners		Dependent Pensioners		
	CSS	PSS	CSS	PSS	Total
Pensioners as at 30 June 2019	**5,640**	**5,175**	**604**	**263**	**11,682**
New Entrants[1]	83	367	57	31	538
Appearing Entrants[2]	3	-	-	1	4
Exits[3]	(109)	(39)	(24)	(5)	(177)
Pensioners as at 30 June 2020	**5,617**	**5,503**	**637**	**290**	**12,047**

Note:

1 'New Entrants' refer to members who became a pensioner or a dependent pensioner during the year.

2 'Appearing Entrants' refer to members or dependents who commenced a pension prior to 1 January 2019 (allows for 6 months processing lag), but had not been advised to us by CSC.

3 'Exits' refer to pensioners or dependents who ceased pension payments during the year.

Group B: Reconciliation of Contributors Data

	CSS	PSS	Total
Contributors as at 30 June 2019	**158**	**2,690**	**2,848**
Transfers from Group A	-	23	23
New Entrants[1]	-	136	136
Appearing Entrants[2]	-	22	22
Exits[3]	(35)	(229)	(264)
Transfers to Group A	-	(12)	(12)
Contributors as at 30 June 2020	**123**	**2,630**	**2,753**

Note:

1. 'New Entrants' refer to new membership records in respect of members who transfer to a new non-ACT Agency during the year. These members may have multiple membership records which will be consolidated in the future. Please refer to Section 4 for more information.
2. 'Appearing Entrants' refer to new membership records in respect of members who transferred to a new non-ACT Agency prior to 1 January 2019 (allows for 6 months processing lag), but had not been advised to us by CSC.
3. 'Exits' refer to contributors who ceased employment with the current agency during the year and either:
   - received a lump sum or pension payment;
   - become entitled to a deferred benefit payable in the future; or
   - result of consolidation of memberships.

Group B: Reconciliation of Deferred Beneficiaries data

	CSS	PSS[4]	Total
Members as at 30 June 2019	**61**	**2,191**	**2,252**
Transfers from Group A	-	1	1
New Entrants[1]	8	163	171
Appearing Entrants[2]	3	21	24
Exits[3]	(13)	(295)	(308)
Members as at 30 June 2020	**59**	**2,081**	**2,140**

Note:

1. 'New Entrants' refer to members who ceased active employment and became a deferred beneficiary during the year.
2. 'Appearing Entrants' refer to members who became a deferred beneficiary prior to 1 January 2019 (allows for 6 months processing lag), but had not been advised to us by CSC.
3. 'Exits' refer to deferred beneficiaries who received their benefits during the year or had their membership consolidated with other records during the year.
4. Includes PSS Family Law non-member spouses.

Group B: Reconciliation of Current and Dependent Pensioners Data

	Current Pensioners		Dependent Pensioners		
	CSS	PSS	CSS	PSS	Total
Pensioners as at 30 June 2019	**1,109**	**1,835**	**65**	**64**	**3,073**
New Entrants[1]	39	148	5	8	200
Appearing Entrants[2]	-	-	-	-	-
Exits[3]	(11)	(14)	(1)	(2)	(28)
Pensioners as at 30 June 2020	**1,137**	**1,969**	**69**	**70**	**3,245**

Note:

1 'New Entrants' refer to members who became a pensioner or a dependent pensioner during the year.

2 'Appearing Entrants' refer to members or dependents who commenced a pension prior to 1 January 2019 (allows for 6 months processing lag), but had not been advised to us by CSC.

3 'Exits' refer to pensioners or dependents who ceased pension payments during the year.

Appendix C: Financial and Demographic Assumptions

Financial Assumptions

- **For the Accrued Superannuation Liability and Emerging Cost Payments Calculation**

Item	30 June 2020	30 June 2019
Discount Rate	4.0% p.a.	5.0% p.a.
General Salary Increases	2.75% p.a.	2.75% p.a. to 30 June 2024; 3.0% p.a. thereafter
CPI increases	2.25% p.a.	2.5% p.a.

The crediting rate applied to accumulation accounts is assumed to be equal to the discount rate.

- **For the Emerging Cost Surplus/Deficit Calculation**

  The interest rate used to accumulate the Emerging Cost and Surplus/Deficit payments is 0.63% per annum. This is the geometric average of the yield on 1-year Australian Government bonds over the 12 months to 30 June 2020.

Detailed Demographic Assumptions used in Valuation

- **Promotional Increases in Salaries**

  The following tables show examples of the assumed percentage increase due to promotion (excluding general salary increases due to inflation). Promotional salary increases are assumed to depend on both entry age and membership for the first 8 years of service and on age only thereafter.

Salary progression - Males (% per annum)				
Membership less than 8 years			Membership 8 years or more	
Entry Age	**0- 3 years**	**3-8 years**	**Attained Age**	**8 years or more**
17	14.0%	4.6%	25	4.2%
22	6.7%	3.7%	30	2.7%
27	4.5%	2.7%	35	0.9%
32	3.0%	1.9%	40	1.5%
37	2.8%	1.3%	45	1.0%
42	2.2%	0.8%	50	0.0%
47	0.7%	0.4%	55	0.0%
52	0.4%	0.4%	60	0.0%
57	0.4%	0.4%	65	0.0%

Example:

A male member who joined the scheme at age 32 is assumed to have a promotional salary increase of 3.0% p.a. for the first 3 years, followed by 1.9% p.a. for the next 5 years, 1.5% at age 40 etc.

Salary progression - females (% per annum)				
Membership less than 8 years			Membership 8 years or more	
Entry Age	**0- 3 years**	**3-8 years**	**Attained Age**	**8 years or more**
17	16.0%	3.0%	25	2.4%
22	5.8%	2.3%	30	2.1%
27	4.7%	1.5%	35	1.8%
32	3.5%	1.3%	40	0.0%
37	3.3%	1.1%	45	0.0%
42	3.0%	1.0%	50	0.0%
47	1.6%	1.0%	55	0.0%
52	1.0%	1.0%	60	0.0%
57	1.0%	1.0%	65	0.0%

Example:

A female member who joined the scheme at age 32 is assumed to have a promotional salary increase of 3.5% p.a. for the first 3 years, followed by 1.3% p.a. for the next 5 years and 0% from age 40 onwards.

- **Member Contributions to the PSS**

  The following table summarises the assumed contribution rate for PSS members throughout their future membership.

PSS Contribution Rate	
Age	**Contribution Rate (%)**
25	4.0
30	4.2
35	4.7
40	5.5
45	6.4
50	7.5
55	8.4
60	8.8
65	8.8
70	8.8

Example:

A PSS member is assumed to contribute at 5.5% p.a. at age 40 and 6.4% p.a. at age 45.

Other Demographic Assumptions

- **Death and Invalidity Assumptions.**

Death and invalidity assumptions (per 1,000 active members at age shown)						
Age	PSS & CSS Deaths		PSS Invalidities		CSS Invalidities	
	Males	Females	Males	Females	Males	Females
25	0.26	0.07	0.20	0.12	0.20	0.15
30	0.34	0.08	0.35	0.32	0.35	0.40
35	0.44	0.12	0.63	0.61	0.63	0.76
40	0.56	0.16	0.88	1.03	0.88	1.29
45	0.77	0.25	1.45	1.64	1.45	2.05
50	1.08	0.38	2.75	2.55	2.75	3.19
55	1.53	0.64	3.93	3.89	4.45	5.33
60	2.25	1.04	n/a	n/a	8.08	8.08
64	3.09	1.46	n/a	n/a	9.80	10.05

Example:

2.25 out of 1,000 PSS male members aged 60 are expected to die each year.

- **Age Retirement Assumptions**

Age Retirement Assumptions PSS (per 1,000 active members at age shown)				
	Contributors		Preserved Members	
Age	**Males**	**Females**	**Males**	**Females**
55	85	110	120	160
56	70	80	40	60
57	70	85	20	50
58	70	90	30	50
59	70	95	60	60
60	120	150	130	120
61	100	130	90	100
62	100	150	80	90
63	100	200	100	90
64	100	200	150	120
65	300	300	1,000	1,000
66	300	300	1,000	1,000
67	300	300	1,000	1,000
68	300	300	1,000	1,000
69	300	300	1,000	1,000
70	1,000	1,000	1,000	1,000

	Age Retirement Assumptions CSS (per 1,000 active members at age shown)			
	Contributors		Preserved Members	
Age	Males	Females	Males	Females
55	50	120	750	750
56	70	100	250	170
57	80	110	200	160
58	90	120	200	150
59	90	130	250	130
60	160	210	400	220
61	160	170	350	200
62	170	170	330	200
63	180	200	350	300
64	180	300	400	500
65	400	400	1,000	1,000
66	400	400	1,000	1,000
67	400	400	1,000	1,000
68	400	400	1,000	1,000
69	400	400	1,000	1,000
70	1,000	1,000	1,000	1,000

Example:

For every 1,000 CSS male contributors aged 60, 160 are expected to retire each year.

■ Resignation Assumptions

	Resignation Assumptions – PSS			
Age Attained	Males (per 1,000)		Females (per 1,000)	
	Membership 0	Membership 10	Membership 0	Membership 10
20	157.9	0.0	124.9	0.0
25	174.2	86.5	150.8	44.2
30	153.2	76.5	130.6	73.5
35	134.0	67.3	108.0	52.6
40	117.0	59.2	91.1	40.6
45	99.7	47.0	79.9	33.2
50	86.6	42.6	73.2	32.2
Factor*	**0.86**	**0.89**	**0.92**	**0.95**

	Resignation Assumptions – CSS			
Age Attained	Males (per 1,000)		Females (per 1,000)	
	Membership 0	Membership 10	Membership 0	Membership 10
30	71.5	35.5	49.3	43.3
35	70.3	30.8	47.1	36.5
40	74.0	29.4	41.1	30.2
45	74.9	28.7	33.0	24.4
50	81.7	31.2	30.1	23.2
54**	700.0	700.0	600.0	600.0
Factor*	**0.88**	**0.91**	**0.90**	**0.95**

* These factors are used to determine rates for durations other than 0 and 10. The rate for duration "y" where "y" is in the range 0-9 is derived by multiplying the duration 0 rate by the duration 0 factor raised to the power of "y". For durations greater than 10 the rate for duration 10 is multiplied by the duration 10 factor raised to the power of "y-10".

** The factor is not applied to the CSS resignation decrement at age 54.

Example:

For every 1,000 PSS male member aged 30 and with 11 years of membership, 68.1 (i.e. 76.5 x $0.89^{(11-10)}$) are expected to resign each year.

■ Retrenchment Assumptions

	Retrenchment assumptions			
Age Attained	**Males (per 1,000)**		**Females (per 1,000)**	
	CSS	**PSS**	**CSS**	**PSS**
20	0.0	1.1	0.0	0.5
25	14.2	2.6	7.6	1.8
30	12.1	4.1	8.8	3.5
35	9.4	5.3	7.8	4.2
40	8.4	6.1	6.6	4.1
45	9.2	7.1	7.8	4.0
50	16.3	9.6	10.9	4.5
55	30.8	13.6	17.8	7.4
60	43.7	20.6	25.7	10.5

Example:

For every 1,000 PSS female members aged 45, 4 are expected to be retrenched each year.

■ Mortality of Pensioners

The table below shows the base mortality rates assumed for pensioners, including mortality improvements to 30 June 2020:

	Pensioner Mortality (per 1,000 pensioners at age shown)			
Age	**Males**		**Females**	
	Age Retired	**Widow (female)**	**Age Retired**	**Widower (male)**
20		0.22		0.59
30		0.31		0.99
40		0.58		1.19
50		1.31		2.09
55	1.29	2.12	1.21	3.35
60	2.22	3.22	1.90	5.053
65	4.41	5.01	3.10	9.42
70	8.80	8.39	5.34	16.65
75	17.17	14.54	10.30	27.65
80	36.26	27.98	20.51	49.14
90	139.01	110.36	94.31	153.31
100	340.82	356.52	324.07	358.75

These mortality rates apply from 1 July 2020 and are adjusted in subsequent years to allow for mortality improvement.

Invalid pensioner mortality (per 1,000 pensioners at age shown)								
	Males				Females			
Age	0-1 years	1-2 years	2-3 years	3+ years*	0-1 years	1-2 years	2-3 years	3+ years*
20	65.00	45.00	30.00	0.64	70.00	40.00	25.00	0.30
30	65.00	45.00	30.00	0.92	70.00	40.00	25.00	0.39
40	65.00	45.00	30.00	1.24	70.00	40.00	25.00	0.75
50	65.00	45.00	30.00	2.14	70.00	40.00	25.00	1.66
55	65.00	45.00	30.00	3.35	70.00	40.00	25.00	2.72
60	65.00	45.00	30.00	5.79	70.00	40.00	25.00	4.34
65	65.00	45.00	30.00	10.42	70.00	40.00	25.00	7.06
70	n/a	n/a	n/a	17.92	n/a	n/a	n/a	11.88
75	n/a	n/a	n/a	29.77	n/a	n/a	n/a	21.06
80	n/a	n/a	n/a	54.26	n/a	n/a	n/a	40.94
90	n/a	n/a	n/a	144.61	n/a	n/a	n/a	108.19
100	n/a	n/a	n/a	340.82	n/a	n/a	n/a	324.06

* These mortality rates apply from 1 July 2020 and are adjusted in subsequent years to allow for mortality improvement.

Example:

For female invalid pensioners aged 55, 70 out of 1,000 are expected to die in the first year of payments; but only about 3 out of 1,000 are expected to die if the pensions have been paid for more than 3 years.

- **Improvements in Pensioner Mortality**

The future improvements in pensioner mortality are based on the mortality improvement rates from the Australian Life Table (ALT) 2015-17 where the rates derived from the 25 year experience are used as the short term reduction rates and the rates derived from the 100 year experience are used as the long term reduction rates.

The following table summarises the assumed rates of improvement in future mortality of age pensioners and widow/widower pensioners.

	Assumed rates of mortality reduction			
	Males		Females	
Age	Short term 1 July 2020 to 30 June 2023 (% p.a.)	Long term 1 July 2023 onwards (% p.a.)	Short term 1 July 2020 to 30 June 2023 (% p.a.)	Long term 1 July 2023 onwards (% p.a.)
60	2.55	1.36	2.16	1.47
70	2.99	1.29	2.40	1.37
80	2.35	0.95	2.03	1.09
90	0.89	0.45	0.80	0.55
100	-	0.17	-	0.17

Example:

The base mortality rate for male pensioner aged 70 is reduced by 2.99% p.a. until 30 June 2023 and 1.29% p.a. thereafter.

At 30 June 2022 the assumed mortality rate for a male pensioner aged 70 would be 0.828% (base rate of 8.80/1,000 reduced by 2.99% for 2 years).

At 30 June 2024 the assumed mortality rate for a male pensioner aged 70 would be 0.793% (base rate of 8.80/1,000 reduced by 2.99% for 3 years and 1.29% for 1 year).

- **New Entrants**

Both the CSS and the PSS are closed to new members. Therefore no new employees of the ACT Government may become a member of CSS or PSS although ACT Government may employ a person for the first time who is already a member of CSS or PSS. For the purpose of the valuation no allowance has been made for new entrants.

- **Spouse Assumptions**

  It has been assumed that the proportion of males who are married at death will gradually increase with age to 75% at age 42, remain constant to age 72 and then reduce.

  For females, it has been assumed that the proportion married at death will gradually increase to 55% by age 27, remaining constant to age 55; increase to 60% at age 60 and remain constant to age 70 and then reduce.

  It is assumed that male members would, on average, be three years older than their spouses and that female members would be two years younger than their spouses.

Preservation and Benefit Options – Assumptions

PSS

- **Resignation options**

  Members who joined the PSS after 1 July 1999 are required to retain all their benefits within the scheme.

  For members who joined the scheme before 1 July 1999, it has been assumed that 100% of those who resign will retain the whole benefit within the PSS.

  When members claim the benefit, it has been assumed that 80% of the benefit will be taken as indexed pension and 20% as lump sum.

- **Retrenchment options**

  <u>Members under age 55</u>

  We have assumed PSS members who are retrenched before age 55 will either preserve their benefit in the PSS, or take their benefit as an immediate pension. None are assumed to take a lump sum benefit option.

  For members who joined before 1 July 1999, we have assumed:

    30% of members preserve their benefit in the PSS; and

    70% of members take the whole benefit as an immediate pension.

For members who joined after 1 July 1999, we have assumed:

30% of members preserve their benefit in the PSS; and

70% of members take the whole benefit an immediate pension.

For those who preserve the whole benefit, it has been assumed that 80% of the benefit will be taken as pension and 20% as lump sum when members claim the benefit.

Members aged 55 and above

It has been assumed that 80% of the benefit is taken as a pension and 20% is taken as a lump sum.

- **Retirement options**

  It has been assumed that 90% of the benefit of contributors will be converted into pension and 10% is taken as lump sum.

- **Death options**

  It has been assumed that on average 30% of the benefits will be converted into spouse pensions and 70% is taken as lump sum.

- **Invalidity options**

  It has been assumed that 70% of the members will take the member component as lump sum with the remainder of the benefit taken as pension and 30% of the members will take the whole benefit as pension.

CSS

- **Resignation options**

  It has been assumed that 100% of all benefits are retained within the Scheme. The employer financed component of the benefit will be taken as indexed pension when members claim the benefit. It has been assumed that on average 40% of members components are converted to a non-indexed pension and 60% taken as a lump sum when members claim the benefit. It has also been assumed that on average 40% of the productivity components are converted to a non-indexed pension and 60% will be taken as a lump sum when the benefit is claimed by members.

- **Retrenchment options**

  Members under age 55

  It has been assumed that 90% of members preserve the whole benefit. Upon claiming the benefit, those who preserve the whole benefit are assumed to take the employer financed component as a pension, and on average 15% of member components are converted to a non-indexed pension and 85% taken as a lump sum. All productivity components are assumed to be taken as a lump sum.

  The remaining 10% of members who do not preserve their benefit take all the employer financed component as a pension, and on average 15% of member components are converted to a non-indexed pension and 85% taken as a lump sum. All productivity components are assumed to be taken as a lump sum.

  Members aged 55 and above

  It has been assumed that members take the greater value of deferred pension and retirement pension upon retrenchment. Irrespective of their choice of pension, these members are assumed to claim the benefit immediately.

  It has also been assumed that on average 15% of member components are converted to a non-indexed pension and 85% taken as a lump sum whilst the productivity components will be taken as a lump sum.

- **Retirement options**

  It has been assumed that the employer financed component of the benefit is taken as pension. It has also been assumed that on average 40% of member components are converted to a non-indexed pension and 60% taken as a lump sum whilst the productivity components will be taken as a lump sum.

- **Death options**

  For contributors with dependants, it has been assumed that the employer financed component of the benefit is taken as indexed pension. 25% of member components are assumed to be converted to a non-indexed pension and 75% taken as a lump sum whilst the productivity components will be taken as a lump sum.

  For contributors without dependants, the superannuation guarantee amount and member contributions are payable as lump sum.

- **Invalidity options**

  It has been assumed that the employer financed component of the benefit is taken as a pension. 25% of member components are assumed to be converted to a non-indexed pension and 75% taken as a lump sum whilst the productivity components will be taken as a lump sum.

Other Assumptions

Other assumptions in respect of the data and methodology are set out in Sections 3 and 4 of the report. Where appropriate, assumptions are consistent with those set out in the Memorandum of Understanding.

Appendix D: Projection of Accrued Superannuation Liability

PROJECTION OF ACCRUED SUPERANNUATION LIABILITY							
Liabilities as at		CSS ($M)			PSS ($M)		Total ($M)
	Actives	Inactives	Total	Actives	Inactives	Total	
30 June 2020	288.3	2,668.4	2,956.7	3,348.7	3,243.3	6,591.9	9,548.6
30 June 2021	302.7	2,622.4	2,925.1	3,676.3	3,236.0	6,912.3	9,837.4
30 June 2022	314.1	2,571.7	2,885.8	3,992.0	3,223.9	7,215.8	10,101.6
30 June 2023	323.1	2,516.2	2,839.4	4,298.3	3,206.9	7,505.3	10,344.7
30 June 2024	330.0	2,456.4	2,786.4	4,594.6	3,185.3	7,779.9	10,566.3
30 June 2025	334.8	2,392.2	2,727.0	4,879.1	3,158.0	8,037.1	10,764.1
30 June 2026	337.8	2,323.9	2,661.7	5,150.6	3,125.7	8,276.3	10,938.0
30 June 2027	339.4	2,251.4	2,590.8	5,407.5	3,087.6	8,495.0	11,085.8
30 June 2028	339.6	2,175.2	2,514.8	5,648.5	3,043.9	8,692.4	11,207.2
30 June 2029	338.8	2,095.3	2,434.1	5,872.2	2,993.3	8,865.5	11,299.6
30 June 2030	336.9	2,012.1	2,349.0	6,076.9	2,937.3	9,014.2	11,363.2
30 June 2031	334.0	1,926.0	2,260.0	6,261.8	2,875.9	9,137.6	11,397.7
30 June 2032	330.2	1,837.3	2,167.5	6,425.0	2,808.2	9,233.2	11,400.7
30 June 2033	325.7	1,746.3	2,072.0	6,566.2	2,735.4	9,301.6	11,373.6
30 June 2034	320.4	1,653.5	1,974.0	6,684.0	2,656.4	9,340.3	11,314.3
30 June 2035	314.5	1,559.4	1,874.0	6,778.1	2,572.0	9,350.1	11,224.1
30 June 2036	308.0	1,464.5	1,772.5	6,845.9	2,483.2	9,329.1	11,101.6
30 June 2037	300.8	1,369.3	1,670.1	6,887.6	2,390.5	9,278.0	10,948.2

PROJECTION OF ACCRUED SUPERANNUATION LIABILITY							
Liabilities as at	CSS ($M)			PSS ($M)			Total ($M)
	Actives	Inactives	Total	Actives	Inactives	Total	
30 June 2038	293.0	1,274.3	1,567.4	6,903.8	2,293.9	9,197.7	10,765.1
30 June 2039	284.7	1,180.2	1,464.9	6,894.2	2,194.2	9,088.5	10,553.4
30 June 2040	275.8	1,087.3	1,363.1	6,859.7	2,092.0	8,951.7	10,314.8
30 June 2041	266.3	996.4	1,262.8	6,800.3	1,987.4	8,787.8	10,050.5
30 June 2042	256.3	908.0	1,164.3	6,717.0	1,881.8	8,598.8	9,763.1
30 June 2043	245.8	822.5	1,068.3	6,611.1	1,775.5	8,386.6	9,454.9
30 June 2044	234.7	740.5	975.3	6,483.7	1,669.6	8,153.3	9,128.6
30 June 2045	223.3	662.3	885.6	6,337.4	1,564.1	7,901.5	8,787.0
30 June 2046	211.3	588.4	799.7	6,171.2	1,459.8	7,631.1	8,430.8
30 June 2047	199.1	518.9	718.0	5,988.4	1,357.8	7,346.2	8,064.2
30 June 2048	186.5	454.2	640.7	5,791.2	1,259.0	7,050.2	7,690.9
30 June 2049	173.7	394.3	568.0	5,581.2	1,163.8	6,744.9	7,312.9
30 June 2050	160.7	339.3	500.0	5,359.3	1,072.4	6,431.6	6,931.7
30 June 2051	147.7	289.3	437.0	5,128.1	985.0	6,113.2	6,550.2
30 June 2052	134.7	244.3	379.0	4,888.9	902.1	5,791.0	6,169.9
30 June 2053	121.9	204.0	325.9	4,643.0	823.8	5,466.8	5,792.7
30 June 2054	109.3	168.4	277.7	4,391.9	750.2	5,142.0	5,419.7
30 June 2055	97.1	137.4	234.4	4,137.0	681.1	4,818.1	5,052.6
30 June 2056	85.3	110.5	195.8	3,879.6	616.6	4,496.1	4,692.0
30 June 2057	74.1	87.7	161.8	3,621.1	556.4	4,177.5	4,339.3
30 June 2058	63.6	68.5	132.1	3,363.0	500.5	3,863.5	3,995.5
30 June 2059	53.8	52.7	106.4	3,106.8	448.6	3,555.4	3,661.9
30 June 2060	44.8	39.8	84.6	2,854.1	400.5	3,254.6	3,339.2

Appendix E: Projection of Normal Cost & Interest Cost

PROJECTION OF NORMAL COST & INTEREST COST						
Year Ending	Normal Cost ($M) (Group A and B)			Interest Cost* ($M) (Group A and B)		
	CSS Actives	PSS Actives	Total	CSS	PSS	Total
30 June 2021	4.4	207.9	212.3	114.8	270.7	385.5
30 June 2022	3.4	194.1	197.5	114.1	280.9	395.0
30 June 2023	2.4	184.9	187.3	112.4	292.3	404.7
30 June 2024	1.8	176.3	178.1	110.4	303.2	413.7
30 June 2025	1.3	167.7	169.0	108.2	313.5	421.7
30 June 2026	0.9	158.9	159.8	105.7	323.1	428.8
30 June 2027	0.6	150.1	150.7	103.1	331.9	435.0
30 June 2028	0.4	141.2	141.6	100.2	339.9	440.1
30 June 2029	0.3	132.0	132.3	97.1	347.0	444.1
30 June 2030	0.2	122.7	122.9	93.9	353.1	447.0
30 June 2031	0.1	113.3	113.4	90.4	358.3	448.7
30 June 2032	0.0	104.0	104.1	86.9	362.4	449.3
30 June 2033	0.0	94.8	94.9	83.2	365.4	448.6
30 June 2034	0.0	85.8	85.8	79.4	367.4	446.8
30 June 2035	0.0	77.0	77.0	75.6	369.2	444.8
30 June 2036	0.0	68.3	68.3	71.6	367.8	439.3
30 June 2037	0.0	59.8	59.8	67.6	366.2	433.8
30 June 2038	0.0	51.6	51.6	63.5	363.5	427.0

PROJECTION OF NORMAL COST & INTEREST COST						
Year Ending	Normal Cost ($M) (Group A and B)			Interest Cost* ($M) (Group A and B)		
	CSS Actives	PSS Actives	Total	CSS	PSS	Total
30 June 2039	0.0	43.8	43.8	59.5	359.6	419.1
30 June 2040	0.0	36.6	36.6	55.5	355.0	410.5
30 June 2041	0.0	29.9	29.9	51.5	348.6	400.2
30 June 2042	0.0	23.9	23.9	47.6	341.6	389.2
30 June 2043	0.0	18.6	18.6	43.8	333.6	377.5
30 June 2044	0.0	14.1	14.1	40.1	324.8	364.9
30 June 2045	0.0	10.2	10.2	36.5	316.4	352.9
30 June 2046	0.0	7.1	7.1	33.1	304.9	338.0
30 June 2047	0.0	4.8	4.8	29.8	294.0	323.8
30 June 2048	0.0	3.0	3.0	26.7	282.6	309.2
30 June 2049	0.0	1.8	1.8	23.7	270.7	294.5
30 June 2050	0.0	0.9	0.9	21.0	258.1	279.1
30 June 2051	0.0	0.4	0.4	18.4	246.2	264.6
30 June 2052	0.0	0.1	0.1	16.0	233.6	249.7
30 June 2053	0.0	0.0	0.0	13.8	220.9	234.8
30 June 2054	0.0	0.0	0.0	11.9	208.2	220.1
30 June 2055	0.0	0.0	0.0	10.1	195.7	205.8
30 June 2056	0.0	0.0	0.0	8.5	182.8	191.3
30 June 2057	0.0	0.0	0.0	7.0	170.3	177.3
30 June 2058	0.0	0.0	0.0	5.8	157.8	163.6
30 June 2059	0.0	0.0	0.0	4.7	145.6	150.3
30 June 2060	0.0	0.0	0.0	3.8	133.7	137.5

** The interest cost for year n is calculated as: Accrued Superannuation Liability (n) - Accrued Superannuation Liability (n-1) – Normal Cost (n) + Emerging Cost Payment (n)*

Appendix F: Projection of Emerging Cost Payments

PROJECTION OF EMERGING COST PAYMENTS							
Year Ending	Contributors		Pensioners		Deferred Beneficiaries		Total
	CSS ($M)	PSS ($M)	CSS ($M)	PSS ($M)	CSS ($M)	PSS ($M)	($M)
30 June 2021^	4.595	34.383	144.449	117.217	1.695	6.654	308.993
30 June 2022	4.124	32.664	150.690	131.085	1.978	7.741	328.281
30 June 2023	5.949	44.690	152.484	133.356	2.780	9.719	348.977
30 June 2024	7.812	57.866	154.118	135.598	3.263	11.462	370.119
30 June 2025	9.520	72.255	155.552	137.774	3.752	13.961	392.814
30 June 2026	11.063	87.257	156.756	139.819	4.152	15.703	414.750
30 June 2027	12.425	103.273	157.692	141.773	4.499	18.254	437.917
30 June 2028	13.509	119.779	158.325	143.552	4.808	20.392	460.364
30 June 2029	14.465	136.839	158.618	145.170	5.044	23.849	483.985
30 June 2030	15.337	154.746	158.535	146.556	5.228	25.872	506.273
30 June 2031	16.133	172.643	158.041	147.608	5.367	27.830	527.622
30 June 2032	16.838	191.636	157.101	148.432	5.500	30.800	550.307
30 June 2033	17.427	210.360	155.684	148.907	5.618	32.590	570.586
30 June 2034	17.942	229.622	153.762	148.988	5.725	35.869	591.908
30 June 2035	18.389	249.458	151.316	148.631	5.830	38.315	611.939
30 June 2036	18.784	269.057	148.335	147.790	5.930	40.230	630.126
30 June 2037	19.121	288.633	144.815	146.425	6.026	41.941	646.961
30 June 2038	19.413	306.985	140.754	144.502	6.117	43.938	661.709

^ Actual annual payment amount agreed with the Commonwealth Government for the 2020/21 financial year, based on the Emerging Cost Payment estimate (Budget) from the 2019 Report.

PROJECTION OF EMERGING COST PAYMENTS							
Year Ending	Contributors		Pensioners		Deferred Beneficiaries		Total
	CSS ($M)	PSS ($M)	CSS ($M)	PSS ($M)	CSS ($M)	PSS ($M)	($M)
30 June 2039	19.676	324.882	136.161	141.993	6.201	45.792	674.705
30 June 2040	19.908	341.995	131.054	138.874	6.278	47.519	685.628
30 June 2041	20.106	357.812	125.460	135.134	6.346	49.451	694.309
30 June 2042	20.268	372.898	119.425	130.776	6.403	50.831	700.600
30 June 2043	20.387	386.346	113.000	125.817	6.447	52.262	704.258
30 June 2044	20.460	398.695	106.246	120.284	6.474	53.206	705.364
30 June 2045	20.480	409.486	99.235	114.224	6.482	54.770	704.676
30 June 2046	20.439	418.850	92.047	107.696	6.467	55.921	701.420
30 June 2047	20.331	426.300	84.776	100.772	6.427	56.541	695.147
30 June 2048	20.148	431.321	77.504	93.540	6.358	56.656	685.528
30 June 2049	19.882	435.033	70.304	86.108	6.256	56.666	674.250
30 June 2050	19.526	436.999	63.246	78.577	6.119	56.704	661.171
30 June 2051	19.075	437.359	56.403	71.053	5.945	56.685	646.520
30 June 2052	18.525	435.963	49.830	63.648	5.735	56.324	630.025
30 June 2053	17.875	432.947	43.571	56.460	5.488	55.705	612.046
30 June 2054	17.127	428.443	37.681	49.600	5.205	54.957	593.012
30 June 2055	16.281	422.416	32.196	43.154	4.888	54.008	572.944
30 June 2056	15.348	414.816	27.161	37.185	4.540	52.834	551.884
30 June 2057	14.334	405.721	22.577	31.745	4.165	51.438	529.980
30 June 2058	13.242	395.163	18.487	26.850	3.771	49.825	507.337
30 June 2059	12.089	383.172	14.868	22.522	3.362	48.006	484.019
30 June 2060	10.892	369.795	11.763	18.757	2.949	45.994	460.149

Appendix G: The Accumulation of Emerging Cost and Actual Payments required for Superannuation Liability

Background

Effective from 1 July 1989 ACT Government became responsible to the Commonwealth Government for the employer financed portion of superannuation benefits provided to employees of the ACT Government. This applies to current or former employees of the ACT Government who are members of the Commonwealth Superannuation Scheme (CSS) or the Public Sector Superannuation Scheme (PSS).

All CSS and PSS benefits are currently paid by the Commonwealth Government from the Consolidated Revenue Fund (CRF). Under the current arrangement, ACT Government discharges its superannuation liability by making regular payments to CSC based on the estimated benefit payments as advised by Willis Towers Watson. This is known as the "**Emerging Cost Payment**". In any year, the Employer financed benefits payable to the CSS and PSS members may be estimated from actual benefit payment data provided by CSC. The difference between the Emerging Cost Payments and the updated estimate based on actual benefit data is known as the **Emerging Cost (Surplus)/Deficit.** It is calculated on a yearly basis to account for the difference between the amount paid by the ACT and the benefit payments incurred during the year.

The Memorandum of Understanding sets out the method and assumptions to be used to calculate Emerging Cost Payments and the Emerging Cost (Surplus)/(Deficit).

Process

1. Determine the Emerging Cost Payments

Every year as part of the annual valuation of the ACT liabilities, we advise the Emerging Costs Payments – the estimated future cash flows resulting from the employer financed component of superannuation benefits. This forms the basis of the Emerging Cost Payments made to CSC.

The schedule is updated every year to reflect any changes in the membership, assumptions and methodologies. This takes into account the likelihood of people leaving under various exit modes (eg. retirement, resignation, death and disablement) and the benefit options chosen by the members. The budget assumptions are used for the purpose of this calculation.

2. The Emerging Cost Payments to CSC

The ACT Government makes the Emerging Cost Payment quarterly in arrears to CSC based on the schedule advised by us. Due to the timing of the report, there is generally a lag between the time of advice and the time of payment. For example, the Emerging Cost Payment made to the Commonwealth Government in FY 2020/21 is based on the recommendation in the 30 June 2019 report.

3. Determine the Employer Financed Benefit Payments

At the end of each year, Willis Towers Watson estimates the amount of employer financed benefit payments incurred during the year, based on the exit information and the pensioners' data at 30 June supplied by CSC.

4. Determine the Emerging Cost (Surplus)/Deficit

The actual benefits incurred in a particular year may be different to the estimated payments in the Emerging Cost Payments schedule as the assumptions are not always borne out in practice. For example there may be more people leaving the scheme during the year; or more people taking out a pension rather than lump sum.

The purpose of the Emerging Cost (Surplus)/Deficit calculation is to account for any variation between the amount paid by the ACT Government (according to the schedule) and the amount which should be paid by the ACT Government (according to the actual benefit data).

A deficit during the year means that the Emerging Cost Payments made to CSC during the year is less than the employer financed benefits paid out to members. On the other hand, a surplus during the year means that ACT Government has overpaid CSC in regard to the employer financed benefits paid out to members in that particular year. At the end of each year, the accumulated (surplus)/deficit amount will be determined.

Data

To calculate the Emerging Cost (Surplus)/Deficit, the following data was supplied by CSC in respect of the current and former employees of the ACT Government:

1. To determine the Emerging Cost Payments:

- Data of the CSS and PSS contributors as at 30 June;
- Data of the CSS and PSS Deferred Beneficiaries as at 30 June;
- Data of the CSS and PSS Pensioners (including dependants) as at 30 June; and
- ACT Employment Ratio - the ratio of the member's post 1 July 1989 ACT service to Total Service.

2. To estimate the actual employer financed benefits paid:

- Data of the CSS and PSS contributors who terminated their employment during the year;
- Data of the CSS and PSS deferred beneficiaries who claimed their benefits during the year;
- Data of the CSS and PSS pensioners (including dependants) at 30 June who received a pension during the year; and
- ACT Employment Ratio – the ratio of the member's post 1 July 1989 ACT service to Total Service.

As set out in Sections 3 and 4 of this report some assumptions and estimates have been made in respect of the data as a result of limitations in the data provided.

Methodology

ACT Employment Ratio

For the calculations of the **Emerging Cost Payments** and **Employer Financed Benefit Payments,** the ACT Employment Ratio provided by CSC is applied to the employer financed benefits to determine the portion of the benefits which relate to the ACT Government.

Pension indexation

CSS and PSS pensions are indexed half yearly which occur in January and July each year. CSC provides the pension amounts as at 1 July instead of the actual pension amount paid during the financial year. In calculating the **Employer Financed Benefit Payment**, we adjusted the pension amount to allow for the half yearly pension indexation.

CSS Employer Financed Benefits

For CSS members, the employer financed benefit is often payable in the form of an indexed pension, which is calculated as a percentage of final salary based on age and service. The employer financed lump sum benefit is only available on certain benefits (e.g. Retrenchment and Resignation) and is less likely to be taken by the members.

CSS lump sum

In determining the **Emerging Cost Payments** we currently assume that all members take their employer financed benefit as an indexed pension and hence no lump sum is payable.

In determining the **Employer Financed Benefit Payments**, the employer financed lump sum was provided in the termination data for those who elected a lump sum.

Member and Productivity components paid as lump sums have no employer component.

CSS indexed pension

In determining the **Emerging Cost Payments** and **Employer Financed Benefit Payments**, the full indexed pension is employer financed.

CSS non-indexed pension

CSS members have the option of converting the member/productivity components into a non-indexed pension. Due to the generosity of the pension conversion factor, the cost of providing the pension often exceeds the value of the member and productivity components, hence the employer is required to fund the additional cost when a member takes out a non-indexed pension.

In determining the **Emerging Cost Payments** and **Employer Financed Benefit Payments** we assume that 25% of the non-indexed pension is employer financed. This assumption is as specified in the Memorandum of Understanding.

PSS Employer Financed Benefits

For PSS members, the employer financed benefit is calculated as the PSS benefit net of member and productivity components. Members may take their benefit as a pension, a lump sum, or a combination of both.

The split of the PSS benefit between the employer financed component, member component and productivity component is provided for all contributors, all deferred beneficiaries and about 95% of the pensioners.

PSS lump sum payments

For the purpose of determining the **Employer Financed Benefit Payments**, the employer financed lump sum was provided in the termination data and hence no calculation was required. For the purpose of projecting the **Emerging Cost Payments**, the employer financed lump sum was the amount of PSS benefit net of member and productivity component. Both methods are consistent in the way the employer financed portion is determined.

PSS indexed pension

For the purpose of determining the **Employer Financed Benefit Payments** and the **Emerging Cost Payments**, we have determined:

- For those with benefits component split into employer, productivity and member component:

  The employer financed proportion of the indexed pension is determined at an individual level based on the split of pension converted from various benefit components and by assuming that 40% of the pension converted from the member and productivity component is funded by the ACT

Government to reflect the additional cost required to fund an indexed pension for a typical new pensioner. This assumption is as specified in the Memorandum of Understanding.

- For the remaining members without the benefit components separately provided:

  75% of retirement pension and 85% of invalidity pension is assumed to be employer financed. These percentages are based on the average employer financed proportion of those with the additional information provided (rounded to the nearest 5%, as specified in the Memorandum of Understanding).

How is Emerging Cost (Surplus)/Deficit calculated?

The Emerging Cost (Surplus)/Deficit arises from the difference between the Emerging Cost Payments made by the ACT Government to the Commonwealth Government and the Employer Financed Benefit Payments. The ACT Government is obliged to reimburse the Commonwealth Government to account for the shortfall which arises due to the variation in the actual versus expected benefit payments.

Therefore, the Emerging Cost (Surplus)/Deficit at a particular point consists of:

a The unpaid Emerging Cost (Surplus)/Deficit at the beginning of the year; less

b The Emerging Cost Deficit (Credit)/Payment made by ACT (assumed to occur at the end of the year); less

c The Emerging Cost Payments made by ACT during the year (assumed to occur at the end of each quarter); plus

d The Employer Financed Benefit Payment (assumed to occur mid-year); plus

e Interest

Results

The table below summarises the estimated Emerging Cost Surplus/Deficit for CSS and PSS as at 30 June 2020:

Emerging Cost (Surplus)/Deficit at 30 June 2020 (CSS & PSS)

	Starting (Surplus)/ Deficit[(i)]	Surplus Credit/ (Deficit Payment)	Emerging Cost Payment	Employer Financed Benefit Payment	Interest Component	Accumulated (Surplus)/ Deficit with interest
	($M)	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**
CSS	0.168	(0.168)	(144.701)	145.032	0.116	0.447
PSS	(7.917)	7.917	(145.110)	133.594	0.028	(11. 488)
Total	**(7.749)**	**7.749**	**(289.811)**	**278.626**	**0.144**	**(11.041)**

Note (i): Surplus as at 30 June 2019, as estimated in the 2019 Annual Report.

The following table shows for CSS and PSS the estimated employer financed component of actual benefit payments recognized in determining the Emerging Cost Surplus/Deficit.

Summary of the Actual employer Financed Benefit payments 2019/20 ($M)

	CSS	PSS	Total
Lump sum			
Contributors	-	4.345	4.345
Deferred Beneficiaries	-	7.001	7.001
Total Lump sum	**-**	**11.345**	**11.345**
Pension			
Current Pensioners	138.725	118.846	257.541
Dependent Pensioners	6.307	3.433	9.739
Total Pension	**145.032**	**122.249**	**267.281**
Total	**145.032**	**133.594**	**278.626**

Appendix H: Membership Tables: Group A

CSS Actives – Group A												
	Male				Female				Total			
Age Group	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio
45-49	5	#	28.13	83.3%	6	#	28.65	97.7%	11	#	28.41	91.2%
50-54	53	122,470	30.36	81.7%	57	124,229	27.10	83.6%	110	123,382	28.67	82.7%
55-59	24	111,729	30.09	88.4%	40	141,517	24.76	82.1%	64	130,346	26.76	84.5%
60-64	13	108,900	29.32	76.7%	28	129,314	28.98	87.3%	41	122,842	29.09	83.9%
65 or over	9	#	36.59	86.4%	13	#	31.90	83.7%	22	#	33.82	84.8%
Total	**104**	**115,429**	**30.60**	**83.1%**	**144**	**127,260**	**27.31**	**84.5%**	**248**	**122,299**	**28.69**	**83.9%**

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Actives – Group A												
	Male				Female				Total			
Age Group	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio
30-34	3	#	15.71	100.0%	4	#	10.77	93.4%	7	#	12.89	96.2%
35-39	101	113,782	13.56	87.1%	292	113,643	12.96	88.4%	393	113,678	13.11	88.1%
40-44	281	120,244	15.70	89.1%	690	117,331	14.41	90.9%	971	118,174	14.78	90.4%
45-49	446	121,349	16.66	87.4%	851	115,642	15.73	88.5%	1,297	117,605	16.05	88.1%
50-54	477	120,773	18.41	87.4%	838	116,540	17.66	86.4%	1,315	118,076	17.93	86.8%
55-59	414	126,437	19.49	89.5%	732	112,500	18.01	90.8%	1,146	117,535	18.54	90.4%
60-64	225	120,619	20.59	91.0%	446	109,306	19.02	95.0%	671	113,099	19.55	93.7%
65 or over	98	118,052	20.03	94.0%	129	104,851	19.69	95.0%	227	110,550	19.84	94.6%
Total	**2,045**	**#**	**17.95**	**88.8%**	**3,982**	**#**	**16.61**	**89.8%**	**6,027**	**#**	**17.07**	**89.5%**

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

CSS Deferred – Group A									
	Male			Female			Total		
Age Group	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio
45-49	1	14.55	82.1%	-	-	-	1	14.55	82.1%
50-54	17	17.14	84.3%	26	15.90	72.1%	43	16.39	76.9%
55-59	25	20.05	80.5%	34	15.37	75.5%	59	17.36	77.6%
60-64	8	10.60	43.3%	18	11.98	76.2%	26	11.55	66.1%
65 or over	1	5.18	42.4%	3	9.56	88.8%	4	8.47	77.2%
Total	**52**	**17.26**	**75.3%**	**81**	**14.57**	**75.1%**	**133**	**15.62**	**75.1%**

PSS Deferred – Group A									
	Male			Female			Total		
Age Group	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio
30-34	30	2.74	95.6%	19	3.14	89.3%	49	2.90	93.2%
35-39	171	3.17	93.9%	378	3.21	92.3%	549	3.20	92.8%
40-44	444	3.84	91.8%	936	4.23	93.2%	1,380	4.10	92.7%
45-49	703	4.36	89.5%	1,227	4.23	92.4%	1,930	4.28	91.3%
50-54	706	5.19	89.4%	1,335	5.05	88.3%	2,041	5.10	88.7%
55-59	522	5.28	86.0%	1,055	5.16	87.6%	1,577	5.20	87.1%
60-64	290	5.11	86.4%	541	4.66	88.8%	831	4.82	88.0%
65 or over	46	2.19	88.8%	63	3.04	89.6%	109	2.68	89.3%
Total	**2,912**	**4.60**	**89.2%**	**5,554**	**4.56**	**90.2%**	**8,466**	**4.57**	**89.9%**

CSS Pensioners Retirement – Group A												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	3	#	#	97.7%	4	#	#	90.5%	7	#	#	93.6%
55-59	141	5,973,870	42,368	80.1%	125	5,138,488	41,108	83.3%	266	11,112,357	41,776	81.6%
60-64	314	11,024,910	35,111	73.4%	310	9,747,955	31,445	74.8%	624	20,772,865	33,290	74.1%
65-69	492	15,639,623	31,788	61.9%	477	13,827,693	28,989	74.6%	969	29,467,316	30,410	68.2%
70-74	584	13,667,682	23,404	54.4%	762	17,446,634	22,896	71.9%	1,346	31,114,316	23,116	64.3%
75-79	454	8,033,980	17,696	46.5%	668	11,077,957	16,584	61.3%	1,122	19,111,937	17,034	55.3%
80-84	284	3,652,088	12,859	38.4%	402	4,307,471	10,715	48.8%	686	7,959,559	11,603	44.5%
85-89	137	1,185,647	8,654	33.9%	166	1,072,077	6,458	34.8%	303	2,257,723	7,451	34.4%
90-94	39	198,818	5,098	19.6%	36	191,643	5,323	23.3%	75	390,461	5,206	21.4%
95 or over	2	#	#	0.8%	1	#	#	3.0%	3	#	#	1.5%
Total	**2,450**	**59,449,121**	**24,265**	**54.8%**	**2,951**	**62,923,946**	**21,323**	**64.9%**	**5,401**	**122,373,067**	**22,657**	**60.3%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Pensioners Retirement – Group A												
	Male				Female				Total			
Age Group	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**
54 or less	47	1,225,141	26,067	83.7%	69	1,380,878	20,013	90.5%	116	2,606,019	22,466	87.8%
55-59	131	5,103,011	38,954	86.9%	261	7,921,308	30,350	83.5%	392	13,024,318	33,225	84.7%
60-64	285	11,455,771	40,196	86.0%	789	25,908,029	32,837	91.7%	1,074	37,363,800	34,789	90.2%
65-69	406	14,081,088	34,682	85.9%	1,110	32,321,814	29,119	94.2%	1,516	46,402,902	30,609	92.0%
70-74	371	9,353,425	25,211	79.9%	870	19,904,156	22,878	90.5%	1,241	29,257,581	23,576	87.3%
75-79	207	4,068,948	19,657	78.6%	377	6,426,013	17,045	86.0%	584	10,494,961	17,971	83.4%
80-84	83	1,135,264	13,678	82.7%	135	1,572,757	11,650	82.6%	218	2,708,021	12,422	82.6%
85-89	16	125,246	7,828	72.7%	19	173,957	9,156	78.2%	35	299,202	8,549	75.7%
90-94	2	#	#	74.3%	2	#	#	84.1%	4	#	#	79.2%
Total	**1,548**	**#**	**#**	**83.2%**	**3,632**	**#**	**#**	**90.6%**	**5,180**	**#**	**#**	**88.4%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

CSS Pensioners Invalidity – Group A												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	3	#	#	89.3%	3	#	#	86.1%	6	#	#	87.7%
55-59	5	#	#	82.2%	8	#	#	83.6%	13	#	#	83.0%
60-64	7	#	#	81.8%	13	453,909	34,916	70.3%	20	#	#	74.3%
65-69	15	375,016	25,001	64.9%	26	674,239	25,932	72.3%	41	1,049,255	25,592	69.6%
70-74	22	467,368	21,244	58.2%	32	868,267	27,133	74.0%	54	1,335,635	24,734	67.5%
75-79	18	328,984	18,277	51.4%	17	334,404	19,671	68.9%	35	663,388	18,954	59.9%
80-84	13	144,060	11,082	54.2%	18	194,562	10,809	39.4%	31	338,622	10,923	45.6%
85-89	6	#	#	24.2%	8	#	#	31.3%	14	#	#	28.3%
90-94	0	#	#	0.0%	2	#	#	17.7%	2	#	#	17.7%
Total	**89**	**1,937,317**	**21,768**	**59.3%**	**127**	**2,962,370**	**23,326**	**65.0%**	**216**	**4,899,686**	**22,684**	**62.7%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Pensioners Invalidity – Group A												
	Male				Female				Total			
Age Group	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**
54 or less	20	920,949	46,047	98.8%	44	1,804,520	41,012	95.8%	64	2,725,469	42,585	96.7%
55-59	27	1,066,406	39,497	93.0%	31	1,213,611	39,149	94.4%	58	2,280,017	39,311	93.7%
60-64	19	484,878	25,520	94.5%	56	1,614,089	28,823	94.8%	75	2,098,967	27,986	94.8%
65-69	18	375,615	20,867	84.9%	46	1,005,369	21,856	93.1%	64	1,380,983	21,578	90.8%
70-74	22	325,506	14,796	79.1%	18	335,122	18,618	87.5%	40	660,628	16,516	82.9%
75-79	6	#	#	79.3%	16	143,602	8,975	85.0%	22	#	#	83.5%
Total	**112**	**#**	**#**	**89.5%**	**211**	**6,116,312**	**28,987**	**93.2%**	**323**	**#**	**#**	**91.9%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

CSS Dependent Pensioners – Group A												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	2	#	#	74.0%	7	#	#	69.7%	9	#	#	70.6%
55-59	3	#	#	75.3%	19	244,912	12,890	66.6%	22	#	#	67.8%
60-64	7	101,350	14,479	53.7%	38	552,002	14,526	62.0%	45	653,353	14,519	60.7%
65-69	11	179,340	16,304	71.3%	66	931,072	14,107	56.4%	77	1,110,412	14,421	58.5%
70-74	33	393,041	11,910	60.4%	93	1,116,073	12,001	47.8%	126	1,509,115	11,977	51.1%
75-79	46	521,934	11,346	54.8%	98	842,224	8,594	45.3%	144	1,364,158	9,473	48.3%
80-84	38	253,506	6,671	47.8%	76	428,030	5,632	31.7%	114	681,536	5,978	37.1%
85-89	27	114,380	4,236	39.9%	48	158,580	3,304	30.1%	75	272,960	3,639	33.6%
90-94	9	51,233	5,693	45.7%	13	37,322	2,871	21.0%	22	88,555	4,025	31.1%
95-99	2	#	#	46.8%	1	#	#	7.5%	3	#	#	33.7%
Total	**178**	**1,697,013**	**9,534**	**53.1%**	**459**	**4,471,411**	**9,742**	**45.4%**	**637**	**6,168,424**	**9,684**	**47.6%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Dependent Pensioners – Group A												
	Male				Female				Total			
Age Group	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**	**Number**	**Total Indexed Pension* ($)**	**Average Indexed Pension* ($)**	**Average ACT Employment Ratio**
54 or less	15	337,043	22,470	89.3%	21	504,502	24,024	85.0%	36	841,545	23,376	86.8%
55-59	7	136,756	19,537	87.3%	21	310,576	14,789	83.0%	28	447,332	15,976	84.1%
60-64	7	97,800	13,971	100.0%	17	338,930	19,937	85.1%	24	436,730	18,197	89.4%
65-69	23	301,027	13,088	93.3%	29	424,115	14,625	85.4%	52	725,143	13,945	88.9%
70-74	19	324,272	17,067	95.7%	38	488,830	12,864	71.3%	57	813,102	14,265	79.4%
75-79	30	368,359	12,279	94.2%	32	270,364	8,449	75.5%	62	638,722	10,302	84.5%
80-84	9	82,392	9,155	82.4%	14	94,014	6,715	71.7%	23	176,406	7,670	75.8%
85-89	5	#	#	80.0%	1	#	#	13.6%	6	#	#	68.9%
90-94	1	#	#	78.4%	1	#	#	100.0%	2	#	#	89.2%
Total	**116**	**1,699,375**	**14,650**	**91.9%**	**174**	**2,448,566**	**14,072**	**78.7%**	**290**	**4,147,941**	**14,303**	**84.0%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

Appendix I: Membership Tables: Group B

CSS Actives – Group B												
	Male				Female				Total			
Age Group	**Number**	**Average Salary ($)**	**Average Service (Years)**	**Average ACT Employment Ratio**	**Number**	**Average Salary ($)**	**Average Service (Years)**	**Average ACT Employment Ratio**	**Number**	**Average Salary ($)**	**Average Service (Years)**	**Average ACT Employment Ratio**
45-49	4	#	27.00	23.2%	3	#	29.95	15.9%	7	#	28.27	20.1%
50-54	37	136,334	30.62	17.2%	31	117,329	29.65	24.9%	68	127,670	30.18	20.7%
55-59	15	173,164	31.73	21.3%	12	175,498	26.73	24.2%	27	174,201	29.51	22.6%
60-64	10	169,974	33.96	27.8%	8	150,928	32.34	19.3%	18	161,509	33.24	24.0%
65 or over	3	#	31.82	4.2%	0	0	0.00	0.0%	3	#	31.82	4.2%
Total	**69**	**148,245**	**31.19**	**19.4%**	**54**	**135,690**	**29.42**	**23.4%**	**123**	**142,733**	**30.41**	**21.1%**

Note: # Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Actives – Group B												
	Male				Female				Total			
Age Group	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio	Number	Average Salary ($)	Average Service (Years)	Average ACT Employment Ratio
30-34	6	102,757	11.75	24.7%	7	99,510	11.93	30.2%	13	101,009	11.85	27.7%
35-39	47	114,159	11.92	21.7%	165	108,592	13.45	19.6%	212	109,826	13.11	20.1%
40-44	158	121,567	14.34	21.6%	323	115,561	14.27	22.4%	481	117,534	14.29	22.1%
45-49	250	126,471	16.55	21.6%	420	117,914	15.85	21.2%	670	121,107	16.11	21.3%
50-54	233	129,634	16.74	23.5%	378	114,900	17.20	24.3%	611	120,519	17.02	24.0%
55-59	148	127,517	16.16	20.4%	280	116,592	17.42	23.7%	428	120,370	16.99	22.6%
60-64	63	116,504	16.68	27.7%	118	112,578	17.19	24.3%	181	113,945	17.01	25.5%
65 or over	13	102,321	15.42	19.8%	21	108,995	18.49	18.4%	34	106,443	17.32	18.9%
Total	**918**	**124,787**	**15.88**	**22.3%**	**1,712**	**115,138**	**15.98**	**22.6%**	**2,630**	**118,506**	**15.95**	**22.5%**

CSS Deferred – Group B									
	Male			Female			Total		
Age Group	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio
45-49	0	0.00	0.0%	2	5.33	28.7%	2	5.33	28.7%
50-54	8	18.32	26.2%	14	19.50	17.2%	22	19.07	20.5%
55-59	11	16.51	22.6%	12	8.49	38.8%	23	12.32	31.0%
60-64	7	16.72	8.9%	5	10.04	30.3%	12	13.94	17.8%
Total	26	17.12	20.0%	33	13.20	27.8%	59	14.93	24.3%

PSS Deferred – Group B									
	Male			Female			Total		
Age Group	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio	Number	Average Active Service (Years)	Average ACT Employment Ratio
30-34	3	1.18	28.8%	6	4.31	51.5%	9	3.27	43.9%
35-39	48	4.39	41.8%	97	3.93	42.1%	145	4.08	42.0%
40-44	136	5.00	38.1%	222	5.13	40.0%	358	5.08	39.3%
45-49	202	5.43	41.0%	335	6.07	41.1%	537	5.83	41.1%
50-54	179	6.39	40.1%	323	5.64	40.3%	502	5.91	40.2%
55-59	131	6.80	32.6%	245	6.90	42.0%	376	6.86	38.7%
60-64	58	4.94	43.3%	84	4.26	43.6%	142	4.54	43.5%
65 or over	8	1.15	48.9%	4	4.32	53.4%	12	2.20	50.4%
Total	**765**	**5.65**	**39.1%**	**1,316**	**5.67**	**41.2%**	**2,081**	**5.67**	**40.4%**

CSS Pensioners Retirement – Group B												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	0	0	0	0.0%	7	#	#	26.9%	7	#	#	26.9%
55-59	61	614,917	10,081	18.2%	88	1,097,857	12,476	26.4%	149	1,712,774	11,495	23.1%
60-64	119	1,669,881	14,033	27.0%	106	1,366,642	12,893	29.4%	225	3,036,523	13,496	28.1%
65-69	142	1,725,515	12,152	21.5%	153	1,778,075	11,621	25.6%	295	3,503,590	11,877	23.6%
70-74	122	810,543	6,644	15.3%	162	1,288,257	7,952	21.3%	284	2,098,800	7,390	18.7%
75-79	51	264,253	5,181	11.1%	64	309,885	4,842	15.5%	115	574,138	4,993	13.6%
80-84	18	#	#	11.0%	16	#	#	14.4%	34	140,245	4,125	12.6%
85-89	1	#	#	1.3%	4	#	#	11.1%	5	#	#	9.1%
Total	**514**	**5,168,290**	**10,055**	**19.5%**	**600**	**5,964,441**	**9,941**	**23.8%**	**1,114**	**11,132,730**	**9,993**	**21.8%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Pensioners Retirement – Group B												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	75	503,616	6,715	21.0%	133	897,562	6,749	23.4%	208	1,401,177	6,736	22.5%
55-59	113	1,122,011	9,929	21.9%	198	1,732,056	8,748	22.5%	311	2,854,067	9,177	22.3%
60-64	162	2,063,382	12,737	27.6%	353	3,634,539	10,296	28.2%	515	5,697,920	11,064	28.0%
65-69	133	1,178,275	8,859	24.8%	327	3,392,311	10,374	31.4%	460	4,570,586	9,936	29.5%
70-74	98	605,511	6,179	24.1%	166	1,064,669	6,414	25.9%	264	1,670,179	6,326	25.3%
75-79	43	242,600	5,642	20.5%	54	282,111	5,224	26.4%	97	524,711	5,409	23.8%
80-84	10	#	#	14.7%	7	#	#	27.8%	17	#	#	20.1%
85-89	1	#	#	79.3%	-	-	-	-	1	#	#	79.3%
Total	**635**	**5,764,283**	**9,078**	**24.1%**	**1,238**	**11,034,686**	**8,913**	**27.2%**	**1,873**	**16,798,969**	**8,969**	**26.2%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

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CSS Pensioners Invalidity – Group B												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	2	#	#	18.2%	3	#	#	22.5%	5	41,129	8,226	20.8%
55-59	1	#	#	5.9%	3	#	#	18.0%	4	28,185	7,046	15.0%
60-64	-	-	-	-	3	#	#	43.8%	3	61,311	20,437	43.8%
65-69	4	#	#	11.2%	2	#	#	24.6%	6	50,943	8,490	15.7%
70-74	1	#	#	12.2%	1	#	#	27.7%	2	#	#	20.0%
75-79	-	-	-	-	1	#	#	6.3%	1	#	#	6.3%
85-89	1	#	#	6.7%	1	#	#	10.9%	2	#	#	8.8%
Total	**9**	**49,237**	**5,471**	**11.8%**	**14**	**159,234**	**11,374**	**24.8%**	**23**	**208,470**	**9,064**	**19.7%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Pensioners Invalidity – Group B												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	15	148,727	9,915	16.3%	23	308,907	13,431	28.1%	38	457,634	12,043	23.5%
55-59	14	133,169	9,512	15.4%	16	123,860	7,741	17.2%	30	257,029	8,568	16.4%
60-64	5	#	#	17.8%	8	#	#	21.9%	13	105,004	8,077	20.3%
65-69	2	#	#	45.1%	9	#	#	27.3%	11	131,784	11,980	30.6%
70-74	2	#	#	12.7%	2	#	#	8.3%	4	10,204	2,551	10.5%
Total	**38**	**334,383**	**8,800**	**17.5%**	**58**	**627,272**	**10,815**	**23.4%**	**96**	**961,655**	**10,017**	**21.1%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

CSS Dependent Pensioners – Group B												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	1	#	#	1.3%	4	#	#	12.8%	5	6,334	1,267	10.5%
55-59	1	#	#	42.9%	6	#	#	14.7%	7	38,881	5,554	18.7%
60-64	5	26,861	5,372	27.7%	14	55,815	3,987	18.5%	19	82,676	4,351	20.9%
65-69	1	#	#	18.0%	13	#	#	15.3%	14	51,477	3,677	15.5%
70-74	5	32,198	6,440	32.7%	8	23,025	2,878	13.7%	13	55,223	4,248	21.0%
75-79	1	#	#	5.0%	3	#	#	5.5%	4	4,993	1,248	5.4%
80-84	4	5,582	1,395	14.8%	3	9,449	3,150	16.0%	7	15,031	2,147	15.3%
Total	**18**	**95,125**	**5,285**	**23.8%**	**51**	**159,491**	**3,127**	**15.1%**	**69**	**254,616**	**3,690**	**17.4%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

PSS Dependent Pensioners – Group B												
	Male				Female				Total			
Age Group	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio	Number	Total Indexed Pension* ($)	Average Indexed Pension* ($)	Average ACT Employment Ratio
54 or less	4	33,115	8,279	13.8%	6	43,432	7,239	24.0%	10	76,547	7,655	19.9%
55-59	2	15,257	7,629	28.5%	8	49,182	6,148	20.1%	10	64,440	6,444	21.8%
60-64	4	31,795	7,949	35.0%	9	20,676	2,297	21.3%	13	52,470	4,036	25.6%
65-69	3	13,421	4,474	33.2%	7	25,827	3,690	23.9%	10	39,248	3,925	26.7%
70-74	5	49,530	9,906	32.7%	7	39,440	5,634	30.7%	12	88,970	7,414	31.5%
75-79	6	25,634	4,272	15.8%	4	6,695	1,674	16.3%	10	32,329	3,233	16.0%
80-84	2	#	#	20.0%	1	#	#	16.7%	3	#	#	18.9%
85-89	2	#	#	12.9%	-	-	-	-	2	#	#	12.9%
Total	**28**	**#**	**#**	**24.2%**	**42**	**#**	**#**	**22.9%**	**70**	**361,425**	**5,163**	**23.4%**

Note: * This is the Indexed Pension amount multiplied by the ACT Employment Ratio.

Not disclosed to ensure privacy for members. For small cohorts, it may be possible to deduce personal information from these figures.

Appendix J: Glossary

Accrued Superannuation Liability

The actuarial value of the ACT Government portion of members' benefits in respect of service up to the date of investigation.

ACT Employment Ratio

The ratio of ACT Government service post 1 July 1989 to Total Service.

Contributor

Member of CSS or PSS who was employed by ACT Government or Commonwealth Government at the date of investigation.

Current Pensioner

Member of CSS or PSS who was receiving a pension at the date of investigation.

Preserved Members/Deferred Beneficiary

Member of CSS or PSS who preserved his/her benefit upon ceasing employment or transfer under Choice of Fund.

Dependent Pensioner

Dependant of a former CSS or PSS member who has deceased, and was receiving a pension at the date of investigation.

Interest Cost

Increase in the Accrued Superannuation Liability resulting from unwinding of discount rate during the period.

Normal Cost

Increase in the Accrued Superannuation Liability resulting from service during the period.